



DESIGN FOR OUR FUTURE

ADVANCED CONCEPT DESIGN (ACD)
ID 4170

INNOVATING FROM AN IDEA TO AN INSPIRING CONCEPT

ADVANCED CONCEPT DESIGN GIVES YOU THE OPPORTUNITY TO EXPLORE POSSIBLE SOLUTIONS FOR A DEFINED PROBLEM. A LARGE NUMBER OF DESIGN STUDENTS WILL STUDY THE ASSIGNMENT FROM CULTURAL, ERGONOMIC AND TECHNOLOGICAL POINTS OF VIEW TO FIND TRIGGERS FOR (DISRUPTIVE) INNOVATION.

ABOUT ADVANCED CONCEPT DESIGN

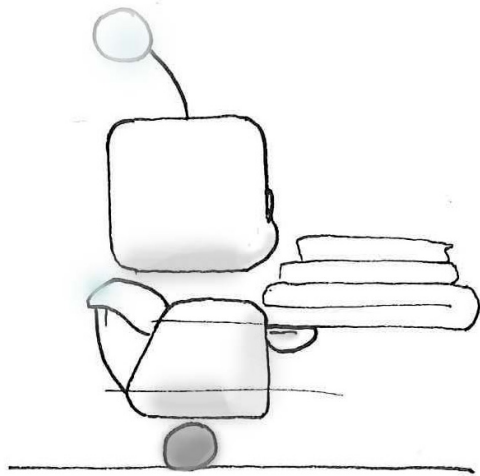
THE ADVANCED CONCEPT DESIGN COURSE IS PART OF THE MASTER'S PROGRAMME OF THE FACULTY OF INDUSTRIAL DESIGN ENGINEERING AT DELFT UNIVERSITY OF TECHNOLOGY. IN THIS COURSE, STUDENTS FROM THE NETHERLANDS AND ABROAD DEVELOP CONCEPTS IN CO-OPERATION WITH COMPANIES. THE COURSE AIMS TO CREATE PRODUCT CONCEPTS AND BOTH EXPLORE AND DEVELOP THEM IN TERMS OF USABILITY, CULTURAL VALUE AND TECHNOLOGICAL FEASIBILITY. USERS EVALUATE THESE CONCEPTS FOR PROOF OF PRINCIPLE.

WAY OF WORKING

The course starts with an analysis and research phase carried out in three groups of five students. This part focuses on finding cultural, ergonomic and technological information relevant for the design assignment. For instance, students will look into the meaning of products, the stakeholders involved, user needs, and technologies.

Following the group research, students will individually determine their own personal vision of the design assignment to start the design phase and create three concept proposals. Evaluation techniques and feedback from the company during the concept presentations will contribute to the selection of the most promising concepts.

After the last stage of concept development, the final result is a series of fifteen innovative concepts with enhanced usability and interaction – and thereby higher product value.



SOCIAL ROBOT MO

IMPROVING THE HOSPITAL JOURNEY EXPERIENCE

Selemca CRISP, Marijke de Geus



THE CHALLENGE

The Selemca research project investigated empathic robot concepts for public spaces in the hospital context. The aim of this project became to design a social robot that improves the patient journey throughout treatment. At some points, patients experience unsettling situations, creating a sense of vulnerability. The robot concepts improve the patient's hospital experience and support healing by making these situations less stressful.

FINAL DESIGN

A little approachable and affectionate robot named 'Mo' was developed and evaluated. Mo has knowledge about the hospital and is able to run errands. It can connect with hospital clients/patients by recognising their desire for interaction and expressing emotions to distract them from their anxiety. Mo invites them to engage in both wonderful and blissful ways. A first prototype was built to test the concept with a real-live audience at a hospital. The test resulted in new insights and pointers for the next steps.

WHAT CAN A COMPANY EXPECT?

A group of fifteen students first work on the assignment in teams, then individually. They create a series of innovative concepts that support human behaviour and add value in terms of product usability, interaction or meaning. The concepts are documented in reports and presented in three-minute videos explaining their purpose and usage.

WHAT IS EXPECTED FROM THE COMPANY?

The minimal involvement for the company mentor is four meetings on Fridays: a company visit/workshop in mid-September, a presentation of the group research at the end of October, concept presentations in mid-December and the final concept presentations in the last week of January.

Because user research is an important part of the project, access to the target group and/or relevant field research locations should be facilitated in order to guarantee relatively smooth and informative research.

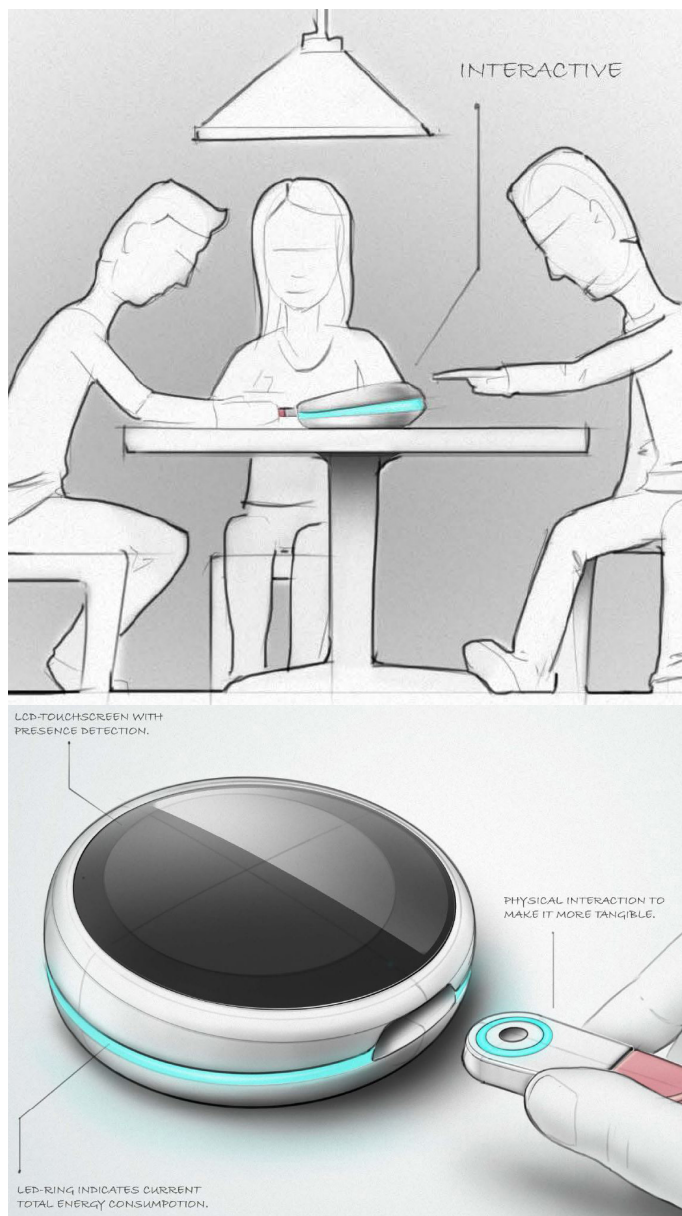
WHO CAN APPLY FOR THIS COURSE?

In order to participate, companies should formulate a preferably complex and challenging assignment that addresses a predefined problem and allows conceptual thinking and development of a concept product or product-service system.

In addition to advanced technology, the challenges presented to the user must play a role in this concept. Many different kinds of subjects are suitable for the assignment: some previous examples include sustainable mobility products, self-checkout systems for shops, mobility solutions for climbing stairs, and medication adherence for the elderly.

In our experience, overly general criteria often fail to yield results. We will gladly advise, support and inform you with respect to possibilities for participation.

[IO.TUEELFT.NL/ACD](http://io.tueelft.nl/acd)



PERSONAL ENERGY PAL (PEP)

INFLUENCING LONGTERM BEHAVIOURAL CHANGE REGARDING RESIDENTIAL ENERGY

Eneco, Climate KiC and TU Delft
Vincent Laagland

THE CHALLENGE

This research assignment addressed a global societal problem: the depletion of raw materials and climate change due to household energy consumption. Most people are unable to make long-term behavioural changes in their household energy consumption. The project aimed to develop a physical product that induces long-term behavioural change in residential energy consumption.

FINAL DESIGN

PEP is a social product that will help families to collaborate on saving energy in a smart way by analysing user behaviour in a home environment. PEP provides users with feedback and practical recommendations with respect to their energy consumption by using so called 'Links'. These links, placed on electrical appliances, measure the presence of people, how they use the appliance and the energy use of the appliances. Users receive these data and recommendations via PEPs base, smartphone or tablet and adjust the settings of the appliances, thus saving energy.

COLLABORATION DETAILS

- › Advanced Concept Design starts in September.
- › The expected results: group reports on design-related research, a presentation of the individual concept proposals and the final elaborated and evaluated innovative concepts documented in a report and a video (each max. three minutes).
- › Industrial property rights to a maximum of five of the innovative concepts, as chosen by you, will be transferred to your company.
- › Within a period of three months after the end of ACD you will make the selection of five innovative concepts.
- › Participation fee amounts to € 7,500 (excl. VAT).
- › Project-related costs (i.e. student travel and prototyping expenses) may be incurred. The necessity of these costs is always discussed with your company.
- › Movie clips of the results will be used for educational purposes – they will be shown at a final presentation to all students of the course.

In addition, the General Provisions for co-operation in education at the faculty of Industrial Design Engineering apply to this course. The General Provisions can be found at: www.io.tudelft.nl/en/cooperation/contracts/.

CONTACT

For information on the Advanced Concept Design course, please contact:

Marijke Idema

Acquisitions officer

E: m.k.idema@tudelft.nl

T: +31 6 5108 6848

Armagan Albayrak

Course coordinator

E: a.albayrak@tudelft.nl

T: +31 15 278 1932

For information on other opportunities for collaboration with the faculty of Industrial Design Engineering, please send an e-mail to: collaboration-io@tudelft.nl.

