UNIT 3

USABILITY FOCUSED PROJECT DEVELOPMENT

Redesigning App/Website using design lifecycle

https://blogs.zeiss.com/digital-innovation/en/usability-in-software-development-projects/

There are series of steps that can make the redesign experience less painful and more likely to result in a positive outcome for both the user and the business.

Step by step process:

1. Understand initial goals of redesigning
2. Communicate with users to gain insights
3. Evaluate customer reviews and feedback
4. Implement changes and user experience
5. Test redesign with users
6. Monitor and maintaining

1. Understand initial goals of redesigning

- Is it time to redesign because user experience trends have changed?

- Is it time to redesign because you launched a new feature?

- Is it time to redesign because the competition is providing a better app experience?
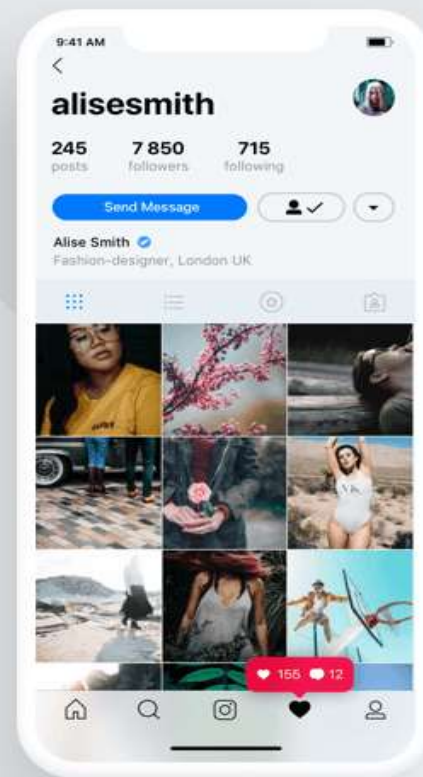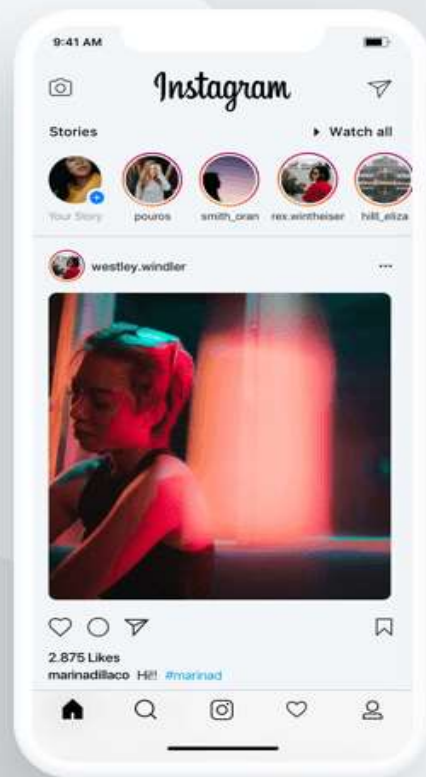
Step 2: Communicate With Users To Gain Insight

- One of the most underestimated steps in the redesign process is communication.

- At this stage, you already know exactly what you want to accomplish with your app redesign.

- Now you have to communicate the impending change to people who love and frequently use your website/app.

- Once you've communicated this, you can meaningfully engage your users and learn what they do and don't like about the current experience or what they'd like to see changed.

CUSTOMER
COMMUNICATION 101

Insights template

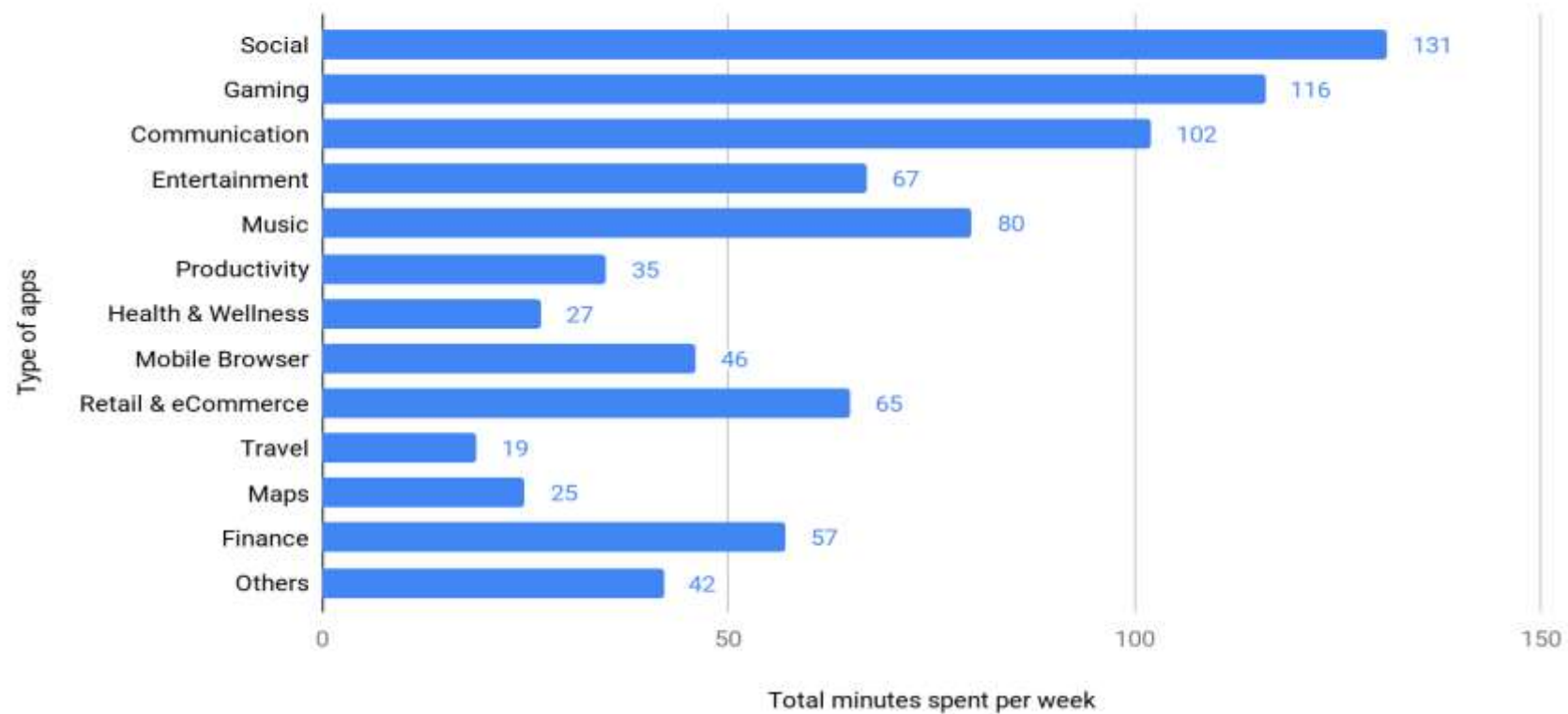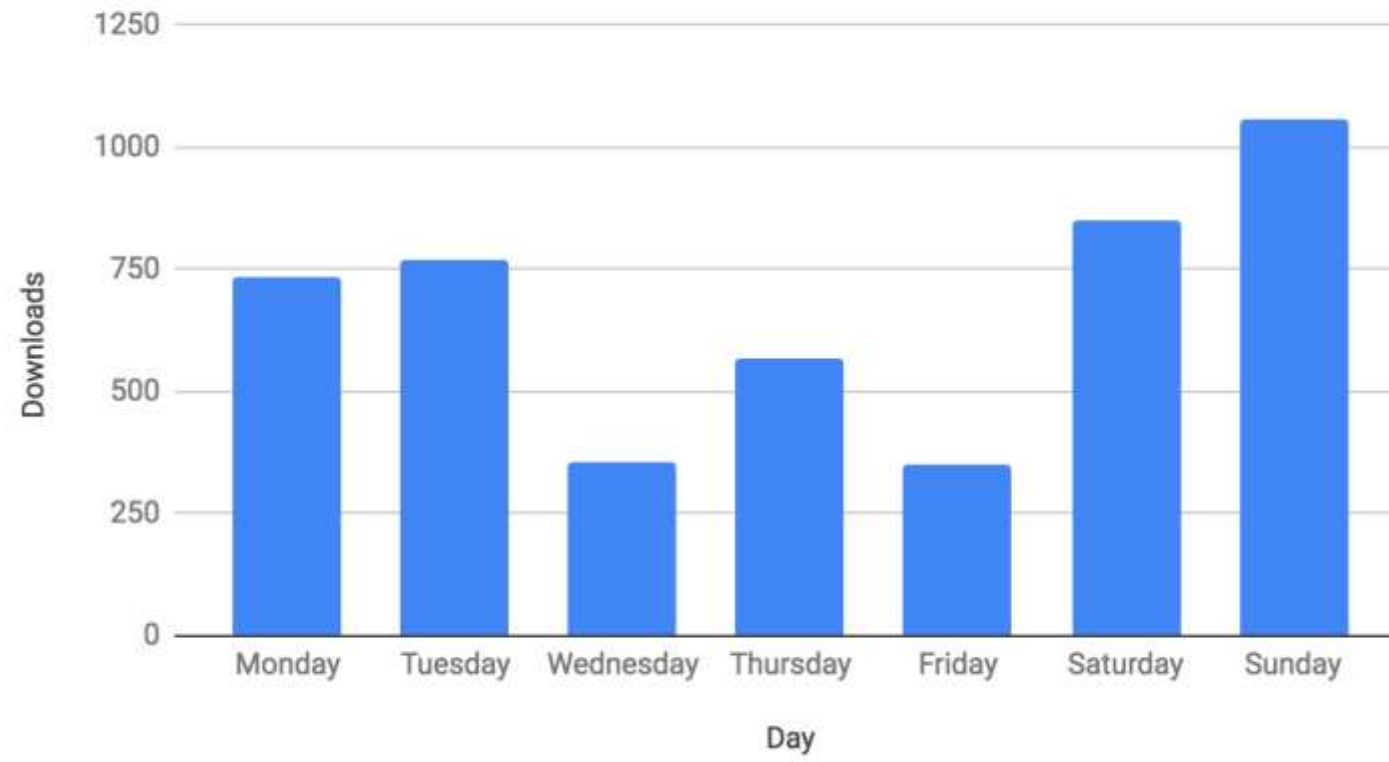|	
What happened (Observation + source of information)	Clients complain about price inconsistency "the price shown on the app is different from the price charged" (Source: appstore)
What does it mean (Business impact)	Users uninstall the app, leave low ratings and bad reviews in appstore. **In terms of metrics: increased churn, increased uninstalls. Low ratings and reviews have negative effect on download intent and branding.**
What can we do (Proposed solution)	
Expected benefit (Expected outcome, metrics)	

Step 3: Evaluate Customer Reviews & Feedback

➢ If your app has been in the hands of real people for a few months, it's likely that you have data.

➢ Some of this data will be quantitative (e.g., stats on in-app usage and engagement) while some will be qualitative (e.g., reviews and messages).

➢ Compile all this data and look for trends.

➢ Do you notice that lots of users are complaining about a specific feature? Are users asking how to update a specific element of their account? Are users tapping a specific button when they're trying to select something else?
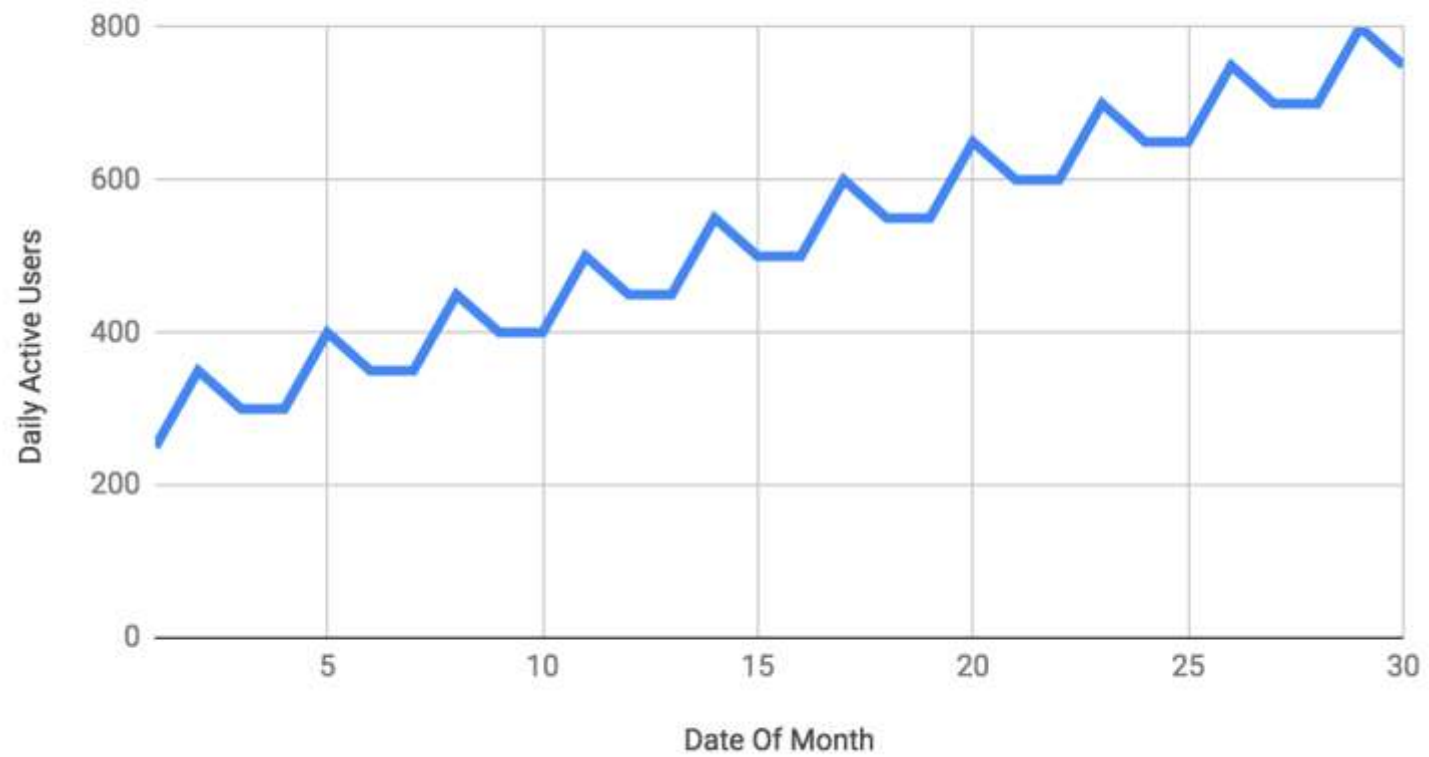
Average weekly time spent in-app

Type of apps	Total minutes spent per week
Social	131
Gaming	116
Communication	102
Entertainment	67
Music	80
Productivity	35
Health & Wellness	27
Mobile Browser	46
Retail & eCommerce	65
Travel	19
Maps	25
Finance	57
Others	42

Downloads vs. Day

Daily Active Users vs. Date Of Month

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Follow

Seems quite a few people have gone back and 1 star reviewed Monument Valley upon update because the expansion was paid. This makes us sad.

10:01 PM - 12 Nov 2014

1,484 RETWEETS 556 FAVORITES

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That's it, we're giving up the premium game. Next time we're just going to sell you 500 coins for $2 instead.

10:06 PM - 12 Nov 2014

624 RETWEETS 591 FAVORITES

Meh so far!

First off, developer should put all text in BLACK - not a light brown color which has small type and color makes it hard to read. Second - your first beverage is NOT free! Misleading!! You start an account then you bring it to a Peets store, they scan your app, you get no credit or free beverage till second time you use app. Now, you know!

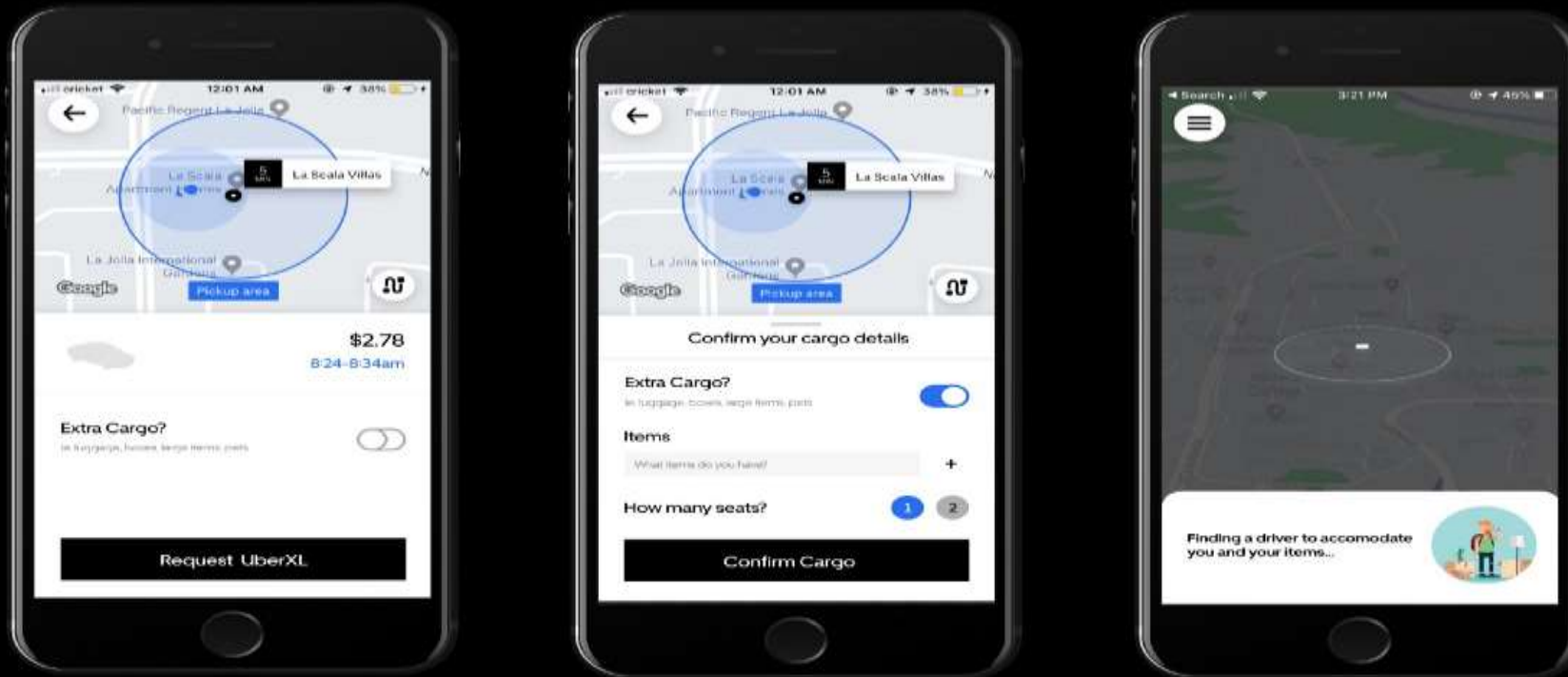# Step 4: Implement Changes To The Look & The User Experience

➢ As per the quantitative and qualitative data collected ,an analysis is carried out for the essential changes that need to be redesigned in the application.

➢ Make appropriate decisions to implement the necessary changes in stages.

Step 5: Monitor Usage & User Response Upon Launch

- To find out if the redesign was successful, look back at the goal you set out when you first started this project and gauge whether you achieved it.

- Did usage increase? Did engagement increase? Are there more positive reviews in the app store than there were before? Are you seeing a spike in growth?

- That's where you need to focus your attention now. Use your data and feedback as a starting point to not only gauge whether the redesign was a success but also to uncover opportunities to iterate and improve.

Uber underwent their most recent redesign

Case study 1-UBER

https://medium.com/@katyanoble/uber-redesign-case-study-44349274da2a

Case Study 2 -GXpress

https://uxplanet.org/gxpress-website-redesign-ux-case-study-56dbbd067824

Usability Testing

Usability testing refers to evaluating a product or service by testing it with representative users.

Typically, during a test, participants will try to complete typical tasks while observers watch, listen and takes notes.

The goal is to identify any usability problems, collect qualitative and quantitative data and determine the participant's satisfaction with the product.

The goal of this testing is to satisfy users and it mainly concentrates on the following parameters of a system:

- **The effectiveness of the system**
  - Is the system is easy to learn?
  - Is the system useful and adds value to the target audience?
  - Are Content, Color, Icons, Images used are aesthetically pleasing?
- **Efficiency**
  - Little navigation should be required to reach the desired screen or webpage, and scrollbars should be used infrequently.
  - Uniformity in the **format** of screen/pages in your application/website.
  - Option to search within your software application or website.
- **Accuracy**
  - No outdated or incorrect data like contact information/address should be present.
  - No broken links should be present.
- **User Friendliness**
  - Controls used should be self-explanatory and must not require training to operate
  - Help should be provided for the users to understand the application/website
  - Alignment with the above goals helps in effective usability testing

Benefits of Usability Testing

- Usability testing lets the design and development teams identify problems before hand.
- The earlier issues are identified and fixed, the less expensive the fixes will be in terms of both staff time and possible impact to the schedule. During a usability test, you will:
- Learn if participants are able to complete specified tasks successfully and
- Identify how long it takes to complete specified tasks
- Find out how satisfied participants are with your Web site or other product
- Identify changes required to improve user performance and satisfaction
- And analyze the performance to see if it meets your usability objectives

Chapter 4
USER RESEARCH

User Research

- User research is **the methodic study of target users—including their needs and pain points**—so designers have the sharpest possible insights to work with to make the best designs.

- User researchers use various methods to expose problems and design opportunities, and find crucial information to use in their design process.

- Examples include **user interviews, field studies, usability testing, and customer calls**.

- It's important to use a mixture of both quantitative and qualitative methods to come to a holistic understanding of the user and problems to be solved.

Build

User Research

UX Design

FEEDBACK

FEEDBACK

3
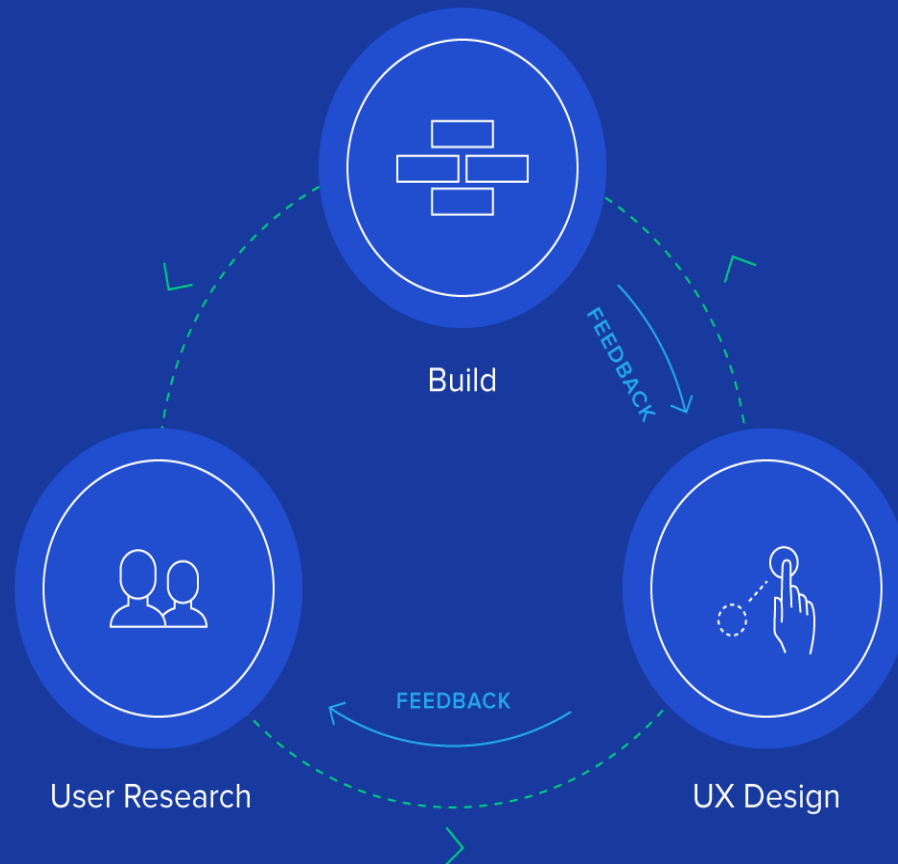
Understanding Your User

- In order for website and applications to be successful, designers and developers should start with understanding its **intended audience**.

- The product should be optimized around helping users complete their tasks as easily as possible.

- **Time invested in discovering end user goals**, needs, and tasks both ensures that end products will deliver value and **mitigates many risks**, including making sure that features are prioritized and built correctly.

Understanding Users

- Understanding as much of the **context** as possible gives you the best chance of meeting users' needs in a simple and cost effective way.

- Focus **on the user and the problem** they're trying to solve, **not a particular solution**.

- **Test** your assumptions early so you can reduce the risk of building the wrong thing.

- Perform **user research and analysis** to understand what users need building quick and then throwaway **prototypes** to test the hypotheses.

What Are User Goals?

- User Goals are **descriptions of end states** that users want to reach.

- Mapping a user's journey toward meeting their goal, including steps taken before and after using a website or application, can be helpful to generate insight.

- A website that makes all of its content findable and all of its interactions intuitive may be usable, but it won't be useful unless it is relevant to an actual goal a user has.

- Designers and site owners should understand user goals before any design or development occurs.

- One of the most substantial risks to a development project is building the wrong product and only understanding user goals mitigates that risk.

Eliciting User Goals

- A variety of methods exist for eliciting user goals, each with strengths or drawbacks.
- Asking project stakeholders (people who are not end users but who nevertheless have invested in the project's success) is not an optimal way of finding user goals.
- Stakeholders — even ones that interact with users directly — often have goals that are different from and even in tension with users.
- Stakeholders' perspective are important for the project, but they should not be considered a definitive source of user goals.
- Asking users themselves, such as through **user interviews, focus groups, or surveys**, can be a better way of discovering.

Context of use

- Context of use focuses on **where, when, how and why users are performing a task, reaching a goal** or using your product or service.

- The Context of Use is the **actual conditions** under which a given artifact/software product is used, or will be used in a normal day to day working situation.

- It is important to carry out **walkthroughs, usability tests, prototyping sessions, meetings, user studies in the context of use** to get as high validity of your findings as possible.

Context of use

- Context holds the key to **differentiated user experience.**

- Context frames all experience.

- If you didn't understand the user will be using your app mostly on mobile, but designed for desktop, ease of use wouldn't save you.

- Context sets the expectation, spoken and unspoken for user interaction….It is basically the where and how you take your **user to the feature or touchpoints**.

- To understand the context we can conduct: **Contextual Interview**

Few real examples to illustrate context of use

- At a medical billing office, we observed stacks of bills on a user's desk. "I want these digitized or on an iPad...I want to see which ones I have done and then keep a copy for auditing purposes".

- For a mobile app aimed at students, users wanted a secret or parallel communication channel or codewords that parents would not detect. One user reminded us, "That's why teens use SnapChat, to keep communication discreet and private".

- In a restaurant, the manager wanted a large summary of end-of-day earnings she could glance at from a 5-foot distance, while walking past the display in near dark conditions, during store closing.

Usability

- The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use"

- Five characteristics of usability which must be met for the users of a product:
  - ➢ Effective
  - ➢ Efficient
  - ➢ Engaging
  - ➢ Error Tolerant
  - ➢ Easy to Learn

- **Effective**
  - ➤Effectiveness is the **completeness and accuracy** with which users achieve specified goals.
  - ➤It is determined by looking at whether the user's goals were met successfully and whether all work is correct.
  - ➤The more **informative an interface** can be, the better users are able to work in it without problems.
  - ➤The effectiveness of an interface often relies on the **presentation of choices** in a way that is clearly understandable to the user.
  - ➤Not all tasks require efficiency to be the first principle.
    For example, in interfaces to financial systems (such as banking machines), effective use of the system -- withdrawing the correct amount of money, selecting the right account, making a transfer correctly – are more important than marginal gains in speed.

- **Efficient**
  - ➤ Efficiency can be described as the **speed** (with accuracy) in which users can complete the tasks for which they use the product.
  - ➤ ISO 9241 defines efficiency as the **total resources expended** in a task.
  - ➤ Navigation design elements such as **keyboard shortcuts, menus, links and other buttons** all have an impact on efficiency. When they are **well-designed, with clearly expressed actions**, less time and effort are needed for the user to make navigation and action choices.
  - ➤ Making the right choices for efficient use of the software depends on an **understanding of the users and how they prefer to work**.
    - ▪ For example, are they likely to use the interface infrequently or to be habitual users who might learn hidden controls and shortcuts?
    - ▪ Do they use the keyboard, mouse or other input devices?
    - ▪ Keyboard shortcuts can be extremely efficient for proficient users who work with the interface intensively. If they are the primary interaction tool, they can slow down users who are unfamiliar with them, or with the software.

• Engaging

➤ An interface is engaging if it is **pleasant** and **satisfying to use**.

➤ The **visual design** is the most obvious element of this characteristic.

➤ The style of the **visual presentation, the number, functions and types of graphic images or colors** (especially on web sites), and the use of any **multimedia elements** are all part of a user's immediate reaction.

➤ The **design and readability** of the text can change a user's relationship to the interface as can the way information is chunked for presentation.

➤ Equally important is the **style of the interaction** which might range from a **game-like simulation** to a **simple menu-command system**.

➤ The **style of engagement** that is satisfying for a repetitive work tool is different than an e-commerce site.

➤ Even within the same class of interfaces, different users may have widely **divergent needs**. What is important is that the design meet the **expectations** *and* **needs** of the people who must use the interface.

- **Error Tolerant**
  - ➢The ultimate goal is a system which has **no errors**. But, product developers are human, and computer systems far from perfect, so errors may occur.
  - ➢ An **error tolerant program** is designed to **prevent errors** caused by the user's interaction, and to help the user in **recovering from any errors** that do occur.
  - ➢Errors might also occur because the designer did not **predict the full range** of ways that a user might interact with the program.
  - ➢Note that a highly usable interface might treat error messages as part of the interface, including not only a clear **description of the problem**, but also direct links to choices for a **path to correct the problem**.
  - ➢For example, if a required element is missing simply presenting a way to fill in that data can make an error message look more like a wizard.

- Some guidelines for preventing errors are:
  - ➢**Make it difficult to take incorrect/ invalid actions**:
    - ▪ Design links and buttons to be distinctive, use clear language, avoiding technical jargon, and be sure that dependent fields or choices appear together.
    - ▪ Limit choices when possible to those which are correct, provide clear examples for data entry, present only appropriate navigation options.
  - ➢**Make it difficult to take irreversible actions**:
    - ▪ Provide the ability to back track, provide means to undo or reverse actions, avoid dead-end screens.

- **Easy to Learn**
    - **Learning goes on for the life of the use of a product**. Users may require **access to new functionality, expand their scope of work, explore new options or change their own workflow or process**.
    - An interface which is easy to learn allows users to build on their knowledge without **deliberate effort**.
    - This goes beyond a **general helpfulness to include built-in instruction for difficult or advanced tasks**, **access to just-in-time training elements, connections to domain knowledge bases** which are critical to effective use.
    - Allow users to build on not only their prior knowledge of computer systems, but also any **interaction patterns they have learned through use in a predictable way.**
    - Predictability is complementary to interface consistency.
    - A consistent interface ensures that terminology **does not change**, that design elements and controls are **placed in familiar locations** and that **similar functions behave similarly**.
    - Predictability expands this to **place information or controls where the user expects it to be.**

- **Connection to usability goals**

  For example, A typical web knowledge management system is used by employees

  ➢**Effective** - "Less than 5% of the registrations will have errors, omissions or inconsistencies requiring a follow-up contact by the staff."

  ➢**Efficient** - "The user will be able to successfully complete the registration in under 3 minutes"

  ➢**Engaging** - "At least 80% of employees will express comfort with using the online system rather than visiting the HR office."

  ➢**Error Tolerant** – "The system will validate all housing, meal and tutorial choices and allow the user to confirm pricing for these options before completing the registration."

  ➢**Easy to Learn** – "Users will be able to successfully complete a benefits calculation without needing any external instruction or help screens."

To understand the context we can conduct: Contextual Enquiry/Interview

- The contextual enquiry research technique combines **observation with interview-style question and response**.

- Participants get to explain their actions or "think aloud" as they work through a task or activity.

- Contextual inquiry is a type of ethnographic field study that involves **in-depth observation** and **interviews** of a small sample of users to gain a robust **understanding of work practices and behaviors**.

- Its name describes exactly what makes it valuable — **enquiry in context:**

    Context: The research takes place in the users' natural environment as they conduct their activities the way they normally would. The context could be in their home, office, or somewhere else entirely.

    enquiry: The researcher watches the user as she performs her task and asks for information to understand how and why users do what they do.

What You Learn From Contextual Interviews

- By going to the user, you see the user's environment and the actual technology the user works with.

- As a result, you'll be able to answer questions such as:
  - Any issues that users are facing
  - Equipment they are working with
  - How their space is set-up
  - Preference between mouse and keyboard`
  - The type of internet connection they have
  - How long does it take to complete common or target tasks
  - Whether there are people there and willing to assist the user if they need help completing a task

Combining Contextual Interviews and Usability Testing

- In a **usability test**, you usually have all users try to complete the **same scenarios resulting in comparative data** from several people trying the same thing. In **contextual interviews** you watch people's behavior in their **own environment** doing their own tasks.

However, you can combine contextual interviews and usability testing by:

- Combine **watching users** do their own work in their environments with **asking them to try a few of your tasks**.

- **Interview users during a usability tests** to find out the sorts of questions, issues, tasks they would come to the site with.

Why Conduct Contextual Enquiry

- The contextual-inquiry method was developed by Hugh Beyer and Karen Holtzblatt as a way to **resolve the drawbacks of other qualitative-research methodologies such as surveys and interviews.**

- Methodologies like **surveys** and **interviews rely on the users' ability to recall** and explain a process that they are removed from in that moment.

- People attempt to summarize their processes, **but important details like reasoning, motivation, and underlying mental models are left out of this summary,** leaving researchers with only a superficial understanding of the users' approach to the activity.

- However, **users can easily talk about what they are doing and why ,** *when* they are doing it. For this reason, contextual inquiry can provide richer and more relevant information about how users complete processes than self-reported or lab-based research methods do.

- One of the greatest strengths of this methodology is that you get to see things you wouldn't anticipate and **uncover low-level details** that have become habitual and invisible.

- You get to see the **interruptions, superstitious behaviors, and illogical processes** that directly influence UX work.

Case Study

- https://centralis.com/casestudies/mercury

- https://medium.com/@megmcneilly/case-study-connecting-hotel-guests-and-the-value-of-contextual-observations-8350390cb0f3

4 Grounding Principles

- Contextual enquiry is based on 4 principles that help researchers adjust and apply the apprenticeship model to the context of their products and work.
  - ➢**Context:** The researcher should observe in the natural environment.
  - ➢**Partnership:** The user and researcher are partners in the process of understanding the work.
  - ➢**Interpretation:** The researcher should develop a comprehensive and shared interpretation for all important aspects of the work, aided by feedback from the user.
  - ➢**Focus**: The researcher should understand the purpose of the research project and what information should be sought. This understanding guides the observation and the interviews during sessions.

4-Part Session Structure

➢ **Select participants** that are uniquely qualified and knowledgeable in the area you need to understand. Then, use the following 4-part structure as a template to guide your approach.

The primer

- The primer is meant to **ease the participant into the session**. Starting casually allows your participant to become comfortable with you and learn what to expect from the session.

- Introduce yourself and take some time upfront to **build rapport** with your participant.

- **Indicate what you hope to achieve** during the interview and that you expect the participant to correct any misinterpretations you may develop as you learn.

- Discuss **confidentiality** and get **approval** for any filming or recording you may be doing.

4-Part Session Structure(contd.)

The transition

- When finished with the introduction and general interview, **make an explicit and clear transition into the contextual interview** portion of the meeting.

- Let the user know that you will **watch** while he/she goes about his/her work and that he/she should expect you to **interrupt** whenever you see something interesting to discuss.

- If it is a **bad time for interruption**, he/she should communicate this to you and continue until a better stopping point.

4-Part Session Structure(contd.)

The contextual interview

- This phase usually goes through **multiple iterations.**
- **Watch and learn.**
- **Stop and initiate discussion** when the user does something you don't immediately understand or when you want to confirm an interpretation.
- Try to **understand underlying processes.**
- **Explain your interpretations** of their tasks and workflow for the users to confirm or correct.
- You should initiate discussion for 2 reasons:
  - ➤**If you've observed something you don't understand.** In this case, ask open-ended questions and let the participant give you details about why she took a certain action.
  - ➤**To allow the participant to validate or invalidate your understanding of the user's mental model**

4-Part Session Structure(contd.)

Wrap up

- Ask any **final clarifying questions**.

- **Review your notes and summarize** what you took away from the interview by explaining your interpretation of the observed processes.

- This is your users' chance to give **final clarifications and correct your understanding.**

- The time required for a contextual-inquiry session will depend on the scope context of the work you are intending to understand. They can range from **an hour or two to several days of observations and interviews.**

Conclusion

- After contextual-enquiry sessions have been completed, researchers and designers should come together to share findings and interpret the results of the interviews.

- Workshop exercises for finding ideas in qualitative data, through **affinity mapping.**

- Contextual enquiry is often coupled with **task analysis**.

- In the end, teams should walk away with a shared understanding of users' work processes, mental models, and common behaviors, so they are prepared to design solutions for their customers

Interviews

- Interviews are a **"guided conversation where one person seeks information from the other**."

- An interview may be conducted in conjunction with other requirements-gathering activity such as a site visit, or as a solo activity.

- Interviews may be conducted remotely (via the phone), or face to face.

- A **structured interview** is one where the list of questions is prepared in advance and the researcher tries to solicit answers from all participants.

- A **non-directed interview** is one where the interviewer primarily listens to the subject and provides minimal input or direction.

Why Do User Interviews?

- Interviews give insights into **what users think** about a site, an application, a product, or a process.

- They can point out what content is memorable, what people feel is **important** , and what ideas for **improvement** they may have.

- They can be done in a variety of situations:
  - ➢**before you have a design**, to create personas, journey maps, feature ideas, workflow ideas
  - ➢to **enrich a contextual inquiry study** by supplementing observation with descriptions of tools, processes, bottlenecks, and how users perceive them
  - ➢at the **end of a usability test**, to collect verbal responses related to observed behaviors

➤ **Best Practices for Conducting Individual Interviews**
  - ✓ Set a **goal** for the interview(What you want to learn)
  - ✓ Selecting **representative participants** to talk to.
  - ✓ Hiring a **skilled interviewer** who knows how to make interviewees feel more comfortable, asks questions in a neutral manner, listens well, and knows when and how to probe for more details
  - ✓ Make the user feel as comfortable as possible. **Create a rapport** with the user.
  - ✓ **Prepare questions** before the interview.
  - ✓ Anticipate different responses, and construct **follow up questions** based on your research goals.
  - ✓ Getting permission to **tape the sessions** and have one or more **note takers**

Examples of how two different people might respond to the same question followup questions (in grey boxes) that the interviewer may ask to get to the same place.

One question solicits information

Think for a few moments about some time when you booked a trip online.

Wait for a response

User indicates she has a trip in mind.

User indicates Boston.

Can you tell me a little about why you chose Boston?

Four questions to solicit the same information

Think for a few moments about some time when you booked a trip online.

Wait for a response

User indicates she does *not* have a trip in mind.

Can you think of any places you traveled to in the last year?

User indicates she has a few trips in mind?

Where did you go?

User lists some places she went.

Do you remember who booked the travel for any of those trips?

User indicates trips (including Boston) booked by friends, family, colleagues, and herself.

For the Boston trip that you scheduled, can you tell me a little about why you chose Boston?

➢**Prepare more questions than you believe you will have time to ask.**

- Some participants like to talk and give very long answers to questions.
- Others need prompting in the form of follow up questions to deliver the same amount of information.
- Be ready to address both situations.

➢**Practice your go-to follow up questions.**

- Have at the ready some clear phrases to prompt users to elaborate an answer.

Types of Interviews

Structured interview

- **Structured interviews** have **predetermined** questions in a set order.

- They are often **closed-ended**, featuring **dichotomous** (yes/no) or **multiple-choice** questions.

- Asking set questions in a set order can help you see patterns among responses, and it allows you to **easily compare** responses between participants while keeping other factors constant.

- This can **mitigate biases** and lead to **higher reliability and validity.**

- However, structured interviews can be **overly formal**, as well as **limited in scope and flexibility**.

- Structured interviews may be a good fit for your research if:
  - You feel very comfortable with your topic. This will help you formulate your questions most effectively.
  - You have limited time or resources.

Unstructured interview

- An **unstructured interview** is the most **flexible** type of interview.

- The questions and the **order** in which they are asked are **not set**.

- Instead, the interview can **proceed** more spontaneously, based on the **participant's previous answers**.

- Unstructured interviews are by **definition open-ended**.

- However, so much flexibility means that they can be very **challenging** to conduct properly.

- You must be very careful not to ask questions, leading to **biased responses** causing **lower reliability** or even invalidate your research.

- Unstructured interviews may be a good fit for your research if:
  - ➤ Your research question is **exploratory in nature**, and you are seeking descriptive data that will deepen and contextualize your initial hypotheses.
  - ➤ Your research necessitates forming a **deeper connection** with your participants, encouraging them to feel comfortable revealing their true opinions and emotions.

Semi-structured interview

- **Semi-structured interviews** are a **blend** of structured and unstructured interviews.
- While the interviewer has a general plan for what they want to ask, the questions **do not have to follow a particular phrasing or order**.
- Semi-structured interviews are often **open-ended, allowing for flexibility**, but follow **a predetermined thematic framework**, giving a sense of order. For this reason, they are often considered "**the best of both worlds**."
- However, if the questions differ substantially between participants, it can be **challenging to look for patterns**, lessening the generalizability and validity of your results.
- Semi-structured interviews may be a good fit for your research if:
  - ➤ You have prior interview experience. It's easier than you think to accidentally ask a leading question when coming up with questions on the fly.
  - ➤ Your research question is exploratory in nature. The answers you receive can help guide your future research.

Limitations of Interviews

- Unlike behavioral data that captures how participants interact with a design, data from interviews is self-reported — it reflects **users' perceptions and feelings about a process, a site, or an interaction**.

- Like any self-reported data interview data is tenuous because:
  - ➢ Human **memory is flawed**, so people don't recall events fully or accurately.
  - ➢ Participants don't know exactly what is relevant for the interviewer, so sometimes **leave out details**.
  - ➢ Some people are proud or private, others are shy and easy to embarrass. Thus, **not everybody will share** every detail with a strange

Focus group

- A focus group brings together a **group of participants** to answer questions on a topic of interest in a **moderated setting.**

- A **focus group** is a group interview involving a small number of demographically similar people or participants who have other common traits/experiences. Their reactions to specific researcher/evaluator-posed questions are studied.

- Focus groups are **qualitative** in nature and often study the **group's dynamics** and **body language (** not expressed in words e.g., people who appear to have something to add but do not speak up).

- The idea is for the researcher to understand participants' reactions. If group members are representative of a larger population, those reactions may be expected to **reflect the views of that larger population**.

- Focus groups can provide more **directed and unfiltered/unbiased feedback** than individual interviews and are **easier to organize** than experiments or large surveys.

- A focus group may be a good fit for your research if:
  - Your research focuses on the dynamics of group discussion.
  - Your questions are complex and rooted in feelings, opinions, and perceptions that cannot be answered with a "yes" or "no."
  - Your topic is exploratory in nature, and you are seeking information that will help you uncover new questions or future research ideas.

- Interviews are more effective when you need to know about participant's needs, opinions or decision making processes.
- This would typically be used to answer questions like "Why do farmers not use fertiliser?", "What type of family planning methods are most appealing to women?" or "Does our solar light work in rural households?".

- Focus groups are more effective when you want stakeholders to generate new ideas through brainstorming.
- Typical examples of questions that would be suitable include "What ideas do chiefs have that could help improve the project?" or "What can health staff do to fix this problem?"

Competitive analysis

- In the world of UX Design, competitive analysis is a critical part of the research process.

- Whether it's a babysitting app, fintech dashboard, or e-commerce site, **understanding the landscape of solutions** is crucial to the foundation of the solution you are designing.

- A competitive analysis provides **strategic insights** into the features, functions, flows, and feelings evoked by the **design solutions of your competitors.**

- By understanding these facets of competitors' products, you can strategically design your solution with the **goal of making a superior product** and/or experience.

- A UX competitive analysis should be done **prior to starting work on a new project.**

- Since competitors can **emerge at any time** or **may increase (or improve) their offerings**, the competitive research should be iterative and continue as long as you are working on that project.

➢**Considerations for competitive analysis**

• Create a short **list of main comparison criteria** before you start. You can always add more criteria if it makes sense.

• Start with **3-5 main competitors**. Once you uncover the information you need in order to inform your design decisions, it's time to stop.

• Don't simply copy the designs you find in your research. The **competitors may not be using best practices**.

• Choose the **tool** that helps you present your findings based on the information you are documenting and sharing.

• Know when to perform a **"comparative analysis."**

• Study solutions from products that are **not direct competitors**. For example, if you are designing a solution that includes a calendar scheduling feature, explore the best calendar scheduling solutions.

Starting a UX competitive analysis

➢Some common questions to begin a UX competitive analysis are:
  ➢Who is currently trying to solve this problem?
  ➢How are they trying to solve the problem?
  ➢What their main differentiator or unique value-add is for their business and products
  ➢Did anyone try to solve it in the past and fail?
  ➢Why did they fail?

➢Once the main competitors have been identified, conduct a heuristic evaluation of the competitor's end-to-end user experience.

➢Here are some common user experiences to evaluate:
  • Sign up & Login
  • Ease of account creation
    • Fast or slow
    • Hard or easy
  • Initiating the main task
  • Performing the main task
  • Successful completion of the main task

- Comparison criteria:
  - ➢Price
  - ➢Service offered
  - ➢Age of audience served
  - ➢Number of features
  - ➢Style and design
  - ➢Ease of use
  - ➢Type and number of warranties
  - ➢Customer support offered
  - ➢Product quality
  - ➢Product marketing
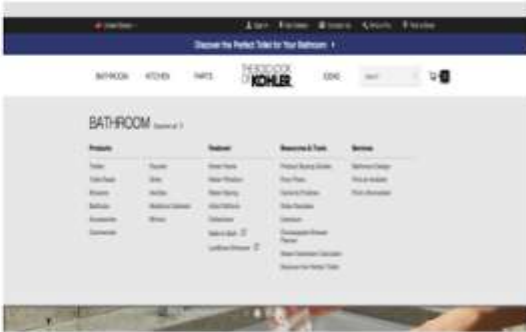
A competitive analysis report may include:

- ➤A description of your company's target market
- ➤Details about your product or service versus the competitors'
- ➤Current and projected market share, sales, and revenues
- ➤Pricing comparison
- ➤Marketing and social media strategy analysis
- ➤Differences in customer ratings

Competitive analysis framework

	Your Company	Competitor 1	Competitor 2
Product/service	SEO	SEO/Paid ads	SEO/Website design
Market share	25%	40%	35%
Growth	6%	12%	8%
Target audience	Dentists	Dentists	Dentists
Price structure	Monthly fee	Hourly	Project-based
Marketing strategies	Email/Blog	Email/Blog/ Social media	Social media/ Email/Paid ads
Customer satisfaction	★★★★	★★★★	★★★
Strengths	All-inclusive/ one fee	Brand visibility	Package deals
Weaknesses	Startup with less resources	Expensive	Questionable customer service
Key advantage	Strong values and mission	Industry leader	Highly skilled team

•• asana

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Websites for kitchen and bathroom fixtures: Visual, quantitative, and qualitative competitive analysis

Digital real estate experiences: visual and qualitative competitive analysis

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Design Thinking

Human centered approach to innovation

- *A process that utilizes empathetic, creative, Innovative and analytical skills to provide solutions to a problem.*

DESIGN THINKING: A NON-LINEAR PROCESS

Learn about users through testing

Tests create new ideas for the project

Empathize to help define the problem

Empathize → Define → Ideate → Prototype → Test

Learn from prototypes to spark new ideas

Tests reveal insights that redefine the problem
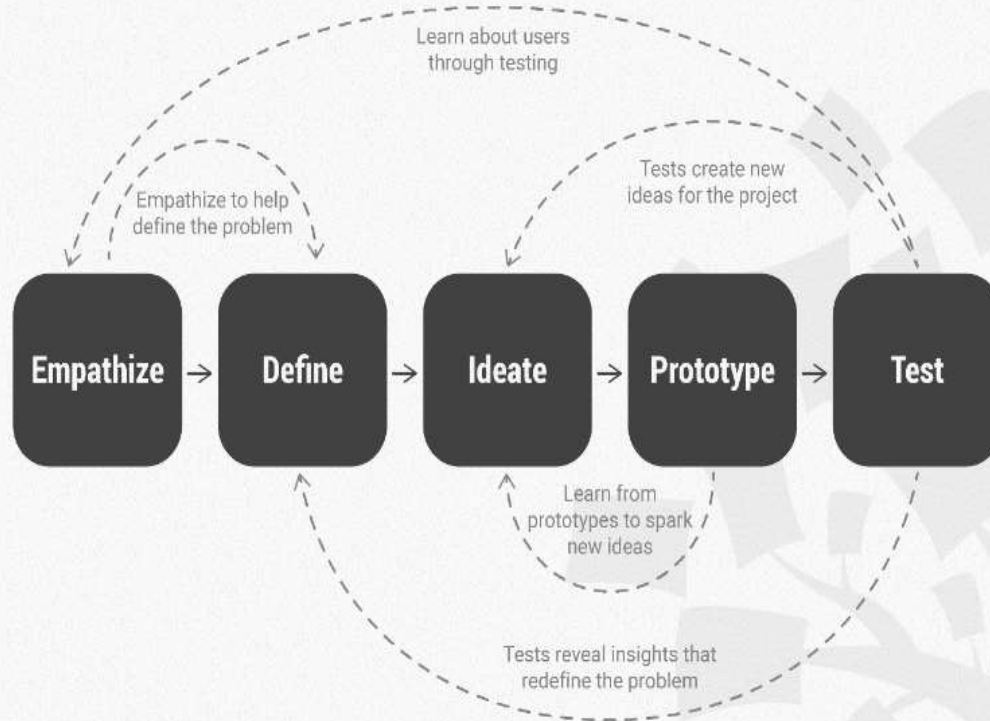
Scenarios and Persona Technique

What are User Scenarios?

➢ A **scenario** is a situation that captures how users perform tasks on your site or app.

➢ User scenarios describe the user's motivations for being onsite **(their task or goal**) and/or a question they need answered, and suggest **possible ways to accomplish these objectives.**

➢ It is essentially a development of the **user story**, and can relate to multiple target users.

➢ User scenarios are detailed descriptions of a user – typically a persona – that describe **realistic situations** relevant to the design of a solution.

➢ By painting a "rich picture" of a **set of events**, teams can appreciate user interactions in context, helping them to understand the practical needs and behaviors of users.

➢ A scenario derived from a **use case**.

➢ Use cases are intended to describe all of the possible outcomes from a particular set of events.

➢ The term "scenario" is used in this context to describe **just one path** – one set of outcomes – through the use case.

Individual scenarios are usually describing a particular path through an interactive system.
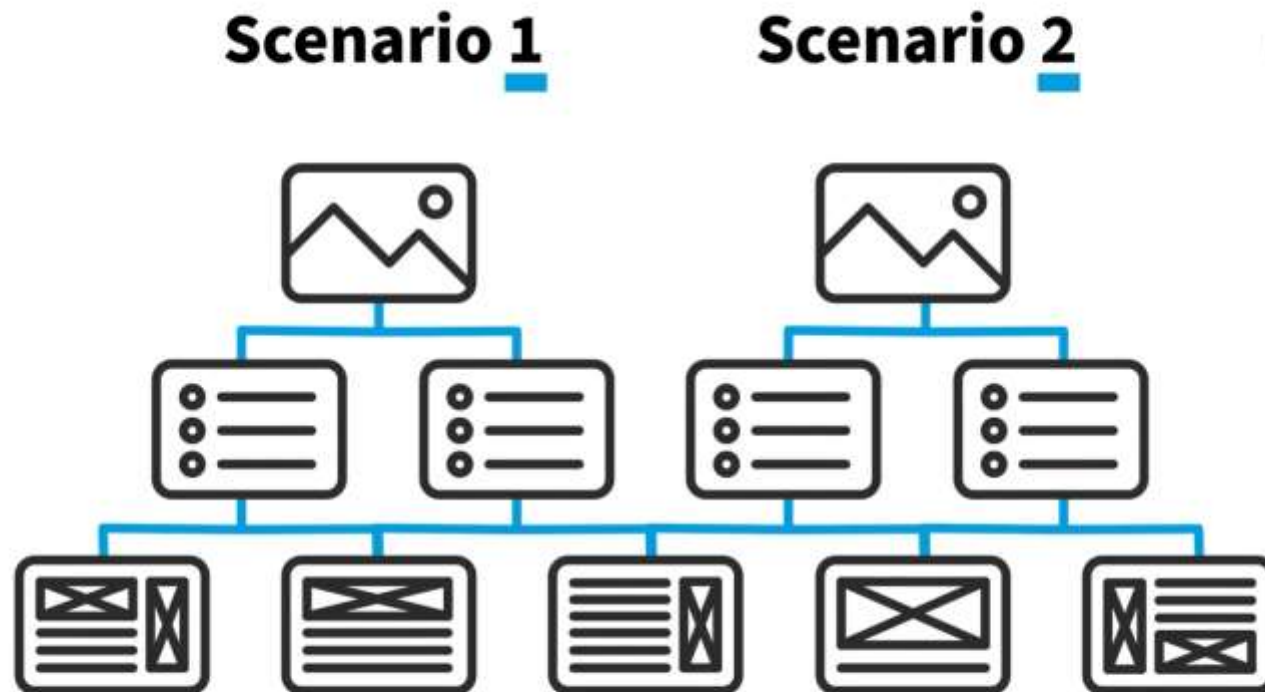
Personas

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

➢ Creating personas will help you **understand your users' needs, experiences, behaviors and goals**.

➢ It can help you recognize that **different people have different needs and expectations**, and it can also help you identify the user you're designing for.

➢ Personas make the design task at hand less complex, they **guide your ideation processes**, and they can help you to achieve the goal of creating a good user experience for your target user group.

➢ Hence, personas **do not describe real people**, but you compose your personas based on **actual data collected from multiple individuals.**

➢ Personas add the **human touch** to what would largely remain cold facts in your research.

➢ Creating persona profiles of **typical(average) or atypical (extreme)** users will help you understand patterns in your research, which synthesizes the types of people you seek to design for.

➢ In the design thinking process, designers will often start creating personas during the **second phase, the Define phase**.

➢ Using personas can help designers **move on to the third phase, the Ideation phase.**

Create a Persona

JOBS TO BE DONE:

What does the person want to do with the product/service…what is his/her objective (or goal)

USE CASES:

- How is the product/ service used?
- By whom?
- When?
- Where?
- How is it bought (paid for)?
- Where did the person learn about the product/ service

NAME:

Persona description – Age, gender, residence, occupation, hobbies….

PAIN POINTS

What irritates the person about the Product / service ?

GAIN POINTS

What are the current support the person has that makes him happy about the product/service?

*It is important to imagine the typical user as a "real person"

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
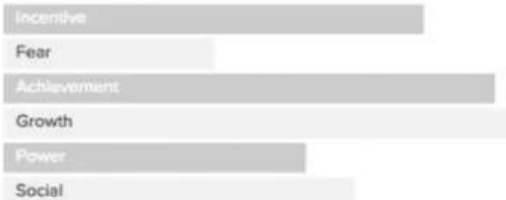
Goals

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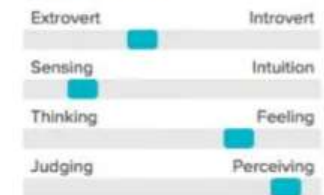- To set goals and see and make positive impacts on his life

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

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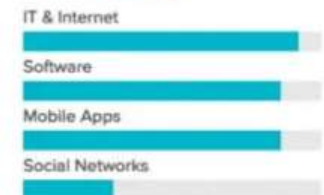
Brainstorming

➢ Brainstorming is an invention and discovery strategy in which the researcher **collaborates with others** to **explore topics**, **develop ideas**, and/or **propose solutions** to a problem.

➢ It is the process for generating creative ideas and solutions through **intensive and freewheeling group discussion**.

➢ Every participant is encouraged to think aloud and suggest as many ideas as possible, no matter how seemingly **outlandish or bizarre**.

➢ The purpose of a brainstorming session is to work as a group to **define a problem and find a plan of action to solve it**.

➢ Brainstorming aims not just to think of topics to write about but to allow a group to problem-solve when a researcher in the group is, essentially, suffering from a block.

Brainstorming Strategies

Brainstorming strategies are many and varied, but they can be grouped into the following basic areas:

1. Listing:

- In this technique, also called bulleting, you jot down broad ideas quickly as they come to your mind in any order.
- For those who are better at texting than visuals
- List out main topic and then sub topics

Idea list (example)

Topic - Unemployment
1. Jobs
2. Poverty
3. Salary
4. Lack of education
5. Lack of jobs
6. Low salary
7. Lack of money
8. Fresh graduates

2.Mapping:
- This technique lets you **visualize concepts and ideas**. Also known as "**mind mapping",** this technique starts with a research question or main idea, then adds branches with synonyms, related topic, keywords, and examples.
- This method is also called **webbing** because you end up with something that looks like a spider web with your brainstormed ideas branching out from the main topic in the center.

2. Idea map (example)
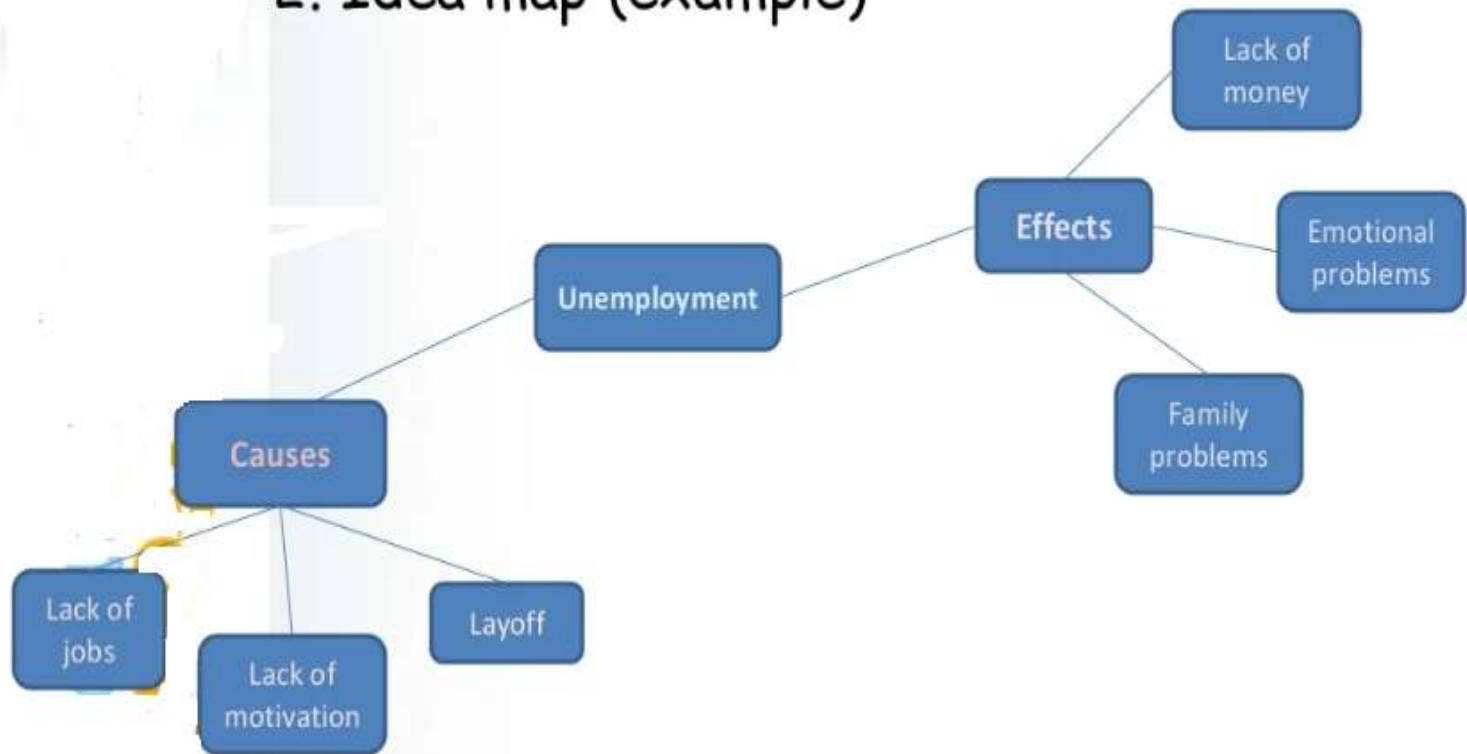
Example of Mind mapping
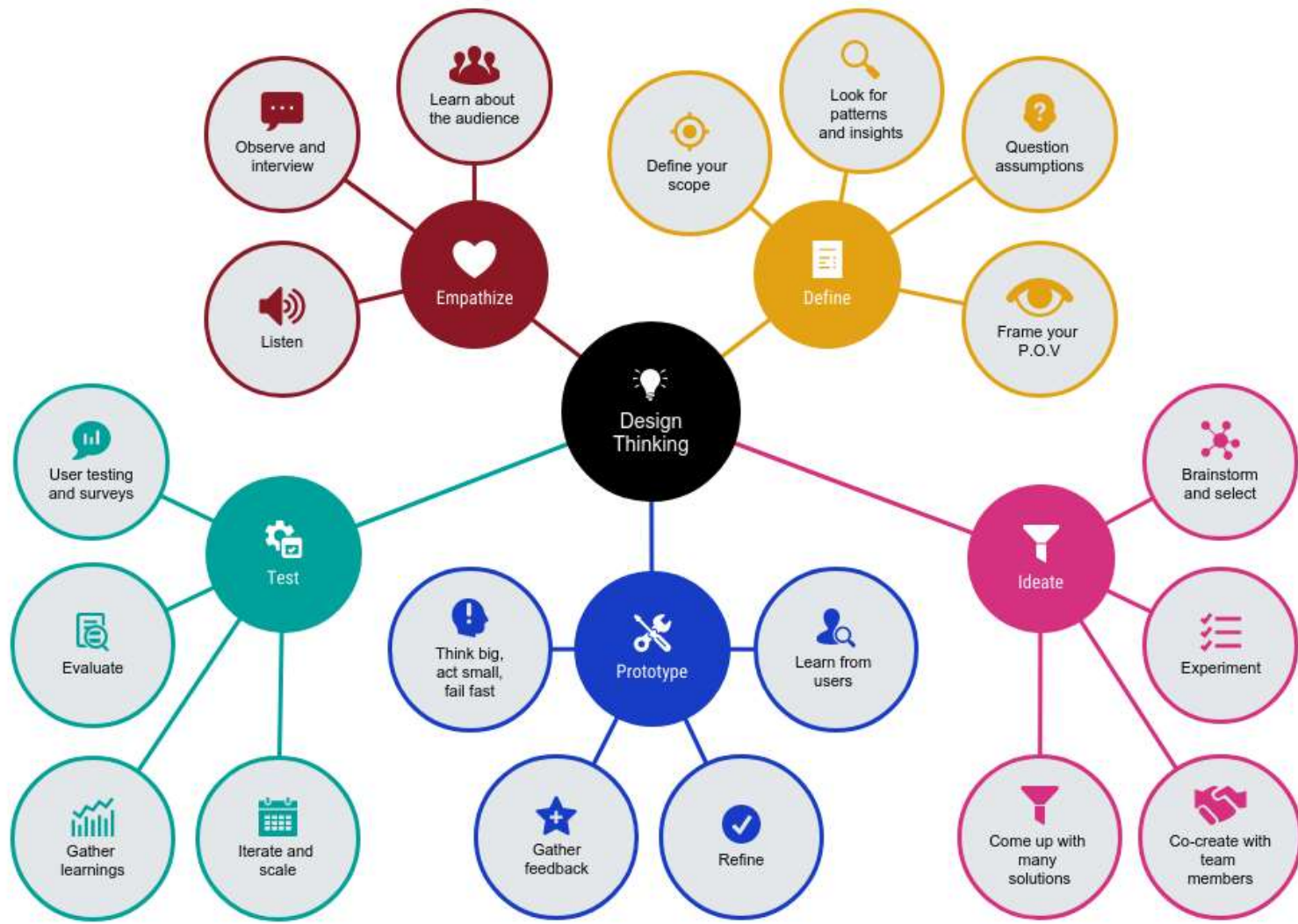
3. Cubing:
- This strategy enables you to consider your topic from **six different directions**, just as in a cube, which is six-sided.
- In cubing, you take an idea and describe it, compare it, associate it, analyze it, apply it, and argue for and against it.

Cubing

- an idea is examined from six distinct viewpoints.

❑ You describe the topic (what is it?)

❑ Compare and contrast it (what is it like or unlike?)

❑ What do you associate it with(what does it remind you of?)

❑ Analyze it (what are its parts?)

❑ Apply it (in what ways can it be utilized)

❑ Argue for or against it (in what ways can you support or oppose it)?

Cubing
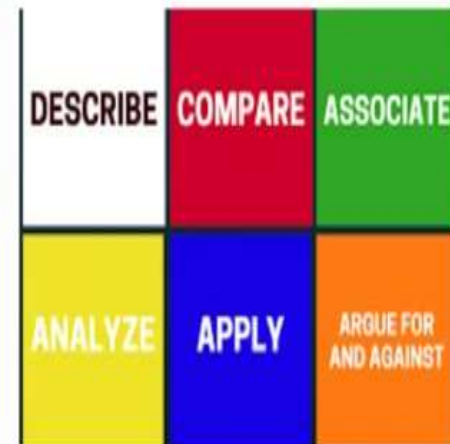
Describe it

Customers don't know how to use the product

Compare it

Competitors provide YouTube videos explaining how to use the product

Competitors walk you through the product if it's your first few times using it

Associate it

Customers aren't as involved in the product as the could be because they don't know how to use it

Customers are frustrated

Analyze it

Add a feature where you can search where things are in the product

In-product tutorials

Free online courses that let you get certified in the product

Simple interface

Mimic other product's placement of buttons

Apply it

Used for documentation

Used during brainstorming sessions

Used by working professionals

Argue for and against it

Pro: Easier to use the product

Pro: Improved customer satisfaction

Pro: Updated product

Pro: Happier customers

Con: Hard to differentiate from other products

Con: Hold off on other features to release

Con: Need to keep things simple not unique

3. Cubing example
Too much money is spent on toys

Describe it.	Compare it.	Associate it.	Analyse it.	Apply it.	Argue for and against it.
Recent trends in entertaining children are extending to much more expensive forms. Too much money or not enough?	Lifestyle changes (working parents/ technological advancement/ urban development) mean that this generation of children need to play indoors, be kept entertained with minimum supervision.	Socialisation and technology.	Are our children becoming increasingly isolated and insular because they play alone rather than together...Is the money spent on toys and games worth the negative outcomes?	The money spent on toys and games is having a negative effect on the physical and emotional well being of our children. The next generation will have been robbed of the simple pleasure: skipping, playing under trees, flying a kite.	Society has changed. The extended family of 'man' is not viable anymore; we have to replace it. Parents choose to keep their children safe with an unending supply of entertainment in house rather than battle the urban jungle. Technology has advanced and children are more adept at e-games than other forms of play. Catering to that is not wrong.

2. Freewriting:
- When you freewrite , you let your **thoughts flow freely**, putting pen   to paper and writing down whatever comes to your mind, or to the group members' minds.
- Set a time limit and no. of words or pages.

Sample Free Write about a name

Cassandra

She is a fashionista.

A Grade 11 student, Senior High, with moderately good grades

Moderately popular, has a good group of friends and is generally well-liked

Comes from a nuclear family: parents still together and an older brother

The older brother is the black sheep of the family, the rebel, the trouble-maker

Allergic to both cats and dogs

Recently dumped by her highschool sweetheart

Light brown hair with purple highlights running through it; a chic bob that comes to her chin, cut to that length after her break-up

Has had the same best friend since the second grade, Erika, whom she first met at a neighborhood-wide birthday party for Erika and her twin brother, Steven

Unaware of Steven's long-term crush on her

Loves the rain, especially in the summer, but hates the rainy days; gets cold easily

Confident and likes to laugh, but is not very witty and not very good at telling jokes

5.Researching:
- Also called the journalistic method, with this technique, you use the "big six" questions that journalists rely on to research a story: **who, what, when, where, why, and how**.
- Go to the library or search on internet for information.
- You and your group then take a few minutes to research the answers to these questions if needed or simply discuss the answers if group members know the information.

Perform Brainstorming session on:

Q-commerce Players Creating Disruption in E-commerce
Ecosystem…….Adding Q-commerce to existing Ecommerce business