UNIVERSITY OF LEADING THE WAY WESTMINSTER

5COSC025W

Human Computer Interaction & User Experience

Lecture 4

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Academic Year 2024/25

Overview

- Cognitive frameworks and mental models
- Conceptualising Design
- Conceptual model
- Assumptions and claims
- Framework for analysing the problem space
- Requirements gathering
- Data gathering for requirements
- Contextual inquiry
- Questionnaire design
- Rating scales design
- Interview questions
- Choosing between techniques
- Sample
- Leading questions
- Research ethics
- Personas
- Scenarios

Cognitive Frameworks

- A number of conceptual/cognitive frameworks and theories have been developed to explain and predict user behaviour based on theories of cognition.

- One such (internal) are “mental models”.


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5COSC025W – HCI & UX - Frantzeska Kolyda – Lecture 4 – 14/10/2024

Mental Models in UX

- A *mental model* is the internal, mental representation that a user has about how a system works.
- Mental models help us understand how users think about how something should work based on their past experiences in similar situations. Without knowing the users mental model, we are just guessing and making assumptions about what we think our users want.
- In order to understand the importance of mental models in designing user interfaces, we must understand what a *conceptual model* is.

Conceptualising design

Proof of concept

- Conceptualise what the proposed product will do

Why the need to conceptualising design?

- To scrutinise vague ideas and assumptions about the benefits of the proposed product in terms of their feasibility
- How realistic is it to develop?
- How desirable and useful?

Sharp, Rogers & Preece

Benefits of conceptualising

Orientation

- Enables design teams to ask specific questions about how the conceptual model will be understood

Open-minded

- Prevents design teams from becoming narrowly focused early on

Common ground

- Allows design teams to establish a set of commonly agreed terms

Conceptual model

- A conceptual model is:

  A high-level description of a product in terms of:
  - What users can do with it and the concepts they need to understand how to interact with it.
  - The actual (designed) model that is given to the user through the interface of the product.

- The best conceptual models are often those that appear:
  - Obvious and simple
  - The operations they support are intuitive to use

Components

- Metaphors and analogies
  - Understand what a product is for and how to use it for an activity
- Concepts that people are exposed to through the product
  - Task–Domain objects, their attributes, and operations (for example, saving, revisiting, organising)
- Relationship and mappings between these concepts

Sharp, Rogers & Preece

First steps in formulating a conceptual model

1. What will the users be doing when carrying out their tasks?
2. How will the system support these?
3. What kind of interface metaphor, if any, will be appropriate?
4. What kinds of interaction modes and styles to use?

Always keep in mind when making design decisions how the user will understand the underlying conceptual model

Developing a conceptual model involves:

- Understanding the problem space
- Being clear about your assumptions and claims
- Specifying how the proposed design will support users

Sharp, Rogers & Preece

Assumptions and claims

- Write down your assumptions and claims when considering a new design
- Try to defend and support them by what they will provide
- Those that are difficult to articulate
  - Can highlight what ideas are vague or unrealistic
  - Identify human activities and interactivities that are problematic
- Iteratively work out how the design ideas might be improved

What is an assumption?

- Taking something for granted when it needs further investigation
  - For example, people will want to watch TV while driving

What is a claim?

- A claim is stating something to be true when it is still open to question
  - For example, "a multimodal style of interaction for controlling GPS — one that involves speaking while driving — is safe."

How will enabling robot waiters to speak to customers enhance their experience?

Source: Xinhua, Guo Cheng

What is the problem being addressed?

- The benefits:
  - The robot could take orders and entertain customers by having a conversation with them
  - The robot could make recommendations for different customers, such as restless children or fussy eaters
- But just assumptions
- The real problem being addressed:

  "It is difficult to recruit good wait staff who provide the level of customer service to which we have become accustomed."

Working through assumptions

- Many unknowns need to be considered in the initial stages of a design project
  - Where do your ideas come from?
  - What sources of inspiration were used?
  - Is there any theory or research that can be used to inform them?
- During the early ideation process
  - Ask questions, reconsider assumptions, and articulate concerns

Sharp, Rogers & Preece

What were the assumptions and claims made about watching 3D TV?

What were the assumptions and claims made about watching 3D TV? (cont)

Assumptions and claims: how realistic?

- There was no existing problem to overcome
  - What was being proposed was a new way of experiencing TV
- An assumption
  - People would really enjoy the enhanced clarity and color detail provided by 3D
- A claim
  - People would not mind paying a lot more for a new 3D-enabled TV screen because of the new experience

A framework for analysing the problem space

§	Are there problems with an existing product or user experience? If so, what are they?
§	Why do you think there are problems?
§	How do you think your proposed design ideas might overcome these?
§	If you are designing for a new user experience, how do you think your proposed design ideas support, change, or extend current ways of doing things?

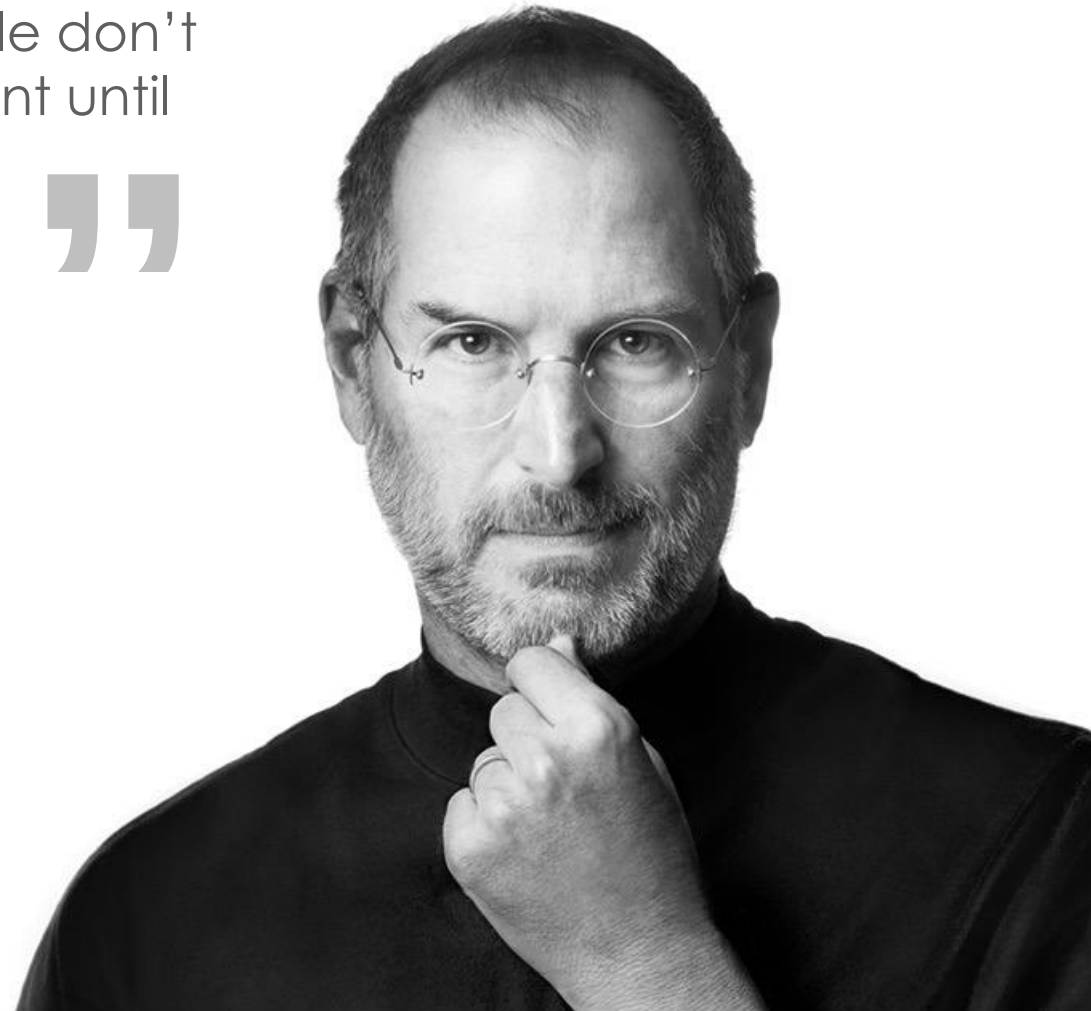
Sharp, Rogers & Preece

From problem space to design space

- Having a good understanding of the problem space can help inform the design space
    - For example, what kind of interface, behavior, functionality to provide
- Before deciding upon these, it is important to develop a conceptual model

Sharp, Rogers & Preece

“A lot of times, people don’t know what they want until you show it to them”



Requirements gathering (what, how and why?)

- What are we trying to achieve in the requirements activity? (2 aims)

1. Understand as much as possible about:	**2.** Produce a set of stable requirements that form a sound basis to move forward into thinking about design
▪ the user ▪ their work ▪ the context of that work so that the system under development can support them in achieving their goals; this we call 'identifying needs'	▪ this does not mean that you have to develop a rigid document or a set of prescriptions ▪ you need to be sure that it will not change radically in the time it takes to do some design and get feedback on the ideas

Requirements gathering (what, how and why?)

- How:
  - Data gathering activities
  - Data analysis activities
  - Expression as 'requirements'
  - All of this is iterative

Requirements gathering (what, how and why?)

- Why:
  - Requirements definition: the stage where failure occurs most commonly

Getting requirements right is crucial

Data gathering for requirements

- What is the purpose of data gathering?
  - To collect sufficient, relevant and appropriate data so that a set of stable requirements can be produced
    - a wide spectrum of issues needs to be covered as various requirements need to be established
  - We need to find out about:

Important Issues

Setting goals

- Decide how the data will be analysed

Identifying participants

- Decide who to gather data from

Relationship with participants

- Clear and professional
- Informed consent

Triangulation

- Collect more than one type of data

Pilot study

- Small trial of main study

https://www.nngroup.com/articles/ux-research-cheat-sheet

Data gathering for requirements

- Interviews:
  - Props, e.g. sample scenarios of use, prototypes, can be used in interviews
  - Good for exploring issues
  - Development team members can connect with stakeholders

- Focus groups:
  - Group interviews
  - Good at gaining a consensus view and/or highlighting areas of conflict
  - Although can be dominated by individuals

Data gathering for requirements

- Questionnaires:
  - Often used in conjunction with other techniques
  - Can give quantitative or qualitative data
  - Good for answering specific questions from a large, dispersed group of people
- Researching similar products:
  - Good for prompting requirements

Data gathering for requirements

- Direct observation:
  - Gain insights into stakeholders' tasks
  - Good for understanding the nature and context of the tasks
  - Although it requires time and commitment from a member of the design team, and it can result in a huge amount of data

- Indirect observation:
  - Not often used in requirements activity
  - Good for logging current tasks
  - E.g. diaries, interaction logging, web analytics, etc.

Data gathering for requirements

- Studying documentation:
  - Procedures and rules are often written down in manuals
  - Good source of data about the steps involved in an activity, and any regulations governing a task
  - Not to be used in isolation (as everyday practices may expand/grow)
  - Good for understanding legislation, and getting background information
  - No stakeholder time, which is a limiting factor on the other techniques

Contextual Inquiry

Is a semi-structured interview method to obtain information about the context of use, where users are first asked a set of standard questions and then observed and questioned while they work in their own environments.

- A form of interview, but
  - at users' workplace (workstation)
  - 2 to 3 hours long

Example: Interviewing users in the location that they use the website, software or app, in order to understand their tasks and challenges.

Data gathering for requirements

- Questionnaires
  - Series of questions designed to elicit specific information from users
  - The questions may require different kinds of answers:
    - YES/NO
    - set of pre-supplied answers
    - scale
    - long response or comment
  - The form of a questionnaire:
    - paper
    - electronic
  - Well designed questionnaires are good in:
    - getting answers to specific questions from a large group of people which can be spread across a wide geographical area
  - They can be used in conjunction with other techniques

Questionnaire design (1/3)

- Provide clear instructions on how to complete the questionnaire.
- The impact of a question can be influenced by question order.
- You may need different versions of the questionnaire for different populations.
- Avoid very long questionnaires
- Use a clear layout
- Decide on whether statements will all be positive, all negative or a combination.

Sharp, Rogers & Preece

Questionnaire design (2/3)

- Use neutral wording and avoid leading questions

e.g.

USE expressions such as:

"What is your opinion of...?",
"How do you feel about the...?",
"To what extent, if at all, do you...?", "
How good or poor...?",
"How important or unimportant...?",

DO NOT USE: "How good...?", "How important...?"

Questionnaire design (3/3)

- Avoid double negatives (e.g. “not unfair”).
- Use plain English i.e. ask the question in the way it might normally be asked if it was a spoken question.
- Use open questions but avoid using too many open questions. Closed questions are much easier to analyse than open questions. Also, people usually prefer not being asked to write a lot of detail.
- Ask general questions (e.g. overall satisfaction with your company’s app) before specific questions (e.g. satisfaction with the visual design of the home page). Because if someone feels very strongly about the last item on the list of specifics this might have a significant influence on their response to the general question if that were to follow.

Sharp, Rogers & Preece

Rating Scales Design (1/2)

- **Use scales with equal options for positive and negative replies**. 4-point scales should have two positive and two negative options such as "good", "fairly good", "fairly poor" and "poor". 5-point scales should have two positive and two negative options with a neutral middle choice.
- **Use scales whose end points are equally positive and negative**. For example, scales going from "very good" to "very poor" or from "good" to "poor", but not from "very good" to "poor". satisfactory" to "less than satisfactory".

- **Points on a scale should be distinct**. Avoid having two points on a scale that are very similar in meaning for people, such as "quite good" and "fairly good".
- **Offer to people a "N/A" option if this is appropriate**. Otherwise, you could falsely inflate the percentage of people choosing a particular response option.
- **Use mutually exclusive categories** for age, time, length of use etc.

(e.g. "18-24" should be followed by "25-30" and not "24-30")

Rating Scales Design (2/2)

- Use scales that measure only one thing at a time.
- For example:
  - Five-point scales that go from "very good" to "very poor" should have a neutral mid-point such as "neither good nor poor" that talks about quality, but NOT have "average" or "satisfactory" as their middle point.
  - "Average" belongs in its own scale of "above average" to "below average".
  - Similarly, "satisfactory" belongs in its own scale of "more than satisfactory" to "less than satisfactory".

- People's natural tendency is to avoid ticking end boxes.
  - People tend to go for the middle boxes. You can make this tendency even more pronounced by labelling your end points "very" or "extremely" or "always".
  - Some researchers like using an even number of boxes in a scale, to make sure that people have to come down off the fence and opt for either "fairly good" or "fairly poor".

Data gathering for requirements

- Interviews
  - Refer to asking people questions
  - Often interviews are face-to-face, but they can also be telephone interviews
  - Often interviews are one to one
  - Interviewees find it easy to show the interviewer the artifacts they use and demonstrate their activities
  - Context help interviewees remember certain things
    - (e.g. difficulties when downloading files of a remote server)
  - Interviews can be:
    - structured
    - unstructured or semi-structured

Interview Questions

Closed Questions: have a predetermined answer format, e.g.. 'yes' or 'no' and are easier to analyse

Open Questions: : do not have a predetermined format

Avoid:

- Long questions
- Compound sentences: split them into two
- Jargon and language that the interviewee may not understand
- Leading questions that make assumptions (e.g. why do you like…?)
- Unconscious biases (e.g. gender stereotypes)

Data gathering for requirements

- Focus groups & workshops
  - Getting a group of stakeholders together to discuss issues and requirements can be very revealing
  - They are very good at gaining a consensus view and/or highlighting areas of conflict and disagreement
  - On a social level it also helps for stakeholders to meet designers and each other and to express their views in public
  - Such sessions can be:
    - very structured
    - unstructured – a facilitators is required

Data gathering for requirements

- Researching similar products
  - Good for prompting requirements
    - e.g. when developing an image editor for a mobile device Kangas & Kinnunen (2005) report they looked at PC image editing software in order to gain an understanding of the kinds of features and interaction that such a package might offer

Choosing between techniques

- Data gathering techniques differ in two ways:
  - 1. Amount of time, level of detail and risk associated with the findings
  - 2. Knowledge the analyst requires
- The choice of technique is also affected by the kind of task to be studied:
  - Sequential steps or overlapping series of subtasks?
  - High or low, complex or simple information?
  - Task for an ordinary person or a skilled practitioner?

What is an appropriate sample?

- The sample size you need will depend primarily on whether you're making a comparison, discovering problems or insights, or estimating the prevalence of an attribute in the customer population.
- If you want to draw conclusions about each of the segments, then you will need to sample proportionally from each segment.
- Jeff Sauro explains further: https://measuringu.com/sample-size-designs

Avoiding Leading Questions

- Leading questions lead to responses that are not particularly true or useful.
- **Strive to remain neutral and ask open questions.**
- **Consider how to word questions to get richer, non-leading feedback.**

The value-action gap

The difference between what people say and what people do.

More than 60% of participants said they were "likely" or "very likely" to buy a kitchen appliance in the next 3 months.

8 months later, only 12% had.

How Customers Think, Gerald Zaltman, 2003

MARKET RESEARCH VS UX RESEARCH

MARKET RESEARCH	UX RESEARCH
What people say	What people do
What people will buy	How people use a product
Large sample sizes	Small sample sizes
Broad insight	Deep, focused insight

Source: Human Factors International

Research Ethics & Ethical considerations

Facebook's psychological study ends up testing users' trust

video

Facebook says it 'unintentionally uploaded' 1.5 million people's email contacts without their consent.

- *A security researcher recently noticed Facebook was asking some new users to provide their email passwords when they signed up — a move widely condemned by security experts.*
- *It was then discovered that if you entered your email password, a message popped up saying it was "importing" your contacts without asking for permission first.*
- *Facebook has now revealed that it "unintentionally" grabbed 1.5 million users' data, and is now deleting it (18th April 2019).*
- Read the story

> The fundamental ethical principle is that there should be no risk of harm through participating in research, and particular care needs to be taken with participants such as children and vulnerable adults. Also a decision to participate should be based on informed consent. Full information must be provided in a Participant Information Sheet (PIS), and, after reading this, a participant should normally sign a Consent Form.

Valid Consent and Participant Information

- *Valid and appropriate consent should be obtained orally or in writing and must be documented before any research can begin. If oral consent is being sought, the Principal Investigator must ensure it is documented and a reason for not gaining written consent must be provided to a Research Ethics Committee as appropriate. For research involving techniques such as internet surveys, journalistic interviews or market research, for example, other approaches to documenting consent may be used, in consultation with relevant professional codes e.g. Code of Conduct of the Market Research Society.*

Code of Practice Governing the Ethical Conduct of Research 2020-2021 (section 10)

Some participants may lack the ability to give their informed consent to participate in research, for example:

- **Children:** If school children are asked to be participants in a school-based environment, the Principal Investigator shall inform the Head Teacher of the school of what is proposed and obtain their permission for pupils to take part. The parent(s) or guardian(s) consent should also be sought. Such permission is in addition to, not instead of, individual consent previously described. Minors must be informed that they have the same rights as an adult.

Participant Information Sheet (PIS)

it should inform the participant of the following in plain, jargon-free language:

- why they have been chosen as a potential participant
- the aims of the research and why it is being undertaken
- whether the research is part of a student project and/or the University of Westminster affiliation
- exactly what the participant is required to do
- whether there is an inclusion or exclusion criteria and what this is any harm which might occur as a result of participation
- the right to complain, and to whom, in the event of a problem or perceived issue in the research study or with the research team
- the right to withdraw, or withdraw their data, from the investigation as practicable
- arrangements ensuring the confidentiality and privacy of the participant and protection of the data
- technical protection of the data
- what will happen to their data after the research, e.g. destruction, archiving, etc. and the relevant timescales involved taking account of any requirements to retain data for formal audit purposes
- contact details of the Supervisor for further questions and to report adverse or serious events
- the requirement to report any symptoms which may occur
- how the participant will be informed of the results of the research if applicable
- the intended use(s) of the results of the research
- how the research will be published or disseminated.
- any limitations of confidentiality
- consent for future research

> *A copy of the **Participant Information Sheet** must be retained together with the signed Consent Form and stored suitably in the records of the investigation. A copy of the Participation Information Sheet should also be made available for the participant to take away.*

Data Security and Confidentiality

- Relevant Data Protection legislation and University guidance in data security must be observed in the collection, use, storage, back-up and eventual destruction of all data.

Guide to the General Data Protection Regulation (GDPR)

The GDPR forms part of the data protection regime in the UK, together with the new Data Protection Act 2018 (DPA 2018).

Data Protection Act 2018

http://www.legislation.gov.uk/ukpga/2018/12/pdfs/ukpga_20180012_en.pdf

Ensuring Anonymity (examples)

- The respondents are not required to give their identification like name or address.
- Further ways of achieving anonymity could be a) the use of aliases or b) the use of codes for identifying people (to keep the information on individuals separate from access to them).
- It is important to include in the questionnaire assurances of confidentiality, anonymity and non-traceability. This, for example, could be done by indicating that respondents do not need to give their name, that the data will be aggregated, that individuals will not be able to be identified through the use of categories or details of their location etc.

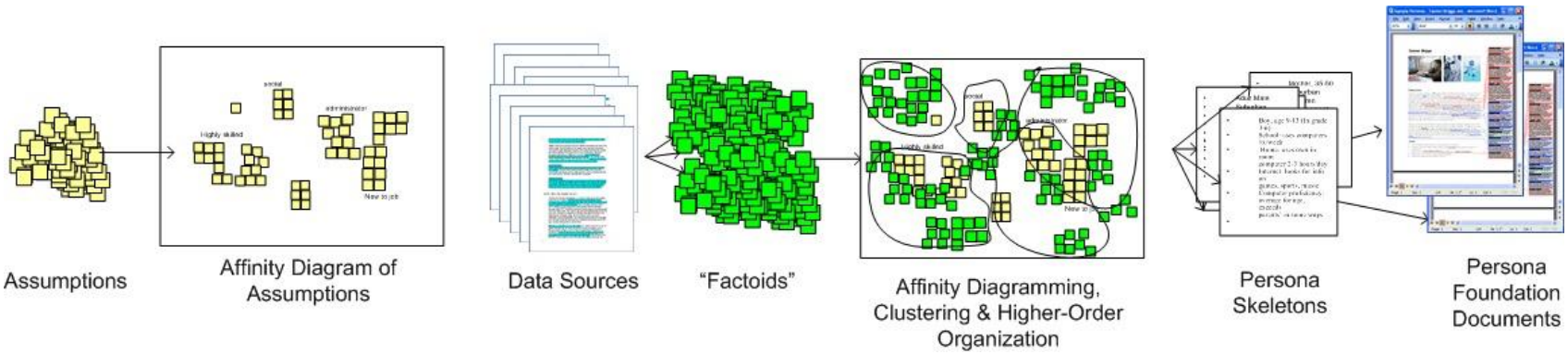
What is Personal Data?

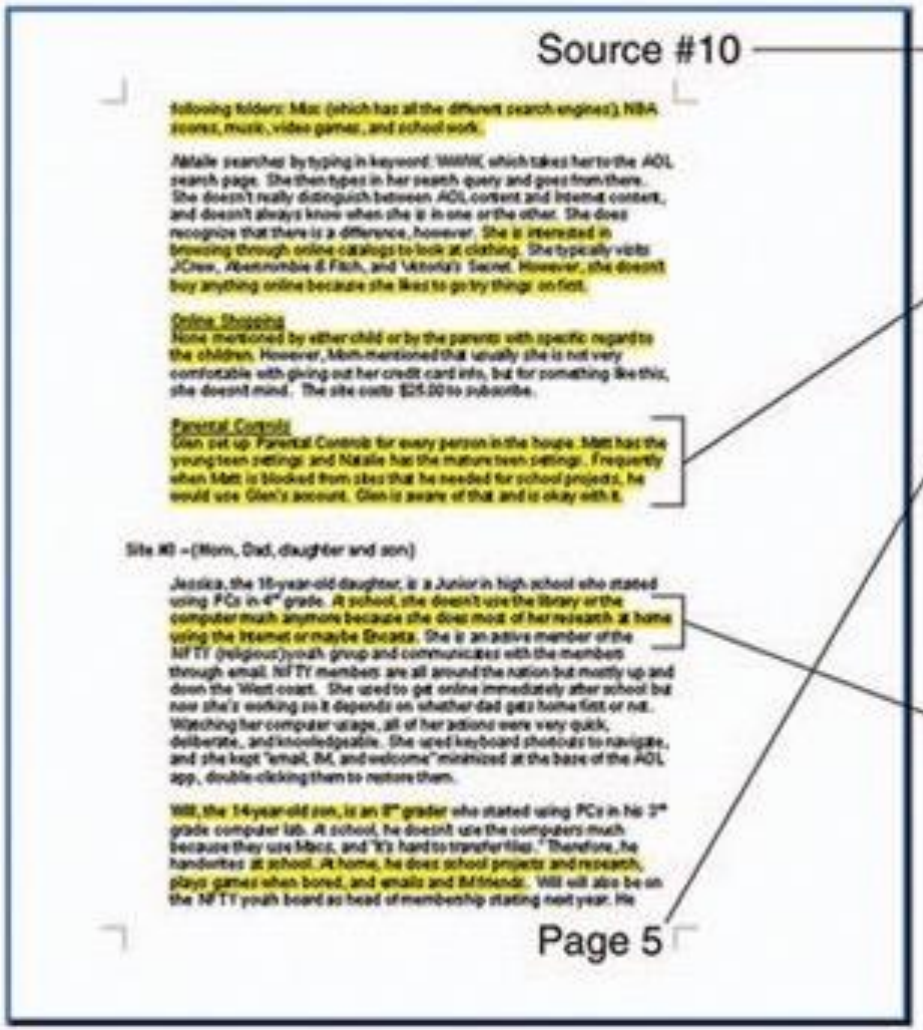
Personal data is defined in the GDPR as:

- "'***personal data'*** *means any information relating to an identified or identifiable natural person ('data subject'); an identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person".*

- https://ico.org.uk/for-organisations/guide-to-the-general-data-protection-regulation-gdpr/what-is-personal-data/what-is-personal-data

What do we do when we try to understand users?


Assumptions
Affinity Diagram of Assumptions
Data Sources
"Factoids"
Affinity Diagramming, Clustering & Higher-Order Organization
Persona Skeletons
Persona Foundation Documents



Source #10

following folders: Misc (which has all the different search engines), NBA scores, music, video games, and school work.

Natalie searches by typing in keyword 'WWW' which takes her to the AOL search page. She then types in her search query and goes from there. She doesn't really distinguish between AOL content and Internet content, and doesn't always know when she is in one or the other. She does recognize that there is a difference, however. She is interested in browsing through online catalogs to look at clothing. She typically visits JCrew, Abelcrombie & Fitch, and 'Victoria's Secret. However, she doesn't buy anything online because she likes to go try things on first.

Online Shopping
None mentioned by either child or by the parents with specific regard to the children. However, Mom mentioned that usually she is not very comfortable with giving out her credit card info, but for something like this, she doesn't mind. The site costs $25.00 to subscribe.

Parental Controls
Glen set up Parental Controls for every person in the house. Matt has the young teen settings and Natalie has the mature teen settings. Frequently when Matt is blocked from sites that he needed for school projects, he would use Glen's account. Glen is aware of that and is okay with it.

Site #3 – (Mom, Dad, daughter and son)

Jessica, the 16-year-old daughter, is a Junior in high school who stated using PCs in 4th grade. At school, she doesn't use the library or the computer much anymore because she does most of her research at home using the Internet or maybe Encarta. She is an active member of the NFTY (religious) youth group and communicates with the members through email. NFTY members are all around the nation but mostly up and down the West coast. She used to get online immediately after school but now she's working so it depends on whether dad gets home first or not. Watching her computer usage, all of her actions were very quick, deliberate, and knowledgeable. She used keyboard shortcuts to navigate, and she kept "email, IM, and welcome" minimized at the base of the AOL app, double-clicking them to restore them.

Will, the 14-year-old son, is an 8th grader who stated using PCs in his 3rd grade computer lab. At school, he doesn't use the computers much because they use Macs, and "it's hard to transfer files." Therefore, he handwrites at school. At home, he does school projects and research, plays games when bored, and emails and IM friends. Will will also be on the NFTY youth board as head of membership stating next year. He

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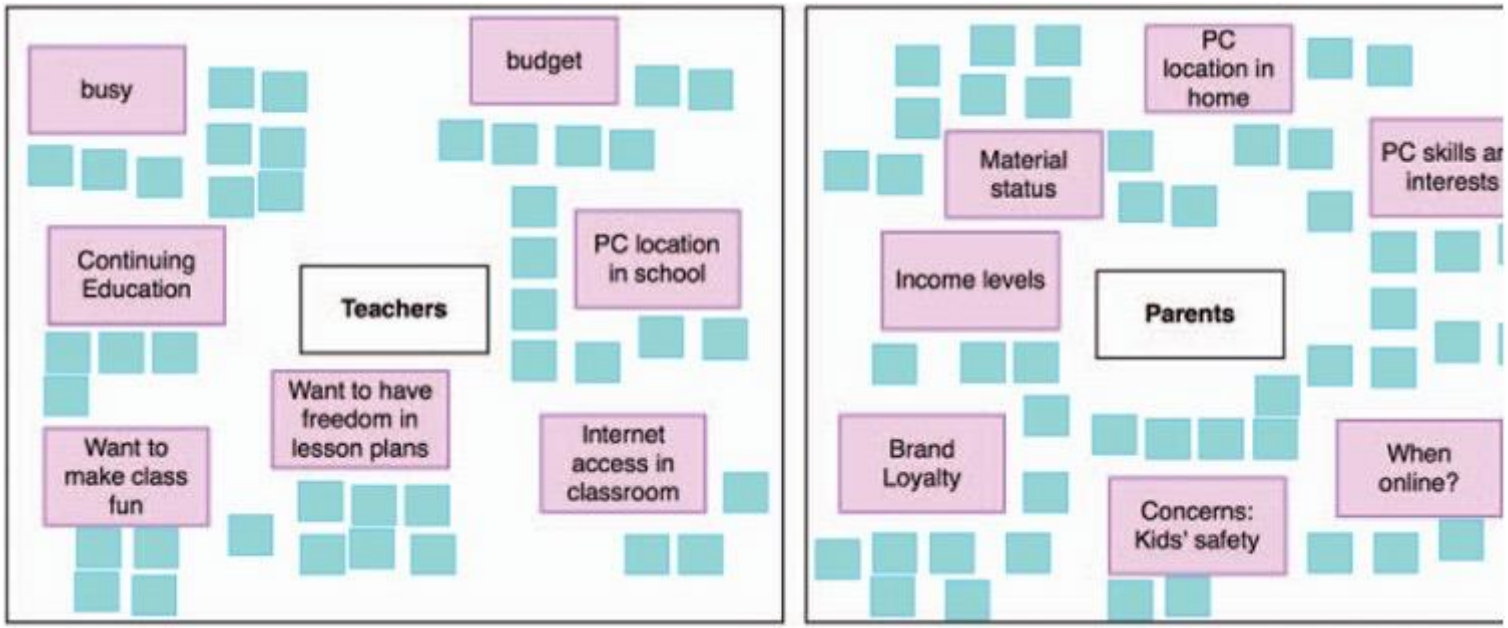
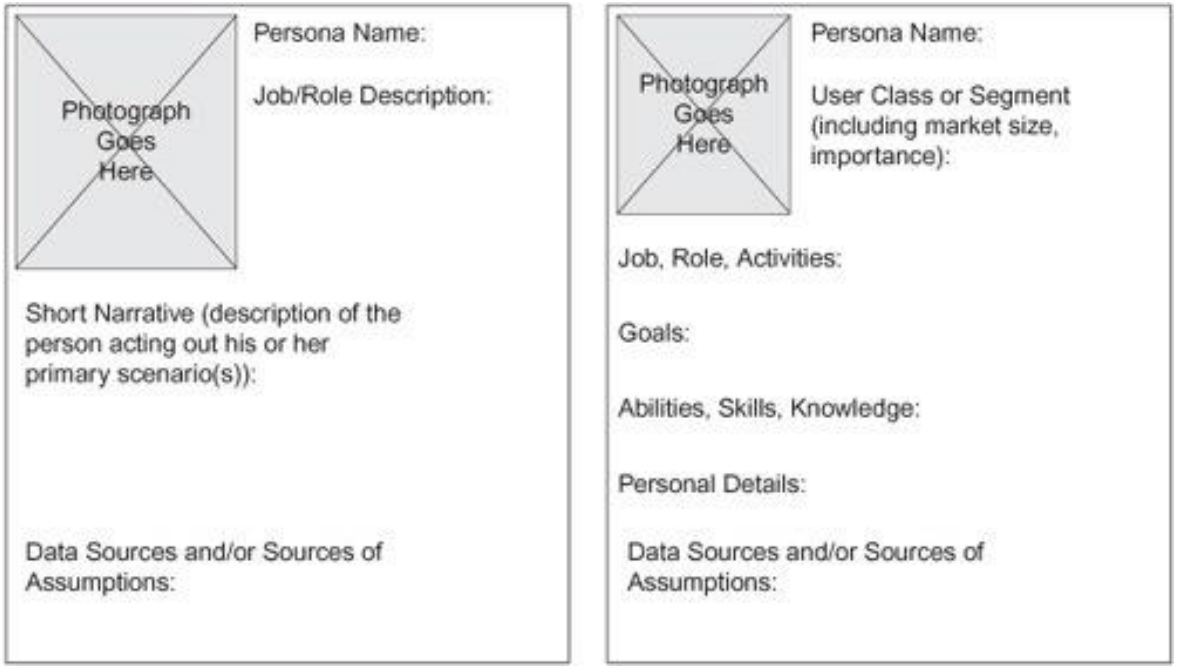
10, p5

Sam [the father] set up parental controls for every person in the house.

10, p5

At school, she [the 16 year old] doesn't use the library or the computer much anymore because she does most of her research at home on the Internet.


busy
budget
Continuing Education
Teachers
PC location in school
Want to have freedom in lesson plans
Want to make class fun
Internet access in classroom
PC location in home
Material status
PC skills ar
interests
Income levels
Parents
Brand Loyalty
When online?
Concerns: Kids' safety


Photograph Goes Here
Persona Name:
Job/Role Description:
Short Narrative (description of the person acting out his or her primary scenario(s)):
Data Sources and/or Sources of Assumptions:
Photograph Goes Here
Persona Name:
User Class or Segment (including market size, importance):
Job, Role, Activities:
Goals:
Abilities, Skills, Knowledge:
Personal Details:
Data Sources and/or Sources of Assumptions:

Adobe, 2017

Clark Andrews

AGE 26
OCCUPATION Software Developer
STATUS Single
LOCATION San Jose, CA
TIER Experiment Hacker
ARCHETYPE The Computer Nerd

Friendly | Clever | Go-Getter

"I feel like there's a smarter way for me to transition into a healthier lifestyle."

Motivations

- Incentive
- Fear
- Achievement
- Growth
- Power
- Social

Goals

- To cut down on unhealthy eating and drinking habits
- To measure multiple aspects of life more scientifically
- To set goals and see and make positive impacts on his life

Frustrations

- Unfamiliar with wearable technology
- Saturated tracking market
- Manual tracking is too time consuming

Bio

Aaron is a systems software developer, a "data junkie" and for the past couple years, has been very interested in tracking aspects of his health and performance. Aaron wants to track his mood, happiness, sleep quality and how his eating and exercise habits affects his well being. Although he only drinks occasionally with friends on the weekend, he would like to cut down on alcohol intake.

Personality

Extrovert — Introvert
Sensing — Intuition
Thinking — Feeling
Judging — Perceiving

Technology

- IT & Internet
- Software
- Mobile Apps
- Social Networks

Brands

General Sports Fan

Name: Paul
Age: 24

Habit

Recurrent
Unconscious pattern
Behavior
Frequent
Repeated
Custom
Usual practice

Frequency

User journeys

1. Results

Just been **watching the Arsenal** match on **Sky**. Its halftime so just having a look at the **transfer news** on BBC sport web site. It has daily transfer news from all the UK newspapers and I love it. Also had to find the **score** for my beloved **Rangers** who play today but I'm not sure what time, oh they've been hammered 4-1 and it's the **final score**, still 4 more wins the league is ours. The Arsenal game has kicked off for the second half so I'll keep an eye on the **score** while I read the **match report** and watch the **post match interview** to see what went wrong with Rangers today.

"

Sports are just an **important** part of being British. Following sport is like breathing – you have to do it and you don't think about it. But my behaviour is **not obsessive**. I'll check things out if I'm **bored** or I see a link to BBC on Google or get sent a link.

The BBC site is the natural choice for me to keep up to date with Sports, I use it for all my news so haven't considered it that much.

But it's pretty good I suppose...

2. News

Just home from a 12 to 9 shift. I was listening to the match on **5live** on the way home **in the car**, with Fulham winning 1-0. During the **news** they mentioned that Ellis may be out of the Tigers. I want to continue **listening to the match** and check the **news in more detail**, so I logged onto BBC sports. First I find the **live match** to listen to and then found the **headline** Scrum half Ellis forced to retire. He's only 26 and won't be able to play for Leicester Tigers or England because of knee problems. I see in a **previous article** that he also missed the World Cup in 2007 because of the cruciate injury and surgery. Just having my daily look at the **football gossip**, which in my option the best bit on the BBC website.

Key drivers

- [x] Results
- [x] News
- [ ] Tables & stats
- [ ] Expert analysis
- [ ] Live text
- [ ] Video / Audio
- [ ] Personalisation
- [ ] UGC discussion

Platforms

International differences

UKFS | IFS

- Internationally the domestic sports meet their requirements, subsequently sites other than the BBC are used

BBC Sport Redesign User Profiles v01 03/07/10

The Contractor

Arthur

Age: 24-78

"I just need them to show up when they say they will."

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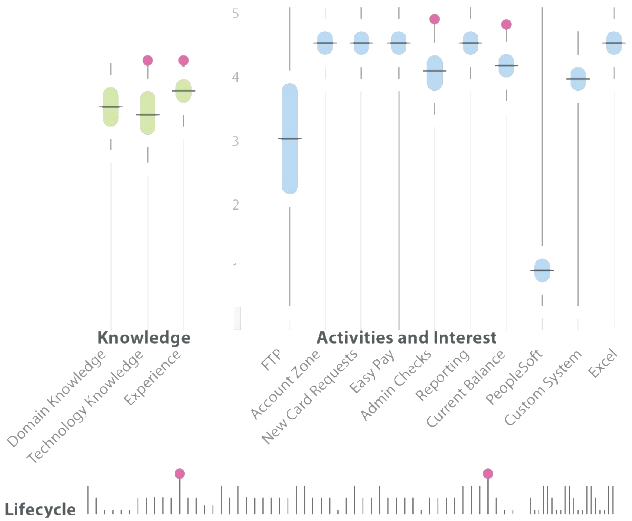


Key Characteristics

- Repeat business customer.
- Familiar with the process

Goals

- Get a dumpster quickly.
- Avoid destruction to the property during the process.
- Avoid an unsightly dumpster.
- Get rid of the dumpster quickly once it's filled.
- Avoid dealing with a person when possible.

Questions

- How quickly can they deliver and pick up?
- Will they leave the property in the condition it was originally?
- What kind of an incentive program do they offer?
- How much will it cost?
- How easily can I get a hold of someone if I need to?

Influencers

- Available when needed
- Price
- Vendor leaves the property how they found it
- Having the container size needed available
- Speed of setup and pickup once contacted
- On-line account access for scheduling and payment
- Rewards program
- Quality and cleanliness of equipment

Frustrations & Pain Points

- Feeling like he's just another number to large providers.
- All the additional charges the hauler doesn't tell him about up front.
- Vendors that don't show up when they say they will and delay his job.
- Service centers not being open after hours when he's available.
- Having to deal with a human, when on-line would be so much more convenient.
- People in the neighborhood throwing things in his dumpster.

Todd Zaki Warfel's persona format (http://zakiwarfel.com/archives/persona-templates)

User Profiles

- A User Profile should include **real ethnographic data** and should not be based on stereotypes.
- The User Profile captures the key characteristics and attributes of the intended user group
  - for example, it could include information regarding task use:
    - e.g. novice, expert, casual, frequent user, knowledge, experience, psychological characteristics, physical characteristics etc.

Personas

- Personas must draw from research into a system's target users, including observations, interviews, focus groups, usability tests, surveys, etc.

"Persona is a fictional character constructed to represent the needs of a whole range of real users"

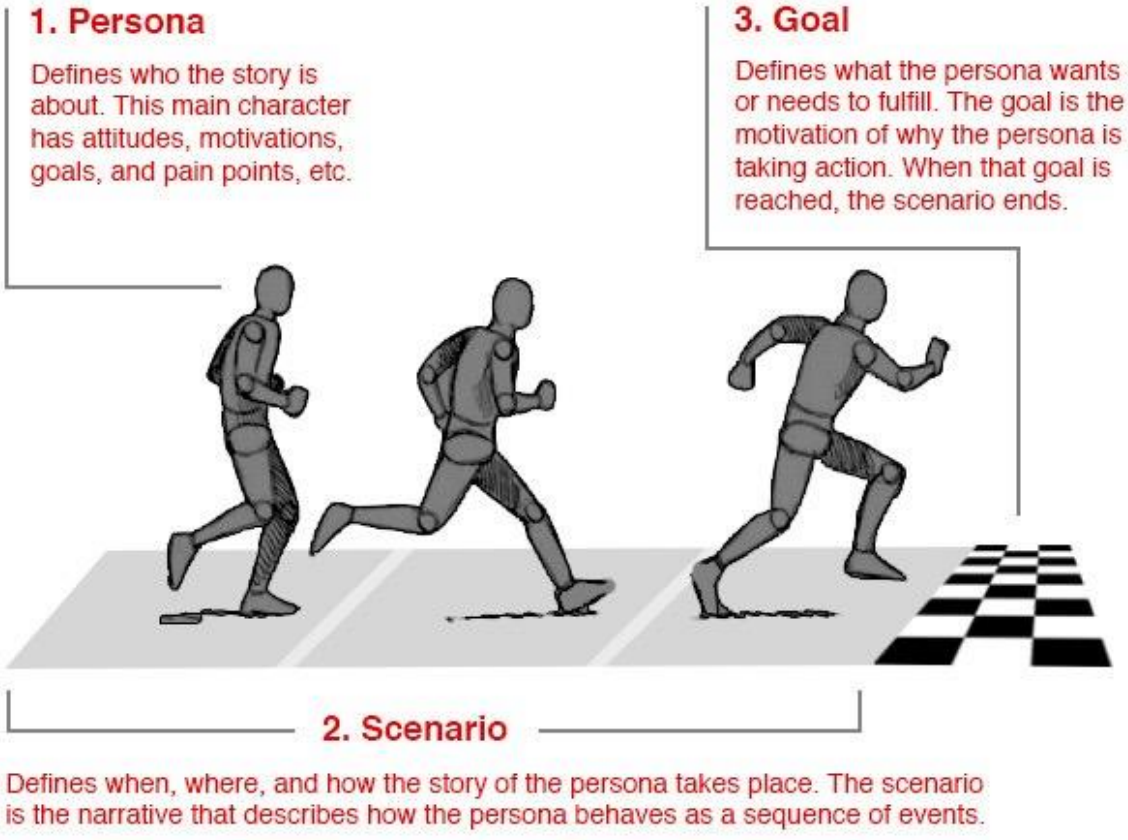
"a Persona creates a common language with which to talk about end users and what they want"

Scenarios

- When a persona enters a scenario they prove to be valuable. **A scenario is like a story, it has a main character (the persona) a setting (somewhere the action takes place), it has a goal (what the persona wants to achieve), it has actions that lead to the goal (interactions with the website)** and it has even obstacles that blocks the way to the goal.

- "A **scenario** is a written story that describes the future use of a system or a website from a specific, and often fictitious, user's point-of-view."

Difference between a scenario and a persona



The three parts of goal-directed design are most effective when used together. For instance, in order for a sprinter to reach their potential, they need a place to run and a finish line to cross. Without a scenario or end goal, the sprinter would have nothing to do or strive for.

https://www.smashingmagazine.com/2014/08/a-closer-look-at-personas-part-1/

Scenarios usually include:

- A specified user
- A particular task or situation
- Clearly defined desired outcome or goal for that task
- Procedure or task-flow information
- A time period
- References to specific features or functionality the user will need or use

3 ways to create personas

Depending on the research data in which they are rooted:

- **Proto personas -** used to quickly align the team's existing assumptions about who their users are, but not based on (new) research
- **Qualitative personas -** based on small-sample qualitative research, such as interviews, usability tests, or field studies
- **Statistical personas -** where initial qualitative research informs a survey instrument that is used to gather a large sample size, and the personas emerge from statistical analysis.

See: nielsen norman group

Qualitative Personas

- The Best Fit for Most Teams
- Often the best approach for creating personas is by running solid exploratory qualitative research (such as interviewing users) with a small-to-medium sample size, and then segmenting users based on shared attitudes, goals, pain points, and expectations.

- How Qualitative Personas are made

See: nielsen norman group

Proto-persona

- Determine who uses the current platform
- What kinds or types of people are they?
- How should we divide these people into groups?

Key Characteristics of:

Persona

- Heavily researched representation of your target audience.
- Detailed
- Smooth finish, well thought out, often used in presentations throughout the UX process.

Proto-Persona

- Non-research driven persona
- Ad-hoc
- Low fidelity

Why Personas?

- Help understand your audience/users
- Humanise user research
- Keeping everyone on the same page in understanding how the product would be used by people/users.
- A reference point throughout.

Why Pro-Personas?

- Help align stakeholders' views of the user.
- Gain buy in for user centred design
- Help stakeholders and team members be more empathetic to end users needs.

Further reading

- Nielsen Norman Group Resources on Personas: https://www.nngroup.com/articles/personas-study-guide

  https://www.nngroup.com/articles/persona-types

- Nielsen Norman Group Article: Avoid Leading Questions to Get Better Insights from Participants https://www.nngroup.com/articles/leading-questions
- Sharp H., Rogers Y., and Preece J. (2015) Interaction Design: Beyond Human-Computer Interaction.
- https://www.interaction-design.org/literature/article/how-to-conduct-user-interviews
- https://www.interaction-design.org/literature/article/useful-survey-questions-for-user-feedback-surveys
- https://www.interaction-design.org/literature/article/how-to-conduct-user-observations
- Preece, J., Rogers, Y., & Sharp, H. (2019). *Interaction design: beyond human-computer interaction*. 5th Ed. John Wiley & Sons.