Title: Comfort Chair (Individual and Internships)

Introduction and background project

The isolation ward of the oncological department of the Catharina hospital in Eindhoven is, although it complies with the highest standards, not really suitable for small children. Because the ward is a sterile environment, there's hardly any material that could provide distraction for young patients. There's also no means of communication: family and friends stay behind the glass wall so the children, used to digital communication, are shut off from their physical as well as their virtual world.

Mr. Graham Smith of the Webchair corporation and dr. Basu of the Academic Medical Centre fo the University of Essen, Germany, have tackled this issue already in 2004 and offer young patients in Essen a variety of digital and analogue possibilities to interact with their parents and peers.

Dr. Natasja Dors, aided by the support of Maratoom, a charitable organization, took the initiative to build a new design with a number of functionalities:

- a direct videoconferencing connection
- a touch screen interface with internet access
- in a more or less closed off piece of furniture that offers privacy
- (optional) docking station for smartphone/ipod

These functionalities will

A) provide privacy for the child
B) allow then to use a remote Webchair via a touch screen that is cleanable
C) provide comfort
D) look very "cool"
E) be accessible for IV systems and other hospital equipment
F) be transformable for various uses and age groups
G) link into 2 Webchairs which are at the child's school and at their home

A work space has been arranged with Van Berlo design at Eindhoven, so the student can do design work at both Van Berlo design and TU/e.
**Design challenges / research questions**

What are the properties of a device, a cubicle that provides

- privacy for a young patient in an isolation ward
- off the shelf- communication tools
- all the conditions that a device in such a location should comply with like cleanability etc.
- a generic way of maintaining and replacing hard- and software schedule

The product will have to be ready in June 2012. This is not a test- and or prototype project: it will be really made for real people so there's no room for many iterations. A demo is expected in the exhibition of Dutch design week 2012.

The project can be divided in a number of subproject categories:

1. the design of the furniture, its ergonomics and interactive qualities
2. the implementation of the various functionalities and the interaction design that goes with it
3. the research/user testing and implementation in the hospital of the product

The device will be designed and constructed by students at TU Eindhoven under the direction of Prof. Dr. S. Bambang Oetomo from TU Eindhoven with help from Graham Smith of Webchair when needed. For the design of the exterior (furniture), a fourth partner may step in.

The device would incorporate a Webchair P300 unit at the school/ home end and a touch screen in the isolation ward at the hospital.

Funds would be available by Dec 2011 to start the project.

**Communication**

Internally:

The leaders of the teams will come together every two weeks to discuss progress, chaired by the project manager. The deliverables are 'set in stone' and will have to be ready as scheduled. Problems will have to be assessed and communicated throughout the project.

Externally:

A communication plan will be executed in co-operation with the communication depts of the Catharina Ziekenhuis and the TU/e.

**Stakeholders**

- Catharina Hospital Eindhoven
- TU/e
- Maxima Medical Centre Eindhoven
- Webchair, Delft
Development theme
The project researches the possibilities of telepresence tools for patients in isolation wards. Follow up angles:
- a generic telepresence tool
- user research
- research the role of privacy and communication with peers for hospitalized young people

References / information sources
PEBBLES: A Personal Technology for Meeting Educational, Social and Emotional Needs of Hospitalised Children
Patrice L. (Tamar) Weiss Hadassah-Hebrew University, Jerusalem, Israel
Carolynn P. Whiteley Ryerson Polytechnic University, Toronto, Canada
Jutta Treviranus Adaptive Technology Resource Center, University of Toronto, Toronto, Canada
Deborah I. Fels Ryerson Polytechnic University, Toronto, Canada
http://dl.acm.org/inst_page.cfm?id=1020022&CFID=52993185&CFTOKEN=76570899
paper:
Telepresence under exceptional circumstances: enriching the connection to school for sick children
Deborah I. Fels*, Judith K. Waalen*, Shumin Zhai, Patrice (Tamar) Weiss
Theme name

Project code