Postgraduate Certificate Web Design and Development 11 December 2009 User-Centred Design on the Web Andrew Harder, Design Research Specialist, Nokia, London	
2.1.1 Introduction	
Postgraduate Certificate Web Design and Development User-Centred Design on the Web	
Postgraduate Certificate Web Design and Development User-Centred Design on the Web	

This was did.	
This module	
 In this module we teach how to create websites with a great user experience. 	
In WDD 2.1 we'll start with understanding user and business needs	
In WDD 2.2 on 15 Jan we'll look at how to translate those into a great design	
In WDD 2.3 on 29 Jan we'll look at how you can evaluate your design	
WDD 2.4 on 12 Feb is about scoping and managing your project	
2nd Assignment due: Tuesday, 1nd March 2011	
Postgraduate Certificate Web Design and Development User-Centred Design on the Web	
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What is User Experience?	
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how users experience your product	
or system	
	1

The elements of user experience Proposition Value delivered to customer Concept Concept Concept for how the value is delivered Structure Organisation of product components Information What information is used by users How users interact with product components What it looks like and how it is arranged ...one view of it. Here's another one

Task: Review a website

- Look at http://www.orange.co.uk
- What is the website's **proposition?** How relevant is it?
- What is the underlying concept that realises the proposition? Does the concept work?
- How is the website **structured**? Is this effective?
- What **information** is on the website? Is it sufficient and relevant?
- How does the interaction work? What is problematic and what is well executed?
- How does the website's **appearance** reflect its proposition, concept and brand?

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a good What is User Experience?

A good user experience is... USEFUL USABLE DESIREABLE

It makes sense for your organisation

- 1. Increased effectiveness and efficiency More page impressions, higher sales conversion, more competitive products..
- Increased customer satisfaction
 Solid brand reputation, loyalty from existing customers, word-of-
- 3. Reduced support costs
 Fewer site user will call for help
- 4. Effective channel migration

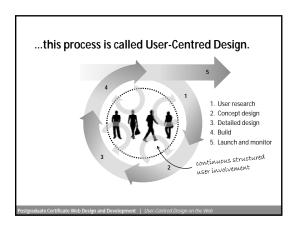
Encourage customers to move to more cost-effective channels

5. Differentiation

Stand out in a crowded market

How do you create a good user experience?	
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How do you create a good users experience? ... by involving these people throughout...



PROJECT TIMELINE EVALUATION DESIGN & CONTENT ORGATION BUILD Postgraduate Certificate Web Design and Development User-Gentred Design on the Web	
User-Centred Design User-Centred Design (UCD) is a design process that is based on around structured user involvement and iterative design There are many possible UCD models, but all follow the same sort of pattern There is also an International Standard for user-centred design, ISO 13407, which can be used to inform many Web development projects. It's a toolbox: pick and mix Fit for purpose – we do not have to use every tool!	
A recap on terms	

Terms

- User Experience is the overall experience and satisfaction a user has when using a product or system
- User Centred Design is the process of how to build websites that have great user experience
- But from the users' perspective, their user experience is built on the interactions they have with the website.
- Individual user interactions are the building blocks of the overall User Experience

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2.1.2 Norman's model

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A model of interactions Mental model Believes uses Website User Designer Source: Donald Norman's The Design of Everyday Things Postgraduate Certificate Web Design and Development User-Centred Design on the Web

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Mental model

- Is a user's own view of how a website works
- Is usually incomplete, inaccurate and naive
- Built on **previous experience of websites** and technology that may or may not be applicable
- But the user's mental model is **good enough** to explain to them how the website works
- An example: Just how much do you know about how your car works?
- What do you need to know to drive it?

What are your mental models like?

Write down how an ATM works

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What are your mental models like?

Write down how an ATM works

- How much money are you allowed to take out?
- · What denominations?
- If you take out the maximum and go to another machine and tried the same what would happen?
- What information is on the strip on your card? How is this used?
- What happens if you enter the wrong number?
- Why are there pauses between the steps of a transaction? What happens if you try to type during them?
- Why does the card stay inside the machine?

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How did you go?	
How detailed was your mental model? How shallow?	
How much did you use analogies to explain it?	
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Good design encourages useful mental	
models	
A good website design treats its users like rather lazy	
detectives leaving obvious clues around, guiding them to a useful understanding	
userui uriderstaridirig	
There are some key design principles to support this task:	
• Functions and system states that are visible to users	
 Feedback that clarifies what the user has done Clear and simple affordances let users know what is possible 	
on the website	
A natural mapping between controls and their effect	
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Task: Review a website	
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For the search results page of the following website	
— http://www.kavak.co.uk — use the search results name	

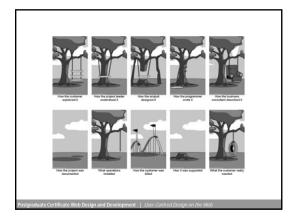
Identify affordances, feedback, mapping and system visibility
 What is unique to this website?

• How does the site help users develop a mental model?

- What is common to other websites?

2.1.3 Client and competitor research	
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I don't need to do this, I've already got	
a design brief from	
the client!	

Discuss: What design briefs won't tell you	
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What client briefs rarely tell you	
Hidden agendas & internal politics Unstated/undiscovered user needs & behaviours Where you can innovate	
Before you start, you need to understand: Business needs & objectives	
Stakeholders, their involvement and agenda The market	
Your users, their goals, needs, and context of work	
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Understanding business objectives	
 UCD is all about discovering business opportunities through user research and improving the way users can interact with products or services. 	
Often there may some resistance against adopting UCD So it's vital to understand the business goals, success feature and a White of the association association for the association and a White of the association association for the as	
factors and politics of the organisation you are working for. • It's all about bringing organisational objectives/business	
goals and user needs together!	



Understanding business objectives

- Scope & definitions: WHAT is the product/service supposed to do?
- Primary purpose/goal of project: WHY are you doing it? (what are the business benefits?)
- What's the Business model?
 - Revenue generating (for example Commerce, Advertising, Subscription)
 - Non-revenue generating (for example promotional or cost saving)
- What is considered a successful outcome and how will you assess it?

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Planning the UCD process

- Formulate SMART **objectives** for the website
- Formulate strategies
- What resources are available? (people, equipment etc...)
- What methods/processes will you adopt?
- What is your schedule?
- What is your budget?

...UCD gives you a rich <u>toolkit of methods</u>, from informal low cost "guerilla" methods to thorough research.

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Understanding the organisation

- What are the politics of project? (Don't underestimate the importance of politics!)
- What decision structures are there? (WHERE does the power lie?)
- Who are the stakeholders? (WHO has a vested interest in this project?)
- A good Project Initiation Process helps to clarify some of those things.

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Understanding stakeholders & their objectives

- · Get to know people.
- Have one-to-one meetings.
- Listen to them. Don't spend the time telling them about all your great ideas!
- When you need to, communicate your ideas clearly and effectively.
- Establish common frames of reference between stakeholders.
- Identify conflicts.
- Get buy-in.

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Some things to ask stakeholders...

- What's your involvement?
- Why do you want to do this project?
- How do you think this could benefit the business/organisation?
- What would be the best possible outcome?
- What do you fear could go wrong?
- How would you like to be involved/informed?
- What are your key objectives?
- What is your (departments) strategy for the next year/five years?
- What motivates you to do this?
- Etc..

More on stakeholder workshops

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Types of Stakeholders

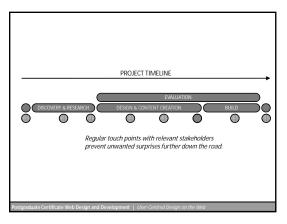
- Decision makers
- Gatekeepers
- Beneficiaries
- Workers

Think how, why and when to involve them in the design process:

- Direct involvement at defined points/throughout?
- Highlights and snapshots only?
- Reports and recommendations?
- Setting priorities?

This has to be part of your communication plan...

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Task: Client survey

- Open this client survey and apply it to your project
- If you have a client, then you can use this and the workshop link to be the basis of client interviews
- If you don't have a client, then the survey will help you identify what your goals for the website are

Competitor evaluation

- Looking at other companies products is a great source of inspiration...
- Get lots of photos/screenshots
- Compare features and functionality
- · Pick out the stuff that works well
- There is no point in re-inventing the wheel
- Design is **evolutionary** process; no one designs everything from scratch
- Competitor evaluation lets you identify what the state-of-themarket is
- Your business goals will tell you whether you can match them or whether you need to set a new standard

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Competitor evaluation



If you can, print out screenshots and put them on the wall. Identify trends and common themes, unusual ideas and things that do or don't work well.

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Task: Conduct competitor evaluation

- Identify some competitors for your website, or failing that for <u>Ocado.com</u>
- Use the 6 layer model of user experience as headings for a competitor review
 - Proposition
 - Concept
 - Structure
 - Information
 - Interaction
 - Appearance

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3.1.4 User research Postgraduate Certificate Web Design and Development User-Centred Design on the Web	
So who are your users? Postgraduate Certificate Web Design and Development Deer-Centred Design on the Web	
Postgraduate Certificate Web Design and Development User-Centred Design on the Web	

You are not your user! Postgraduate Certificate Web Design and Development User-Centred Design on the Web	
Your client is not your user! Postgraduate Certificate Web Design and Development User-Centiced Design on the Web	
Your client is not your user! Really Ontarion Important Important Postgraduate Certificate Web Design and Development Doc-Centred Design on the Med.	

Understanding your users

- Initial business analysis usually identifies the general types of users
- In a business context, marketing departments often have a good overview of users.
- We need to find out more detail, though...

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User research

- · Setting research objectives
- · Techniques for research
 - Lab Interviews
 - Surveys
 - Contextual Interviews & field research
- We will cover just three of many ... http://www.usabilitynet.orq/tools/methods.htm

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Research objectives: Things you can find out about your users

- Skill levels (expert or novice?)
- · Likes and dislikes
- Product usage patterns & product-related desires
- Vocabulary/language
- Environments (connection speed/browser/hardware/shared or exclusive use?)
- Social and economic factors

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More specific research objectives

- What do users want? (user preferences)
- What do users do? (user behaviours)
- What do users need? (gap between user desire and their current behaviour or tools)
- What do users fee? (emotional responses)
- Our aim is to develop an **understanding of our users** and the way they carry out their tasks.
- Focussing on what users need and what they currently do is more productive than asking users what they want.

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The danger of asking users what they want...



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The danger of asking users what they want...

- Often users voice a perceived need
- Users often do not mention some requirements assuming they are obvious
- You can only address this issue by grounding the discussion in users' real world behaviour
- Users also will not appreciate technical possibilities (or impossibilities) nor your client's needs

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Method 1: Interviews

- You can get users in a lab (or any other place) and involve them in activity sessions
- Ask users to explore their habits and decision making processes by using games, sketching, interviewing and web surfing in the lab
- Helps users to recreate their actual experiences even though they are out of their everyday environment

Use this method as:

 A quick and cost-effective approach to understand goals, attitudes and behaviours where you can reproduce what you need in a lab

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Planning interviews

- · Set your goals for your research
- · Write a discussion guide
- Don't stick to the discussion guide! It is a resource for an open conversation, not a survey
- Take a few notes but if you need a good record of the interview record it, don't try to transcribe while you're reading

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Research goals for a travel website

Brief from client

service?

- What are the key features in a booking engine?
- How can we best sell hotels to people who come for flights?
- Can we improve customer retention with (cheap) after-sales

Research goals

- What do users want to do on a booking website?
- What do users think of features in competing booking engines?
- How do users choose hotels at the moment?
- What makes up a trusted recommendation for a hotel?
- What is the whole travel experience like for the user?
- What are the key moments of frustration or pain in this?

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Discussion guide: a common structure

- Set expectations for the session time, recording, payment
- Get some background information and have a chat to build a rapport – this is one place where it's OK to reveal your own opinions
- Understand their real life by talking about relevant behaviour offline - remember to identify needs through current behaviour
- Start with general topics and then move naturally into more detailed ones
- · Ask about current internet and computer usage
- Close the interview by asking for any last comments or questions

For a	a travel	booking	website
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- When was the last time you went overseas? ➤ Set the scene
- Where did you go? Why?
- Motivation
- Why did you choose the place you went to? ➤ Motivation
- What kind of holidays do you like? Tell me how you went about finding the
- > Preferences
- holiday ...
- > Research
- How many sites did you visit? When did you
- ➤ Booking
- know when to book? .. • Tell me about the day you took the flight...
- > After-sales

Exercise: Write a discussion guide

- Your client wants to launch a DVD mail rental service. Write a discussion guide to get information about:
 - Current movie-watching behaviours and practices
 - What information about the movies the website should display
 - How movie recommendations should be presented
 - What additional features should the website include?
- · Remember to start by setting the scene and building rapport

Method	2:	Sur	ve	/S
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- Surveys are a great idea if the website already exists and has an audience
- Many web-based tools have made surveys a very practical and cost-effective method

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Survey questions: some terminology

Closed questions have a limited number of choices in response

I am very satisfied with my current insurance company:

Strongly Disagree Neither agree Agree Strongly
Disagree nor disagree Agree

 Open questions require the user to write a response in their own words

What is your relationship with your current insurance company like?

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Differences in question types

- Closed questions are much quicker to analyse and provide a snapshot response of what is important to the users
- Open questions can gather a lot richer information from users, but they need a lot more time in analysis

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Types of Survey Questions

- All surveys should collect basic background information
 - Demographics (age, gender, etc)
 - Experience with technology (how many years have they used the internet, how confident are they)
- Questions can also ask about current patterns of use
 - Descriptive: How often users visit, how long they stay for
 - Intent: What they are looking for, whether it was found
- A final type of question to include is attitudes or evaluations of the website
 - Overall Satisfaction: Did the user's experience meet their expectations?
 - Drivers of satisfaction: What are the individual parts of the website that did or didn't meet their expectations?

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General rules on writing survey questions

- Each question must have a single idea and be clearly worded. Avoid jargon or technical terms.
- Give clear instructions about how users are meant to respond to the questions. (e.g. 'check one')
- Where you are measuring opinions, include an 'N/A' rating to avoid forcing people to rate experiences they didn't have
- Order questions to move from general topics to specific ones

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Two most important aspects of writing Surveys

- · Keep the survey as short as possible
 - Any survey more than 10 minutes will begin to bore your users and affect data quality.
- Always pilot your surveys with representative users
 - This will help make sure that your question wording is clear and unambiguous

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What's wrong with these survey	
questions?	
State your age in years:	
How long have you used the internet?	
> 1 year 1-3 years 3-5 years 5+years	
How useful is the internet to you?	
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	_
What's wrong with these survey	
questions? Arrange of ages (eg 15-19: 20-	-
25 etc) means less analysis work and greater likelihood of	
State your age in years: users giving this personal information	
How long have you used the internet?	
> 1 year 1-3 years 3-5 What if I've used the internet for 3 years?	
How useful is the internet to you? Don't use overlapping ranges	
Good opportunity for a closed	
question. Or use different wording — like "How is the internet most	
useful to you?"	
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Survey wrap-up:	-
This section covers only the basics of survey design and This is a detailed to let the trivial report of the form	
analysis. This is a detailed topic that will reward a lot of attention	
Surveys and interviews can are complementary	
methodologies, where possible you should use both. – Use surveys before interviews to identify who is using your website	
at the moment - Use surveys after interviews to follow up interview results and	
check the relative size of your findings	
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Method 3: Contextual research & field studies

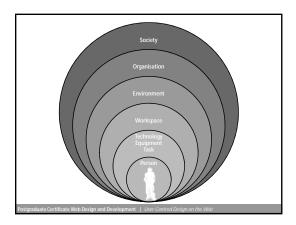
- Context: the human, physical, organisational, historical and social environment in which a product is used
- These variables can determine how technology is used & how work is carried out that appears to be similar
- Degree of fit between context-of-use and product design influences uptake
- Understanding the context of use is therefore vital for effective user-centred design

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"What people say,
what people do,
and what people say they do
are entirely different things"
Margaret Mead







Contextual Inquiry

- Observe and interview users in context of their work to see what users do, not what they say they do
- "go where the user works, observe the user as he or she works and talk to the user about the work."

Use this method to get:

- Deeper insight into motivations and behaviours
- An understanding of user goals and needs, in particular the unsatisfied or unarticulated
- Identify problems and work-arounds
- Understand organisational and environmental factors

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Contextual Inquiry	
Master - Apprentice model: Avoid interview/interviewee or novice/expert situation	
Based on four core principles: 1. Context – all work is observed in its context 2. Partnership – no "interviewer" situation	
3. Interpretation – the researcher interprets the observations and shares them with the user to validate 4. Focus – on concrete data & tasks	
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Hear research recen	
User research recap	
Interviews Relatively cheap, easy to run and easy to extract data Hard to get large numbers, limited ability to generalise	
Surveys Good for existing websites and large numbers of users, even	
international, can be cheap — Great care needed for set-up, analysis and avoiding bias • Contextual Inquiry	
 Unbeatable for complex or unfamiliar situations or identifying unmet needs 	
 Lots of data, a lot of which will not be relevant; highest cost 	
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3.1.5 Analysing user research data	
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Affinity sorting help identifying common themes in your research

Create a wall of data

- Go through your notes or recordings and write post-it notes for each and every meaningful participant comment
 Write in the users' voice "I don't like package holidays because they're too expensive"
 - Write your own insights and questions in a different colour
- Writing all the relevant user comments by hand is the single best way to **get an real empathy for your users**
- After building the wall of data, start grouping the post-its so that similar post-its are together. Group by common goals, behaviours, attitudes, activities, etc.
- Involve other people in this analysis to check your assumptions

Analysing data from user research

- Analyse:

 User outlook and perspective, their building blocks for a mental model
- Goals
- Behaviours
- Processes & tasks
- Social interactions
- Physical environment

....and distill into personas, scenarios, lists of requirements etc

Personas

- Personas are a way to sum up user research into archetypical user representatives, describing goals, attitudes, motivations and key design challenges
- They merge many sources of data into a format that drives successful design
- Build consensus about who the target users are and avoid selfreferential design
- Allow to quickly explore or validate design decisions



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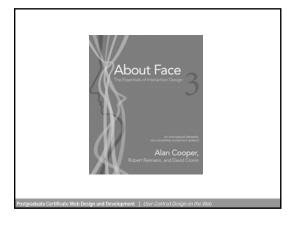
Personas – Behavioural variables Map your personas to the behavioural variables identified in your research: Cost conscious Quality focussed Feature driven Simplicity driven Postgraduate Certificate Web Design and Development | User-Contrad Design on the Web

Personas - Goals, attitudes and motivations

Define the goals of your personas based on your users research:

- End goals: What outcomes they want to achieve
- Experience goals: How users want to experience your product or service
- Life goals: What users want to achieve in their life
- Attitudes, what motivates and what annoys them
- How they relate to the organisation
- What makes them a design challenge
- Their outlook in a single sentence or metaphor

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Scenarios

Scenarios are user stories that describe the steps users go through to satisfy their goals:

- Task scenarios describe what users are doing currently
- Use scenarios describe how users will perform the same task using your product or service
- Task scenarios should contain information about the user, his goals, actions, objects used and information needed, set in context.
- Task scenarios help you to define functional requirements and to find gaps in the current offering

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Documenting scenarios

- Use scenarios are effective to describe system requirements in a way that keeps the user at the heart
- Choose the right way to document your stories. There are a number of options:
 - Narrative stories
 - Flow diagrams
 - Use Cases

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Task analysis

- Frequency
- Level of skill required
- Knowledge required
 Environment
- Safety
- Switching with other tasks
- Social context

- Task analysis allows you to:

 Diagnose problems or inefficiencies
- Gather requirements

Task: Create a persona for your project

Task: Create a persona for your project

- Create some behavioural dimensions based on your research to date. If you don't have any, use your best guess (Worksheet 1)
- 2. Create a persona: Goals, attitudes, motivations and some demographic data (Worksheet 2)

Under normal circumstances a persona should be based on thorough user research, but for today we can make some stuff up...

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Requirements

Based on the business requirements gathered and user research conducted, you should be able to start thinking about:

Functional requirements: What your product must do

- Specifications of the system's functionality
- Actions that the system must take (verbs)
- Not a quality e.g. 'fast'

Non-functional requirements: a quality your product must have (look and feel, usability, performance, operational, maintainability & portability, security, cultural & political, legal)

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Summary

We talked about:

- The importance of user mental models in user experience
- The need to understand business requirements, organisational factors such as stakeholders and the market
- User research methods: Contextual inquiry, lab interviews and diary studies
- Ways of summarising this research: Personas, Storyboards, Task analysis and Scenarios
- · Types of requirements

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