

TWEAK.ie festival

OPEN SOURCE WASHING MACHINE PROJECT

a Bricolabs project
<http://www.bricolabs.net>

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Bricolabs network

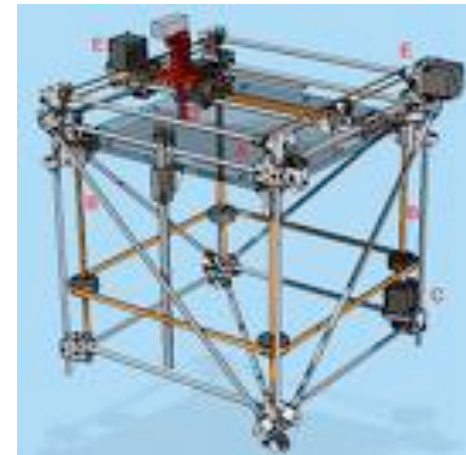
A distributed network for global and local development of open source generic infrastructures incrementally developed by communities.

A global platform to investigate the new loop of open content, software and hardware for community applications, bringing people together with alternative technologies and distributed connectivity, unlike the dominant focus of IT industry on security, surveillance and monopoly of information and infrastructures.

Open source hardware ?

http://en.wikipedia.org/wiki/Open_source_hardware

- no patents but an open source licence on the design
- open source software in programmable electronic components
- possibility to DIY, modify, share, copy, distribute, sell the products freely.
- examples: Freeduino, OScar, RepRap, Monome etc.



Context of the washing machine project ?

- most people (mostly women) on the planet washes clothes by hand.
- It's a huge amount of time
- hard work (for the back, the hands, the feet in cold/hot water)
- toxic chemicals for washing
- dirty water & pollution problems

some years ago in Europe



Magdalene Laundry in Ireland



folkloric event in an open air museum, Europe

TOGO

A photograph showing four children in a shallow river in Togo, engaged in washing clothes. The children are of African descent. One child on the left is wearing a colorful patterned dress and is washing clothes in a green plastic tub. Another child in the foreground is shirtless and wearing a yellow cloth around their waist, washing clothes in a white plastic tub. Two other children are standing further back in the water, one in a pink shirt and the other shirtless, both looking towards the camera. The river is surrounded by large rocks and lush green vegetation on the banks. The water is murky and brown.

would they prefer to play games ?

or going to school ?

Ecuador





Mozambique

Mozambique



China



China



China



Egypt



Guatemala



An aerial photograph showing a group of people on a muddy riverbank in Haiti. Several individuals are crouched or kneeling on the ground, surrounded by large piles of colorful laundry, including shirts, pants, and towels. Some people are using large metal basins to wash clothes. The river is murky and brown. In the background, there is a rocky area with some sparse vegetation and a small structure made of stones. The word "Haïti" is overlaid in white text on the right side of the image.

Haïti

Irak



India



India



Laos



Madagascar



Mali



South Africa





at home

San Domingo

Romania



laundry in Senegal



Laundry in India



laundry in India



A vibrant, high-angle photograph of a busy outdoor laundry area in India. In the foreground, a young boy is washing a white cloth in a large wooden tub. To his right, another wooden tub is filled with laundry. In the center, a man wearing a white turban and a striped shirt is working on a large wooden table, spreading out a piece of fabric. Behind him, a woman in a blue and white checkered sari is also working. In the background, a man in a white shirt and blue shorts is standing near a blue washing machine. The scene is filled with large wooden tubs, piles of laundry, and people engaged in the process of washing clothes. The text "laundry in India" is overlaid in the center of the image.

laundry in India

carrying heavy wet clothes home

India





Honduras

What did our grand-mothers say in the fifties, when electricity or washing machines came ?

-the arrival of washing machines was a revolution in my body.
No more pain.

-the arrival of washing machines was a revolution in my week programm. **No more time wasted.**

-the arrival of washing machines was a revolution in my psychology. **Cleaning the piss, shit, dirt and sweat of others is not a vocation.**

Is it possible that every family in the world soon possesses a washing machine, western style ?



NO WAY

- Problem of water

- Problem of electricity

- Problem of money

A recent example in a urban area:

3 adults and 4 children family in Dakar, Senegal

- washing by hand 3 times a week/ running water with low pressure and many interruptions/ electricity with many interruptions during the day.
- the mother is washing/drying from 9 AM to 4 PM
- heating big water tanks is dangerous for children running around
- pays sometimes a worker (woman) when she is too busy or too tired.

*Can we find new technologies
or new concepts for washing clothes ?*

yes

*Can we create technological & sociological concepts
adapted to the different contexts ?*

hard work and long term project...
but possible in a network organisation

the **open source washing machine project** aims to define

- a panel of technologies
- a panel of materials for the different technologies
- a panel of DIY and ecological detergents
- a panel of people/knowledge to build prototypes (everywhere) and test them into the adapted contexts
- a panel of methods for DIY /dissemination workshops
- a panel of people to give the first dissemination workshops

**There could be a hundred different designs,
each design adapted to the different places**

Brainstorming

Individual or collective washing machines ?

both could be explored,
collective, first.

Technology

About materials :

Materials & technologies adapted to each context

- recycling washing machine parts + freeduino board as programmer
- recycling and building with vehicles parts (cars, bikes)
- building in wood and bamboo
- recycling plastic parts
- other materials ?

About energy:

energy for mechanics, energy for heating water

- using wind power,
 - water power,
 - solar power,
 - animal power,
 - human power
- ...?



Washing technology:

agitating water+detergents+clothes...

- rotating systems ?
- vibrating and sonic systems ?
- shocking systems ?
- brushing systems ?
- bubbling systems ?

Other ideas

- uv light systems ?
- bacterials systems ?
- ... ?

How to motivate ingeneering/design/biology schools
to work on some new concepts ?

Technology

About rotating systems western style :

(not very adapted to poor contexts)

- using horizontal rotations ?
- vertical or oblique rotations ?
- helicoidal systems ?
- six-sided tanks easier to build



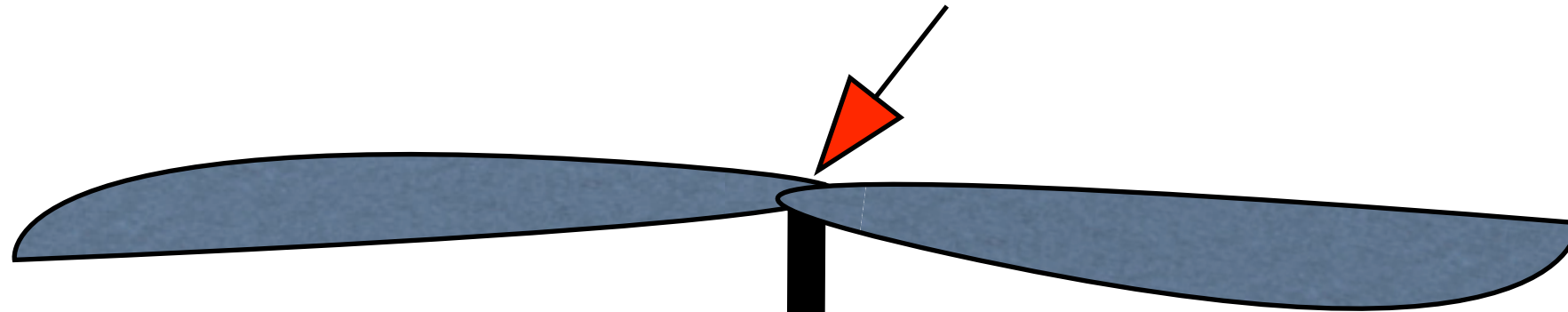
Vibration systems

very easy and cheap to create
with windmills, watermills...

an example of very simple design:

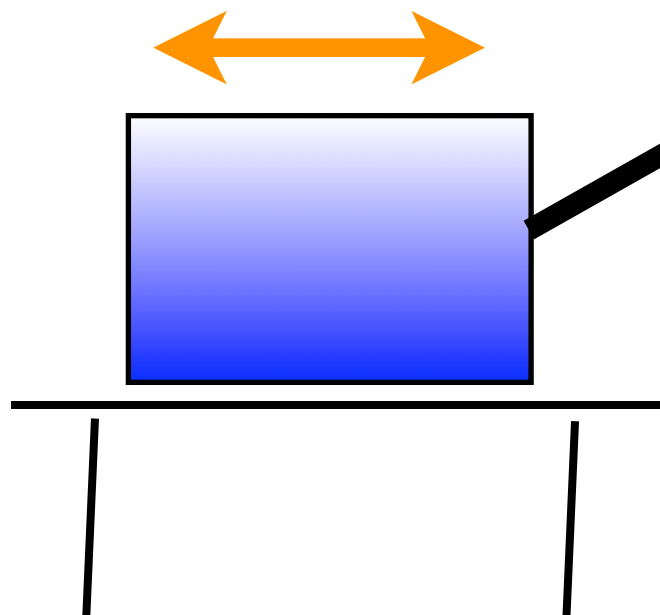
Desequilibriumed DIY windmill (easy...!), to create vibrations

all could be in wood, except the axis here



Closed tank with clothes and detergents

with a metallic tank, the friction can also create free heat to warm the water ...!!



Transmission of vibration through this branch

open source design by JNM

Materials

DIY detergents :

-how to build soaps and detergents with natural products, plants and trees.

-how to grow soap plants and trees

-how to manage, clean and recycle water

to do in the project:

- global inventory of soap plants
- bibliography on the subject



The open source washing machine project needs a network of different competences, as well as simple observers, linked all over the world by the exchange of knowledge on the web.

contact:

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