Human-Computer Interaction
INFR11017

Week 2: Design Requirements Gathering

26th September 2023

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Content

About the Course:
• Weekly schedule
• Assessment

HCI "in the world":
• Weekly examples

Questions about the Week 2 Materials
About the course
Course overview and status

- Lectures
  - Last week (Week 1): The design process
    - What makes HCI design challenging?
    - The Design Process
    - Design Requirements
    - Memos

- Readings
  - How to Understand Problems by Amy J. Ko
  - How to Define Problems by Amy J. Ko
  - What is HCI? by Alan Dix
Course overview and status

■ Lectures
  - This week (Week 2): Design Requirements Gathering
    • Focus Groups
    • Interviews
    • Personas
    • Contextual Inquiry

■ Readings
  - Universal Methods of Design
    • 20: Contextual Inquiry
    • 63: Personas
    • 48: Interviews
    • 43: Focus Groups
  - Interaction Design: How to conduct user interviews
Course overview and status

- **Coursework**
  - CW1 – group work – deadline 12/10/2023, 16:00
  - Quiz 1 - individual work – deadline 13/10/2023, 16:00
  - On OpenCourse under “Assessment”

- **Coursework 1 steps:**
  1: Find a group and register your group
  2: Do background research
  3: Select a course to improve
  4: Pick a task
  5: Pick a persona
HCI “in the world”
Participatory Design (PD)

- PD refers to theories, practices and studies that aim to make the end users effective contributors to the design process.

- A shift in the perspective from “designing for users” to “designing with users”.

- Two main aims: 1) to design experimental technologies and practices that are informed by the users’ experience through direct interaction with them; 2) to develop effective PD methods and practices that might be useful to designers.

- Three common tenets guide any PD approach: 1) the goal is to improve the quality of work life, 2) the orientation is collaborative and 3) the process is iterative.
Children roles in the design

After Druin 2002, p 2)
3DBI Project - aims

- To provide **a digital platform to develop and deliver Social Stories**, through Participatory Design (PD) approach, involving children with ASD, parents, practitioners and experts in Social Stories, Psychology and Human-Computer Interaction (HCI);

  - **Social Stories™** are short stories, written in a specific format and style, following a set of 10 criteria, that aim to accurately describe a context, skill or achievement (e.g., dinner time, bath time, waiting in line).

- To **evaluate the effectiveness of this system** in addressing challenging behaviours in children with ASD.
3DBI Project – design process

• Literature review
• **Online Survey** - 84 practitioners and 34 parents
• **Participatory Design Studies** - 9 parents, 8 practitioners, 3 children with ASD
• **Participatory Design Study: Rewards** - 12 children with ASD and/or LD
• **Usability Evaluation** - 3 experts in HCI, Psychology and Social Stories, 3 parents and 3 practitioners

PD with parents  PD with teachers  PD with children
3DBI Project – PD Studies with Children

– 3 children with ASD (12 year-old)

1. Team Building
2. Testing existing applications
3. Idea generation
4. Building prototypes – part 1
5. Building prototypes – part 2
3DBI Project – Testing existing apps (Session 2)

**Participants:** 3 children, 2 researchers, 1 teacher

**Aims:**
1. **Exploring three authoring tools for social stories**
2. **Finding what children like/dislike and what they want to change to these tools**

**Activities (50 minutes)**
1. **Introduction** (2 minutes)
2. **Icebreaker game** (3 minutes)
3. **Evaluate StoryMaker app** (10 minutes)
4. **Evaluate Communicate: in Print app** (10 minutes)
5. **Evaluate ISISS** (10 minutes)
6. **Overall evaluation of the apps** (10 minutes)
7. **Game (Jenga)** (5 minutes)
3DBI Project – Testing existing apps (Session 2)

**Participants:** 3 children, 2 researchers, 1 teacher

**Aims:**

1. Exploring three authoring tools for social stories
2. Finding what children like/dislike and what they want to change to these tools

**Activities:**

<table>
<thead>
<tr>
<th>TIMETABLE SESSION 2</th>
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<tbody>
<tr>
<td>Testing Existing Apps</td>
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<table>
<thead>
<tr>
<th>Tasks</th>
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<tbody>
<tr>
<td>1. Introduction (2 minutes)</td>
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<td>2. Icebreaker - Beanbag Game (8 minutes)</td>
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<tr>
<td>3. Story Maker (10 minutes)</td>
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<td>4. Communicate: in Print (10 minutes)</td>
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<td>5. SSIS (10 minutes)</td>
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<td>6. Overall Evaluation (10 minutes)</td>
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<tr>
<td>7. Game (jenga) (5 minutes)</td>
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3DBI Project – Testing existing apps (Session 2)

Roles during the app evaluation tasks

<table>
<thead>
<tr>
<th>Roles</th>
<th>'Job' description</th>
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<tbody>
<tr>
<td>Director</td>
<td>- tells the actor what to do</td>
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<tr>
<td>Actor</td>
<td>- play with the app following the director’s instructions</td>
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<td></td>
<td>- answer questions</td>
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<tr>
<td>Cameraman operator</td>
<td>- control the camera</td>
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<td></td>
<td>- ask questions</td>
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3DBI Project – Testing existing apps (Session 2)

Tools for evaluating the apps

**Again and again table**
Would you like to do it again?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>Maybe</th>
<th>No</th>
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<tbody>
<tr>
<td>Communicate: in Print</td>
<td>✔️</td>
<td></td>
<td></td>
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<tr>
<td>Story Maker</td>
<td>✔️</td>
<td></td>
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<tr>
<td>ISISS</td>
<td>✔️</td>
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**Fun Sorter**

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<thead>
<tr>
<th></th>
<th>Best</th>
<th></th>
<th>Worst</th>
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<tbody>
<tr>
<td>Most fun</td>
<td>ISISS</td>
<td>Story Maker</td>
<td>Communicate: in Print</td>
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**Story Maker Evaluation Sheet**

1. Choose the face that best describes what you think about Story Maker.

2. Write down what you like and what you don’t like about Story Maker.
3DBI Project – PD Study: Rewards

Research Questions

RQ1: What are the preferred rewards of children with ASD, ID, or ASD and ID?

RQ2: As a characteristic of children with ASD is a preference for sameness and repetition, how might digital rewards adapt or develop (if at all) as children progress through a task?

Study 1 - 3 children with autism – aged 12
- 3 sessions

Study 2 – 12 children with ASD, ID or both ASD and ID
- 3 activities
Stories Online For Autism (SOFA) App

SOFA: https://edin.ac/3J7SAYi
Week 2 Q&A
Think – Pair – Share

- Think of one of the other groups of participants in the PD sessions within the 3DBI project
  - What method(s) would you employ to gather requirements from them? Why?
- Briefly discuss with someone next to you about your design plan.
- Share your plan with the entire group
Any questions..

• Post to the Piazza
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