



**NTNU – Trondheim**  
Norwegian University of  
Science and Technology

## **The Medical Home**

New technology and design of services enable people to stay longer at home

# Plan

- Department of Product Design, NTNU
- Medical Home – A Research Project
- Snapshots
- Working with Municipalities
- Final remarks

# Department of Product Design, NTNU

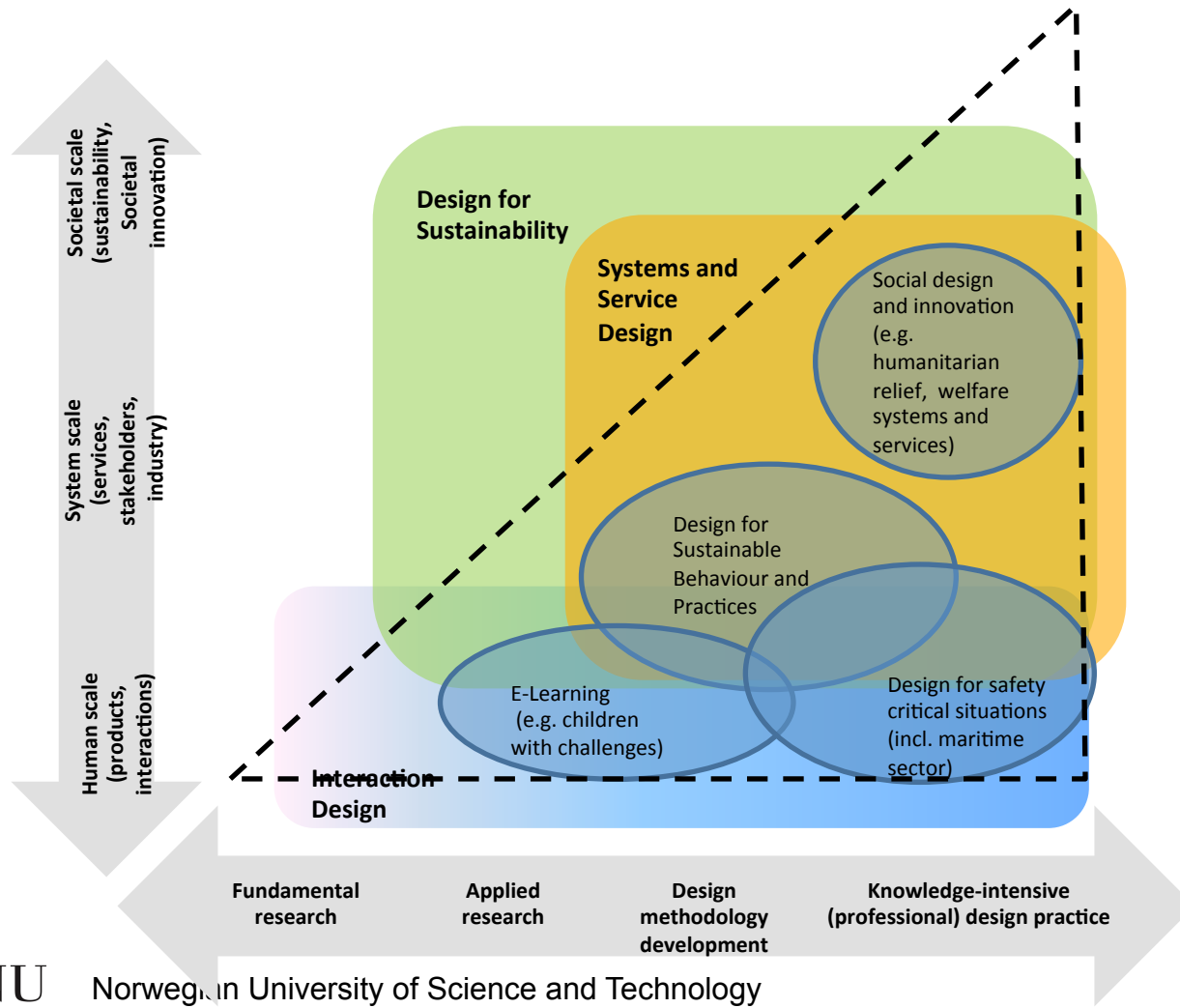
## Studypogram: Industrial Design Engineering

- Product design
- Interaction design

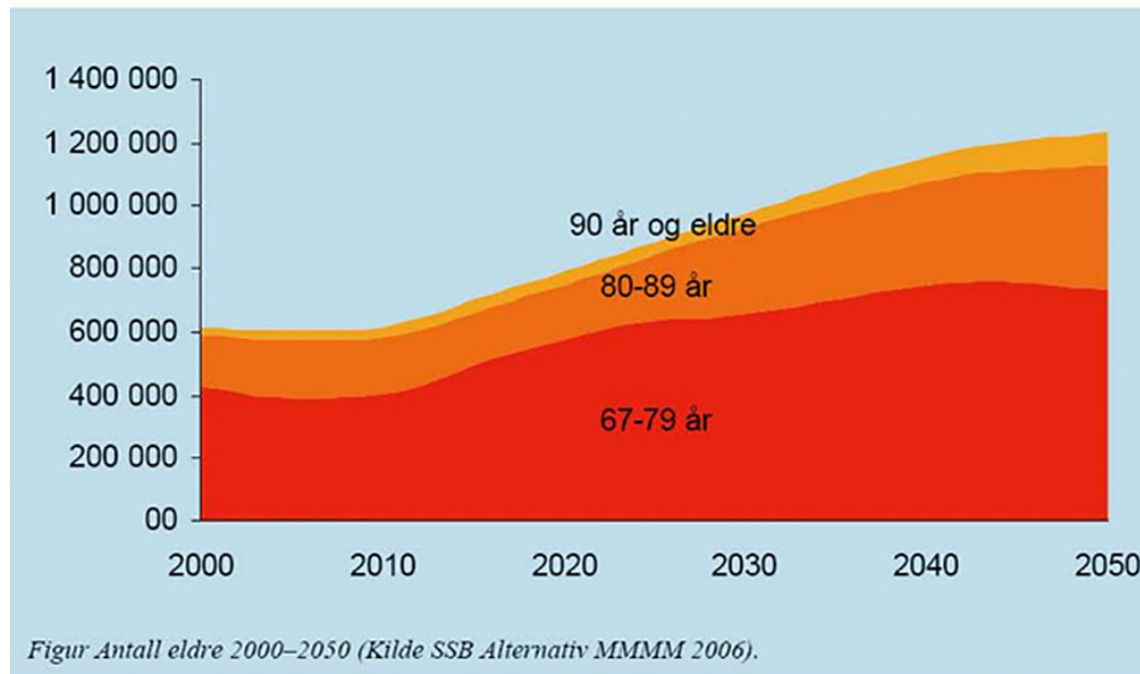


# Research at IPD

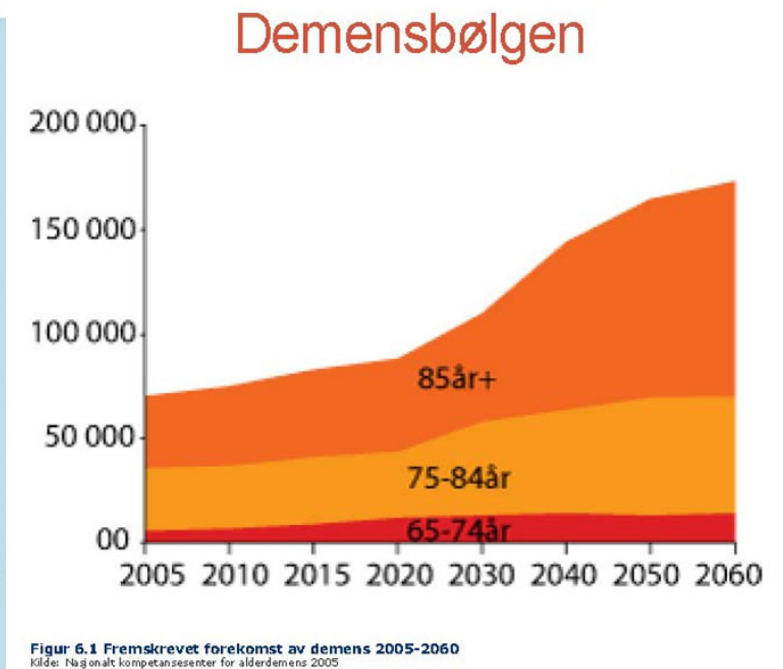
- design-oriented disciplinary research, understanding fundamental research (like ergonomics, cognition, sts, life-cycle assessment, manufacturing) in a design-relevant context,
- design methodology development, creating tools and methodologies in order to make this fundamental knowledge available to and manageable for designers,
- knowledge-intensive design practice, studying the implementation of these tools and methodologies, and the solutions they provide, in real-life.



## Elderly in Norway 2000–2050



## Dementia cases 2005-2060



- Challenges to the welfare and healthcare system
  - New and younger user groups
  - More elderly with severe problems (like dementia)
  - Lack of voluntary carers and health professionals
  - Lack of co-ordination and follow up of
  - Lack of activities and coverage of psychosocial needs.
  - Labour market (care) is increasingly international
  - With large service providers and multinational companies
  - And an increasing number of patients (users) go abroad for medical treatment, recreation (retirement) and training.

NOU2011:11 Innovasjon i omsorg

# THE MEDICAL HOME –

## Sustainable services and technology for home medication

The Medical Home is a Research Project financed by the Norwegian research council, under the Program 'PraksisVel' (Welfare in practice)

Time Horizon: 1 June 2013 - 31 December 2015, Budget: 900 000 Euro

The project is organised in 4 work-packages, joint workshops and common activities bind these together.





## The Medical Home - Objective

The main objective of the project is to generate knowledge about and a better understanding of:

- a) the challenges and opportunities associated with **domestic medication practices** and
- b) assistive **products, services and surroundings** at different levels and for different **users**.

WP1 emphasizes the **interplay between users** and design of user-relevant welfare products, services and surroundings. It further explores the potential role of design in supporting sustainable medication practices.

WP2 focuses on the **professional development of nurses and social educators**, and their cooperation with medical doctors and pharmacists in the provision of medication at home.

WP3 focuses on the **ethical challenges** associated with technology use in home medication: the consequences of technology introduction for the norms and values underlying healthcare practice and how they can be anticipated.

WP4 explores the value of **interdisciplinary cooperation** between engineers and healthcare students in health and welfare product development.

# Case studies and Municipalities



# Welfare Design and Products

When healthcare is delivered to people's home, new kinds of products and services are needed. In welfare design, making assistive products for elderly has traditionally focused on ergonomics, functionality and usefulness.

The main aesthetic maxim has been discretion, often trying to hide the product. However, abandonment and non-use of acquired assistive devices among older people with disabilities is also a documented problem within this 'discretion' approach (e.g. not using a walker outside the home because it makes one look old).

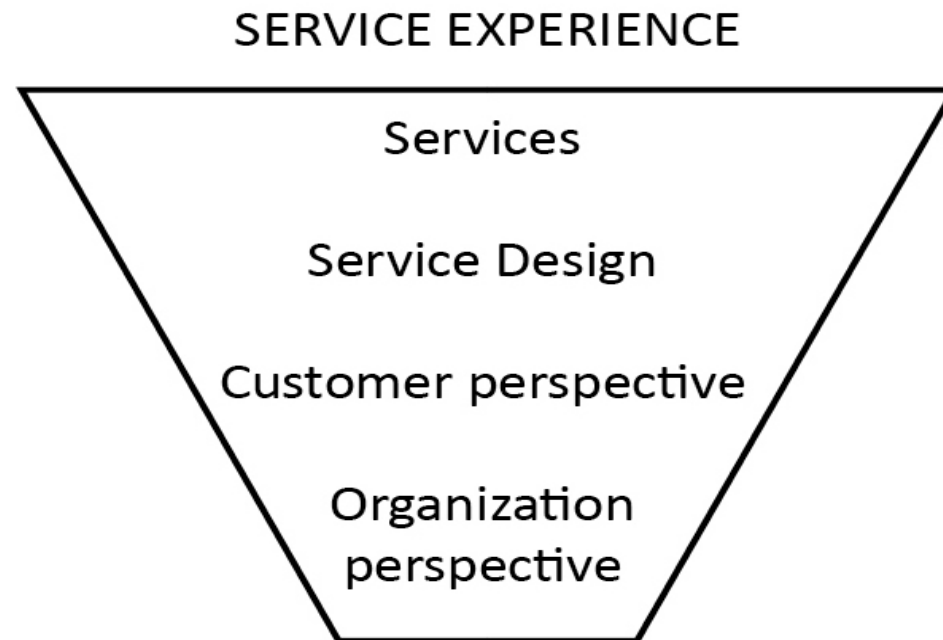
Designers work with emotional aspects related to assistive devices such as stigmatization and dissatisfaction and discuss how these are connected to the appearance of products.

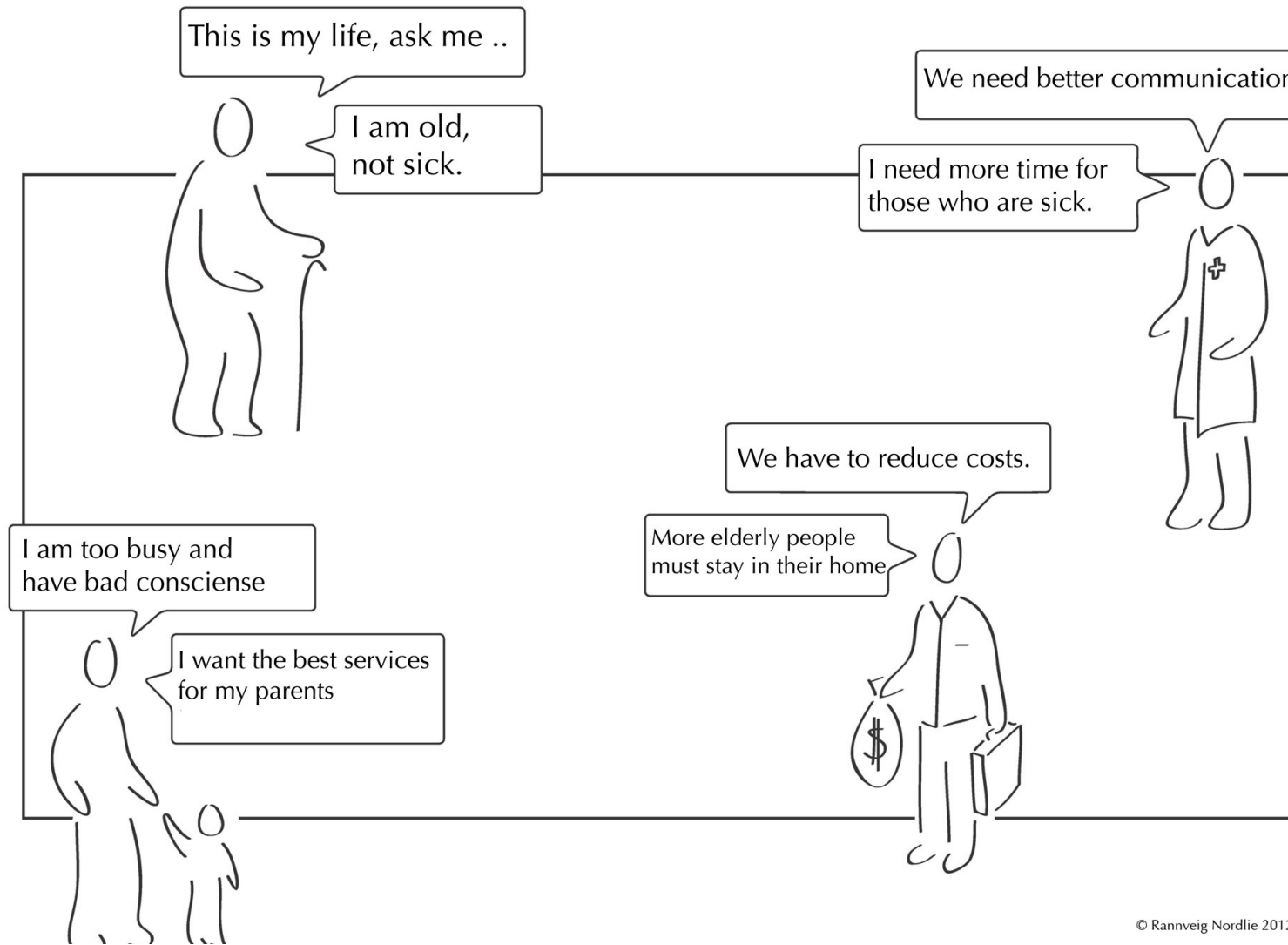
Master thesis 2013, Jesper Grieg,

# The Service Design Dilemma

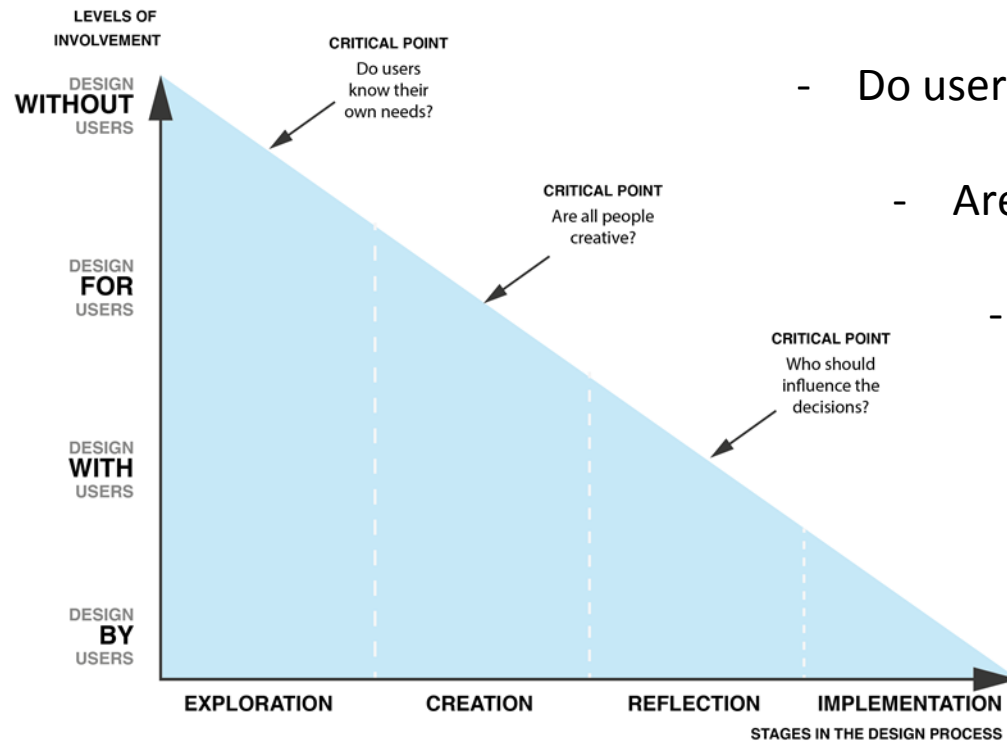
(Une Nordli, Master Student)

Many customers experience bad service, even though many organizations state that they focus on delivering great customer experience, and are customer centric.





# User involvement in a human-centred design process



- Do users know their own needs ?
- Are all people creative ?
- Who should influence the decision?

# Service design workshop with 6 municipalities



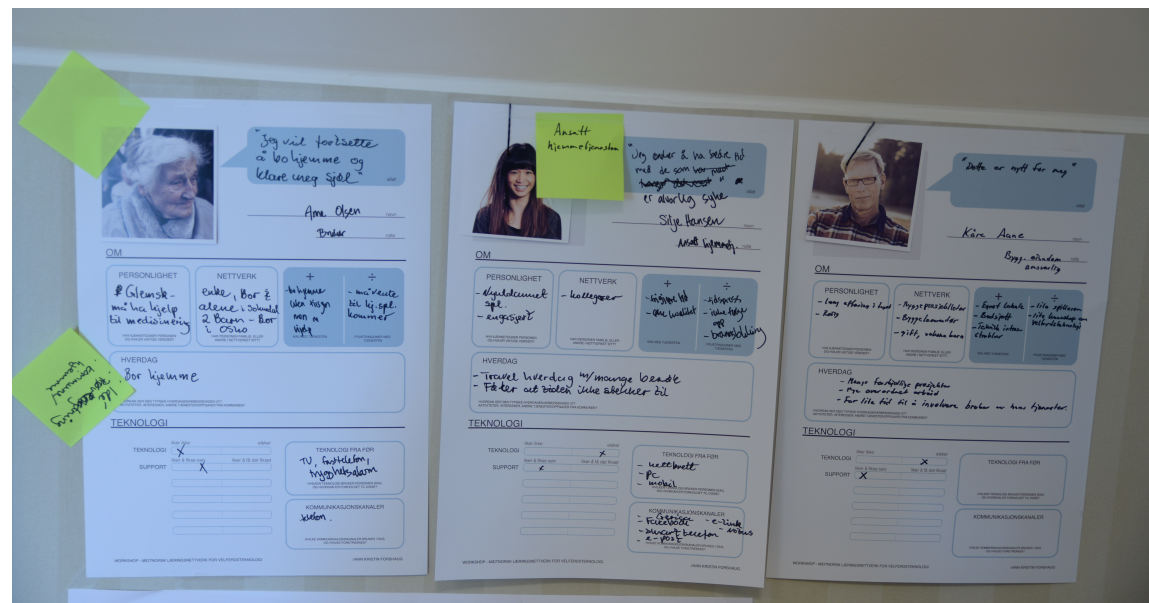
Breaking the ice.



Identify stakeholders

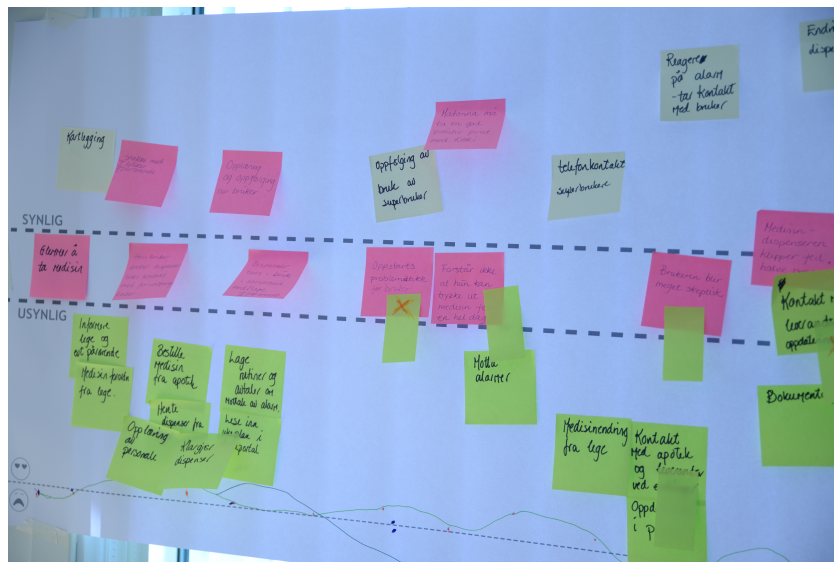


# Service design workshop with 6 municipalities



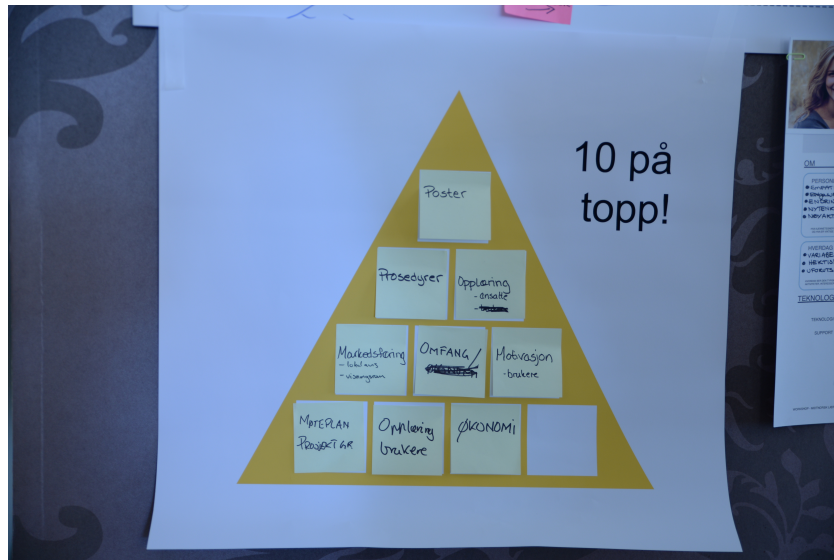
Identify stakeholders and create personas

# Service design workshop with 6 municipalities



Plan for implementation of a new service

# Service design workshop with 6 municipalities

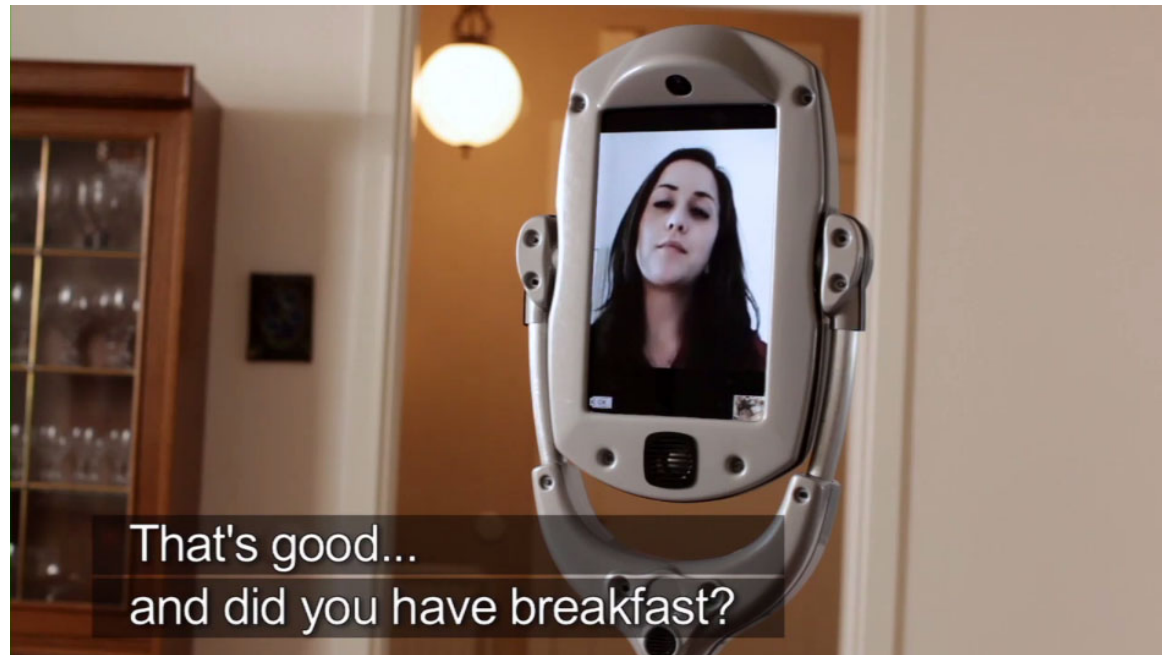


Identify obstacles



Results to take home

# User reactions



Medicine Dispenser (Lillehammer) Video communication. (Sweedn)

# Final Remarks

- User involvement in all stages!
- Technology can give elderly people possibilities to help them selves.
- It´s 20% about technology, and 80% about organisation. (a municipality official)
- Students are easily engaged in Welfare topics.
- Complicated challenges, where cross-diciplinary effort is needed.

