



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:***

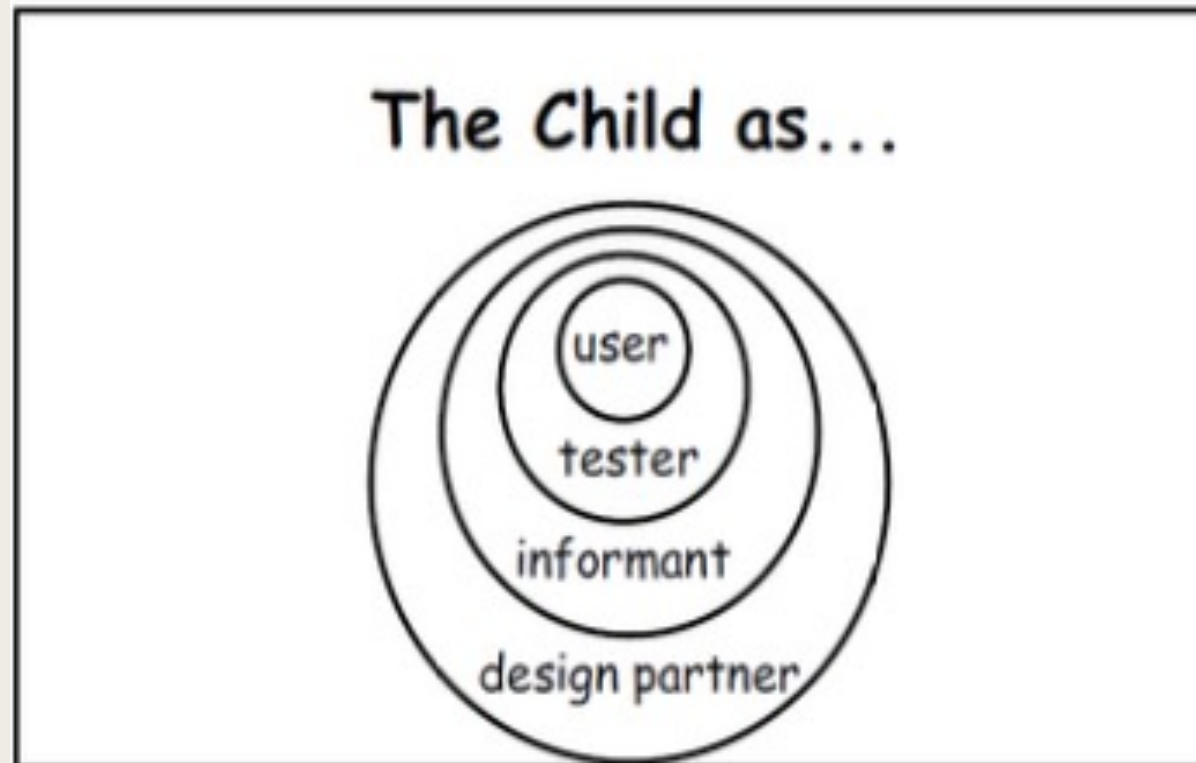
- 1: Find a group and register your group
- 2: Do background research
- 3: Select a course to improve
- 4: Pick a task
- 5: Pick a persona

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

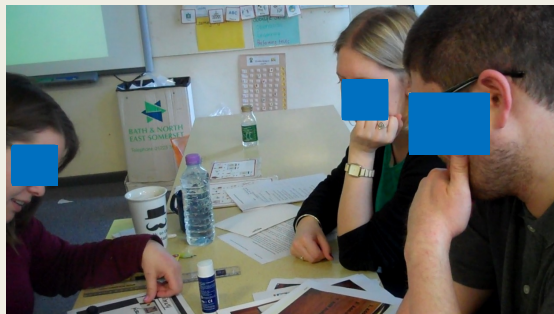
- To provide a **digital platform to develop and deliver Social Stories**, through Participatory Design (PD) approach, involving children with ASD, parents, practitioners and experts in Social Stories, Psychology and Human-Computer Interaction (HCI);
 - **Social Stories**[™] are short stories, written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

TIMETABLE SESSION 2	
<i>Testing Existing Apps</i>	
Tasks	
1. Introduction (2 minutes)	<input type="checkbox"/>
2. Icebreaker - Beanbag Game (3 minutes)	<input type="checkbox"/>
3. Story Maker (10 minutes)	<input type="checkbox"/>
4. Communicate: in Print (10 minutes)	<input type="checkbox"/>
5. ISIS (10 minutes)	<input type="checkbox"/>
6. Overall Evaluation (10 minutes)	<input type="checkbox"/>
7. Game (Jenga) (5 minutes)	<input type="checkbox"/>

3DBI Project – Testing existing apps (Session 2)




Roles during the app evaluation tasks

Roles	'Job' description
Director	-tells the actor what to do
Actor	-play with the app following the director's instructions - answer questions
Camerman operator	-control the camera -ask questions


3DBI Project – Testing existing apps (Session 2)

Tools for evaluating the apps

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


	Yes	Maybe	No
 Communicate: in Print		✓	
 Story Maker	✓		
 ISISS	✓		

Fun Sorter

	Best	...	Worst
Most fun	 ISISS	 Story Maker	 Communicate: in Print


Story Maker Evaluation Sheet

- Choose the face that best describe what you think about Story Maker.




Awful Not very good Good Really good Brilliant


- Please, write down what you like and what you don't like about Story Maker.



Story Maker



I like:



I don't like:

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

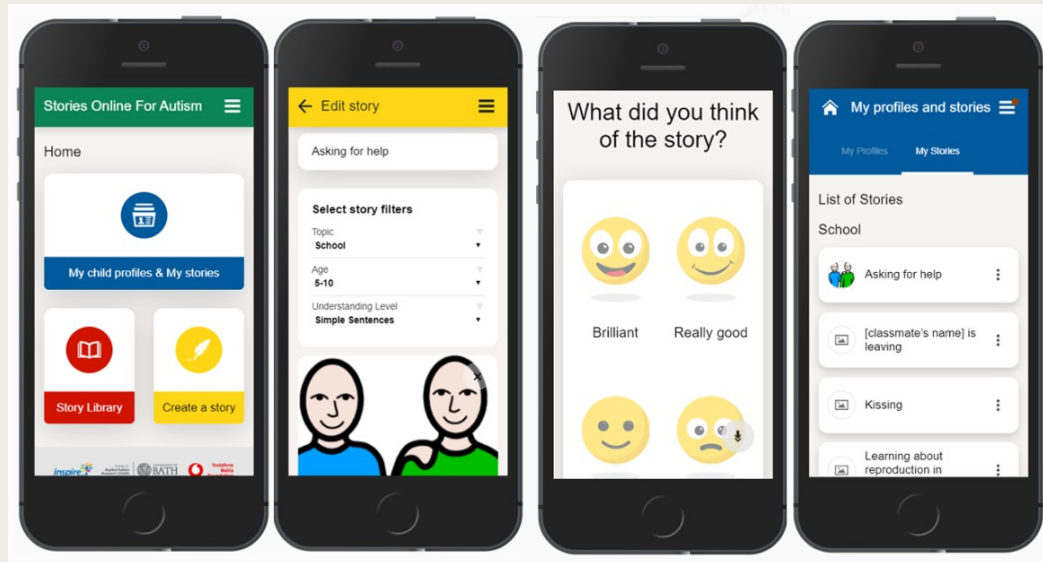
- 3 sessions

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
- Aurora Constantin: aurora.constantin@ed.ac.uk
- John Vines: john.vines@ed.ac.uk