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CS-E5250 Data-Driven Concept Design

Concept Design: Visualization and Validation

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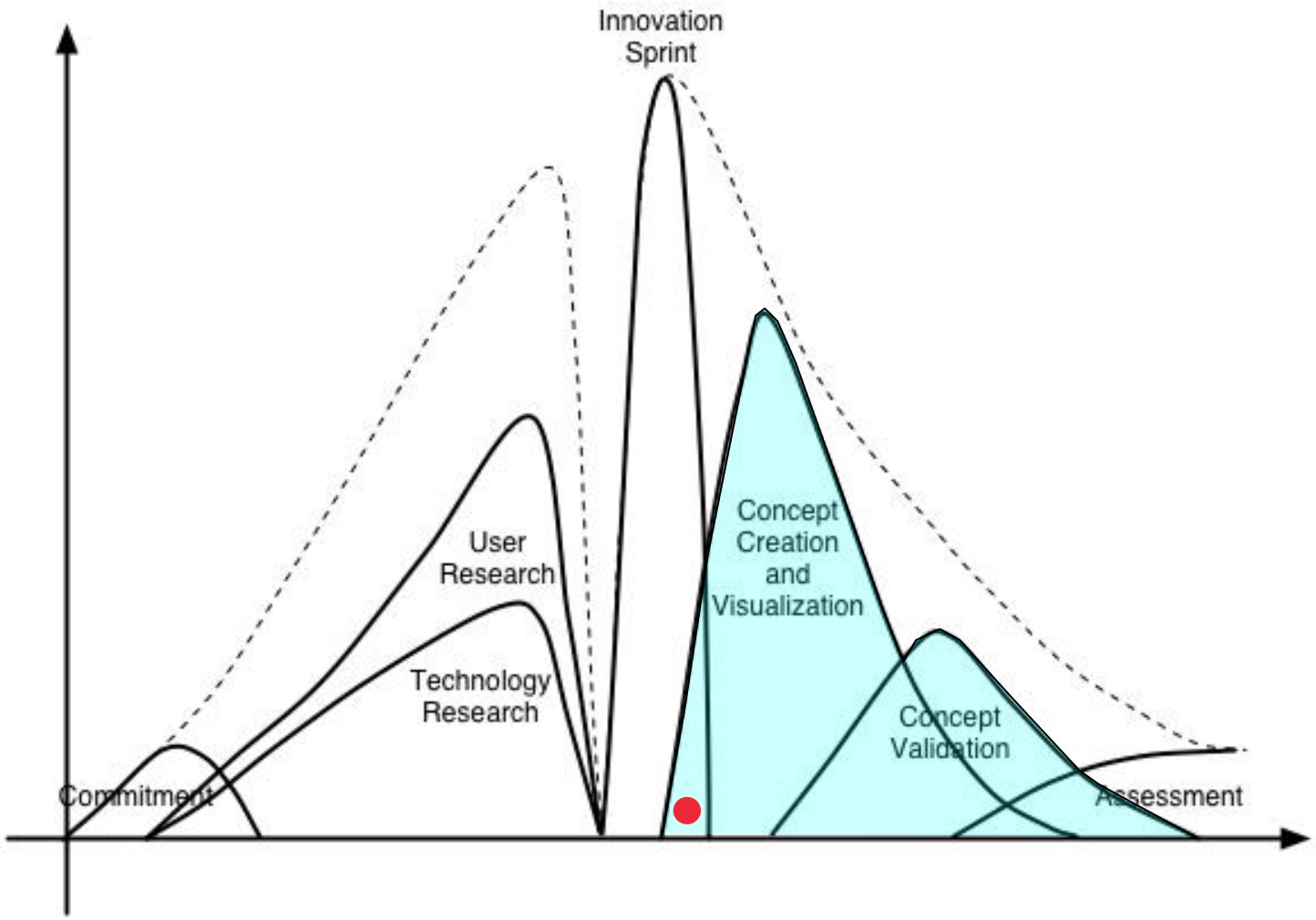
Agenda

- Learning outcomes
- Concept Design: Visualization and Validation
- Prototyping
  - Low Fidelity Wireframing
  - High Fidelity Prototyping

Learning Outcomes

- After this Assignment:
- You know how to create product and service concepts and develop select parts into visualised prototypes of various fidelity.

You are Here !

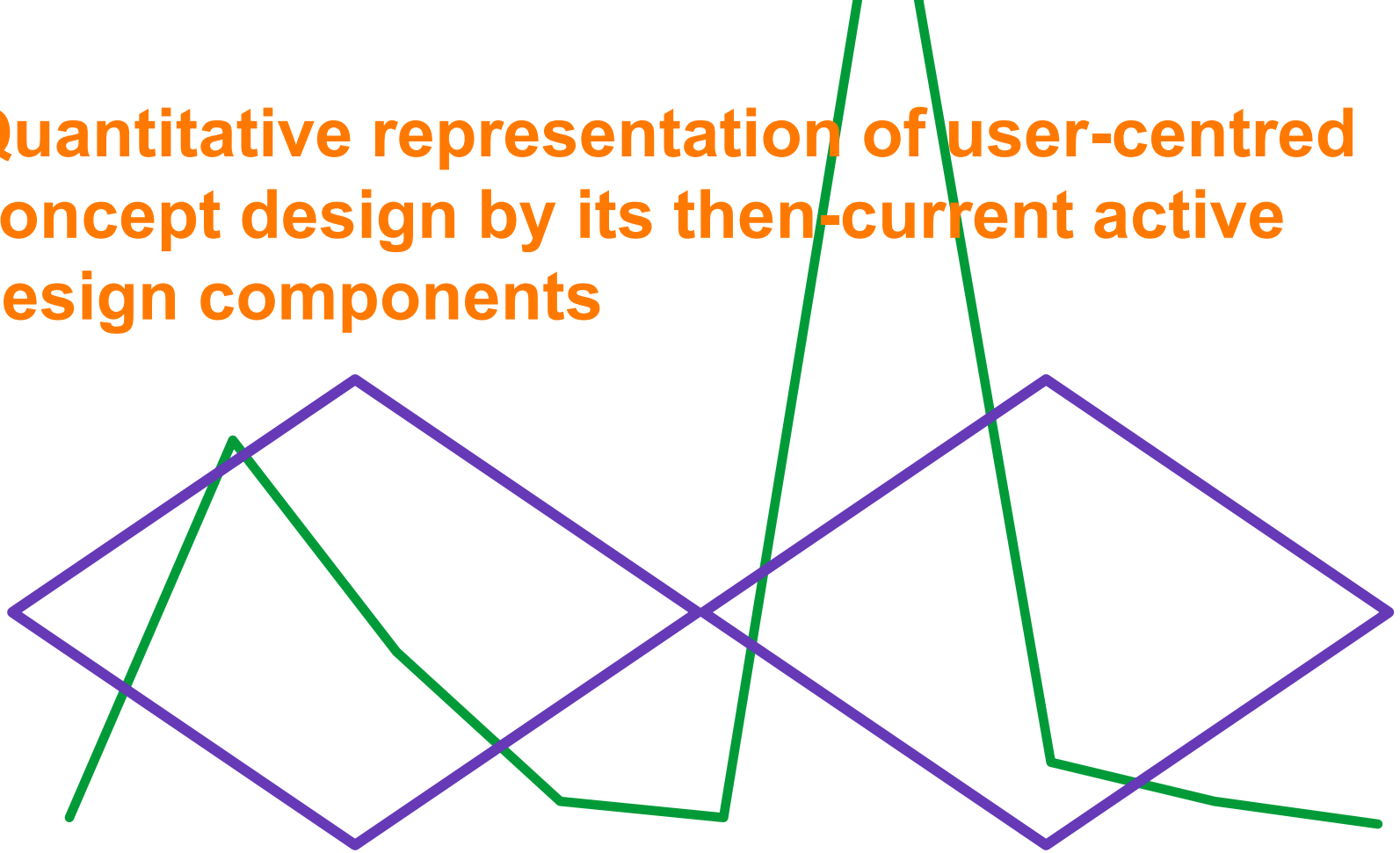


Nieminen, M.P., Mannonen, P., 2006. User-centered Product Concept Development, in: International Encyclopedia of Ergonomics and Human Factors, 2nd Edition. CRC Press, Boca Raton, FL, USA, pp. 1728–1732.

Concepts and Concept Candidates

- Concept is a complete product or service
- Document all created concepts, especially dropped or failed cases, and the process
  - Not all ideas make it to concept candidates and not all candidates get full blown visualization, but the killed ideas must be explained in enough detail to understand why they lost the game
- Consider the extremeties of you Concept portfolio.
  - Sometimes the worst come out first

Quantitative representation of user-centred concept design by its then-current active design components



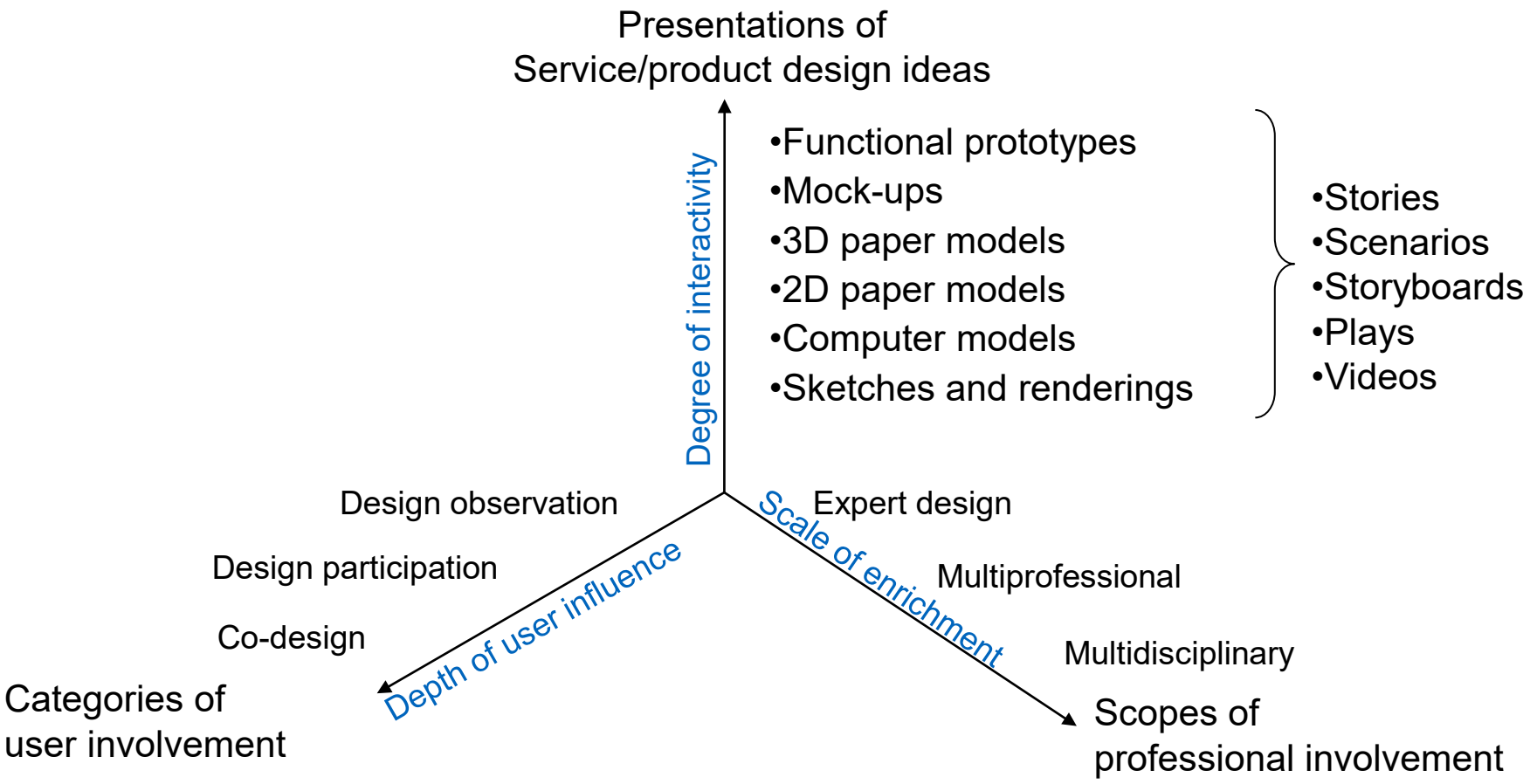
Design Brief	Research data units	Observations	Research results	Design Perspectives	Idea Generation	Idea Categories	Concept Candidates	Concepts
5	121	56	10	5	312	22	10	3

Why must I visualize the Concepts

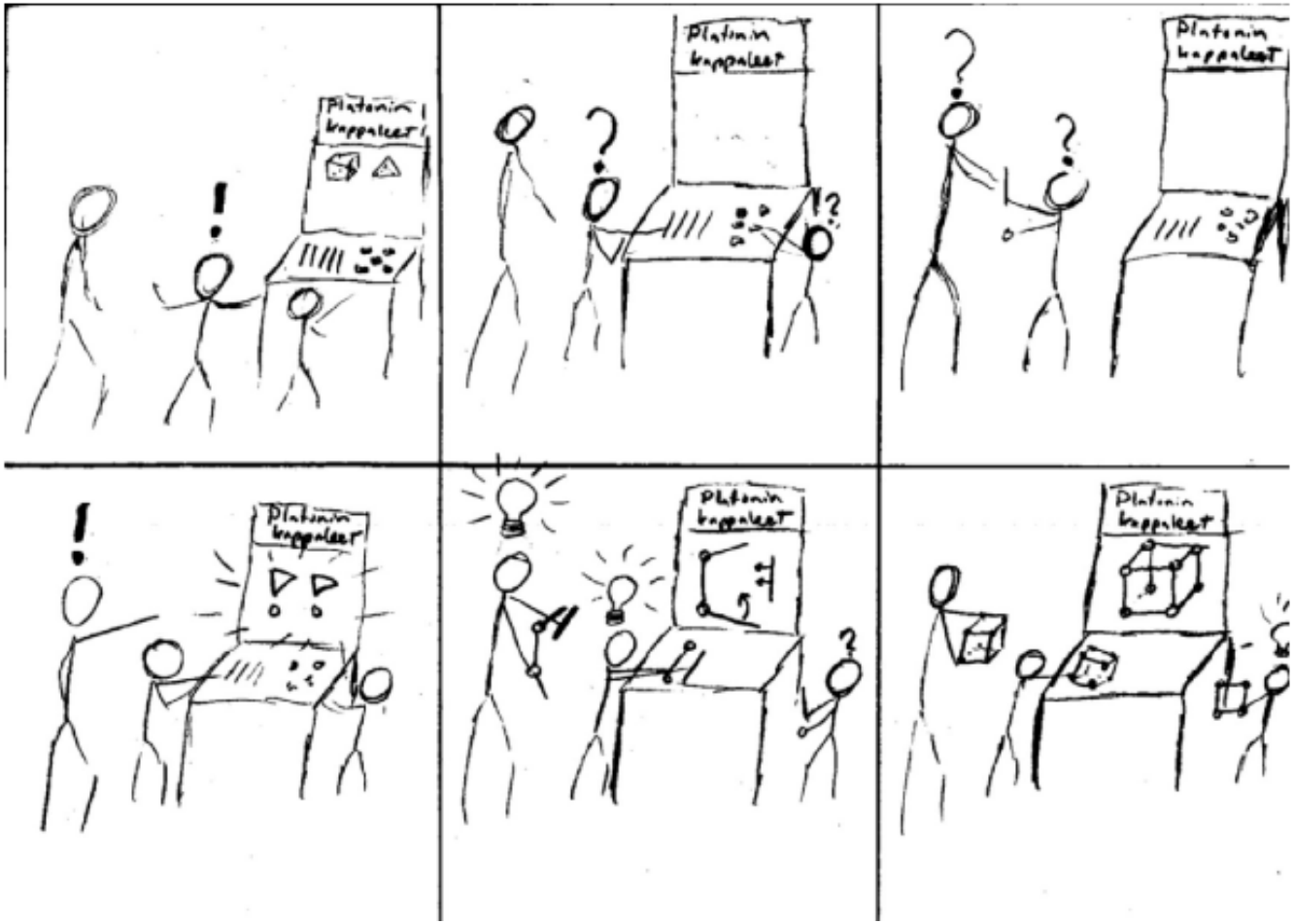
- Using several representations adds detail to the concepts
  - Designers spot the problems and get new ideas
- Only concrete concepts can be evaluated or validated
- In very rare occasions some of the work done on the concept can transfer to the final product (mostly not)

Ways to Visualize

Salovaara J. 2000 (adapted)



Examples: Scenario / Storyboard



Storyboard/Stop motion animation

InfoCircle

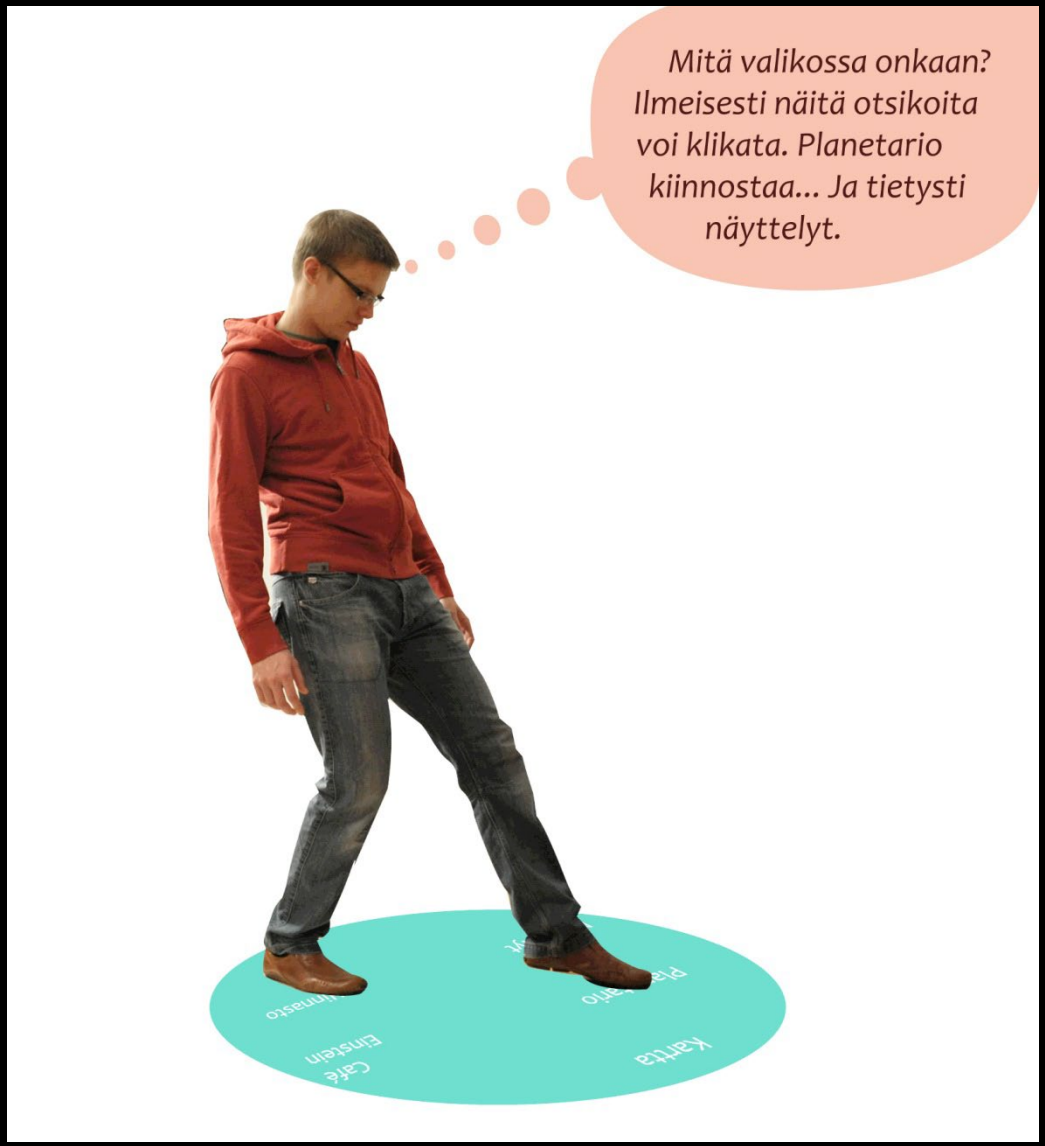
Heureka. Olin täällä viimeksi pikku poikana. Paikka näyttää hieman muuttuneen. Mitähän täällä nykyään on?

i niin kuin informaatio. Sitä tässä tarvitaankin. Mitä kaikkea täällä Heurekassa on ja mitä se maksaa? Miten tämä ympyrä toimiikaan?

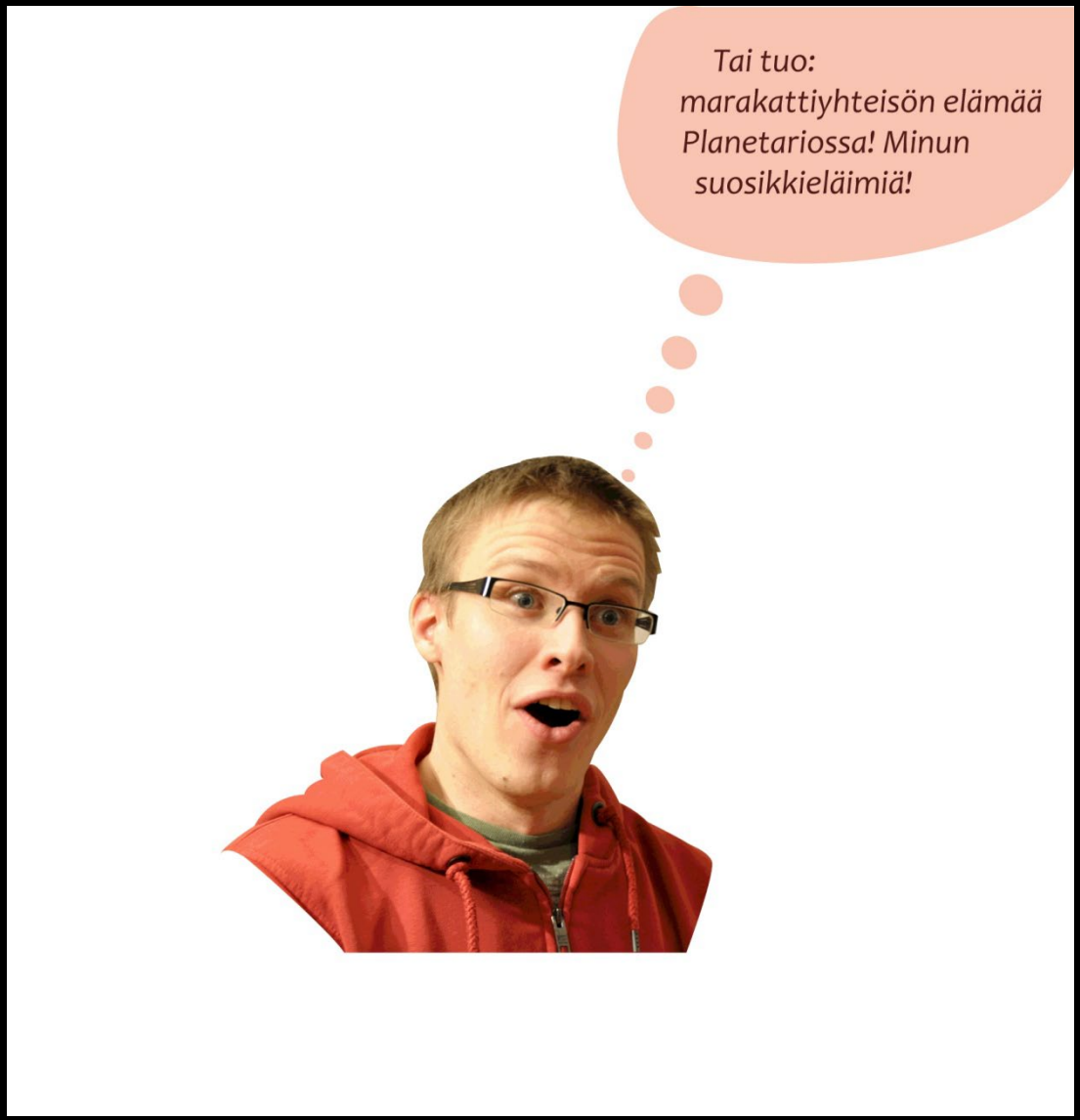
1.

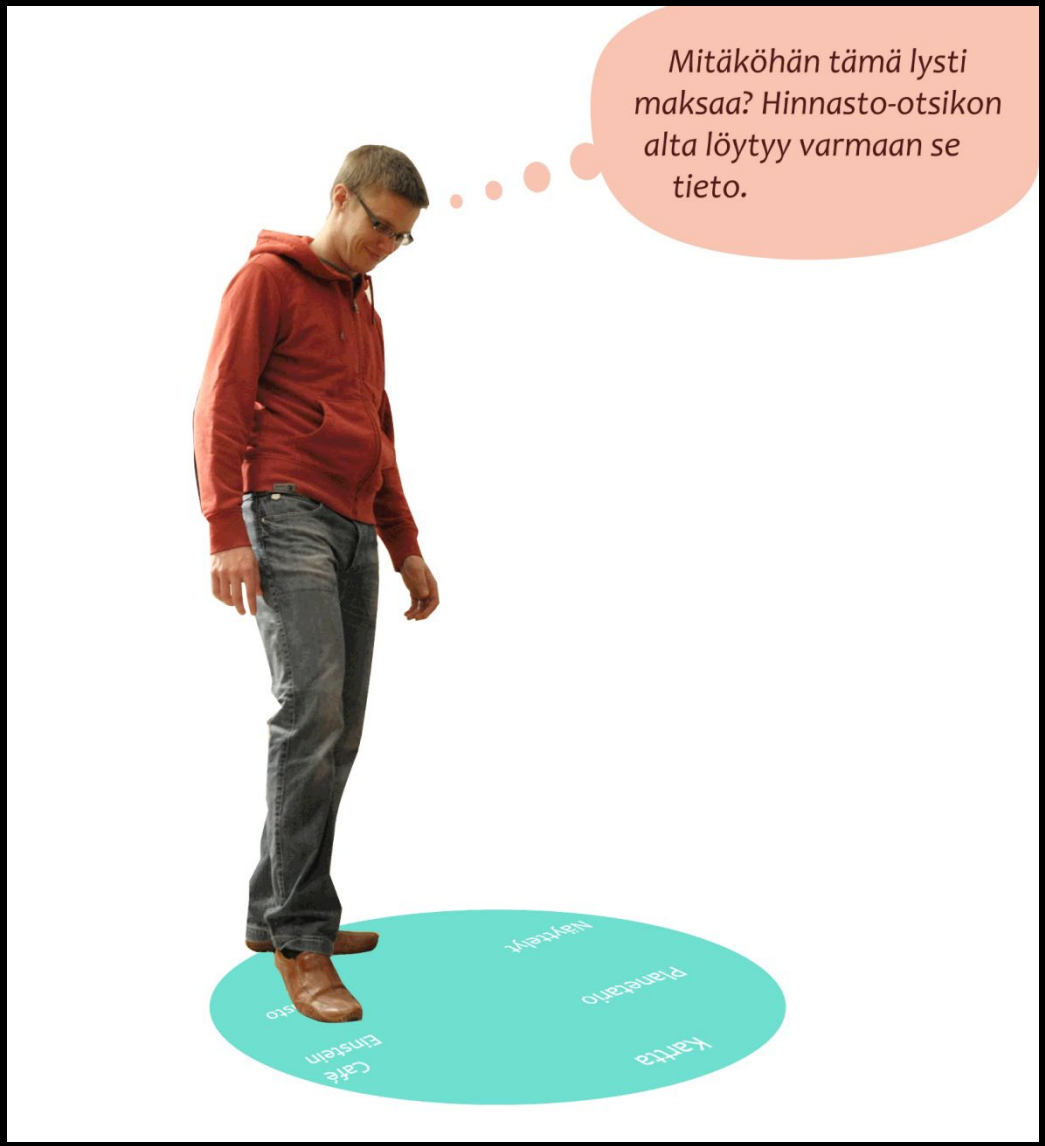
1.

Oho, kuulostaa vesisateelta! Eihän täällä oikeasti sada!
Kahtia
Planetario
Neptetyt
Hinnasto
Café Einstein


Mitä valikossa onkaan? Ilmeisesti näitä otsikoita voi klikata. Planetario kiinnostaa... Ja tietysti näyttelyt.
Kahtia
Planetario
Café Einstein

Esitellään hämähäkkien saalistustekniikoita Costa Rican sademetsissä. Ainakin tuo kolahtaa.


Tai tuo:
marakattiyhteisön elämää
Planetariossa! Minun
suosikkieläimiä!

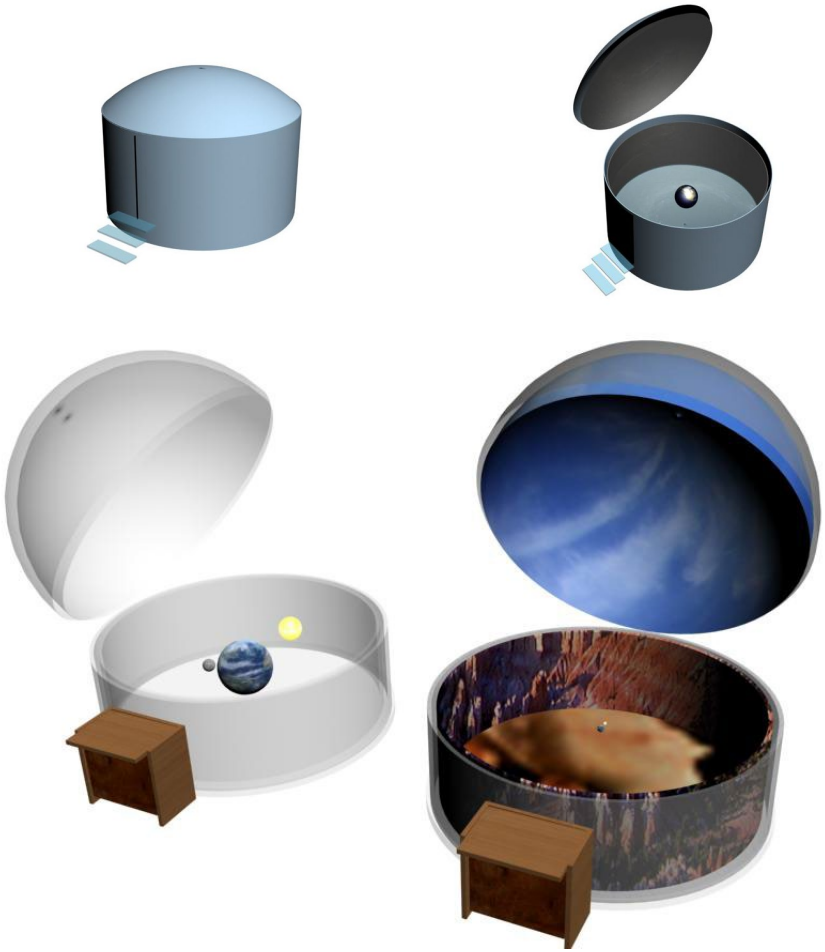

Mitäköhän tämä lysti maksaa? Hinnasto-otsikon alta löytyy varmaan se tieto.
Näytelyt
Planetario
Kartta
Café Einstein

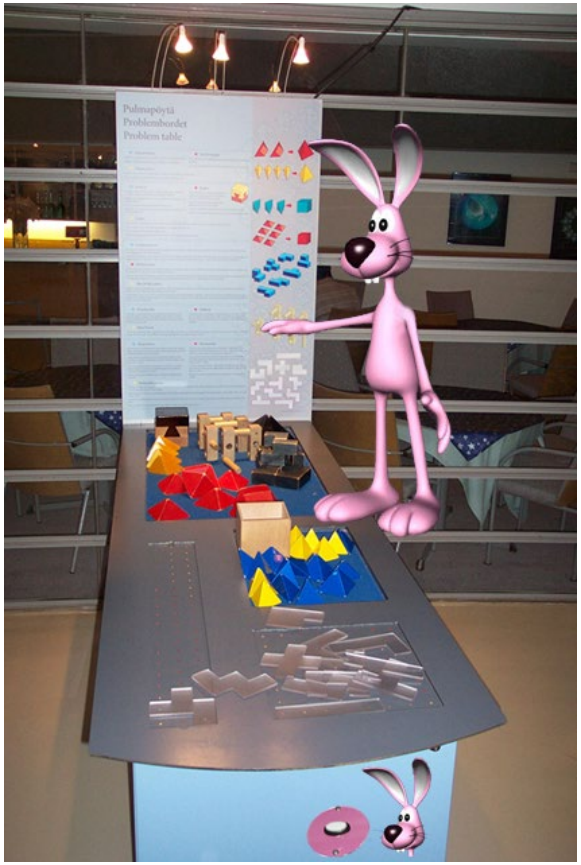
Tämä hinta ei ole paha, jos on näin paljon mielenkiintoista. Ehdinköhän edes käydä läpi kaikkea.

Taidan pärjätä näillä tiedoilla.

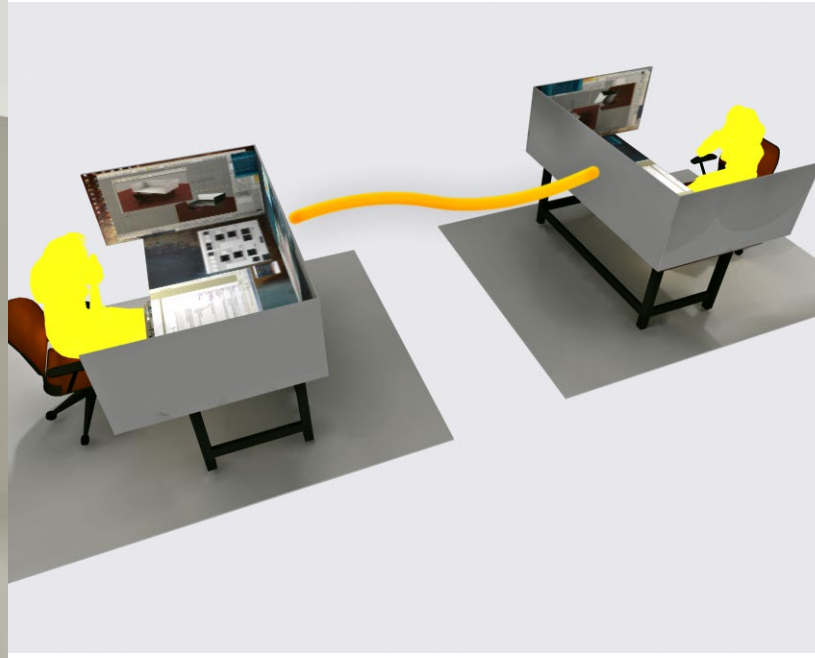
Collages / Moodboards

CGI Simulations / animations

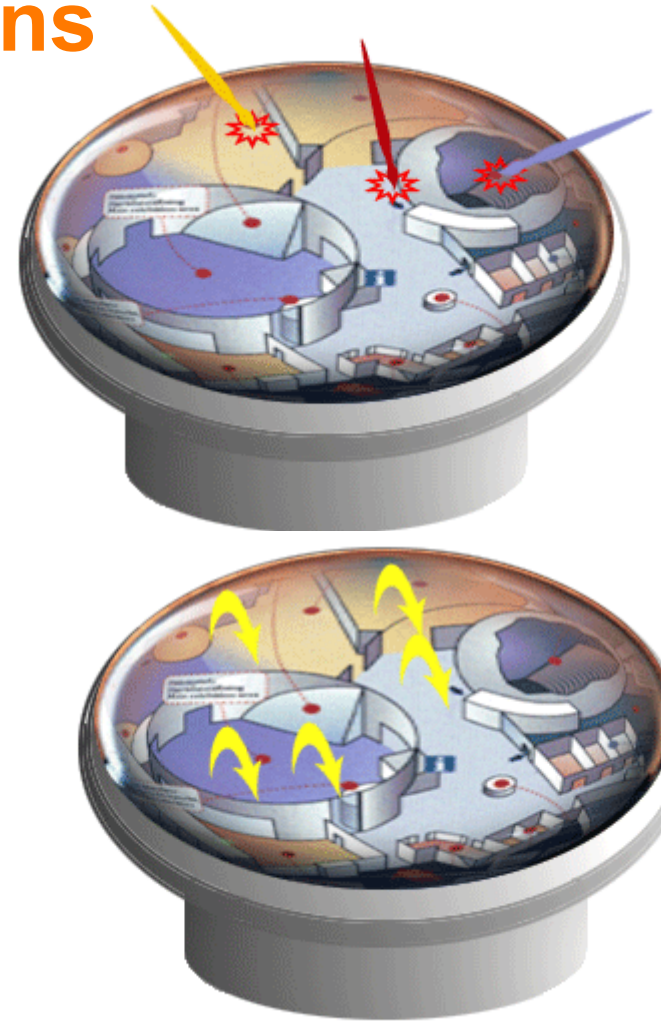




3D illustrations



Example: 3D illustrations

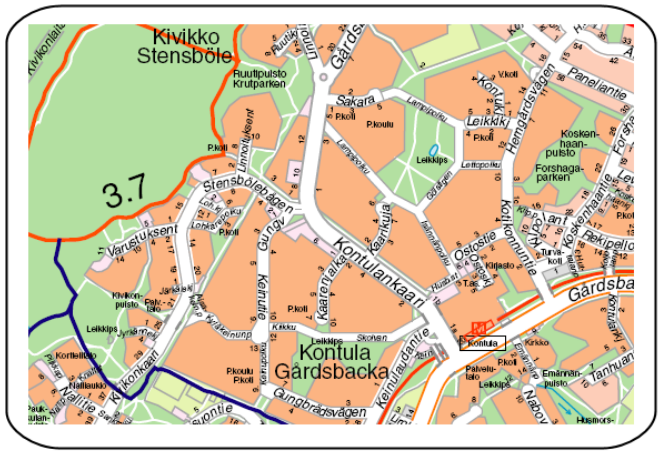


Movie / Play

Movie / Play

POSTI DAY
An annual day that comprises of
online campaigns and physical events

Paper prototypes, tangible prototypes


Kivikko
Stensböle
Kontula
Gårdsbacka
3.7
Stensböleängen
Kontulankaari
Gårdsbacka
Kontulantie
Kontula
Gårdsbacka
Qingbrädsvägen
Kontulantie
Kontula
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Kontula
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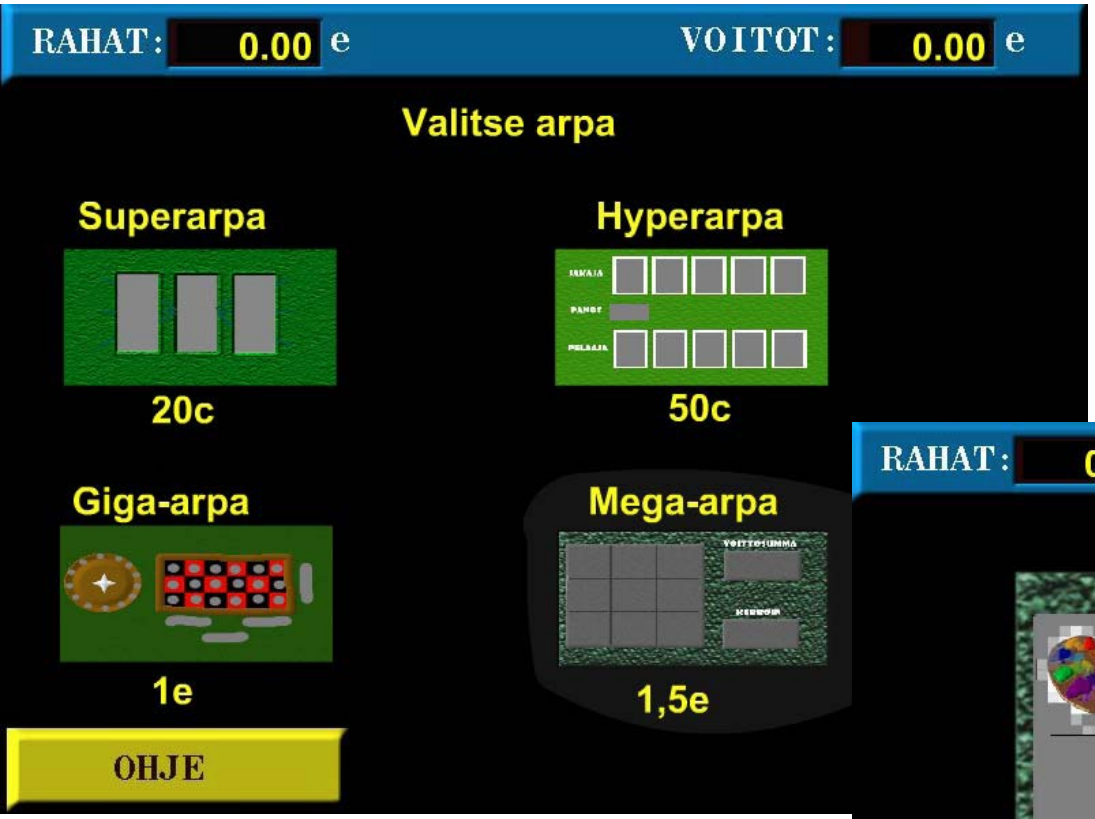
Kontula
Gårdsbacka

Paper prototypes, 3D prototypes

Functional prototypes

Functional Prototypes



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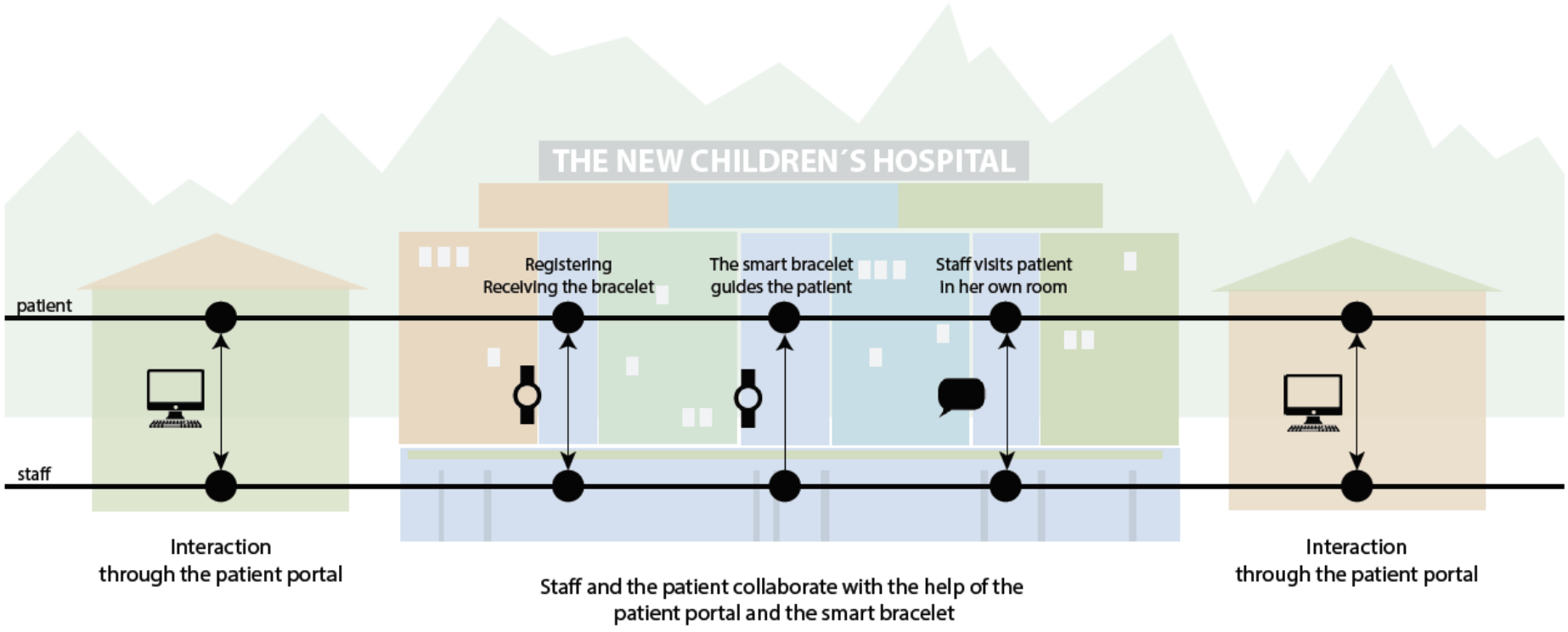
Customer Journey Map



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Concept Validation

Why must I validate the Concepts?

- To assure your research has identified and interpreted the users' needs correctly
- To assure that the concepts fit the users (not the designers)
- Both qualitative and quantitative data can be gathered
- Validation is the justification for the finalization, presentation and possible continued development of the concepts

Validation is ...

- Validation can be understood as two way communication between the design team and user during product concept development process.
- Medium for this communication are stories with various level of visualizations, like sketches, renderings, storyboards, plays, computer models, 2D and 3D paper prototypes, mock-ups, and finally functional prototypes.
- The detailing and quality of visualizations is improved the further the development process goes. However, all the different levels are used all the time.

Concept Validation ≠ Usability Evaluation

Usability Evaluation Methods

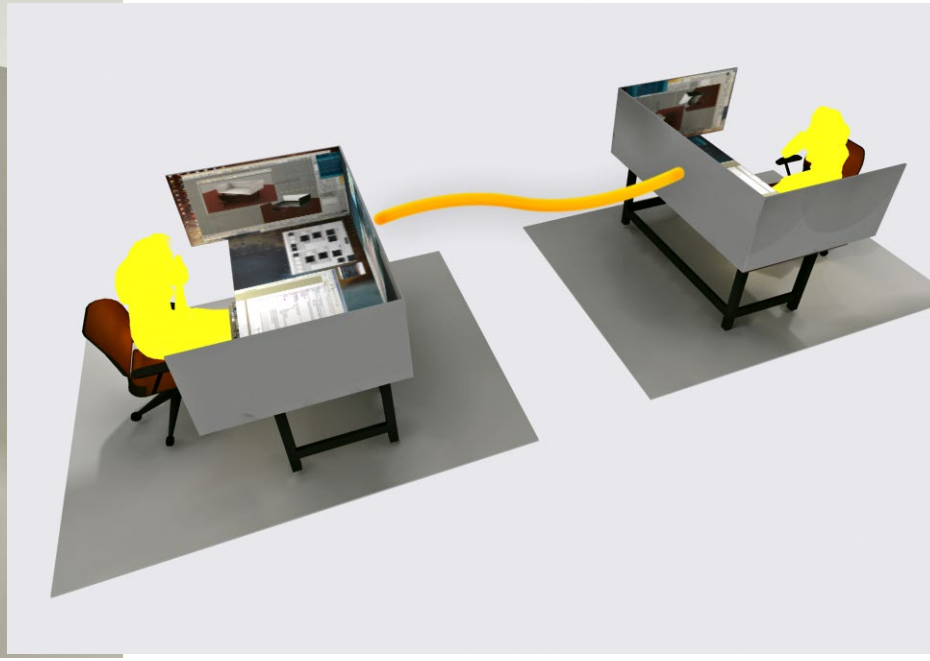
- Usability inspections
  - Heuristic evaluation
  - Standard reviews
  - Cognitive walkthrough
- User Testing
  - Usability test
  - Pluralistic walkthrough
  - Observation
  - Interview, questionnaire and survey

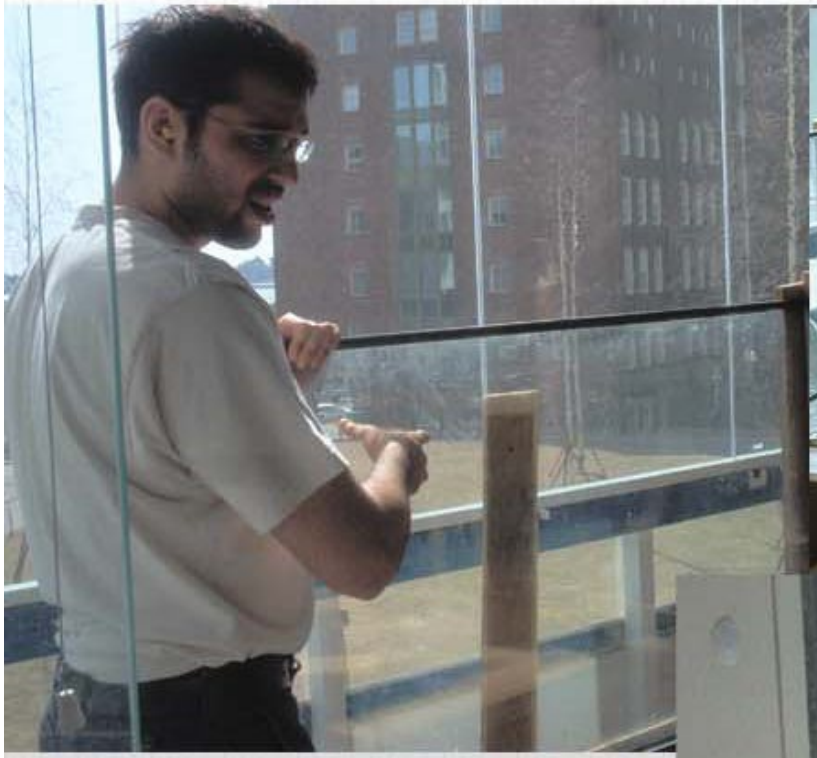
In validation especially WOZ

Connecting with the users

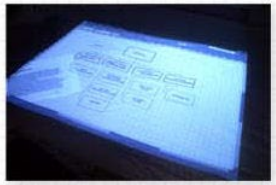
- Make it easy for the users to give feedback
  - Master & Apprentice (Beyer&Holtzblatt, 1998)
- Don’t PUSH your agenda, but PULL the users’ thoughts
  - Avoid good/bad judgements, ask for descriptions
  - Try to find opportunities to improve the concept
- Both old and new users can be used
  - No, that does not refer to their ages...

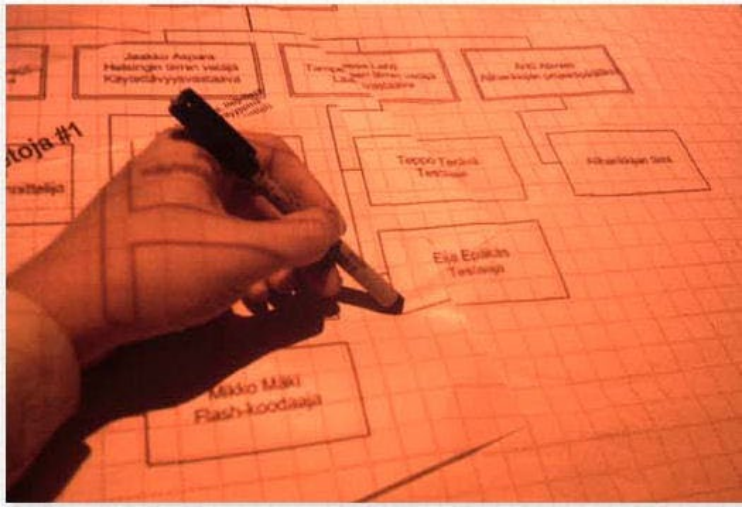
Examples
iCubicles virtual workstation

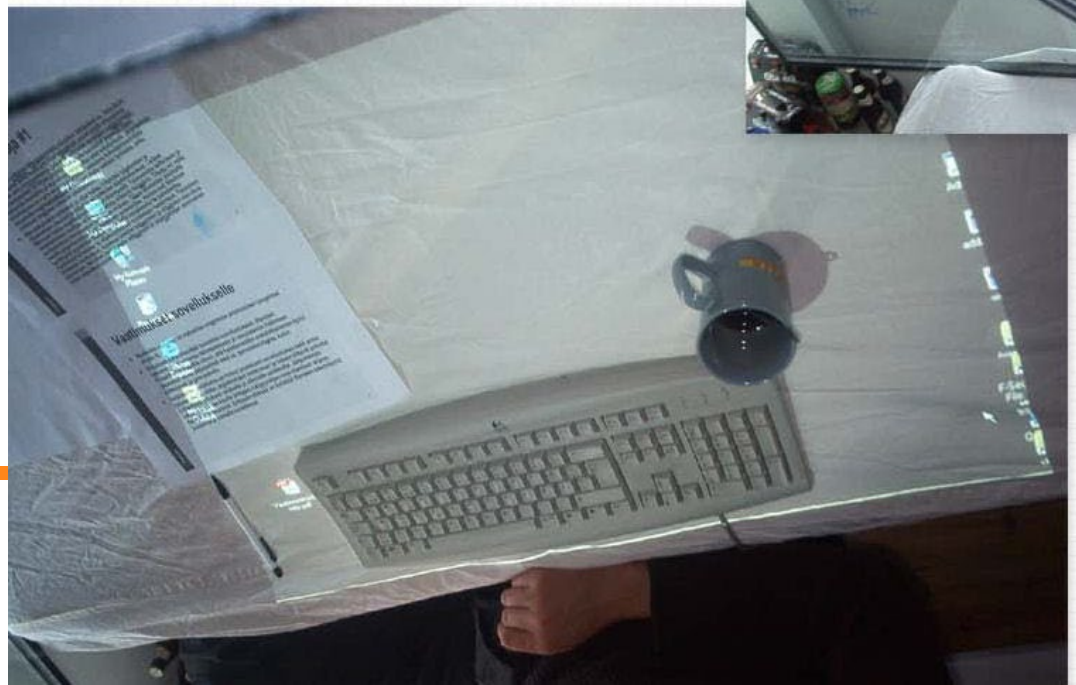




Valmis prototyyppi







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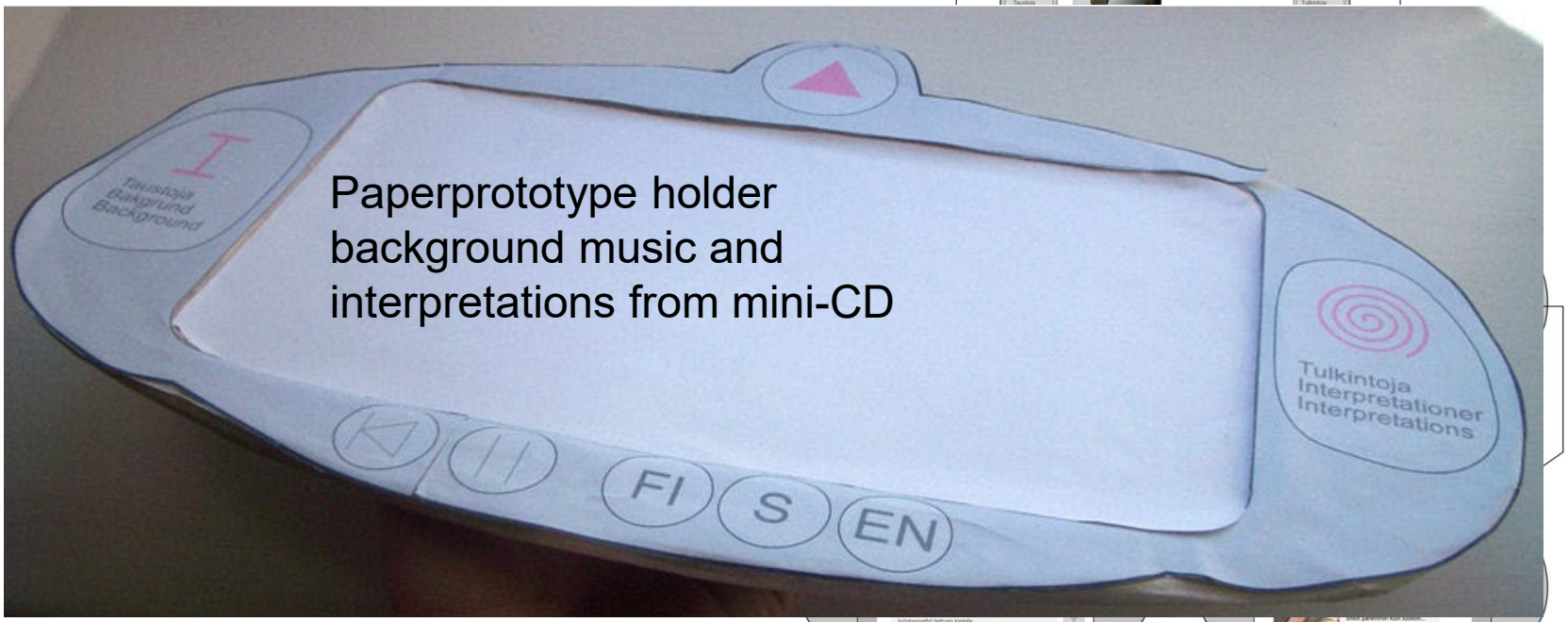
Examples

- Kiasma Guide

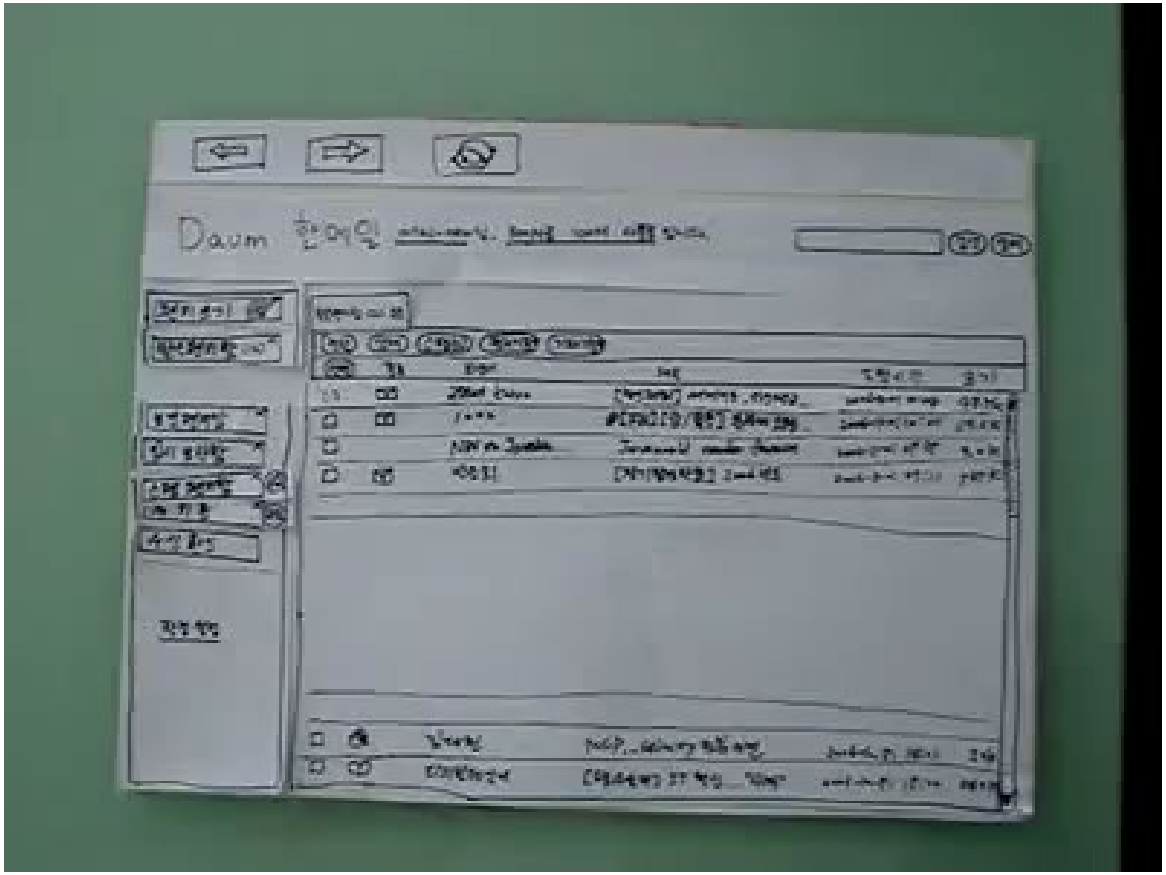


Paper prototypes

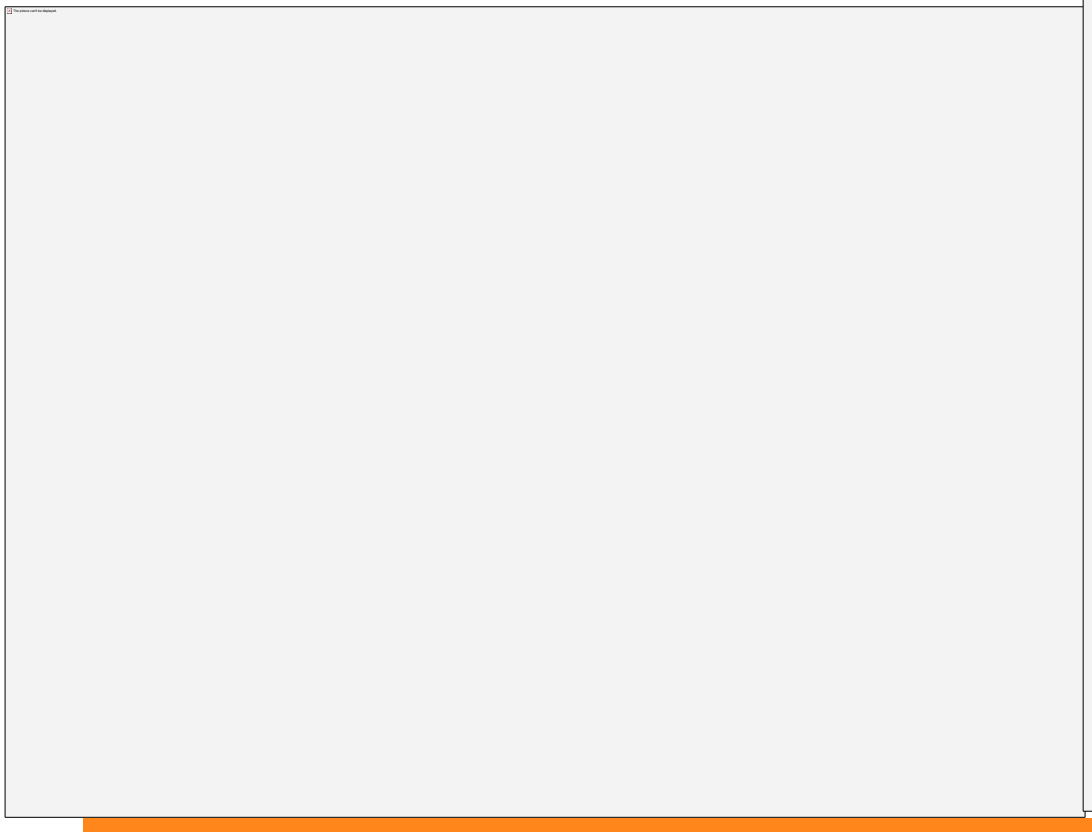
Development after validation

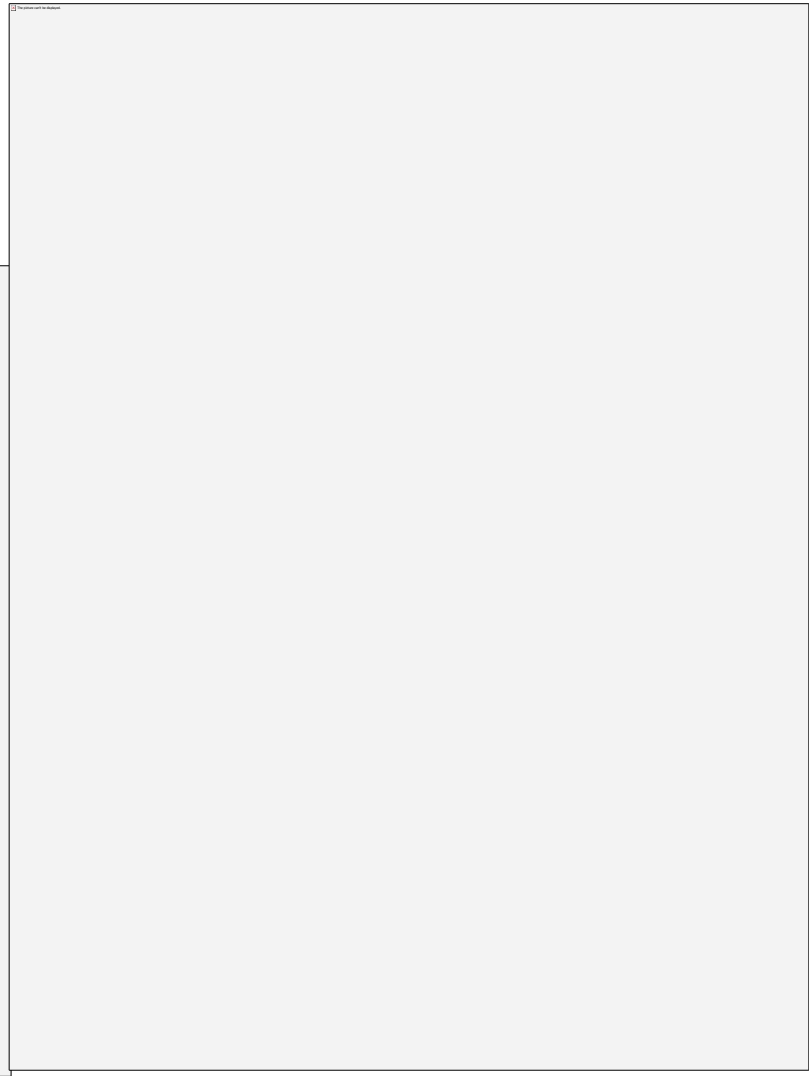
'Foot prints' should be added or circle should be more illuminated?

Paper prototype of an web email



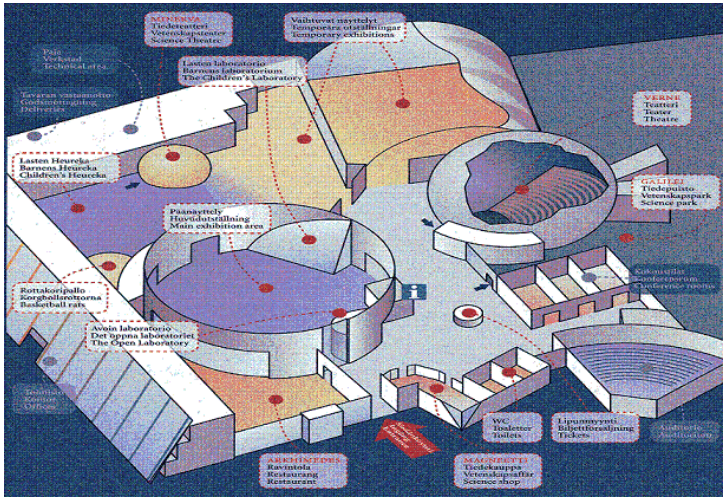
Kontu-Piste Interior





Heureka Now

HNow validation



...and the real Heureka infoteller a.k.a. Hopastin

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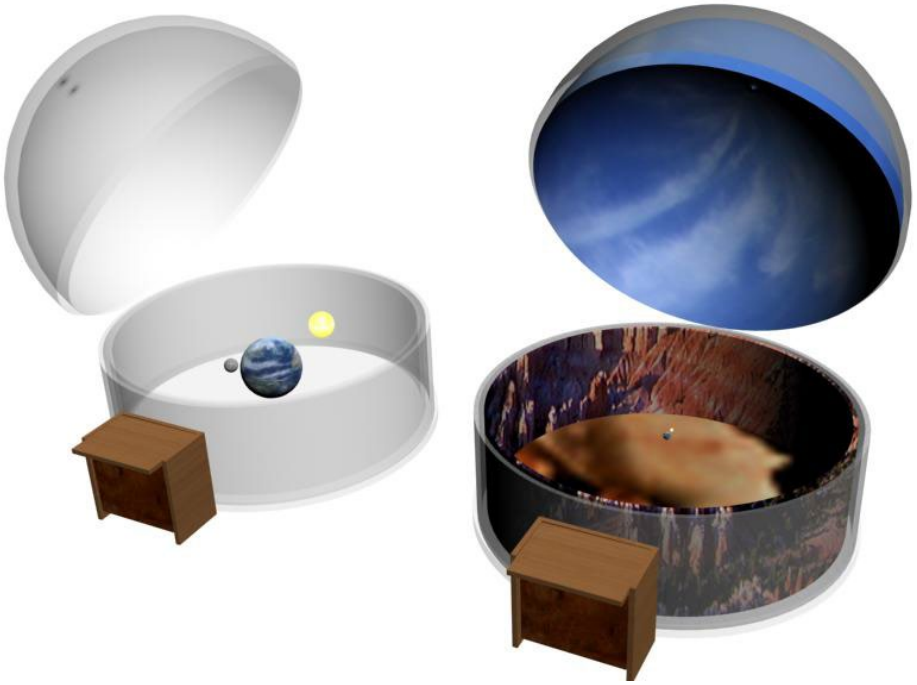
Heureka: Travel the Globe



Mega-Scratch Lottery

Windshield and Swipe&Touch validations

Assignment 4, Deliverable 1
Design Specification
Group Assignment

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Assignment A4-D1 Instructions

- Group assignment

1. Produce a design specification for your service (A3-D2).
2. Find supporting facts and use them to prioritize your…
3. Service requirements in minimum of three types
   a. User (stakeholder) requirements
   b. Business Requirements
   c. Functional (solution) requirements

Assignment 4, Deliverable 2
Low Fidelity Wireframing
Group Assignment

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Assignment A4-D2 Instructions

- Group assignment

1. Produce a low-fidelity concept visualization
2. You might do wireframes for screen-based concepts or a story-board for a spatial concept.
3. You should include all or most of the Design Specification requirements and your concept's functionality.
4. Pay special attention to
   a. Information design,
   b. Navigation design, and
   c. Interface & Interaction design

Wireframing Essentials : an Introduction to User Experience Design. Hamm, Matthew J. Birmingham, England: Packt Publishing, 2014. Print. https://primo.aalto.fi/permalink/358AALTO_INST/1g8mond/alma999333715606526

The Elements of User Experience User-Centered Design for the Web and Beyond. Garrett, Jesse James. 2nd ed. Berkeley, CA: New Riders, 2011. Print. https://primo.aalto.fi/permalink/358AALTO_INST/ha1cg5/alma999354855906526 For wireframes see chapter 6.