

CPT208 Human-Centric Computing

02. Discovering Requirements

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Agenda for today

1. Prepare your report proposal
2. Requirement analysis practices

Before we get started...

- Let's welcome two groups from last year to share their experience!
- Applause!!!



CPT208 – Teaching Assistants



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Group 1-10

Group 11-20

Group 21-30

Group 31-40

Group 41-50

Group 51-62

1. Prepare your report proposal

- One page limit
- Purpose: describe what you plan to do
- Suggested to include:
 - a project name (English & Chinese)
 - one paragraph of idea descriptions
 - a Gantt chart of the project plan (Week 2-8)

2. Requirement analysis practices

1. Atomic requirement shell
 2. User stories
 3. Persona
 4. Scenario
 5. Use cases
-
- Try to complete them within the seminar.
 - If you need any feedback, please post them on Padlet.

2.1. Atomic requirement shell

- Use the Atomic requirement shell to write down the details of a requirement in your project

Example: Atomic requirement shell

Requirement #: 75

Requirement Type: 9

Event/use case #: 6

Description: The product shall issue an alert if a weather station fails to transmit readings.

Rationale: Failure to transmit readings might indicate that the weather station is faulty and needs maintenance, and that the data used to predict freezing roads may be incomplete.

Source: Road Engineers

Fit Criterion: For each weather station the product shall communicate to the user when the recorded number of each type of reading per hour is not within the manufacturer's specified range of the expected number of readings per hour.

Customer Satisfaction: 3

Customer Dissatisfaction: 5

Dependencies: None

Conflicts: None

Supporting Materials: Specification of Rosa Weather Station

History: Raised by GBS, 28 July

Volere

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2.2. User stories

- Use the **user story** format to describe a requirement in your project

Example: User stories

- Format:
 - As a <role>, I want <behavior> so that <benefit>
- Example user stories for a travel organizer might be:
 - As a <traveler>, I want <to save my favorite airline for all my flights> so that <I will be able to collect air miles>
 - As a <travel agent>, I want <my special discount rates to be displayed to me> so that <I can offer my clients competitive rates>

2.3. Persona

- Identify a typical user of your system, or two typical users
- Build a **persona** for him/her

Example Persona #1

Ben "Beginner"



Single worker

Ben is 25 years old and lives at home with his parents. He is low skilled, has little experience and doesn't cook very often. Instead Ben eats out quite a lot or his mum cooks for him. When cooking he uses his parents' kitchen and gets inspiration from TV, online, or when eating out with friends. Ben likes to keep things quick and simple and does not have much time to learn or practice.

Goals

Ben wants to have a good standing with his peers. He wants to be social and become more independent whilst showing self improvement. He would like to learn to at least cook nutritious and reasonably tasting food.

Where we can help

- Encourage to cook more often – remind him about when he last cooked.
- Help him remember/access previous advice given for dish or technique.
- Filter recipes searched for online to be quick and simple. (Personal filter of recipes)
- Give reminder to go to supermarket and obtain ingredients quickly and easily.
- Help him use right amount of ingredients when cooking.
- Let him be aware what others in house are planning to cook – so knows what to do with leftover meat etc.
- Make recipe more accessible – reduce need to go back and forth repeatedly to check.
- Inform him that food is properly cooked.
- Track his progress in learning and give encouragement.
- Facilitate fun cooking with partner or friend.

Olive "Older expert"



Married, 50 yrs old

- Mother of 3 grown up children
- Very proficient
- Cooks fairly often

Olive is a personal achiever

- Loves to learn new ideas and increase knowledge, but is not so interested in passing on her knowledge.
- Enjoys cooking as a hobby and attends cooking courses.
- Likes to reminisce with cooking
- Wants to look after immediate family
- Demands high standard of cooking.
- Wants to be as healthy as possible.

(a) One primary (beginner) persona and (b) one secondary (older expert) persona for cooking in Singapore

Source: Kerr et al. (2014).

Example Persona #2

Family traveler



Organised Practical Expects high standard

Goals

- To book comprehensive travel quickly
- To find a trip that meets the needs of the whole family
- To feel supported and guided from the beginning of the booking experience right to the end.

Frustrations

- Wasting time filling in forms
- Too much irrelevant information
- Existing systems tend to be too diverse and complicated

Bio

Will loves to take his family on adventure holidays to explore new challenges. His children, Sky (8) and Eamonn (15) are old enough to take part in several sporting activities and he wants to make the most of this before they no longer want to go on trips with him and his wife, Claire. He likes the fact that choosing travel options is so much easier than it used to be, but is frustrated by the many different sources and disjointed options that this can result in. He wants a travel organiser that can provide clear support for family holidays while offering as wide a choice as possible.

"I want a travel organiser that will offer me a range of potential vacations that suit our needs"

Age: 35
Work: Plumber
Family: Married, two children

Personality

Introvert Extrovert
Thinking Feeling
Sensing Intuition

Motivation

Price
Comfort
Choice

Favourite destinations



Young traveler



Energetic Inquisitive Likes reading

Goals

- To find a good vacation without any fuss
- To find a destination with other children her age
- To make sure that the travel time is short

Frustrations

- Sitting around discussing things for too long
- Not getting clear answers to her questions
- Feeling that everything is organised for adults and not children her age

Bio

Sky likes having adventures. She is very energetic and takes part in lots of sporting activities at school, such as gymnastics and swimming. She enjoys playing games with her older brother, Eamonn. Sky is keen to make new friends, but is also happy sitting reading a book, painting or making a model. She likes going to visit new places but expects to see something familiar, such as playground or food that she recognises! The most important thing for her is that she can go on vacation with her family where there will be something for everyone to do - but especially for her and Eamonn.

"I want a travel organiser that will allow all of us to choose the vacation together"

Age: 8
Work: Schoolgirl
Family: Mum Dad and Eamonn (15)

Personality

Introvert Extrovert
Thinking Feeling
Sensing Intuition

Motivation

Fun
Comfort
Choice

Favourite destinations



Two personas for the group travel organizer
Developed using [Xtensio Templates](#)

2.4. Scenario

- Based on the persona you constructed in 4.3, try to describe a **scenario** of him/her using the system.

Example: Scenario for group travel organizer

"The Thomson family **enjoy outdoor activities** and want to try their hand at **sailing** this year. There are four family members: Sky (8 years old), Eamonn (12 years old), Claire (32), and Will (35).

One evening after dinner they decide to start exploring the possibilities. They want to discuss the options **together** but Claire has to visit her elderly mother so will be joining the conversation from her mother's house down the road. As a starting point, Will enters an idea they had been discussing over dinner – a sailing trip for four **novices** in the Mediterranean.

The system supports users to log on from different locations and use different devices so that all members of the family can interact easily and comfortably with it wherever they are. The system's initial suggestion is a flotilla, where several crews (with various levels of experience) sail together on separate boats.

Sky and Eamonn **aren't very happy** at the idea of going on vacation with a group of other people, even though the Thomson's would have their own boat. The travel organizer shows them descriptions of flotillas from other children their ages and they are all very positive, so eventually, everyone agrees to explore flotilla opportunities.

Will confirms this recommendation and asks for detailed options. As it's getting late, he asks for the details **to be saved** so everyone can consider them tomorrow. The travel organizer emails them a summary of the different options available."

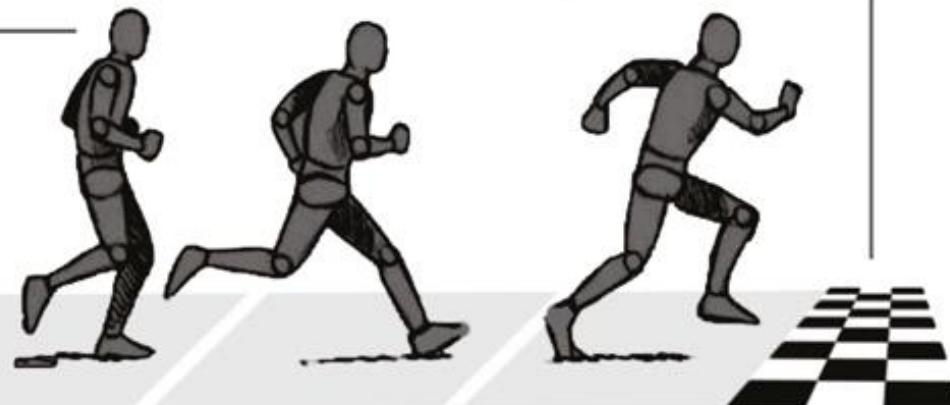
Scenarios and personas

1. Persona

Defines who the story is about. This main character has attitudes, motivations, goals, and pain points, etc.

3. Goal

Defines what the persona wants or needs to fulfill. The goal is the motivation of why the persona is taking action. When that goal is reached, the scenario ends.



2. Scenario

Defines when, where, and how the story of the persona takes place. The scenario is the narrative that describes how the persona behaves as a sequence of events.

2.5. Use cases

- Try to write down an **essential use case** for your project

Example: Essential use case

RetrieveVisa

USER INTENTION

Find visa requirements

SYSTEM RESPONSIBILITY

Request destination and nationality

Supply required information

Obtain appropriate visa info

Obtain copy of visa info

Offer info in different formats

Choose suitable format

Provide info in chosen format

Note: The user intention and system responsibility are offset vertically, showing a sequence of interactions

Any Questions?

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