

UI / UX Principles

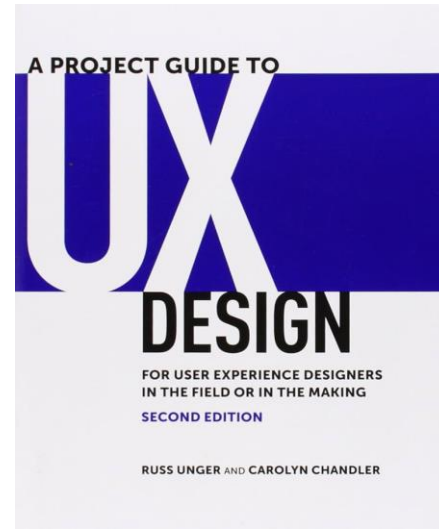
Lecture 1 & 2: USER EXPERIENCE FUNDAMENTALS





References

- Gothelf, J., Seiden, J., & Ebooks Corporation. (2016). *Lean UX: designing great products with agile teams* (Second edition.). O'Reilly Media.
- Russ Unger and Carolyn Chandler. 2012. *A Project Guide to UX Design: For user experience designers in the field or in the making* (2nd. ed.). New Riders Publishing, USA.





LMS

- Course Materials: Lectures and Lab Assignments
- Online Quizzes
- Project Submission
- Lab Assignment Submission





Grades

- Midterm: 15 Degree
- Activities
 - Project: 20 Degree
 - Quizzes (Practical/LMS): 20 Degree (4 quizzes)
 - Practical Assignments : 20 Degree (LMS + Discussion)
- Final Exam: 25 Degree





Calendar

- Week 1: User Experience Fundamentals (part 1)
- Week 2: User Experience Fundamentals (part 2)
- Week 3: User Experience Research
- Week 4: Design Process
- Week 5: Concept to low-Fidelity Prototyping (part 1)
- Week 6: Concept to low-Fidelity Prototyping (part 2)
- Week 7: Midterm





Calendar

- Week 8: Visual Design and UI Design for Web
- Week 9: UI Design for Mobile
- Week 10: Prototyping
- Week 11: High-Fidelity Prototypes and Testing
- Week 12: Revision and Case Studies + Project Discussion
- Week 13: Revision and Case Studies + Project Discussion
- Week 14: Revision and Case Studies + Project Discussion
- Week 15: Practical Discussion



Chapter 1



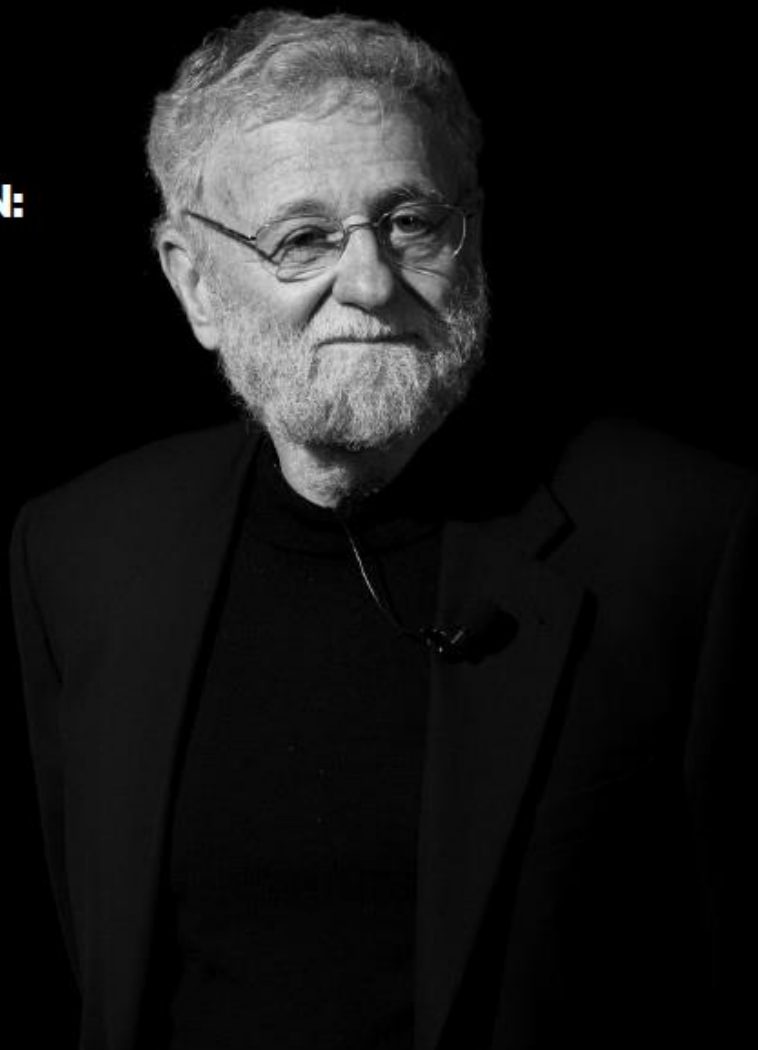
Chapter 1: User Experience Fundamentals

- What is UX Design?
- What UX Designers do?
- Skills to gain in UX Design Field
- Careers in UX
- Who hires UX Designers?
- UX frameworks
- UX in Action : Design Sprint
- UX Process

THE GODFATHER OF UX & USER-CENTERED DESIGN: **DON NORMAN**

Today we take the acronym UX for granted. But the concept of user-centered design was once fringe and freaky.

The first person to hold a position that had “User Experience” in the title was Don Norman, who coined the now-ubiquitous term when he worked for Apple in the mid-90s. Norman’s 1988 book *The Design of Everyday*



WHAT IS USER EXPERIENCE (UX) DESIGN?

“People ignore design that ignores people.”

- User experience (UX) is the relationship between a product and the person using it. UX design focuses on building products that someone can easily use and enjoy using.
- User experience design is about supporting user's needs



Think about a ketchup bottle.

Historically, ketchup came in a glass bottle. The user had to hit the bottom of the glass to make ketchup come out. Often, no ketchup or too much ketchup would come out of the bottle.



Today, the ketchup

bottle has been redesigned into a plastic squeezable bottle, which makes it easier to use and allows users to control how much ketchup comes out.



Other examples

Old, Unresponsive Site

Desktop



Acceptable

Tablet



Lame

Phone



Even Lamer

- Does not scale
- Tiny text hard to read
- Graphics not adjusted
- Difficult to navigate

New, Responsive Site

Desktop



Good

Tablet



Good

Phone



Good

- Scales text & graphics
- Fills screen, all devices
- Easy to read
- Easy to navigate

WHAT UX DESIGNERS DO?

Creating physical and digital products that are:

- **Useful**
- **Usable**
- **Enjoyable**
- **Accessible**

SKILLS TO GAIN IN UX DESIGN FIELD

You will have:

- Research Skills
- Psychology and Sociology
- Visual Design Fundamentals
- Usability Concepts
- Some Business Understanding
- Communication Skills
- Critical Thinking

CAREERS IN UX:

International Market, you can be:

- **Interaction Designer**
- **Visual Designer**
- **Motion Designer**
- **AR/VR Designer**
- **UX Researcher**
- **UX Writer**

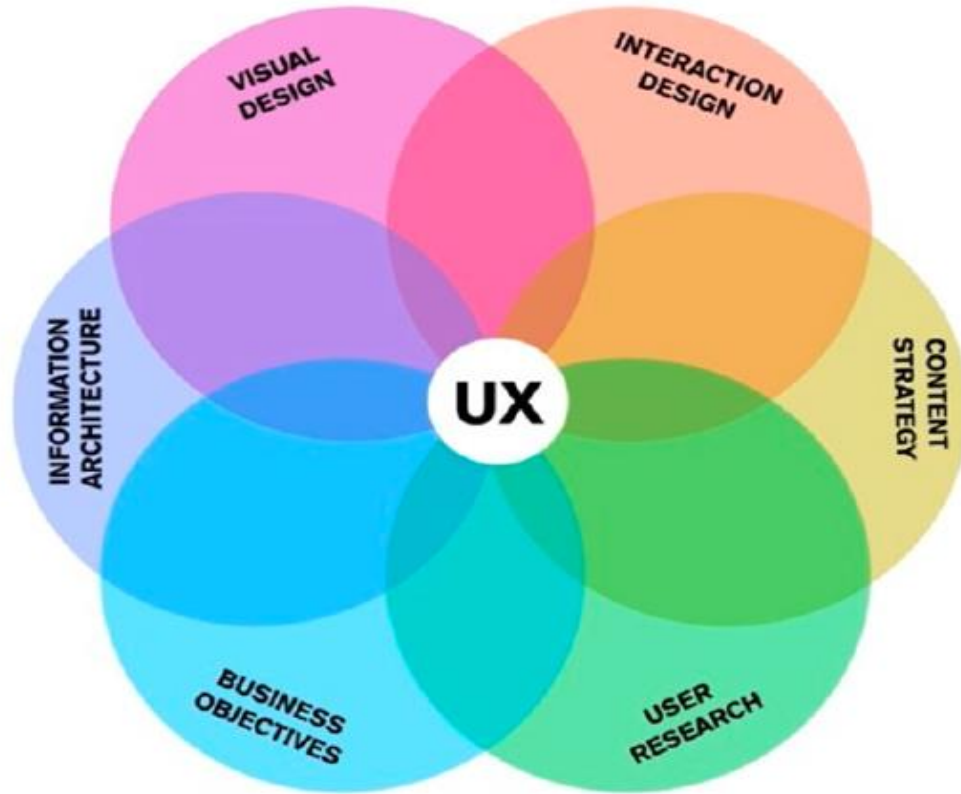
Local Market can call you:

- **UI/UX Designer**
- **UI Designer**
- **Product Designer**
- **App Designer**
- **Web Designer**
- **UX Researcher**

WHO HIRES UX DESIGNERS?

- **Start-ups**
- **Freelancing**
- **Advertising Agency**
- **Design Agency**
- **FAANG Companies (Facebook, Amazon, Apple, Netflix, Google)**

UX Fundamentals



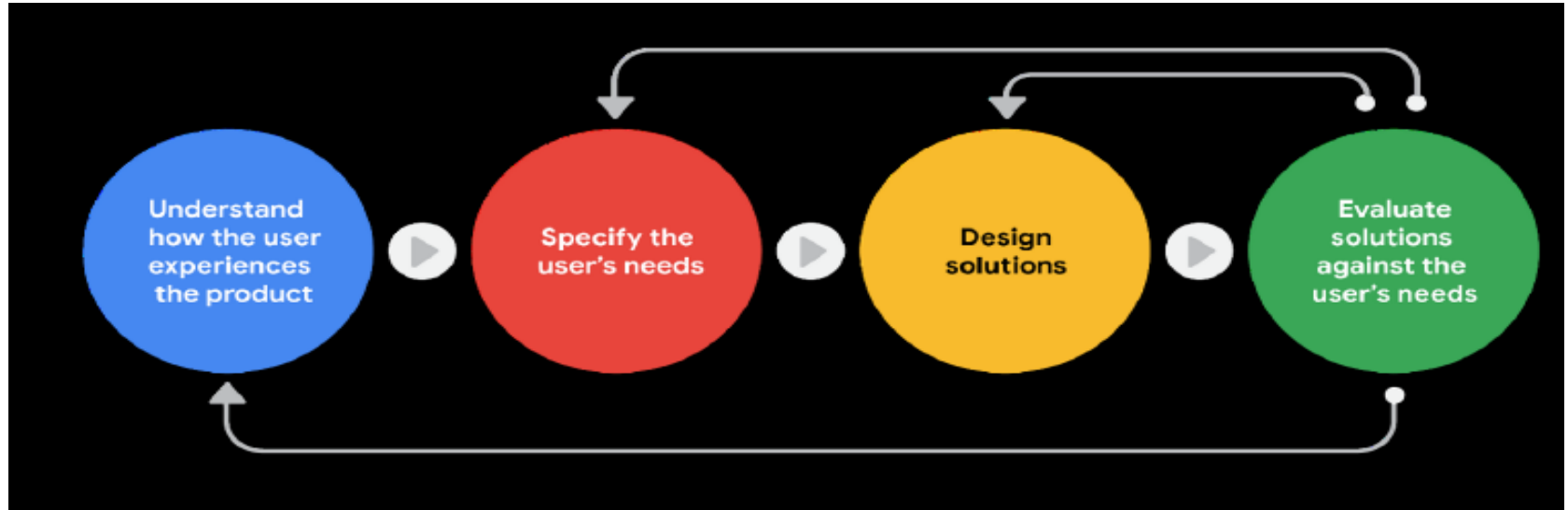
UX FRAMEWORKS

Framework: Method or series of steps

- User-Centered Design
- Design Thinking
- Double Diamond

WHAT IS USER CENTERED DESIGN?

User-centered design is a framework that puts the user front-and-center. By focusing on the user, designers must consider the story, emotions, and insights gathered about them.



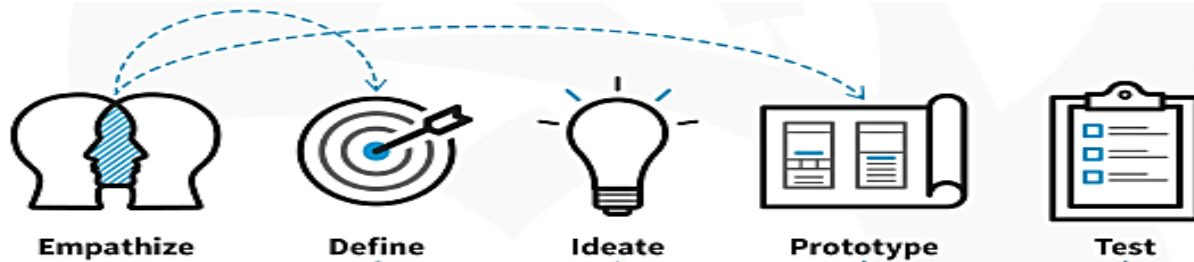
WHAT IS DESIGN THINKING?

Design thinking is a user-centered approach to problem-solving. It helps designers create solutions that address a real user problem and are functional and affordable.

There are five phases in the design process:

- **Empathize**
- **Define**
- **Ideate**
- **Prototype**
- **Test**

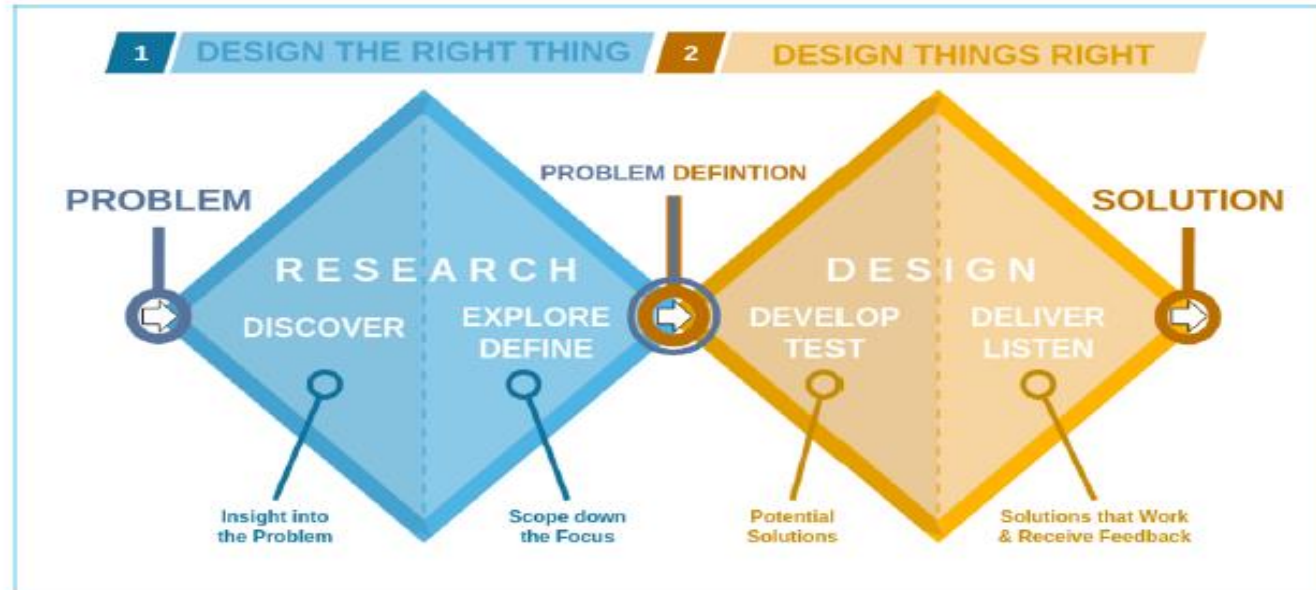
THE FIVE STAGES OF DESIGN THINKING



- During **the empathize phase**, the goal is to understand users' needs and how users think and feel.
- In **the define phase**, you'll create a clear problem statement, or a description of the user's need.
- Once you land on a user problem and establish why it's an important one to solve, it's time for **the ideate phase**.
- Once you have an idea of how to solve the problem, you're ready to enter **the prototype phase**. A prototype is an early model of a product that demonstrates its functionality.
- During **the test phase**, users provide feedback about your designs, before the product is built by engineers and launched to the public.

DOUBLE DIAMOND

- The Double Diamond is a visual representation of the design and innovation process. It's a simple way to describe the steps taken in any design and innovation project, irrespective of methods and tools used.





WHO IS RIGHT?

All of them! UX is a soft science and there is no right or wrong .



UX IN ACTION





Design Sprint:

Time-based process with 5 phases typically spread over 5 full 8-hours days

Design Sprint Steps

5 steps over 5 days (8 hrs)



Phase 1 :
Understand



Phase 2 :
Ideate



Phase 3 :
Decide



phase 4 :
Prototype



phase 5 :
Test



BENEFITS OF DESIGN SPRINT:

- Save Time
- Create path from product to market
- Prioritize the user
- Test before launch (save money)
- Lower Risks

UX PROCESS UNDERSTANDING

- We would follow a UX process with the following five key phases:



WHO ARE STAKEHOLDERS?

Stakeholders are people, groups or individuals who have the power either to affect or be affected by the design project you're involved in.



WHAT ARE STAKEHOLDER INTERVIEWS?

- Stakeholder interviews are one-on-one or group conversations with people who have a vested interest in the success of the product you're working on.
- Analyzing these perspectives will help you better understand what stakeholders want and need from the product.
- Once you collect this information, you will be better equipped to deliver a great design that ticks all the boxes.

WHY CONDUCT STAKEHOLDER INTERVIEWS

- **User needs.** How will the design help the users?
- **Business goals.** How will the design support business objectives?
- **Technical limitations.** What technical obstacles need to be overcome?

Benefits:

- Defining goals
- Improving communication
- Sharing a cohesive vision
- Earning trust and buy-in

HOW TO CONDUCT A STAKEHOLDER INTERVIEW

- Start your UX research by setting goals for the stakeholder interview, namely, what you want to find out from interviewees.
- **What are the short- and long-term business goals?**
- **What is the stakeholder's role in the company?**
- **Who are the users?**
- **What are a few major competitors?**
- **Are there any technological limitations?**
- **What is the stakeholder's definition of product success?**

HOW TO CONDUCT A STAKEHOLDER INTERVIEW

- Choose up to 5 stakeholders who represent different sectors of the company, so you have a broader spectrum of insights.
- **Find Stakeholders**
- **Prepare Questions**
- **Document and Analyze Responses**

1. UX Research

- **User research:** Studies the target market to understand customers better.
ex: one-to-one meeting , focus group ,survey.
- **Market research:** A competitive analysis to understand how competitors solve similar problems and identify opportunities.

2. ANALYSIS

- PERSONA
- USER JOURNEY MAP
- EMPATHY MAP
- PROBLEM STATEMENT

WHAT ARE PERSONAS?

- Personas are fictional, yet believable archetypes you can develop to represent your target customers.
- They go deeper than generalized customer segments by having individual names and stories that reflect personal attributes and behavioral characteristics such as needs, motivations, attitudes, and pain points.

CUSTOMER PERSONA



Jennifer D. Gephart

Age	32
Occupation	Finance Project Manager
Education	MBA
Location	Austin, TX
Status	Single

Interests

Cycling, kayaking in Lake Travis, comedy shows, fine dining with friends, volunteering at the local animal shelter.

Goals

Better communication across various departments

Clear, defined due dates and accountability for tasks

Do more with less money

Pain Points/Frustrations

Delays or slow communication

Disorganized work environment

Lack of accountability in tasks across team members

Motivations

Recognition from board, supervisors and peers

Personal reward from successful deals

Opportunity for raise or promotion

Satisfying clients and delivering optimal results

Challenges

Increase revenue fast

Increase sales team productivity

Delays or slow communication

Needs & Expectations

Slack integration

All-in-one project management tool that has clear due dates for projects

Gantt charts

Notifications for easy and quick collaboration

Technology & Social Media

She uses Apple devices

Browses on her phone but makes more action decisions on her desktop

Uses Instagram, Facebook, LinkedIn, and Twitter

Content-Type Preferences

Wall Street Journal
Forbes
Fortune
Business Week
The Economist
Trade Publications
Bloomberg
New York Times

Brands & Influences

Slack
Google
Apple
Amazon
Microsoft
Facebook

WHY ARE USER PERSONAS IMPORTANT?

A deep understanding of a target audience is fundamental to creating exceptional products.



01

Build empathy

Who are we designing for?"

By understanding the expectations, concerns, and motivations of target users, it's possible to design a product that will satisfy users' needs and therefore, be successful.

02

Provide direction for making design decisions

03

Communicate research findings





WHY ARE USER PERSONAS IMPORTANT?

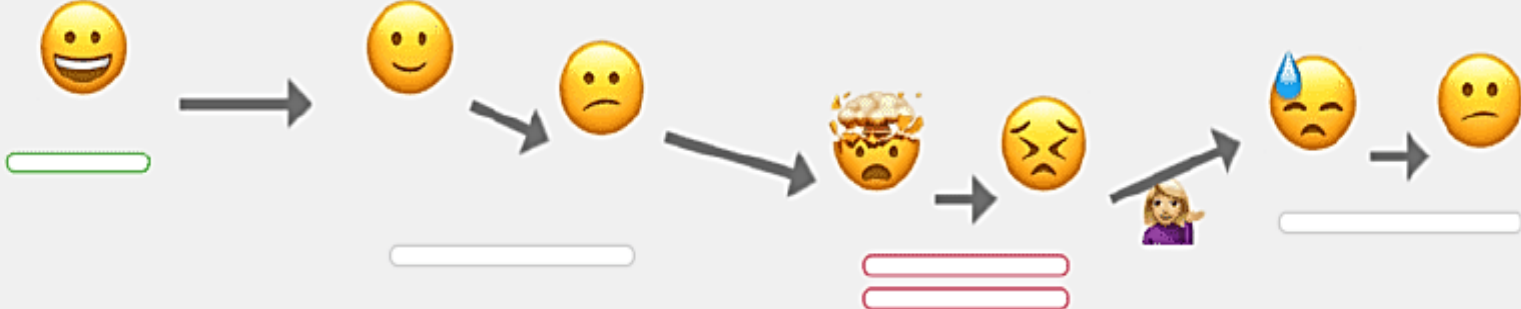
- **USING PERSONAS TO MAP THE CUSTOMER JOURNEY**

Once you've created distinct personas, you can use them to create customer journey maps that describe each persona's experience at various touch points during their lifecycle with your company. An effective journey map is based on real research and behavior, and should represent the true customer experience—good or bad.

WHAT ARE CUSTOMER JOURNEY MAPS?

- Customer journey maps are used to map the relationship between a customer and an organization over time and across all channels on which they interact with the business.
- Design teams use customer journey maps to see how customer experiences meet customers' expectations and find areas where they need to improve designs.

Stages				
Goal	<div></div>	<div></div>	<div></div>	<div></div>
Actions	<div></div>	<div></div>	<div></div>	<div></div>
Thoughts	<div></div>	<div></div>	<div></div>	<div></div>
Emotions	<div> <div></div></div>	<div> <div></div></div>	<div> <div></div></div>	<div> <div></div></div>
Touch points	<div></div>	<div></div>	<div></div>	<div></div>



```
graph LR; E1[Happy] --> E2[Smiling]; E2 --> E3[Sad]; E3 --> E4[Exploding head]; E4 --> E5[Frustrated]; E5 --> E6[Sweating]; E6 --> E7[Sad];
```

Customer Journey Map Template



Persona

Scenario

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Praesent ac lectus cursus, semper arcu eu, posuere nibh. Etiam sollicitudin, odio sed vulputate ultrices, elit lectus malesuada purus, eget rutrum turpis ipsum ut nunc.

Goals & Expectations

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Praesent ac lectus cursus, semper arcu eu, posuere nibh. Etiam sollicitudin, odio sed vulputate ultrices, elit lectus malesuada purus, eget rutrum turpis ipsum ut nunc.

Step 1

Step 2

...

Final Step

Customer goals

- Goal 1
- Goal 2

Customer goals

- Goal 1
- Goal 2

Customer goals

- Goal 1
- Goal 2

Customer thoughts and emotions

Lorem ipsum dolor sit amet, consectetur adipiscing elit.

Customer thoughts and emotions

Lorem ipsum dolor sit amet, consectetur adipiscing elit.

Customer thoughts and emotions

Lorem ipsum dolor sit amet, consectetur adipiscing elit.



Opportunities & ideas to improve

- Opportunity 1
- Idea 1

Opportunities & ideas to improve

- Opportunity 1
- Idea 1

Opportunities & ideas to improve

- Opportunity 1
- Idea 1

Internal ownership

- Team member 1
- Team member 2

Internal ownership

- Team member 1
- Team member 2

Internal ownership

- Team member 1
- Team member 2



Sarah

Scenario

Sarah is going to the movies. She is excited to go out for the night and will meet her friend at the theater.

Expectations

- Great movie
- Friendly staff
- Good seat

Decide

1. Looks up movies on phone
2. Decides which movie to see and which theater to go to
3. Buys ticket online from phone

"I wonder if I can find a closer theater."

Travel

4. Drives to movie theater
5. Stands in line and buys popcorn
6. Finds seat next to friend

"Traffic is always so bad!"

"Where is my friend?"

Experience

7. Watches movie

"Finally I can relax."

Return

8. Exits theater
9. Drives home

"Where is my car?"

"It's so late now. I have to get up early."

Let's Take a Step Back:

What is empathizing in
design thinking?



Empathize

The first phase of design thinking, where you aim to gain real insight into users and their needs.





One way that we visualize empathy is by creating an **empathy map**

What is an empathy map ?

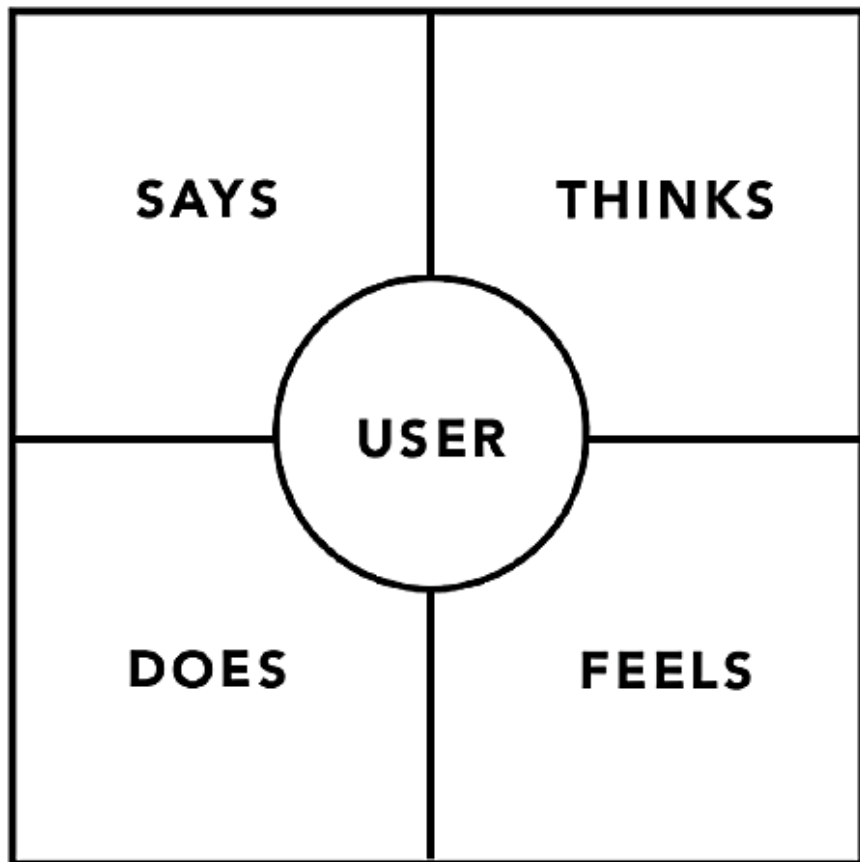
An Empathy Map is just one tool that can help to better understand your target customer base. They allow you to visualize customer needs, condense customer data into a clear, simple chart, and help you see what customers want — not what you think they want.

What is an empathy map format ?

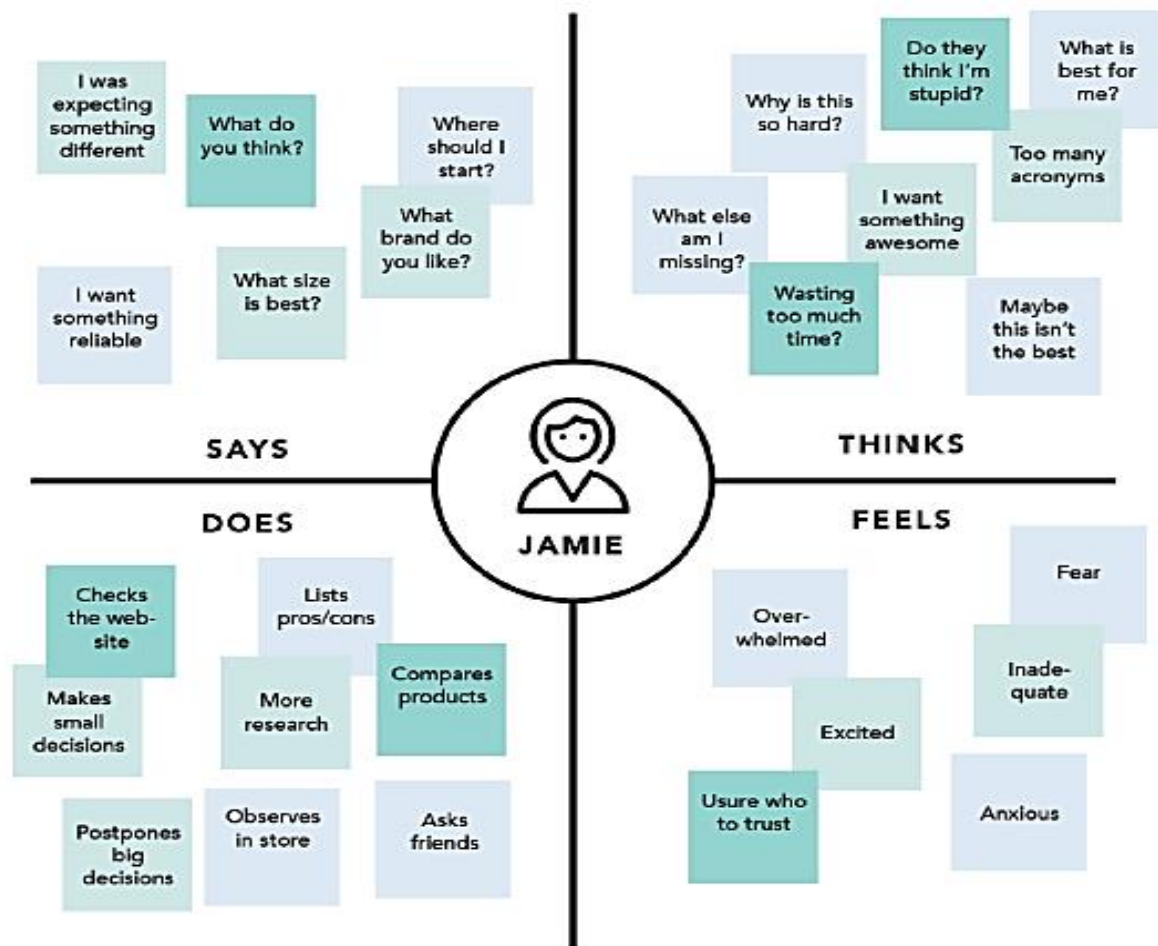
Traditional empathy maps are split into 4 quadrants.

(Says, Thinks, Does, and Feels)

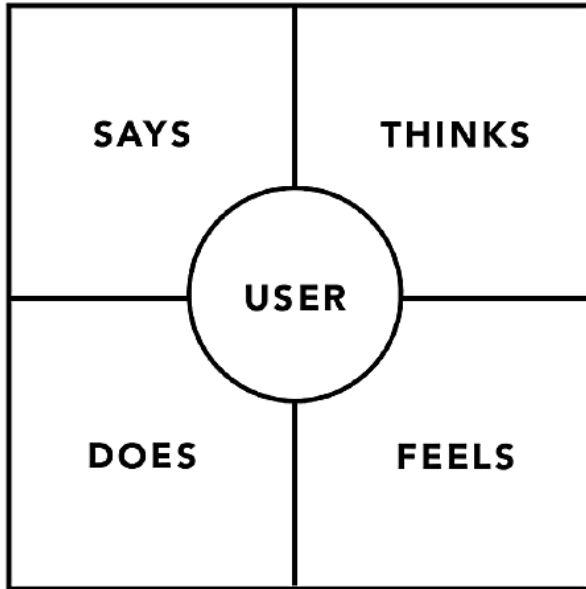
EMPATHY MAP



EMPATHY MAP *Example (Buying a TV)*



EMPATHY MAP



As their name suggests, empathy maps simply help us build empathy with our end users.

- What your users need and want ?
- How your users behave, feel and think ?
- Why your users demonstrate certain behaviors, feelings and thoughts when they interact with products in a real-world setting ?

PROBLEM STATEMENT

- In the discovery phase of a UX project , a problem statement is a concise description of the problem to be solved.
- Focus on who the problem affects, how it does so, and why it's important to solve the problem.

HOW TO WRITE A PROBLEM STATEMENT?

A problem statement should include:

- **The background of a problem.** Which organization or department has the problem and what is the problem? Why has the problem arisen? Note that in some cases, you may not know the exact causes of the problem.
- **The people affected by the problem.** There could be multiple user groups affected by a specific problem in different ways. In the problem statement, you should call out how the problem affects users.
- **The impact of the problem on the organization.** If the problem is not fixed, what will be the effect on the organization? Your discovery could involve working out how much this problem costs the organization, and this information could end up in your problem statement.

PROBLEM STATEMENT

To gather the relevant facts for your problem statement, you can use a simple technique called **the 5 Ws**, which involves answering the questions below.

- **Who** is affected by the problem?
- **What** is the problem?
- **Where** does this problem occur?
- **When** does the problem occur?
- **Why** does the problem occur? Why is the problem important?



3.DESIGN

With a clear understanding of their users, market, designers can start the ideation phase



USER-STORY

User-Story Map: Mobile App Feature for Depositing Checks

1. Activities:

High-level tasks users can do in the digital product

Check account balance

Deposit a check

2. Steps:

Steps users go through to complete the activity above

Login

Access accounts

Enter mobile deposit details

Sign check

Enter username or email

View account balances

Choose account

Read tips for taking check photos

3. Details:

Granular, discrete interactions to complete the step above

Enter password

See pending transactions

Enter deposit amount

Press login button

Open new account

View transaction limits

Initiate forgot password

See legal disclosures

Send check to bank via drone

Toggle remember me

Get savings advice

View past deposits

User-story mapping (also known as user-story maps, story maps, and story mapping) is a lean UX-mapping method.

A user story is a one-sentence statement that describes:

- Who is the user?
- What that user wants?
- Why?

WHY DESIGN USER STORIES?

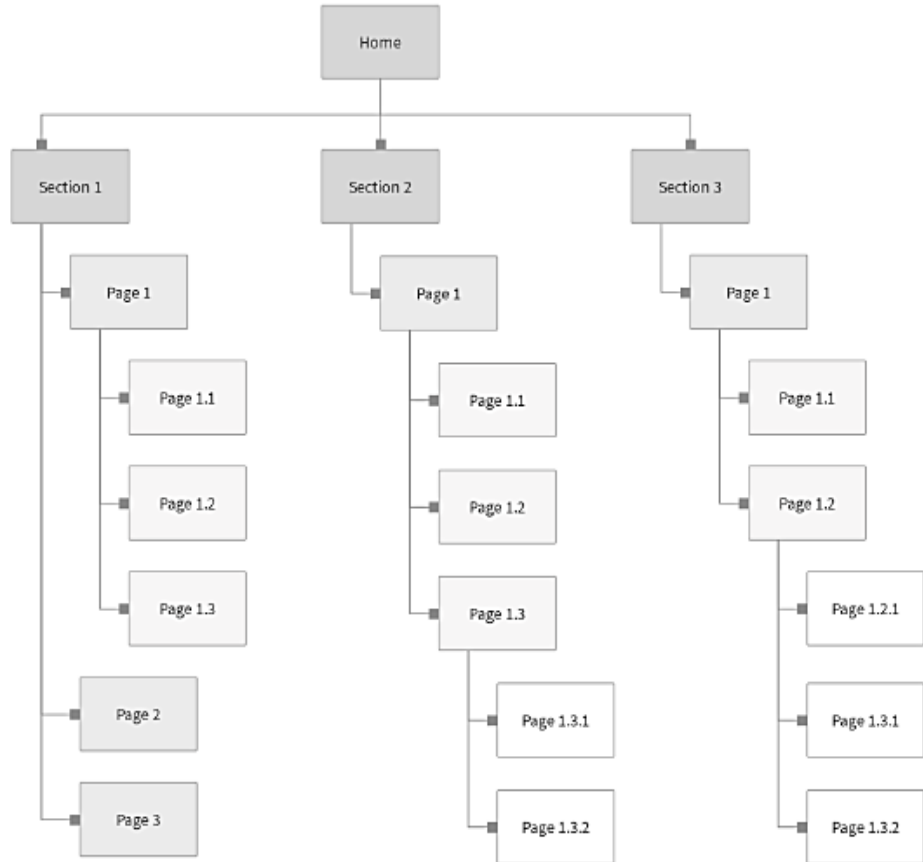
- A user story allows us to empathize with a user and generate ideas that are relevant to the user's life.
- Helps to achieve shared understanding much more quickly than reading a requirements document.

WHEN AND HOW TO CREATE A USER STORY MAP

Story maps can be used at any point in the product-development process to drive discussion and align the team. You can create a story map to plot the experience for a new product, after initial discovery work, or for an existing product, after usability testing. In either case, the story map begins to illustrate solutions to the problems uncovered in the research.

User story is written in the following format: “As a, I want so that”

APP MAP/ SITE MAP



A user experience (UX) sitemap is a map of the various pages on your website. It's sometimes called an information architecture (IA) diagram or content outline.

The purpose of the UX sitemap is to allow you to visualize how individual webpages or site sections are related to each other. They also help you understand how users navigate through the website.

WHY DO I NEED A UX SITEMAP?

UX sitemaps help you keep track of what you're doing, where you're going, and how the website will evolve over time. They help with communication between teams involved in developing the site. They also identify any areas that might have been missed at an early stage, providing extra insight into issues that may not be obvious when looking at the individual page structure.

WHAT IS A FEATURES LIST?

The features list is a **piece of document** where all the features that are expected to be in a project are listed for future work.

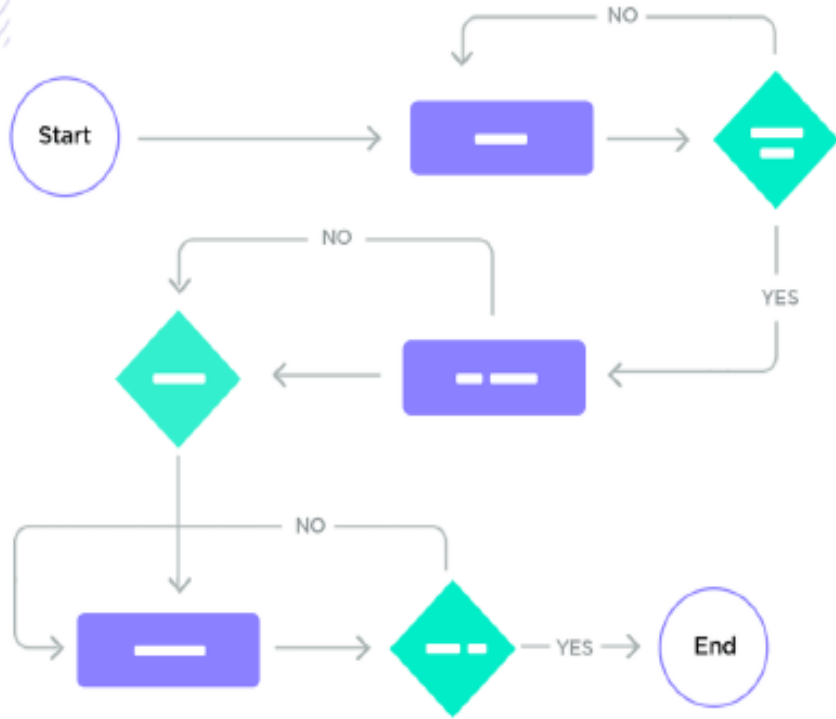
WHY DESIGN A FEATURES LIST?

- List all the features **included** in the software.
- **Create a source of truth for the team.**
- Sometimes used to show what features will be implemented now or the future.

HOW TO DESIGN A FEATURES LIST?

- List all the main features we want to implement.
- Will include a list with all the features related.
- You can add a column for any and any other columns needed.

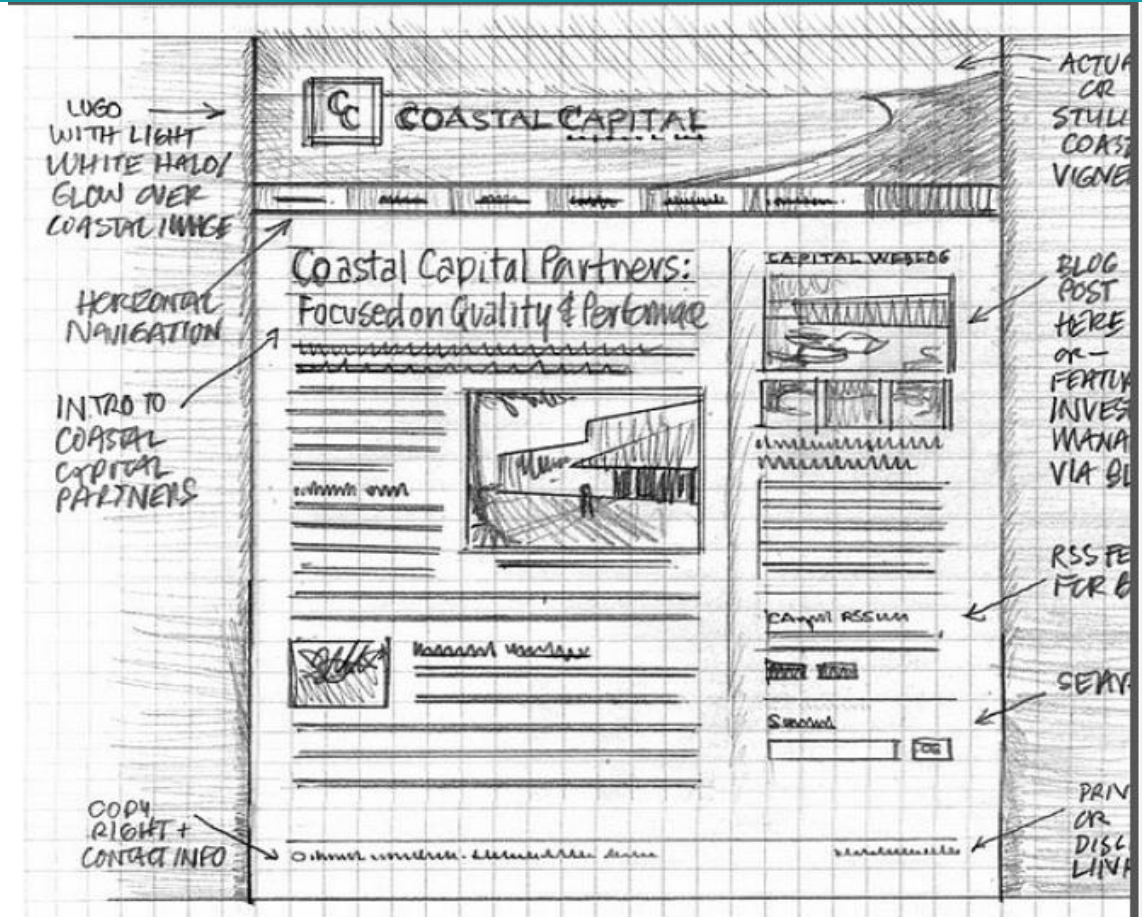
USER FLOW



The term 'flow' depicts movement. Product creators need to consider the path in which the user will navigate through the website or app, prompting the creation of user flow. This path is divided into a series of steps that the user takes from the entry point through conversion funnels towards the final action (signup, purchase, etc.).

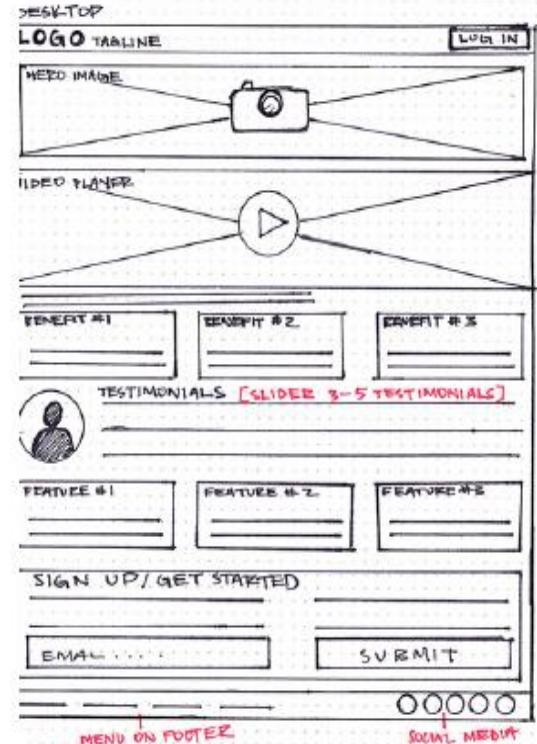
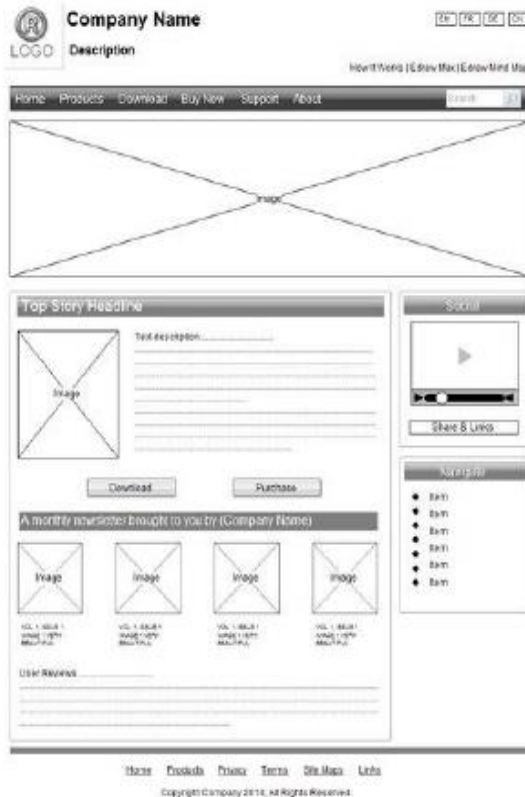
PAPER SKETCHES

- Hand-drawn sketches of user interfaces



WIREFRAMING

- Digital versions of paper prototypes featuring **basic lines and shapes**



UI & VISUAL DESIGN

Visual design focuses on the aesthetics of a site and its related materials by strategically implementing images, colors, fonts, and other elements.



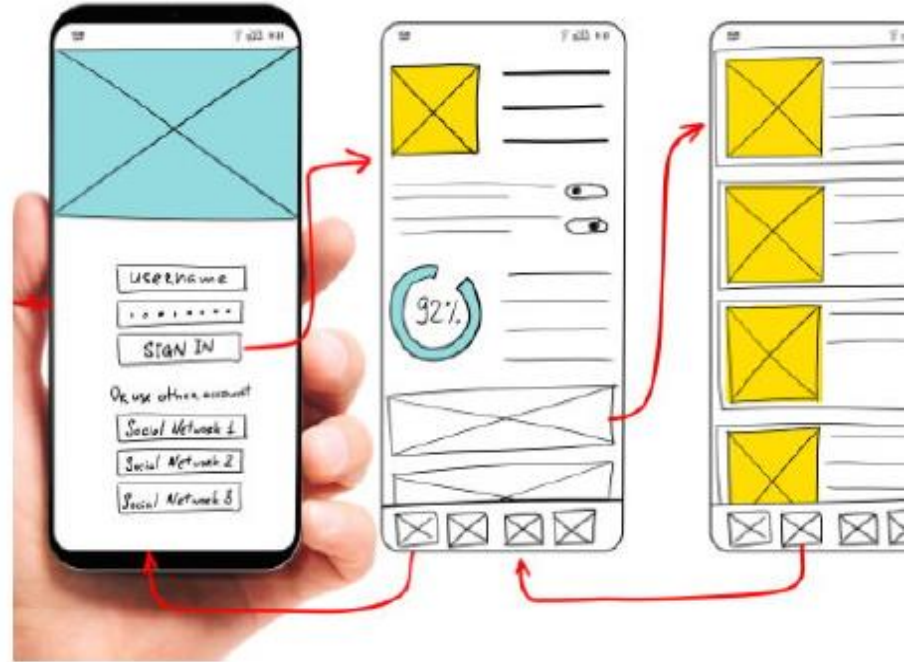


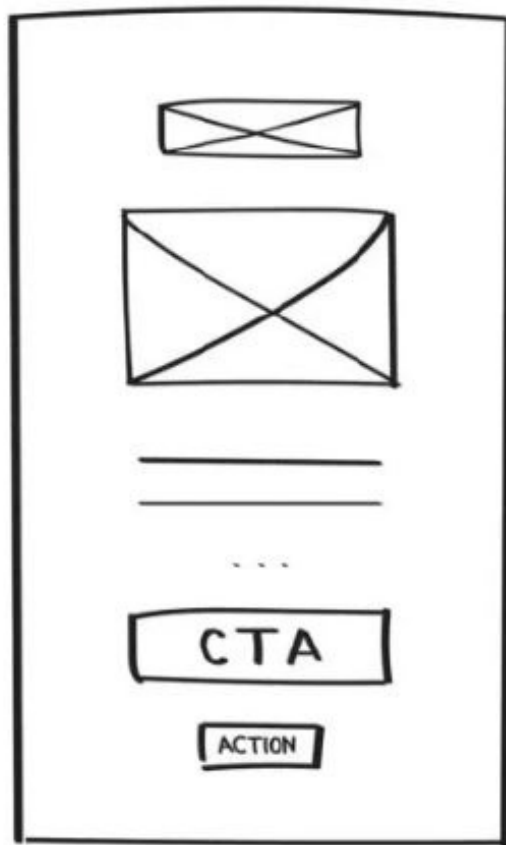
4. PROTOTYPE

Of freelance artists have found
work through our networking events

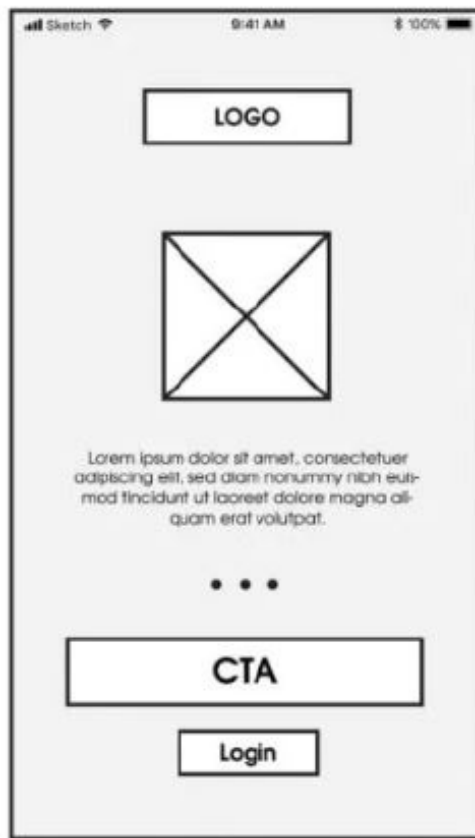
WHAT IS A PROTOTYPE?

A prototype is an early sample, model or release of a product created to test a concept or process. Typically, a prototype is used to evaluate a new design to improve the accuracy of analysts and system users. It is the step between the formalization and the evaluation of an idea.





PAPER PROTOTYPES



LO-FI PROTOTYPES



HI-FI PROTOTYPES



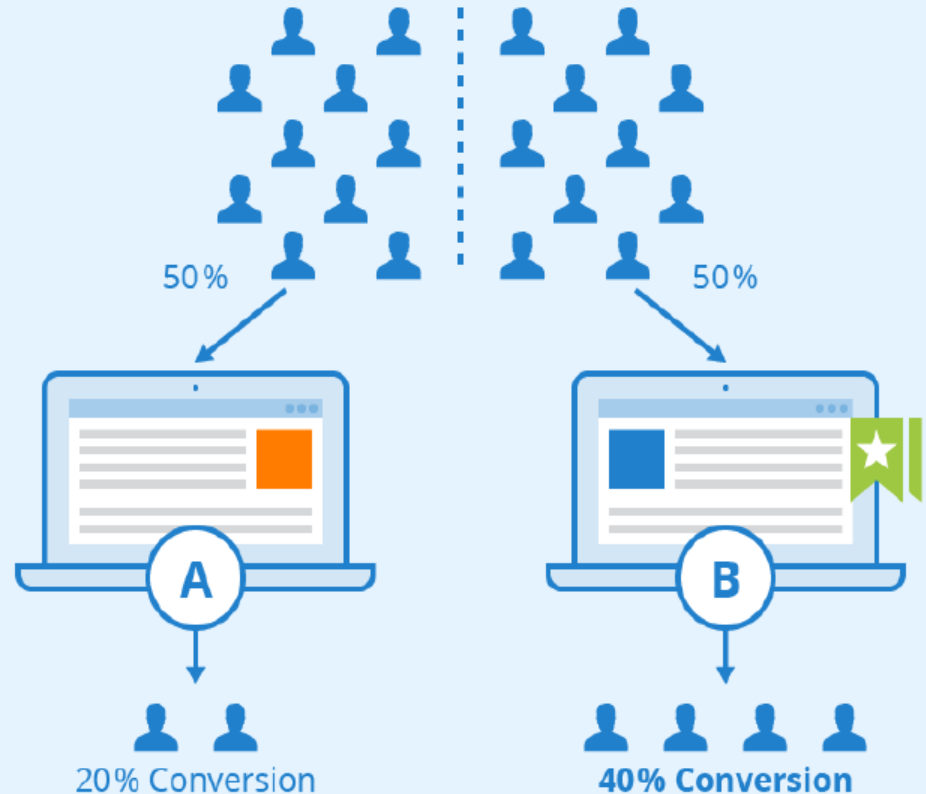
5.TEST

USABILITY TESTING

- Usability testing is a research method for **evaluating** your product with people by getting them to complete a list of tasks while observing and noting their interactions.
- There are various usability testing methods that you can use, such as moderated vs. unmoderated or qualitative vs. quantitative —and selecting the right one depends on your research goal, resources, and timeline.

A / B TESTING

A/B testing, for when you need to know which version of your product performs better in a test.



HEURISTIC EVALUATION

Heuristic evaluation is a process where experts use rules of thumb to measure the usability of user interfaces in independent walkthroughs and report issues.

SURVEYS

Surveys are a research tool that helps you collect data from a group of participants and gather meaningful insights. They can be used for both qualitative studies, such as asking people for open-ended feedback and comments, as well as collecting quantitative data by tapping into a larger volume of responses.



End of Chapter 1

