

DeMaMech exchange project in Technical University of Berlin

So Horiuchi
Hokkaido University

Summary

- **Host University**
Technical University of Berlin
Department of Mechanical Engineering and Transport Systems
Laboratory of Engineering Design and Methodology (Prof. Dr. Lucienne Blessing)
- **Period of time**
September/2004 – February/2005
- **Research**
“The research on user interface specification by using XIML and a state chart for usability assessment” (Adviser: Dipl. Ing. Bruno Gries)
- **Lectures**
 - Systematic Product Development I (Prof. Dr. Lucienne Blessing)
 - German Course for beginner

Research (The research on user interface specification by using XIML and a state chart for usability assessment)

Background

- Functions of digital devices are increasing and becoming more complex.
- ISO13407 (Human-centered design processes for interactive systems) was established.
- Careful consideration for usability in the product development is strongly needed.
- In case of digital devices, a User Interface (UI) plays an important role of the product's usability.
→ There is a great need for usability tests for UIs of digital devices at early product design phases.
- User test (There are no UI specification technique which has enough information for user test) is mainly undertaken as a usability assessment method.

Problems

- (1) There are no data framework which can be applied whole assessment and redesigning process.
(There are no UI specification technique which has enough information for user test)
- (2) User test still needs time and cost.

- In order to solve above problems,
- (1) UI specification which can be applied for usability assessment and
 - (2) Pre - usability assessment by simulation test in order to reduce check points in user tests are required.

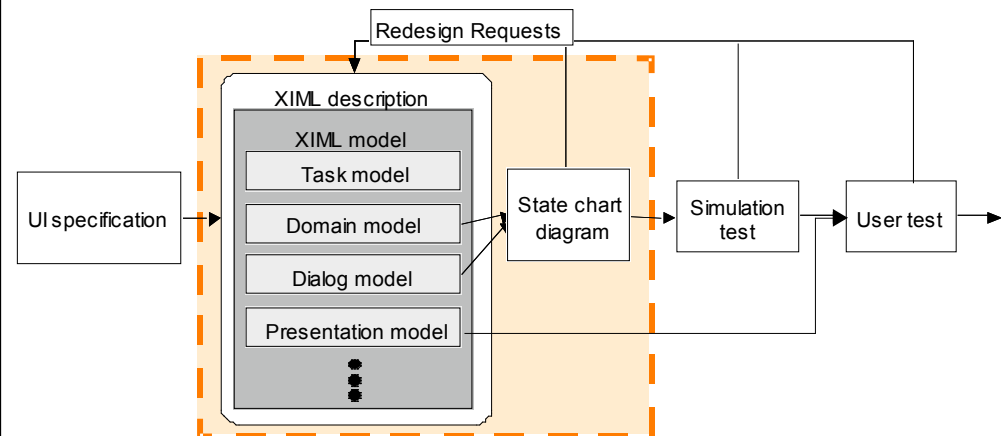
The research on user interface specification by using XIML and a state chart for usability assessment

XIML (eXtensible Interface Markup Language)

- XIML is the universal specification for interaction data and knowledge related to a user interface.
- XIML describes a UI as models of
 - **task**
(which represents the structure of the tasks meant to be accomplished with the UI.),
 - **domain**
(which represents the information that is to be viewed and manipulated by the user.),
 - **dialog**
(which describes the commands that the user can utilize to accomplish tasks.) and
 - **presentation**
(which describes the visual appearance of the interface.)
- This is good at describing UI's components, functions, and other kinds of information about UI's structure as a database.
- This model doesn't have enough information about superficial behavior of UI.

Conversion from XIML to state chart diagram

- By using XIML and State chart at the same time, UI's information of structure and behavior can be described completely.
- In order to create XIML model and state chart model with few effort, We propose the conversion algorithm from XIML model to state chart diagram.



By applying this algorithm, state chart is got automatically from XIML model.

In Delft, I'm going to research about the simulation test method by applying XIML model and state chart which are got from this algorithm.

Exchange student life

- Student life in university



TU Berlin



My research room in TU



Christmas party of the laboratory



- Berlin

