



SLIIT

Discover Your Future

Lecture 03

Need Finding and
User Research Techniques



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Understand the User

- People who interact directly with the product to achieve a task.
- however, there are others who can also be thought of as users.

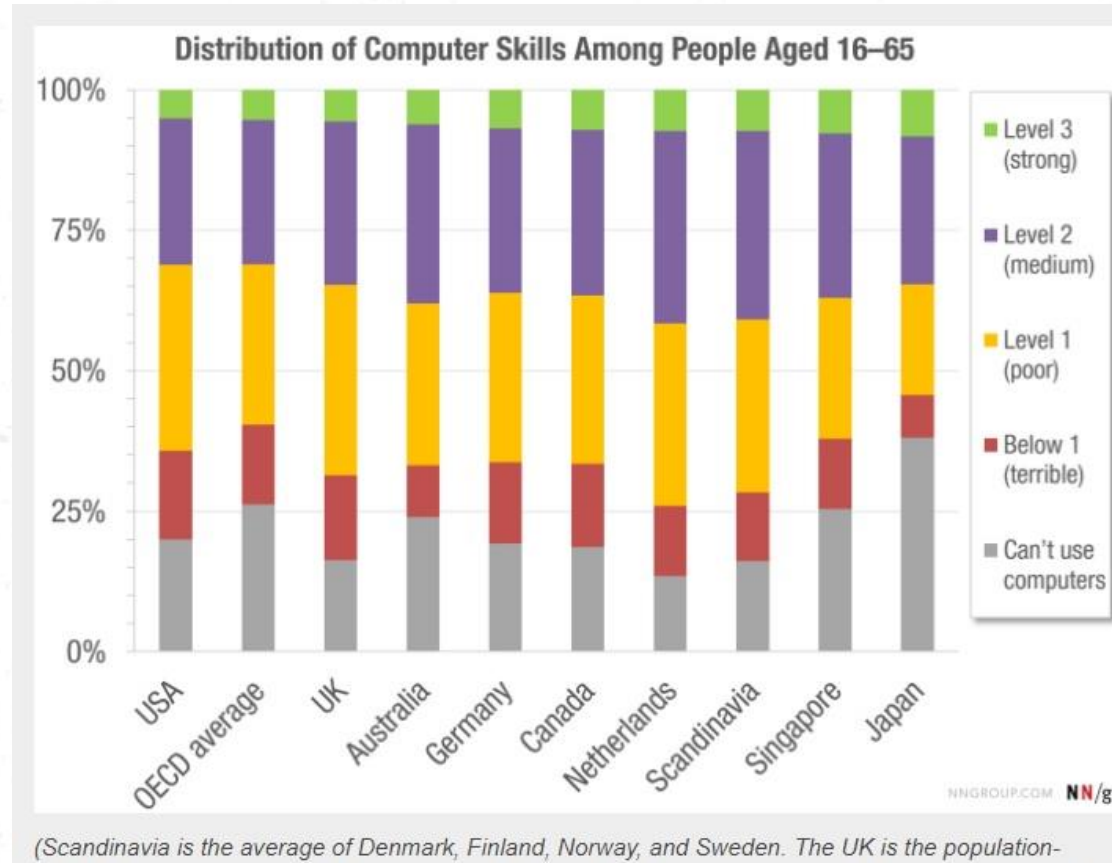
For example,

- Holtzblatt and Jones (1993) include in their definition of users those who manage direct users, those who receive products from the system, those who test the system, those who make the purchasing decision, and those who use competitive products.

Understand the User

- Eason (1987) identifies three categories of user: primary, secondary, and tertiary.
- Primary users are those likely to be frequent hands-on users of the system; secondary users are occasional users or those who use the system through an intermediary;
- tertiary users are those affected by the introduction of the system or who will influence its purchase

You are NOT the User!



What is user research?

- User research describes the effort of understanding the big picture context of who our users are and what they need from us — so that we design digital experiences that they value.

What is user research?

user research helps us to:

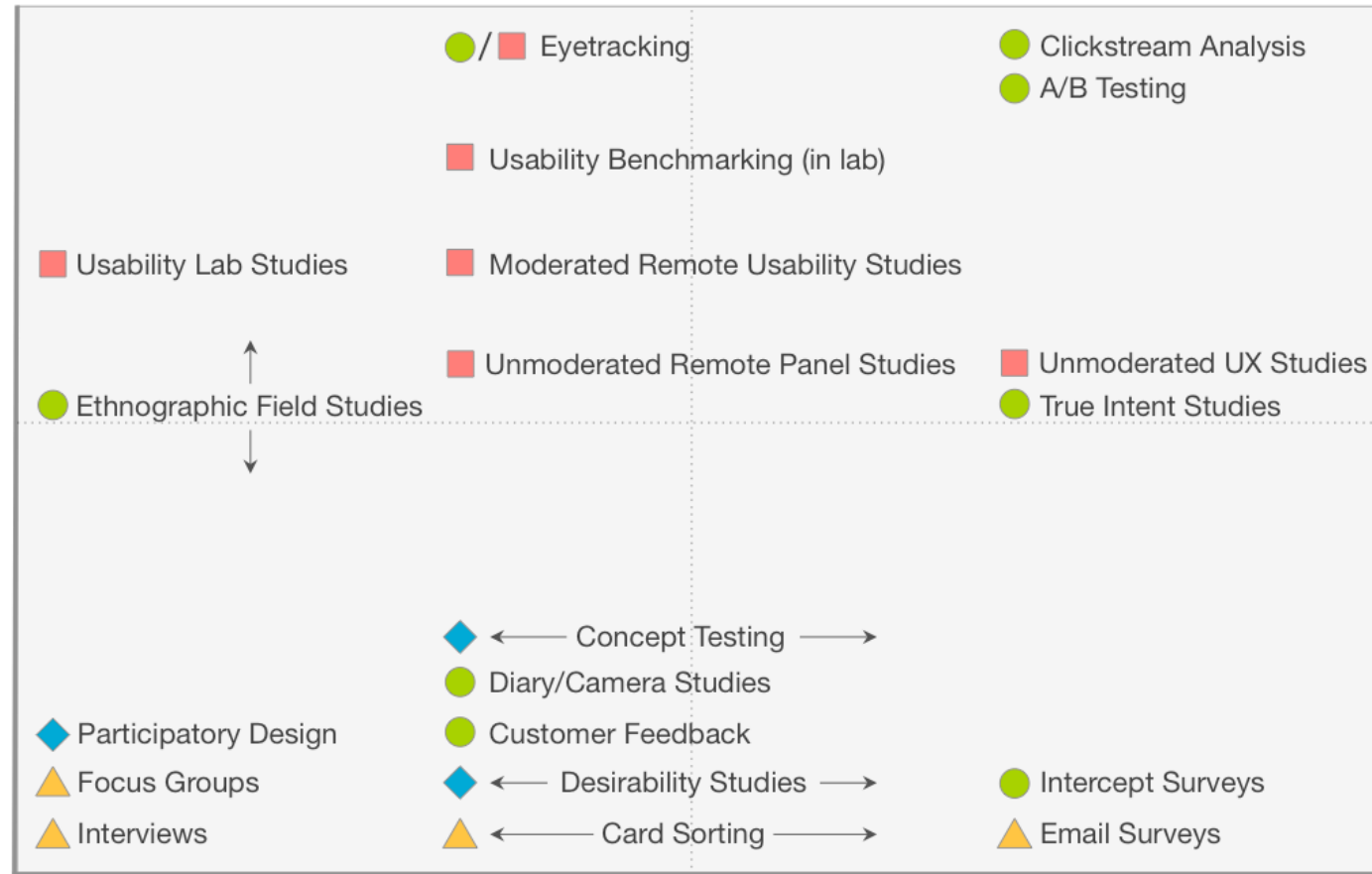
- understand who we're designing and publishing for, within which usage contexts
- getting feedback on the usability and effectiveness of our products and services
- finding out what 'better' looks like, from the perspective of those we seek to serve

User-Experience Research Methods

- To better understand when to use which method, it is helpful to view them along a 3-dimensional framework with the following axes:
 1. Attitudinal vs. Behavioral
 2. Qualitative vs. Quantitative
 3. Context of Use

A LANDSCAPE OF USER RESEARCH METHODS

BEHAVIORAL



QUALITATIVE (DIRECT)

QUANTITATIVE (INDIRECT)

KEY FOR CONTEXT OF PRODUCT USE DURING DATA COLLECTION


- Green circle: Natural use of product
- Red square: Scripted (often lab-based) use of product
- Orange triangle: De-contextualized / not using product
- Blue diamond: Combination / hybrid

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Interviews & Focus Groups

- [IE4131 Lecture 02 Part 02](#)

Interviews



- Many aspects of a person's experience are difficult to infer directly from actions
- Answer "why?" questions
- Allows reflection on rare activities & events

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Surveys


- [IE4131 Lecture 02 Part 03](#)

Surveys

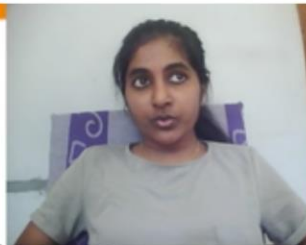
What is survey/questionnaires?

Survey (questionnaires) is a list of questions aimed at extracting specific data from a particular group of people.

- Survey can be powerful user research tools if they are designed appropriately

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IE4131 | HCI | Contextual Inquiry and Design Methodology | Kugathan Archana

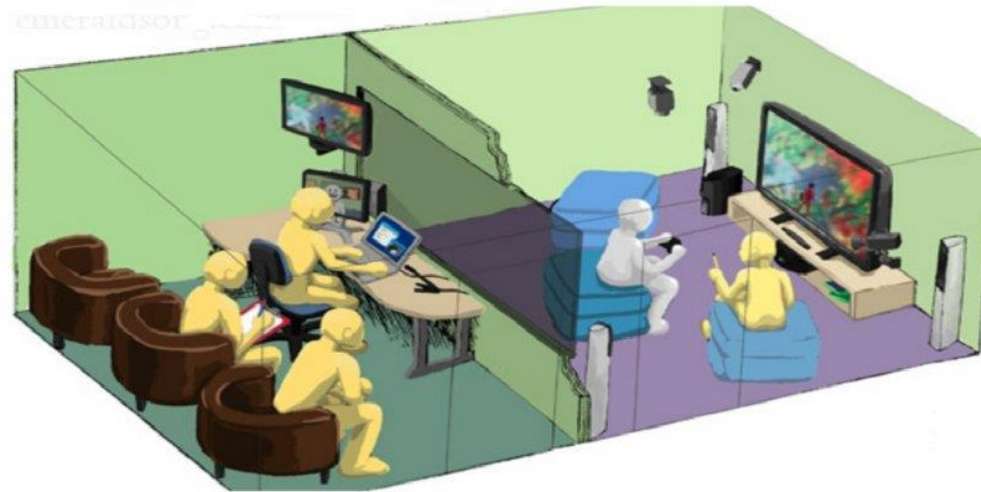


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Usability-Lab Studies

- Participants are brought into a lab, one-on-one with a researcher, and given a set of scenarios that lead to tasks and usage of specific interest within a product or service



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Ethnographic Field Studies

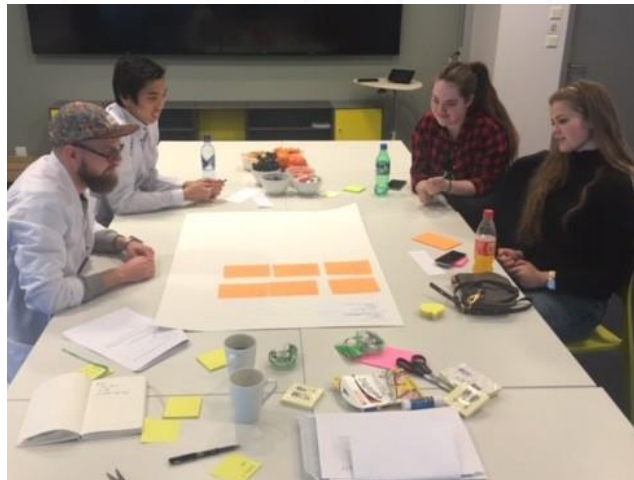
- Researchers meet with and study participants in their natural environment, where they would most likely encounter the product or service in question. See → Contextual Inquiries



<http://www.gillianhayes.com/Inf231F12/r3-ethnography-and-contextual-inquiry/>

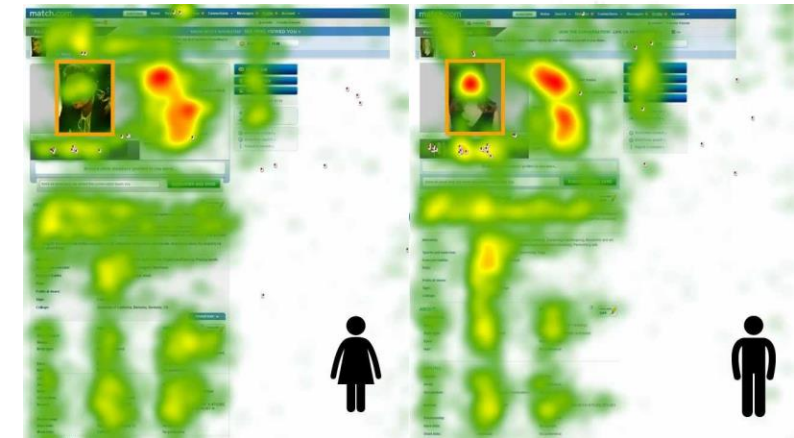
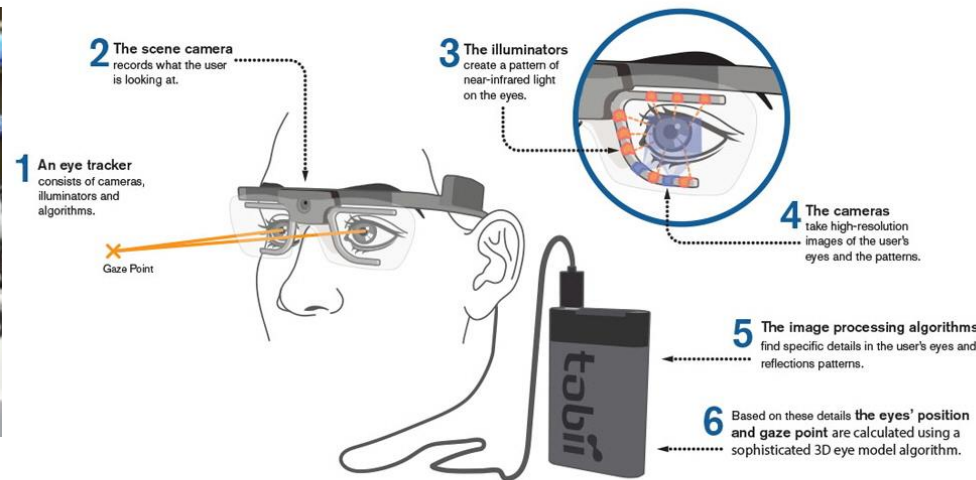
Participatory Design:

- Participants are given design elements or creative materials in order to construct their ideal experience in a concrete way that expresses what matters to them most and why.



Eye tracking:

- An eye-tracking device is configured to precisely measure where participants look as they perform tasks or interact naturally with websites, applications, physical products, or environments.



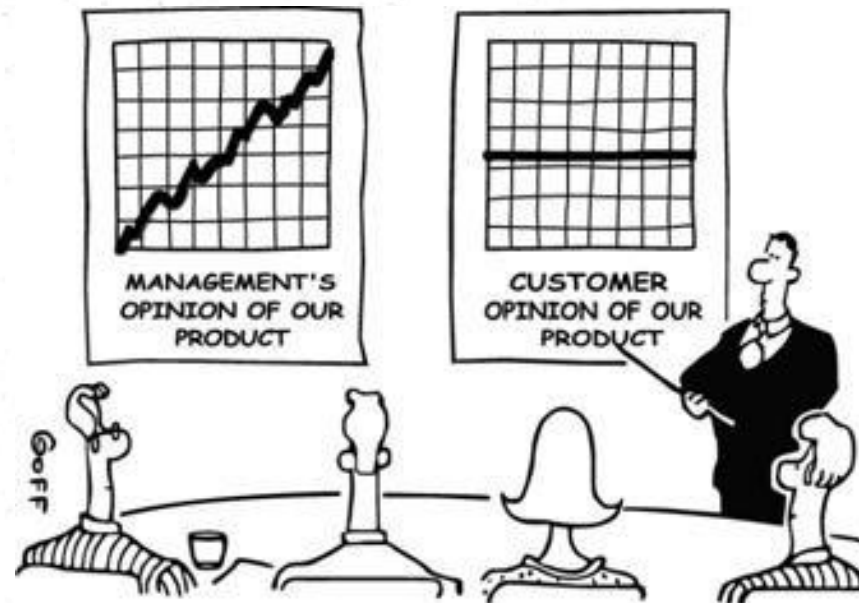
Tobii

- Homework – what is Tobii?

tobii

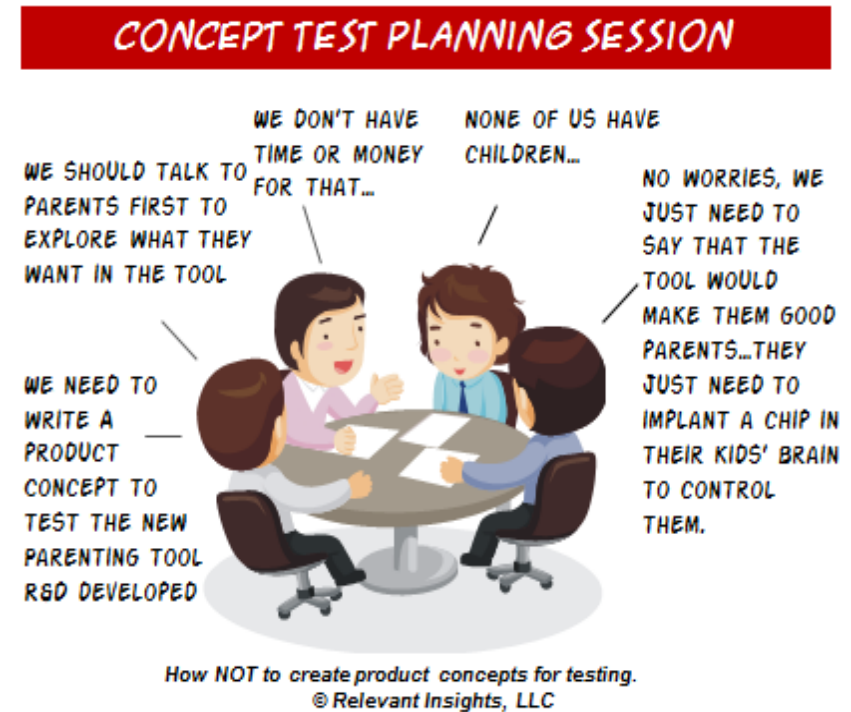
Usability Benchmarking:

- Tightly scripted usability studies are performed with several participants, using precise and predetermined measures of performance.



Concept Testing (HW):

- A researcher shares an approximation of a product or service that captures the key essence (the value proposition) of a new concept or product in order to determine if it meets the needs of the target audience; it can be done one-on-one or with larger numbers of participants, and either in person or online.
- <https://www.akendi.com/blog/concept-testing-that-thinks-its-usability-testing/>



Diary/Camera Studies:

- Participants are given a mechanism (diary or camera) to record and describe aspects of their lives that are relevant to a product or service, or simply core to the target audience; **diary studies** can only be done for data that is easily recorded by participants.



Customer Feedback:

- Open-ended and/or close-ended information provided by a self-selected sample of users, often through a feedback link, button, form, or email.



Desirability Studies:

- **Participants are offered different visual-design alternatives and are expected to associate each alternative with a set of attributes selected from a closed list; these studies can be both qualitative and quantitative.**

Three Different Visual Designs



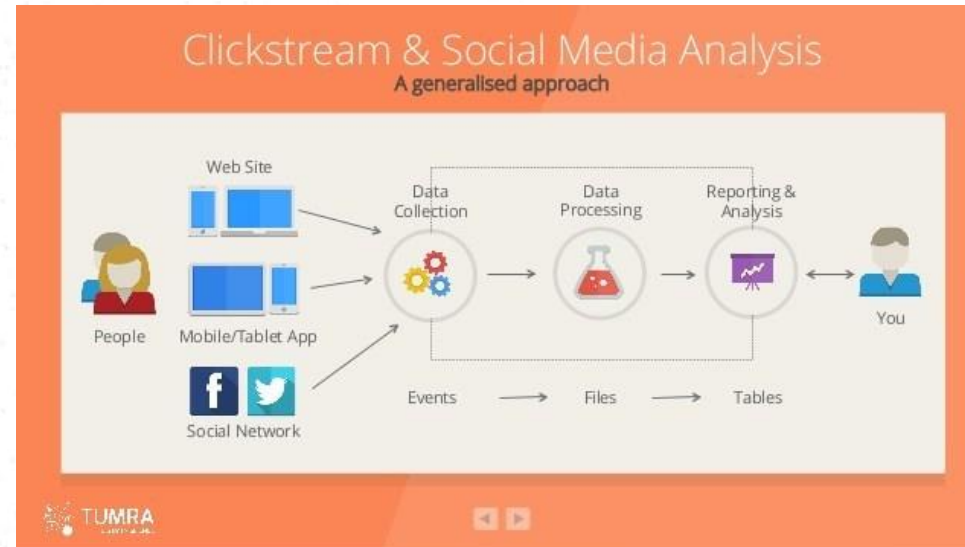
Card Sorting (HW)

- A quantitative or qualitative method that asks users to organize items into groups and assign categories to each group.
- This method helps create or refine the information architecture of a site by exposing users' mental models.



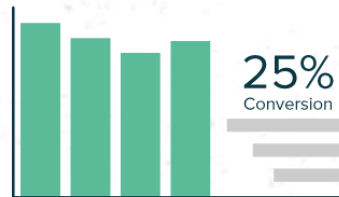
Click-Stream Analysis:

- Analyzing the record of screens or pages that users clicks on and sees, as they use a site or software product; it requires the site to be instrumented properly or the application to have telemetry data collection enabled

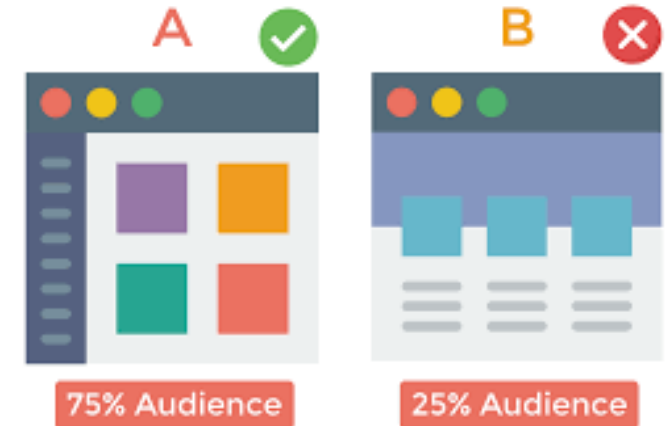
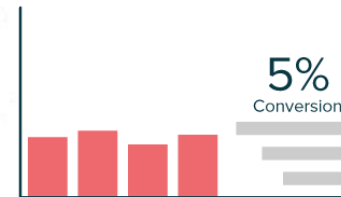
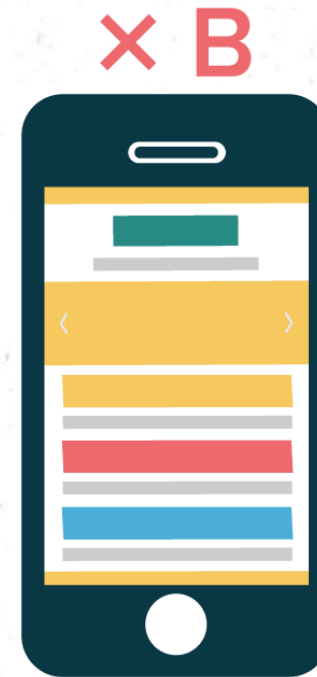


A/B Testing

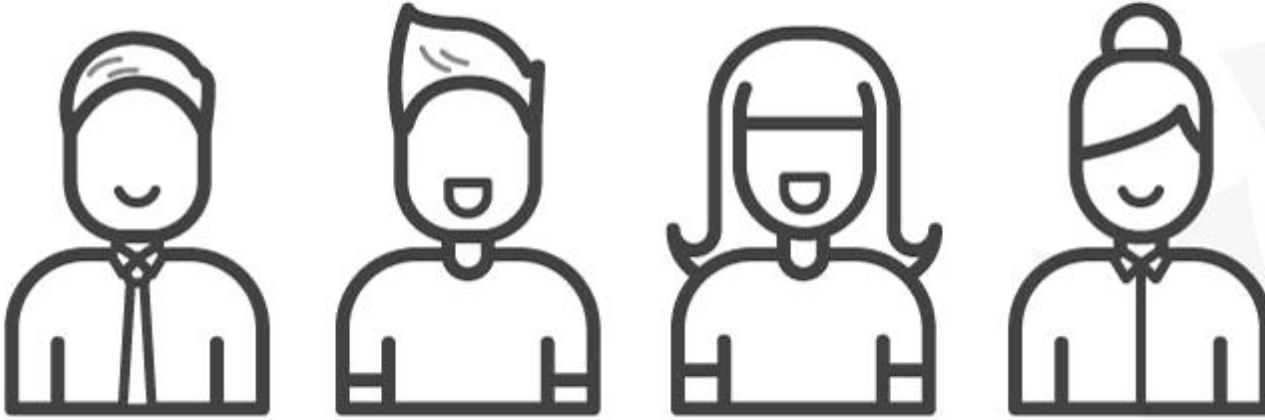
- Also known as “multivariate testing,” “live testing,” or “bucket testing”: a method of scientifically testing different designs on a site by randomly assigning groups of users to interact with each of the different designs and measuring the effect of these assignments on user behavior.



VS.



Personas



Personas

Need Finding Techniques

Personas



A persona is not an actual user, but a pretend user or a “hypothetical archetype” (Cooper, 2004).

A persona represents a specific person in a specific work role and sub-role, with specific user class characteristics. Built up from contextual data, a persona is a story and description of a specific individual who has a name, a life, and a personality.

Personas



Personas are fictional characters, which you create based upon your research in order to represent the different user types that might use your service, product, site, or brand in a similar way.

- Persona is simply a representation of your most common target audience.
- Based on the user centered design approaches
- Based on interviews ,observation and research.

Personas

- Hence, personas do not describe real people, but you compose your personas based on real data collected from multiple individuals.
- Personas are also known as model characters or composite characters.

Effective personas:

- Represent a major user group for your website/product
- Express and focus on the major needs and expectations of the most important user groups
- Give a clear picture of the user's expectations and how they're likely to use the site
- Aid in uncovering universal features and functionality
- Describe real people with backgrounds, goals, and values

How Do We Make Them?

- Step 1. Take a closer look to your data.
- Step 2. Identify patterns
- Step 3. Create persona
 - Photo
 - Name
 - Description
 - Users
 - Problems
- Step 4. Share it!



Creation of a good Persona is not simple, its characteristics are

- Sufficiently reflect the data and conclusions of investigations
- Show the current state of the interviewees instead of their expectation of the future
- Be more realistic than idealistic
- Propose a challenge to the group (but it is not impossible)
- Help the group understand the users better

User Persona

- A representation of a customer type. It can reflect your customer type and their preferences.
- There are 4 different perspectives of personas:
 - **Goal-directed** –focuses on what the user wants
 - **Role-based** –focuses on behavior of the user
 - **Engaging persona** –revolves the understanding of fictitious people and their interaction with a product
 - **Fictional persona** –comes from the user experience design team based on past interactions with users
- To create a user persona,
 - you must be able to gather user data, create scenarios for problems and analysis of the product usability.

Andrew Cole

PRACTICE OWNER



GENDER Male

AGE 54 year old

STATUS Married, 2 children

EDUCATION Bachelor of Medicine
(Honours), Doctor of
Surgery,

LOCATION Sydney metro

OCCUPATION Senior surgeon, lecture,
article contributor

NEEDS:

More support in running a business

PAIN POINTS:

Time-poor

Fast technology changes

READING HABIT

Mostly read print journals & newspapers, only briefly
on digital format

TECHNOLOGY

Medium level tech-savvy

GOALS

Write & read quality and interesting articles

Running a successful medical practice





Drew

Influencer

ABOUT

- 👤 Age 25-34
- 💰 \$50K-75K
- 💻 High Tech Proficiency

EVENT ATTENDANCE ATTRIBUTES

Frequent event go-ers (monthly), tend to be very early planners, and more likely to travel regionally or nationally for an event, tend to go to trending events only.

EVENT INFLUENCERS

- 👤 Friends
- 🌍 Cultural
- 🏔️ Adventure
- 📖 Learning
- 🌐 Networking
- 🔥 Hype
- 🏆 Credibility

MOTIVATIONS

Motivated to find new things to do and share them with network, having influence, being the first to know about something and getting tickets right away.

CORE NEEDS

Finding events on social media and being able to easily share them. Being able to see trending events that will up their klout. Also getting notifications of on-sale so they can be the first to get tickets.

PAIN POINTS

Finding the time to attend events and staying on budget.

39%

Total Universe GTV

12

Events per month

*GTV Calculated based on 4 of Drew's Engagements from his
Based on a study conducted with 75 participants



BACKGROUND

- 15, Female
- Ongoing Private Education
- Ambitious
- Comfortable using technology to communicate

MOTIVATIONS

- Keeping in touch with her network
- Fashion/street cred
- Keeping up with peers.

FRUSTRATIONS

- Sad people trying to be 'friends' on Facebook
- Having to be in bed @ 11pm
- Being swamped in friends updates
- Missing important status updates

Ginnie

Receives private tutoring in Maths and English as these are not her strong subjects. Enjoys playing for the school's 2nd teams for netball and Lacrosse and is good at art.

She loves recording her favourite shows: ER and Sun Valley High on Sky+ and spends some of her time on her Laptop that Daddy bought her watching videos on YouTube, downloading music, keeping up to date with her friends on Facebook and chatting via MS IM to her cousin who is at University in Leeds.

She loves Ugg boots and Abercrombie & Fitch and uses the Internet to shop and find the cheapest prices.



"I want to easily hook up with my friends whilst watching TV"



Denise Smith



Name: Denise Smith
Occupation: Primary care physician
Age: 41 years old

“Portability and turnaround time are my biggest challenges.”

Denise is a primary care physician at a group practice and a part time doctor with Plush Care.

For her PlushCare consultations she accesses patient medical records from Practice Fusion (EMR) as well as orders labs and prescriptions, and enters her SOAP notes.

She wonders if there is a way to streamline and simplify the process in order to save time and increase productivity. She also feels that being confined to her desktop or laptop for consultations decreases her flexibility and mobility.

Motivations

- Increase efficiency and flexibility.
- Spend more time caring for patients.
- Earn additional income as a result.

Goals

- Have all patient information on a single platform.
- Access PlushCare at any time and location.

Pain points

- Being restricted to her desktop computer.
- Having to switch between two platforms.
- Having to go through an intermediary to communicate with patients for follow ups.

Constraints

- Work Schedule.
- Mobile device while she is away from home or office.

Patient Persona

Joan Stevenson



- 35-years-old
- Middle school teacher
- Married with two kids
- Migraine headaches
- High Blood Pressure
- Lives in Anytown, USA

ABOUT JOAN

Joan is a middle school teacher. She has two young children and lives in the suburbs with her partner/husband. She sets up the family's medical appointments and takes care of her elderly dad, who is in a local retirement home.

DAY-TO-DAY

- Getting her kids to daycare
- Teaching, grading
- Preparing meals for the family
- Getting the kids to bed
- Laundry, cleaning
- Caring for her dad on weekends

SOURCES OF INFORMATION

- Local news
- Facebook, Instagram
- Online articles, blogs
- Other teachers, friends, family

CHALLENGES

- Weight management
- Handling stress
- Budgeting time for self-care

GOALS

- Establish a set exercise schedule
- Develop better nutrition habits

WHAT JOAN WANTS FROM A HEALTHCARE PROVIDER

- **Convenience** — easy ways to schedule her and her family's appointments
- **Affordability** — she's on a teacher's salary and her husband is a contractor. Money is tight and saving for sending the kids to college is hard enough
- **Flexibility** — she's around lots of kids every day, she tends to pick up whatever her class has and brings it home. Making last minute appointments is important.
- **Personalized and authentic care.**
- **Educational resources to learn from for better self care management.**
- **Efficient appointments.**

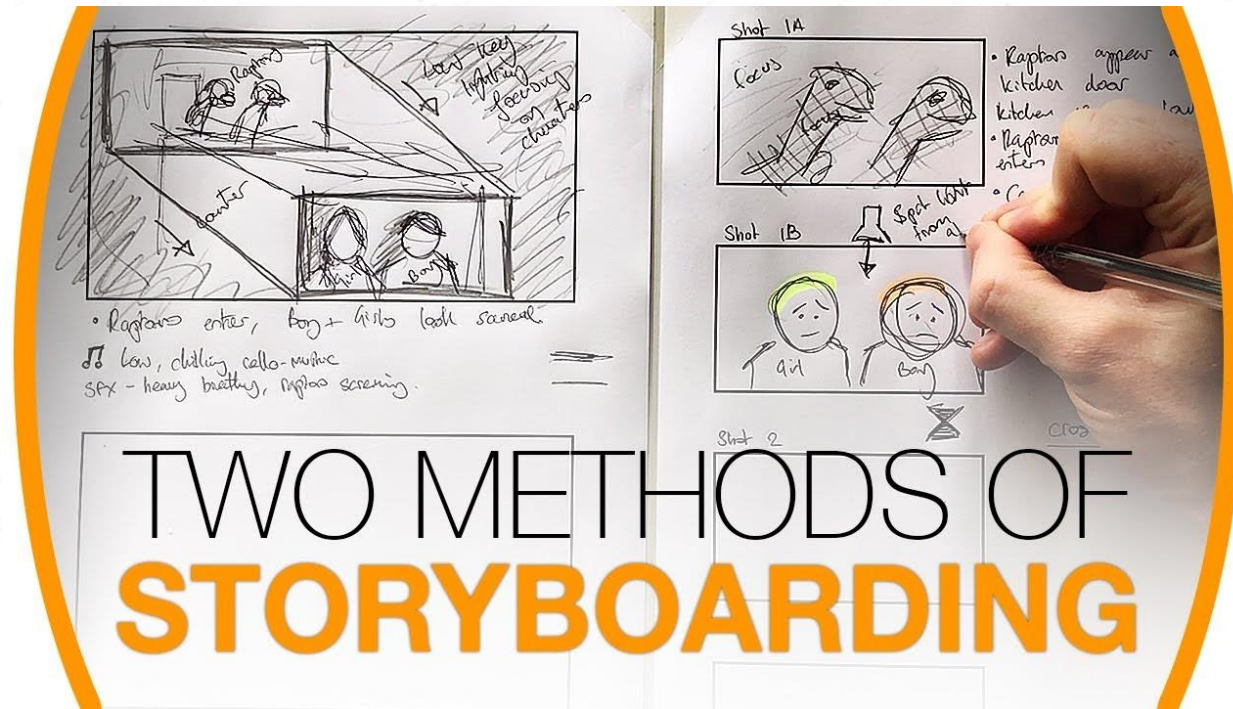
surveygizmo | enterprise



Homework

Create one Persona capture the user characteristics of one of the systems below

- a new video game
- a telecare system designed to monitor an elderly person's movements and alert relevant care staff
- a robot working in a car assembly plant might be that it should be able to accurately place and weld together the correct pieces of metal.



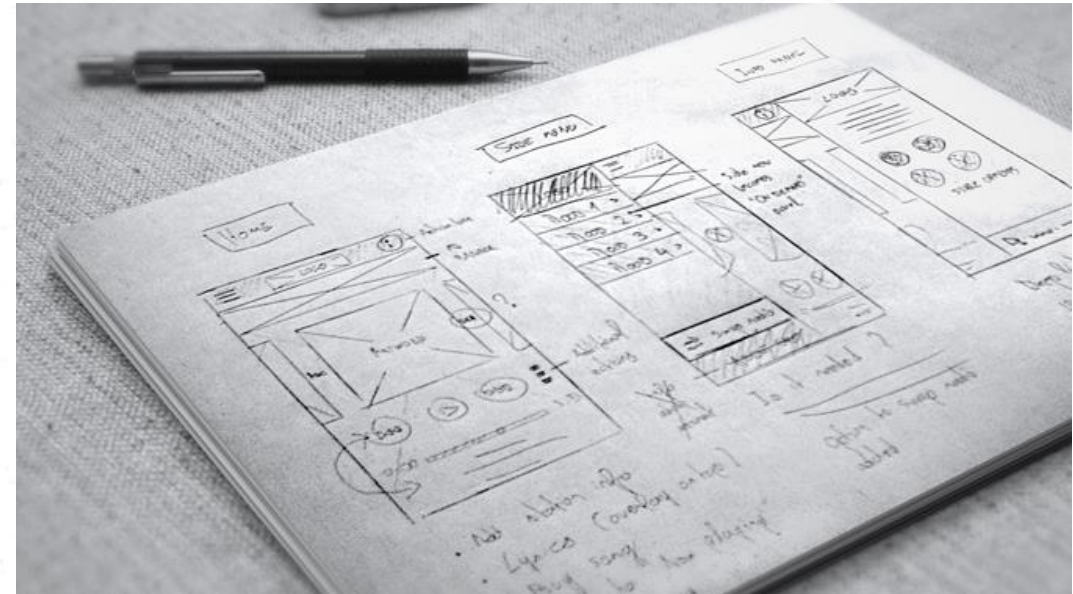
Story Boards

Need Finding Techniques



What is a Storyboard?

- Storyboards are illustrations that represent shots that ultimately represent a story.
- Basically, it's a sequential art, where images are arrayed together to visualize the story.
- This method came from the motion picture production



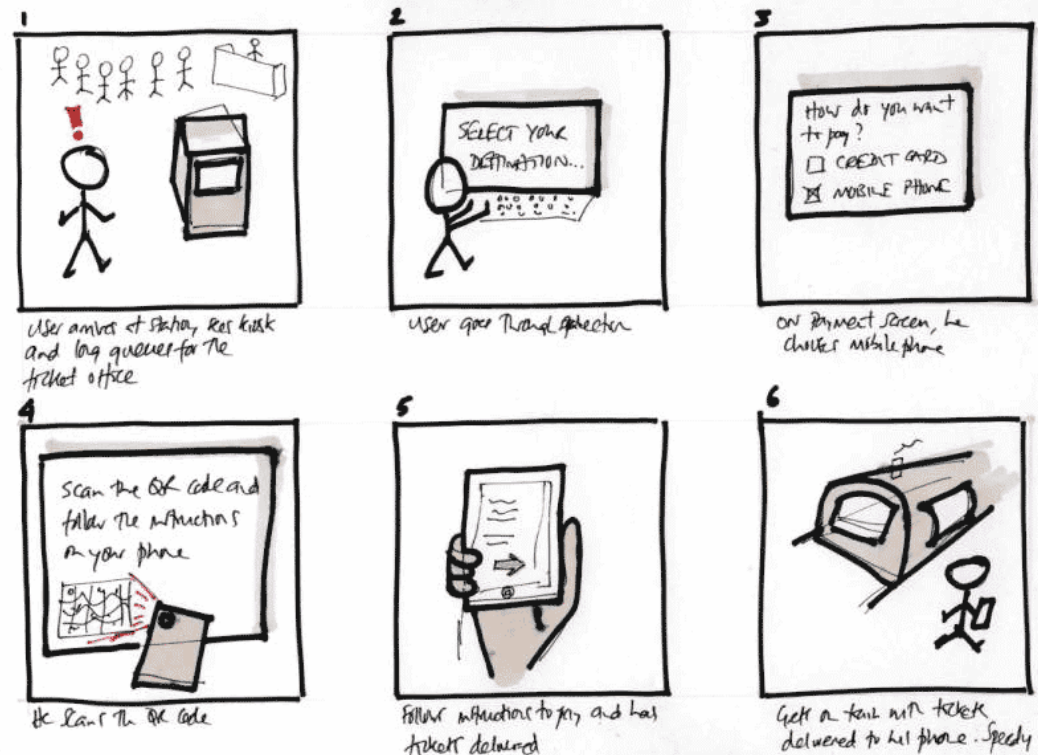
Why does storytelling matter in design?

- Stories are an effective and inexpensive way to capture, relate, and explore experiences in the design process.
- In relation to design process this technique has following benefits:
 - *Human-centered design approach.*
 - 'Pitch and critique' technique (*Homework*)
 - *Iterative approach.*

How to work out a story structure?

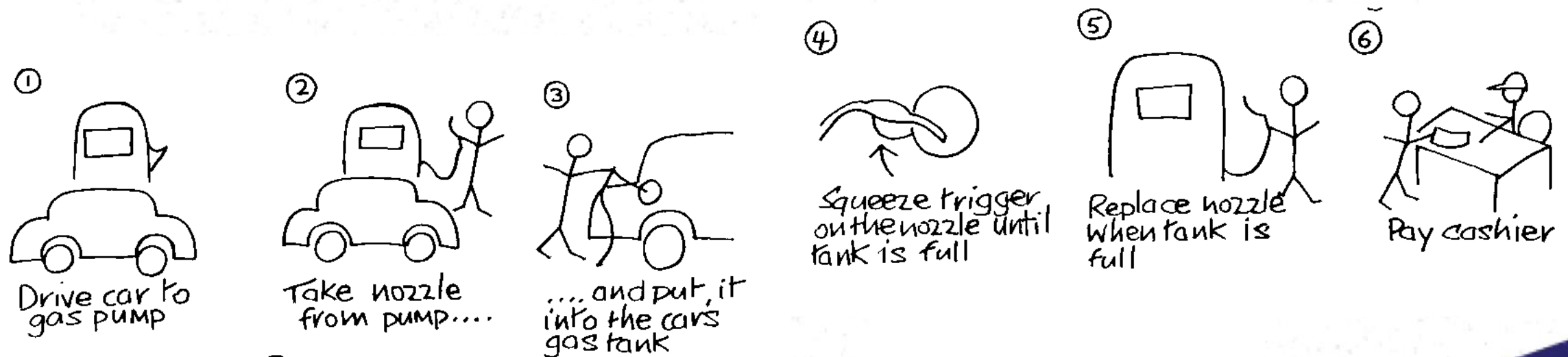
- Each story should have following essential elements:

- *Character.*
- *Scene.*
- *Plot.*



Activity

- Draw set of illustrations (Storyboards) to show “How to fuel a car”



Storyboard

- A storyboard represents a sequence of actions or events that the user and the product go through to achieve a task
- Storyboards are visual organizers,
 - a series of illustrations displayed in sequence for the purpose of pre-visualizing a video, web-based training, or interactive media sequence.
 - they are also used to pre-visualize a web site or application, although typically in that case wireframes are used as part of an iterative design process.

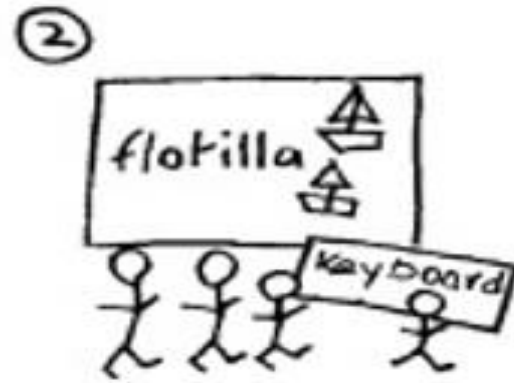
Storyboarding

Why Do You Need a Storyboard?

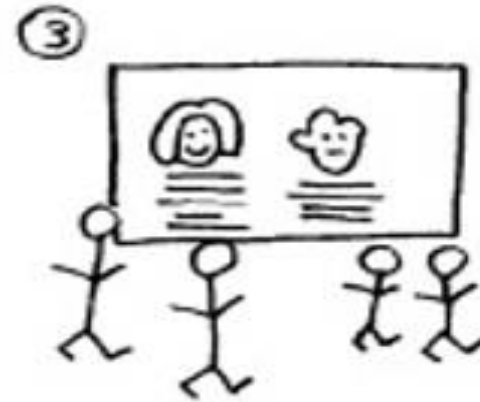
- It helps you organize your thoughts.
- It helps you plan your video more effectively.
- It helps you communicate your ideas to other people.
- It simplifies everything that comes later.



Thomson family
gather around



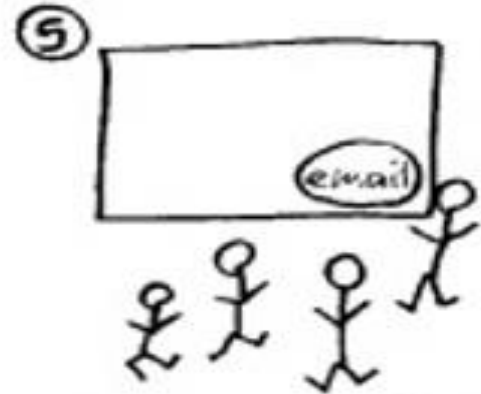
System suggests
flotilla



System shows
descriptions

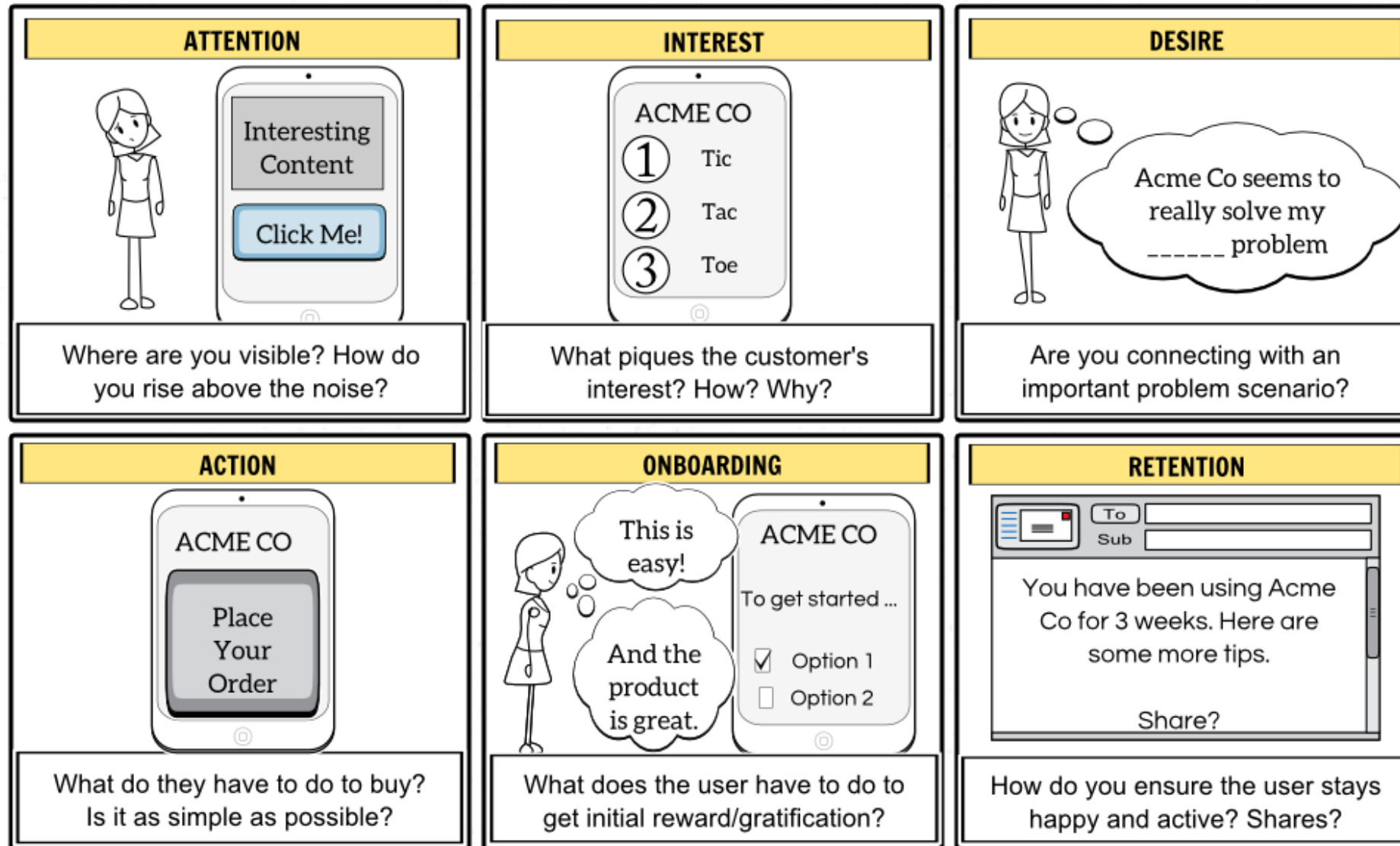


Will asks
for details



Details emailed

Interpret this
storyboard



Interpret this storyboard

What Is Contextual Inquiry?

Descriptive field research method

- Depends on conversations with users in the context of their work
- Used to define requirements, plans and designs.
 - Discover the real requirements of the work
- Drives the creative process:
 - In original design
 - In considering new features or functionality



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See:

[IE4131 Lecture 02 Part 4](#)

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Contextual Inquiry

Need Finding Techniques



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IT3060 | SE3050 | IE4131 | Need Finding & User Research | Dr Shyam Reyah



Scenarios

Need Finding Techniques

“Jeremy, 52, a senior manager for a medical supplies company, needs constantly updated information on purchasing-related issues while he travels between work and hospital sites so he can use/allocate resources optimally. He’s highly skilled, organized and diligent. However, with recent layoffs he now struggles to manage his workload and is too drained to enjoy his career. He strains to handle tasks which his former assistant previously performed, stay current with issues and investigate supply-chain problems, while he tries to find alternatives that would be more economical in the financial climate.

He wants something convenient like an app to take him straight to only the *most relevant* updates and industry news, including current information feeds about share prices, tariffs on foreign suppliers, budget decisions in local hospitals and innovations in the medical devices he handles (mostly lung and cardiovascular products). Instead of continuing to liaise with three other managers and spending an hour generating one end-of-day report through the company intranet, he’d love to have all the information he needs securely on his smartphone and be able to easily send real-time screenshots for junior staff to action and file and corporate heads to examine and advise him about.”

https://www.interaction-design.org/literature/topics/user-scenarios#_msocom_5

What are User Scenarios?

- A user scenario is the fictitious story of a user's accomplishing an action or goal via a product.
- Scenarios describe the stories and context behind why a specific user or user group comes to your site.
- They note the goals and questions to be achieved and sometimes define the possibilities of how the user(s) can achieve them on the site.
- Scenarios are critical both for designing an interface and for usability testing.
- Scenarios are usable in design and the Usability Testing

What to Consider When Writing Scenarios

Good scenarios are concise but answer the following key questions:

- **Who is the user?** Use the personas that have been developed to reflect the real, major user groups coming to your site.
- **Why does the user come to the (site)?** Note what motivates the user to come to the site and their expectations upon arrival, if any.
- **What goals does he/she have?** Through task analysis, you can better understand the what the user wants on your site and therefore what the site must have for them to leave satisfied.
- **How can the user achieve their goals on the site?** Define how the user can achieve his/ her goal on the site, identifying the various possibilities and any potential barriers

Scenarios

- A scenario is one story about how a product may be used to achieve the task.
- It is therefore possible to generate a storyboard from a scenario by breaking the scenario into a series of steps which focus on interaction and creating one scene in the storyboard for each step.

Scenarios

- The purpose for doing this is two-fold:
 - first, to produce a storyboard that can be used to get feedback from users and colleagues;
 - second, to prompt the design team to consider the scenario and the product's use in more detail.

Scenarios

- Scenarios are informal stories about user tasks and activities
- Scenarios can be used to model existing work situations, but they are more commonly used for expressing proposed or imagined situations to help in conceptual design.
- Stakeholders are actively involved in producing and checking through scenarios for a product.

Using a Scenario

1. As a basis for the overall design.
 2. For technical implementation.
 3. As a means of cooperation within design teams.
 4. As a means of cooperation across professional boundaries,
- ~ (Bødker, 2000, p. 63): ~

Using a Scenario

- specifically, scenarios have been used as scripts for user evaluation of prototypes, as the basis of storyboard creation.
- to build a shared understanding among team members.
- Scenarios are good at selling ideas to users, managers, and potential customers.

Summary

Need finding and user research techniques

- Understand the user
- Personas
- Storyboarding
- Contextual Inquiry
- Scenarios



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