

tmssoftware.com

develop • web



Framework for creating modern web applications



Bruno Fierens
info@tmssoftware.com

TMS RADical WEB : TMS WEB Core intro

Follow us

-  facebook.com/tmssoftware
-  [@tmssoftwarenews](https://twitter.com/tmssoftwarenews) [@BrunoFierens](https://twitter.com/BrunoFierens)
-  youtube.com/tmssoftwareTV

TMS RADical WEB : TMS WEB Core intro

WEB

tms.



What is it?

TMS RADical WEB : TMS WEB Core intro

WEB

tms.

- Pascal language based, Delphi IDE integrated
- OO & RAD component based
- Modern single-page web application architecture
- Classic design vs HTML/CSS design
- Use existing JavaScript frameworks
- Use FNC UI controls
- Easy & seamless deployment
- REST backend, cloud services access

Web Development

TMS RADical WEB : TMS WEB Core intro

WEB

tms.



Architecture

develop • web

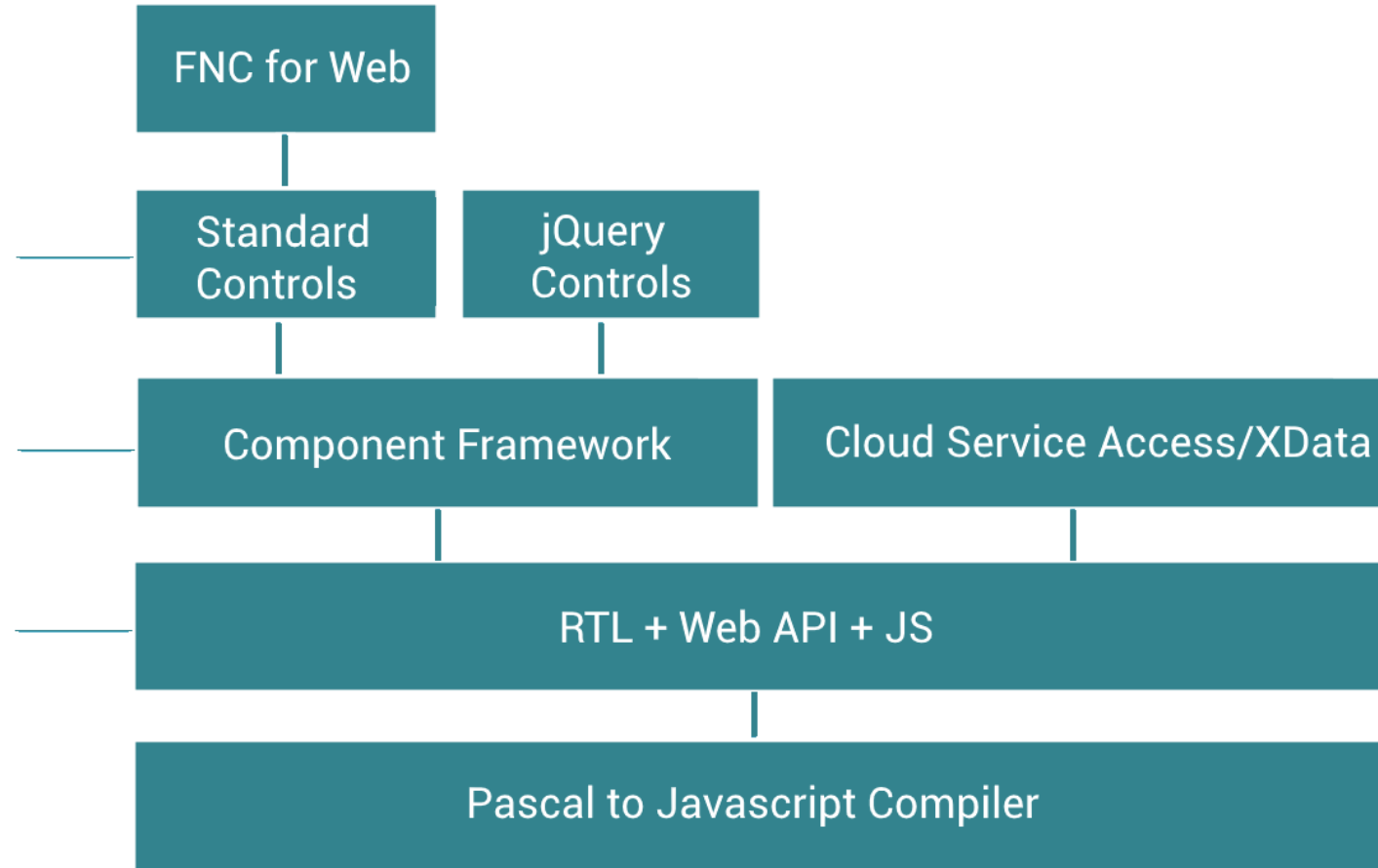
TMS RADical WEB : TMS WEB Core intro

WEB



Architecture

IDE

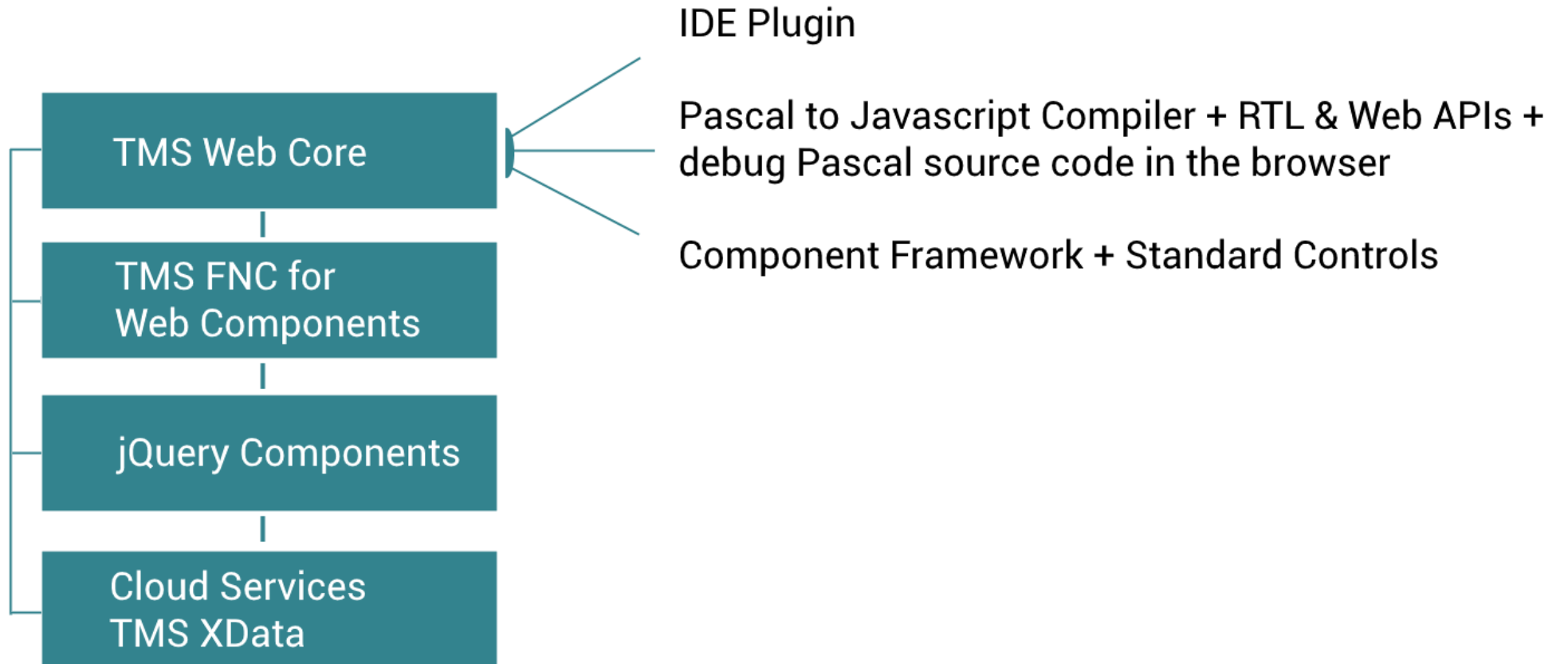


TMS RADical WEB : TMS WEB Core intro

WEB

tms.

Parts



TMS RADical WEB : TMS WEB Core intro

WEB **tms.**



**Designed
to be open**

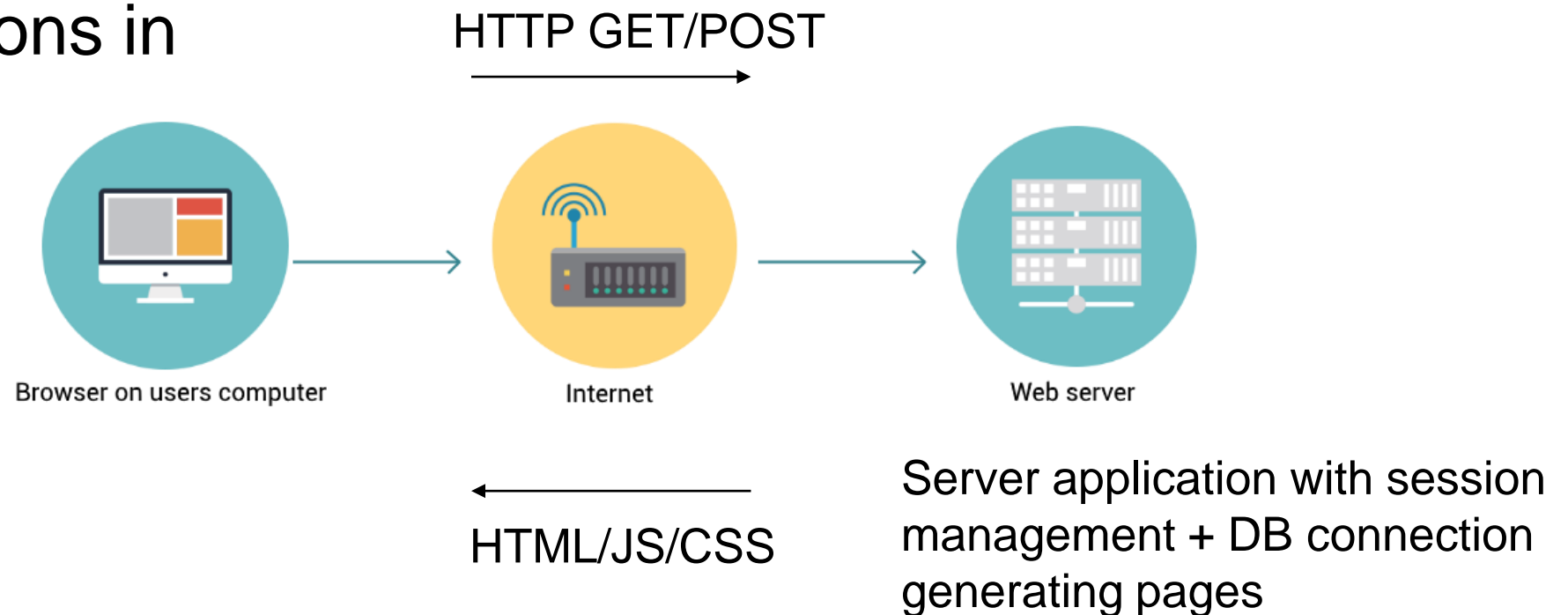


How does it work?

TMS RADical WEB : TMS WEB Core intro

How does it work?

Delphi solutions in the past:



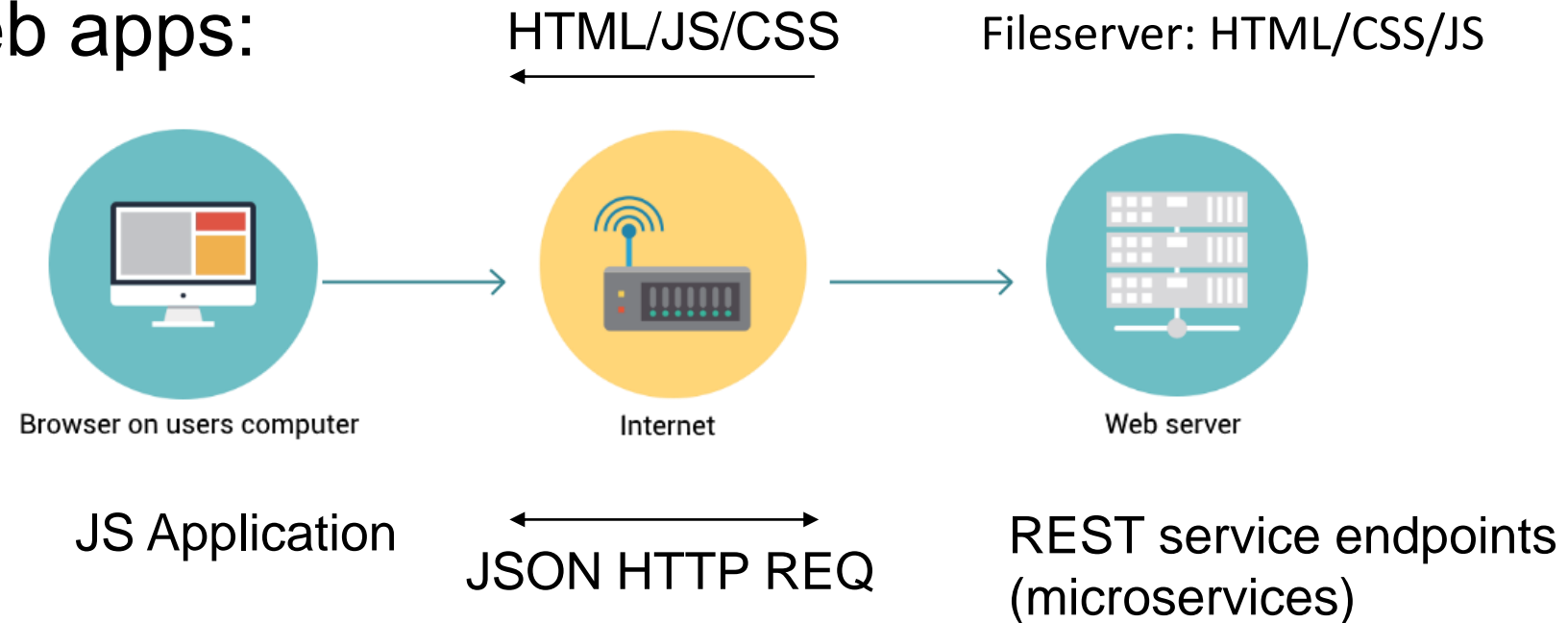
TMS RADical WEB : TMS WEB Core intro

WEB

tms.

How does it work?

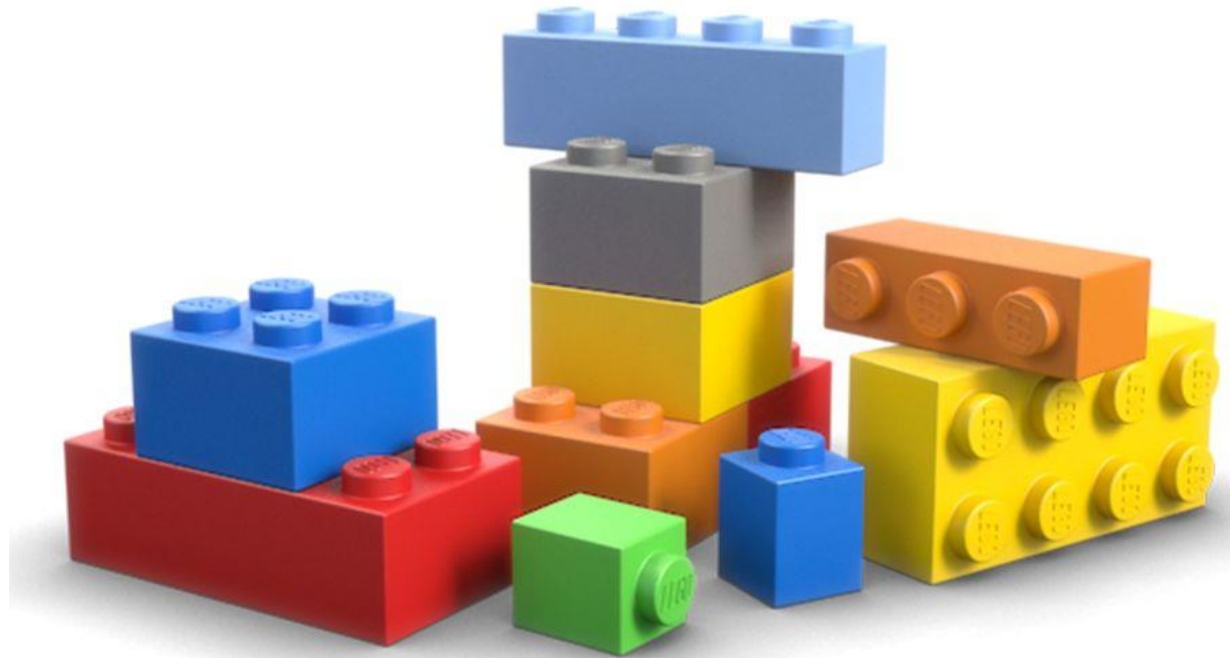
„Modern“ web apps:



TMS RADical WEB : TMS WEB Core intro

WEB

tms.



Framework

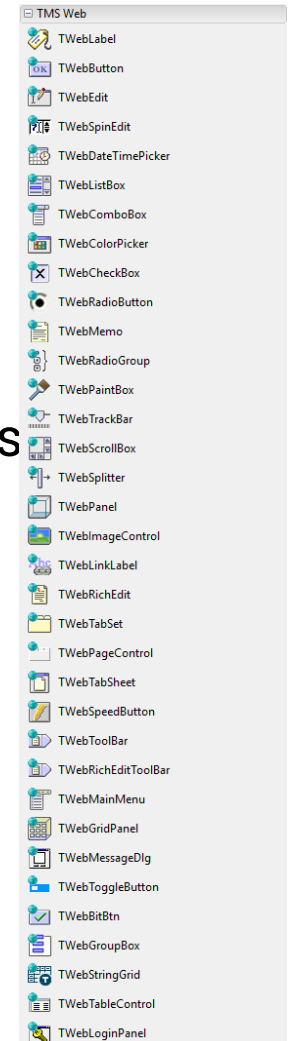
develop • web

TMS RADical WEB : TMS WEB Core intro



Framework: Basic controls

- Basic controls: TWebForm, TWebEdit, TWebButton, ...
- Pascal wrapper classes for HTML elements BODY, INPUT, BUTTON, ...
- Pascal class properties map on HTML element attributes, CSS style properties
- HTML element Javascript events mapped on Pascal class events
- Pascal class interface as close as possible to VCL control equivalents
- Possibility to specify CSS class(es) for HTML elements



Framework: TCustomControl

- Pascal control class mapped on a HTML5 CANVAS element
- Pascal TCanvas class mapped on HTML5 CANVAS graphic context
- VCL TCanvas interface compatible class
- Javascript mouse & keyboard events mapped on virtual methods with identical signature to VCL controls (Key*, Mouse* methods)
- Example: TWebPaintBox

```
procedure TForm4.PaintSign(Control: TWebPaintBox; AText: string;
  Cross: boolean);
begin
  Control.Canvas.Pen.Width := 3;
  Control.Canvas.Pen.Color := clRed;
  Control.Canvas.Brush.Color := clYellow;
  Control.Canvas.Brush.Style := bsSolid;
  Control.Canvas.Rectangle(10,10,200,100);

  if Cross then
  begin
    Control.Canvas.MoveTo(10,100);
    Control.Canvas.LineTo(200,10);
    Control.Canvas.Font.Size := 14;
  end;

  Control.Canvas.Font.Name := 'Arial';
  Control.Canvas.Font.Size := 14;
  Control.Canvas.TextOut(20,40,AText);
end;
```

TMS RADical WEB : TMS WEB Core intro

WEB

tms.

Framework: control creation

- By Pascal class creating HTML element via `document.createElement()`
- By Pascal class referencing an existing HTML element specified in HTML template via the HTML element ID

TMS RADical WEB : TMS WEB Core intro

WEB

tms.

Framework: control positioning

- Absolute or relative positioning
- Absolute or relative size
- Position controlled by design-time position/size persisted in DFM file

or

- Position controlled by HTML template
- Anchoring and aligning as in VCL available

TMS RADical WEB : TMS WEB Core intro

WEB

tms.



FNC

develop • web



TMS RADical WEB : TMS WEB Core intro

WEB

tms.

Framework: FNC controls : Framework Neutral Components



- Entire FNC framework interface was mapped onto standard HTML elements
- Control code against this FNC interface works in VCL, FMX, LCL and now also web applications
- One code base for your UI !
- TMS FNC UI Pack, TMS FNC Chart, TMS FNC Dashboard Pack controls are now web-enabled

TMS RADical WEB : TMS WEB Core intro

WEB

tms.



jQuery

develop • web

jQuery

TMS RADical WEB : TMS WEB Core intro



Framework: jQuery controls

- Similar to mapping a Pascal class on a HTML element but now on a (complex) jQuery control
- Map jQuery control attributes on Pascal class properties and jQuery control events to Pascal class events
- Working to cover entire www.jqwidgets.com jQuery UI controls collection

First Name	Last Name	Product	Quantity	Unit P
Beate	Wilson	Caffe Espresso	2	
Andrew	Devling	Caffe Americano	8	
Shelley	Davolio	Doubleshot Espresso	2	
Yoshi	Davolio	Green Tea	3	
Cheryl	Bjorn	Espresso con Panna	2	
Shelley	Davolio	Black Tea	3	
Guylene	Murphy	Peppermint Mocha Twist	9	
Lars	Murphy	Espresso Truffle	10	
Cheryl	Murphy	Caffe Espresso	6	
Ian	Davolio	Cappuccino	3	

Go to page: Show rows: 1-10 of 100



Databases

TMS RADical WEB : TMS WEB Core intro



Framework: client dataset

- Web client dataset with interface compatible with Delphi TDataSet
- Can be bound to DB-aware controls via DataSource similar to VCL
- Includes TWebDBEdit, TWebDBCheckBox, TWebDBMemo, TWebDBNavigator, TWebDBGrid, TWebDBTableControl ...

TMS RADical WEB : TMS WEB Core intro

WEB

tms.

TMS XData

- Web client dataset with seamless connectivity to TMS XData server
- Automatic REST server generation for datasets & service requests

Embarcadero RAD server

node.js

ASP.NET Core microservices

TMS RADical WEB : TMS WEB Core intro

WEB

tms.



Cloud

develop • web



TMS RADical WEB : TMS WEB Core intro



Framework: Cloud REST based access

- TWebRESTClient (underlying XMLHttpRequest)
- Performs HTTP(S) GET, PUT, POST, DELETE requests
- Performs REST requests with authorization header



Debugging

Debugging

- Use browser debugger to step through, watch,... Javascript code
- Pascal to Javascript compiler can create map files to debug Pascal code via Chrome or Firefox

```
26 procedure TForm2.WebButton1Click(Sender: TObject); Sender = {$class: {...}, FOwner: null
27 var
28   "TMS WEB" ; s = "TMS WEB"
29   s := WebEdit1.Text; s = "TMS WEB"
30   weblistbox1.Items.Add(s);
31 end;
32
```

Demo 1

Classic VCL Delphi RAD
developer goes web



Demo 2

Cross platform Delphi
guru goes web with FNC



Demo 3

Web developer goes RAD with Delphi



Demo 4

Database developer goes web

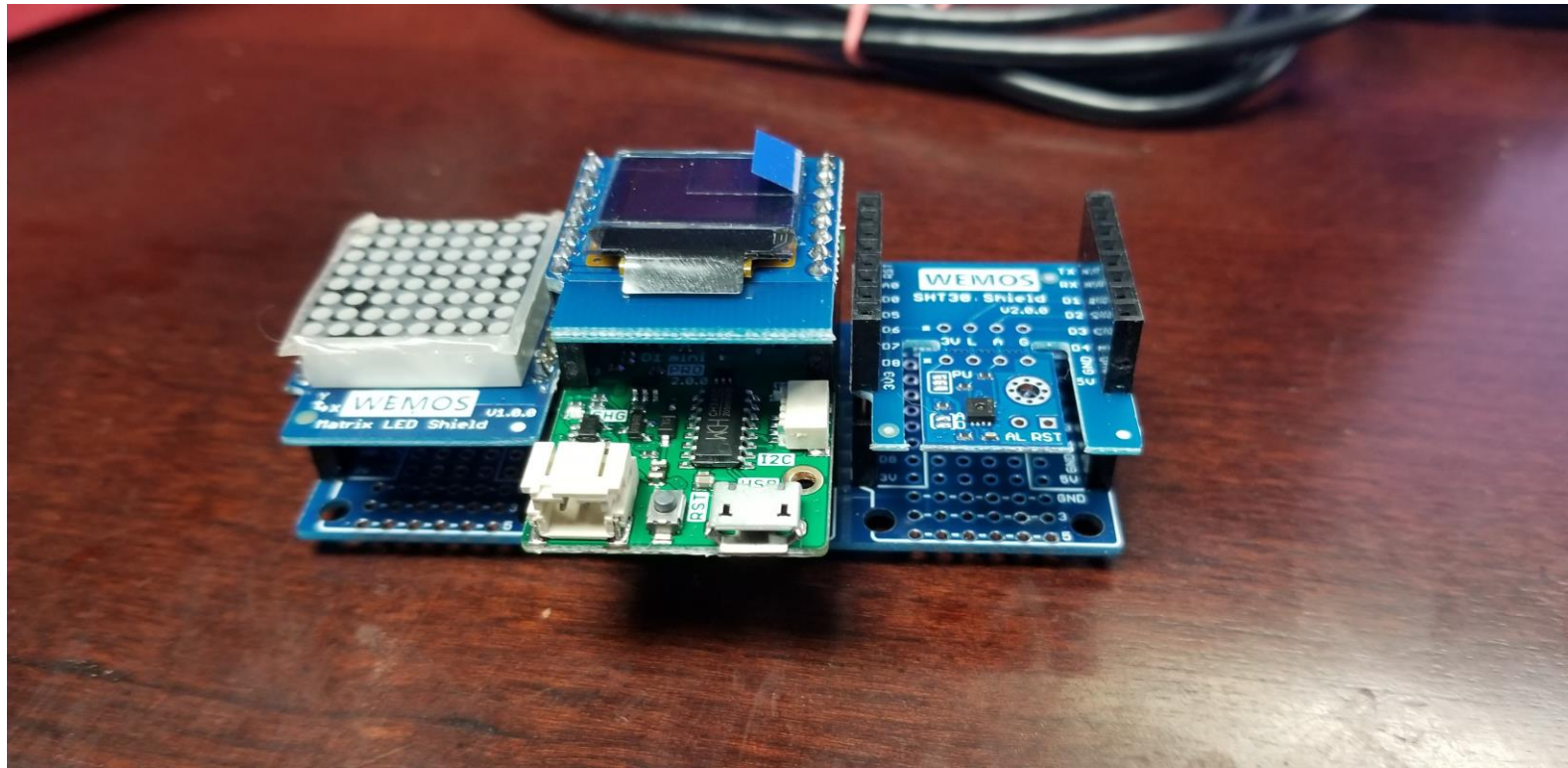


Demo 5

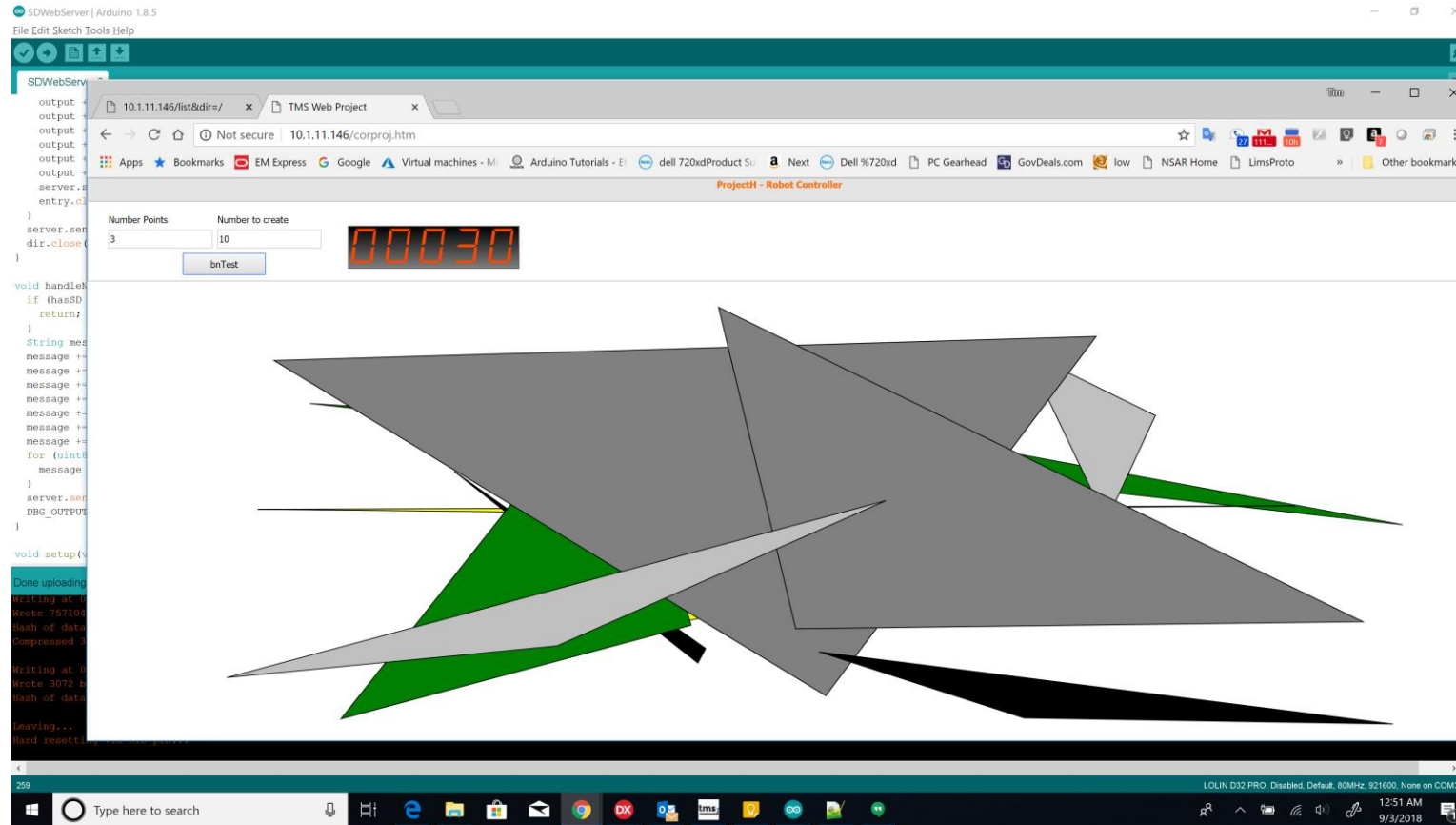
Delphi developer goes
IoT + Web



TMS WEB Core on WEMOS, Arduino type SBC with WiFi network shield



TMS WEB Core on WEMOS, Arduino type SBC with WiFi network shield



Demo 6

Delphi + ExtJS developer goes web



Demo 7

Exploring developers



It is a wonderful time to be

a



developer!

Conclusion

Q&A



TMS RADical WEB : TMS WEB Core intro

WEB

tms.

Many thanks to:

- Mattias Gärtner: Compiler
- Michael Van Canneyt: Compiler + RTL
- Pieter Scheldeman: FNC for the Web
- Bart Holvoet: Control Framework + Standard Controls
- Roman Kassebaum: IDE Integration
- Wagner Landgraf: XData Integration
- Holger Flick: Evangelist + QA
- Leon Kassebaum: ideas & energy from the next gen!
- Detlef Overbeek: Inspiration, Motivation, Out of the box thinking

tmssoftware.com

develop • web

Framework for creating modern web applications



More info:

<http://web.tmssoftware.com>