

BlackBerry Smartphones

UI Guidelines

Version: 6.0

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New in this version

1

This version of UI guidelines provides information to help you make application design decisions for BlackBerry® devices that are supported in the BlackBerry® Java® Development Environment 6.0.

Item	Description
Display specifications for new BlackBerry devices	<ul style="list-style-type: none"> • BlackBerry® Bold™ 9650 smartphone • BlackBerry® Bold™ 9700 smartphone • BlackBerry® Bold™ 9780 smartphone • BlackBerry® Curve™ 9300 smartphone • BlackBerry® Curve™ 9330 smartphone • BlackBerry® Pearl™ 9100 Series • BlackBerry® Style™ 9670 smartphone • BlackBerry® Torch™ 9800 smartphone
Best practices for new UI APIs	<ul style="list-style-type: none"> • New trackpad and touch screen interactions allow users to quickly and easily navigate and perform actions on their BlackBerry® devices. • Pop-up menus, submenus, and toolbars provide users with specific actions for an item or screen. • New APIs make it easier to display text and icons in lists and tables. • Pane managers allow you to provide filtered views of content. • An activity indicator API allows you to show users that their BlackBerry devices are performing an action. • A title bar API helps you orient users in your application and display notifications to users. • Users can search for items in any application, including third-party applications. The search can also include content that is not stored on the device, such as an organization's database or web site.
Best practices for designing applications	<ul style="list-style-type: none"> • The four stages of application design provide recommendations on designing, building, evaluating, and refining your application. • The principles of BlackBerry application design help you focus on three key elements. • Clear examples show how you can approach designing and developing for different BlackBerry devices and software versions.

Item	Description
	<ul style="list-style-type: none"> Additional guidelines for coding and designing applications focus on special considerations for right-to-left and Asian languages.
Changes to visual design	The BlackBerry Torch 9800 smartphone introduces the BlackBerry® 6 theme.
Change in version numbering	This version of the <i>UI Guidelines for BlackBerry Smartphones</i> uses a numbering system that matches the version number of the BlackBerry Java Development Environment. For guidelines on developing applications using previous versions of the BlackBerry Java Development Environment, refer to the <i>UI Guidelines for BlackBerry Smartphones</i> version 2.5.



Getting started

2

Designing applications for BlackBerry devices

As you start designing applications for BlackBerry® devices, think about how you can create rich, compelling, and personal experiences for your users. Most users want applications to be intuitive and satisfying to use. Consider additional attributes that are important to the majority of your users. For example, most game enthusiasts want to play entertaining, visually appealing, and challenging games. Contrast these attributes with utility applications that need to focus on productivity and efficiency.

The design process involves evaluating choices and making decisions. As designers, you shape the user experience by balancing user goals with the data, environment, and usability requirements of the application. The best way to find out if the application successfully integrates the most important attributes and requirements is to evaluate it with users.



This section provides guidelines on how to approach application design, with specific considerations for BlackBerry devices. It does not tell you how to build an application but it can help you move in the right direction. For information about developing the UI for BlackBerry device applications, see the *BlackBerry Java Application UI and Navigation Development Guide*.

Best practice: Designing applications for BlackBerry devices

Consider the following guidelines:

- Before you design your application, become familiar with other BlackBerry® applications. You can use the applications on a BlackBerry device or the BlackBerry Smartphone Simulator. Note the behaviors that users expect in BlackBerry applications. For example, if a phone number appears in a text field, users expect to be able to call the number by clicking it.

- Use BlackBerry UI components where possible so that your application can inherit the default behavior of the component. Users are familiar with default behaviors and do not have to learn new behaviors for the components that you implement in your application. Using BlackBerry UI components also makes the layout more extensible on BlackBerry devices with different screen sizes. For more information, see the "Components" section.
- Follow the standard interaction behaviors as closely as possible so that a particular user action produces a consistent result across applications. For example, allow users to see the next or previous image by swiping across the screen. For more information, see the "Interaction" section.
- Provide an intuitive UI. An intuitive UI responds to the expectations of your users. Users form their expectations based on their experience using BlackBerry device applications and general software UI conventions. For example, when users press the Space key twice, they expect the BlackBerry device to insert a period and capitalize the next letter.
- Design a UI that allows users to explore the application without fear. Allow users to change their minds and undo commands. Be forgiving. Users sometimes click the wrong menu item or button accidentally. For example, use an alert dialog box to notify users of a critical action such as deleting data from their BlackBerry devices.
- Create a seamless experience for users by anticipating tasks that users might need to do next. Provide efficient ways for users to access other features. For example, allow users to compose Facebook® and Twitter® messages (in addition to email messages, PIN messages, and text messages) from the Messages menu.
- Take advantage of known variables such as the location of the BlackBerry device. For example, when the device enters a certain geographical area, you might be able to push an application or location-specific information to the device.
- Early in the design process, consider whether your application requires localization. If your application does not require localization now, consider designing your application so that it would be easy to localize it in the future. BlackBerry devices are sold all over the world and BlackBerry device applications are translated into over 30 languages, including languages that are not based on a Latin alphabet. Some BlackBerry devices also feature a localized keyboard. For more information, see the "Localization" section.

Related topics[Components, 54](#)[Interactions, 20](#)[Localization, 97](#)

Three key principles of BlackBerry application design

Informed

Active people rely on their BlackBerry® devices to keep them informed and up to date. Make sure that status, notifications, new information, and frequently used actions and content are easily accessible.

- Keep important information, such as status, visible so that users don't have to look for it.
- Keep menus short and put infrequently used items in options.
- Balance the information density on each screen.
- Don't place frequently used items at the bottom of a list or out of view.

Confident

Make users confident in the information that they receive when they use your application. When users know the status of information, such as when a message is sent, they can feel confident that the application is doing what they want.

- Keep all information and options for a required task visible.
- Provide clear, concise information that helps users perform tasks.
- Give users the freedom to explore by allowing them to undo and redo actions.
- Provide feedback when the application performs what users request.
- Don't allow dead ends. Users should always have a route forward or an alternate way of interacting with the application.
- Design workflows to help users avoid errors. Provide confirmations for critical tasks.
- Help users recognize, diagnose, and recover from errors by suggesting a solution.
- Create Help that is easy to search, focused on user tasks, and lists concrete steps.

Approachable

Create applications that users are willing to use and try right away. Clean and organized layouts, appealing aesthetics, minimalist design, and reduced complexity make applications more approachable. Since a wide range of people use BlackBerry® devices, design your application to cater to both experienced and inexperienced users.

Make screens, layouts, and information easy to understand so that users can learn the application and get started right away. Use real world concepts and metaphors to make your application easier to understand and learn. Handle complexity using progressive disclosure so that users are not overwhelmed. Making the application look great and easy to understand gets people using it.

Simplicity

- Create a simple design that allows users to find what they want quickly and easily.
- Reduce the number of steps that users need to take to achieve their goals.
- Communicate clearly using concise, unambiguous labels and commands.
- Place the most frequently used tasks on the screen. Include additional tasks in the menu or on subsequent screens.
- Present information as users need it.

Aesthetics and minimalist design

- Avoid visual clutter. Limit the use of color and use consistent geometry. Chunk large amounts of information by grouping similar information.
- Use animations and graphics to enhance user understanding and support the metaphors in your application.

Accessibility

- Include accessibility requirements to support users with visual, hearing, or motor disabilities or impairments.
- Make sure that your application scales properly when users change settings like font size.

Constraints of designing for mobile devices

Strive to provide a balance between the best possible user experience, a long battery life, and efficient connections to the wireless network. When you design your BlackBerry® device application, consider the differences between mobile devices and computers. Mobile devices have the following characteristics:

Characteristic	Guideline
a smaller screen size that can display a limited number of characters	Stay focused on the user's immediate task. Display only the information that users need at any one moment. For example, a customer relationship management system can provide a massive amount of information, but users only require a small amount of that information at one time. Design the UI so that users can perform tasks easily and access information quickly.
one screen appears at a time shorter battery life	Allow users to switch between applications using the application switcher. Since a shorter battery life can impact the user experience, be aware that the more efficiently that a device handles data, the less often it needs to turn on the radio and the longer the battery life. For more information on maximizing battery life, see the <i>BlackBerry Java® Application Fundamentals Guide</i> .
wireless network connections with a longer latency period than standard LANs	Longer latency periods for wireless network connections can influence how quickly users receive information that is transmitted over the wireless network. For more information on simplifying how an application creates network connections, see the <i>BlackBerry Java® Application Network Communication Development Guide</i> .
slower processor speeds	Slower processor speeds can affect how users perceive the responsiveness of an application. Applications can use background threads to manage processor-intensive tasks. For more information on using multithreading capabilities, see the <i>BlackBerry Java® Application Fundamentals Guide</i> .
less available memory	Memory use also impacts the experience that users have with an application and their BlackBerry devices. For more information on minimizing memory use, see the <i>BlackBerry Java® Application Fundamentals Guide</i> .

Designing and developing for different BlackBerry devices and software versions

As you start designing an application, decide which BlackBerry® Device Software version to develop for. The version defines the minimum set of features that you can use.

Applications are compatible with future software versions. For example, if you design an application for BlackBerry® Bold™ 9000 smartphones running BlackBerry Device Software 4.6, it can run on BlackBerry® Storm2™ 9550 smartphones running BlackBerry Device Software 5.0. You should verify the layout of each screen since some adjustments might be required to the layout and size of the UI elements.

After you decide which device software version to develop for, decide which devices to design for. If you are designing for more than one device, design the UI to accommodate the different screen sizes and resolutions among BlackBerry devices. Use BlackBerry UI components to help make the layout more extensible. You can also group BlackBerry devices according to screen size and choose a reference device for each group. If you lay out the screens for each reference device, then you do not have to design the screens for each device — but you can make adjustments if necessary.

Example 1: You choose the BlackBerry Storm2 9550 smartphone as the reference device. If you apply the layout to the BlackBerry® Pearl™ Flip Series smartphone and the BlackBerry® Pearl™ 8100 Series smartphone, you keep the UI elements the same size since there is not much difference in the resolution between the reference device and the other devices. However, you need to adjust the layout of the UI elements (for example, by wrapping some content) since the screen sizes are different.

Example 2: You choose the BlackBerry® Curve™ 8300 smartphone as the reference device. If you apply the layout to the BlackBerry Bold 9000 smartphone and the BlackBerry® Curve™ 8900 smartphone, you need to make the UI elements larger since the resolution between the reference device and the other devices is different. However, since the screen sizes are similar, you do not need to adjust the layout of the UI elements.

Verify the layout of each screen on each device that you are designing for. Try to create a UI that works the same on all of the devices running a specific version of device software. Carefully consider compromises that are made to consistency for the sake of simplifying development. Compromises should only be made when necessary.

Considerations for existing applications

If you have an existing application and you want to make it available on BlackBerry touch screen devices, you need to adjust the layout to accommodate touch interactions and different size banners, background images, and icons. For more information on touch interactions, see the "Touch screen" topic.

You also need to decide whether to display the application in portrait mode, landscape mode, or both. If you use BlackBerry UI components, the orientation mode will be handled automatically. If you develop an application using a version of the BlackBerry® Java® Development Environment earlier than version 4.7, the application runs in compatibility mode, which is designed to provide an operating environment for applications that were not developed to support touch screens. For more information on compatibility mode, see the *Transitioning to Touch Screen Development Technical Note*.

Related topics

[Touch screen, 21](#)

Display specifications and interaction methods for BlackBerry devices

BlackBerry device model	Display screen size	Pixels per inch	Dot pitch (mm)	Interaction method
BlackBerry® Bold™ 9650 smartphone	480 x 360 pixels	245	0.1035	trackpad
BlackBerry® Bold™ 9700 smartphone				
BlackBerry® Bold™ 9780 smartphone				
BlackBerry® Curve™ 9300 smartphone	320 x 240 pixels	162	0.156	trackpad
BlackBerry® Curve™ 9330 smartphone				
BlackBerry® Pearl™ 9100 Series	360 x 400 pixels	238	0.1065	trackpad
BlackBerry® Style™ 9670 smartphone	360 x 400 pixels	196	0.129	trackpad
BlackBerry® Torch™ 9800 smartphone	portrait view: 360 x 480 pixels landscape view: 480 x 360 pixels	188	0.135	touch screen and trackpad

Creating a UI that is consistent with standard BlackBerry UIs

You can use the standard MIDP APIs and the BlackBerry® UI APIs to create a BlackBerry® Java® Application UI.

The UI components in the BlackBerry UI APIs are designed to provide layouts and behaviors that are consistent with BlackBerry® Device Software applications. Using these APIs not only allows you to use components that BlackBerry users are familiar with, but it also saves you time since you don't have to create those components yourself.

- Screen components can provide a standard screen layout, a default menu, and standard behavior when a BlackBerry device user presses the Escape key, clicks the trackpad, or touches the touch screen.

- Field components can provide the standard UI elements for date selection, option button, check box, list, text field, label, and progress bar controls.
- Layout managers can provide an application with the ability to arrange the components on a BlackBerry device screen in standard ways, such as horizontally, vertically, or in a left-to-right flow.

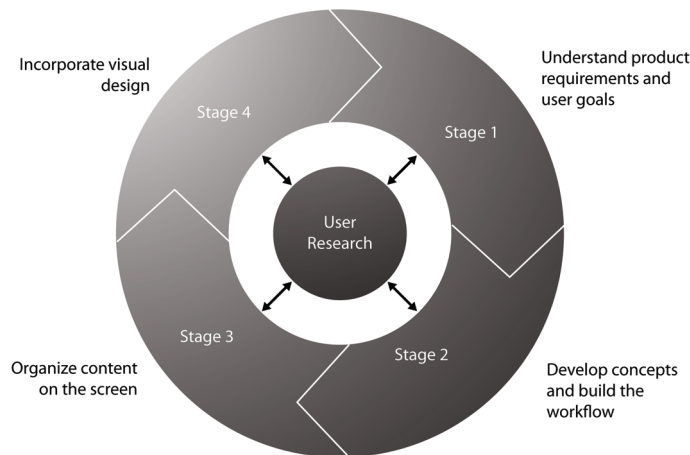
You can use the BlackBerry UI APIs to create a UI that includes tables, grids, and other specialized features. You can use a standard Java event model to receive and respond to specific types of events. A BlackBerry device application can receive and respond to user events, such as when the user clicks the trackpad or types on the keyboard, and to system events, such as global alerts, clock changes, and USB port connections.

Stages of application design

3

Design, build, evaluate, and refine your application in stages where possible. In each stage, maintain a primary focus.

- Stage 1: Understand the product requirements and user goals
- Stage 2: Develop the concepts and build the workflow
- Stage 3: Organize the content on the screen
- Stage 4: Incorporate the visual design



During each stage, design with your users in mind. Incorporate user research methods at each stage. User research helps solve issues with the application throughout the design process and the results help to identify whether the application meets user expectations.

By designing and evaluating the application in stages, you can focus on and evaluate the foundational elements early, reducing the chance of discovering those issues in later stages. For example, if you evaluate the concepts in stage two, you can identify whether you need to iterate the design before moving ahead. If you were building a house, you would not want to be painting the walls (stage four task) when you realize that the door and some of the windows are in the wrong location (stage two task).

Add richness to the application as you progress through the design stages. For example, if you are scheduling tasks and you plan to add icons to some of the screens, you only need to provide placeholders for the icons in the first, second, and possibly the third stages of design. You do not need to design the icons until stage four. It is during stage four that you will focus on incorporating the visual design into the application.

Stage 1: Understanding the product requirements and user goals

In this stage, use user research methods and design outputs to help you identify and prioritize the requirements and goals.

User research methods

You can use the following types of user research methods to gather information about your users and the product requirements:

- interviews and contextual field work (for example, observing users in their own environment, holding question and answer sessions, or conducting ethnographic studies)
- workshops with key stakeholders

Design outputs

With the information that you have gathered in your user research, you can create the following design outputs:

- end-to-end scenarios (for example, outline what users need from start to finish to meet each of their goals)
- major task flows (for example, capture the series of high-level actions that users need to perform to complete tasks associated with each goal)

Best practice: Understanding the product requirements and user goals

Consider the following questions:

- What problem does your application solve?
- What goals do users want to accomplish? For example, if users bid in an online auction, they want to know when someone has outbid them. When articulating goals, try explaining the goal without using terminology that is specific to BlackBerry® devices. For example, use "share photos with friends" instead of "open the Media application and send photos to a group."
- What are the top five features or outputs that users need from the application?
- How does the mobile context affect user goals?
- Are there cultural differences that are important to address? Consider differences by region, language, age, and corporate culture.

Stage 2: Developing the concepts and building the workflow

Once you understand the product requirements and user goals, you can focus on designing an application that meets these requirements and goals. In stage two, start defining the content and creating a workflow that meets user goals. The workflow identifies how and when users see information. In this stage, your focus is on identifying the sequence of steps and any associated dependencies. You might be tempted to focus on the details of the features and the capabilities of the application. Instead, stay focused on user goals.

Consider using low fidelity prototypes such as paper sketches that are quick to create and can be revised easily. Sketches help you visualize how users progress through tasks and help you identify task loops and dead ends. At this stage, the workflow does not require all of the details for every scenario. You can create higher fidelity prototypes such as software based prototypes as the design progresses.

Design outputs

You can create the following design outputs to help you explore concepts and build the workflow:

- information architecture diagrams

- wireframes of major tasks
- prototypes

User research methods

User research methods typically involve meeting with users one-on-one or in very small groups. You can use the following types of user research methods to help you build the workflow:

User research method	Purpose
fit/gap analysis	This type of analysis identifies how well the design outputs match user perspectives of the workflow and allows you to identify and address unmet expectations.
card sorting	This type of research method helps you understand how users categorize information. This research is useful when you have a lot of information or options to group and prioritize.
walkthrough of major tasks	This type of research method demonstrates where the workflow breaks down. Use this information to make decisions about the order, sequence, and priority of tasks.

Evaluating the workflow provides information to help you close the gap between your understanding of the workflow and your users' understanding of the workflow. As you iterate the design, the gaps get smaller. If there are technical or design limitations, try to address the gaps by using clear terminology, inline help, prompts, or visual cues.

Best practice: Developing the concepts and building the workflow

Consider the following questions:

- What concepts need to be communicated between users and the application? Choose specific nouns and verbs to describe each concept.
- What does the application need to do and what do users need to do? Consider the tradeoffs. If the cognitive load is too high for users, the application might be too difficult to use. For example, avoid forcing the user to remember too many things or making them open other screens to find the information that they need.
- What data is required to perform each task?
- What are the relationships between tasks? If a task depends on the completion of another task, then you might want to restrict users to completing tasks in a particular order.

Consider the following:

- Define the major navigational pathways, staying focused on the user goals. Make navigation easy and provide cues so that users always know where they are. Help users achieve their goals easily by allowing them to complete primary tasks from the first screen of the application. Take advantage of the conventions of the Escape key and the Menu key.
- Consider how you can integrate your application with other applications such as the phone, BlackBerry® Maps, camera, or contacts. For example, if users click a contact in the application, retrieve the contact details from the Contacts application.

- Decide what screen appears when users close the application.

Identify the importance of the following features to your users. These features represent some of the ways that users can interact with the application to achieve their goals:

Feature	Example
typing text	If users need to type a lot in the application, make sure that you focus on layout to make the typing experience smooth and efficient.
viewing text	If users need to view a lot of text, make sure that users can scroll through the text efficiently and move to the top and bottom of the screen easily.
viewing images	Determine the best way to display images to users to meet their goals. For example, if users need to browse through a related set of images such as featured items or a photo album, use thumbnail images in a carousel view.
receiving notifications	Determine how the application notifies users and how often the application notifies users.
personalizing the application	Identify the ways that users want to personalize the application. For example, allow users to change their profile photo easily in social networking applications.
secure personal information and data	If there are security risks associated with specific content, provide prompts to users.
searching the application	Identify the content that has value to users. Determine where the content resides and provide search capabilities.
purchasing items	Make it easy for users to purchase items.

Consider the following guidelines:

- Stay focused on user goals. Recognize that tasks might change but user goals are not likely to change.
- If possible, sketch multiple workflows for the same task. If users don't understand a particular element of a task, then you have another option to show them.
- Evaluate all of the tasks from end to end. Users often experience issues in the steps between tasks.
- Present your ideas to other designers to uncover any show-stopping issues or major design flaws. Then present your ideas to some representative users. Even if you only approach a few users, observe, listen, and talk to them. Ask them what they think and why. You might be surprised by their response.

Stage 3: Organizing content on the screen

During this stage, lay out the components on each screen. Make sure that the components are organized in a way that makes sense to users. Make sure that the layout and behavior of each component helps users perform tasks quickly and easily. For example, use spin boxes for a list of sequential items and drop-down lists for non-sequential items or items with irregular intervals.

Design outputs

You can create the following design outputs to help you organize content on the screen:

- page layouts
- detailed designs of task flows and navigation
- a naming model for objects and actions in the UI

User research methods

You can use the following types of user research methods to help you organize content on the screen:

User research method	Purpose
usability evaluation of goal-based tasks	After you evaluate high-level tasks, you can focus on evaluating the details of specific tasks.
terminology evaluation	This type of evaluation provides feedback on the terms used across the application.

The information gathered in this stage can also help you make decisions about what development tasks need to be implemented. For more information on tasks such as pushing screens and running applications in the background, see the *BlackBerry Java® Application UI and Navigation Development Guide*.

Best practice: Organizing content on the screen

Consider the following guidelines:

- Stay focused on users' immediate task. Display only the information that users need at any one moment.
- If there are many components on a screen, group the components where possible.
- Minimize the number of times that users need to click the trackpad or touch the screen to complete a task.
- Use clear, concise labels that map to the naming model.
- Leave enough space in your UI for translated text. The height and the width of text might expand when translated from English to other languages.
- Avoid overloading users. For example, allow users to select an item from a list instead of making users type the name of an item.
- Verify that the actions that are available in the menu are relevant to users' current context.
- Address any physical challenges. For example, if the application displays a lot of content, avoid designing screens that require users to repeatedly scroll to the top of the screen to initiate an action.
- Try to reduce the amount of time between a user action and the desired result. If an operation takes longer than users expect, provide a meaningful message. If you can determine the duration, display a progress indicator. Otherwise, display an activity indicator.

If you follow the BlackBerry® platform conventions, users know what to expect from their BlackBerry devices.

- Use BlackBerry UI components in consistent patterns and layouts. Even if you customize a component (for example, change the color) the behavior and layout of the component should stay the same across applications.

- Make sure that the default menu item for each screen initiates the same action that occurs when users click a trackpad or tap a touch screen. This approach keeps behaviors consistent across devices, including devices that have both a trackpad and a touch screen.
- Display the application name or screen title, and useful notifications, in the title bar.
- Design for vertical scrolling. Avoid horizontal scrolling where possible.
- Avoid making users scroll in dialog boxes.

Stage 4: Incorporating visual design

During this stage, focus on creating an application that is engaging and motivating to users. Add richness to the design. Incorporate branding elements such as icons and colors.

Design outputs

You can create the following design outputs:

- icons
- visual designs

User research methods

You can use the following types of user research methods to help you test icons and visual designs:

User research method	Purpose
usability evaluation	If you have evaluated the usability of the application since stage one, consider repeating the goal-based tasks. During this stage you can focus on identifying how the visual design impacts the tasks.
comparative tests of icons	These tests can help to identify the visual elements that users respond to positively.

Best practice: Incorporating visual design

Consider the following guidelines:

- Track the emotional responses that users have to the application and specific elements within the application.
- Design visual resources that scale to accommodate different screen sizes.
- Avoid changing the default font size. If you change the default font size, test the change on all BlackBerry® devices that you are designing the application for.
- Verify the layout of each screen on each device that you are designing for.

Interactions

4

Trackpad

On most BlackBerry® devices, users use the trackpad to navigate and highlight text. On BlackBerry devices with a touch screen and a trackpad, the trackpad gives users better control over the cursor or pointer and provides an unobstructed view of the screen.

In most cases, an action occurs when users release the trackpad, not when they click it. However, when users click and hold the trackpad, the action occurs before users release the trackpad.

Users can perform the following actions with the trackpad:

User action	Function	Result
Click the trackpad.	<code>navigationClick()</code>	This action performs default actions. If there is no default action and the item has multiple actions, then this action opens the pop-up menu.
Click and hold the trackpad.	<code>navigationClickHold()</code>	If a pop-up menu is available, this action opens the pop-up menu.
Click the trackpad while pressing the Shift key.	<code>navigationClick()</code>	This action highlights text or highlights messages in a message list.
Click the trackpad while pressing the Alt key.	<code>navigationClick()</code>	This action zooms in to a picture, map, web page, or attachment.
Move a finger on the trackpad.	<code>navigationMovement()</code>	This action moves the highlight, cursor, or pointer.
Swipe across the trackpad.	<code>touchEvent()</code>	This action moves the content on the screen quickly in the opposite direction of the swipe.

Best practice: Implementing trackpad actions

On most BlackBerry® devices with a trackpad, consider the following best practices:

- Assign a default action when users click the trackpad.
- Allow users to easily move from one item to another by swiping across the trackpad. For example, allow users to see the next or previous picture in a collection of pictures.

On BlackBerry devices with a touch screen and a trackpad, consider the following best practices:

- Allow movement between touch screen and trackpad interactions to flow seamlessly during a task.

- Consider allowing touch screen and trackpad interactions to complement each other. For example, users can scroll to find content using the touch screen and then use the trackpad to move the cursor to highlight a specific sentence.
- Allow combined touch screen and trackpad interactions, where appropriate. For example, in a game, when users move over an object using a finger on the touch screen, they can click the trackpad to shoot the object.

Touch screen

On BlackBerry® devices with a touch screen, users can navigate and type text using the touch screen.

In most cases, an action occurs when users lift their finger off the touch screen, not when they touch the screen. However, when users touch an item or touch and hold a finger on an item, the action occurs before users lift their finger.

Users can perform the following actions on a touch screen:

User action	Event	Result
Tap the screen.	<code>TouchEvent . TAP</code>	This action initiates an action. For example, when users tap an email message in the message list, the message opens. In most cases, this action is equivalent to clicking the trackpad.
Tap the screen twice quickly in the same location.	<code>TouchEvent . DOUBLE_TAP</code>	This action fits the content in a picture, HTML email message, web page, or attachment into the dimensions of the screen.
Touch an item.	<code>TouchEvent . DOWN</code> <code>TouchEvent . UP</code>	This action highlights an item. On a toolbar or the virtual keyboard, this action displays a tooltip.
Touch and hold a finger on an item.	<code>TouchEvent . HOVER</code>	If a pop-up menu is available, this action opens the pop-up menu.
Drag a finger vertically.	<code>TouchEvent . MOVE</code>	This action scrolls and moves the content on the screen. For example, on the Home screen, users can move the rows of applications up or down to display the preferred number of applications on the screen.
Drag a finger in any direction.	<code>TouchEvent . MOVE</code>	This action pans a picture, map, or web page.

User action	Event	Result
Touch the screen in two locations at the same time.	<code>TouchEvent . DOWN</code>	This action highlights text or a list of items, such as messages, between the two locations.
	<code>TouchEvent . DOWN</code>	
Swipe across the screen.	<code>TouchEvent . SWIPE</code>	This action moves the content on the screen quickly in the direction of the swipe.
Pinch open or pinch close.	<code>TouchEvent . PINCH_BEGIN</code>	These actions zoom in to and out from an item.
	<code>TouchEvent . PINCH_UPDATE</code>	
	<code>TouchEvent . PINCH_END</code>	

Best practice: Implementing touch screen actions

- Respond to each touch action that you use in your application. For more information about how to respond to events created by each action, see the *BlackBerry UI and Navigation Development Guide*.
- Where possible, create a target area for user interface elements that is at least 6 mm.
- Provide enough space around components so that users can easily touch the screen with their fingertips to initiate a specific action.
- If you want your application to work on BlackBerry® devices with a trackpad only, make sure that each touch screen event has an associated trackpad function. Test your application on BlackBerry devices with a trackpad and without a trackpad. The following information matches touch screen actions and trackpad actions:

Desired result	Touch screen action	Trackpad action
Initiate an action.	Tap the screen.	Click the trackpad.
Scroll.	Drag a finger vertically on the screen.	Move a finger on the trackpad to move the highlight.
Move to the next or previous item.	Swipe across the screen.	Swipe across the trackpad in the opposite direction.
Zoom.	Pinch open.	Click the trackpad.
Zoom to fit.	Tap the screen twice quickly.	Press the Menu key. Click Fit to Screen.
Pan a zoomed image.	Drag a finger on the screen.	Move a finger on the trackpad in the opposite direction.
Display a pop-up menu.	Touch and hold a finger on the screen.	Click and hold the trackpad.

Keyboard

Users use the keyboard primarily to type text. Character keys send a character to the BlackBerry® device. A modifier key alters the functionality of character keys. Modifier keys include the Shift key and the Alt key. When users press a modifier key, a typing mode indicator appears in the upper-right corner of the screen.

On BlackBerry devices with a trackpad only, users can also use the keyboard to move around a screen (for example, to move around a map). However, navigation using the keyboard should always be an alternative to navigation using the trackpad.

On BlackBerry devices with a trackpad and a touch screen, a virtual keyboard appears when the slider is closed and users need to type text. Users can hide the virtual keyboard by opening the slider or touching and moving the keyboard off the screen.

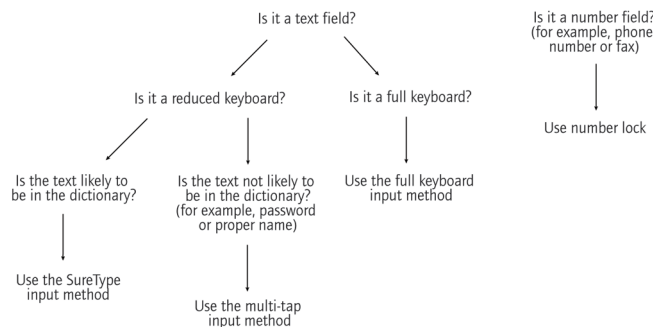
Most BlackBerry devices have either a full keyboard or a reduced keyboard. On BlackBerry devices with a touch screen, the full keyboard always appears in landscape view. In portrait view, users can use the full keyboard or the reduced keyboard.

Related topics

[Text fields, 54](#)

Best practice: Designing applications for different types of keyboards

- If you alter the functionality of a key, always return the key to its original state when users close the application.
- Verify that your application is compatible with both full keyboards and reduced keyboards.
- Support modifier keys where appropriate.
- Make sure that users can undo commands easily. Typing can be challenging for new users.
- Choose an appropriate field based on what you expect users to type. For example, if you expect users to type numbers, use a field that accepts only numbers so that users can type numbers easily. Use the following information to determine which input method to choose.



Full keyboard

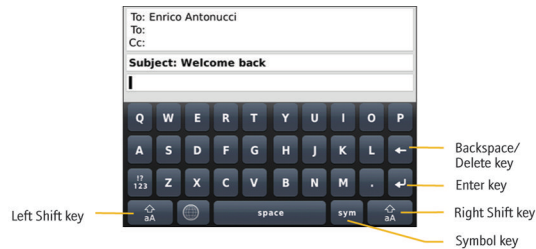
The full keyboard provides users with a keyboard that is similar to the keyboard on a computer. Users type as they would on a computer keyboard except that numbers and symbols are located in different places.

Users can perform the following actions to type numbers and symbols:

Action	BlackBerry devices with a physical keyboard	BlackBerry devices with a touch screen
Type a number in a number field.	Press the number key.	Press the number key.
Type a number in a text field.	Press the Alt key and the number key.	Press the 123 key.
Type a common symbol.	Press the Alt key and the character key.	Press the Symbol key.
Type other symbols.	Press the Symbol key.	Press the Symbol key. Users can touch and hold some letter keys to access symbols. For example, users can touch and hold the letter C to display © or the letter R to display ®.
Type a capital letter.	Press and hold the letter key.	Touch and hold the letter key.
Type an accented character.	Press and hold the letter key and move a finger to the left or right on the trackpad.	Touch and hold the letter key.



Full, physical keyboard



Full, virtual keyboard

Reduced keyboard

BlackBerry® devices with reduced keyboards use SureType® technology, which is designed to predict words as users type them. Users can type text using the SureType input method or the multi-tap input method.

- When users use the SureType input method, they press the letter key for each letter in a word once. For example, to type **run**, users would press the **ER** key once, the **UI** key once, and the **BN** key once. As users type, a list of possible letter combinations and words appears on the screen. SureType technology selects letter combinations or words from the list

based on context. If users type a word or letter combination (for example, a web address or an abbreviation) that SureType technology does not recognize, users use the list that appears on the screen to build the word letter by letter. SureType technology is designed to "learn" new words or letter combinations that users type and add them to a custom word list.

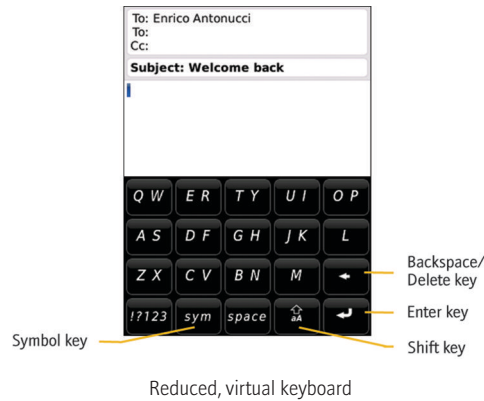
- When users use the multi-tap input method, they press a letter key once to type the first letter on the key and twice to type the second letter. For example, to type **run**, users would press the **ER** key twice, the **UI** key once, and the **BN** key twice.

SureType technology is the default input method for most fields. Multi-tap is the default input method for phone number fields and password fields. If users switch from using SureType technology to using the multi-tap input method, the multi-tap input method indicator appears in the upper-right corner of the screen.

Some languages, such as Simplified Chinese, have specialized input methods and do not use the SureType input method or the multi-tap input method. For more information about specialized input methods for specific devices and languages, visit <http://na.blackberry.com/eng/support/docs/> to see the product documentation.



Reduced, physical keyboard



Types of reduced keyboards

Reduced keyboards have either 20 keys or 14 keys. Users can perform the following actions using the SureType input method:

Action	20-key reduced keyboard	14-key reduced keyboard
Type a number in a number field	Press the number key.	Press the number key.
Type a number in a text field	Hold the Alt key and press the number key.	Press and hold the number key.
Type a common symbol	Press the Symbol key.	Press 1.
Type other symbols	Press the Symbol key.	Press the Symbol key.
Type a capital letter	Press and hold the letter key.	Press the Shift key.
Type an accented character	Press and hold the letter key and slide a finger to the left or right on the trackpad.	Press and hold the letter key and slide a finger to the left or right on the trackpad.
Switch input methods	When typing, press the Menu key.	Press the Shift key.

Key functionality

In most cases, an action occurs when users press a key, not when they release a key. However, when users click and hold the Menu key, the action occurs when users release the key.






Key	Use
Alt	Type the alternate character on a key on most BlackBerry® devices. The BlackBerry® Pearl™ 9105 smartphone does not have an Alt key.

Key	Use
Convenience	<p>Users can perform the following actions:</p> <ul style="list-style-type: none"> • Open an application. • Take a picture in the camera application. <p>BlackBerry devices have a two-stage Convenience key. If you are developing an application, make sure that the application opens when users press the Convenience key all the way down.</p>
End/Power	<p>Users can perform the following actions:</p> <ul style="list-style-type: none"> • End a call. • Press and hold the End/Power key to turn on or turn off most BlackBerry devices. The Power/Lock key turns on or turns off BlackBerry® Storm2™ Series devices. <p>You can also use the End/Power key for navigation. For example, if users press the End/Power key in an application, the Home screen displays. If users return to the application, the screen that displayed before users left the application appears.</p>
Escape	<p>Users can perform the following actions:</p> <ul style="list-style-type: none"> • Navigate to the previous screen or state. For example, pressing the Escape key dismisses the current screen and displays the previous screen, dismisses a menu or dialog box, or zooms out one level in a picture, map, web page, or attachment. • Stop an action or dismiss results. For example, pressing the Escape key stops loading a web page in the browser, stops a search, or dismisses search results. • Close an application that has a screen with tabs. Pressing the Escape key does not display the previous tabs. • Close the browser and media applications by pressing and holding the Escape key. <p>Avoid using the Escape key to allow users to clear the text in a field. Allow users to press the Shift key and the Delete key to clear the text in a field instead.</p>
Lock	Lock the keyboard or lock the screen on BlackBerry devices with a touch screen.
Menu	<p>Users can perform the following actions:</p> <ul style="list-style-type: none"> • Open the menu for a screen in an application. • Initiate an action when a menu item is highlighted. • Initiate an action when a button is highlighted in a dialog box. • Switch applications by pressing and holding the Menu key.

Key	Use
Mute	<p>Users can perform the following actions:</p> <ul style="list-style-type: none"> • Mute a call. • Pause and mute the sound from an audio or video file.
Previous and Next	Play the previous or next audio or video file on smartphones in the BlackBerry Pearl 9100 Series.
Send	<p>Users can perform the following actions:</p> <ul style="list-style-type: none"> • Open the phone application. • Answer a call. • Call a highlighted phone number.
Shift	Highlight text by pressing the Shift key and moving a finger on the trackpad or touch screen.
Space	<p>Users can perform the following actions:</p> <ul style="list-style-type: none"> • Type a space. • Select a radio button, check box, or drop-down list item. • Insert a period (.) when pressed twice in a text field. • Insert a period (.) in a web address field or an email address field. • Insert an at sign (@) in an email address field. <p>You can also use the Space key as a shortcut to move down a screen in an application.</p>
Speakerphone	Turn on or turn off the speakerphone during a call on BlackBerry devices. The BlackBerry Pearl 9105 smartphone does not have a speakerphone key.
Symbol	Open the symbol list.
Volume Down	Users can perform the following actions:
Volume Up	<ul style="list-style-type: none"> • Decrease or increase the volume. • Play the previous or next audio or video file. • Zoom in to or out from a subject before taking a picture. • Press and hold the Volume Down key to send an incoming call to voice mail when the BlackBerry device is inserted in a holster.




Typing indicators

Typing indicators appear in the upper-right corner of the BlackBerry® device screen. Avoid displaying other information in the upper-right corner of the screen because the typing indicators could obscure the information.

Indicator	Description
	This indicator indicates that the BlackBerry device is in Alt mode. To enter this mode, users press the Alt key.
	On BlackBerry devices with a reduced keyboard, this indicator indicates that the BlackBerry device is in multi-tap input mode.
	This indicator indicates that the BlackBerry device is in number lock mode. On BlackBerry devices with a full keyboard, users press the Alt key and the Left Shift key. On most BlackBerry devices with a reduced keyboard, users press the Alt key and the Shift key. On BlackBerry devices with a virtual keyboard, users press and hold the 123 key until the lock indicator appears on the key.
	This indicator indicates that the BlackBerry device is in Shift mode. To enter this mode, users press the Shift key.
	This indicator indicates the typing input language.

Typing indicators for the BlackBerry Pearl 9105 smartphone

Users switch modes by pressing the Shift key.

Indicator	Mode
	SureType® input mode
	SureType Shift mode
	SureType Shift-Lock mode
	Multi-tap input mode
	Multi-tap Shift mode
	Multi-tap Shift-Lock mode

Shortcut keys

On BlackBerry® devices with a physical keyboard, shortcut keys provide users with direct access to common actions for a specific screen. For example, users can use shortcut keys to compose an email message or add a bookmark in the browser. Users can also use shortcut keys to access buttons in a dialog box. Some users rely on shortcut keys to perform some tasks without opening the menu and to move around the screen quickly.

Menu items do not have shortcut keys assigned to them. After users open the menu, they can press the key for the first letter of a menu item to highlight the menu item. To initiate the action associated with a highlighted menu item, users press the Enter key or click the trackpad. If multiple menu items have the same first letter, users can continue pressing the key for the letter until they highlight the menu item that they want.

As you create an application or add features to an application, think about the most common actions for each screen. Add shortcut keys where appropriate.

Best practice: Implementing shortcut keys

- Assign and document shortcut keys for common actions. For example, on BlackBerry® devices with a full, physical keyboard, users can press "T" to move to the top of a list. Users can press "B" to move to the bottom of a list.
- Use shortcuts keys to increase efficiency for users, but not as a primary means for users to interact with your application. Users should be able to access all available actions from the menu.
- Localize shortcut keys where possible for the French, Italian, German, Spanish, Hungarian, Czech, and Polish languages. Use English shortcut keys for all other languages.
- In dialog boxes, assign shortcut keys to all buttons.
- In wizards, do not assign shortcut keys to buttons.
- Avoid creating shortcut keys for destructive actions, actions that cannot be undone easily, or actions for which the consequences might be unclear.

Guidelines for choosing shortcut keys

- Use different shortcut keys for full keyboards and reduced keyboards. For example, to move to the top of a web page, users can press one of the following letters:
 - "T" on full keyboards
 - "1" on 20-key reduced keyboards
 - "2" on 14-key reduced keyboards
- For screens, use the first or most memorable character in an action for the shortcut key. For example, in a message list, the shortcut key "R" represents "Reply" and the shortcut key "F" represents "Forward."
- In dialog boxes, use the first character in the button label as the shortcut key.
- For similar actions, use the same shortcut keys that are available in other applications. This approach creates consistency for users.
- Verify that custom shortcut keys do not overlap with existing reserved shortcut keys. For more information about existing shortcut keys, visit <http://na.blackberry.com/eng/support/docs/> to see the product documentation.
- Avoid assigning different actions to well-known shortcut keys.

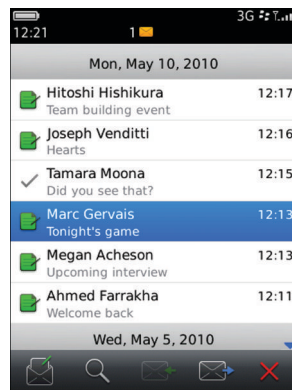
Strategies

5

Setting focus and highlighting items

When an item on a screen is in focus, users can initiate an action on the item.

When users use a trackpad, they can move the highlight to set focus on an item. Then they can act on the highlighted item by clicking the trackpad or using the menu. When users use a touch screen, they interact directly with items on the screen using a finger. When users interact with an item, the highlight helps them identify the item that they are initiating the action on.



Cursors and pointers

When users use a trackpad, they can move a cursor or pointer to set focus on an item on a screen. The cursor or pointer icon can change to indicate its current behavior.

The following cursors and pointers appear in BlackBerry® applications:

Cursor or pointer	Purpose
arrow	The arrow pointer indicates the position of the cursor on a web page.
hand	The hand pointer indicates the position of the cursor when users pause on a link.
magnifying glass	The magnifying pointer indicates that users can zoom in to or out from a section on the screen.
caret	The caret cursor indicates the position of the cursor in a text field that users can type in.
text	The text cursor indicates that the cursor is positioned over a text area in the browser.

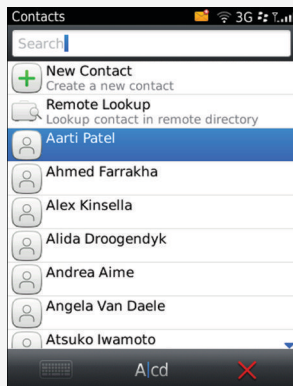
Best practice: Setting focus and highlighting items

- In most cases, when a screen, dialog box, or menu opens, make sure that one item on the screen has focus. This practice is important if users interact with items indirectly using a trackpad. Set focus on the primary item or action. For example, in lists, set focus on the first item in the list. However, if users leave a screen, save the position of the focus so that if users return to the screen, the last item in focus displays.
- Avoid allowing focus on items that users cannot initiate an action on (for example, disabled components).
- If you create custom UI components, choose a highlight color that has high contrast and clearly implies focus (for example, white text on a blue background). Use the same highlight color for all UI components.
- Avoid changing the font, font size, or font style for highlighted text or items.

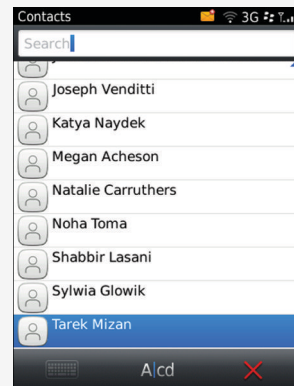
Scrolling and panning

Scrolling

If content on a screen extends beyond the viewing area, scroll arrows appear. Users can scroll by moving a finger on the trackpad, or, on BlackBerry® devices with a touch screen, users can scroll by dragging a finger vertically across the touch screen. When users scroll, the movement of the content is proportional to the input rate of the motion. The quicker the motion, the faster the content on the screen moves. If a highlighted item moves out of view, the highlighted item moves back into view as scrolling decelerates.



Before scrolling using a trackpad

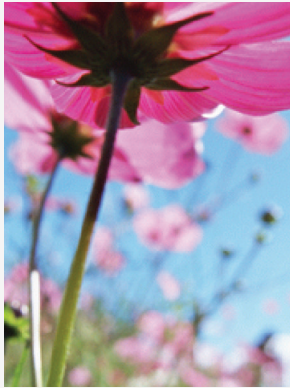


After scrolling using a trackpad

Use the `ScrollingManager` class to implement scrolling. For more information about implementing scrolling, see the API reference guide for the BlackBerry® Java® SDK.

Panning

Users can pan a picture, map, or web page by moving a finger on the trackpad, or, on BlackBerry devices with a touch screen, users can use a finger to drag the content on the screen. The content moves in the same direction and at the same rate that users move their finger.



Before panning



After panning

Zooming

Users can zoom in to or out from items such as images, web pages, HTML email messages, maps, and attachments to view the details of the item or to scan specific sections of the item.

Action	BlackBerry devices with a trackpad only	BlackBerry devices with a touch screen and a trackpad
Zoom in.	Click the trackpad.	<ul style="list-style-type: none"> Pinch open. Click the trackpad. Tap the screen twice quickly in the same location.
Zoom out.	Press the Escape key.	<ul style="list-style-type: none"> Pinch close.

Action	BlackBerry devices with a trackpad only	BlackBerry devices with a touch screen and a trackpad
		<ul style="list-style-type: none"> • Press the Escape key. • On zoomed in content, tap the screen twice quickly in the same location.

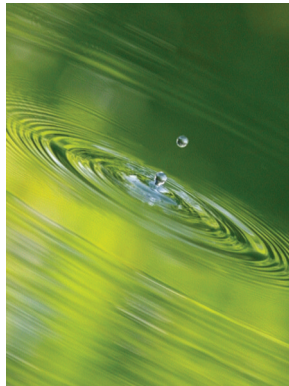
Best practice: Zooming

- Use the `ZoomScreen` class to allow users to zoom in to and out from items. For more information about zooming in to and out from items, see the API reference guide for the BlackBerry® Java® SDK and the *BlackBerry UI and Navigation Development Guide*.
- On zoomed in content, allow users to fit the content into the dimensions of the screen by pressing the Escape key twice quickly.
- Assign shortcut keys for zooming in to and out from items. For example, in English, allow users to press "I" to zoom in and "O" to zoom out.

Displaying images

Images can be displayed individually on the screen and as thumbnails in a table, list, or carousel.

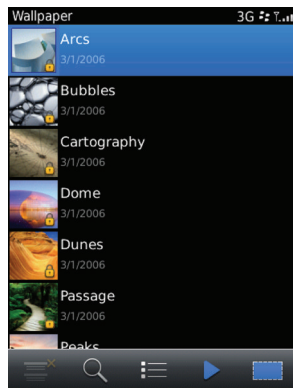
Use the single image view to display a full-sized image. In this view, users can zoom in to and pan the image.



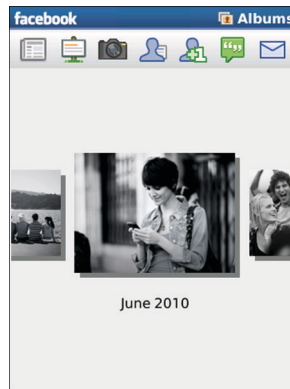
Use thumbnail images in a table to display several images at one time.



Use thumbnail images in a list to help users find an image quickly. The list displays smaller images than the table and includes additional information, such as the name and date, for each image.



Use thumbnail images in a carousel view to allow users to browse through a related set of images such as featured items or a photo album. This view requires less space and allows other items to appear on the screen at the same time.



Users can view more images by performing the following actions:

Action	BlackBerry devices with a trackpad only	BlackBerry devices with a touch screen and a trackpad
View more thumbnail images in a table or list.	Move a finger vertically on the trackpad.	<ul style="list-style-type: none"> • Drag a finger vertically on the touch screen. • Swipe up or down on the screen. • Move a finger vertically on the trackpad.
View more thumbnail images in a carousel view.	Move a finger horizontally across the trackpad.	<ul style="list-style-type: none"> • Drag a finger horizontally on the touch screen. • Swipe across the screen. • Move a finger horizontally across the trackpad.

Best practice: Displaying images

Guidelines for displaying thumbnail images

- Use the same size for each thumbnail image in a particular view. Resize or crop images if necessary. If you must display the original image without cropping it, create a box that is the same size as the other images and place the box behind the image. Center-align the width or height of the image.
- Do not distort the image proportions.

Guidelines for displaying images in a single image view, table, or list

- Always provide a single image view so that users can zoom in to and pan images.
- In a table, display four images in each row by default.
- Use the `GridFieldManager` if the number of rows and columns in the table are fixed. Otherwise, use the `TableView` class. For more information about placing images in a table, see the API reference guide for the BlackBerry® Java® SDK and the *BlackBerry Java Application UI and Navigation Development Guide*.
- If images take time to display, render the images in increments and provide placeholder images.

Guidelines for displaying thumbnail images in a carousel view

- Use the `PictureScrollField` class to display images in a carousel view. For more information about displaying images in a carousel view, see the API reference guide for the BlackBerry Java SDK and the *BlackBerry Java Application UI and Navigation Development Guide*.
- Avoid using a carousel view if the primary goal for users is to find a specific image. Use a table or list instead.
- Display three to seven images on the screen at one time. The number of images to include on one screen varies depending on the size of the thumbnail images and the width of the screen.
- Display the total number of images and indicate the current position of the highlighted image.
- If there are more images than can be displayed on the screen at one time, display a partial image or an arrow on the left or right side of the screen. Include a scroll bar if it is important to show the beginning and the end of the images in the carousel view.
- If images have a specific order, provide users with an indication of the start and end of the set of images.
- Assign shortcut keys for moving to the next or previous image. Where possible, in English, allow users to press "N" to move to the next image and "P" to move to the previous image.
- Avoid placing images in a carousel view near other components.
- If you include labels, place the labels above the image on BlackBerry devices with a touch screen. This approach allows users an unobstructed view of the label as they move through the images.

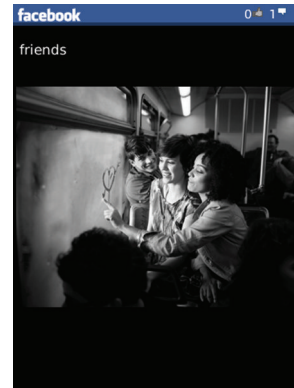
Displaying information on a screen temporarily

You can display information on a screen temporarily using a transparent overlay or an opaque overlay. For example, when users view an image, you can display a description of the image along the top or bottom of the screen. You can define the amount of time that the information appears on a screen.

Action	BlackBerry devices with a trackpad only	BlackBerry devices with a touch screen and a trackpad
Display information temporarily.	<ul style="list-style-type: none"> • Move a finger on the trackpad. • Press a key. 	<ul style="list-style-type: none"> • Touch the screen. • Move a finger on the trackpad. • Press a key.



Before information displays on a screen temporarily



When information displays on a screen temporarily

Best practice: Displaying information on a screen temporarily

- Avoid displaying information or components that users require to complete a task. Display only secondary information, such as descriptions or metadata, on a screen temporarily.
- To avoid distracting users from their primary task, display temporary information judiciously.
- Use the `EyeLidFieldManager` class to display information temporarily. For more information about displaying information temporarily, see the API reference guide for the BlackBerry® Java® SDK and the *BlackBerry Java Application UI and Navigation Development Guide*.

Screen transitions

You can create a transition to apply a visual effect that appears when an application opens or closes a screen on a BlackBerry® device. Creating transitions between screens helps users understand the structure of your application. Consider the following guidelines when implementing screen transitions:

Transition	When to use	Details
Fade	The content is the same but users change their view of the content (for example, switching between day and week view in a calendar or switching between viewing a list of images and viewing the thumbnails of the same images).	Set the duration of the fade to 150 milliseconds.

Transition	When to use	Details
Slide	Users move to an item at the same level in the navigation hierarchy (for example, from one message, photo, song, or contact to another).	When users move to the next item, slide the item in from the left to the right. When users move to the previous item, slide the item in from the right to the left.
Zoom	<p>Users move to an item at a different level in the navigation hierarchy (for example, from a parent item to a child item or a child item to a parent item).</p> <p>Users create a new item, send an item, or save an item.</p> <p>The zoom transition is the most common type of transition between screens.</p>	<p>Zoom in when moving from a parent item to a child item. Zoom out when moving from a child item to a parent item.</p> <p>When users open the application from the Home screen, zoom in from the center of the screen.</p> <p>Set the scale of the zoom to 110 percent.</p>

Provide consistent transitions as users navigate the application. Use the `TransitionContext` class to implement a transition between screens. For more information about implementing transitions between screens, see the API reference guide for the BlackBerry® Java® SDK and the *BlackBerry Java Application UI and Navigation Development Guide*.

Related topics

[Application screens, 41](#)

Containers

6

Application screens

Multiple screens can be open on a BlackBerry® device at one time, but users can view only one screen at a time. When multiple screens are open, they are organized in a stack. The screen at the top of the stack is the active screen. When an application displays a screen, the BlackBerry® Java® Virtual Machine pushes it to the top of the stack. When a screen closes, the BlackBerry Java Virtual Machine deletes the screen from the top of the stack and displays the next screen on the stack. The application redraws the screen as necessary.

Users can perform the following common actions on screens:

Action	User interaction
Move around the screen.	Move a finger on the trackpad or touch screen.
Open the menu.	Press the Menu key.
Invoke an action in the menu.	<ul style="list-style-type: none"> Click or tap the item. When an item is highlighted in the menu, press the Menu key.
Switch applications.	<ul style="list-style-type: none"> Press the Alt key and the Escape key. Hold the Menu key.
Switch between portrait view and landscape view on BlackBerry devices with a touch screen.	Turn the device sideways.
Close an application.	Click Close in the menu.
Return to the Home screen without closing the application screen.	Press the End key.

Best practice: Designing application screens

- Delete your application screen from the stack when users close a screen. If you use standard components, the BlackBerry® device automatically deletes screens from the stack.
- Repaint the screen judiciously. Your BlackBerry device application should not perform unnecessary screen repaints.
- Use a limited number of nested layouts. The more nested layouts that you use to build your screen, the longer it takes for the BlackBerry device to render the screen.
- Prompt users with a dialog box to save any unsaved data before closing a screen.
- Avoid hardcoding color values. The color values that you choose might not work with the theme that users have selected.

Guidelines for layout

- Use a vertical layout for your application screens.
- Consider arranging the UI components on application screens using the BlackBerry API layout managers. For more information about arranging UI components, see the API reference guide for the BlackBerry® Java® SDK and the *BlackBerry Java Application UI and Navigation Development Guide*.
- On BlackBerry devices with a touch screen, verify that the screens display correctly in both portrait and landscape view.
- Display the most important information at the top of the screen. For example, for contact information, display the name first, followed by the email address and phone numbers. Display a field such as the Notes field last.
- Limit the number of components that appear on the screen at one time.
- Use line separators on a screen to separate components or to indicate a group of components.
- Consider localization requirements as early in the design process as possible. Localization can affect the layout of screens.

Related topics

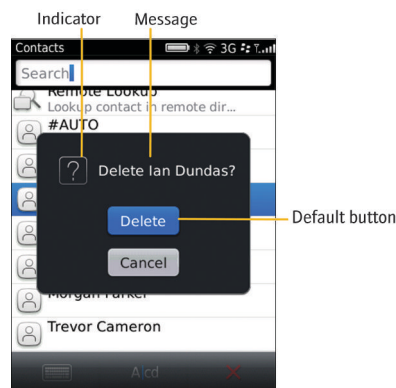
[Display specifications and interaction methods for BlackBerry devices, 12](#)

Dialog boxes

Use dialog boxes to perform the following actions:

- Prompt users for information that is required to complete a user-initiated task.
- Inform users of urgent information or the status of important actions.
- Warn users of unexpected or potentially destructive conditions or situations.

Dialog boxes are modal; they interrupt the normal operation of the BlackBerry® device and are pushed to the top of the stack. A dialog box includes a message, buttons that allow users to perform an action, and an indicator that indicates the type of dialog box. The size of the dialog box depends on the size of the BlackBerry device screen. The theme that users select on their BlackBerry device determines the visual style of the dialog box.



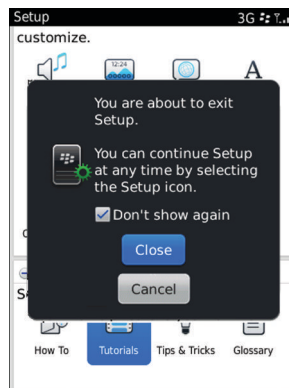
Best practice: Implementing dialog boxes

- Use buttons to confirm or cancel actions in dialog boxes. Avoid using links or other components.

- Use a standard indicator that is appropriate for the type of dialog box. Avoid using multiple indicators in a dialog box.
- Try to avoid making users scroll in a dialog box. Include scroll arrows if your dialog box message or buttons cannot be displayed fully on the dialog box. If you use standard components, scroll arrows appear automatically if necessary.
- Always allow users to use the Escape key to close a dialog box. Avoid implementing another action when users press the Escape key to close a dialog box. For example, if a dialog box allows users to change a setting, do not implement any changes when users press the Escape key. If necessary, display the dialog box at a later time.
- If users press the End/Power key when a dialog box appears on an application screen, display the Home screen or application list. If users return to the application, display the dialog box again.

Guidelines for layout

- Center the dialog box on the screen. If you use standard components, the BlackBerry® device automatically centers the dialog box.
- Create dialog boxes that are up to, but not greater than, 90% of the width and height of the screen. If you use standard components, the BlackBerry device automatically calculates the appropriate size for dialog boxes.
- Center the dialog box indicator vertically with the dialog box message.
- Display messages to the right of the indicator and above any buttons for most languages.
- Place buttons for confirmation actions first. For example, place "Save" before "Discard" or "Cancel."
- Center buttons horizontally in dialog boxes.
- Place buttons vertically in the dialog box. The vertical layout allows buttons to expand to accommodate localized button labels.
- If you include a check box, match the alignment of the check box with the alignment of the dialog box message. Place the check box above the buttons. The check box should be checked by default, unless the dialog box displays a message with critical information for users.



Guidelines for messages

- Be specific. If possible, use one short sentence to clearly state the reason for displaying the dialog box and the actions that can dismiss it.
- Use complete sentences for messages where possible.

- Use vocabulary that users understand. For example, use "The file could not be saved because the media card is full" instead of "Error writing file to disk."
- Use positive language where possible and avoid blaming the user. Never write messages that blame users for errors or unexpected conditions. Instead, focus on the actions that users can take to resolve the issue.
- Use the second person (you, your) to refer to users.
- Use sentence case capitalization.
- Avoid using exclamation points (!) in messages.
- Avoid using an ellipsis (...) in messages unless you are indicating progress (for example, "Please wait...").

Guidelines for buttons

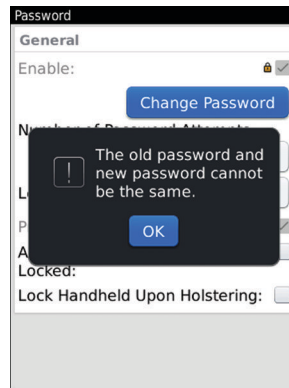
- For the default button, use the button that users are most likely to click. Avoid using a button that is associated with a destructive action as the default button. Exceptions to this rule are those cases where users initiate a minor destructive action (such as deleting a single item) and the most common user action is to continue with the action.
- Avoid using more than three buttons in a dialog box. If there are more than three, consider using an application screen instead with radio buttons.
- On BlackBerry devices with a physical keyboard, provide shortcut keys for buttons. Typically, the shortcut key is the first letter of the button label.
- Use clear, concise labels.
- Use one-word labels where possible. The size of a button changes depending on the length of the label. If a label is too long, an ellipsis (...) indicates that the text is truncated.
- Avoid using the labels "Yes" and "No." Use verbs that describe the associated action (for example, "Cancel," "Delete," "Discard," or "Save"). This approach helps users quickly and easily understand what happens when they click the button. If necessary, include more descriptive text elsewhere on the screen (for example, in an application message).
- Avoid using symbols or graphics in labels.
- Avoid using punctuation in labels. Use an ellipsis in a button label to indicate that additional information is required before the associated action can be performed.

Related topics

[Buttons, 66](#)

Alert dialog boxes

Use alert dialog boxes to notify users of a critical action such as turning off the BlackBerry® device or an error such as typing information that is not valid. An exclamation point (!) indicator appears in an alert dialog box. To close an alert dialog box, users can click OK or press the Escape key.

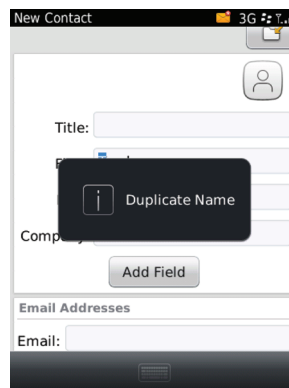


Best practice: Implementing alert dialog boxes

- Include only an OK button. This button should be highlighted by default. When users click the button, the dialog box should close. To provide users with multiple buttons, such as an OK button and a Cancel button, use an inquiry dialog box instead.
- Allow users to press the Escape key to close the dialog box.
- Use a concise, descriptive message to explain the situation that prompted the alert.
- Avoid phrasing messages as questions. Use statements instead.

Information dialog boxes

Use information dialog boxes to provide feedback about a user action. Information dialog boxes close automatically after a predefined period of time, or users can close the dialog box by pressing the Escape key. An information indicator appears in an information dialog box.

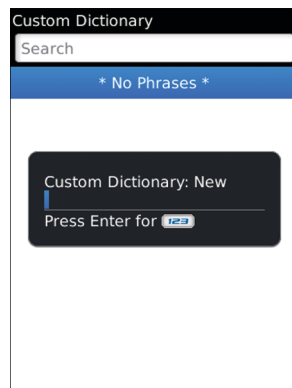


Best practice: Implementing information dialog boxes

- Do not include buttons in information dialog boxes. To provide buttons, use another type of dialog box.
- Allow users to press the Escape key to close the dialog box.
- Set an appropriate timeout period for the dialog box based on the amount of time that is required for users to read the message. If users require more than 10 seconds to read the message, consider using another type of dialog box.
- If you do not want to allow users to perform any other actions while the dialog box appears on the screen, use a status dialog box instead.
- Avoid phrasing messages as questions. Use statements instead.

Input dialog boxes

Use an input dialog box when users must specify information such as a date or file name. After users type the required information, they can press the Enter key to close the dialog box and save their changes. To close the dialog box without saving changes, users can press the Escape key. You can include buttons on this type of dialog box.

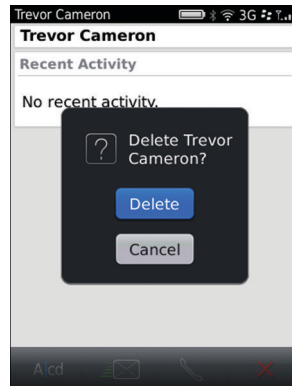


Best practice: Implementing input dialog boxes

- Allow users to press the Escape key to close the dialog box.
- Use a concise, descriptive phrase for field labels.
- Avoid stating in the message that users must provide information. Use the labels to imply that action is required.
- If necessary, include hint text to provide guidance to users.
- Punctuate field labels with a colon (:).

Inquiry dialog boxes

Use inquiry dialog boxes when users must confirm an action before continuing. A question mark (?) indicator appears in an inquiry dialog box.



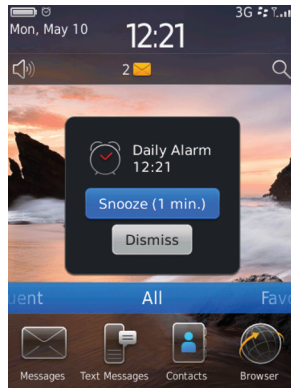
Best practice: Implementing inquiry dialog boxes

- Use a concise, descriptive question for the message.
- Always prompt users with an inquiry dialog box to save their changes when they attempt to close a screen with unsaved changes.
- Include a Cancel button so that users can close the dialog box without making changes.
- Use verbs for labels that describe the associated action (for example, "Cancel," "Delete," "Discard," or "Save"). If necessary, include more descriptive text elsewhere on the screen (for example, in an application message).
- Avoid using the labels "Yes" and "No."

Reminder dialog boxes

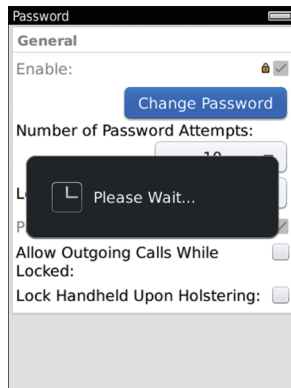
Use reminder dialog boxes to remind users of time-sensitive activities such as appointments or tasks.

Include a Snooze button that users can click to receive another reminder at a later time and a Dismiss button to dismiss the reminder. To dismiss the reminder, users press the Escape key. To close a reminder dialog box, users click a button or press the Escape key. Reminder dialog boxes include an indicator that represents the application that generated the reminder.



Status dialog boxes

Use status dialog boxes to indicate to users that a process is occurring. When a status dialog box appears, users cannot perform other actions. Status dialog boxes include a clock indicator.



Best practice: Implementing status dialog boxes

- Use a status dialog box when you cannot determine the duration of an operation. If you can determine the duration of the operation, use a progress bar instead.
- Always indicate progress when the operation takes more than 1 second to complete.
- Do not include buttons in a status dialog box. If users can perform other actions when the status dialog box appears, consider using another type of dialog box.
- Punctuate the dialog box message with an ellipsis (...).

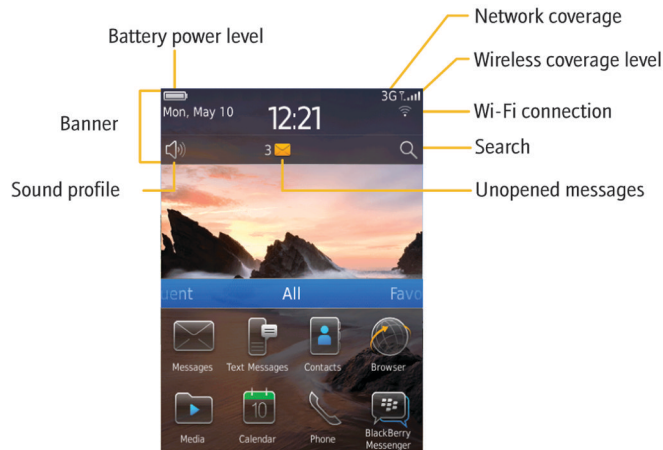
Banner and title bars

The banner, which appears at the top of the Home screen, displays the following items:

- date, time, and wireless service provider
- application notifications, such as the alarm indicator, missed call count indicator, unopened message count indicator, and third-party indicators
- wireless connection indicators, such as the wireless coverage level, network coverage, Bluetooth® indicator, Wi-Fi® connection indicator, and roaming indicator
- battery power indicator
- sound profile indicator
- search icon

The theme that users select on their BlackBerry® device determines the design of the Home screen banner.

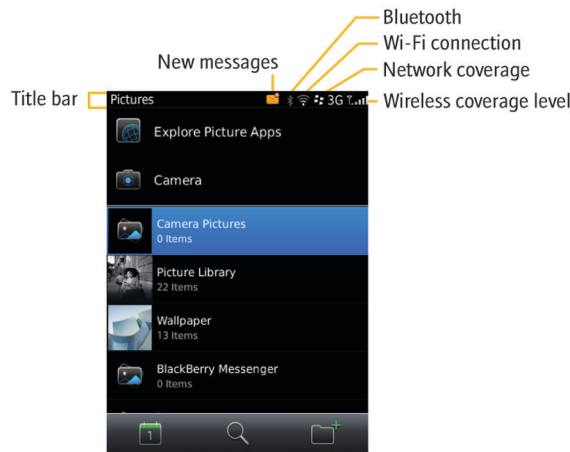
Although you cannot add a banner to your application, you can add an indicator to the banner to provide a notification or to communicate important information about the status of your application. For example, you can include an unopened message indicator and count to provide users with new message information.



You can add a title bar to the top of your application screens to help orient users. Most title bars contain only a title but title bars can display the following items:

- application icon, descriptive title, and time
- application notifications, such as a new message indicator
- wireless connection indicators, including the wireless coverage level, network coverage, GPS indicator, Bluetooth indicator, and Wi-Fi connection indicator

- battery power indicator
- active call indicator



Related topics

[Dimensions for indicators on BlackBerry devices, 94](#)

Best practice: Implementing title bars

- Use the `TitleBar` class to implement title bars. For more information about implementing title bars, see the API reference guide for the BlackBerry® Java® SDK and the *BlackBerry Java Application UI and Navigation Development Guide*.
- If you want to add an icon to the title bar, consider adding the icon only to the title bar that appears on the first screen in an application. This approach allows you to add a branded element to the title bar as well as help users differentiate the top screen in your application.
- Include the time in title bars if users need to refer to the time often in order to use the application.
- Include wireless connection indicators in title bars if the application requires a wireless connection.
- Include application notifications and wireless connection notifications in title bars if users typically stay in the application for a long period of time.
- Consider including the battery power indicator in title bars if the application significantly impacts battery life. By default, the battery power indicator displays only when the battery power level is low or the battery is charging.

Pane manager

The pane manager provides filtered views of content and allows users to navigate content without leaving the context of the screen. You can filter content in two different ways.

In the scrollable view, users can move through each pane of content. Users can move through the panes continuously. Or, you can set a start and end point so that users know when they reach the first and the last pane. You can add hint text or arrows to the left side and the right side of the screen to indicate that other panes of content are available.



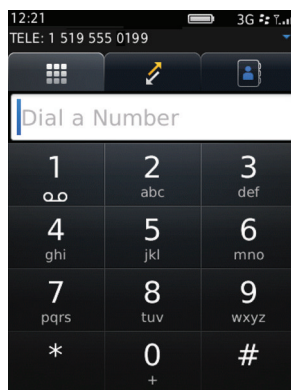
The first pane in a scrollable view



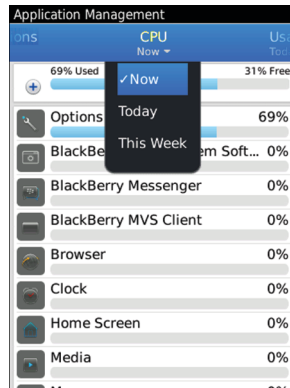
The second pane in a scrollable view

Note: The ability to expand and contract the size of the scrollable view is unique to the Home screen.

The tab view displays all available tabs on the screen. Users have immediate access to each tab.



You can also allow users to filter content within a specific pane. Users still have the ability to easily switch to other panes.



Users can perform the following action in a pane manager:

Action	BlackBerry devices with a trackpad only	BlackBerry devices with a touch screen and a trackpad
Switch panes.	Move a finger horizontally on the trackpad.	<ul style="list-style-type: none"> • Drag a finger horizontally on the screen. • Swipe right or left on the screen. • Move a finger horizontally on the trackpad.

Best practice: Implementing pane managers

- Use a pane manager if users need to navigate filtered views of content frequently.
- Use the `PaneManagerView` class to create scrollable views or tab views. For more information about implementing pane managers, see the API reference guide for the BlackBerry® Java® SDK and the *BlackBerry Java Application UI and Navigation Development Guide*.
- Assign shortcut keys for switching to the next and previous panes. For example, in English, allow users to press "N" to switch to the next pane and "P" to switch to the previous pane.
- In most cases, allow users to close an application by pressing the Escape key. Do not display the previous pane. If users filter content within a specific pane, then display all of the content in the pane when users press the Escape key.

Guidelines for scrollable views

- Use a scrollable view to allow users to seamlessly navigate similar types of content. You can also use a scrollable view if users need to view the same set of content in different ways.

- In most cases, avoid providing more than seven panes of content. The more panes of content, the more difficult it becomes for users to remember each pane. However, you can include more than seven panes if the panes are ordered in an obvious way, such as by date, by number, or in an alphabetical list.
- Add hint text to the left side and the right side of the screen to indicate that other panes of content are available. Use arrows instead of hint text if there is a large number of panes or to indicate that users can navigate in increments, such as by date.
- Allow users to scroll through the panes continuously if it is easy to distinguish the content in each pane. Otherwise, users might get lost. If there are only two panes, do not allow users to scroll continuously through the panes.
- Create a start and end point for the panes if the titles in each pane are similar or if the content in each pane is similar. A fixed start and end point allows users to easily find the first pane and the last pane. It also allows users to learn the order of the titles.
- Avoid using icons in titles, except for branding purposes.

Guidelines for tab views

- Use a tab view to display related but different types of content in the same view. Use a tab view if the types of content are not expected to increase in number.
- Show all tabs on the screen where possible. Avoid making users scroll to see additional tabs.
- Avoid displaying tabs with dramatically different widths. Try to distribute tabs evenly across the screen.
- If there is a limited amount of space at the top of each tab, use icons instead of labels.

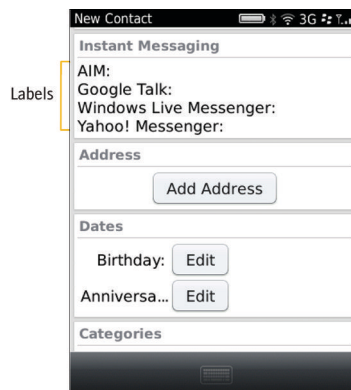
Components

7

Text fields

Labels

Use a label to display text that identifies a component.



Best practice: Implementing labels

- Use the `LabelField` class to create labels. For more information about creating labels, see the API reference guide for the BlackBerry® Java® SDK and the *BlackBerry Java Application UI Quick Reference Guide*.
- Use clear, concise labels.
- Group and order labels logically (for example, group related items together or include the most common items first). Avoid ordering values alphabetically; alphabetical order is language specific.
- Punctuate the label with a colon (:).

Text fields

Users can use a text field to type text.

Type of text field	Description
email	Users can insert an at sign (@) or a period (.) in an email address field by pressing the Space key.

Type of text field	Description
date and time	<p>Users can change the date or time on BlackBerry® devices with a trackpad using the keyboard or by moving a finger vertically on the trackpad.</p> <p>Users can change the date or time on BlackBerry devices with a touch screen by swiping up or down on the screen.</p>
number	<p>When users need to type in a number field on a physical keyboard, the BlackBerry device switches to number lock mode so that users do not need to press the Alt key to type numbers.</p> <p>When users need to type in a number field on a virtual keyboard, the number keyboard appears.</p>
password	<p>When users type in a password field, asterisks (*) appear instead of text. Users cannot cut, copy, or paste text or use AutoText in password fields.</p> <p>On BlackBerry devices with SureType® technology, multi-tap is the default typing input method in password fields.</p>
phone number	<p>When users type in a phone number field on a physical keyboard, the BlackBerry device switches to number lock mode so that users do not need to press the Alt key to type numbers. You can also allow users to perform the following actions in phone number fields:</p> <ul style="list-style-type: none"> • Type the plus sign (+) for international phone numbers. • Type formatting characters such as the minus sign (-), period (.), parentheses (()), and spaces. • Type a number sign (#) or an asterisk (*). • Indicate a pause by typing a comma (,) or indicate a wait by typing an exclamation point (!). • Indicate an extension by pressing the Alt key and pressing E, X, or T. <p>When users need to type in a phone number field on a virtual keyboard, the number keyboard appears. You can also allow users to perform the following actions in phone number fields:</p> <ul style="list-style-type: none"> • Type a number sign (#) or an asterisk (*). • Indicate a pause or an extension by holding the asterisk (*) key. • Indicate a wait or an extension by holding the number sign (#) key.
text	<p>In text fields, users type text. Users can cut, copy, and paste text in text fields. When the cursor reaches the end of a line of text, the text wraps to the next line.</p> <p>In text fields, BlackBerry devices can also turn telephone numbers, web pages, and email addresses into links automatically.</p>
web address	<p>Users can insert a period (.) in an address field by pressing the Space key.</p>

Related topics

Keyboard, 23

Best practice: Implementing text fields

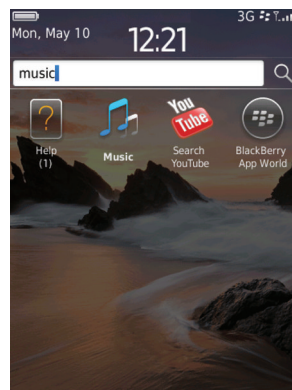
- Use the `TextField` class to create text fields. For more information about creating text fields, see the API reference guide for the BlackBerry® Java® SDK and the *BlackBerry Java Application UI Quick Reference Guide*.
- Choose a type of text field based on what you expect users to type. Using the most appropriate text field is important so that the appropriate typing indicator appears on the screen when users type text. For example, when users type text in a phone number field, the number lock indicator appears in the upper-right corner of the screen. The field that you choose also affects the default typing input method for the field on BlackBerry devices with SureType® technology.
- Use or extend existing fields instead of creating custom fields where possible so that fields inherit the appropriate default behavior.
- If necessary, include hint text to provide guidance to users. Use hint text if space on a screen is limited and you cannot include a label or instructional text. Hint text appears in the field and disappears when users type.

Guidelines for labels

- Use concise, descriptive labels. Avoid labels that wrap.
- Use title case capitalization.
- Punctuate labels for fields with a colon (:).
- If you use hint text, keep it concise. Use sentence case capitalization.

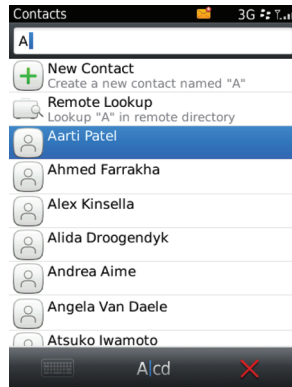
Search

Users can use the search field on the Home screen to search for items in any application on the device, including third-party applications. The search can also include content that is not stored on the device, such as an organization's database or a web site.



Users can also use a search field in an application to search for items in that application. For example, users can search for an email message in a message list, a song in the Media application, or a contact in the contact list. In some cases, you might want to display search results from other applications.

In some applications, the search field appears on the screen. In other cases, search is available from the full menu, the pop-up menu, or the toolbar. As users type text in a search field, display the search results. If a large number of search results is returned, you can allow users to narrow their search to a field or a group of fields. For example, if users search the message list, they can use the drop-down list to the right of the search field to narrow their search to the To field or the Subject field. For more information about adding a search field to your application, see the *BlackBerry Java Application Integration Development Guide*.



Users can perform the following actions in a search field:

Action	BlackBerry devices with a trackpad only	BlackBerry devices with a touch screen and a trackpad
Open a highlighted item in the search results.	<ul style="list-style-type: none"> Press the Enter key. Click the trackpad. 	<ul style="list-style-type: none"> Tap the screen. Press the Enter key. Click the trackpad.
Display a pop-up menu with actions for a search result (for example, call a contact)	Click and hold the trackpad.	<ul style="list-style-type: none"> Touch and hold a search result on the screen. Click and hold the trackpad.

You can register content in your application so that it can be included in search results. You can also register your application as a way for users to extend a search. For example, if users search for a song in the Media application and do not find the song, you can allow users to search your application as an alternative source of search results. For more information about registering content or an application, see the *BlackBerry Java Application Integration Development Guide*.

Best practice: Implementing search

- Use the `net.rim.device.api.unifiedsearch` package to implement search capabilities. For more information about implementing search, see the API reference guide for the BlackBerry® Java® SDK and the *BlackBerry Java Application Integration Development Guide*.
- Be selective with the content that you register to be included in search results. Only register content that provides meaningful search results for users.
- Try to present the most relevant items at the beginning of the list of search results. For example, if users are looking for a restaurant that has several different locations, display the restaurant that is closest to the user's location at the beginning of the list of search results.
- In the search results, bold the text that matches the text that users type. This approach helps users see why each item appears in the list of search results.
- If users need to search for a word on a screen (for example, in a message or on a web page), use the term "Find" in the Menu.

Implementing search fields

- Set the default focus to the search field. When the search results appear, set the default focus to the first item in the list of search results.
- Use the term "Search" as hint text in the search field.
- Do not make search fields case sensitive.
- Place the search field below the title bar on an application screen.
- Do not assign shortcut keys for a screen that includes a search field. If you want to use shortcut keys, provide alternative search functionality. For example, allow users to search for messages in a message list using the menu.

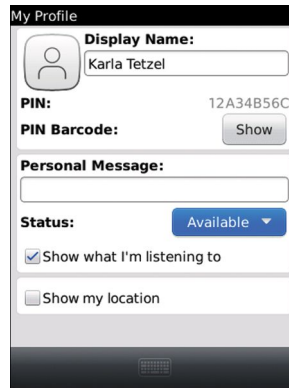
Choice fields

Check boxes

Use check boxes for binary options that users can understand easily. For example, use a check box for an option that can be turned on and off.

Users can perform the following action with a check box:

Action	BlackBerry devices with a trackpad only	BlackBerry devices with a touch screen and a trackpad
Select a check box.	Press the Space key or click the trackpad.	<ul style="list-style-type: none"> • Tap the item. • Press the Space key. • Click the trackpad.



Best practice: Implementing check boxes

- Use check boxes when users can select multiple options.
- Use the `CheckboxField` class to create check boxes. For more information about creating check boxes, see the API reference for the BlackBerry® Java® SDK and the *BlackBerry Java Application UI Quick Reference Guide*.
- Do not start an action when users select a check box. For example, do not open a new screen.
- Align check boxes vertically.
- Group and order check boxes logically (for example, group related options together or include the most common options first). Avoid ordering check boxes alphabetically; alphabetical order is language specific.

Guidelines for labels

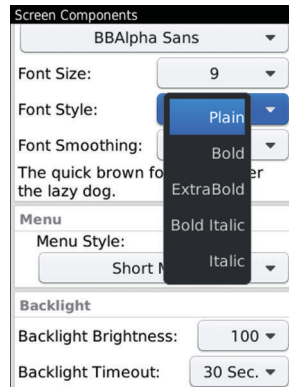
- Use clear, concise labels. Verify that the label clearly describes what occurs when users select the check box.
- Use positive labels where possible. For example, if users have the option of turning on or turning off a feature, use "turn on" instead of "turn off" in the label.
- Place labels on the right side of check boxes. On Option screens, place labels on the left side of check boxes.
- Use sentence case capitalization.
- Punctuate labels for check boxes with a colon (:).

Drop-down lists

Use drop-down lists to provide a set of mutually exclusive values.

Users can perform the following action with a drop-down list:

Action	BlackBerry devices with a trackpad only	BlackBerry devices with a touch screen and a trackpad
Click a value from a drop-down list.	Press the Enter key or click the trackpad.	<ul style="list-style-type: none"> • Tap the item. • Press the Enter key. • Click the trackpad.



Best practice: Implementing drop-down lists

- Use a drop-down list for two or more choices when space is an issue. If space is not an issue, consider using radio buttons instead so that users can view the available options on the screen.
- Use the `ObjectChoiceField` or `NumericChoiceField` class to create drop-down lists. For more information about creating drop-down lists, see the API reference for the BlackBerry® Java® SDK and the *BlackBerry Java Application UI Quick Reference Guide*.
- For the default value, use the value that users are most likely to click.
- Use the highlighted option as the default focus when users scroll through the list.
- If users are not required to click a value, include a "None" value in the drop-down list. Always place the "None" value at the top of the list.
- Group and order values logically (for example, group related values together or include the most common values first). Avoid ordering values alphabetically; alphabetical order is language specific.

Guidelines for labels

- Use clear, concise labels for drop-down lists and for the values in drop-down lists. Verify that the label clearly describes what occurs when users click the value. The width of the drop-down list changes based on the length of the value labels. If a label is too long, an ellipsis (...) appears to indicate that the text is truncated.
- Avoid using the labels "Yes" and "No" as drop-down list values. Rephrase the option and use a check box instead.
- Place the label on the left side of a drop-down list.

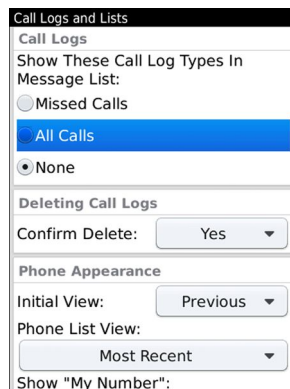
- Use title case capitalization for drop-down list labels and values (unless the values read more like a sentence).
- Punctuate labels for drop-down lists with a colon (:).

Radio buttons

Use radio buttons to indicate a set of mutually exclusive but related choices.

Users can perform the following action with radio buttons:

Action	BlackBerry devices with a trackpad only	BlackBerry devices with a touch screen and a trackpad
Select a radio button.	Press the Space key or click the trackpad.	<ul style="list-style-type: none"> • Tap the item. • Press the Space key. • Click the trackpad.



Best practice: Implementing radio buttons

- Use radio buttons for two or more choices when space is not an issue. If space is an issue, consider using a drop-down list instead.
- Use the `RadioButtonField` class to create radio buttons. For more information about creating radio buttons, see the API reference for the BlackBerry® Java® SDK and the *BlackBerry Java Application UI Quick Reference Guide*.
- Verify that the content for radio buttons remains static. Content for radio buttons should not change depending on the context.
- Do not start an action when users select a radio button. For example, do not open a new screen.
- Align radio buttons vertically.

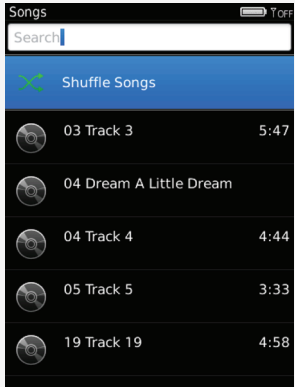
- Group and order values logically (for example, group related radio buttons together or include the most common values first). Avoid ordering radio buttons alphabetically; alphabetical order is language specific.

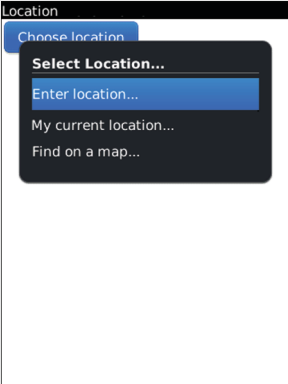
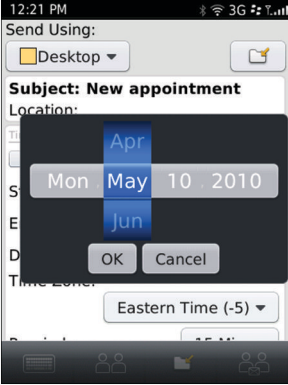
Guidelines for labels

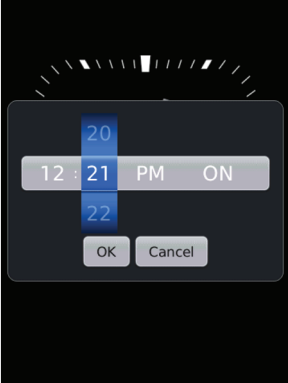
- Use clear, concise labels. Verify that the label clearly describes what occurs when users select the radio button. If the labels are too long, they wrap.
- Place labels on the right side of radio buttons.
- Use sentence case capitalization.
- Do not use end punctuation.

Pickers

You can use pickers to help users choose an item from a list easily.

Type of picker	Description
File	This picker allows users to browse for files on their BlackBerry® devices.
	
Location	This picker allows users to choose a location from a list that you define. For example, you can allow users to choose their GPS location or a previously selected location.

Type of picker	Description
	
Date	<p>This picker allows users to choose a specific day, month, or year. For example, you can allow users to choose a month and year to specify when their credit card expires.</p> 
Time	<p>This picker allows users to choose a specific hour, minute, or second.</p>

Type of picker	Description
	

Best practice: Implementing pickers

Use the `FilePicker`, `LocationPicker`, and `DateTimePicker` classes to create pickers. For more information about creating pickers, see the API reference for the BlackBerry® Java® SDK and the *BlackBerry Java Application UI Quick Reference Guide*.

Guidelines for file pickers

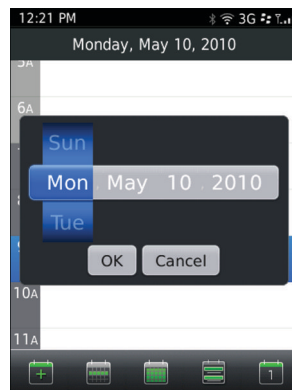
- Specify a specific view to display the types of files that match the user's goal. For example, if a user is browsing pictures, display pictures in the file picker.
- Allow users to start browsing from an appropriate default folder if possible.

Spin boxes

Use a spin box to allow users to choose an item from an ordered list easily. For example, use spin boxes to allow users to find a number or to change the day of the week.

Action	BlackBerry devices with a trackpad only	BlackBerry devices with a touch screen and a trackpad
Find an item in the list.	Move a finger vertically on the trackpad.	<ul style="list-style-type: none"> • Drag a finger vertically on the screen. • Swipe up or down on the screen. • Move a finger vertically on the trackpad.

Action	BlackBerry devices with a trackpad only	BlackBerry devices with a touch screen and a trackpad
Choose an item from the list.	Click the trackpad.	<p>Move a finger up or down on the screen or the trackpad.</p> <ul style="list-style-type: none"> Lift a finger from the screen. Click the trackpad.
Move to another spin box.	Move a finger vertically on the trackpad.	<ul style="list-style-type: none"> Drag a finger vertically on the screen. Move a finger vertically on the trackpad.



Best practice: Implementing spin boxes

- Use spin boxes for a list of sequential items.
- Use drop-down lists for non-sequential items or items with irregular intervals. For a short list of non-sequential items, you can use a spin box to provide a more interactive experience for users.
- Avoid using a spin box if several other components appear on the screen.
- Use the `SpinBoxField` class and the `SpinBoxFieldManager` class to create spin boxes. For more information about creating spin boxes, see the API reference for the BlackBerry® Java® SDK and the *BlackBerry Java Application UI Quick Reference Guide*.
- Add spin boxes to dialog boxes instead of screens where possible.
- When users highlight a spin box, display three to five items vertically.
- Use an identifiable pattern for the sequence of items (for example, 5, 10, 15) so that users can estimate how much they need to scroll to find the target item.
- Avoid making users scroll horizontally to view multiple spin boxes. If necessary, separate spin boxes into multiple fields.
- If the text in a spin box is too long, use an ellipsis (...).

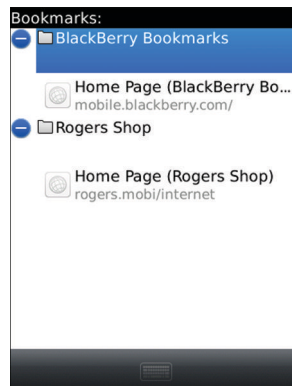
Tree views

Use a tree view to display objects, such as folders, in a hierarchical manner.

Objects in the tree view are nodes. The highest node is the root node. A node in the tree can have child nodes under it. A node that has a child is a parent node.

Users can perform the following action in a tree view:

Action	BlackBerry devices with a trackpad only	BlackBerry devices with a touch screen and a trackpad
Expand or collapse an object with a plus sign (+) or minus sign (-) in a hierarchy.	Press the Space key or click the trackpad.	<ul style="list-style-type: none"> • Tap the object. • Press the Space key. • Click the trackpad.



Best practice: Implementing tree views

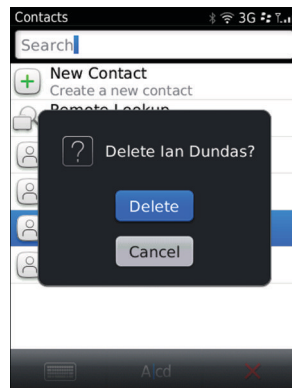
- Use the `TreeField` class to create tree views. For more information about creating tree views, see the API reference for the BlackBerry® Java® SDK and the *BlackBerry Java Application UI Quick Reference Guide*.
- Provide a pop-up menu if users can perform multiple actions when they click a parent node.
- Include a root node only if users need the ability to perform actions on the entire tree. Otherwise, exclude the root node.

Buttons

Use buttons to allow users to perform an action from a dialog box. Menus typically include actions that are associated with a screen.

Users can perform the following actions with a button:

Action	BlackBerry devices with a trackpad only	BlackBerry devices with a touch screen and a trackpad
Highlight a button.	Move a finger on the trackpad.	<ul style="list-style-type: none"> • Touch the button lightly. • Move a finger on the trackpad.
Perform an action.	Click the trackpad or press the Enter key.	<ul style="list-style-type: none"> • Tap the item. • Click the trackpad. • Press the Enter key.



Best practice: Implementing buttons

- Avoid using buttons on an application screen. To provide actions that are associated with a screen, use the application menu instead. On BlackBerry® devices with a trackpad, the menu is available to users immediately, regardless of the position of the cursor on the screen. Buttons are static and require users to highlight a button to perform the associated action. If you use buttons, include menu items for the actions in the application menu as well. On BlackBerry devices with a touch screen, you can use buttons for critical actions.
- Use check boxes for options such as turning on or turning off a feature.
- Use the `ButtonField` class to create buttons. For more information about creating buttons, see the API reference for the BlackBerry® Java® SDK and the *BlackBerry Java Application UI Quick Reference Guide*.
- For the default button, use the button that users are most likely to click. Avoid using a button that is associated with a destructive action as the default button.

Guidelines for labels

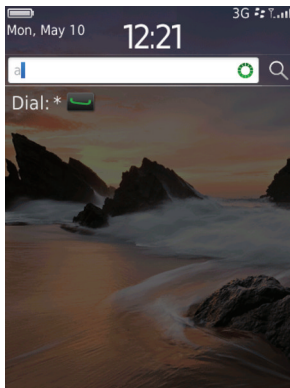
- Use clear, concise labels.

- Use one-word labels where possible. The size of a button changes depending on the length of the label. If a label is too long, an ellipsis (...) indicates that the text is truncated.
- Use verbs for labels that describe the associated action (for example, "Cancel," "Delete," "Discard," or "Save"). If necessary, include more descriptive text elsewhere on the screen (for example, in an application message).
- Avoid using the labels "Yes" and "No."
- Avoid using punctuation in a label. Use an ellipsis in a button label to indicate that users must perform another action after they click the button.

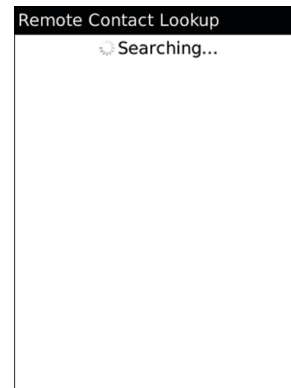
Activity indicators and progress indicators

Activity indicators and progress indicators show users that their BlackBerry® devices are performing an action, such as searching for items or removing languages.

Use an activity indicator if you want to show that the BlackBerry® device is working and you cannot determine the duration of the action. You can add an activity indicator to any component, such as a screen, text field, or list item. You can also add text to an activity indicator to describe the action.

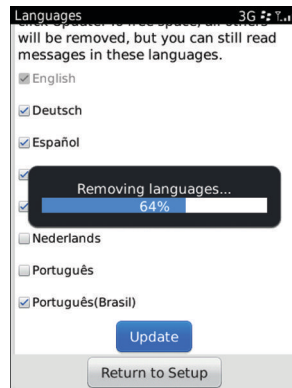


An activity indicator in a field



An activity indicator with text

Use a progress indicator if you can determine the duration of an action. Progress indicators include a label to indicate what the action is and a horizontal bar that fills from left to right as the action progresses. A percentage appears in the bar to indicate how much of the action is complete.



Best practice: Implementing activity indicators and progress indicators

- Always indicate progress when an action takes more than 2 seconds to complete.
- Use a progress indicator when you can determine the duration of an action.
- Use an activity indicator when you cannot determine the duration of an action.
- Use the `ActivityIndicatorView` class to create activity indicators. Use the `ProgressBarView` class to create progress indicators. For more information about creating indicators, see the API reference for the BlackBerry® Java® SDK and the *BlackBerry Java Application UI Quick Reference Guide*.
- Provide useful progress information. For example, if users are downloading an application to their device, indicate the percentage of data that their BlackBerry® device has downloaded. Be as accurate as possible with the progress information.
- Always allow users to use the End key to hide a progress indicator.

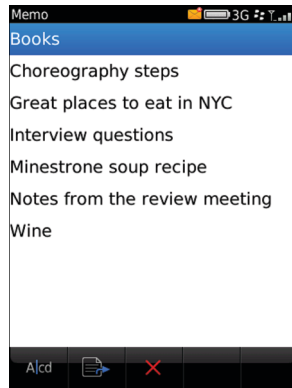
Guidelines for text

- Use a concise, descriptive text (for example, "Loading data..." or "Building an application list...").
- If an action is long and you want to communicate what is happening at each stage, provide text that describes each stage (for example, "Downloading..." or "Installing...").
- Use sentence case capitalization.
- Punctuate the text with an ellipsis (...).

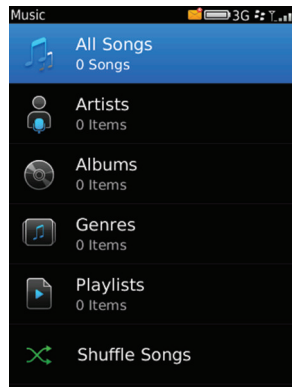
Lists and tables

Use lists and tables to display items that users can highlight and open. If the list is long, items are fetched and displayed in batches. When users reach the last item in the list, the next batch of items displays at the end of the list.

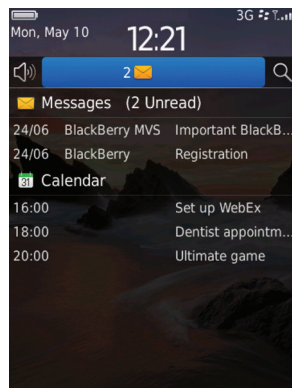
Use a simple list to easily display text in rows.



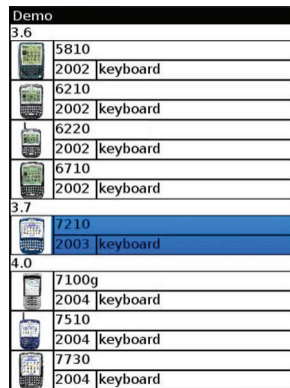
Use a rich list to easily display rows of text and icons. Currently, rich lists only display information and are not interactive.



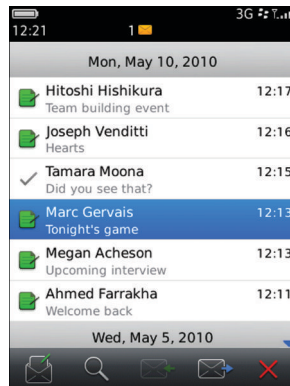
If you want to present items in columns and rows, use a table.



You can group items under headers to help users navigate through long lists. For example, you can create headers that collapse, making it easier for users to find items in the list.



You can also group items under headers that always appear at the top of the list. For example, you can add a date as a header and group messages received on that date under the header. Users can highlight a header to perform an action on the group of items or they can use shortcut keys to move through the list.



Users can perform the following actions in lists and tables:

Action	BlackBerry devices with a trackpad only	BlackBerry devices with a touch screen and a trackpad
Scroll through items in the list.	Move a finger vertically on the trackpad.	<ul style="list-style-type: none"> Drag a finger vertically on the screen. Swipe up or down on the screen.

Action	BlackBerry devices with a trackpad only	BlackBerry devices with a touch screen and a trackpad
		<ul style="list-style-type: none"> Move a finger vertically on the trackpad.
Highlight an item in the list.	Move a finger vertically on the trackpad.	<ul style="list-style-type: none"> Touch the item lightly. Move a finger vertically on the trackpad.
Open an item in the list.	<ul style="list-style-type: none"> Click the trackpad. Press the Enter key. 	<ul style="list-style-type: none"> Tap the item. Click the trackpad. Press the Enter key.

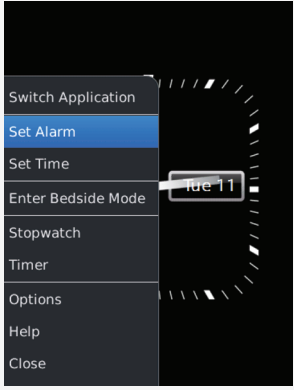
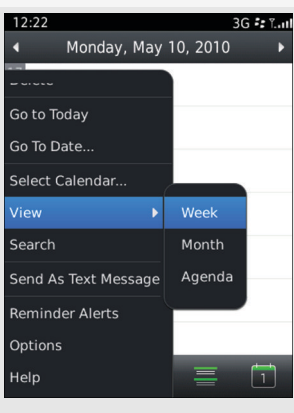
Best practice: Implementing lists and tables

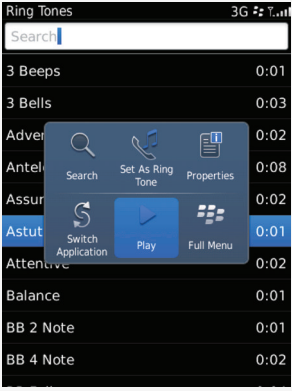
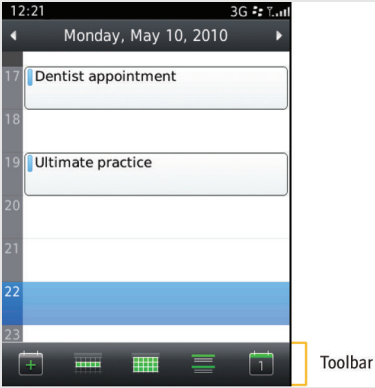
- Use the `SimpleList` class to create a list with text. Use the `RichList` class to create a display-only list with text and icons. Use the `TableView` class to create an interactive rich list with text and icons. For more information about creating lists, see the API reference for the BlackBerry® Java® SDK and the *BlackBerry Java Application UI Quick Reference Guide*.
- Use the `TableView` class to create a table with rows and columns. You can use the `GridFieldManager` if the number of rows and columns in the table are fixed. For more information about creating tables, see the API reference for the BlackBerry® Java® SDK and the *BlackBerry Java Application UI Quick Reference Guide*.
- If the list is long and you want to display the items on separate screens, include Next and Previous buttons at the bottom of the screen. Alternatively, if the list is very long (for example, thousands of items), provide screen numbers instead.
- If you expect users to move through the items in the list (for example, in a message list or a feed), assign shortcut keys for moving to the next or previous item in the list. Where possible, in English, allow users to press "N" to move to the next item in the list and "P" to move to the previous item in the list.

Menus and toolbars

8

You can use menus and toolbars to provide users with specific actions for a highlighted item or screen. The table below provides a high-level overview of each type of menu and the toolbar and suggestions on how you can use these items together in an application.

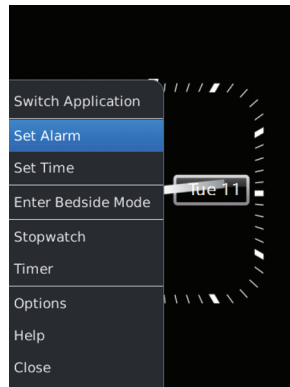
Item	Example	Use	Using items together
Full menu		<p>Allows users to perform all actions for a screen in an application.</p>	<p>Group similar (but not critical) menu items in a submenu to help users find actions in the full menu more easily.</p>
Submenu		<p>Allows users to find frequently used items in the full menu more easily.</p>	<p>Move related, less frequently used menu items out of the full menu into a submenu.</p>

Item	Example	Use	Using items together
Pop-up menu		<p>Allows users to perform the most common actions for a highlighted item quickly.</p>	<p>Use a pop-up menu instead of a toolbar for actions specific to a highlighted item.</p> <p>Avoid including the same action in a pop-up menu and a toolbar unless the actions are very frequent.</p>
Toolbar		<p>Provides a quick and easy way for users to access the most frequent actions for a screen or an application on a touch screen device.</p>	<p>Use a toolbar instead of a pop-up menu for actions associated with a screen or if users need to repeatedly perform an action.</p> <p>Avoid including the same action in both a pop-up menu and a toolbar unless the actions are very frequent.</p>

Full menus

Full menus allow users to perform all of the actions for a screen in an application. The menu items include specific actions for the application, contextual actions for the highlighted item, and global items such as Options, Help, and Close. When users press the Menu key, the full menu appears in the lower-left corner of the screen. Scroll arrows appear if users need to scroll to view more menu items.

Action	BlackBerry devices with a trackpad only	BlackBerry devices with a touch screen and a trackpad
Initiate the action associated with a menu item.	<ul style="list-style-type: none"> Click the trackpad. Press the Enter key. Press the Menu key. 	<ul style="list-style-type: none"> Tap the menu item. Click the trackpad. Press the Enter key. Press the Menu key.
Move to a specific menu item quickly.	Press the first letter of the label for a menu item.	Press the first letter of the label for a menu item.
Close the full menu.	Press the Escape key.	<ul style="list-style-type: none"> Press the Escape key. Open or close the slider.



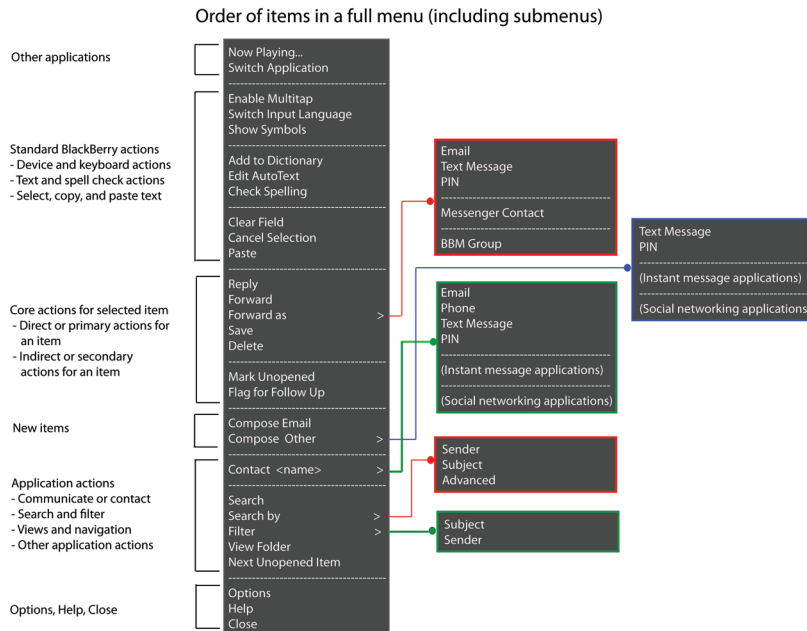
Best practice: Implementing full menus

- Use the Menu class to create full menus. For more information about creating full menus, see the API reference guide for the BlackBerry® Java® SDK and the *BlackBerry Java Application UI and Navigation Development Guide*.
- In most cases, provide a full menu.
- Set the menu item that users are most likely to choose as the default menu item. The default item in the full menu should be the same as the default item in the pop-up menu.
- Include all the actions that users can perform in the application, even actions that appear on the screen (for example, actions in a toolbar).
- Keep menus as short as possible. Use submenus to reduce the number of menu items in the full menu.
- If an action involves choice, display the choices in a submenu. For example, if users can attach a picture, audio file, or video file to an email message, provide an "Attach" menu item in the full menu and include the other items in a submenu.

- On BlackBerry® devices with a touch screen, create menu items that are 6 mm high.

Guidelines for placing items in full menus

- Place contextual actions at the top of the menu and global actions at the bottom of the menu. Consistent item placement makes it easier for users to find and recall actions across applications.
- Place the "Options" and "Help" menu items at the bottom of the full menu, above the "Close" menu item.
- Avoid placing the default menu item in a submenu.
- Refer to the diagram below for more details on how to group and place items in a full menu:



- Include settings and infrequent actions in "Options."
- Group menu items according to common usage or common functionality, and where possible, test the groups with users. If the number of items in a group is large (for example, more than seven), consider including an additional separator in the group. However, maintain a balance between separating logical groups and designing an aesthetically pleasing menu.
- Avoid adding separators manually. Display issues might occur if menu items change position. Separators are added for every increment of 0x10000 in the menu positioning parameter if there are menu items on either side. Place each group of menu items within the same range and make sure that the menu items that you want to be separate from the group have a placement of at least 0x10000.
- If specific menu items are similar and difficult to distinguish, avoid placing the menu items next to each other. For example, do not place a "Reply" menu item next to a "Reply All" menu item. Users might choose the wrong menu item and not recognize the difference.

Guidelines for labels

- Use concise, descriptive labels. If a label is too long, an ellipsis (...) indicates that the text is truncated.

- In most cases, use verbs for labels.
- Use title case capitalization for labels.
- Use an ellipsis in a menu item label to indicate that users must perform another action after they click the menu item. For example, if users click the "Select Calendar..." menu item in the calendar, they must specify a calendar on the screen that appears.
- Avoid using symbols such as an asterisk (*) in labels.
- Use "Enable <mode>" to indicate that a specific state is turned on. Use "Disable <mode>" to indicate that a specific state is turned off.
- Verify that the menu item label matches the title of the associated screen where appropriate. For example, if users click "Change Display Name" in the menu, then the title of the screen that appears should be "Change Display Name."

Submenus

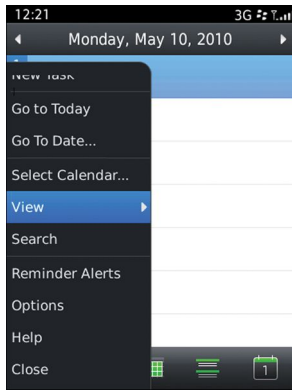
A submenu is a group of related menu items that appears as a subset of a menu item in the full menu. By including items in a submenu, users can find frequently used items or important items more easily in the full menu. Submenus typically include the following types of actions:

- sending items in multiple ways (for example, sending a picture in an email message, an MMS message, or as an audio postcard)
- sorting, searching for, finding, and filtering items in different ways (for example, filtering messages by sender or subject)
- changing views (for example, day, week, or agenda view in a calendar)

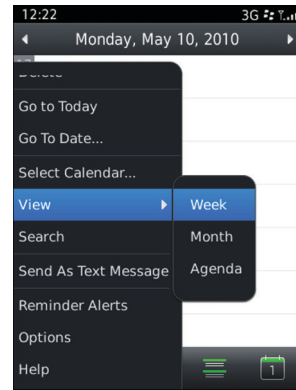
Action	BlackBerry devices with a trackpad only	BlackBerry devices with a touch screen and a trackpad
When a menu item is highlighted in a full menu, display a submenu.	<ul style="list-style-type: none"> • Click the trackpad. • Move a finger to the right on the trackpad. • Press the Menu key. • Press the Enter key. 	<ul style="list-style-type: none"> • Tap the menu item. • Click the trackpad. • Move a finger to the right on the trackpad. • Press the Menu key. • Press the Enter key.
Choose a menu item from a submenu.	<ul style="list-style-type: none"> • Click the trackpad. • Press the Menu key. • Press the Enter key. 	<ul style="list-style-type: none"> • Tap the menu item. • Click the trackpad. • Press the Menu key. • Press the Enter key.
Close a submenu.	<ul style="list-style-type: none"> • Move a finger to the left on the trackpad. • Press the Escape key. 	<ul style="list-style-type: none"> • Tap outside the submenu. • Move a finger to the left on the trackpad.

Action	BlackBerry devices with a trackpad only	BlackBerry devices with a touch screen and a trackpad
Close a submenu and a full menu.	Press the Escape key twice.	<ul style="list-style-type: none"> • Press the Escape key. • Tap outside the full menu and the submenu twice. • Press the Escape key twice. • Open or close the slider.

An arrow appears when submenu items are available for an item in the full menu.



A full menu item with an arrow



A full menu and a submenu

Best practice: Implementing submenus

- Use the Submenu subclass to create submenus. For more information about creating submenus, see the API reference guide for the BlackBerry® Java® SDK and the *BlackBerry Java Application UI and Navigation Development Guide*.
- Use submenus to reduce the number of menu items in the full menu. For example, if users have to scroll to see all the items in a full menu, group some of the menu items in a submenu.
- Group related items in a submenu. For example, if "Sort By" appears in the full menu, group "Date," "Name," and "Subject" in a submenu.
- Consider grouping advanced features in a submenu. For example, use "Additional Options" in the full menu and group the options in the submenu.
- Avoid using submenus for only one or two menu items.

- If a submenu includes more than six items, consider grouping the items into two sections in the submenu. Place the menu items that are frequently used at the top of the submenu, insert a separator, and then order the rest of the items alphabetically.
- If a menu item requires users to do more than click the item (for example, if a user has to specify a date), open a dialog box.
- Avoid including frequently used menu items or important menu items in submenus.
- Avoid implementing a submenu from a submenu.

Guidelines for labels

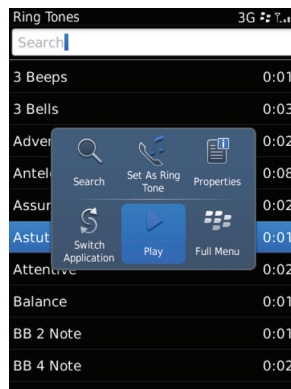
- In the full menu, use concise, descriptive labels that clearly define the action. Users should not have to open the submenu to understand the meaning of the item in the full menu.
- In the full menu, use verbs for labels. Use nouns only if the meaning is clear. For example, if "Email Accounts" appears in the full menu, group each email account in a submenu.
- Avoid repeating verbs in submenus. For example, avoid using "Sort By" in the full menu and "Sort By Date" and "Sort By Name" in the submenu.
- Use title case capitalization for labels. Capitalize the first word in the submenu even if it is a preposition. For example, use "Send" > "As Email" instead of "as Email").
- Avoid using the term "More" in the full menu unless the location of the menu item clearly indicates what "more" refers to. For example, if "Inbox," "Outbox," and "More" appear between separators in the full menu, group additional options associated with a mailbox in a submenu.

Pop-up menus

A pop-up menu provides users with a quick way to access the most common actions for a highlighted item. You can also use a pop-up menu if a highlighted item has multiple actions associated with it or if a highlighted item does not have any primary actions associated with it. You can create a pop-up menu that contains nine actions, six actions, or three actions.

Action	BlackBerry devices with a trackpad only	BlackBerry devices with a touch screen and a trackpad
Open a pop-up menu.	<ul style="list-style-type: none"> • Click the trackpad. • If a primary action has already been assigned to an item (for example, open a message), users can click and hold the trackpad to open a pop-up menu. 	<ul style="list-style-type: none"> • Tap the item. • Click the trackpad. • If a primary action has already been assigned to an item (for example, open a message), users can click and hold the trackpad or touch and hold a finger on the touch screen to open a pop-up menu.
Choose an item from a pop-up menu.	<ul style="list-style-type: none"> • Click the trackpad. • Press the Enter key. 	<ul style="list-style-type: none"> • Tap the item. • Click the trackpad.

Action	BlackBerry devices with a trackpad only	BlackBerry devices with a touch screen and a trackpad
Close a pop-up menu.	Press the Escape key.	<ul style="list-style-type: none"> Press the Enter key. Tap outside the pop-up menu. Press the Escape key. Open or close the slider.



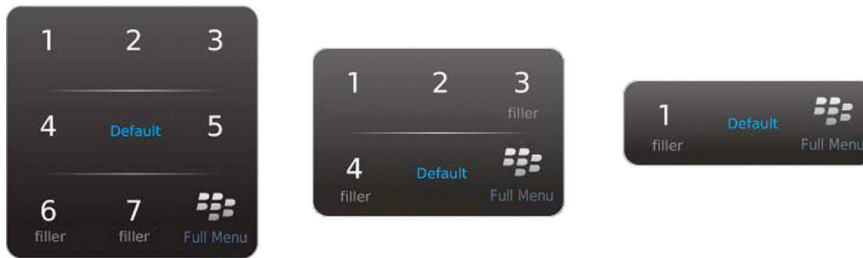
Pop-up menus replace context menus, or short menus. Any existing context menus are automatically converted into pop-up menus.

Best practice: Implementing pop-up menus

- Use pop-up menus instead of context menus (short menus). Make sure that the pop-up menu provides value to users.
- Set the menu item that users are most likely to choose as the default menu item. The default item in the pop-up menu should be the same as the default item in the full menu.
- Only include the most common actions for a highlighted item in a pop-up menu.
- Include an icon and a label for each item in the pop-up menu. Create icons with an average size of 33-by-33 pixels. These icons appear on a 60-by-40 pixel canvas and should have some negative space.

Guidelines for placing items in pop-up menus

- Place the default menu item in the center of the pop-up menu.
- Order the rest of the items from most common to least common according to the numbered positions below. Try to leverage users' muscle memory by making the order of actions consistent with the order of actions in other BlackBerry® device applications.



- If the positions are filled dynamically, do not display menu items that are unavailable. Allow the available menu items to shift position.
- If there are not enough actions to fill the menu, use a smaller menu. If one or two positions need to be filled, include useful actions such as Copy or Search. If you do not fill a position, "Switch Application" or "Home" appears.
- For more information about implementing pop-up menus, see the API reference guide for the BlackBerry® Java® SDK and the *BlackBerry Java Application UI and Navigation Development Guide*.

Toolbars

Toolbars provide users with a quick and easy way to access frequent actions for an application or screen. Each toolbar consists of a set of icons that appears along the bottom of the screen. Consider the following examples of typical toolbar actions:

- Create a new item in a list screen.
- Reply to an email message, forward an email message, and reply to all in an email message.
- View the day, week, or month in a calendar.

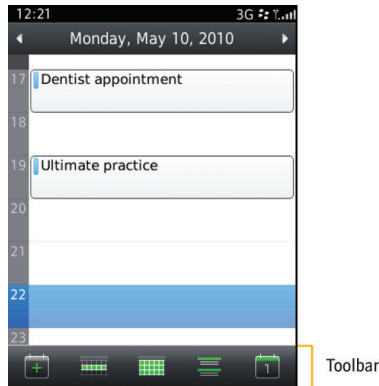
You can also include frequent actions for an item in the toolbar. For example, you might want to include a Delete action in the toolbar for list.

Only smartphones in the BlackBerry® Storm™ Series and BlackBerry® Torch™ 9800 smartphones use toolbars. In these cases, shortcut keys are either not available or access to shortcut keys might not be readily available.

Users can perform the following actions with toolbars:

Action	Smartphones in the BlackBerry Storm Series	BlackBerry Torch 9800 smartphones
Perform the action associated with an icon.	Click the icon.	Tap the icon. Users cannot interact with the toolbar using the trackpad.
Display a tooltip.	Touch the icon.	Touch the icon.

Action	Smartphones in the BlackBerry Storm Series	BlackBerry Torch 9800 smartphones
		Users cannot interact with the toolbar using the trackpad.



Best practice: Implementing toolbars

- Use the `ToolbarButtonField` class and the `ToolbarManager` class to create toolbars. For more information about creating toolbars, see the API reference guide for the BlackBerry® Java® SDK and the *BlackBerry Java Application UI Quick Reference Guide*.
- Use a toolbar to display frequent actions associated with the application or screen. Use a pop-up menu for actions associated with the highlighted item. In some cases, such as deleting an item from a list, the same action could appear in the toolbar and the pop-up menu.
- Do not include the action that occurs when users click or tap the screen.
- Place positive actions or actions associated with the screen, such as New, Send, and Save, at the far left of the toolbar.
- Place more destructive actions at the far right of the toolbar. For example, if the screen displays a list of items that users can delete, place Delete at the far right of the toolbar.
- If an action appears on the screen (for example, Create a new contact), do not include the action in the toolbar.
- If only infrequent actions are associated with a screen, do not include a toolbar (for example, the Options screen). An application could have screens with a toolbar and screens without a toolbar.
- If an action involves choice, display the choices in a dialog box. For example, if users can attach a picture, audio file, or video file to an email message, provide an "Attach" icon in the toolbar and then display a dialog box to allow users to choose the type of file to attach.
- Include all actions in the toolbar in the full menu for the application.

Guidelines for icons

- Provide a clear, concise tooltip for each icon. Use title case capitalization.

- If an action is not possible for the current context but is possible for other items in the screen, dim the icon in the toolbar.
- Include a maximum of five icons in a toolbar. If an application is available only in landscape view, you can add two additional icons to the toolbar.
- Create icons with an average size of 33-by-33 pixels. These icons appear on a 60-by-40 pixel canvas and should have some negative space.
- Use colors and shapes to differentiate similar icons. For example, use the BlackBerry® 6 theme colors to distinguish between the arrows for replying to and forwarding an email message. Use shapes such as the number and direction of arrows to distinguish forwarding an email message from replying to an email message and replying to all in an email message.



Text

9

Fonts

The theme determines the default font for BlackBerry® devices. Users can change the font and point size.

A list of fonts and point sizes are available on BlackBerry devices and in the BlackBerry Smartphone Simulator. On the Home screen, click the Options icon. Click Display. Click Screen Components.

Best practice: Fonts

- Inherit the font from the theme where possible. The default settings are designed to make text easy to read on each BlackBerry® device model. If you use another font or change the point size, verify that the text is readable on BlackBerry devices.
- Use the `FontManager` class to install custom fonts. For more information about installing custom fonts, see the API reference guide for the BlackBerry® Java® SDK and the *BlackBerry Java Application UI and Navigation Development Guide*.
- If you use multiple fonts in an interface, use fonts that are from the same font family.
- Avoid using bold for emphasis.
- Avoid using fixed font sizes and small font sizes.
- Avoid using italic and underlined text. These font styles can make text difficult to read.
- Avoid anti-aliasing small fonts. Anti-aliasing smooths the font edges, but with very small fonts anti-aliasing can make the text appear blurry.
- Verify that all UI elements are clearly visible in low lighting conditions.
- Consider the legibility of the text. Text becomes illegible when it appears on a background of a similar color or brightness.

Writing conventions

Best practice: Punctuation

- Be consistent with your use of punctuation.
- Punctuate labels for lists, text fields, and search fields with a colon (:). Avoid using colons in button labels or menu item labels.
- Avoid using colons in titles.
- Use an ellipsis (...) in a button label or menu item label to indicate that users must perform another action after they click the button or menu item (for example, "Go to Date..."). Ellipses also indicate truncated text.
- Use double quotation marks ("") when you refer to an alias or user-defined name for an object. For example, when users delete a bookmark, the name of the bookmark appears in double quotation marks (for example, "Are you sure you want to delete "World News"?").

- Avoid using single quotation marks (').

Guidelines for using end punctuation

- Use end punctuation for complete sentences.
- Insert one space following end punctuation if your application displays multiple sentences.
- Punctuate questions with a question mark (?).
- Avoid using exclamation points (!). Exclamation points can make users feel like you are shouting at them.
- Use a serial comma (,) to separate the last item in a series of three or more items (for example, "Synchronize your contacts, appointments, memos, and tasks").

Best practice: Capitalization

For title case capitalization, capitalize the first word, the last word, and all other words except articles or prepositions with fewer than four letters. For sentence case capitalization, capitalize the first word and any other word that requires capitalization (such as a proper noun).

- Use sentence case capitalization for descriptions, dialog box messages, check boxes, and radio buttons.
- Use title case capitalization for application names (unless the brand specifies otherwise), screen titles, menu items, buttons, drop-down list labels and values (unless the values read more like a sentence), tooltips, and BlackBerry® device keys (for example, "press the Escape key").
- Use title case capitalization for links unless the link is within a phrase or sentence. In this case, use the capitalization and punctuation of the text.
- Use title case capitalization for RIM product names (for example, "BlackBerry® Enterprise Server") unless otherwise noted in the RIM trademark and product name list. For more information about RIM product names, visit <http://na.blackberry.com/eng/legal/trademarks.jsp>.
- Avoid using uppercase capitalization for emphasis. Uppercase capitalization can make users feel like you are shouting at them.

Best practice: Abbreviations and acronyms

Guidelines for abbreviations

- Write out abbreviations where possible unless space is an issue. For instance, use "for example" instead of "e.g.".
- Do not write out units of measure.
- Use abbreviations that users are familiar with.
- Use abbreviations consistently.

Guidelines for acronyms

- Use acronyms that users are familiar with. Common acronyms include Wi-Fi®, PIN, MMS, and SMS.
- Write out uncommon acronyms where possible unless space is an issue. For example, consider using the acronym in the application menu instead of writing it out. If space is an issue and you use an uncommon acronym, provide the written out version of the term elsewhere in the UI or in the product documentation.

- Write out all BlackBerry® product names unless otherwise noted in the RIM trademark and product name list. For example, use "BlackBerry® Enterprise Server" instead of "BES." For more information about RIM product names, visit na.blackberry.com/eng/legal/trademarks.jsp.
- Use acronyms consistently.
- Use uppercase capitalization for acronyms unless the acronym is a trademark and includes lowercase letters. For example, use "PIN" or "Wi-Fi."
- Use the article (a, an) that applies to the pronunciation of the first letter of an acronym. For example, use "an MMS text message" or "a LAN."
- Use a hyphen when an acronym is part of a compound modifier unless the acronym is a trademark. For example, use "USB-compatible port" or "PGP® protected message."
- Pluralize acronyms as necessary. For example, use "ISPs."
- Avoid the possessive form with acronyms. For example, use "ISP network " instead of "ISP's network."

Product names and trademarks

RIM trademarks

- Do not alter trademarks (for example, use "BlackBerry" instead of "Blackberry" or "BB").
- Do not use trademarks as nouns or verbs (for example, use "your BlackBerry device is . . ." instead of "your BlackBerry is . . .").
- Do not use trademarks in plural or possessive form (for example, use "BlackBerry devices" instead of "BlackBerries").

To view a list of RIM trademarks, visit na.blackberry.com/eng/legal/trademarks.jsp.

BlackBerry smartphone product names

- When you refer to a specific BlackBerry smartphone model, use the full product name at all instances (for example, use "BlackBerry® Curve™ 8900 smartphone" instead of "BlackBerry Curve").
- When you refer generally to BlackBerry smartphones or BlackBerry enabled devices, use "device" at all instances.

To view a list of BlackBerry smartphone product names, visit http://na.blackberry.com/eng/legal/product_names.jsp.

BlackBerry product names or component names

- Use the full product name or component name at all instances.
- When you refer to a specific version of a BlackBerry product, do not include "version" before version numbers (for example, use "BlackBerry® Device Software 5.0").

To view a list of BlackBerry product names, visit http://na.blackberry.com/eng/legal/product_names.jsp#tab_tab_products.

Trademark symbols and UI elements

UI element	Convention
buttons	Do not include trademark symbols.
check boxes	Do not include trademark symbols.

UI element	Convention
dialog boxes	Include all appropriate trademark symbols at the first instance of a RIM trademark.
fields	Do not include trademark symbols.
footers	Include all appropriate trademark symbols.
links	Do not include trademark symbols.
logos	If an application includes a logo with a trademark symbol, include the trademark symbol again at the first instance of the term on the screen.
messages	Include all appropriate trademark symbols at the first instance of a RIM trademark.
radio buttons	Do not include trademark symbols.
screens	Include all appropriate trademark symbols at the first instance of a RIM trademark.
tabs	Do not include trademark symbols.
title bars	Include all appropriate trademark symbols. Include all appropriate trademark symbols again at the first instance of the product name on the screen, on the web page, in the dialog box, or in the wizard.
web pages	Include all appropriate trademark symbols at the first instance of a RIM trademark.
wizards	Include all appropriate trademark symbols at the first instance of a RIM trademark.

Logos

BlackBerry logos

- Never typeset, recreate, or alter BlackBerry® logos.

Best practice: Terminology

- Use terminology that your users are familiar with.
- Avoid technical jargon, programming terms, and colloquialisms (for example, use "wireless calendar synchronization" instead of "OTA calendar sync").
- Be consistent with the use of terms in the UI and try to use terms that are consistent with other applications on the BlackBerry® device.
- Use terminology that is clear, natural, concise, and conversational.
- Use everyday words when you can, especially if you are explaining a complex technical concept or action.
- Avoid repetition.
- Use American spelling.
- Avoid using symbols to replace text (for example, use "and" instead of an ampersand (&)).

Word list

Term	Comment
abort (v)	Use "end," "quit," or "stop" instead.
alert (n)	Use "indicator" instead to refer to an indicator. Use "message" instead to refer to a message.
alert (v)	Use "notify" instead.
allow (v)	Use only to refer to permissions. Otherwise, use "permit" or "turn on" instead where possible.
caller ID (n)	Use "contact picture" instead.
carrier (n)	Use "wireless service provider" instead.
company (n)	Use "organization" instead.
corporation (n)	Use "organization" instead.
corporate (adj)	Use "work" or "organization's" instead.
desktop (n)	Use only to refer to the onscreen work area of a computer. Otherwise, use "computer" instead.
desktop computer (n)	Use "computer" instead.
e-mail (n)	Use "email message" instead.
E-mail (n)	Use "email message" instead.
email program (n)	Use "email application" instead.
enable (v)	Use "turn on" instead where possible.
ensure (v)	Use "verify," "make sure," "provide," or "check" instead.
erase (v)	Use "delete" instead.
friendly name (n)	Use "display name" instead.
hang (v)	Use "stop responding" instead.
keypad (n)	Use "keyboard" instead.
memory (n)	Use "memory" to refer to temporary storage (RAM or heap memory). Use "application storage" to refer to persistent storage (flash memory). Use "built-in media storage" to refer to a built-in media card. Use "media card storage" to refer to a removeable media card. To specify a file location, use "device" or "media card."

Term	Comment
memory card (n)	Use "media card" instead.
nuke (v)	Use "delete" instead (for example, "delete all device data").
PIM application (n)	Use "organizer application" instead.
PIM data (n)	Use "organizer data" instead.
PIM synchronization (n)	Use "organizer data synchronization" instead.
radio (n)	Use "wireless connection" or "wireless transceiver" instead where possible.
ribbon (n)	Use "Home screen" instead.
reboot (v)	Use "restart" instead.
remove (v)	Use only to refer to removing software. Otherwise, use "delete" instead.
speaker (n)	Use "speakerphone" instead.
terminate (v)	Use "stop" instead.
uncheck (v)	Use "clear" instead.
username (n)	Use "user name" instead.
voicemail (n)	Use "voice mail" instead.
website (n)	Use "web site" instead.
wireless PIM synchronization (n)	Use "wireless data synchronization" instead.

Themes

10

Themes determine the look and feel of BlackBerry® devices. A theme can change the appearance and structure of the Home screen, the application list, the banner, dialog boxes, title bars, and other elements of the user interface such as fonts and background colors.

The BlackBerry® Torch™ 9800 smartphone introduces the BlackBerry® 6 theme. This theme is characterized by fashionable and stylistic design motifs that balance both functional and emotional elements.



Users can choose from themes that are preloaded on their BlackBerry devices, or they can download a theme in a .cod file format.

You can build your own theme using the BlackBerry® Theme Studio which includes BlackBerry® Theme Builder. For more information about developing themes, see the *BlackBerry Theme Builder User Guide*.

Related topics

[BlackBerry 6 theme icons and indicators, 92](#)

Best practice: Designing themes

- Limit the use of bright colors to icons and text. Use less saturated color for background images so that the background images do not overpower icons or text.
- Choose a highlight color that has high contrast and clearly implies focus (for example, white text on a blue background). Use the same highlight color for all components.
- Avoid changing the font, font size, or font style for highlighted text or items.
- Limit the number of fonts that you use.
- Make sure that any text in your UI is legible. Consider how font properties affect users' ability to read the text.

Guidelines for images

- Keep the size of your theme file small by reducing the size of the images and optimizing the images where possible. Large theme files can affect the performance of BlackBerry® devices.
- Create background images in a uniform color with subtle patterns so that the background images do not overpower the text on controls such as menus, buttons, or dialog boxes.
- Provide background images in the appropriate sizes for each BlackBerry device that supports the theme.

Icons and indicators

11

Icons and indicators are pictorial representations of objects. They can visually identify your application and also convey meaning to users quickly.

Best practice: Designing icons and indicators

- Use application icons and simple graphics that clearly represent the application, action, or component.
- Use imagery that users are likely to recognize. For example, for an email message icon, users are more likely to recognize a postage stamp than a rural mailbox. Be aware that graphics can have different meanings in different cultures.
- Use a similar perspective to existing application icons. Align your application icon with other application icons.
- Include negative space around each icon and indicator. For example, if the icon appears on an 80-by-80 pixel canvas, create an icon object that is 68-by-68 pixels.
- Limit the number of colors in your color palette.
- Use colors consistently.
- Avoid text and numbers in icons and graphics because they require localization.

BlackBerry 6 theme icons and indicators

The BlackBerry® 6 theme icons use a simple line form that maintains a 2-D orthographic view. Icons and color are functional; the background provides the emotional impact. Compared to the Precision theme, the line weights are thinner and the corner radius is larger, providing a friendlier-looking shape. Icons also have a sheen, giving a higher reflective polish.



Indicators are 2-D objects that appear straight on. You can include indicators in the banner, title bar, or in applications (for example, message indicators in a message list).

**Related topics**[Themes, 90](#)

Best practice: Designing icons and indicators for the BlackBerry 6 theme

- Create icons that are consistent with the default icons in size, weight, and centering.
- Create 32-bit .png files.
- In toolbars and pop-up menus, create icons with an average size of 33-by-33 pixels. These icons appear on a 60-by-40 pixel canvas and should have some negative space.
- For application icons, create an icon file that does not exceed 68-by-68 pixels. This size includes the canvas. Keep the weight of icons inside a 49-by-49 pixels space. Smaller elements can extend beyond this size but icons should not exceed 55-by-55 pixels. If the icon within the canvas exceeds this size, it could be scaled down and upset the line weights and gradients.
- Create application icons with four components: base, line art, reflection, and bounce light.

Base properties

- Color: Deep grey (hexadecimal color code 141414)
- Gradient overlay: White from 15% to 0% opacity (bottom to top, position 0 to 50 on grad slider)
- Drop shadow: 35% opaque. Use the Multiply setting.
- Angle of light: 90 degrees
- Shadow distance: 6 pixels
- Shadow size: 15 pixels

Line art properties

- Create line art with a white portion and a colored portion.
- White portion: White (hexadecimal color code FFFFFFF)
- Gradient overlay: Black from 0% to 60% opacity (top to bottom)
- Colored portion: Deep grey (hexadecimal color code 141414)
- Gradient overlay: White from 15% to 0% opacity (bottom to top, position 0 to 50 on grad slider)







Reflection properties

- Size: Approximately one-third the height of the object
- Fill opacity: 0%
- Gradient overlay: White from 35% to 5% opacity

Bounce light properties

- Apply the bounce light to the white portion of the line art.
- Fill opacity: 0%

- Gradient overlay: White from 40% to 0% opacity (bottom to top, position 0 to 16 on grad slider)
- Use color to accent icons and indicators:

Base color	Hexadecimal color code	Top to bottom gradient
	ff0000 at 100% opacity	000000 from 25% to 0% (position 0 to position 70 on grad slider)
	ffb300 at 100% opacity	812e00 from 40% to 0% opacity
	9600ff at 75% opacity	ff0084 from 65% to 0% opacity
	e13d00 at 100% opacity	ff7800 from 100% to 0% opacity
	0da400 at 100% opacity	000000 from 15% to 0% opacity
	00e4ff at 100% opacity	0069ff from 70% to 0% opacity

Guidelines for shapes and lines

- Use rounded rectangles, circles, pill shapes, arcs, and straight lines. Use circular arcs as transitions. Avoid using free-flowing curves and specialized shapes.
- For rectangular shaped icons, make each corner radius 6 pixels.
- Use modifying objects to create new meaning or establish a relationship among a set of icons. Modifying objects are smaller, secondary objects that overlay another object. For example, the icons in the Setup folder use a gear as a modifying object.
- To add visual variety to icons, use two different line weights. Create one line weight that is 1.65 pixels thick and another that is 0.8 pixels thick.
- Use thick lines to identify primary features and thin lines to identify secondary features. Avoid using only thin lines for an icon. Use only thick lines when the object is not detailed.
- Create an ellipse with a minor axis length that is two-thirds the length of the major axis as an end-cap for lines.

Related topics

[Default themes and dimensions for application icons on BlackBerry devices, 95](#)

Dimensions for indicators on BlackBerry devices

The banner appears at the top of the Home screen. Title bars appear at the top of most application screens.

BlackBerry device model	Banner indicator size	Title bar indicator size
BlackBerry® Bold™ 9650 smartphone	25 x 22 pixels	19 x 19 pixels (allow 2 pixels of padding on the top, left, and right side of the indicator)
BlackBerry® Bold™ 9700 smartphone		

BlackBerry device model	Banner indicator size	Title bar indicator size
BlackBerry® Bold™ 9780 smartphone		
BlackBerry® Curve™ 9300 smartphone	19 x 19 pixels	17 x 15 pixels (allow 1 pixel of padding on the top, left, and right side of the indicator)
BlackBerry® Curve™ 9330 smartphone		
BlackBerry® Pearl™ 9100 Series	25 x 22 pixels	19 x 19 pixels (allow 2 pixels of padding on the top, left, and right side of the indicator)
BlackBerry® Style™ 9670 smartphone	25 x 22 pixels	19 x 19 pixels (allow 2 pixels of padding on the top, left, and right side of the indicator)
BlackBerry® Torch™ 9800 smartphone	25 x 22 pixels	19 x 19 pixels (allow 2 pixels of padding on the top, left, and right side of the indicator)

Default themes and dimensions for application icons on BlackBerry devices

BlackBerry® 6 is the default theme for BlackBerry devices using BlackBerry® Device Software 6.0.

BlackBerry device model	Application icon size for the default theme
BlackBerry® Bold™ 9650 smartphone	68 x 68 pixels
BlackBerry® Bold™ 9700 smartphone	
BlackBerry® Bold™ 9780 smartphone	
BlackBerry® Curve™ 9300 smartphone	44 x 44 pixels
BlackBerry® Curve™ 9330 smartphone	
BlackBerry® Pearl™ 9100 Series	63 x 63 pixels
BlackBerry® Style™ 9670 smartphone	63 x 63 pixels
BlackBerry® Torch™ 9800 smartphone	68 x 68 pixels

Sound

12

Sound can be an effective method to communicate with users. For example, users are more likely to notice a notification if you add a sound effect to it, especially if they are not looking at their BlackBerry® device when they receive the notification.

Users can use sound profiles to specify whether their BlackBerry device uses sound to notify them of events such as calendar reminders or incoming calls. Users can change the sound profiles that are preloaded on their BlackBerry device, or they can create new ones. Users can also use sound profiles to change their ring tone or adjust the volume for notification.

In your application, you can use sound for

- notification (for example, using sound to notify users when new messages arrive)
- feedback (for example, as users adjust the volume of a ring tone, the BlackBerry device plays the ring tone at the selected volume to demonstrate the volume level)
- branding (for example, playing a branded sound as your application starts)
- entertainment (for example, using sound in a game to entertain users and enhance their experience)

Best practice: Implementing sound

- Use sound judiciously. Sound demands attention and is hard to ignore. When in doubt, do not use sound.
- Consider your users before adding sound to your application. If you add sound, choose a volume, duration, and frequency that is appropriate for your users.
- Allow users to control sound using their sound profiles.
- Use sounds that are the same volume as other sounds on the BlackBerry® device.
- Create notification tones that are audible from a distance. Notification tones should attract users' attention, even when they are not using their BlackBerry device.
- Use low frequency sounds and avoid piercing sounds.
- Avoid using distracting sounds such as frequent, loud, or jarring sounds. Distracting sound should only be used to inform users of useful notifications and feedback.
- Avoid using sound as the only form of communication. Users might not hear a sound because of a hearing impairment, loss of hearing, or a noisy environment. Use sound with other notification methods such as vibration or a flashing LED indicator.
- Avoid using sound that requires localization. Sounds can have different meanings in different cultures. If possible, avoid sounds that are culturally specific.

Localization

13

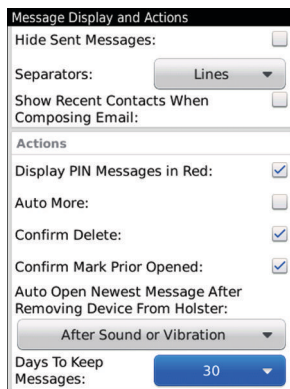
Localization is the process of adapting software to meet the requirements of local markets and different languages. Internationalization is the process of designing an application so that it can be adapted to various languages and regions without engineering changes. Localized applications should reflect correct cultural and linguistic conventions that the target market uses. Localization and internationalization make it possible for you to create a localized version of your software.

BlackBerry® devices are sold all over the world and BlackBerry device applications are translated into over 30 languages, including languages that are not based on a Latin alphabet. Some BlackBerry devices also feature a localized keyboard. Early in the design process, consider whether your application requires localization. If your application does not require localization now, consider designing your application so that it would be easy to localize it in the future.

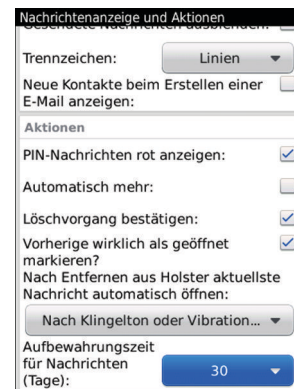
Best practice: Designing applications for different languages and regions

Guidelines for layout

- Leave enough space in your UI for translated text. The height and the width of text might expand when translated from English to other languages. For labels and other short text strings, prepare for up to 200% expansion. For lengthy text (more than 70 characters), prepare for up to 40% expansion. Where possible, place labels above the associated field. Leave blank space at the end of each label.



Example text in English



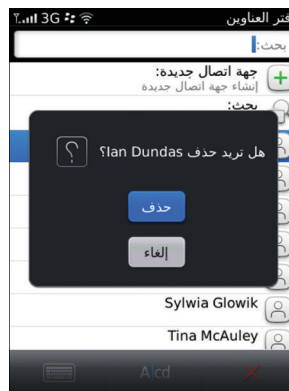
Example text in German

- Provide options for the direction that text appears. In some languages, such as Arabic and Hebrew, text displays from right to left but numbers and words in other languages display from left to right. For example, users type passwords in English so those characters display from left to right.

- Make arrangements for displaying the position of a contact's title, full name, and address on a per-language basis. These items display in a different order, depending on the language (for example, title, first name, last name, or last name, first name, title). In some countries, the zip/postal code can appear before the name of the city and contain letters as well as numbers.
- If users have the option to change display languages, display the name of the language in that language. For example, display "Italiano" instead of "Italian."
- Test translated UI to verify the layout of the UI.
- During testing, type a pangram in the target language. A pangram is a sentence that uses each character in the alphabet. Pangrams are useful because they include diacritics which could appear above, below, or beside a character.

Guidelines for color and graphics

- Be aware that colors, graphics, and symbols can have different meanings in different cultures. If you are designing an application for a specific market, carefully consider the cultural implications of your design choices.
- Avoid text and numbers in icons and images because they require localization.
- If you include graphics in your application, make sure that the graphics are localized. For example, in Arabic, question mark icons are mirror images of question mark icons used in English.



- For languages that display from right to left, make sure that icons align along the right side of the screen.
- Include tooltips for all icons. Even within one culture, some icons might not be recognized by everyone.
- Avoid using national flags to identify languages, user IDs, or countries. Use text instead.

Best practice: Coding for different languages and regions

- Store text strings in separate resource files and use unique identifiers to make use of the appropriate resource. Consider using a utility class such as `StringProvider` to provide a placeholder for text that can be variable in length (for example, translated text that does not fit the space allotted for the English text). For labels and other short text strings, text might expand up to 200%. For lengthy text (more than 70 characters), prepare for up to 40% expansion. Make sure that text can fit the allotted horizontal space or flow to the next line.

- Avoid concatenating partial strings to form a sentence. When translated, the strings might not produce a logical sentence. For example, avoid using `displayName + " is away . "` Create a new string for the sentence instead.
- If you use variables in a string, use variables with meaningful names. For example, use `"instance <application 1> of <server2>"` instead of `"instance %1 of %2."` Meaningful names provide context for translators.
- If a variable has multiple values, provide the translators with a list of the possible values. For example, translation accuracy increases if translators know that the values could be singular or plural and masculine or feminine.
- Avoid making part of a sentence into a link. When translated, the words in the link might appear in a grammatically incorrect order. For example, use `"For more information, click the following link: <link>"` instead of `"Click on <link> for more information."`
- Avoid using a common string if the context of usage differs. Depending on the context, a word could require different translations.
- Avoid hard-coding spaces, punctuation marks, and words. Include these items in translatable strings instead. This approach allows translators to make changes according to the rules for each language.
- Avoid hard-coding strings, including weekdays and weekends. Verify that the start of the week matches the convention for each locale.

Guidelines for numbers

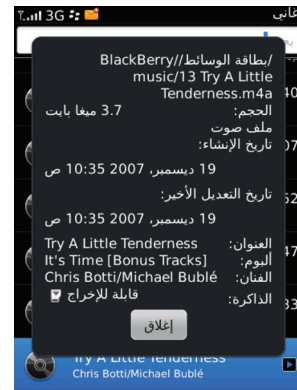
- Make arrangements for singular and plural nouns on a per-language basis. Nouns in some languages can have one form for both singular and plural, one form for singular and another form for plural (for example, "1 day" and "2 days"), or multiple forms, depending on the number of items (for example, one item, two items, a few items, and many items).
- Avoid hard-coding number separators. For example, 1,234.56 appears in United States English but 1 234,56 appears in French.
- Avoid hard-coding the number of digits between separators. For example, 123,456,789.00 appears in the United States but 12,34,56,789.00 appears in India.
- Avoid hard-coding the display of negative numbers. For example, negative numbers can appear as -123, 123-, (123), or [123].
- Provide options for currencies. For example, currencies can appear as \$12.34, 12,34€, or 12€34. In addition, some currency symbols require more space.
- Verify that numbers, measurements, dates, and time formats reflect the locale of your users.

Guidelines for right-to-left and Asian languages

- Consider the font size for languages such as Arabic and Thai. These languages use diacritics, which require more vertical space. The diacritics are smaller than characters and might not appear clearly if the font size is small. Thai has stackable diacritics which might increase the vertical spread of a string and exceed the pixel height of the font size.
- Use `FIELD_LEADING` and `FIELD_TRAILING` to align the components along the appropriate side of the screen based on the direction of the language. For example, in English a leading component aligns along the left side of the screen. In Arabic, a leading component aligns along the right side of the screen.
- When defining the width of components, try to use `USE_ALL_WIDTH` instead of `USE_TEXT_WIDTH` to allow components to align along the right side of the screen.



Example alignment in English



Example alignment in Arabic

Best practice: Writing for different languages and regions

- Include subjects where possible. For example, use "the list that appears when *you* type" instead of "the list that appears when typing."
- Include articles where possible. For example, use "press *the* Escape key" instead of "press Escape."
- Use relative pronouns where possible. For example, use "the email address *that* you use" instead of "the email address you use."
- Be consistent with the use of terms in the UI and try to use terms that are consistent with other applications on the BlackBerry® device. Using consistent terms improves the accuracy of the translations.
- Avoid using slang, idioms, jargon, colloquialisms, and metaphors in your UI. These terms can be difficult for translators to translate and for users to understand.
- Avoid references to ethnicity, religion, culture, and gender.
- For references to countries, use the political name of each country. For example, use "People's Republic of China" instead of "Mainland China."
- Verify that translated text uses local language conventions where possible.

Accessibility

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You can help meet the needs of a diverse group of users by designing applications that people with disabilities or impairments can use. In some cases, you might want to address specific accessibility needs of people with disabilities or impairments. For example, you might want to develop an application that supports assistive technology, such as a screen reader. For information about developing an application to address specific accessibility needs, see the *BlackBerry Java Accessibility Development Guide*.

In other cases, you might want to develop an application that can reach the widest possible audience. In this case, following the best practices for designing accessible applications can benefit a broad range of users, including the typical users of your application.

Best practice: Designing accessible applications

Guidelines for UI design

- Stay focused on users' immediate task. Display only the information that users need at any one moment. For example, simplify data selection and presentation by displaying information in a logical order.
- Group components according to common usage or common functionality to minimize the cognitive load for users.
- Provide enough space between components so that users can distinguish one control from another.
- Use UI components consistently so that users can recognize common UI components easily. For example, use buttons to initiate actions. Avoid using other components, such as hyperlinks, to initiate actions.
- If you are designing an application that supports an assistive technology device, such as a screen reader, and you do not use BlackBerry® UI APIs or support the Accessibility API, expose the unique UI components in your application programmatically so that assistive technology can interpret the information.

Guidelines for navigation

- Indicate clearly the UI component that has focus. For example, use white text on a blue background.
- Where possible, allow users to use the keyboard to initiate the most frequently used actions in the application. For example, allow users to press the Enter key to select a menu item.
- Where possible, inform users of important events, such as calendar reminders, in multiple ways. For example, provide a sound effect and a visual notification for the reminder.
- Where possible, apply redundancy to provide users with multiple ways to interact with common actions. For example, use the Menu key to allow users to access the full menu and a trackpad or touch screen to allow users to access the pop-up menu.
- In each menu, set the default menu item as the item that users are most likely to select. The default item in the pop-up menu should be the same as the default item in the full menu.
- If a process or application requires users to complete a series of lengthy or complex steps, list all the steps or screens where possible. Identify the steps that are complete, in progress, and not yet started. For example, include a table of contents in wizards. If users close a wizard, they can use the table of contents to return to a specific location in the wizard.

Guidelines for text

- Provide specific messages. To support error recovery, use one short sentence that states clearly the reason for displaying the message and the actions that can dismiss it.

- Where possible, inherit the font settings that the user has set.

Guidelines for color and images

- Avoid using color as the only means of communication. For example, instead of using only red text to notify users of a critical action, consider placing a red symbol, such as a red exclamation mark, beside the text instead.
- Choose colors that have high contrast, such as black, white, navy blue, and yellow.
- To help users to distinguish between adjacent UI components (such as alternating messages in an SMS text message thread) and to distinguish between background and foreground colors, use colors that result in a contrast ratio of 7:1 or higher.
- Add contextual information to images, such as the image name, to communicate the meaning and context of the images.

Glossary

15

2-D

two-dimensional

GPS

Global Positioning System

LAN

local area network

LED

light-emitting diode

MMS

Multimedia Messaging Service

PIM

personal information management

PIN

personal identification number

SMS

Short Message Service

USB

Universal Serial Bus

Provide feedback

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To provide feedback on this deliverable, visit www.blackberry.com/docsfeedback.

Legal notice

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