Requirements. Questionnaires, Interviews, Focus Groups and Observations

Learning Goals

- Know how to obtain user requirements

- Be able to create questionnaires and conduct interviews

- Understand the advantages and disadvantages of different methods

Before we begin…

Should I introduce a new technology?

A technology, no matter how – cool – or how new it is may or may not be an asset to a company.

In order to discover what is needed / if a specific technology is likely to work… you have to assess the requirements of the people that will be affected by it.

How do we know what our users need?

We gather Requirements…

- Questionnaires

- Interviews

- Focus Groups

- Observations

- Diary / logs
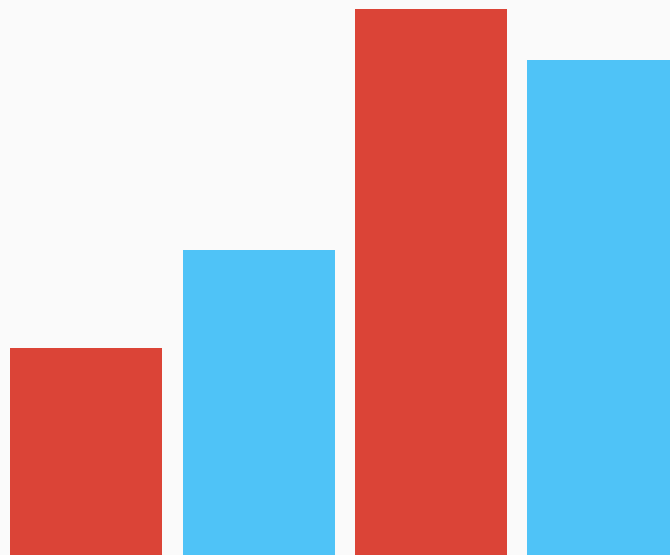
Three MAIN Types of Requirements:

1) **Functional Requirements**

2) **Non-Functional Requirements**
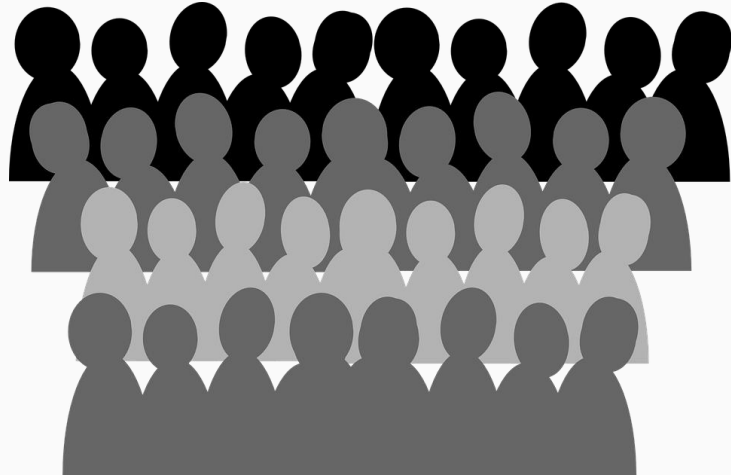
3) **Data Requirements**

Other specialised types of requirements also exist

Usability Requirement is one example

- Learnability

- Enjoyment

- Error Rate

- Flexibility

- Memorability

- Performance

Choosing Representative Participants

Can we clearly identify who would be **suitable** (stakeholders or users)?

Do we need to have all the users (sampling)?

How many do we need?

When do we have clear data?

Random or Selected?

Interviews and Questionnaires

Types of Questions?

Open – "What is your experience and opinion of Cardiff University?"

Closed – Are you a vegetarian? Yes / No

Scale – I can write really good React Native Code

1 – Agree
2 – Somewhat Agree
3 – Somewhat Disagree
4 – Completely Disagree

Ranking – Put in Order of Preference:

– Pizza
– Fried Chicken
– Burger
– Chinese Food
– Indian Food
– Kebab
– Fish and Chips
– Subs

A Step Further

Likert scale

- Check whether the answers are consistent

- Ask about only one thing at a time

- Avoid double negatives

How would you rate your knowledge of climate change and food systems?

Very poor	Poor	Fair	Good	Excellent

I never buy non-organic products.

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

double negatives

Types of Interviews

1. Structured

In structured interviews, the interviewer asks ONLY predetermined questions, and the same ones to all the participants.

2. Semi Structured

Semi-structured interviews combine both set questions, but also give the freedom to the interviewer to introduce new questions, explore existing questions further and (on the odd occasion) leave some questions out.

3. Non-Structured

Open-ended or unstructured interviews are exploratory and are more like conversations around a particular topic; they often go into considerable depth.

Advantages and Disadvantages

Some Advantages of Questionnaires:

1) Fast
2) Cheap
3) Easier to Distribute
4) Can cover low probability events

Disadvantages of Questionnaires:

1) Can lack clarity
2) Easy to get false data.
3) Hard to expand

Some advantages of Interviews:

1) Can have richness in understanding
2) Can cover low probability events

Some disadvantages of Interviews:

1) Can be unreliable and biased
2) Can take longer to cover

Remember…

Is your relationship with the participant creating a bias in the interview / data gathering process?

Have you received **consent** in order to carry out the experimentation procedure?

Are your participants vulnerable in any way which requires special provisions?

Are you courteous and professional while carrying out the research?

A form describing what a participant in an evaluation study will be asked to do, what will happen to the data collected about them, and their rights while involved in the study.(Preece 468)
Preece, Jenny, Helen Sharp, Yvonne Rogers. *Interaction Design: Beyond Human-Computer Interaction, 4th Edition.* John Wiley & Sons UK, 2015-05-18. VitalBook file.
The citation provided is a guideline. Please check each citation for accuracy before use.

How do we get participants to take part?

- Face to face meetings
- E-mail
- Phone
- On-line questionnaires

- Identify and explain the benefits
- Compensations (be careful not to bias)

Create a questionnaire…

1) If we were to pick a 'dress' theme for one of the lessons?

2) If you were to select a type of edible treat for the next lesson

3) If we were to create a generic third year module satisfaction / suggestion survey

Focus Groups

A 'group' interview of 3 to 10 people with a facilitator.

The question / questions are set out and the group shares opinions and debates. The facilitator is there to not intervene greatly but to steer the interview in the right direction and bring out consensus / detail.

Observations

Directly in the field

In a controlled lab environment

Indirect observations (logs or diary studies)

How to do it…

- The person: Who is using the technology at any particular time?
- The place: Where are they using it?
- The thing: What are they doing with it?

Really Pedantic Structure Instructures:
- Space: What is the physical space like and how is it laid out?
- Actors: What are the names and relevant details of the people involved?
- Activities: What are the actors doing and why?
- Objects: What physical objects are present, such as furniture?
- Acts: What are specific individual actions?
- Events: Is what you observe part of a special event?
- Time: What is the sequence of events?
- Goals: What are the actors trying to accomplish?
- Feelings: What is the mood of the group and of individuals?

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In class assignment