Scope and Coverage

This topic will cover:

- User Centred Design
- The People Like Me Bias
- Mental Models
- Personas

Learning Outcomes

By the end of this topic students will be able to:

- Understand how to build common ground through mental models.
- Ground the use of paper prototyping in a design context.
- Develop and make use of personas to inform analysis and design.

Introduction

- At its core, user centred design is about putting the user at the centre of design.
- Software development remains, even now, a discipline in which users are often neglected.
  - Consulted at the beginning
  - Consulted at the end
  - Rarely consulted in-between
- User centred design focuses not on the software, but the user's relationship with the software and its development.

Normal Users, Normal Developers

- We are not 'normal', and as such we are not good benchmarks for the design of software.
- We need to be sure that what we develop conforms to the reality 'on the ground'
  - Sometimes known as 'ground truth'.
- This is difficult to do unless you get to know your users.
  - Getting to know your users can be challenging, depending on the user group to which you are pitching.
- There are logistical issues
- There are ethical issues

The Average User

- There is no such thing as an average user.
  - There is often no such thing as even a representative user.
- Every distinct user group has its own unique profile, which we can use in the abstract to make design decisions.
  - However, each user is an individual, and we need to be mindful of the fact that we cannot stereotype.
- We must recognise our own unique characteristics, and the ones that limit our ability to see from the perspectives of others.
  - This has a considerable impact on how software is developed.

People Like Me

- Software design and development is plagued by the people like me bias.
  - We simply find it easier to design for people like us.
- Software, even now, is disproportionally developed by young, technologically savvy males.
  - And this skews software design towards those sensibilities.
- To avoid falling into design traps and mistakes, we need to widen our perspectives with user exposure.
  - Ideally a lot of it, and throughout the whole lifetime of a project.
- You might be surprised what you find.

Assumption of Knowledge

- We work in a jargon rich environment.
  - And we have, as a general rule, internalised that jargon to an extent that we don't even see it.
- Even the basic act of communicating can be difficult when the vocabulary isn't shared.
  - And this is a common cultural barrier between us and the users we should be serving..
- We often assume a level of understanding of what's going on that isn't at all warranted.
  - Based on our own familiarity with the topic

Mental Models

- In 1943, a Scottish Psychologist by the name of Kenneth Craik put forward the proposition that people rely on mental models to build comprehension of the world around them.
  - In short, people create a simulation in their heads of how something will react to stimulus.
  - This model is then used to make predictions about what is going to happen.

Mental Models

- These models are generated via experience and familiarity.
  - We try something
  - It does what we expect, or it doesn't
  - We revise or strengthen our model accordingly
- It's not real life, but it's how we understand the world.
  - All models are wrong, but some models are **useful**.

Mental Models

- These models are constructed automatically and largely subconsciously.
  - But they lead to an expectation of what results an action is going to have.
- People may have different mental models constructed from the same set of information.
  - Filtered through their personal mind set.
  - Filtered through their own life experience.
- Almost all mental models are wrong or incomplete.
  - Knowing that they exist gives us a connection to our users.

Mental Models

- Developers make use of a mental model of how people are to navigate a particular interface.
  - Almost always subconsciously.
- Users construct a mental model of how an interface will work in response to their actions.
- Ideally the two will match up but usually, they don't.
- Our task is to align the models.
  - By adapting our mental models to what our users expect.

Building a Mental Model

- We see examples of this every day:
  - The commonalties between Microsoft Office products for example lead us to an expectation of how they are to perform.
  - Iconography allows us to make informed guesses as to functionality even when we lack direct knowledge.
- We need not have a complete understanding, but common ground between us and users will help guide our designs.

Building a Mental Model

- Models are constructed from a number of sources:
  - Historical information
    - Previous experience with Office products
  - Gestalt principles
    - The four main justification options are together on the interface, so they must do similar things.
  - Visual cues
    - That button looks like a printer, so it must have something to do with printing.

Skeuomorphism

- Skeuomorphism in user interface design is the principle of providing cues for interaction through the medium of obsolete ornamentation.
  - Such as when a digital document uses a curved paper corner to indicate you can move through it.
- Based on a physical metaphor.
  - But is more tangible – mirrors real world physicality, not conceptuality.
- Skeuomorphism can also be physical, mapping onto physical interaction.
  - Most often seen in games, but also sometimes in controls for media centre.
    - Swiping off to the side to move on to the next track, for example.

Personas

- A persona is a representation of a fictional user in your target demographic.
  - Not real, but believable.
- Often generated as a result of information gathering.
  - Questionnaires
  - Focus groups
  - Individual interviews
  - Paper prototyping
- Often a pattern matching exercise.

Personas

- Multiple personas may be generated to represent:
  - Diversity of target user group
  - Complexity of target user group
- It is often the case that no one persona can fully accommodate all important elements.
  - So we create a persona group.
- We can design use-cases around the expected needs of our personas.
  - As a short-hand for designing for individual users

Personas

- Personas usually include:
  - Name, age and gender
  - Demographics
  - Organisational Roles
  - Responsibilities
  - Motivations, needs, and fears
  - Likely environment
  - Accessibility issues

Personas

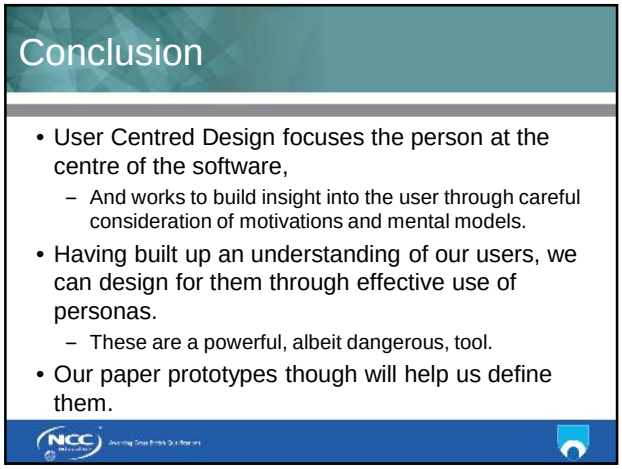
https://wiki.fluidproject.org/display/fluid/Persona+Format

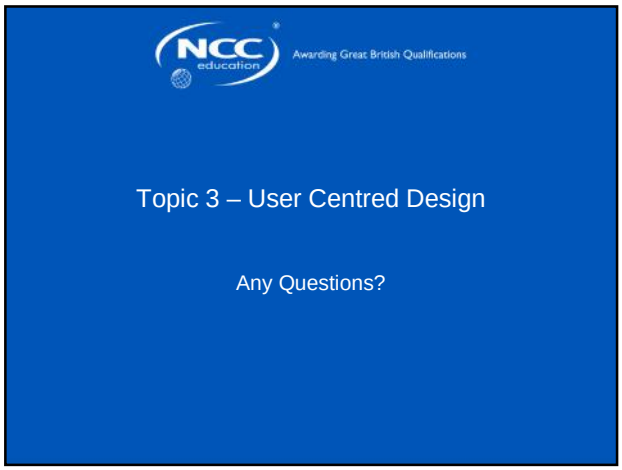
Why Use Personas?

- Personas are humanising.
  - They put a face on otherwise abstract concerns.
- Personas are focusing.
  - They allow us to concentrate on dealing with a prospective user.
- Personas highlight end goals.
  - They tell us what the user wants to accomplish.
- They allow consensus to emerge around design.
  - We all know the user we're pitching our product for.
- Can stand in for qualitative testing.
  - With a little bit of role-playing.

Why Not Use Personas?

- Requires research if a persona is not to be a stereotype.
  - They have to emerge from interactions with real users.
  - They need to reflect real world concerns and issues.
    - The 'we made it up' persona helps no-one.
- Risks 'self-referential design'.
  - The assumptions of the persona designer can often skew the persona itself.
  - We develop to a perceived assumption of user interaction, rather than the real case.
- Requires real team 'buy-in'.
  - Everyone has to believe the authenticity of the persona.
- People don't read large documents.
  - And an effective persona may be data dense.
- Nonetheless, a useful technique to have available.


Conclusion
• User Centred Design focuses the person at the centre of the software,
– And works to build insight into the user through careful consideration of motivations and mental models.
• Having built up an understanding of our users, we can design for them through effective use of personas.
– These are a powerful, albeit dangerous, tool.
• Our paper prototypes though will help us define them.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Any Questions?