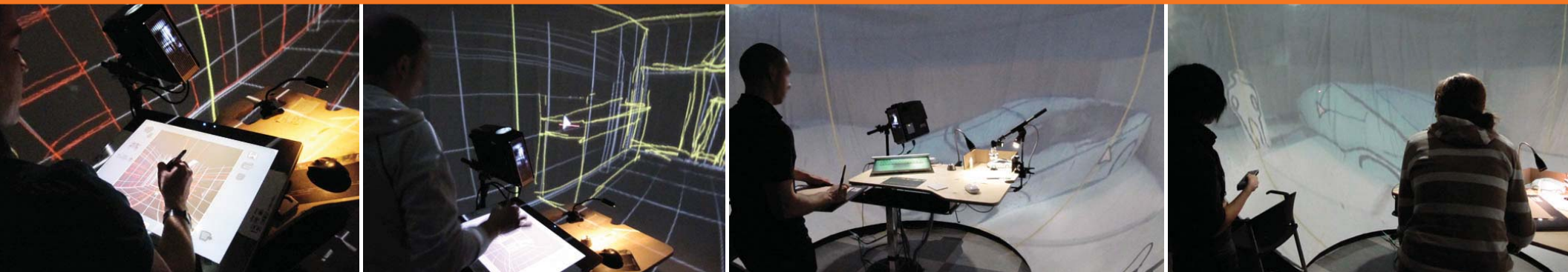


# Hybrid Ideation Space (HIS) an immersive environment where designers can sketch and work with physical models all around them in real-time and life-size.



Using the HIS, designers now have the possibility to sketch freehand, see and experience their results simultaneously, integrating manual sketches over live streaming video, photographs, drawings, virtual or physical 3D objects in 360° representation.

The HIS can be used at any stages of the design process to produce or validate a new concept. It enables the use of both the immersive sketch and the immersive model making techniques.

The HIS consists of proprietary software synching a digital tablet (and eventually touch-screen smart-phone), an immersive projection system and a laser pointer that sketches, enabling the designer's concepts to be represented in real-time on a 360 semi-spherical screen. The system has been designed to use affordable and commercially available components.

**Opportunity:** Made for the design process, the HIS supports idea generation phases, i.e. when designers (and clients) develop new concepts, product or environment. Although it is a complex and important activity, current ideation methods (ex: digital 3D models, drawings, images, etc.) do not support the quick generation of rough ideas and their accompanying conversation. So far, the only way of truly evaluating an "on-going" development is to build a prototype (life size physical model or detailed 3D modeling), which increases both the costs and the time of the overall project, while narrowing the field of design options.

## Recent Publications

Dorta, T., Lesage, A. et Pérez, E. (2009) "Design tools and collaborative ideation", dans Joining languages, cultures and vision, Computer Aided Architectural Design Futures 2009, CAAD futures 2009. Montréal, juin 2009

Dorta, T. (2008) "Design Flow and Ideation", in International Journal of Architectural Computing, Volume 06 Number 03, pp. 299-316.

## Competitive advantages

**Easy Training:** Traditional sketching techniques can be used within the HIS. Only 10 min are necessary to completely learn how to use it.

**Time saving:** The abstractions, ambiguities or inaccuracies of sketches and rough models are supported, thus respecting the natural flow of the design process.

**Remote Collaboration:** The HIS can be connected via Internet to a regular work station or to another HIS, enabling remote collaborations between designers, architects, engineers, clients, as well as being telepresent to remote construction site.

**Easy follow-up:** Using a picture or 3D model of the current state of the project (building site or the last version of a prototype), designers, architects and clients can better assess the next steps.

## Market Focus:

- Architecture and Design Offices
- "In-house" Design Departments
- Cinema and theater (staging ideation)
- Universities (R&D)

**Industries:** Design, Architecture, art and entertainment.

**Status:** Prototype, pre-commercialization

Dorta, T., Lesage, A. and Pérez, E. (2008) "Point and Sketch: Collaboration in the Hybrid Ideation Space", in ACM Interaction humain machine, Bastien, C. and Carbonell, N. (Eds.) IHM 2008. Metz, France, September 2008, pp. 129-136

Dorta, T., Pérez, E. and Lesage, A. (2008) "The Ideation Gap: Hybrid tools, Design flow and Practice", in Design Studies. Volume 29 Number 2, pp. 121-141.

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10 years experience in professional practice  
(architectural and industrial design)

Area of interest: influence of computer 3D visualization and new technologies in design

## Intellectual Property:

Copyright (source code) + know-how

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