

EICS Industrial Panel

Research Agenda in Service Front Ends

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The Future Internet Public-Private Partnership (FI-PPP)

- Goal:
 - Capture opportunities derived from a new wave of digitalization of life and businesses
- Strategy:
 -  **FI-WARE** : a generic, open and standard platform which serve needs in multiple domains
 -  **FI-Lab** : a meeting point around which a dynamic innovation ecosystem can be created engaging developers and entrepreneurs
 -  **FI-Ops** : the suite of tools easing deployment and operation of FI-WARE instance nodes
- Better suited to align with roadmap of product developments by partners:
 - Delivery of results in open source
 - Industry-lead and Implementation/User-driven approach
 - Results exploitable in the short-medium term (4-5 years since start, within program)

421 = 296 + 125 M€

Budget (EC funding + own funding)

124 = 85 + 39 M€

Budget devoted to FI-WARE/FI-Lab

270 **150**
partners companies

100 M€
for entrepreneurs

27
countries



What

Developer Community and Tools

How

Rich web-based User Experience



Advanced UI Enablers

Connect apps to the physical world



IoT-M2M Enablers

Manage open data at large scale and transform it into knowledge



Data/Context Enablers

Benefit from open innovation (crowd-sourcing, apps composition)



Integration and Composition Enablers

Reach target users, monetize



Business & Delivery Framework (revenue-share, cross-selling, ...)

Ensuring Privacy, Security and Trust



Security Enablers

Take the most of infrastructures while keeping costs lower and under control



Advanced Cloud Enablers

access from everywhere, adapt to devices



Enablers easing interface to Network and Devices

How the ecosystem is actually emerging: the case of Smart Cities

- Some cities already connecting to FI-Lab:
 - Italy: Lecce and Puglia Region, Trento, Torino
 - Spain: Sevilla, Málaga, Santander, Valencia, Sabadell, ...
 - Finland: Espoo
 - Portugal: Lisbon
 - Brazil: Rio (negotiation)
- FI-WARE Challenge on Smart Cities:
 - Launched end of October
 - 300+ teams (individuals, startups, SMEs – few researchers) applied to the challenge ([ES](#), [EN](#))
 - 20 final teams run the [final in CPBR 14](#)
 - quite amazing results!



Create new ways of human-machine interaction, in order to improve User experience, usability and accessibility

Tools

Interactive Display Builder: a toolkit for building interactive displays based on project “Ubi Displays” developed at Lancaster University in the UK .

3D Shape Display: Engineering R&S Lab project, based on the work of Tangible Media Group of MIT

Holographic Pyramid: visualizer of holograms based on Pepper’s Ghost Effect



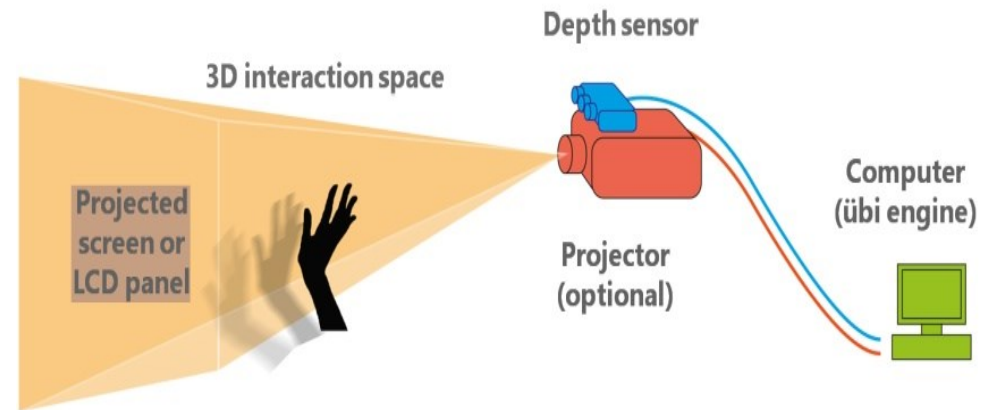
Interactive Display builder

What is it?

Using a projector and a Microsoft Kinect, the tool enables you to drag and drop interactive web content into the world around you. You can use it to prototype new kinds of computer interfaces for interior designs and furniture. Think of it as a programming environment for physical spaces.

Who made it?

It's based on a part of John Hardy's PhD research at Lancaster University in the UK.



3D Shape Display

What is it?

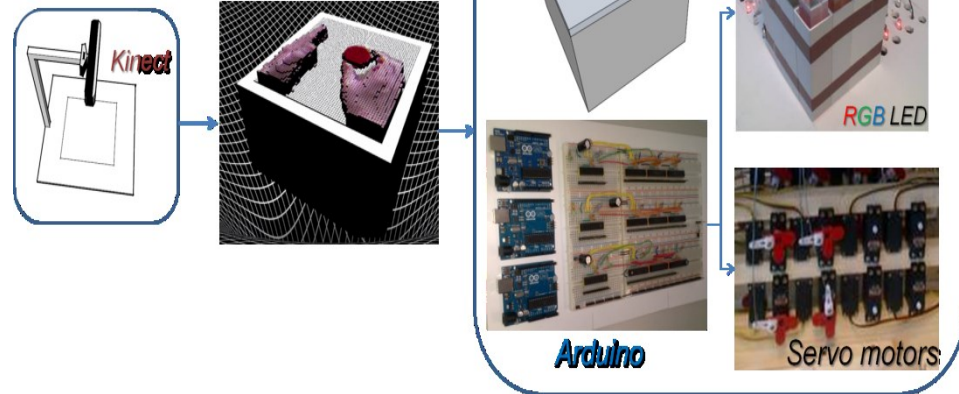
a platform of motorized blocks that can render 3D physical content, so that users can interact with digital information in a tangible way.

Who made it?

Similar to inForm, a dynamic shape display built by Tangible Media Group of MIT Media Lab. The Engineering R&D Laboratory is building its device with the aim of enriching sense experience, by adding the color, and why not even heat

How does it work?

Using Microsoft Kinect to detect depth and rgb maps, a microprocessor system based on Arduino, receives this data and pilots servomotors that raise small parallelepipeds (depth data) and leds (rgb data)



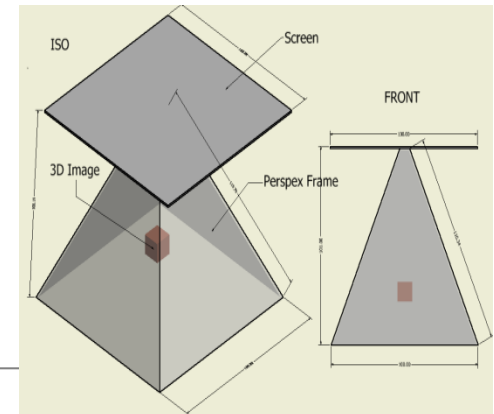
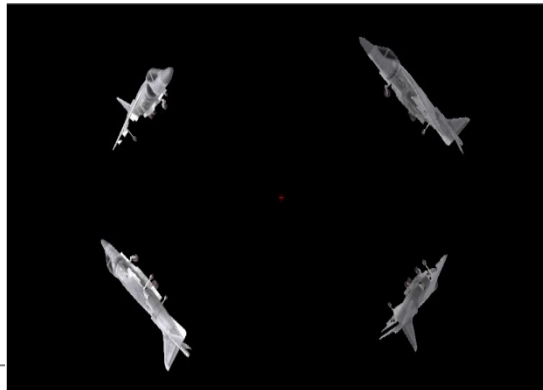
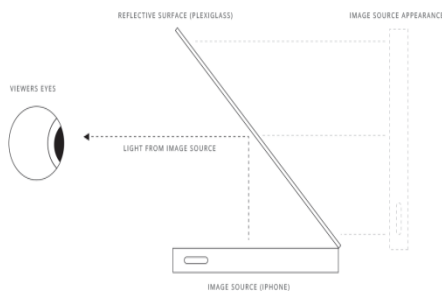
Holographic Pyramid

What is it?

it's a projection system, which can display any 3D objects and animation like an hologram.

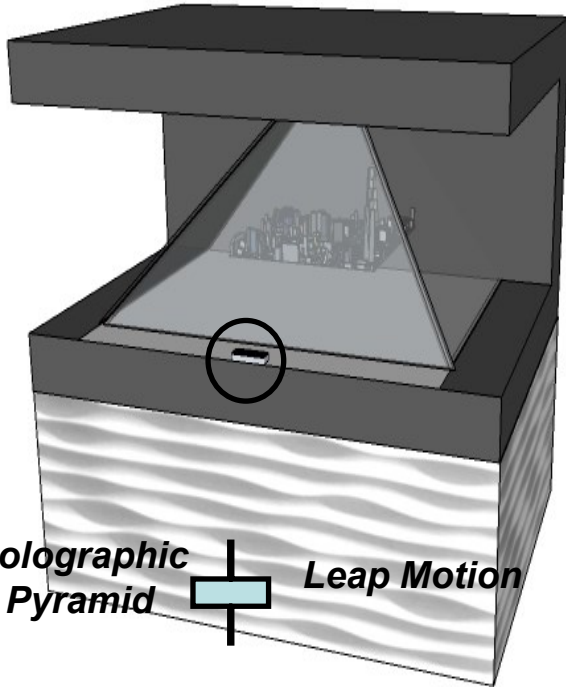
How does it work?

Based on Pepper's Ghost Effect, usually you have four sides of a Pyramid made from some nice reflective glass and a screen at the top of the construction. The screen displays 4 times the same object seen from 4 cameras positioned in 4 different angles. The 4 reflective sides of the pyramid compose the images of the object so you can walk around the display and can view the same object from different vantage points.



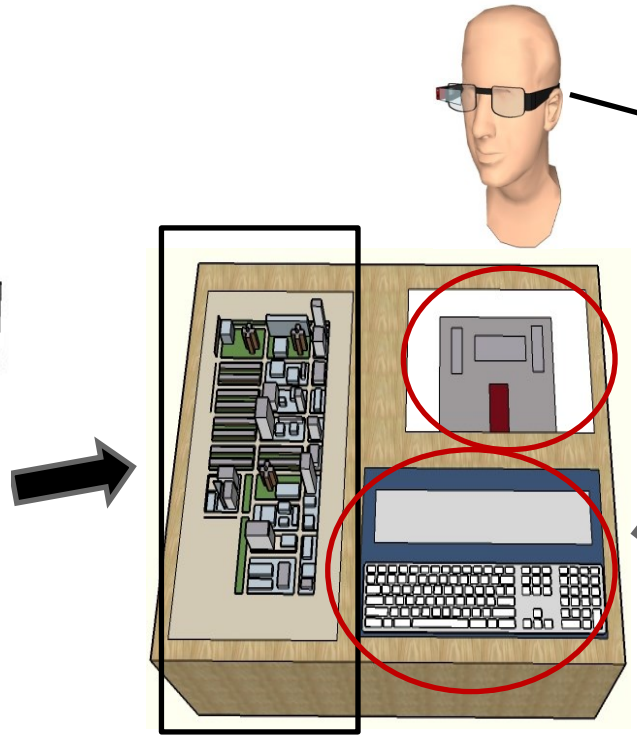
... Solid thinking

3D Objects manipulation

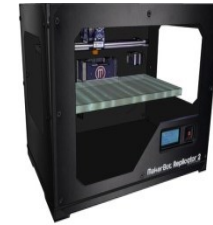
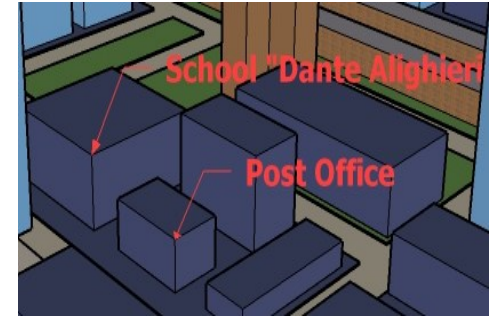


Holographic Pyramid

Leap Motion



3D Shape Display **Interactive Displays**



Physic scale model of the school "Dante Alighieri"



Grazie!

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