Human-Computer Interaction

Practical Class 1

Slides by Daniel Mendes for the Human-Computer Interaction course at Faculdade de Engenharia, Universidade do Porto, 2021, revised 2022

Program

1 Project

Development of a novel user interface (UI)

3 Phases

Phase I – User and Task Analysis (4 weeks)

Phase II – First Iteration (4 weeks)

Phase III – Second Iteration (4 weeks)

Project

Groups

3 students

UI for a mobile / web app

or other if better suited (propose and let's discuss!)

Pre-defined topic (later in this class)

Project Requirements

User and Task Analysis will define the requirements, but the UI must allow users to…

Browse / filter information

Input data (that impacts the flow!)

Be creative!

You can assume any kind of sensor, technology, etc… even if not yet invented :)

Evaluation

1 Report and Presentation per Phase

Use presentation feedback to improve report...

Focus on the process!

Reports and Presentations

Presentations

10 minutes

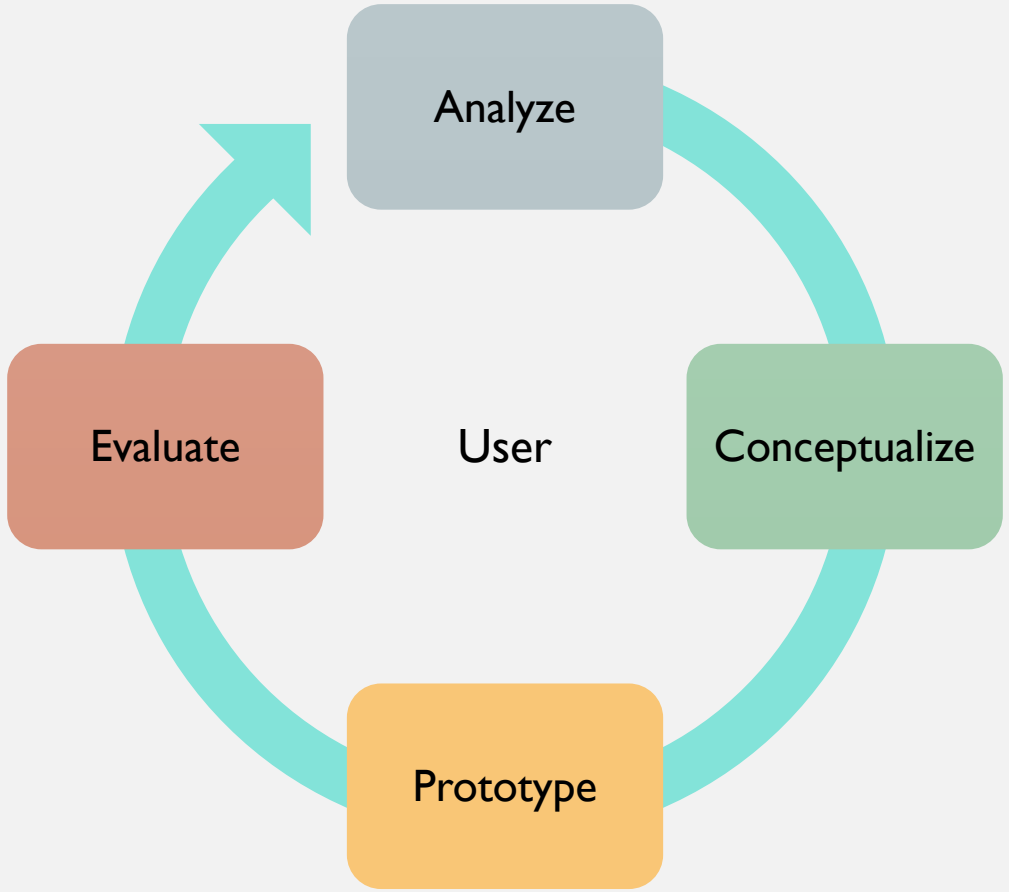
Submitted the day before the presentation

Reports

After the presentation

Can (should!) be refined according to feedback

UI Development



This Class

Form groups

Add groups' elements to the spreadsheet in Moodle

Identify related apps / services / systems

User and task analysis

Start preparing questionnaires

Why User and Task Analysis?

To understand the current situation

Who is going to use the interface;

What tasks are currently performed;

How are they performed;

What means do people use;

Etc...

Why User and Task Analysis?

Answer the "11 Questions"

These are for you to answer, focused on the present situation of the users

Identify the requirements to create the best UI

Current tasks cannot be made more difficult...

11 Questions

1. Who are the users?

Just age is not enough…

2. What tasks do they perform?

Currently.

3. What tasks are desirable?

Be creative!

11 Questions

4. How are tasks learned?

Not how users learn how to use new devices.

Is there any previous knowledge required?

5. Where are tasks performed?

Characterize the environment.

11 Questions

6. What is the relationship between user and information?

Identify sensitive and/or shared information.

Do users feel comfortable in sharing such information?

How do they access the information?

11 Questions

7. What other instruments does the user have?

Identify other instruments used in such tasks.

8. How do users communicate?

If they do at all... If so, how?

9. How often tasks are performed?

Identify which tasks are more frequent.

11 Questions

10. Are there time restrictions?

How long are users willing to spend to perform a task?

11. What happens if something goes wrong?

Not only what can go wrong, but also how users deal with that.

Questionnaires

Do not ask the 11 questions directly!

Remember: you are supposed to answer them, not users

3 main parts

1. User profiling
2. Current situation
3. Topic exploration

Questionnaires

Closed questions

Yes / no, multiple choice, sort, classify, …

But allow users to add options when appropriate.

No double interpretations

For example, ‘occasionally’ can mean have different meanings for different users.

Questionnaires

User-perceptible language

Do not use technical terms that common people might not understand.

Avoid irrelevant questions

People are doing you a favor, don't tire them out without a purpose :)

Questionnaires

Follow the remaining design rules[1]

Be careful with items' ordering (questions and answers).

Don't mislead people or make them answer what you want.

Etc...

[1] Manuel J. Fonseca, Pedro Campos, Daniel Conçalves, Introdução ao Design de Interfaces, 2012, FCA.

Project Topic

MyLEIC

Solution to aid LEIC students and improve their academic experience, namely related to:

- Courses
- Resources and services
- Social
- …

Possible Features

Courses info / assignments / communication

Room and resources browsing / reservation

Documentation and notes sharing

Food service browsing / ordering

Activities / events management

Etc.

Which Features to Explore?

To be defined according to User and Task Analysis

Identify as many as possible (and their relevance)

Later you will choose a subset to focus on and further explore

Next Class

Discuss and refine questionnaires