

# UCD Boot Camp Course 2023B

welcome

# UCD Boot Camp Course 2023B

## **The Course Objectives:**

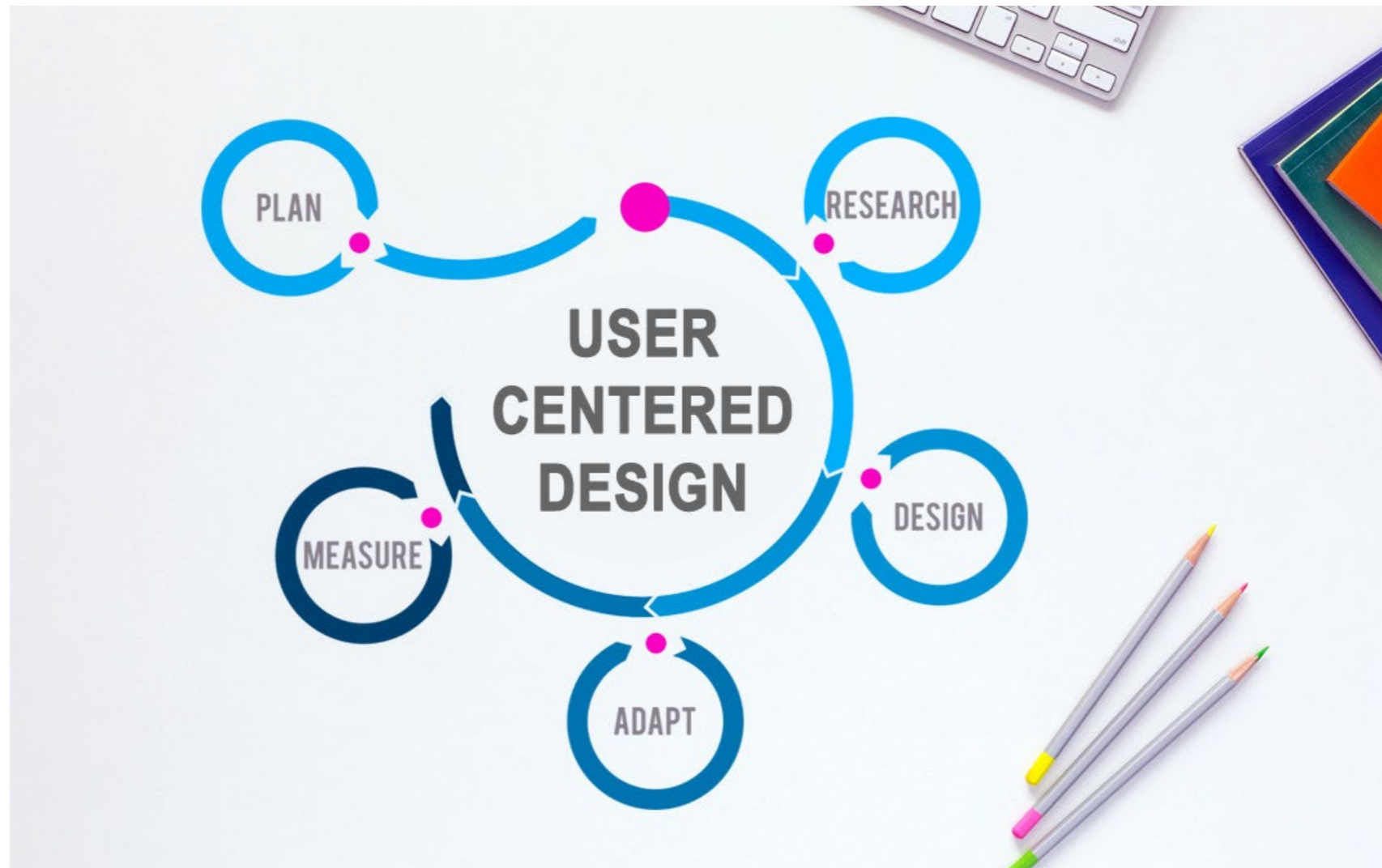
- Apply design thinking principles, methods, and processes to resolve business issues
- Implement the user research process to a given project
- Conduct heuristic evaluations and user testing
- Learn to effectively communicate and articulate ideas through the written and visual presentations

# UCD Boot Camp Course 2023B

## After this course:

- ❑ Participants will be able to:
  - ✓ Construct a User Persona
  - ✓ Perform a UX Task Analysis
  - ✓ Create a Mockup of an Initial UI design using Adobe XD
  - ✓ Do a Heuristics Review
  - ✓ Prepare for a UX Evaluation
  - ✓ Facilitate a “Think Out Loud” test
  - ✓ Write a Post-Test Report based on a UX session

# What is User-Centered Design?



User-Centered Design (UCD) is the process of designing a user interface (such as a website or desktop application) from the perspective of how it will be understood and used by a human user.

# What is User-Centered Design?



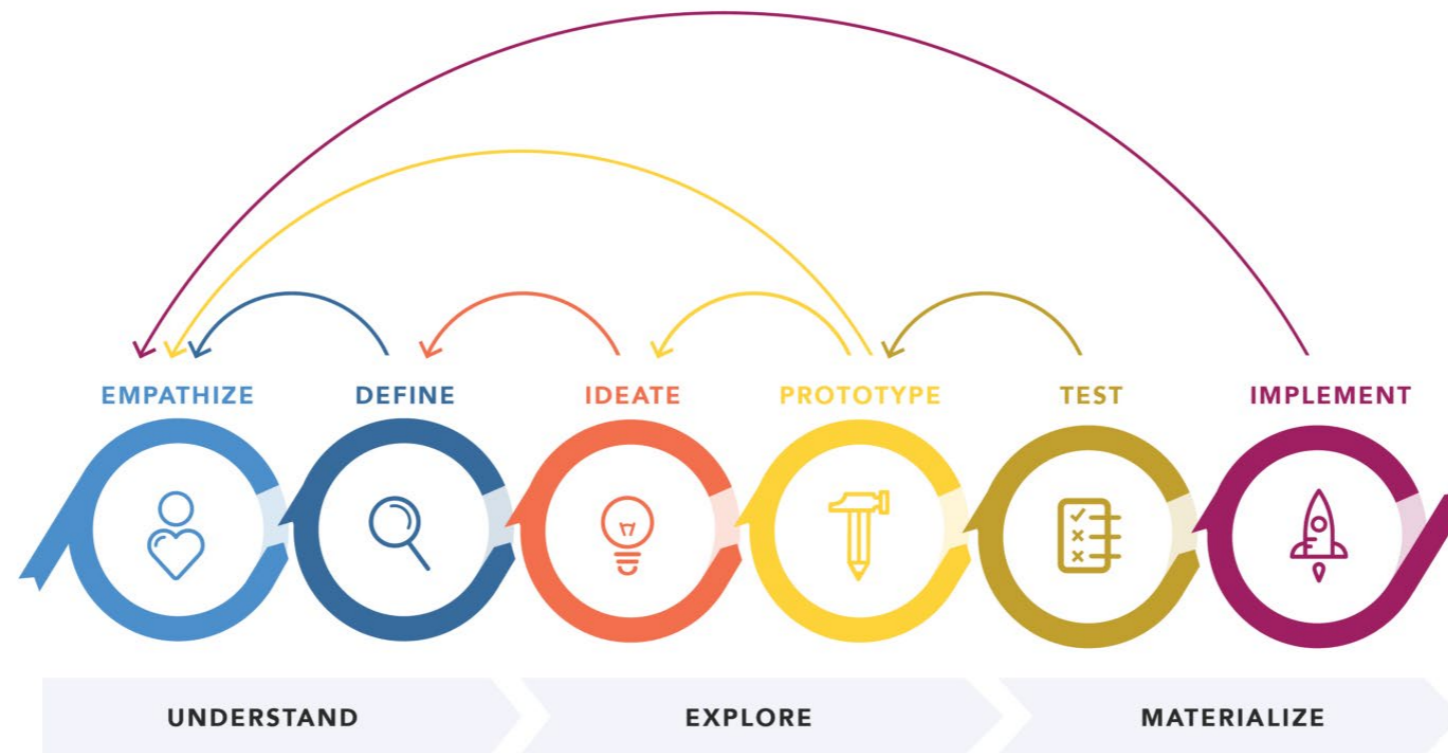
Rather than requiring users to adapt their attitudes and behaviors in order to learn and use a system, a system can be designed to support its intended users' existing beliefs, attitudes, and behaviors as they relate to the tasks that the system is being designed to support.

# What is User-Centered Design?



The result of employing UCD to a system design is a product that offers a more efficient, satisfying, and user-friendly experience for the user, which is likely to increase use and customer loyalty.

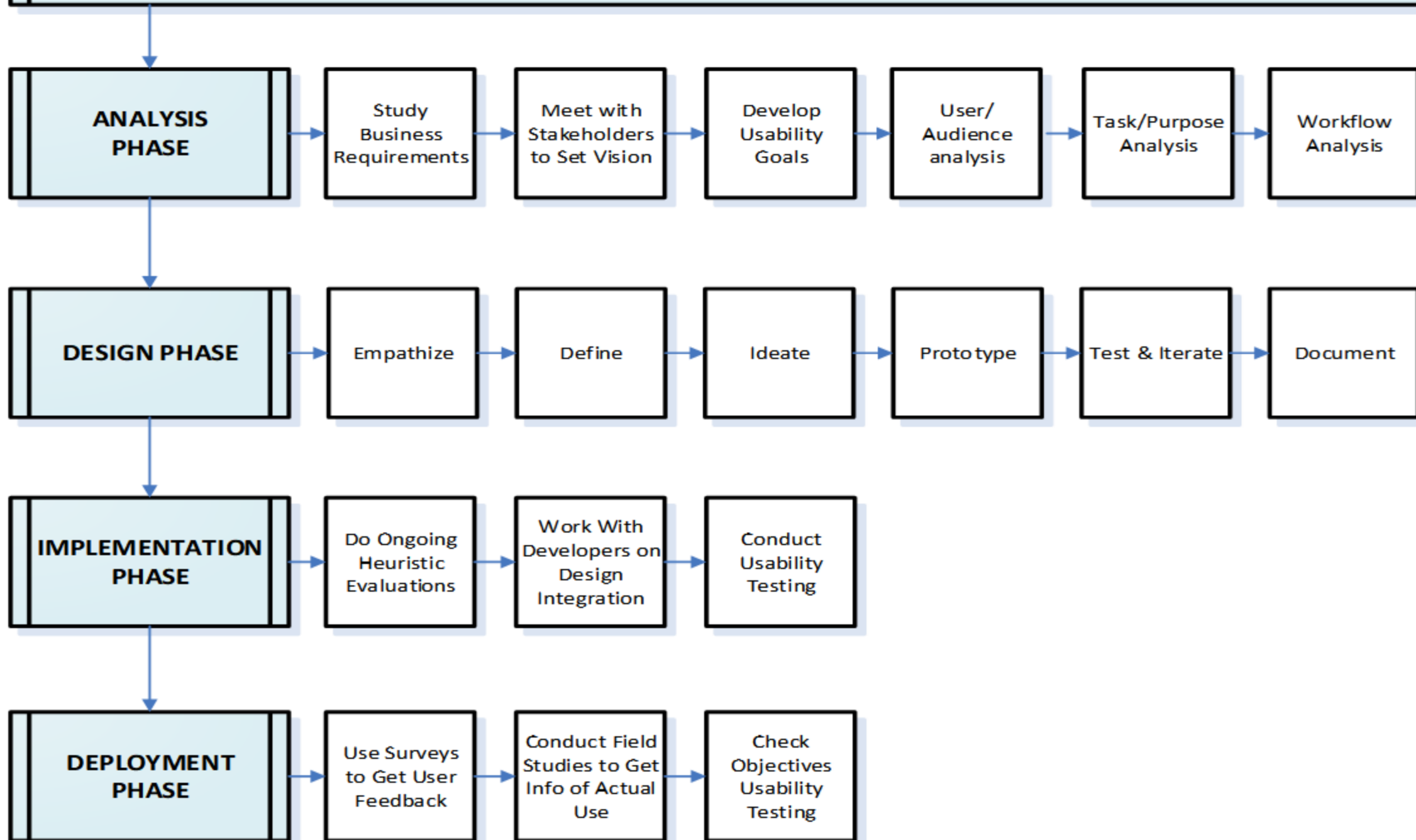
# Design Thinking Process



- A solution-focused, problem-solving methodology that helps companies, and individuals alike to get the desired outcome on an inner problem, or to work forward on a future plan.
- Allows the user of the system to have a more structured plan for understanding innovation and growing more as a company.

# Step by Step UCD Process

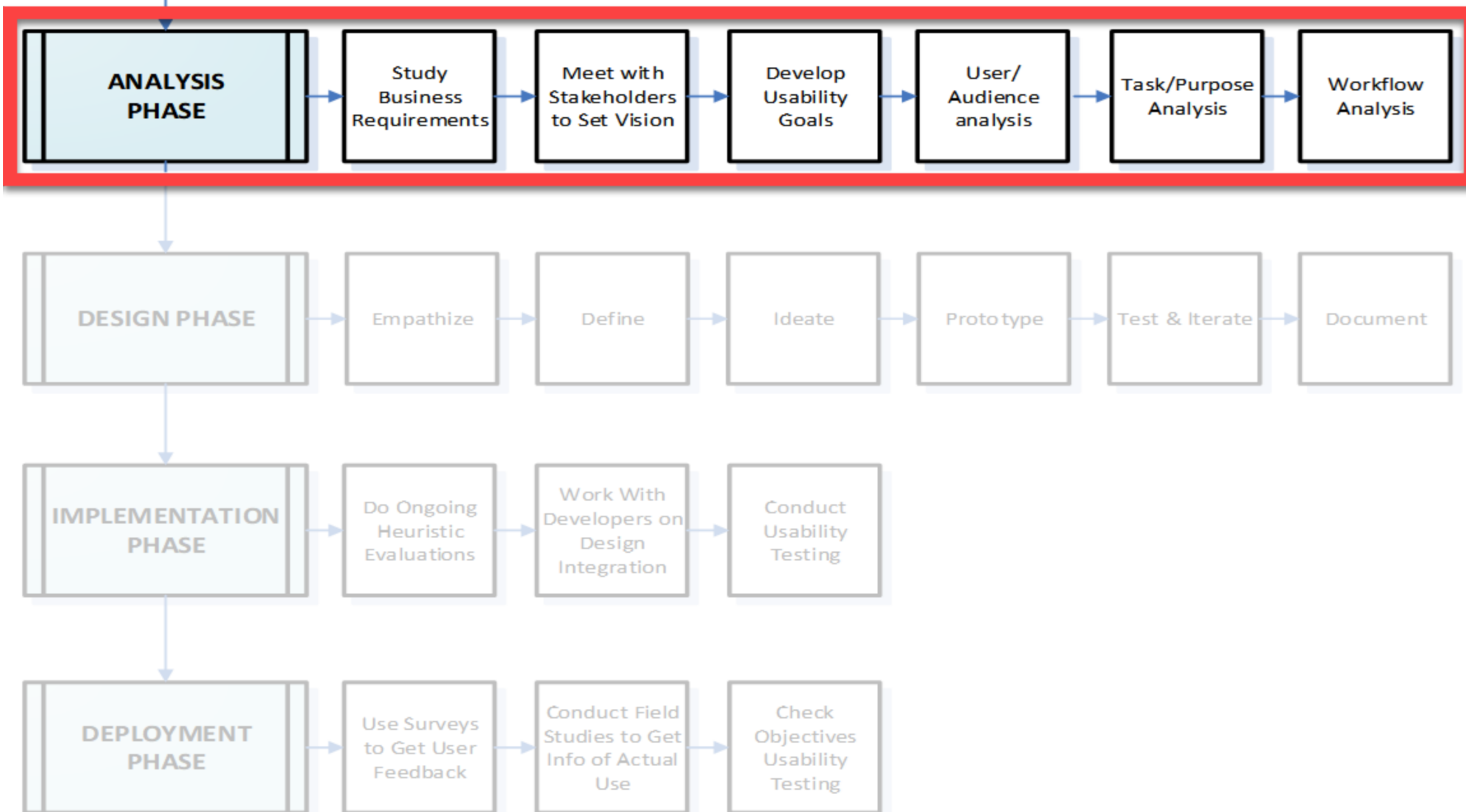
## STEP-BY-STEP USER-CENTERED DESIGN PROCESS





# Step by Step UCD Process

## STEP-BY-STEP USER-CENTERED DESIGN PROCESS

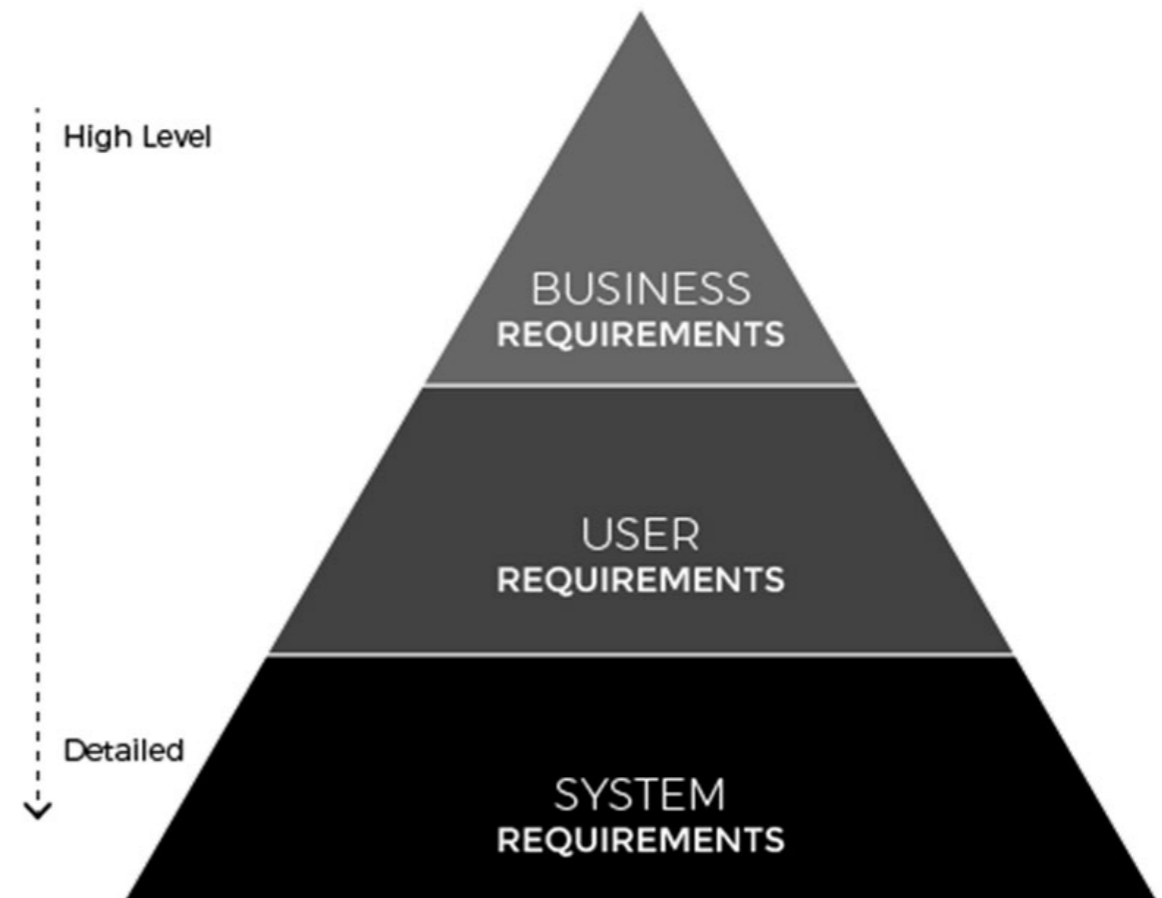


# Step by Step UCD Process: **ANALYSIS**

## A. Study Business Requirements

Collaborate with the project manager/product owner to initiate a list of the business requirements:

1. Scope - What feature are you developing? What is the application going to cover? About how much functionality will it contain?
2. Audiences - Who are the major groups you want the application to serve?
3. Objectives - What goals should the application help your customers meet?

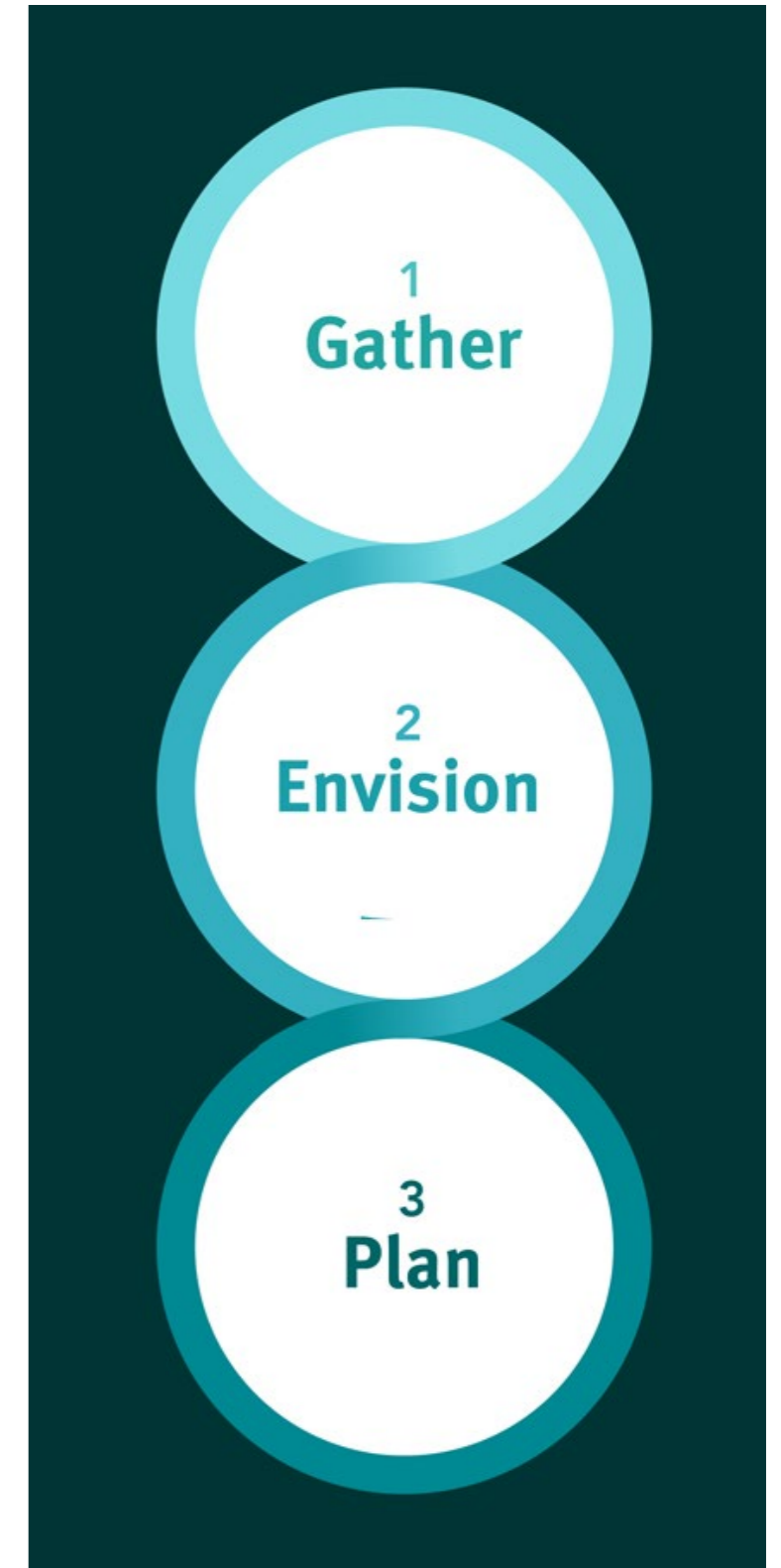


# Step by Step UCD Process: **ANALYSIS**

## B. Meet with Stakeholders to Set Vision

To validate the business requirements and get their vision.

1. Gather. Collect or research to understand the current state of UX:
  - Stakeholder interviews, previous usability testing reports, competitive analysis
2. Envision. Create a shared, research-backed vision:
  - Share and review existing research, Brainstorm and prioritize future-state attributes, Construct a vision statement
3. Plan. Identify activities and resources required to realize the vision:
  - Processes, People, Tools and tech, Governance

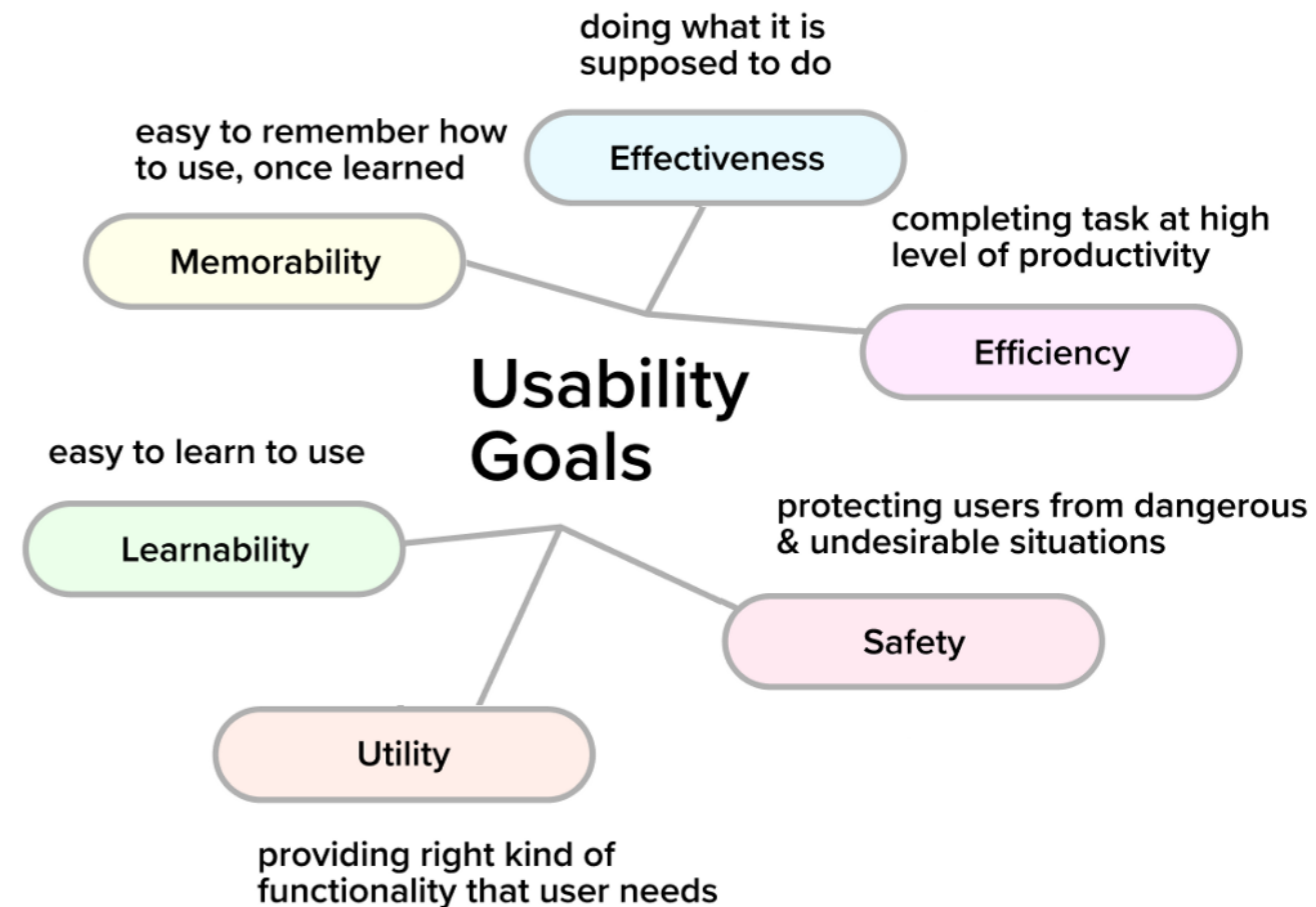


# Step by Step UCD Process: **ANALYSIS**

## C. Develop Usability Goals

Create an initial list of usability goals that you want this product/application will do. Typical usability goals:

1. Speed. How long does it take to complete the task?
2. Accuracy. The number of attempts to complete the task.
3. Overall Success. The percentage of visitors who completed the task.
4. Satisfaction. How satisfied the visitor was with the process of completing the task?



# Step by Step UCD Process: **ANALYSIS**


## D. User/Audience Analysis

1. User Personas. Aggregates user demographics, goals, behaviors, and beliefs to represent a user group.
2. User Stories. Outlines how users might use it.
3. Technique: Field studies, contextual inquiry, Individual Interviews, Surveys (Online), Focus Groups



# Step by Step UCD Process: **ANALYSIS**

## A sample persona

<b>Persona:</b>	USDA Senior Manager Gatekeeper
<b>Photo:</b>	
<b>Fictional name:</b>	Matthew Johnson
<b>Job title/major responsibilities:</b>	Program Staff Director, USDA
<b>Demographics:</b>	<ul style="list-style-type: none"><li>• 51 years old</li><li>• Married</li><li>• Father of three children</li><li>• Grandfather of one child</li><li>• Has a Ph.D. in Agricultural Economics.</li></ul>
<b>Goals and tasks:</b>	<p>He is focused and goal-oriented within a strong leadership role. One of his concerns is maintaining quality across all output of programs.</p> <p>Spends his work time:</p> <ul style="list-style-type: none"><li>• Requesting and reviewing research reports,</li><li>• preparing memos and briefs for agency heads, and</li><li>• supervising staff efforts in food safety and inspection.</li></ul>

<b>Environment:</b>	He is comfortable using a computer and refers to himself as an intermediate Internet user. He uses email extensively and the web for about 4 hours during his work day.
<b>Quote:</b>	“Can you get me that staff analysis by Tuesday?”

# Step by Step UCD Process: **ANALYSIS**

## E. Task/Purpose Analysis

Task Analysis. Providing insights and context as to how users complete tasks.

Capture details such as:

Mindset, Users' environment, Actions (in physical and digital environments)

Duration or time-on-task, Frequency of use, Task difficulty



User forms  
a goal



User completes  
Task 1



User completes  
Task 2



Goal  
achieved

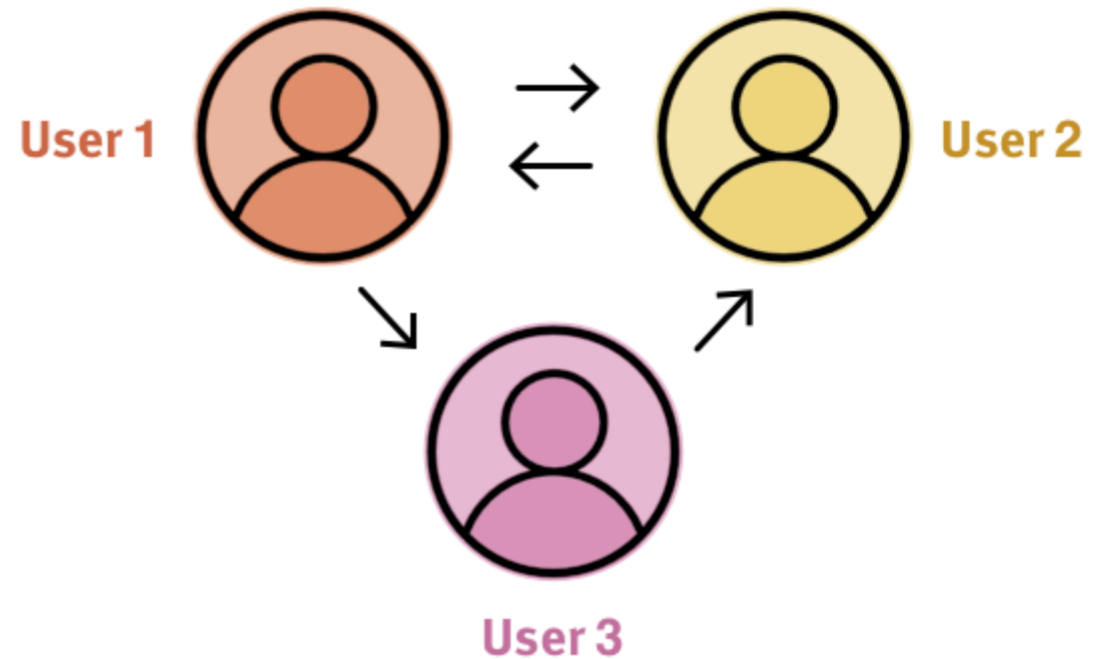
# Step by Step UCD Process: **ANALYSIS**

## F. Workflow analysis

Workflow Diagrams:

- Document the steps for completing a task
- Show the user roles that perform particular steps
- Identify where the product is involved

Scenarios are created during Workflow Analysis.





# Step by Step UCD Process: ANALYSIS

## Sample use cases:

UX Use Cases: Billing Receipts

10/12/2020

<b>Use Case Scenario 1</b>	Open and scan Summary Information
<b>User</b>	Billing Analyst
<b>Overview</b>	On a given business day, a Billing analyst at ABC Health Plan uses the Billing 360 application's new features on Receipts and Receipt Processing to analyze and report on billing entities and the related invoice information. The analyst is working on an entity billed at the Group level (Group ID: Rider and Group Name: Rider Corporation) and wants to find out Rider's summary information.
<b>Basic Flow</b>	The user has the Facets web application Receipts application opened, uses the search functionality to search for an entity, Rider. From the search results page, selects the Rider entity to open. On the Receipt Summary page, the user views the summary information of the entity.
<b>Use Case Scenario 2</b>	Add Receipts
<b>User</b>	Billing Analyst
<b>Overview</b>	On a given business day, a Billing analyst at ABC Health Plan uses the Billing 360 application's new features on Receipts and Receipt Processing to analyze and report on billing entities and the related invoice information. The analyst was asked to add a Receipt to the entity, Rider.
<b>Basic Flow</b>	The user has the Facets web application Receipts application opened, clicks the Receipt Processing link from the home page. On the Receipt Processing page, adds the necessary information, saves and is brought to the Receipt Details page.
<b>Use Case Scenario 3</b>	Batch Receipts
<b>User</b>	Billing Analyst

# References

## User-Centered Design:

<https://usabilitygeek.com/user-centered-design-introduction>

<https://www.interaction-design.org/literature/topics/user-centered-design>

<https://www.informit.com/articles/article.aspx?p=28704&seqNum=5>

<https://www.usability.gov/what-and-why/user-centered-design.html>

## Design Thinking Process:

<https://www.interaction-design.org/literature/topics/design-thinking>

<https://www.invisionapp.com/inside-design/what-is-design-thinking>

<https://www.ideo.com/pages/design-thinking>

<https://www.ama.org/marketing-news/the-5-phases-of-design-thinking>

## UCD Process

<https://www.w3.org/WAI/redesign/ucd>

<https://xd.adobe.com/ideas/principles/human-computer-interaction/user-centered-design>

<https://www.cuelogic.com/blog/user-centered-design>

<https://producttribe.com/ux-design/user-centered-design-guide>

# References

Study Business Requirements

<https://www.uxmatters.com/mt/archives/2019/04/eliciting-business-requirements.php>

<https://www.krasamo.com/understanding-the-requirement-gathering-process-for-ui-ux-projects>

<https://uxplanet.org/capturing-ux-requirements-in-6-simple-steps-3bf6e0abee9c>

<https://www.justinmind.com/blog/gathering-requirements>

Meet with Stakeholders to Set Vision

<https://www.nngroup.com/articles/ux-vision-statements>

<https://www.uxmatters.com/mt/archives/2011/03/a-ux-visions-purpose-and-benefits-cultures-that-foster-great-design.php>

<https://uxplanet.org/creating-a-product-vision-mind-map-c30b18629552>

<https://uxstudioteam.com/ux-blog/product-vision>

# References

## Develop Usability Goals

<https://www.usability.gov/get-involved/blog/2013/09/measurable-usability-goals.html>

<https://www.educative.io/answers/what-are-usability-goals-in-interactive-design>

<https://www.wqusability.com/articles/more-than-ease-of-use.html>

<https://usability.yale.edu/understanding-your-user/user-goals>

## User/Audience analysis

<https://www.uxpin.com/studio/blog/user-analysis>

<https://dhlab.yale.edu/assets/docs/DH-User-Analysis.pdf>

<https://www.plerdy.com/blog/user-analysis>

<https://www.uxbooth.com/articles/a-guide-to-user-research-analysis>

## Task/Purpose Analysis

<https://www.interaction-design.org/literature/article/task-analysis-a-ux-designer-s-best-friend>

<https://www.nngroup.com/articles/task-analysis>

<https://careerfoundry.com/en/blog/ux-design/task-analysis-ux>

<https://www.userinterviews.com/ux-research-field-guide-chapter/task-analysis>

# References

## Workflow analysis

<https://www.uxpin.com/studio/blog/ux-workflow-guide>

<https://radahl.no/6-steps-of-ux-workflows>

<https://www.ics.com/blog/workflow-analysis-swim-lanes-and-ux>

<https://www.frontitude.com/glossary-posts/how-to-create-a-good-ux-workflow>

## Use Cases:

<https://usabilitygeek.com/smart-ux-use-cases>

<https://www.usability.gov/how-to-and-tools/methods/use-cases.html>

<https://www.krasamo.com/understanding-use-cases-use-case-scenarios-user-stories-flow-charts>

<https://www.uxness.in/2020/04/use-cases-in-ux-significance-and-how-to.html>

## Persona:

<https://xd.adobe.com/ideas/process/user-research/putting-personas-to-work-in-ux-design>

<https://www.uxdesigninstitute.com/blog/what-are-ux-personas>

<https://uxmag.com/articles/ux-personas-are-useless-unless-created-properly>

<https://userguiding.com/blog/user-persona-examples>

# Week 2 Lesson: Design Phase



Empathize



Define



Ideate



Prototype



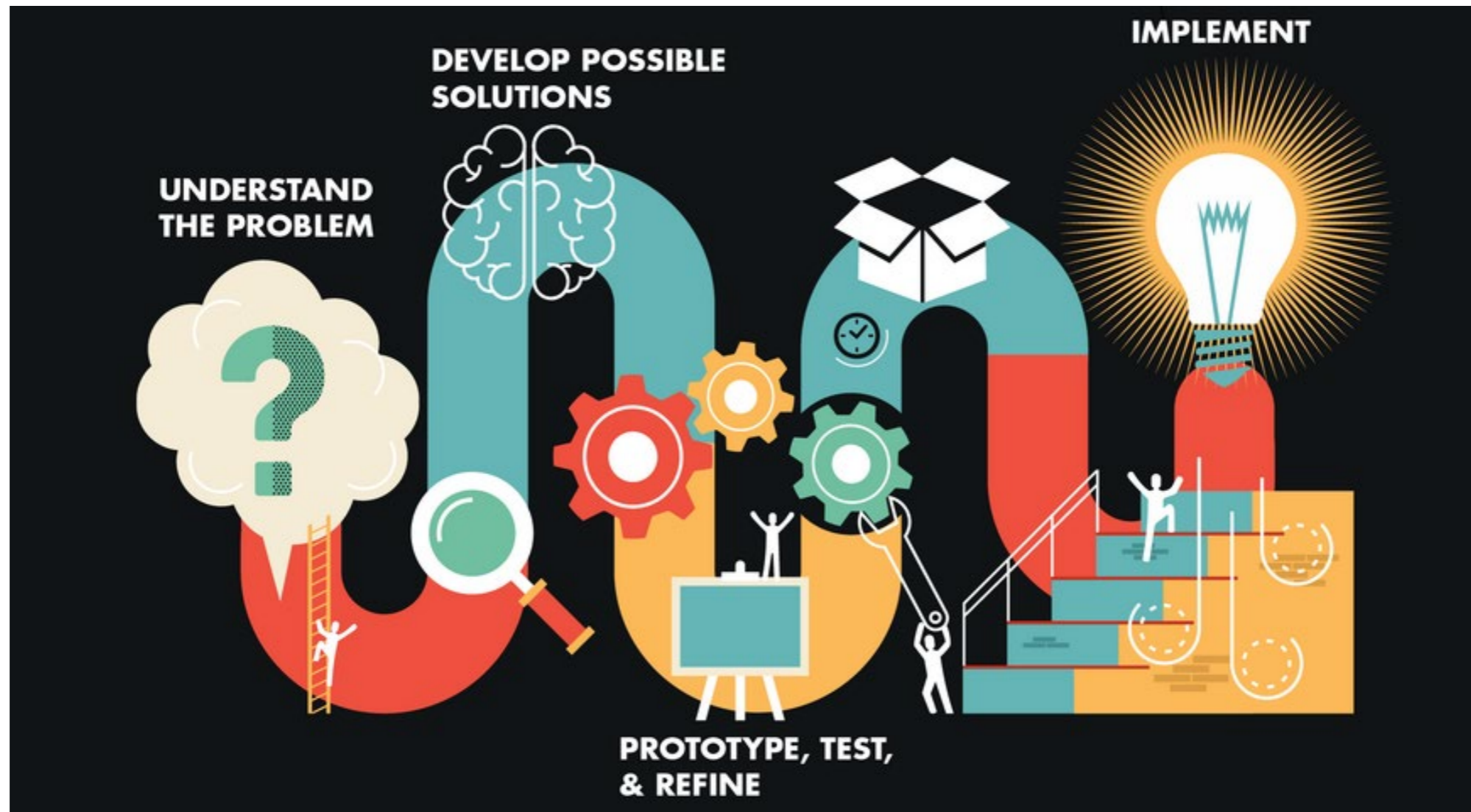
Test

## This Week's Goals:

- Take a deep dive into the Design Thinking Process
- Understand the cascading concepts of:  
Empathize, Define, Prototype, Test & Iterate, and Document
- Learn to create a simple prototype



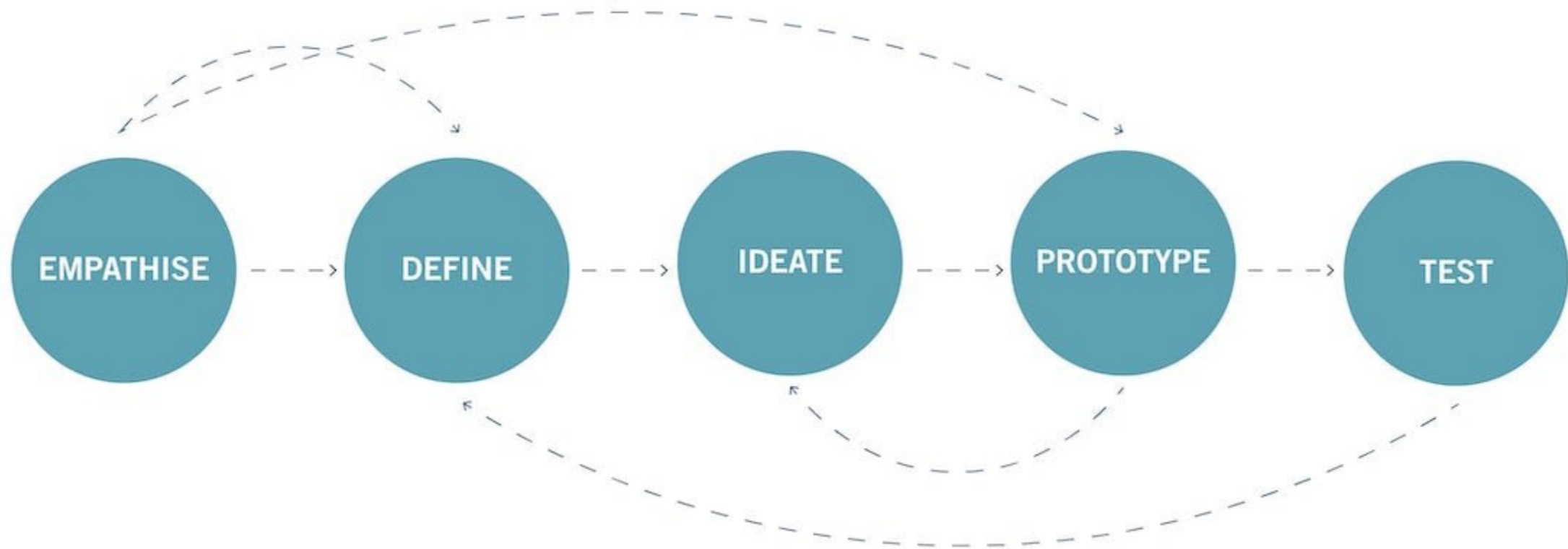
# The Design Thinking Process



At a high level, the steps involved in the design thinking process are simple:

1. Fully understand the problem
2. Explore a wide range of possible solutions
3. Iterate extensively through prototyping and testing
4. Implement through the customary deployment mechanisms.

# The Five Phases of Design Thinking



The Design Thinking process can be broken down into five steps or phases:

**Empathize, Define, Ideate, Prototype, and Test.**



# Phase 1. Empathy's Role

Empathy is the starting point for any design project and constitutes phase one of the Design Thinking process.

The designer spends time getting to know the user and understanding their needs, wants, and objectives.

The first step in empathizing with users is to suspend your own view of the world around you to truly see it through your users' eyes.

It's time to stop guessing and gather real insights about the user.



# Phase 1. Empathic Design

The following questions, once answered, can give the designer the insights to create user experiences that truly cater to your audience:

- Why do they behave in a certain way?
- Why do they prefer to do this instead of that?
- Why do they click here rather than there when presented with a particular screen or page?



# Phase 1. Empathy-Building Methods

1. Empathy interview. The key to an effective empathy interview is to structure it as an open conversation. Try not to steer the session with a set list of questions.



Some excellent tips on interviewing for empathy:

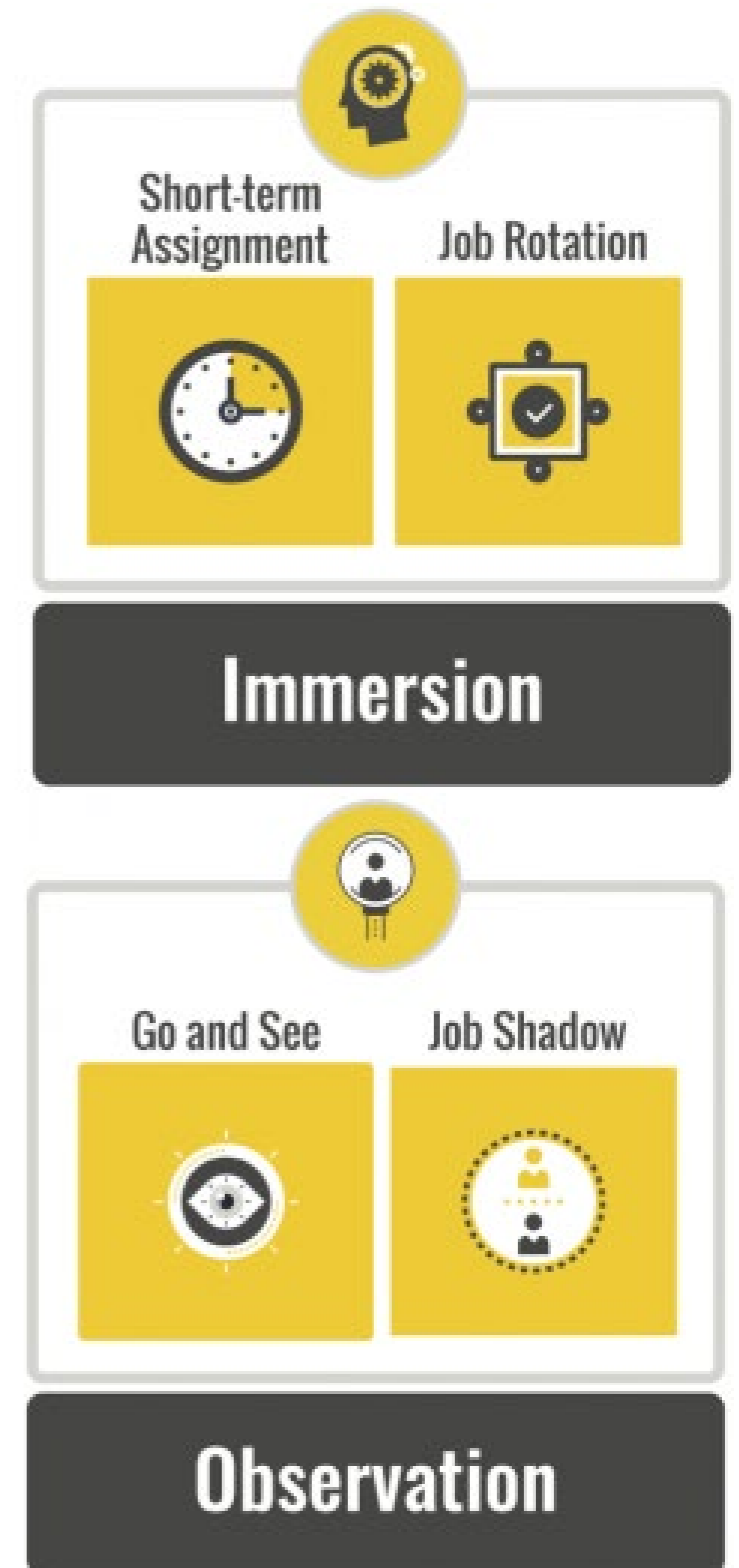
- a. Constantly ask, “why?” asking non-binary questions, storytelling, and paying attention to nonverbal cues.
- b. Make sure to be present and attentive. Set up a recorder or let someone take notes for you.

# Phase 1. Empathy-Building Methods

2. Immersion and observation. Observe users in action, be it in their natural environment or immersed in a certain situation.

There are several ways of observing your users:

- a. Bring users in and observe while interacting with the product or problem you are trying to design.
- b. Ask users to keep their own photo or video journal over a certain time period or while completing certain tasks in their everyday lives.



# Phase 2. Define

The designer gathers all findings and then starts to make sense of them:

- a. What difficulties and barriers are your users coming up against?
- b. What patterns do you observe?
- c. What is the big user problem that your team needs to solve?

The goal of the define phase is to create a clear problem statement in a user-centered way.



# Phase 2. Define – Why it is Important

A full understanding of the goal of the design project helps designers articulate their design problem and provide a clear-cut objective to work towards.

A meaningful, actionable problem statement will steer the designer in the right direction, helping kick-start the ideation process and work your way towards a solution.

Without a clear problem statement, it's extremely difficult to explain to stakeholders and team members exactly what you are trying to achieve.



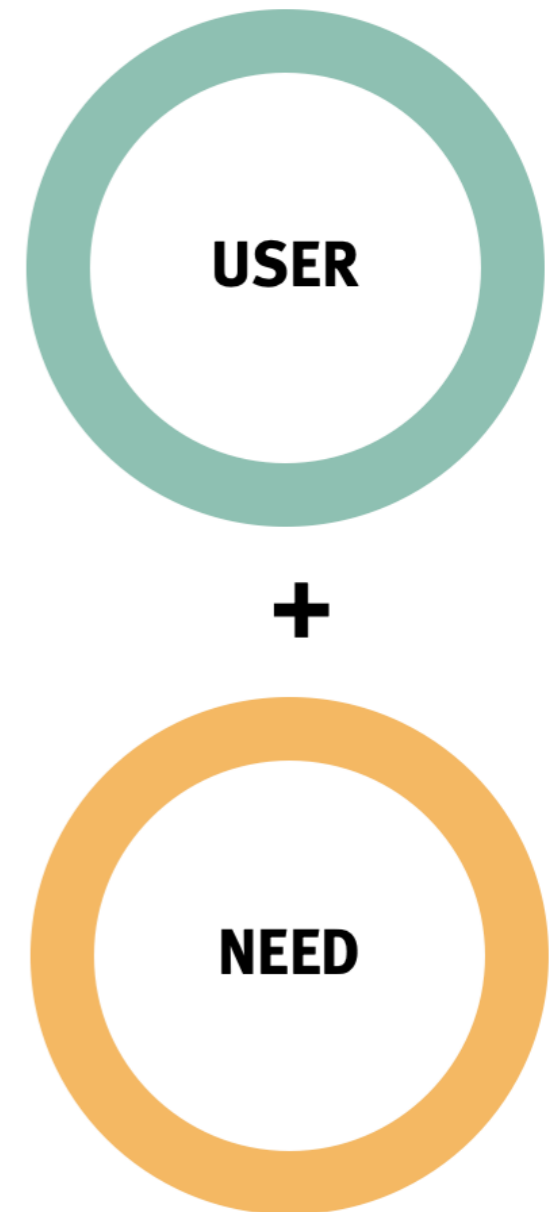


# Phase 2. What is a Problem Statement?

Sample:

From the user's perspective: "I am a young working professional trying to eat healthily, but I'm struggling because I work long hours and don't always have time to go grocery shopping and prepare my meals. This makes me feel frustrated and bad about myself."

From a user research perspective: "Busy working professionals need an easy, time-efficient way to eat healthily because they often work long hours and don't have time to shop and meal prep."



# Phase 2. What is a Problem Statement?

Based on the four Ws—who, what, where, and why:

Our young working professional struggles to eat healthily during the week because she works long hours.

Our solution should deliver a quick and easy way for her to procure ingredients and prepare healthy meals that she can take to work.

As long as the focus is on the user, what they need and why it's up to the designer to choose how to present and frame the design problem.





# Phase 2. A Good Problem Statement

A few pointers to help create a good problem statement:

- Focus on the user: The user and their needs should be front and center of your problem statement.
- Keep it broad: A good problem statement leaves room for innovation and creative freedom.
- Make it manageable: At the same time, your problem statement should guide you and provide direction.

A dark gray rectangular box containing the text "Problem Statement Writing Tips" in a white, bold, sans-serif font. The text is arranged in three lines: "Problem" on the top line, "Statement" on the middle line, and "Writing Tips" on the bottom line.

Problem  
Statement  
Writing Tips

# Phase 2. How to Write a Problem Statement

Tried-and-tested methods:

1. Space saturation and group:

As the name suggests, literally “saturate” a wall or whiteboard with Post-It notes and images, resulting in a collage of artifacts from user research.

2. The four Ws:

Asking the right questions will help you focus on the right problem statement. Ask the four Ws:

Who, what, where, and why?

*write a*  
**Problem**  
**Statement**  
*using this template*

# Phase 2. How to Write a Problem Statement

## 3. The five whys – drilling down to the root cause:

Take the previous example of the young working professional:

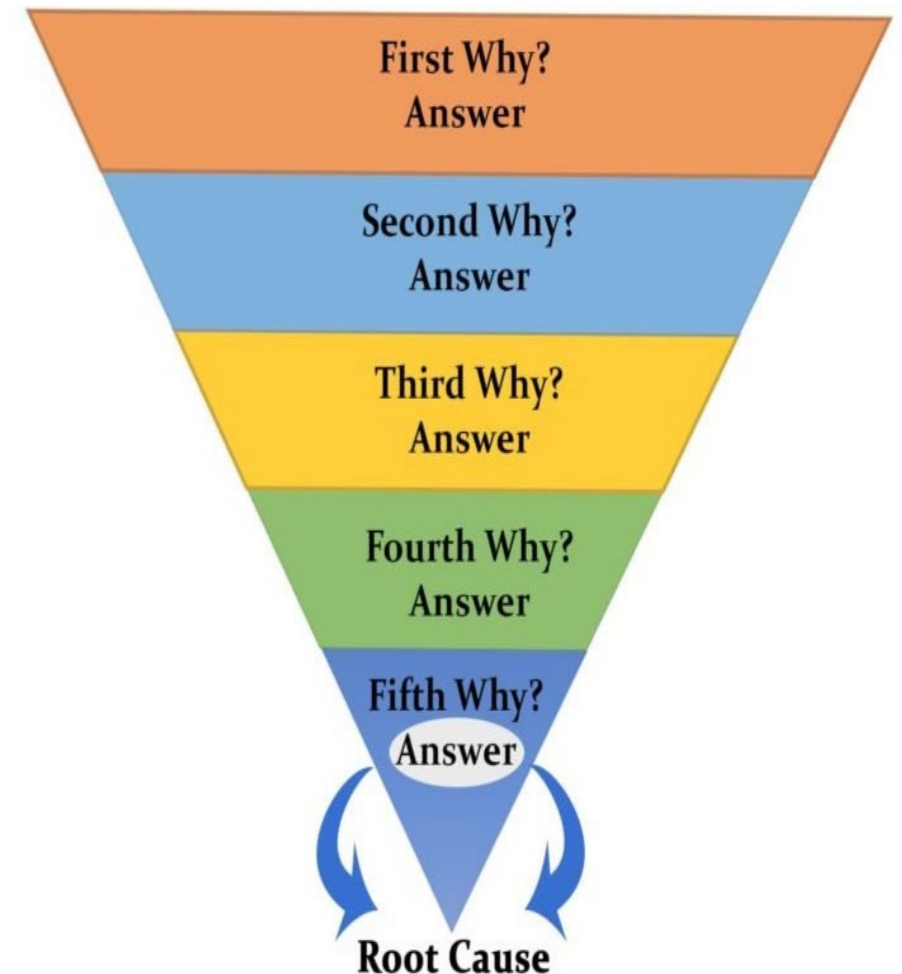
Why is she not eating healthily? → She orders takeaway every day.

Why does she order takeaway every day? → Her fridge and cupboards are empty.

Why are the fridge and cupboards empty? → She hasn't been grocery shopping in over a week.

Why hasn't she been grocery shopping? → She doesn't have time to go to the supermarket.

Why doesn't she have time? → She works long hours and is exhausted.



# Phase 3. Ideation

Ideation is the third phase of the Design Thinking process, and it's all about generating ideas.

Ideation is the process of generating a broad set of ideas on a given topic, with no attempt to judge or evaluate them.

In the ideation phase, the designer explores and develops as many ideas as possible.

Some of these ideas will be potential solutions to the design challenge.

But some will end up on the reject pile.

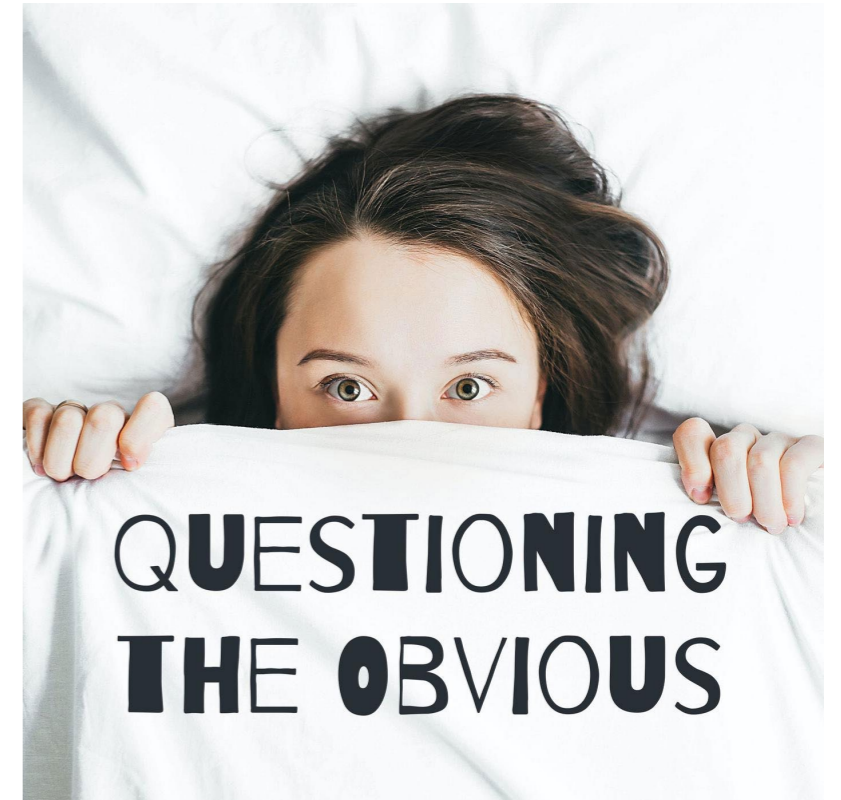


# Phase 3. Ideation is Crucial

Questioning the obvious is where breakthroughs come from. Designers must question the obvious, reformulate the beliefs, and redefine existing solutions, approaches, and beliefs.

As a designer, the ideation phase is the “safe space” to develop novel, perhaps unconventional, ideas.

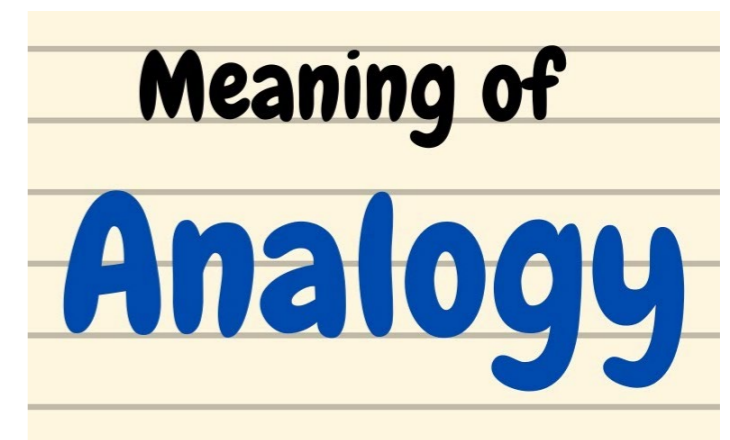
It doesn't matter if these ideas turn out to be plausible; what's important is to venture beyond the obvious, already-been-done solutions.



# Phase 3. Effective Ideation Techniques

## Analogies

An analogy provides a comparison between one thing and another, serving as a means of explanation or clarification.



## Brainstorming

One of the oldest tricks in the book when it comes to generating new ideas as a group. In a brainstorming session, you verbally bounce ideas off of each other in the hopes of finding a blended solution.





# Phase 3. Effective Ideation Techniques

## Challenging Assumptions

A popular ideation technique is to come up with several assumptions that are inherent to your design challenge. You then go through these assumptions whether they are true.



## Storyboarding

Storyboarding is an excellent technique for bringing a design challenge to life and visually exploring different avenues.

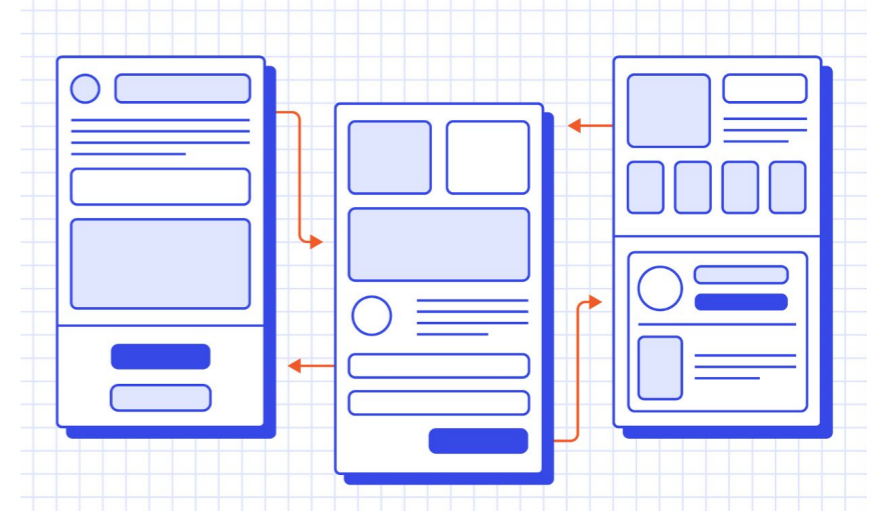


# Phase 4: Prototype

The fourth step in the Design Thinking process is about experimentation and turning ideas into tangible products.

Prototyping allows you to determine whether or not the design (or changes) work the way you intended them to—before they're out in the world and the hands of your users.

Before releasing a product to market, you want to ensure it works as intended. Does it solve the user's problem exactly as planned? Is it user-friendly and intuitive?

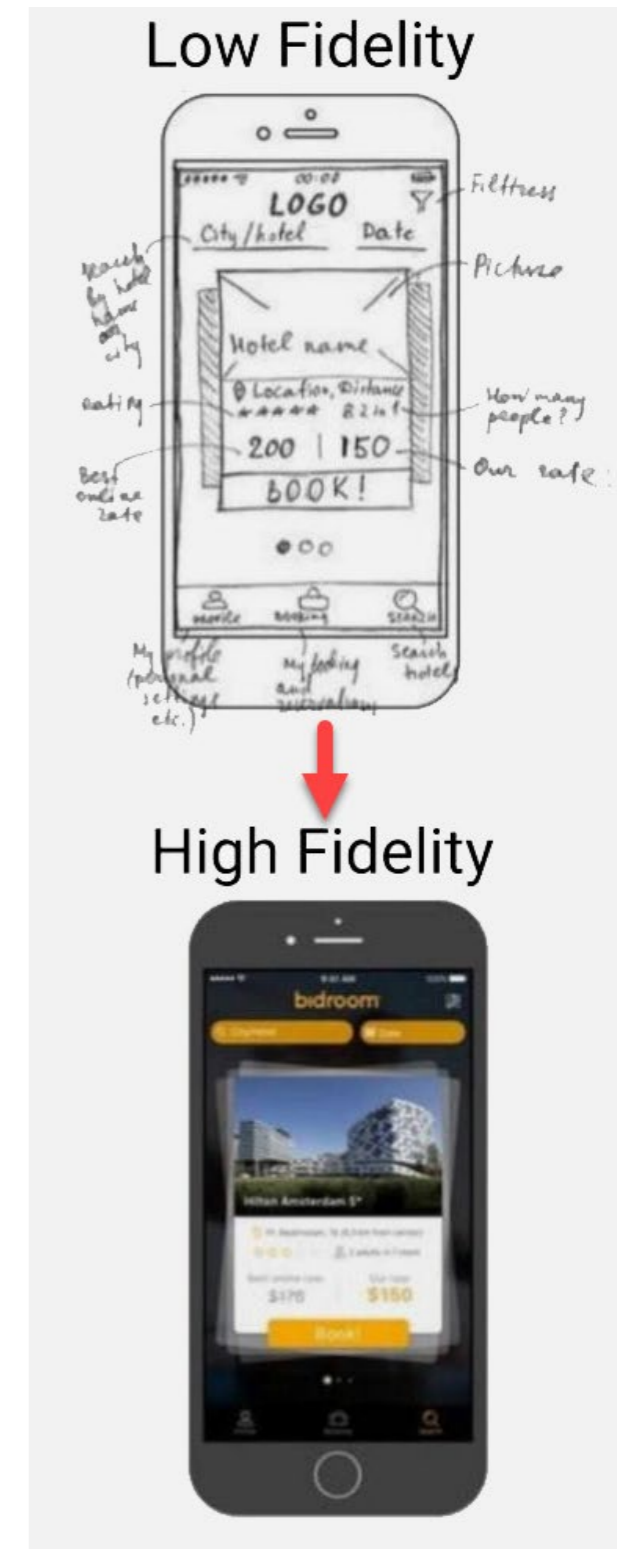




# Phase 4: What is a Prototype?

Simply put, a prototype is a scaled-down version of your product, a simulation or sample version which enables you to test your ideas and designs.

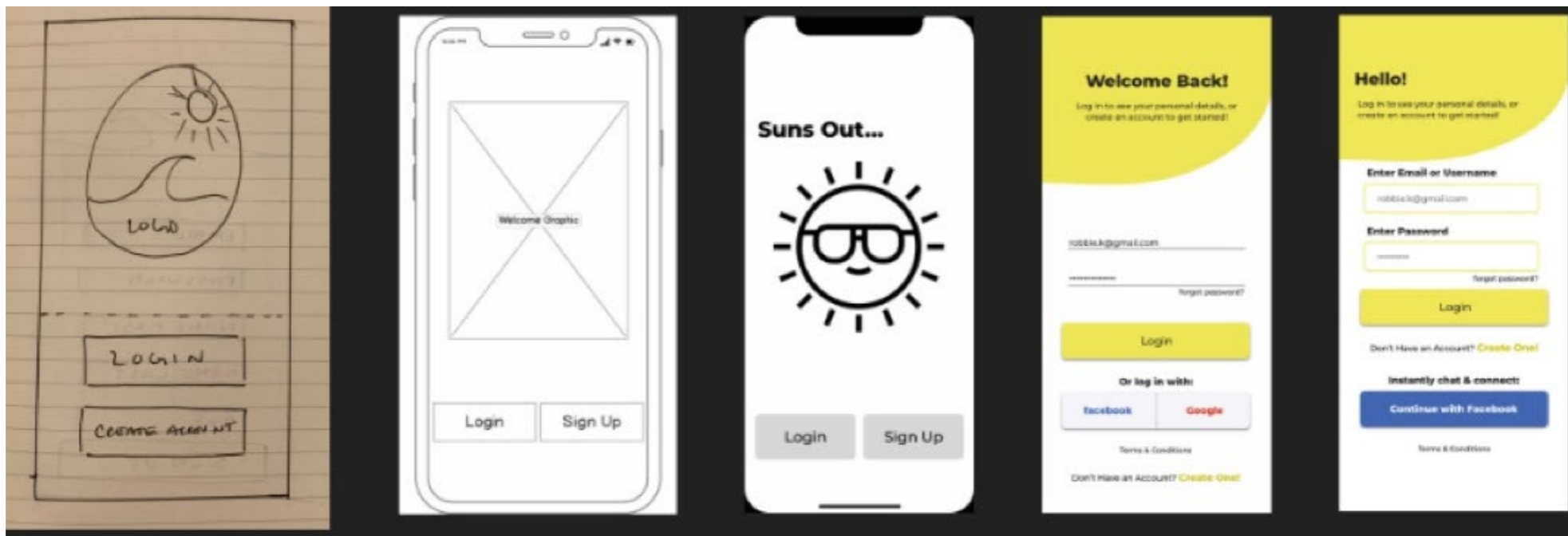
So, if you're designing an app, you might create a digital prototype and test it on real users before handing it off to the developers.



# Phase 4: Different Kinds of Prototypes

Prototypes come in all different shapes and sizes, from simple paper models to fully functional, interactive digital prototypes.

Generally, prototypes can be divided into low-fidelity, mid-fidelity, and high-fidelity. Fidelity simply describes how similar to the final product the prototype is, whether it's an accurate representation of the final product or more of a basic, early-stage model.

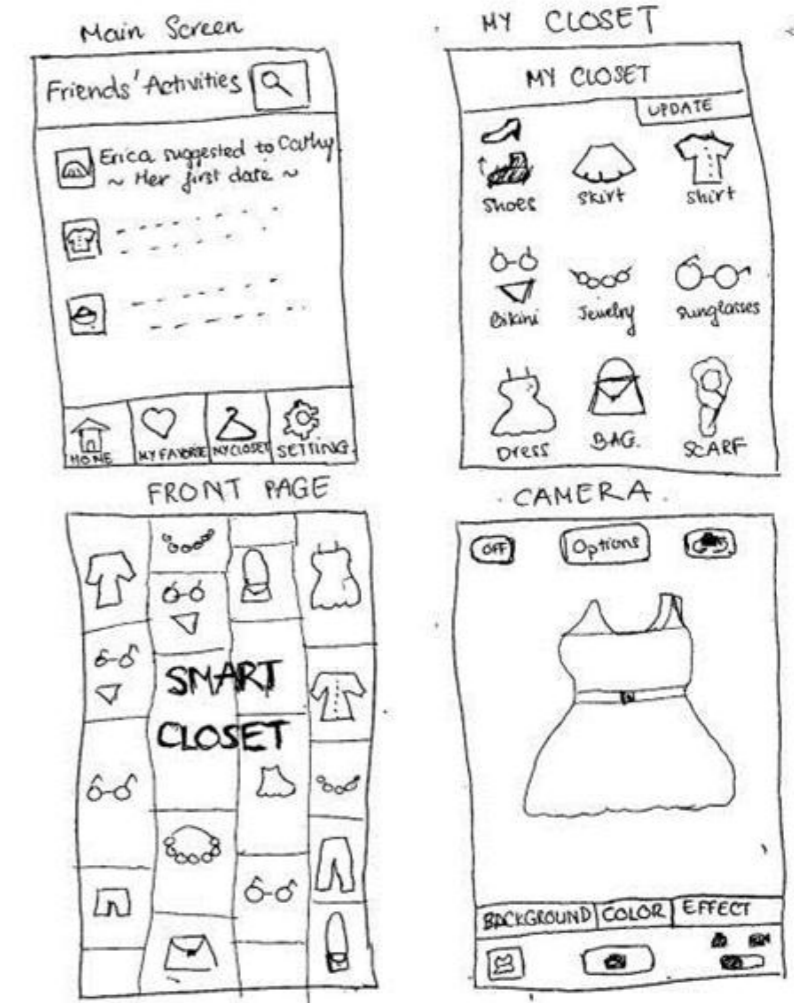


# Phase 4: Low-Fidelity Prototypes

Low-fidelity prototypes are ideal if you want to rapidly test broad concepts. They're quick, cheap, and highly collaborative; they don't require advanced design skills.

As a rule, low-fidelity prototypes keep content and visuals to a minimum, presenting only the key elements as basic shapes to convey visual hierarchy.

Low-fi prototypes are limited in interactivity, so it's impossible to convey animations or transitions.

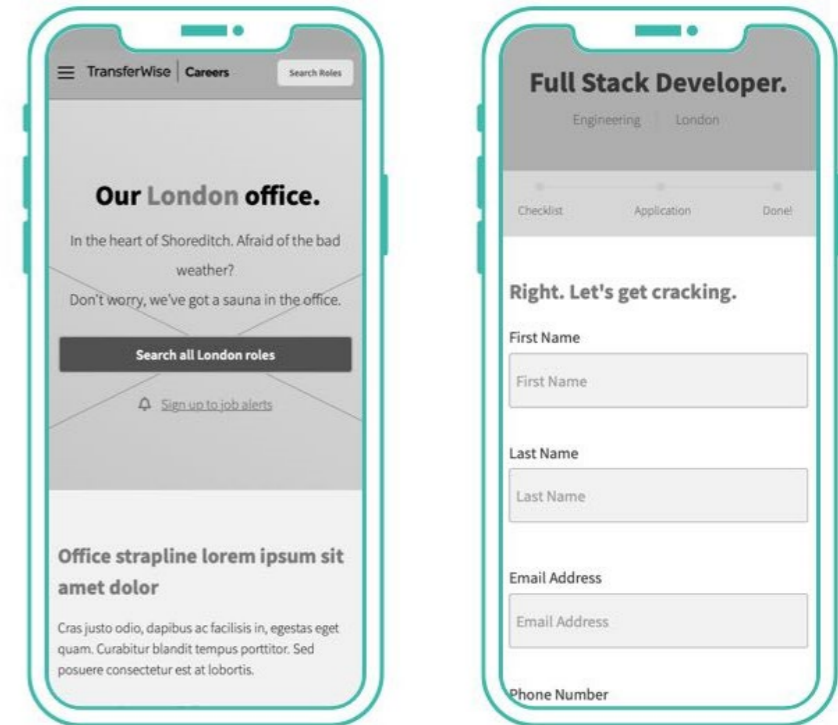


# Phase 4: Mid-Fidelity Prototypes

Mid-fidelity prototypes can also be inexpensive to create and don't require much design knowledge or experience.

These are great if you want to test broad functional features, such as the user flow for one particular use case.

This is a great approach if you're short on time and/or just need to get an overview across screens to be sure that the solutions you've designed work and don't overlook any key considerations.



# Phase 4: Mid-Fidelity Prototypes

## Clickable wireframes

A clickable wireframe not only represents the visual layout of a digital interface but also offers a certain degree of interactivity. You can simulate the journey a user might go through by including hyperlinked buttons that lead to another wireframe.

Clickable wireframes are still very much a bare-bones representation of the finished product. They can be created using special wireframing software like PowerPoint or Keynote.

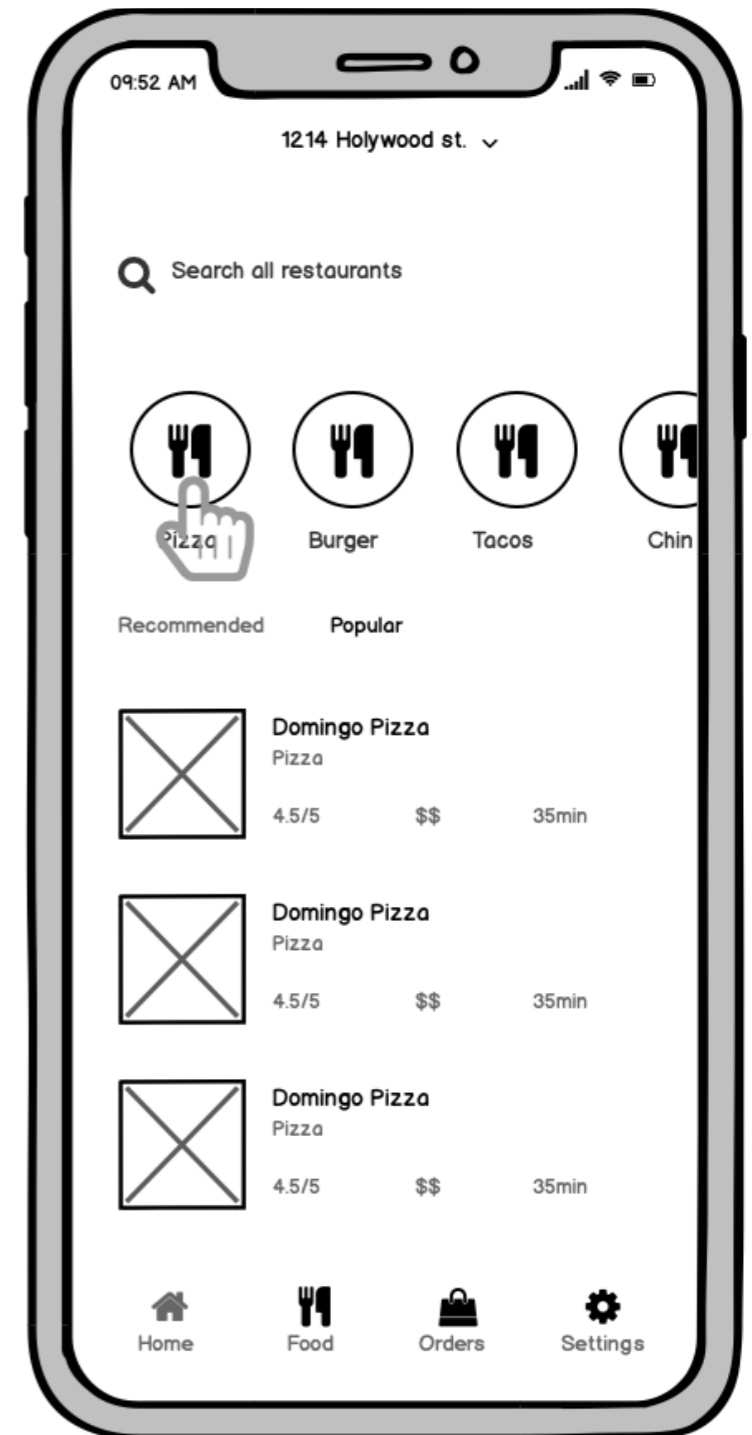


Fig 1. Home screen



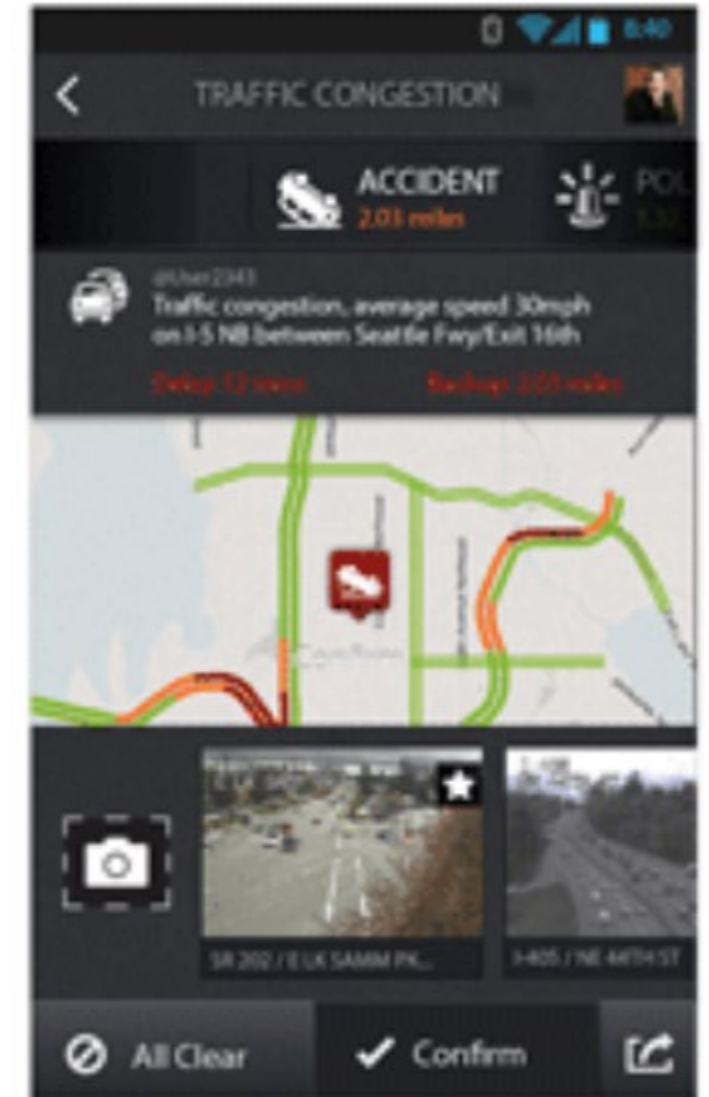
# Phase 4: High-Fidelity Prototypes

High-fidelity prototypes are computer-based, and usually allow realistic (mouse-keyboard) user interactions.

High-fidelity prototypes tend to include all the visual components, interactive elements, and content featured on the final product.

They look just like a real app or website—which is hugely beneficial for user testing. Users feel like they're interacting with a live product, so you can expect them to behave naturally and provide meaningful feedback.

## HI-FI



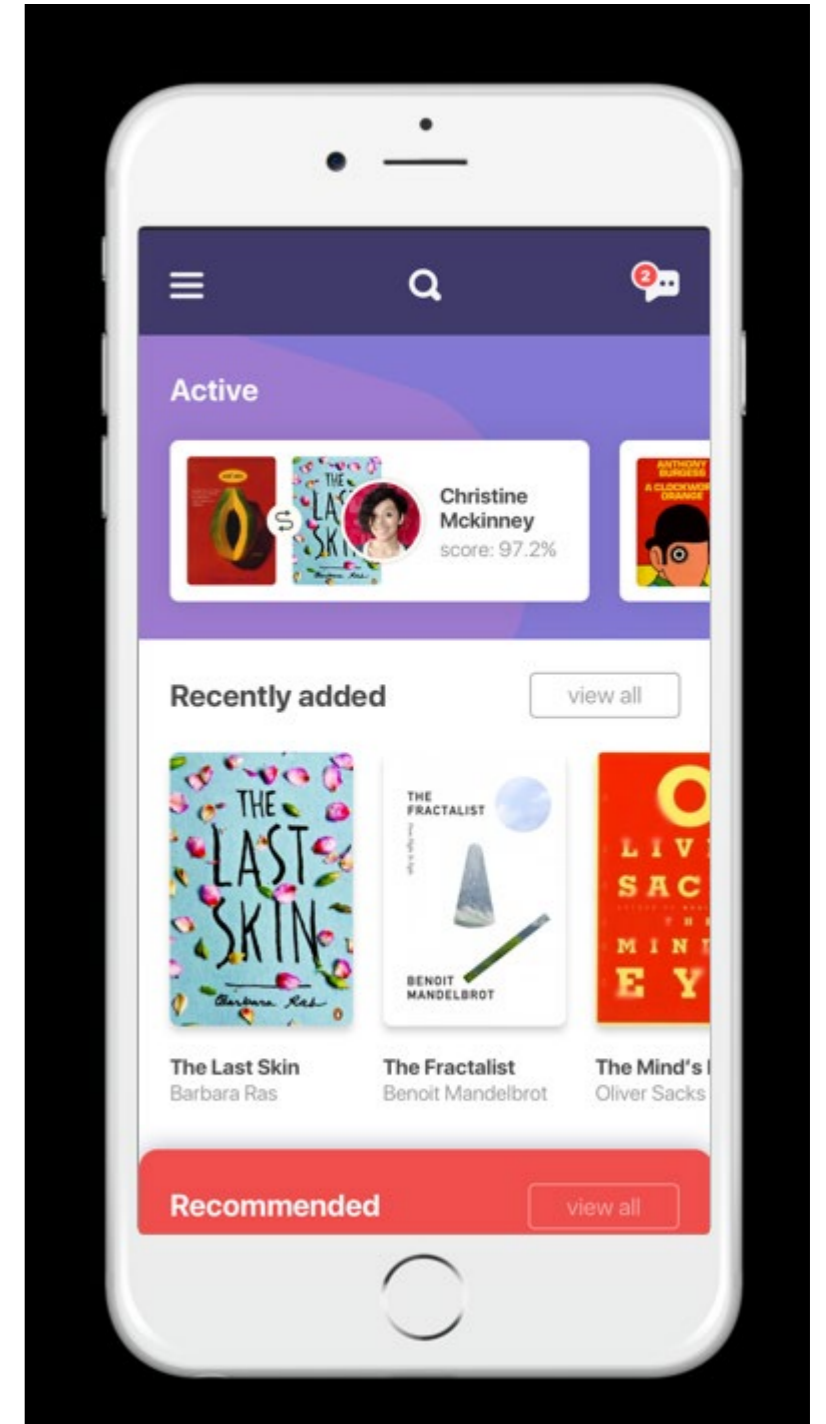


# Phase 4: High-Fidelity Prototypes

High-fidelity prototypes are more expensive and time-consuming to produce. But they provide the most useful option for testing designs. You can test almost every element of the product before sending it off for development.

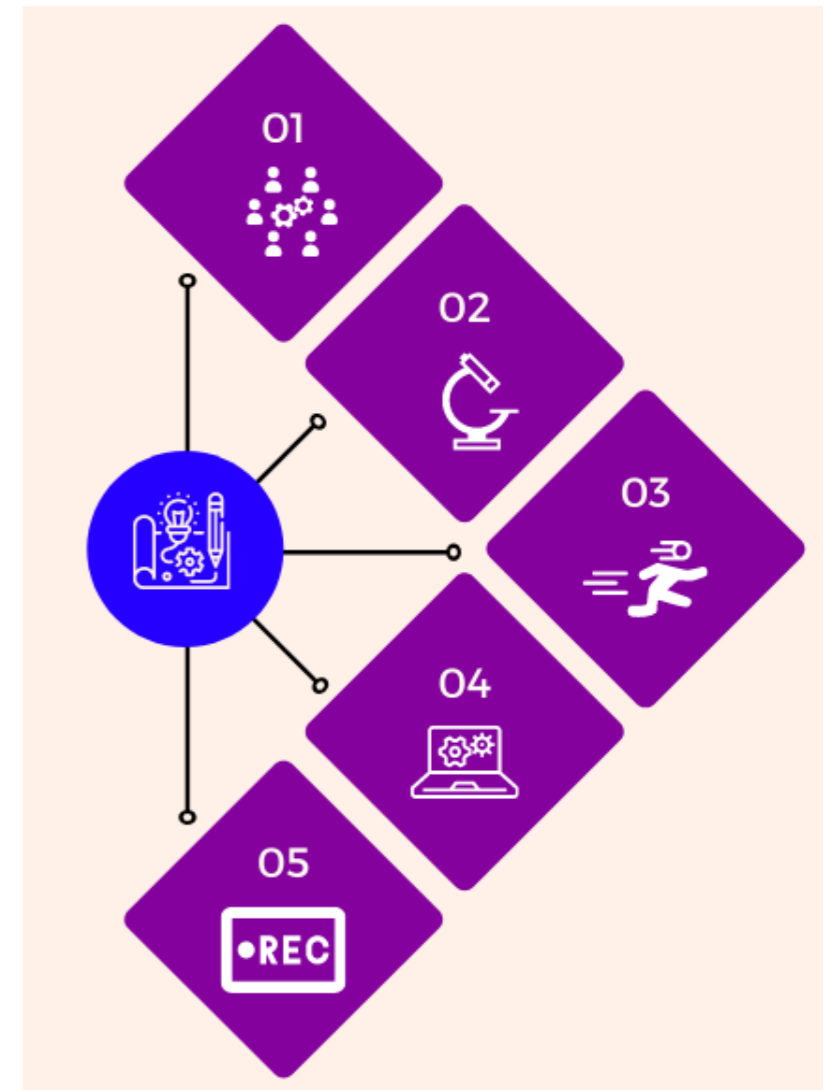
They enable designers to show colleagues and stakeholders from other departments exactly how the final product should look.

Some of the most popular prototyping tools on the market include Sketch, InVision, Adobe XD, and Flinto.



# Phase 4: Tips In Creating Prototypes

1. Choose the right kind of prototype. Consider what stage you're at in the design process, as well as the time and resources available.
  2. Set concrete goals. Have a clear idea of what you want your prototype to achieve. In other words, what do you want to find out when you test your prototype?
  3. Use the right tools. Find the tool that meets your needs in terms of features and functionality
  4. Take action!
- Design Thinking is all about generating ideas and testing them, so prototype as often and as needed.



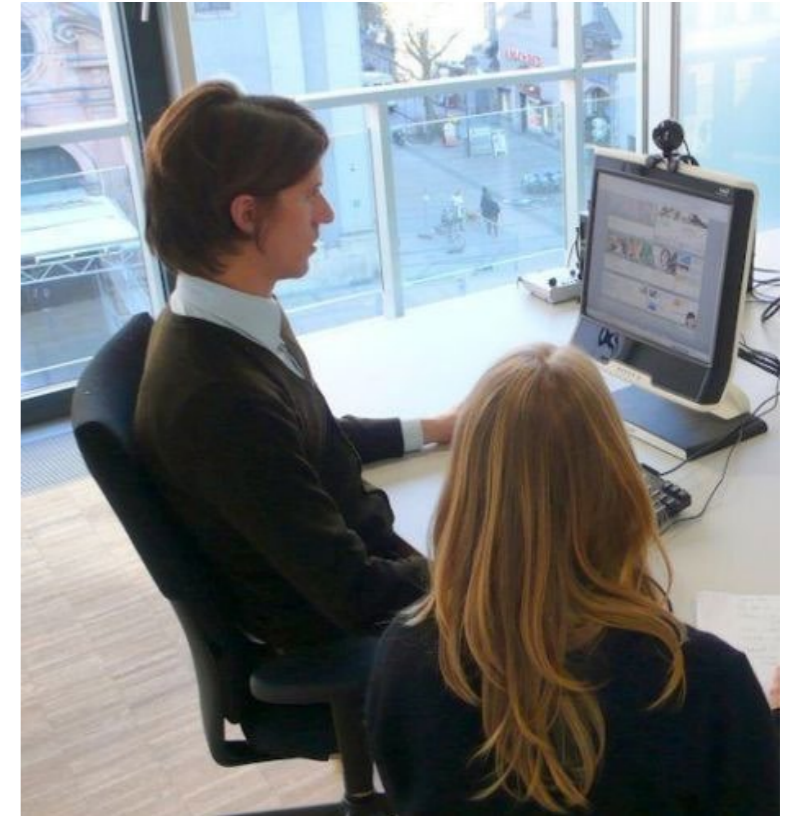
# Phase 5: Test

After prototyping comes user testing, but it's important to note that this is rarely the end of the Design Thinking process.

During the test phase, you'll see how your target users interact with your prototype and gather valuable feedback.

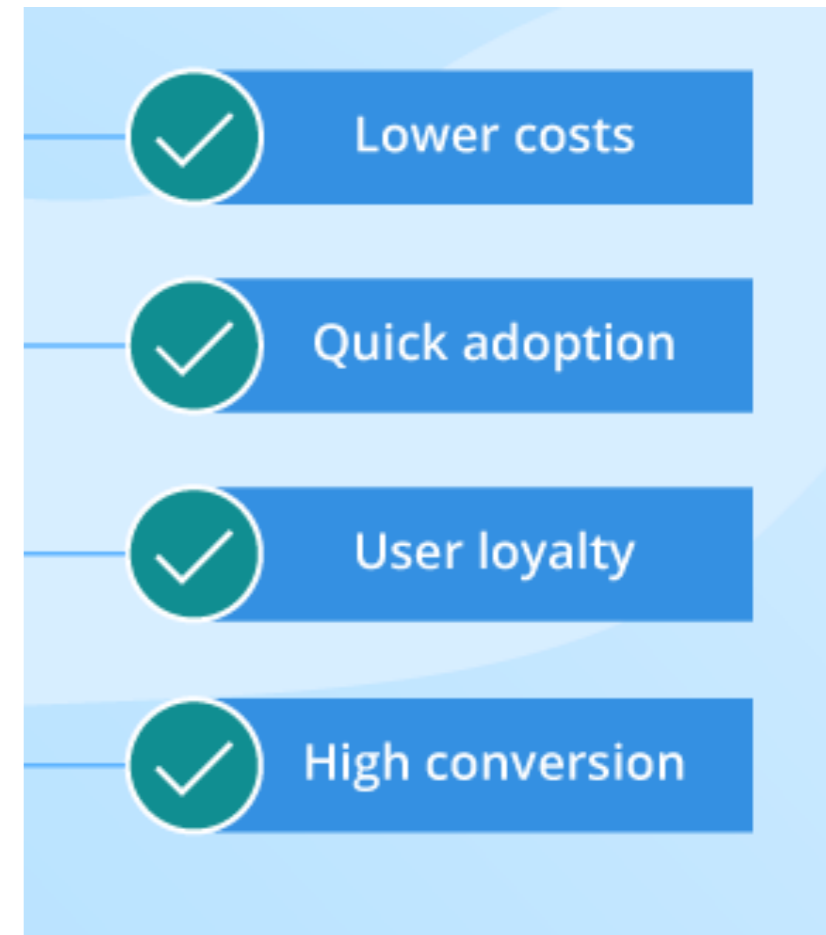
You'll learn where your prototype succeeds and where it needs to be improved.

The insights gathered during the testing phase will enable you to iterate on your prototype.



# Phase 5: Benefits of User Testing

1. User testing saves time and money: By catching errors and usability issues early on, you ensure that the product you eventually launch is the most bug-free, user-friendly product it can be.
2. User testing reveals unexpected insights: It allows new insights to be uncovered.
3. User testing improves user satisfaction: By gathering first-hand user feedback, you can make informed design decisions—improving user satisfaction in the long run.



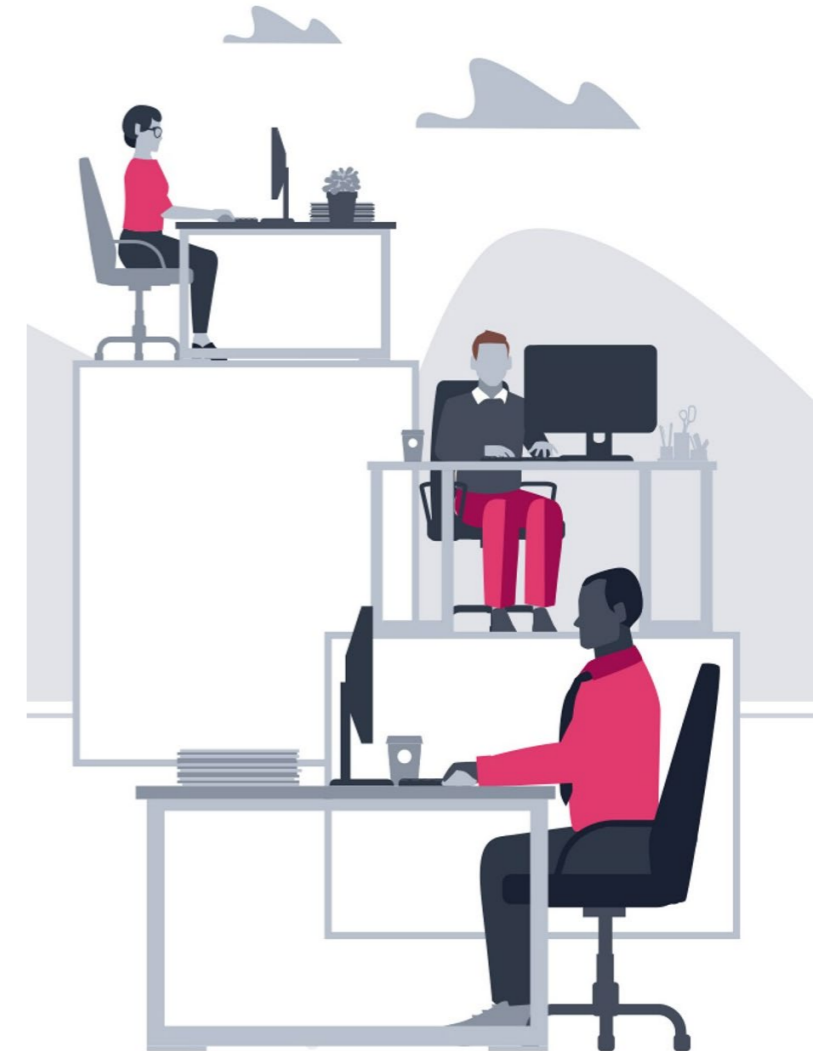
# Phase 5: After Testing – What's Next?

After a round of user tests, you'll need to spend some time analyzing the results. Look for patterns in what you've observed and the feedback you received.

Your tests will either validate that something works well or highlight issues that need to be fixed:

Do you need to reiterate the current design to fix a usability issue?

Did your initial concept fail before your users, sending you back to the ideation phase?





# References

## Design Thinking Process:

<https://www.interaction-design.org/literature/topics/design-thinking>

<https://www.invisionapp.com/inside-design/what-is-design-thinking>

<https://www.ideo.com/pages/design-thinking>

<https://www.ama.org/marketing-news/the-5-phases-of-design-thinking>

## Empathy Phase

<https://www.interaction-design.org/literature/article/design-thinking-getting-started-with-empathy>

<https://www.nngroup.com/articles/sympathy-vs-empathy-ux/>

<https://www.edutopia.org/blog/teaching-empathy-through-design-thinking-rusul-alrubail>

<https://careerfoundry.com/en/blog/ux-design/what-is-empathy-in-design-thinking/>

## Define Phase

<https://www.interaction-design.org/literature/article/5-stages-in-the-design-thinking-process>

<https://www.getcloudapp.com/blog/design-thinking-define-stage/>

<https://lucidspark.com/blog/best-practices-for-the-define-stage-of-design-thinking>

<https://study.com/academy/lesson/the-define-stage-in-design-thinking-purpose-importance.html>

## Ideate Phase

<https://www.interaction-design.org/literature/topics/ideation>

<https://www.interaction-design.org/literature/article/stage-3-in-the-design-thinking-process-ideate>

<https://careerfoundry.com/en/blog/ux-design/what-is-ideation-in-design-thinking/>

<https://www.uxpin.com/studio/blog/design-thinking-ideation/>

## Prototype Phase

<https://www.simplilearn.com/prototyping-in-design-thinking-article>

<https://www.interaction-design.org/literature/article/design-thinking-get-started-with-prototyping>

<https://www.toptal.com/designers/prototyping/guide-to-prototype-design>

<https://www.workshopper.com/post/design-thinking-phase-4-everything-you-need-to-know-about-prototyping>



# References

## Test Phase

<https://www.system-concepts.com/insights/design-thinking-test/>

<https://www.interaction-design.org/literature/article/stage-5-in-the-design-thinking-process-test>

<https://www.workshopper.com/post/design-thinking-phase-5-how-to-test-effectively>

<https://www.getcloudapp.com/blog/design-thinking-testing-stage/>

## How to prototype using PowerPoint

<https://medium.com/kennething/clickable-app-prototyping-with-powerpoint-207aa5276c3b>

<https://boxesandarrows.com/interactive-prototypes-with-powerpoint/>

<https://medium.theuxblog.com/how-microsoft-powerpoint-can-be-your-favorite-mockups-tool-3a23eb655702>

<https://krisjordan.com/blog/2008/09/07/10-minute-mock-prototyping-tips-for-powerpoint>

<https://blog.atwork.at/post/Use-PowerPoint-for-Mockups>

## PPT with PowerMockup – this is just a guide

<https://usabilitygeek.com/wireframing-storyboarding-powerpoint-powermockup/>

<https://usabilitygeek.com/wireframing-storyboarding-powerpoint-powermockup/>

<https://blog.atwork.at/post/Use-PowerPoint-for-Mockups>

## UX/UI Patterns

<https://designvault.io/patterns>

<http://www.welie.com/patterns>

<https://ui-patterns.com>

<https://demos.telerik.com/kendo-ui>

# Week 3 Lesson: Test and Refine



## This Week's Goals:

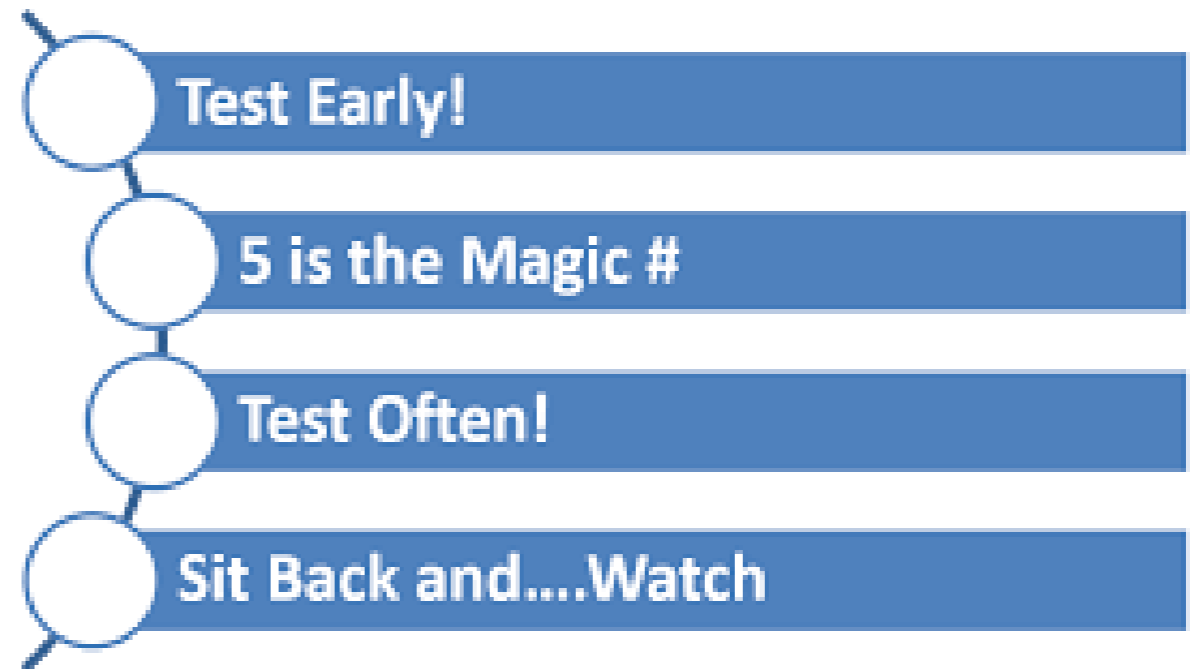
- Continue on Usability Testing Concepts
- Look at different types of Usability Evaluations
- In-Depth look at:  
Heuristics Analysis and Expert Reviews

# Usability Testing

Test early. Test often.

Usability testing must be done all throughout the process— from baseline testing on the old application, tests with partial and low-fidelity prototypes, and testing both navigation and content.

Having representative users try out the application is the only way to really know how the application will allow users to accomplish their tasks and get answers to their questions.



# Usability Testing

As your design starts to take shape, move on to digital prototypes. Start with low and mid-fidelity clickable to test layout and information architecture.

Towards the end of the process, seek to fine-tune the details of the design. Test the overall usability of the product with high-fidelity, fully functional digital prototypes that look and behave just like the real thing.

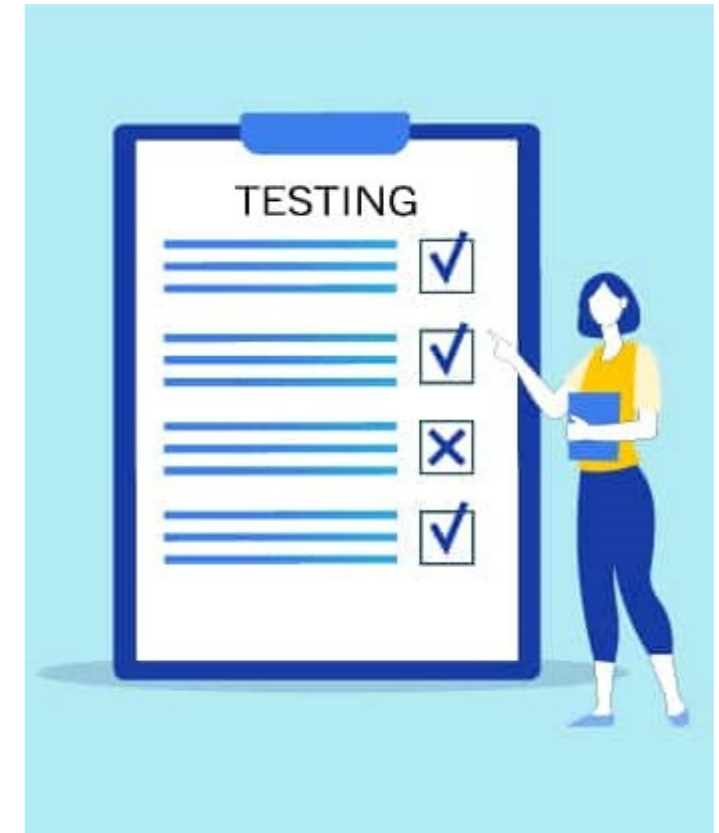


# Common User Testing Methods

## 1. Concept testing

In the very early stages of the design process, you'll want to test out your initial concepts before actually designing them. Low-fidelity prototypes—a simple sketch or even static images—can be used to communicate your idea to your target users.

You'll then interview your users to gauge their feelings about the concept. Is it a product or feature they'd be interested in using? Does it have the potential to solve the user's problem?



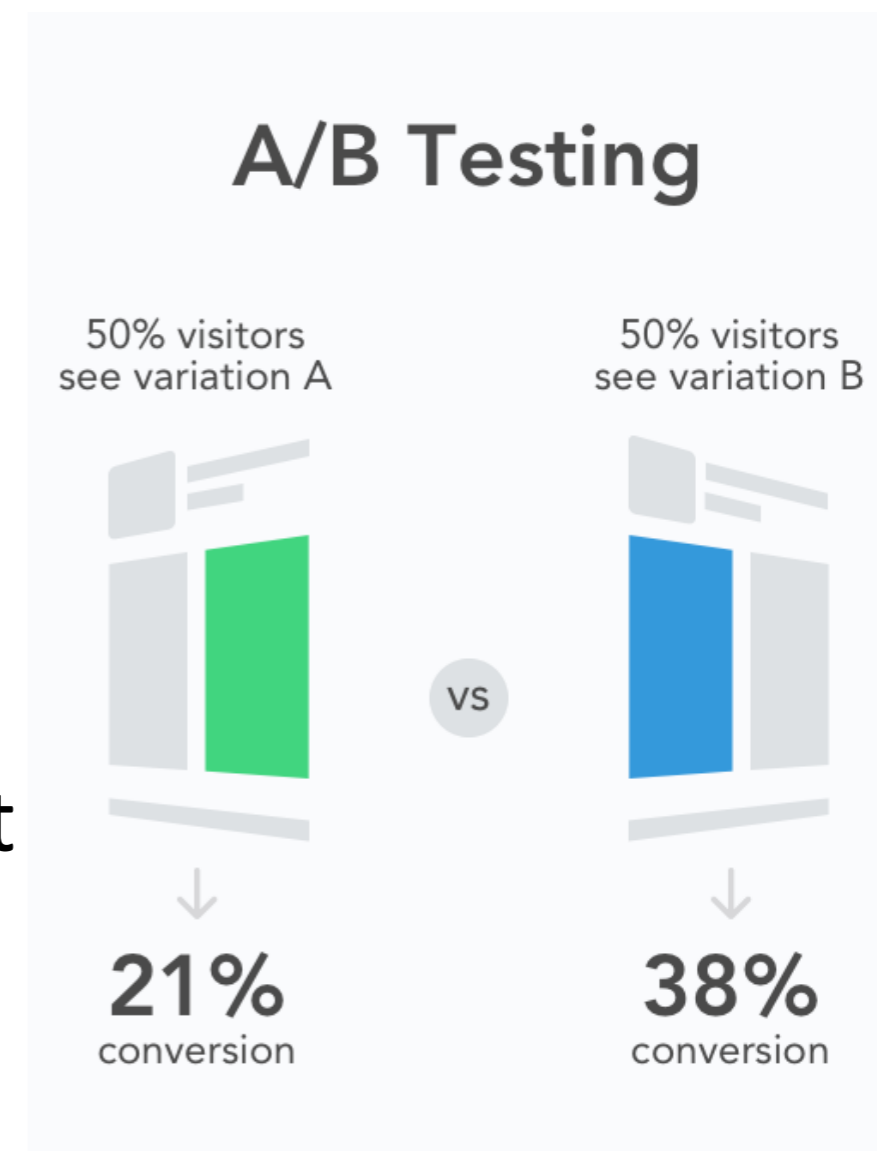
# Common User Testing Methods

## 2. A/B testing

A/B testing is used to compare two different versions of a design.

In A/B testing, you'll create two different prototypes and test each version on a different set of users. You might test two different layouts, for example, or different copies for a certain CTA button on a certain screen.

It's important to only A/B test one variable at a time so as not to skew the results.





# Common User Testing Methods

## 3. Usability testing

Usability testing is usually an observational exercise

You'll ask your users to complete certain tasks and observe them as they do so.

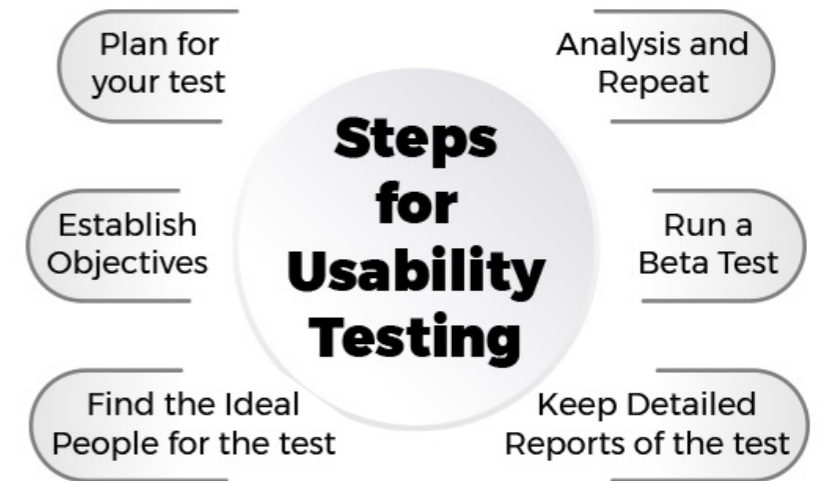
Throughout the test, you'll see which aspects of the design caused problems for the user, as well as which aspects, appear to be user-friendly.

In doing so, you'll identify usability issues that you'll seek to fix in the next iteration of your prototype.



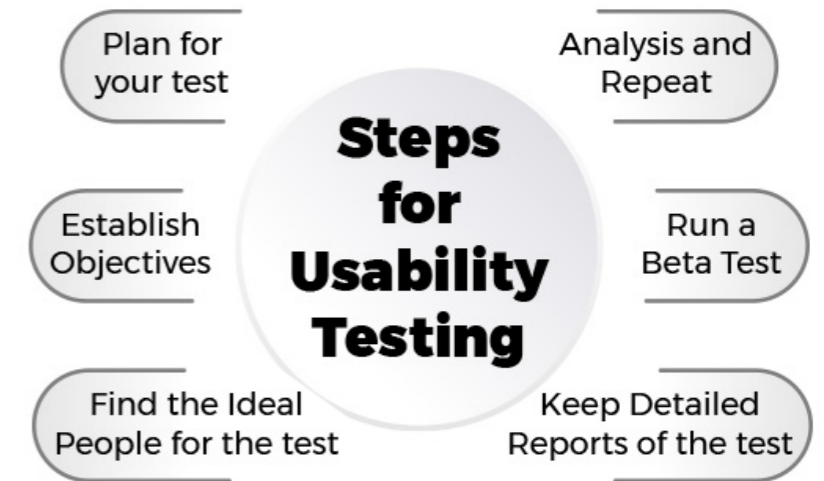
# A Step-by-Step Guide on Testing

1. Set an objective: The first thing you'll need to do is set a clear objective. What do you want to learn from your user tests? What question do you hope to answer?
2. Build your prototype: You know what you want to test; now it's time to build your prototype.
3. Create a plan: Include the objective, the method to use, the number of users to test, and the environment, and create a script to keep the session focused.



# A Step-by-Step Guide on Testing

4. Recruit participants: Test users who represent the target audience.
5. Gather all the necessary equipment: Screen recording software, pens and paper for notes, and the prototype.
6. Document your findings: Do a record of each test to analyze observations and compare the results of each session.



# Week 4 Assignment: Usability Testing

Next week, you will be asked to create a Usability Testing Plan, Create Usability Scenarios, Write a Usability Testing Facilitator Guide, facilitate testing, then write a Post Usability Testing report.

These are important assignments, and additional instructional materials will be provided, including the templates to create each.

Because of the magnitude of these exercises, they will be done next week.



# Usability Evaluations

“Usability evaluation” should not be confused with “usability testing.”

Usability Evaluations refer to any set of methods allowing a user experience (UX) expert to evaluate the usability of a product or system in varying levels of detail.

Although the Usability Evaluation focuses on how well users can learn and use a product to achieve their goals but gauged through established metrics.



# When to do Usability Evaluations?

You can do a usability evaluation as soon as you have a prototype to evaluate.

Many usability professionals first do a usability evaluation and then follow it up with a usability test.

The results of the evaluation are used to develop hypotheses about what could be serious problems and then develop the usability test around those hypotheses.





# Primary Types of Usability Evaluations

Usability evaluations include:

- Surveys and questionnaires
- Observational evaluations
- Guideline based reviews
- Cognitive walkthroughs
- **Expert reviews\***
- **Heuristic evaluations\***

\* Will be discussed in more details.



# Expert Reviews

Expert reviews involve the analysis of a design by a UX expert with the goal of identifying usability problems and strengths.

It expands on heuristic evaluations by assessing the design against other known usability guidelines, principles of usability-related fields such as cognitive psychology and human-computer interaction, and the reviewer's expertise and past experience in the field.

The emphasis on the reviewer's past experience and knowledge of usability principles is why this type of design review is often referred to as an expert review.



# Components of Expert Reviews

## 1. List of usability strengths

The review should include a list of strengths and a short explanation for each.



## 2. List of usability problems, mapped to where they occur in the design.

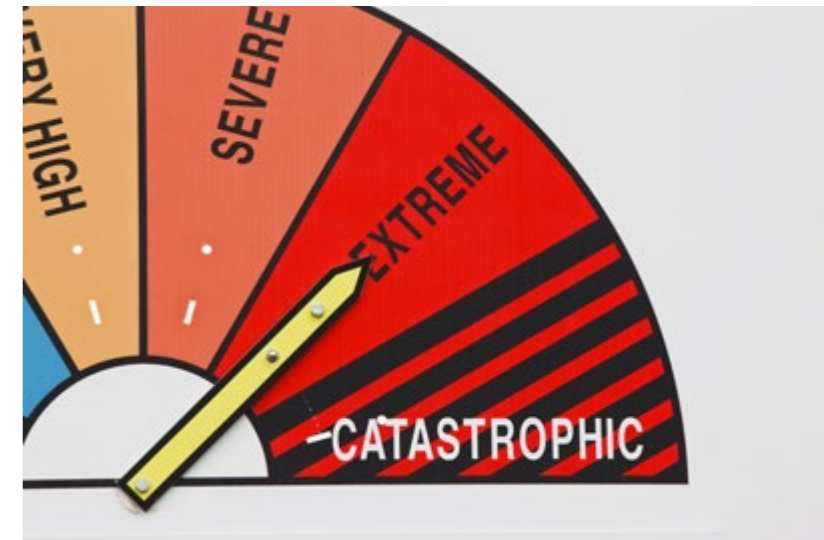
For each usability problem, a clear explanation with heuristic or principle violated clearly cited and related to the design be included so that any fix will address the underlying issue and the same mistake will be avoided elsewhere as well.



# Components of Expert Reviews

## 3. Severity ratings for each usability problem

A severity rating for each issue discovered is key to making the findings actionable and helping designers prioritize the redesign work.



### **Critical**

Users unable to complete a common task.  
Fix urgently.

### **Serious**

Will significantly slow down some customers when completing a common task and may cause customers to find a workaround. Fix as soon as possible.

# Components of Expert Reviews

## Medium

Will make some customers feel frustrated or irritated but will not affect task completion. Fix during the next “business as usual” update.

## Low

This is a quality problem: a cosmetic issue or a spelling error. Too many “lows” will negatively affect credibility and may damage your brand.

## None

No problem found or review is not applicable.





# When to Do an Expert Review

Expert reviews can be done at any stage in the design cycle if the team has access to a UX expert.

In the Facets Product Development Life Cycle, Expert Reviews are conducted by UX designers every time a major development milestone is achieved.

It is imperative that reviews be made prior to the last sprint of a release to allow time to implement iterations.

Expert reviews are a valuable method for uncovering usability issues, complementary to usability testing.





# Week 3 Assignment: Expert Review

This week, you will be asked to perform an Expert Review of a website.

It is the Yale School of Art:

<https://www.art.yale.edu/>

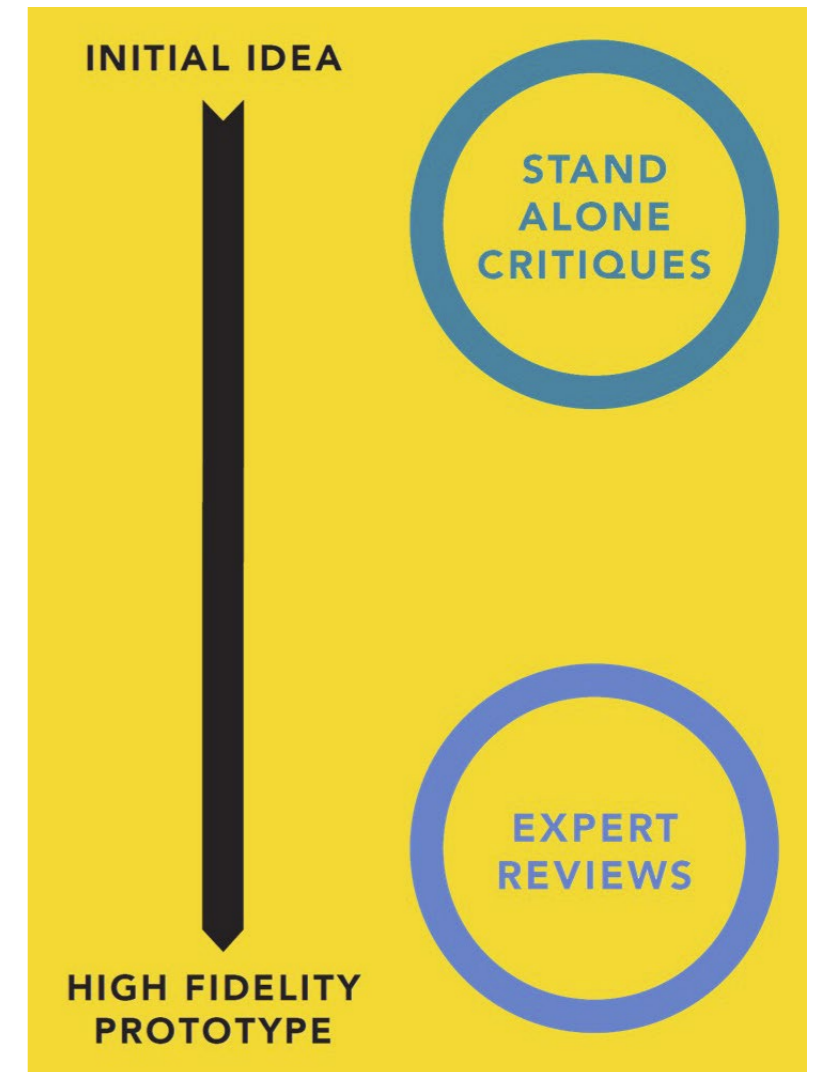
Windows Resolution: 1920 x1080

Using the provided

**Expert\_Review\_Template.docx**, document any issues found.

Make sure that the Executive Summary captures the most important points.

In doing screenshots of the recommended solution, use any photo editing tool you have, including MS Paint.



# Heuristic Evaluation

Heuristic evaluations help reveal insights that can aid design teams enhance product usability early in development.

Heuristic evaluation is performed by having each evaluator inspect the interface alone. Only after all evaluations have been completed are the evaluators allowed to communicate and have their findings aggregated.

The evaluators must be user experience experts. According to research, five evaluators can find 75% of UX problems.

## ID HEURISTIC IA PRINCIPLES



# 10 Usability Heuristics for UI Design



# 10 Usability Heuristics for UI Design

## #1: Visibility of system status

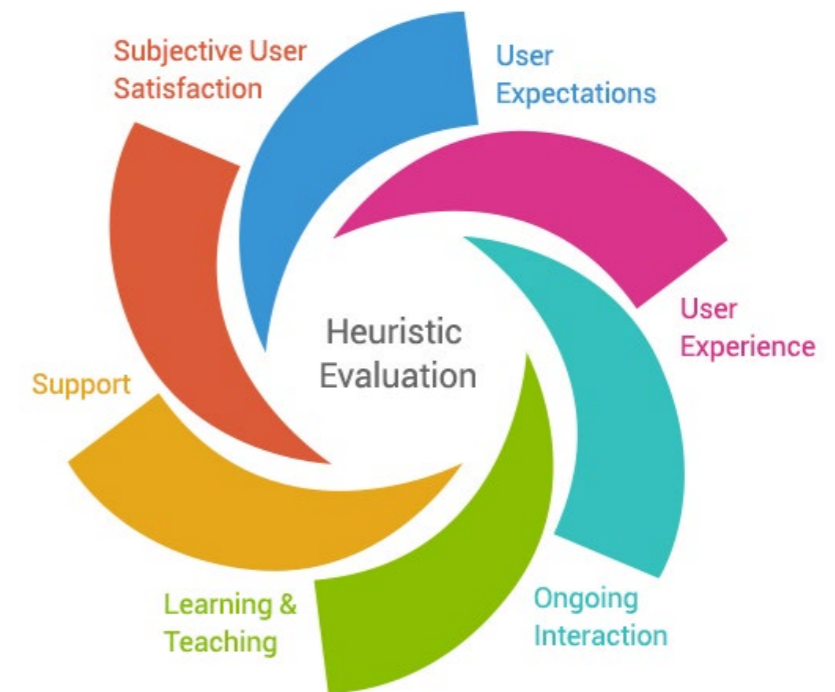
The design should always keep users informed about what is going on, through appropriate feedback within a reasonable amount of time.

## #2: Match between system and the real world

The design should speak the users' language. Use words, phrases, and concepts familiar to the user, rather than internal jargon. Follow real-world conventions, making information appear in a natural and logical order.

## #3: User control and freedom

Users often perform actions by mistake. They need a clearly marked "emergency exit" to leave the unwanted action without having to go through an extended process.



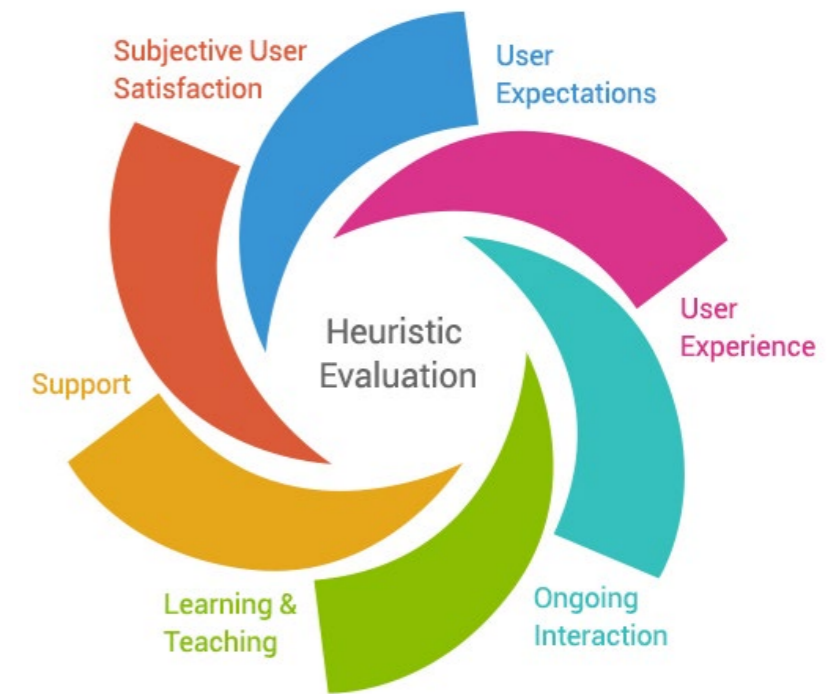
# 10 Usability Heuristics for UI Design

## #4: Consistency and standards

Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform and industry conventions.

## #5: Error prevention

Good error messages are important, but the best designs carefully prevent problems from occurring in the first place. Either eliminate error-prone conditions, or check for them and present users with a confirmation option before they commit to the action.



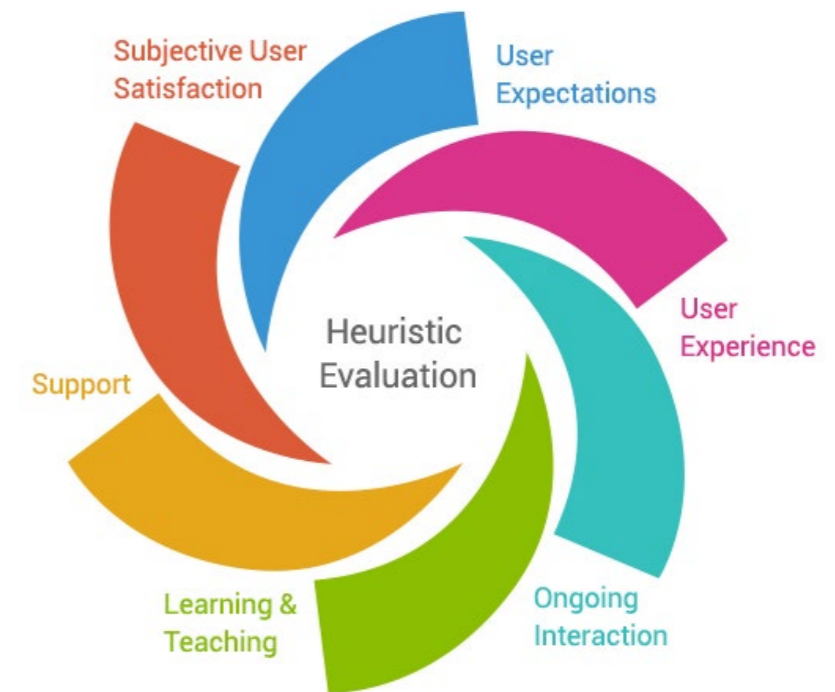
# 10 Usability Heuristics for UI Design

## #6: Recognition rather than recall

Minimize the user's memory load by making elements, actions, and options visible. The user should not have to remember information from one part of the interface to another. Information required to use the design (e.g. field labels or menu items) should be visible or easily retrievable when needed.

## #7: Flexibility and efficiency of use

Shortcuts — hidden from novice users — may speed up the interaction for the expert user such that the design can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.





# 10 Usability Heuristics for UI Design

## #8: Aesthetic and minimalist design

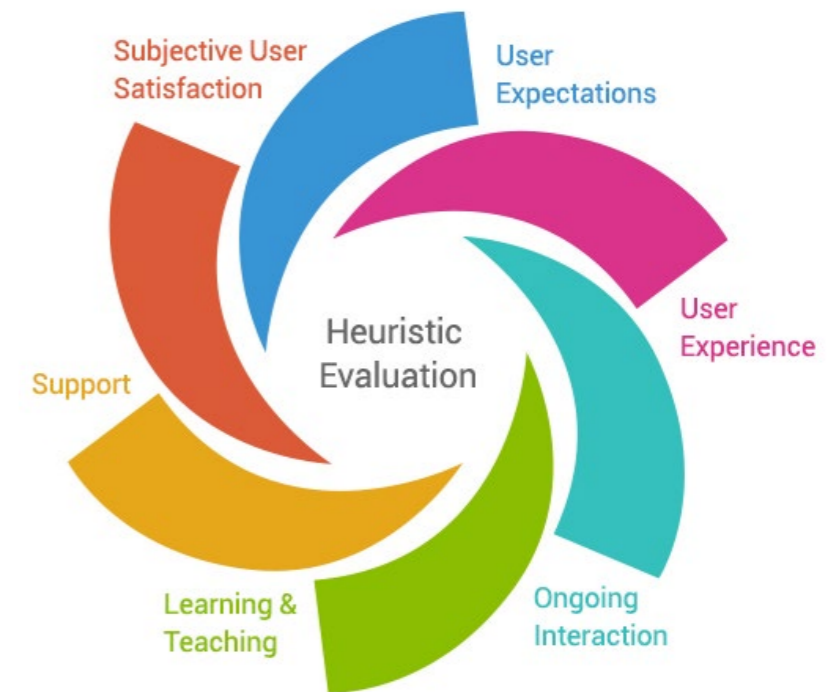
Interfaces should not contain information that is irrelevant or rarely needed. Every extra unit of information in an interface competes with the relevant units of information and diminishes their relative visibility.

## #9: Help users recognize, diagnose, and recover from errors

Error messages should be expressed in plain language (no error codes), precisely indicate the problem, and constructively suggest a solution.

## #10: Help and documentation

It's best if the system doesn't need any additional explanation. However, it may be necessary to provide documentation to help users understand how to complete their tasks.



# How to Conduct a Heuristic Evaluation

- 1. Know what to test and how** – Whether it's the entire product or one procedure, clearly define the parameters of what to test and the objective.
- 2. Know your users and clearly define the target audience's goals, contexts, etc.** User personas can help evaluators see things from the users' perspectives.
- 3. Select 3–5 evaluators**, ensuring their expertise in usability *and* the relevant industry.
- 4. Define the heuristics** (around 5–10) – This will depend on the nature of the system/product/design. Consider adopting/adapting the Nielsen-Molich heuristics and/or using/defining others.



# How to Conduct a Heuristic Evaluation

5. **Brief evaluators on what to cover in a selection of tasks**, suggesting a scale of severity codes (e.g., critical) to flag issues.
6. **1st Walkthrough** – Have evaluators use the product freely so they can **identify** elements to analyze.
7. **2nd Walkthrough** – Evaluators **scrutinize** individual elements according to the heuristics. They also examine how these fit into the overall design, clearly **recording** all issues encountered.
8. **Debrief evaluators** in a session so they can collate results for analysis and suggest fixes.



# Week 3 Assignment: Heuristic Evaluation

This week, you will be asked to perform a Heuristics Evaluation of one of the Facets' applications. Use the following credentials to connect to a VM using Microsoft Desktop (or use your own VM):

VM: **522033-UCD2023B**

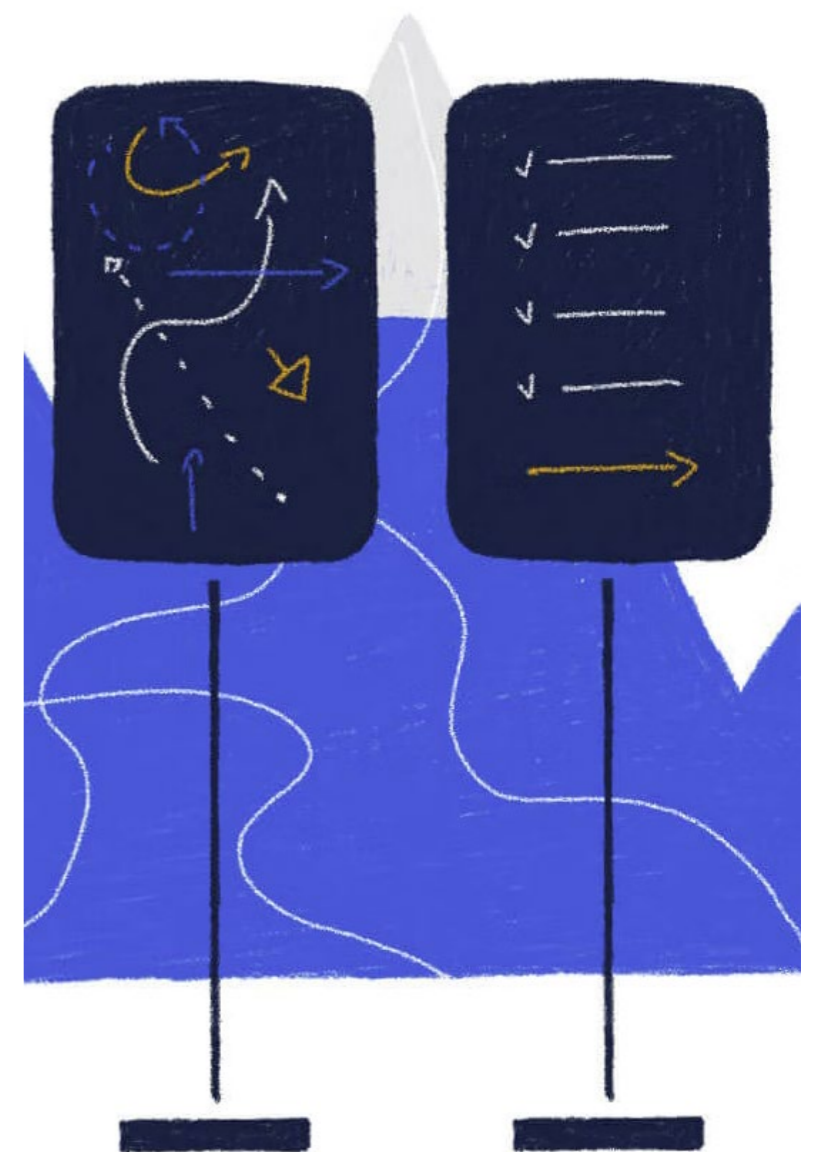
IP address: **10.112.17.229**

Resolution: **1920 x1080**

Facets App: Claims → Claims Inquiry → **Member and Family Accumulators**

Search for ID: **RGCL**, and open subscriber **RGCLINSB**.

Analyze the three grids and use the Heuristics Evaluation checklist to document your findings, then submit a report using the provided **Heuristic\_Evaluation\_Checklist.pdf**





# References

## Usability Testing/Evaluations:

<https://www.usability.gov/how-to-and-tools/methods/usability-testing.html>

<https://www.nngroup.com/articles/usability-testing-101/>

<https://www.interaction-design.org/literature/topics/usability-testing>

<https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/usability-evaluation>

<https://usabilitygeek.com/an-introduction-to-website-usability-testing/>

<https://www.experienceux.co.uk/faqs/what-is-usability-testing/>

<https://www.hotjar.com/usability-testing/evaluation-analysis/>

<https://bootcamp.uxdesign.cc/usability-evaluation-methods-an-overview-4574c1d50020>

## Expert Review:

<https://www.experienceux.co.uk/faqs/what-is-an-expert-review/>

<https://www.nngroup.com/articles/ux-expert-reviews/>

<https://www.relevantinsights.com/research-services/customer-experience-user-research/usability-expert-review/>

<https://ux247.com/our-work/services/expert-review/>

<https://bootcamp.uxdesign.cc/bring-back-the-expert-ux-review-92fbe058895a>

[https://medium.com/@dominic\\_11011/what-is-a-ux-expert-review-3199aa11c796](https://medium.com/@dominic_11011/what-is-a-ux-expert-review-3199aa11c796)

## Heuristic Evaluation:

<https://www.interaction-design.org/literature/topics/heuristic-evaluation>

<https://www.nngroup.com/articles/how-to-conduct-a-heuristic-evaluation/>

<https://www.nngroup.com/articles/ten-usability-heuristics/>

<https://www.usability.gov/how-to-and-tools/methods/heuristic-evaluation.html>

<https://careerfoundry.com/en/blog/ux-design/what-is-a-heuristic-evaluation-in-ux/>

<https://www.usability.gov/how-to-and-tools/methods/heuristic-evaluation.html>

# References

## Sample Heuristic Evaluation Reports

The following are for reference purposes only. You need not follow the formats here. In a BS or MS HCI or UX Program, usability evaluations (Heuristics and Expert reviews) are a full semester course. But what you are getting from me is a boot camp version, condensed. So just use the template I gave you as that would suffice, giving you the necessary experience to give you the basic domain knowledge of these evals.

[https://static1.squarespace.com/static/54d7d226e4b0340f2fb9246e/t/54e015f1e4b033d521c5ac4b/1423971825318/HeuriticEvaluation\\_PaceLibrary.pdf](https://static1.squarespace.com/static/54d7d226e4b0340f2fb9246e/t/54e015f1e4b033d521c5ac4b/1423971825318/HeuriticEvaluation_PaceLibrary.pdf)

<https://uploads->

[ssl.webflow.com/5eaa53825bf2477e7c68f554/5ec699092b440d1b58cbf6ec\\_Heuristic%20Evaluation%20Report.pdf](ssl.webflow.com/5eaa53825bf2477e7c68f554/5ec699092b440d1b58cbf6ec_Heuristic%20Evaluation%20Report.pdf)

[http://shradhashree.net/heuristic/Heuristic\\_Evaluation\\_Report.pdf](http://shradhashree.net/heuristic/Heuristic_Evaluation_Report.pdf)

<http://www-personal.umich.edu/~dinoa/portfolio/622/622-HeuristicEval.pdf>

<https://medium.com/@pei20140506/heuristic-evaluation-report-efc09fab6bea>

[https://issuu.com/ieklab/docs/\\_4\\_report\\_heuristic\\_evaluation](https://issuu.com/ieklab/docs/_4_report_heuristic_evaluation)



# Week 4 Lesson: UT, UT and More UT!



## This Week's Goals:

- How to Prepare for Usability Testing
- Create Usability Testing Scenarios and Tasks
- Create Usability Testing Facilitator Guides
- How to Conduct a Usability Testing (Think out loud)
- How to Write a Post Usability Testing Report

# Elements of Usability Testing



Facilitator



Tasks



Participant

**Facilitator.** Guides the participant through the test process.

**Tasks.** Realistic activities that the participant performs in real life.

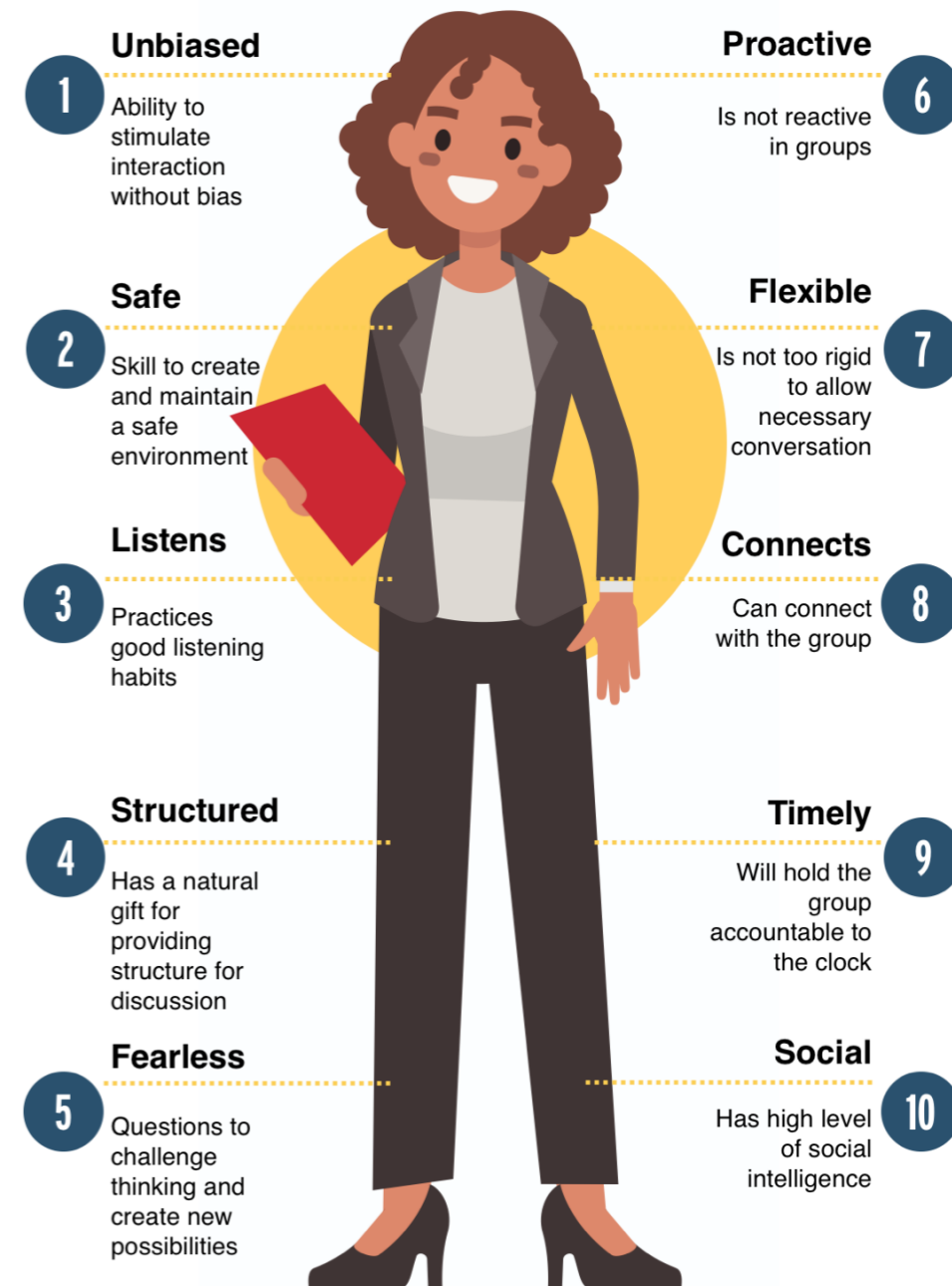
**Participant.** Realistic/actual user of the product or service being studied.

# The Facilitator

In a usability test, a facilitator:

- encourages full participation
- promotes understanding of the tasks.
- knows how to draw the right information
- knows how to use test time to focus on important elements

## QUALITIES OF A GREAT FACILITATOR

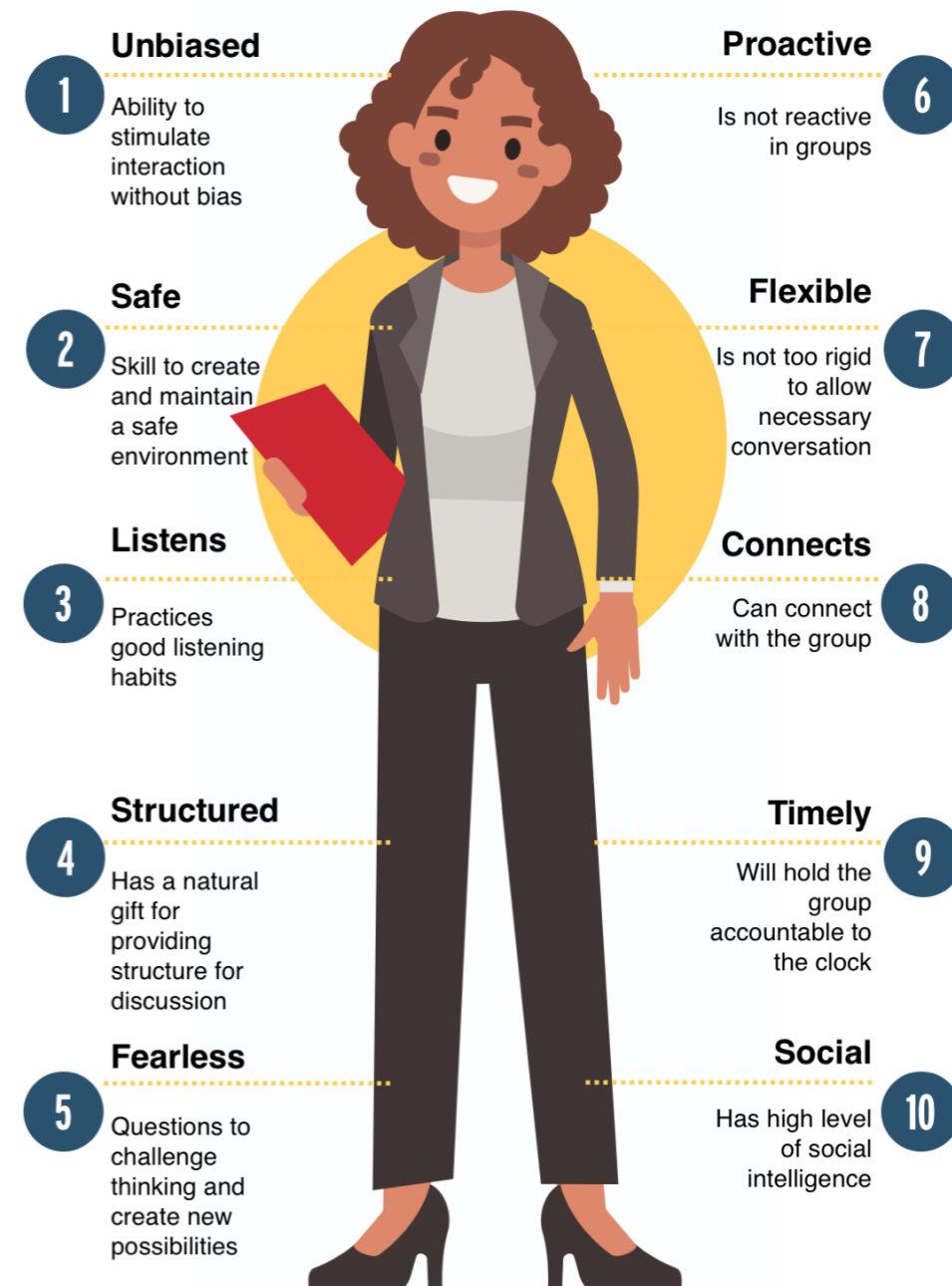


# The Facilitator

In a usability test, a facilitator:

- guides the participant through the test process, gives instructions, answers the participant's questions, and asks follow-up questions.
- ensures test results be high-quality, valid data without influencing the participant's behavior.

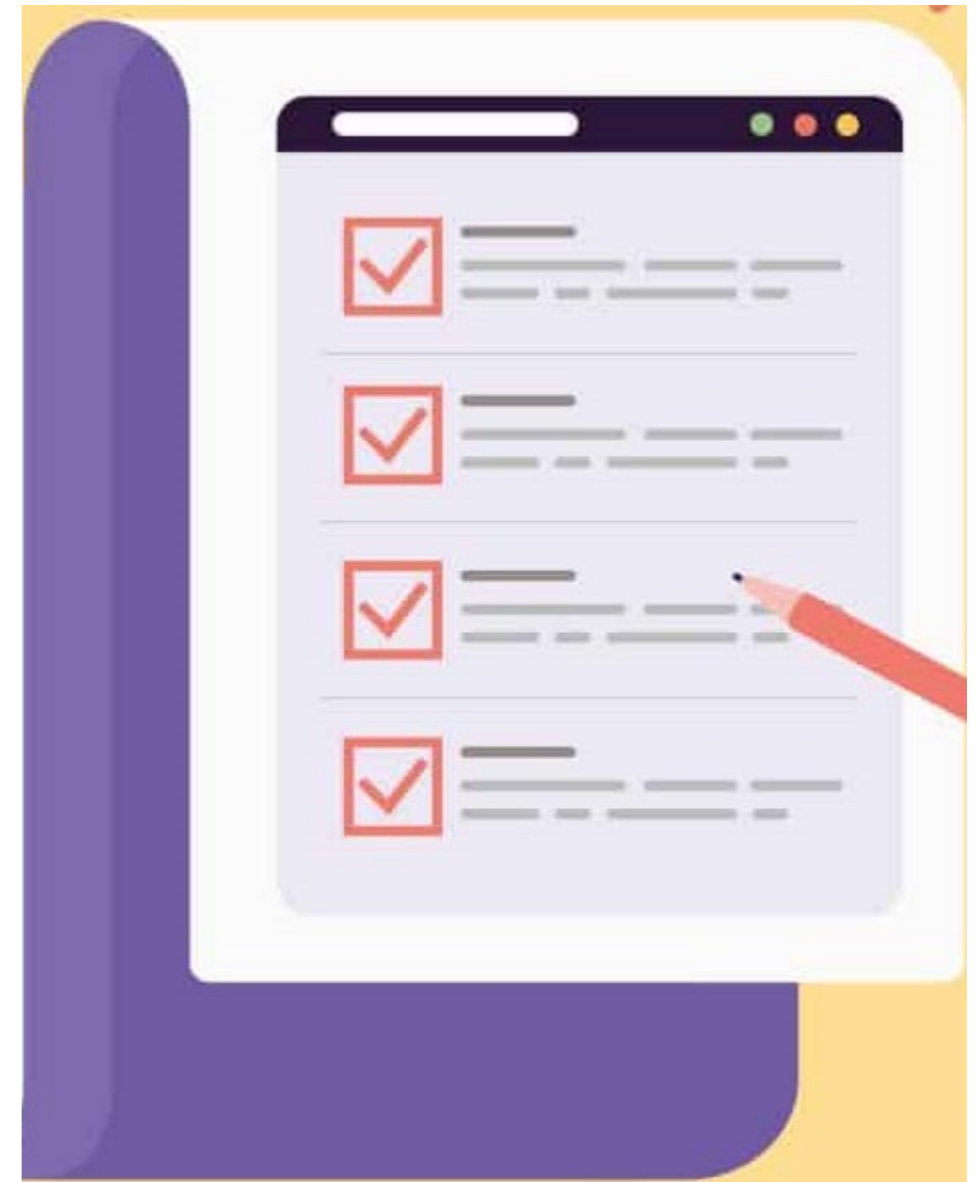
## QUALITIES OF A GREAT FACILITATOR



# The Tasks

The tasks in a usability test are:

- Realistic activities performed in real life.
- Very specific or very open-ended.
- Proper task wording is very important in usability testing.
- Small errors can cause misunderstanding of what is asked to do or influence how to perform the task.



# Tasks Creation Guide

Here are some of the universal characteristics that make a good usability task:

- Use Actionable Verbs
- Use the user's language, not the product's
- Simple and clear
- The task has to be realistic
- Short and precise
- Avoid giving clues





# Tasks Creation Guide

Use Actionable Verbs.

Whether the task is open-ended or specific, it's best to persuade your users to take action to perform it rather than asking how they would do it.

One way of doing this is by including action verbs in your tasks.

Ex. Download, Buy, Subscribe, Find, Click, Complete, Sign-up, Register, Log-in, Invite, Create



# Tasks Creation Guide

Use the user's language, not the product's.

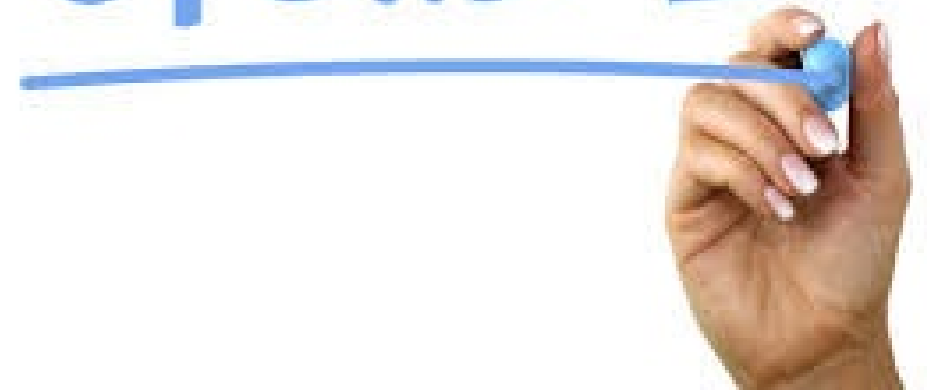
So, when writing usability tests, you don't want your participants to wonder "what does this mean?"

It is a fatal mistake to assume that participants understand your industry terms.

It's best to make tasks that speak to your users and not at them.

Any misunderstanding could lead to fabricated feedback.

GUIDE



# Tasks Creation Guide

Simple and clear.

Forget valuable feedback if your tasks are not simple and clear to the participants.

If your tasks are unclear to your participants, the outcome of your test may carry no weight.

As you design your usability tasks, consider clarity as an important element.



# Tasks Creation Guide

The task has to be realistic.

Making tasks realistic is one of the things that is often overlooked when writing tasks for a usability test.

For insights to be accurate, the environment has to be as natural as possible, implying that the tasks must mimic a real-life scenario.



# Tasks Creation Guide

Be short and precise.

Make your tasks brief and precise.

Minimize the time that your participants need to read and understand them.

Lengthy tasks don't just take undue time to read and understand.

They may influence the time users to take to complete a task.



# Tasks Creation Guide

Avoid giving clues.

Why conduct a usability test when you give clues on how to use the product on a test? Isn't it best to watch them use a product in a way they deem fit?

Giving clues or asking leading questions ruins an excellent study idea, prompting users to do things the presumed way.





# Week 4 Assignment: Writing a Scenario

This week, you will write a usability testing scenario.

The site/app to test is Facets Video Tutorial Proof of Concept. Please familiarize yourself with this site.

## URL:

[http://pdssp.trizetto.com/sites/pdsfpd/SiteAssets/facets\\_video\\_tutorial/index\\_home.html](http://pdssp.trizetto.com/sites/pdsfpd/SiteAssets/facets_video_tutorial/index_home.html)

Your UT goal: Learn how to use the Facets Video Tutorial site

## Tasks:

1. Create a task to make the user find the Facets Video Tutorials global dialog page.
2. Create a task to make the user find additional information on Opening Records.
3. Create a task to make the user view the Opening Records in Facets video tutorial.



# Week 4 Assignment: Writing a Scenario

This week, you will write a usability testing scenario.

The site/app to test is Facets Video Tutorial Proof of Concept. Please familiarize yourself with this site.

## URL:

[http://pdssp.trizetto.com/sites/pdsfpd/SiteAssets/facets\\_video\\_tutorial/index\\_home.html](http://pdssp.trizetto.com/sites/pdsfpd/SiteAssets/facets_video_tutorial/index_home.html)

Your UT goal: Learn how to use the Facets Video Tutorial site

## Tasks:

1. Create a task to make the user find the Facets Video Tutorials global dialog page.
2. Create a task to make the user find additional information on Opening Records.
3. Create a task to make the user view the Opening Records in Facets video tutorial.



# The Participant

The participant should be a real user of the product or service being studied.

That might mean that the user is already using the product or service in real life.

Alternatively, in some cases, the participant might just have a similar background to the target user group or might have the same needs, even if he isn't already a user of the product.

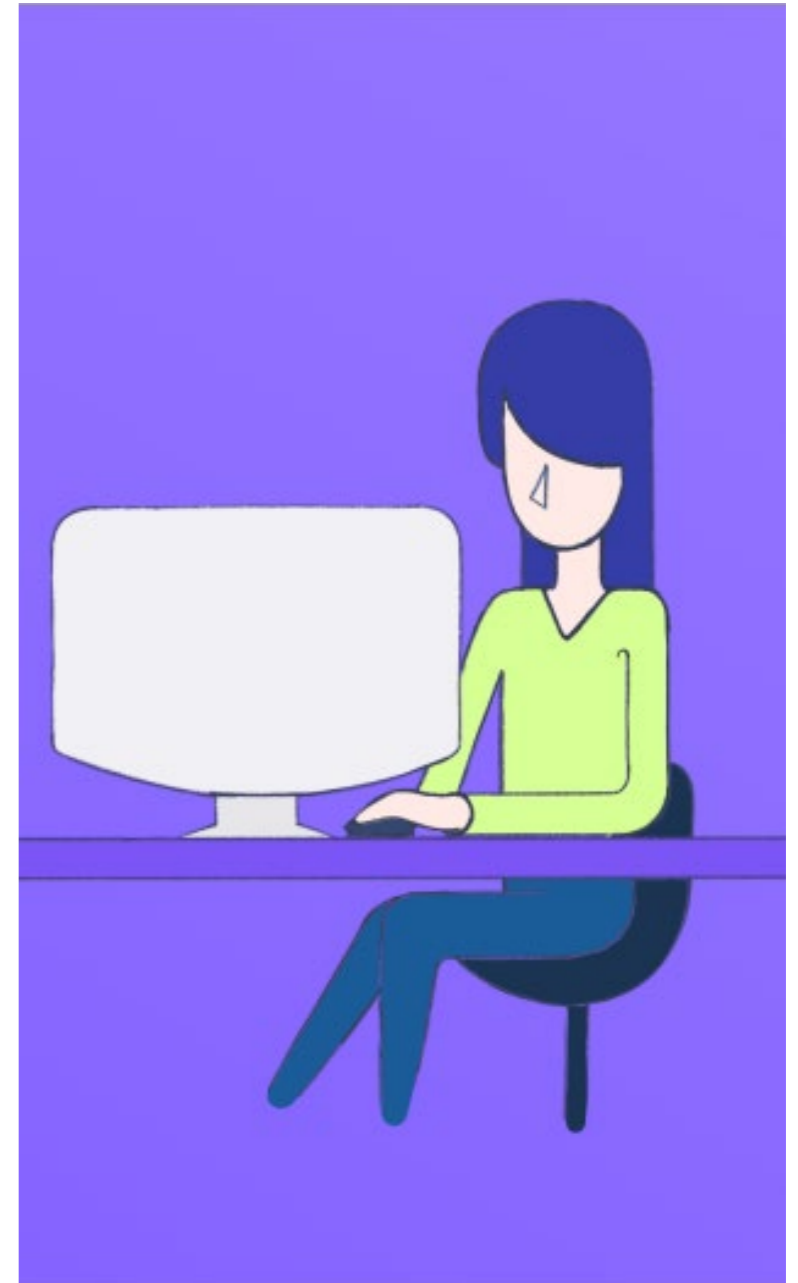


# The Participant

Participants are often asked to think out loud during usability testing (called the “think-aloud method”).

The facilitator might ask the participants to narrate their actions and thoughts as they perform tasks.

The goal of this approach is to understand participants’ behaviors, goals, thoughts, and motivations.



# Week 4 Assignment: Write Participant Invite

This week, you will draft a Participant Email Invite.

Using the sample **Usability Testing Participant Email Invite.docx**, draft an email invite for your pretend participants.

Send it to probable participants. You need to get at least one of them to agree to participate and use him or her for your Usability Testing.



# Type of Usability Testing

Qualitative usability testing focuses on collecting insights, findings, and anecdotes about how people use the product or service.

Qualitative usability testing is best for discovering problems in the user experience.

For a typical qualitative usability study of a single user group, the recommend number of participants to uncover the majority of the most common problems in the product is 5.





# Type of Usability Testing

Quantitative usability testing focuses on collecting metrics that describe the user experience.

Two of the metrics most commonly collected in quantitative usability testing are task success and time on task.

Quantitative data, in form of one or more metrics (such as task completion rates or task times) that reflect whether the tasks were easy to perform.



# Thinking Aloud: The #1 Usability Tool

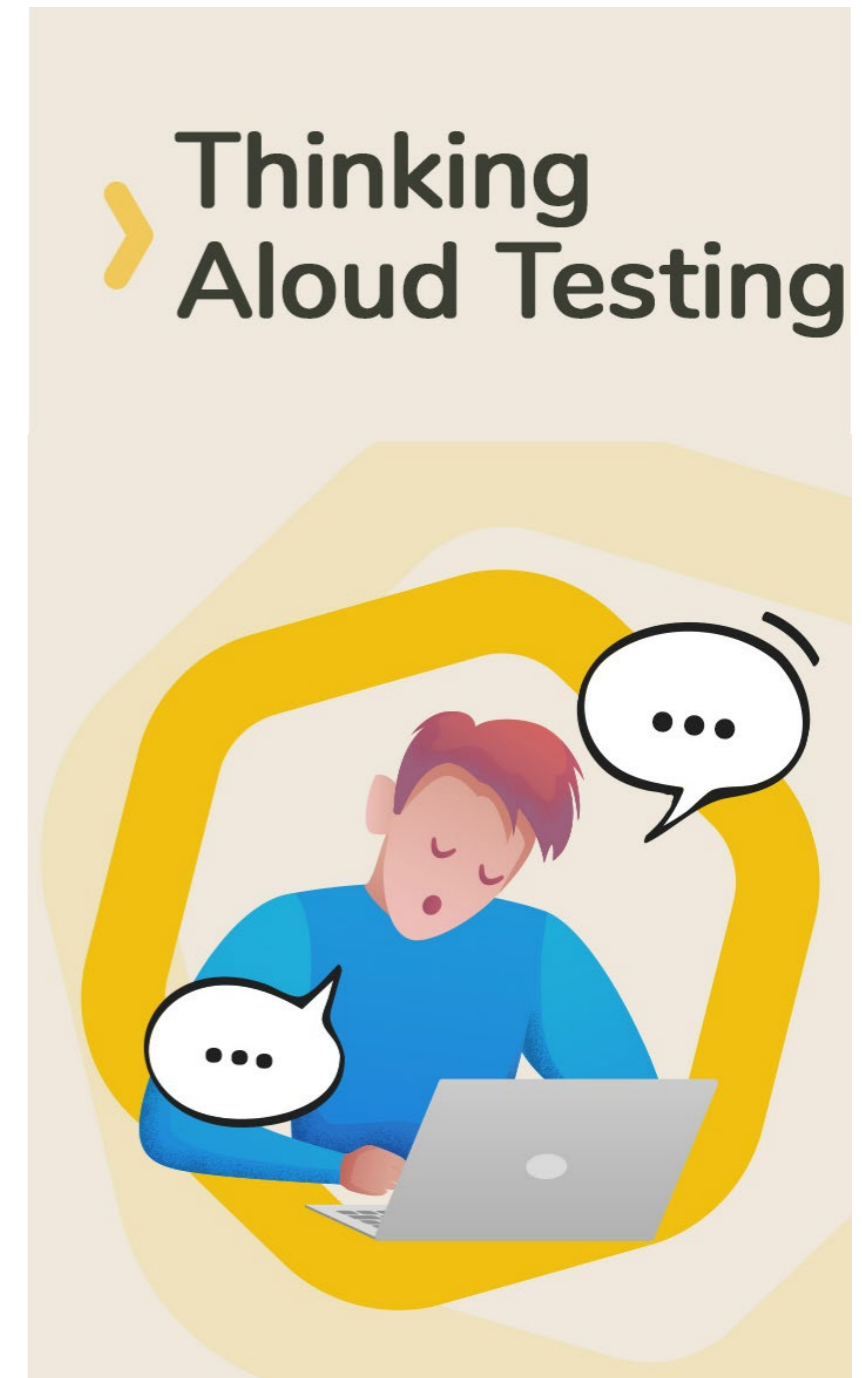
The facilitator ask test participants to use the system while continuously thinking out loud.

That is, simply verbalizing their thoughts as they move through the user interface.

Users are asked to say everything they see, think, do, and feel at any given moment.

According to Nielsen, this method serves as a window into the user's mind and helps us find out what users really think about our designs and what their expectations are.

In this way, insights can be gained that are not easily obtained through simple observations.



# Thinking Aloud: The #1 Usability Tool

Five main categories of user verbalizations:

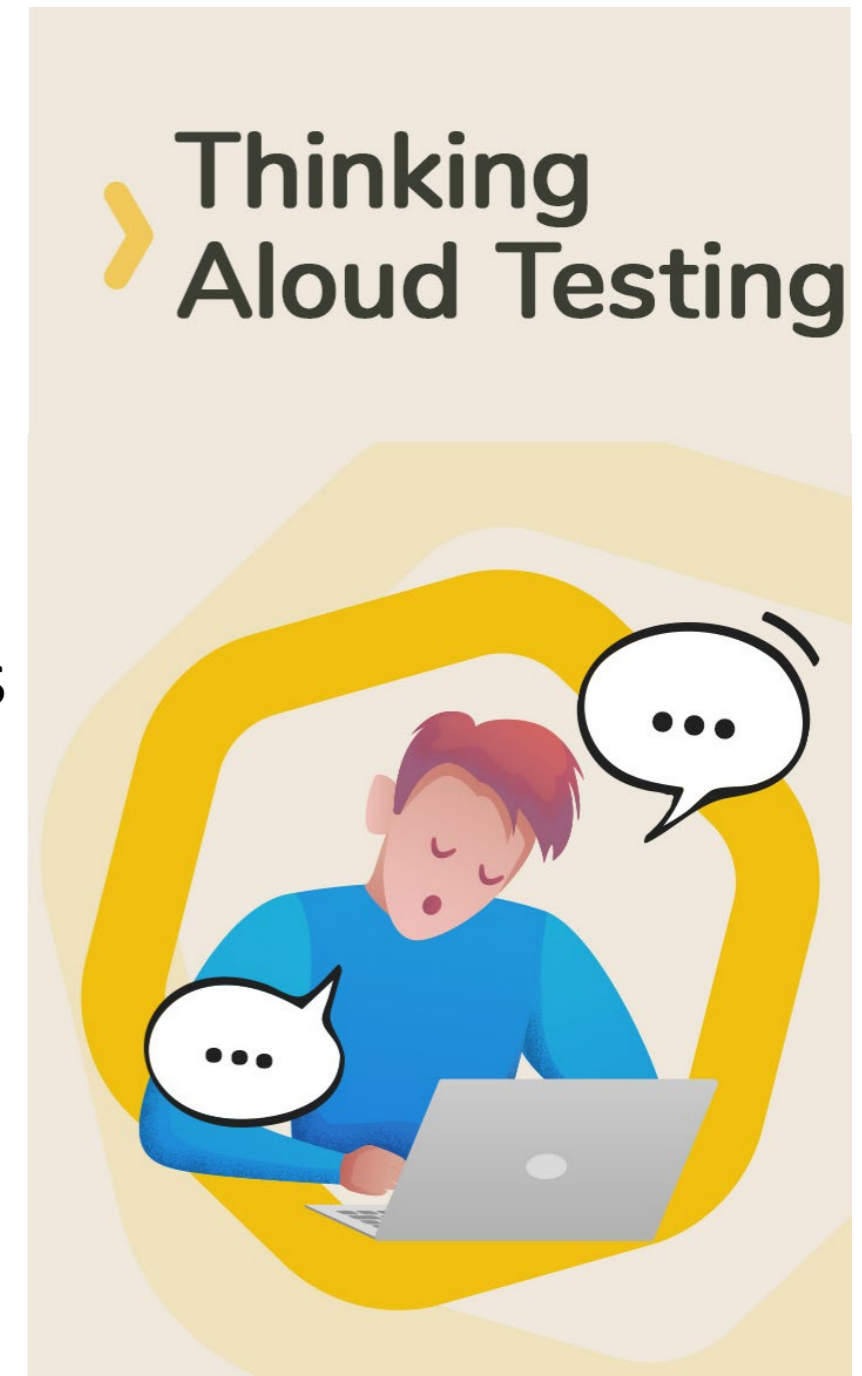
Reading: Reading instructions or words on the screen/product

Procedure: Describing current or future activity

Observing: Observing the product or the user's behavior

Explaining: Explaining to the user the reason for their behavior and providing insight into their motivation

Other: utterances that do not fit into the above categories



# Week 4 Assignment: Write Facilitator Guide

This week, you will write a Usability Testing Facilitator Guide.

Use the **Usability Testing Facilitator Guide Template.docx** and integrate the Scenario and Task you wrote into it.

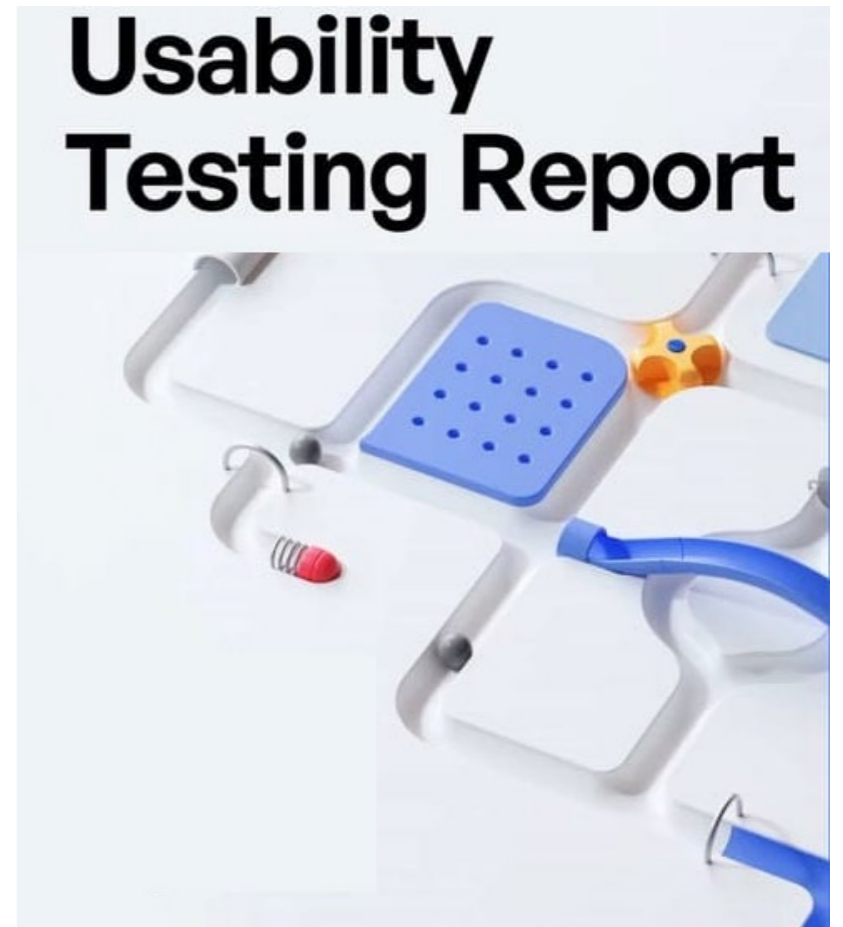


# Usability Test Results

The report should focus primarily on your findings and recommendations that are differentiated by levels of severity.

Include pertinent information from the test plan and present just enough detail so that the method is identifiable.

Keep the sections short, use tables to display the metrics, and use visual examples to demonstrate problem areas when possible.

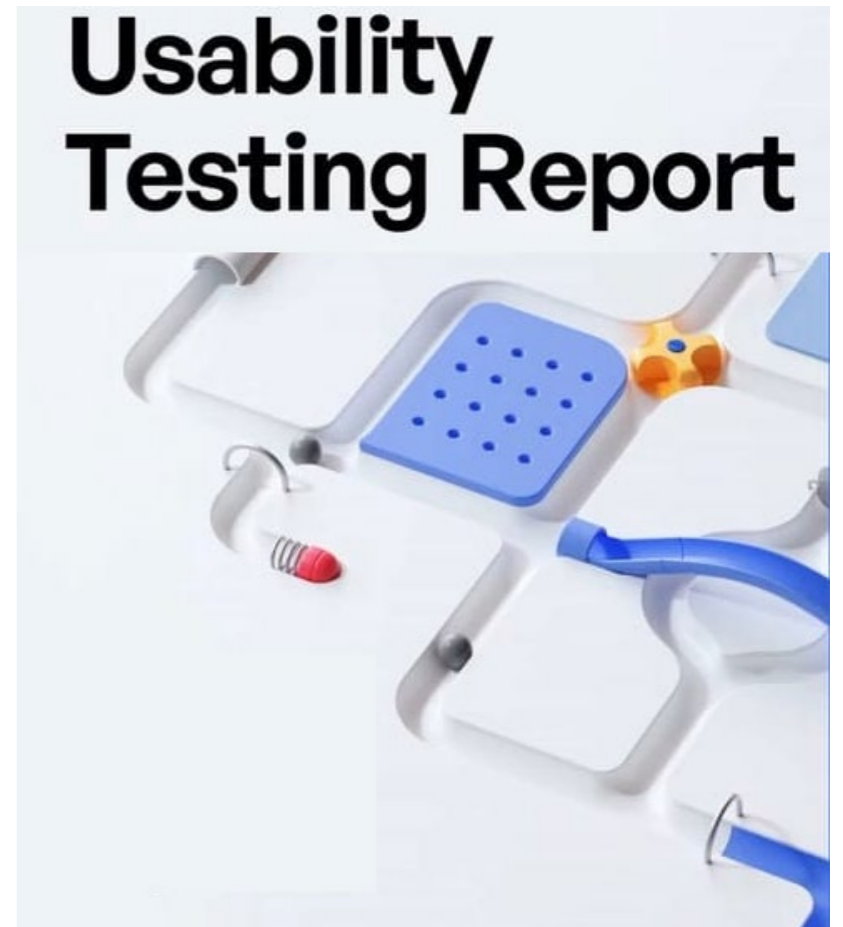


# Usability Test Data Analyses

At the end of usability testing, you will have collected several types of data depending on the metrics you identified in your test plan.

When analyzing the data you've collected, read through the notes carefully, looking for patterns, and be sure to add a description of each of the problems.

Looks for trends and keep a count of problems that occurred across participants.





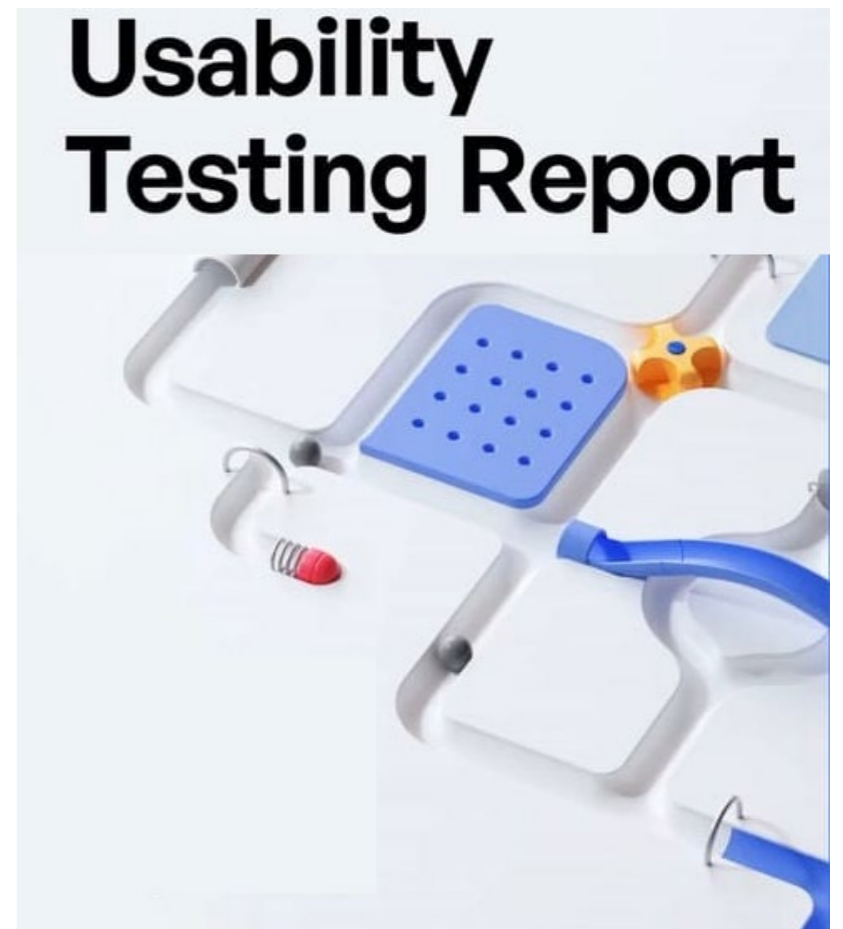
# Usability Test Severity Levels

As you review the data, consider how global the problem is throughout the site and how severe (or serious) the problem is.

Your findings may have implications for other pages on the site (global).

For example, you may find that participants could not find what they needed on the page because of text density.

You could say that just that page needed to be fixed, but you should also consider how many other pages are equally dense with text.



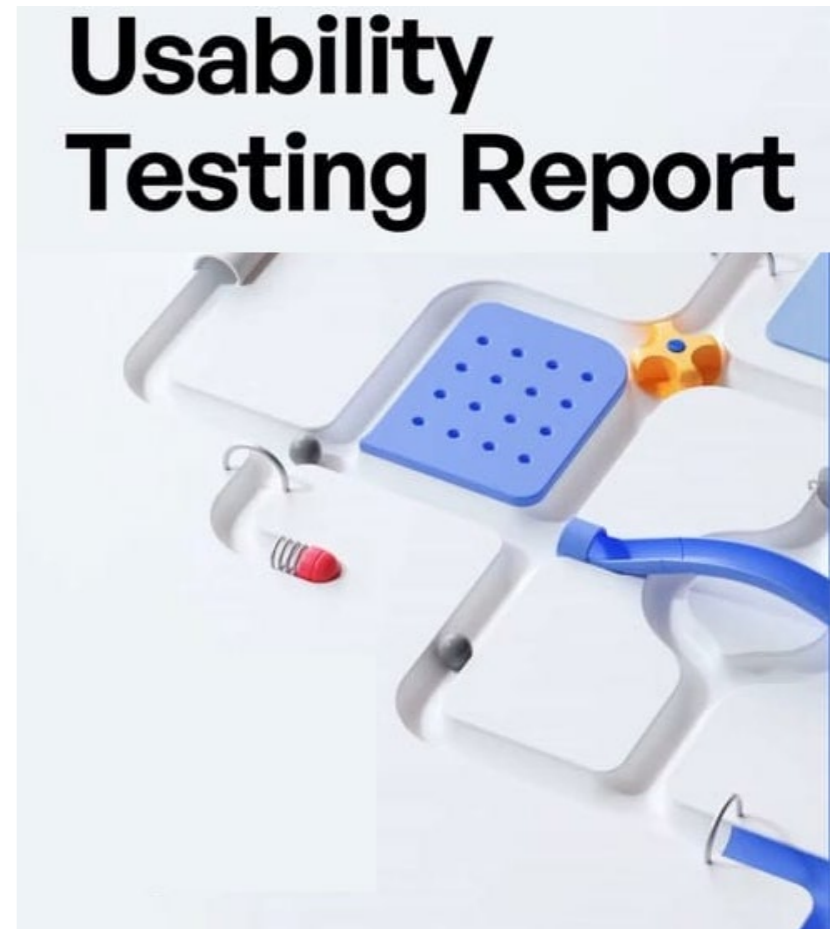
# Usability Test Severity Levels

Some problems contribute more to participants' inability to complete the scenarios than others. To help differentiate, you should note the severity of the problems on a three- or four-point scale. For example:

**Critical:** If we do not fix this, users will be unable to complete the scenario.

**Serious:** Many users will be frustrated if we do not fix this; they may give up.

**Minor:** Users are annoyed, but this does not keep them from completing the scenario. This should be revisited later.



# Writing Usability Test Report

In general, your report should include:

## **Background Summary:**

Include a summary including what you tested (website or web application), where and when the test was held, equipment information, what you did during the test (include all testing materials as an appendix), the testing team, and a brief description of the problems encountered as well as what worked well.

## **Usability Testing Report**



# Writing Usability Test Report

## **Methodology:**

Include the test methodology so that others can recreate the test. Explain how you conducted the test by describing the test sessions, the type of interface tested, the metrics collected, and an overview of task scenarios.

Describe the participants and provide summary tables of the background / demographic questionnaire responses (e.g., age, professions, internet usage, site visited, etc.).

Provide summaries of the demographic data but do not include the full names of the participants.

## **Usability Testing Report**



# Writing Usability Test Report

## Test Results:

Include an analysis of what the facilitator and data loggers recorded. Describe the tasks that had the highest and lowest completion rates.

Provide a summary of the successful task completion rates by participant, task, and average success rate by task and show the data in a table.

## Usability Testing Report

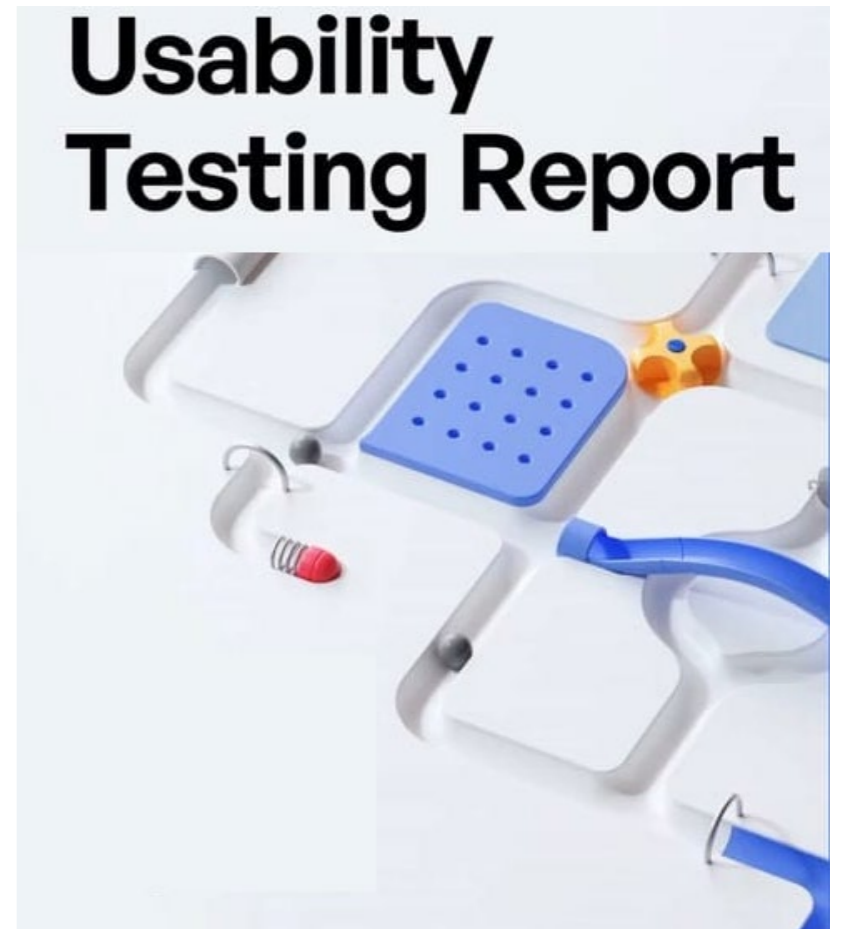




# Writing Usability Test Report

Follow the same model for all metrics.  
Depending on the metrics you collected, you may want to show the:

- Number and percent of participants who completed each scenario, and all scenarios (a bar chart often works well for this)
- Average time is taken to complete each scenario for those who completed the scenario
- Satisfaction results
- Participant comments can be included if they are illustrative.



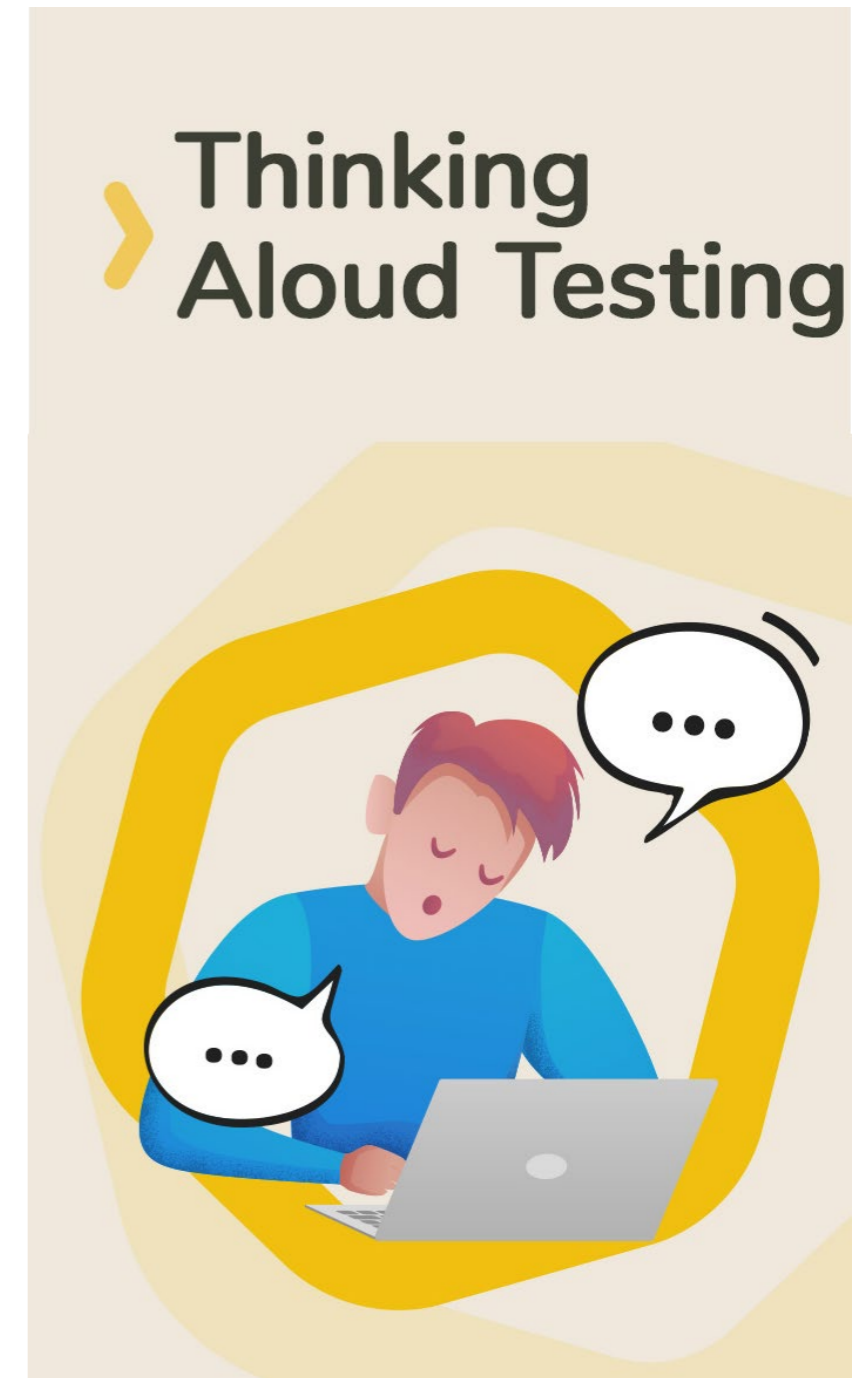


# Week 5 Assignment: Conduct UT

On week 5, you will conduct Usability Testing.

Using your facilitator guide and volunteer participant, perform a Think Aloud Test.

Document the usability testing session on writing a post-test report later on.



# Week 5 Assignment: Post UT Report

For week 5, after conducting the **Think Aloud** test, you will write a Post Usability Testing Report.

Use the sample post report as your template:

**Usability\_Evaluation\_Report\_ITS\_  
Aug 2020.docx**

## Usability Testing Report



# References

## Writing Tasks/Scenario:

<https://maze.co/blog/write-great-usability-tasks>

<https://www.invespcro.com/blog/usability-testing-procedure-tasks>

<https://www.nngroup.com/articles/task-scenarios-usability-testing>

<https://dscout.com/people-nerds/usability-task-writing>

<https://about.gitlab.com/handbook/engineering/ux/ux-research-training/writing-usability-testing-script>

## Thinking Out Loud:

<https://www.nngroup.com/articles/thinking-aloud-the-1-usability-tool>

<https://uxspot.io/think-aloud-testing-for-usability.html>

<https://academy.test.io/en/articles/4823666-thinking-aloud-tests>

<https://www.linkedin.com/pulse/think-aloud-protocol-user-testing-emanuel-fernandes>

## Reporting Usability Test Results:

<https://www.usability.gov/how-to-and-tools/methods/reporting-usability-test-results.html>

<https://xd.adobe.com/ideas/process/user-testing/usability-report-user-test-findings>

<https://uxdesign.cc/how-to-write-a-user-testing-report-that-people-will-actually-read-652d15d2f92e>

<https://almanac.io/docs/template-usability-testing-report-d2c590e3cb69482b95bd1b0cb0e0a460>

<https://maze.co/guides/usability-testing/results/>

# References

Usability Testing/Evaluations:

<https://clevertap.com/blog/usability-testing>

<https://adamfard.com/blog/usability-testing>

<https://www.nngroup.com/articles/usability-testing-101>

<https://www.crazyegg.com/blog/usability-testing>

<https://www.usability.gov/how-to-and-tools/methods/usability-testing.html>

<https://www.interaction-design.org/literature/topics/usability-testing>

<https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/usability-evaluation>

<https://usabilitygeek.com/an-introduction-to-website-usability-testing>

<https://www.experienceux.co.uk/faqs/what-is-usability-testing>

<https://www.hotjar.com/usability-testing/evaluation-analysis>

<https://bootcamp.uxdesign.cc/usability-evaluation-methods-an-overview-4574c1d50020>

# Week 5 Lesson: This is it for UCD!



## This Week's Goals:

- Usability Metrics
- Usability vs. User Experience
- UX Skills Matrix
- UCD Quick Summary
- Conduct Usability Testing
- Write Usability Testing Report

# Usability Metrics

Although measuring usability can cost four times as much as conducting qualitative studies (which often generate better insight), metrics are sometimes worth the expense.

Among other things, metrics can help managers track design progress and support decisions about when to release a product.





# Usability Metrics – What it Does

In general, usability metrics let you:

- Track progress between releases.
- Assess your competitive position.
- Make a Stop/Go decision before launch.
- Create bonus plans for design managers and higher-level executives.



# Usability Metrics

Most common user experience UX metrics used for measuring usability:

## 1. Task Success Rate

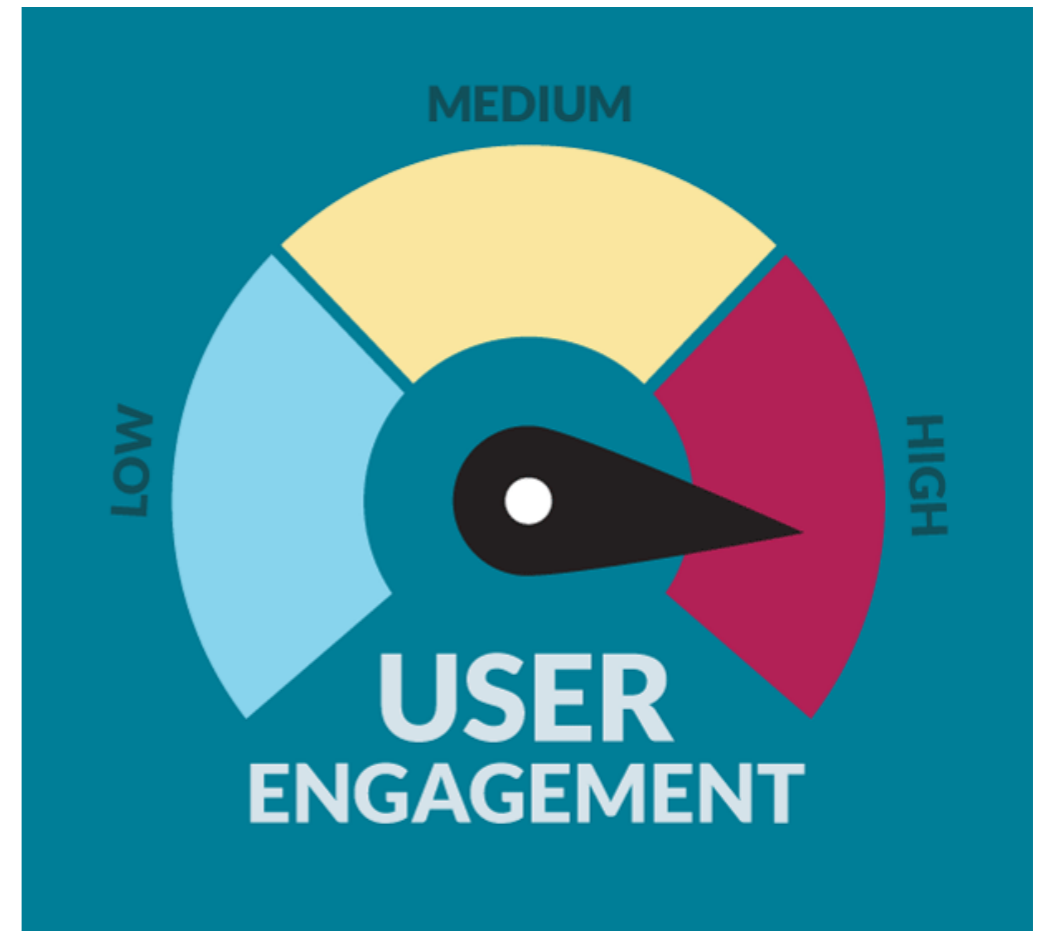
or task completion rate is the percentage of users who have successfully executed a task.

## 2. Time-on-Task

or task completion time is the average time a user needs to complete a task successfully.

## 3. Use of Search vs. Navigation

helps you understand how efficient your architecture and navigation are.



# Usability Metrics

## 4. User Error Rate

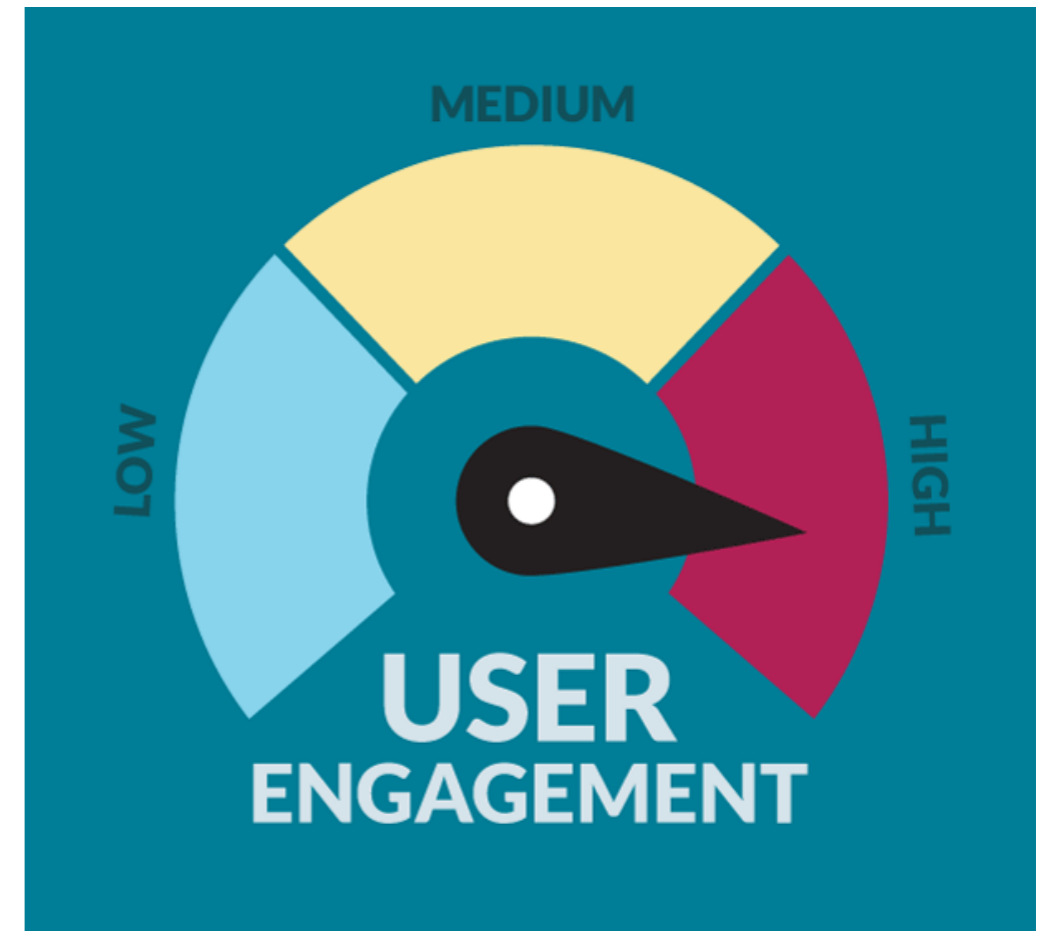
is the number of users who made a mistake while doing a task.

## 5. Task Level Satisfaction

measures users' satisfaction with your website or web app.

## 6. Test Level Satisfaction

assess users' satisfaction at the end of the test session.



# Usability vs User Experience

## What's the Difference?

Usability refers to how successfully a user can use a product to accomplish a specific goal.

User experience encompasses an end user's entire experience with a product — not just how well the product worked, but how they expected it to work, how they feel about using it, and how they feel about the company overall.



# Usability vs User Experience

User experience (UX) design is the process of creating products that provide meaningful and relevant experiences to users involving the design of the entire process of acquiring and integrating the product, including aspects of branding, design, usability, and function.

So, usability is just a sliver of that pie, and user experience is the whole pie.



# The UX Skills Matrix

Matrix	Rating
Skills	
1. UX Research	
2. Collaboration	
3. Wireframing and UI Prototyping	
4. UX Writing	
5. Visual Communication	
6. User Empathy	
7. Interaction Design	
8. Coding	
9. Analytics	
10. Communication Skills	
Total	



# The UX Skills Matrix

Matrix	Rating
Skills	
<b>1. UX Research</b>	

UX research consists of identifying your target users, creating user personas, and gathering data to make informed design decisions.

This involves the use of user testing, creating wireframes and prototypes to test on your users, conducting card sorting sessions, performing website heatmaps, and carrying out user interviews.

# The UX Skills Matrix

Matrix	Rating
Skills	
<b>2. Collaboration</b>	

Research can only take you so far. But collaborating is the opportunity to work in other areas and apply what has been learned with different people whose skills complement the UXer.

Collaboration is an important UXer skill as it helps them communicate more efficiently with clients and stakeholders, to ensure the resulting product meets both business goals and user expectations.

# The UX Skills Matrix

Matrix	Rating
Skills	
<b>3. Wireframing and UI Prototyping</b>	

Wireframes are without doubt the key to an efficient user interface, and every UXer should be able to do this.

From content audits to usability testing, even a low-fidelity wireframe can be used for many purposes right through the application development lifecycle.

Wireframes convey the main features, functions, and content of a user interface, without getting into the visual design.

# The UX Skills Matrix

Matrix	Rating
Skills	
<b>4. UX Writing</b>	

Writing is the unsung hero of UX. People speak highly of coding, which is a skill that shouldn't be dismissed, but writing is a talent that can be nurtured over less time to create brilliant user experiences.

Some of the important areas that this UX designer skill covers is information architecture, which determines the order in which that content is displayed to your users.

UX writing deals with creating copy that really speaks to your users' mental models and helps them to understand your product better.

# The UX Skills Matrix

Matrix	Rating
Skills	
<b>5. Visual Communication</b>	

No UX designer will get very far without being fully versed in visual communication. It's at the heart of UX.

On top of that, 65% of the user population are visually-oriented learners.

In design, visual communication covers everything from white space visual hierarchy to making elements look clickable and minimizing the need for written instructions.

# The UX Skills Matrix

Matrix	Rating
Skills	
<b>6. User Empathy</b>	

Being able to put yourself in someone else's shoes means understanding their problems.

When you understand someone's problems better, you're more equipped when it comes to find a solution to their problem.

That's why empathy is such a vital skill within UX design. When you're detached from your end users, you fail to design for their needs and feelings which can create a terrible user experience.



# The UX Skills Matrix

Matrix	Rating
Skills	
<b>7. Interaction Design</b>	

It's good to create an aesthetically pleasing design but understanding how users will interact with it is another.

Interaction design is more concerned with how a user interacts with a product or service, which is why interactive prototypes are a great tool to combine when iterating interactions.

Interaction design is a UI-UX designer skill which means more than being able to add in fancy animations. It means knowing things like whether your users expect to have to scroll, rather than swipe through a list.

# The UX Skills Matrix

Matrix	Rating
Skills	
<b>8. Coding</b>	

Most UX designers are multidisciplinary and in a world that's starving for tech designers maybe design-developers are the answer to this need.

It has been said that one-third of UX designers had engineering training, so the lines are blurring between designer and developer anyway.

Learning some of the coding languages such as HTML, CSS, JavaScript, and jQuery can help you understand what's possible from a technological perspective and help ease the transition between design-developer handoff.

# The UX Skills Matrix

Matrix	Rating
Skills	
<b>9. Analytics</b>	

Analytics are the road to better understanding your design and the user. Perhaps even more importantly, with analytics, you can understand the relationship between product and user.

So, understanding numbers, percentages, and ratios are a real must when you want to get your head around the performance of your design. Many UXers fear numbers but there's nothing to fear – they're there to help you.

# The UX Skills Matrix

Matrix	Rating
Skills	
<b>10. Communication Skills</b>	

Having core skills like research or design is really important – so are business skills like project and time management.

But aside from these, UXers can really stand based on their communication skills.

Trying to convey design ideas to non-design people is tough – this escalates, even more, when you add investors and financing into the equation.

Grasping design concepts can be tricky, and as a consequence, communication is an important UX designer skill.

# The UX Skills Matrix

Matrix	Rating
Skills	
1. UX Research	
2. Collaboration	
3. Wireframing and UI Prototyping	
4. UX Writing	
5. Visual Communication	
6. User Empathy	
7. Interaction Design	
8. Coding	
9. Analytics	
10. Communication Skills	
Total	

# The UX Skills Matrix

## Skills Matrix Explanation/Criteria

1

I understand what it is, no practical experience

Learner

2

I have tried it

Beginner

3

Applied it to several projects, still getting the hang of it

Junior

4

Confident some experience and learnings, but still need practice

Practitioner

5

Confident on approach and reasonably well practised

Intermediate

6

A good understanding, used often

Senior

7

very good and confident

Advanced

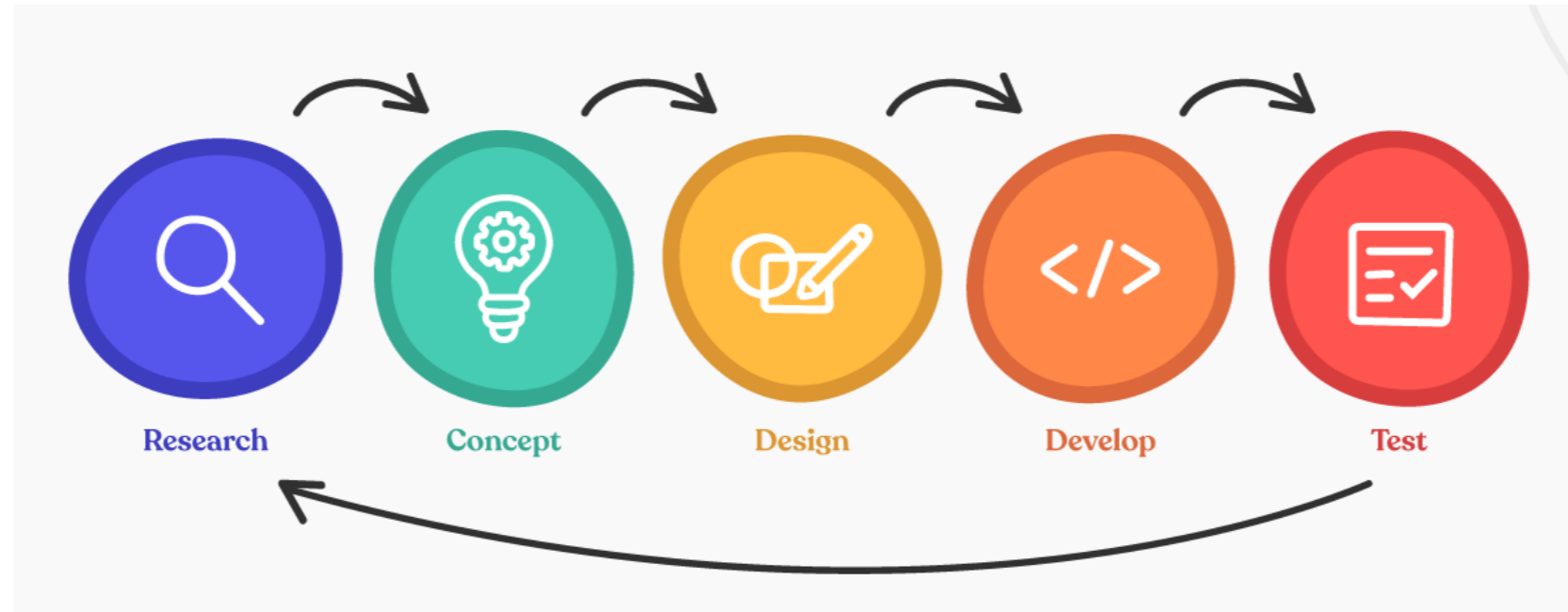
8

Expert - totally confident, well practised. Multiple projects. Complete understanding

Expert



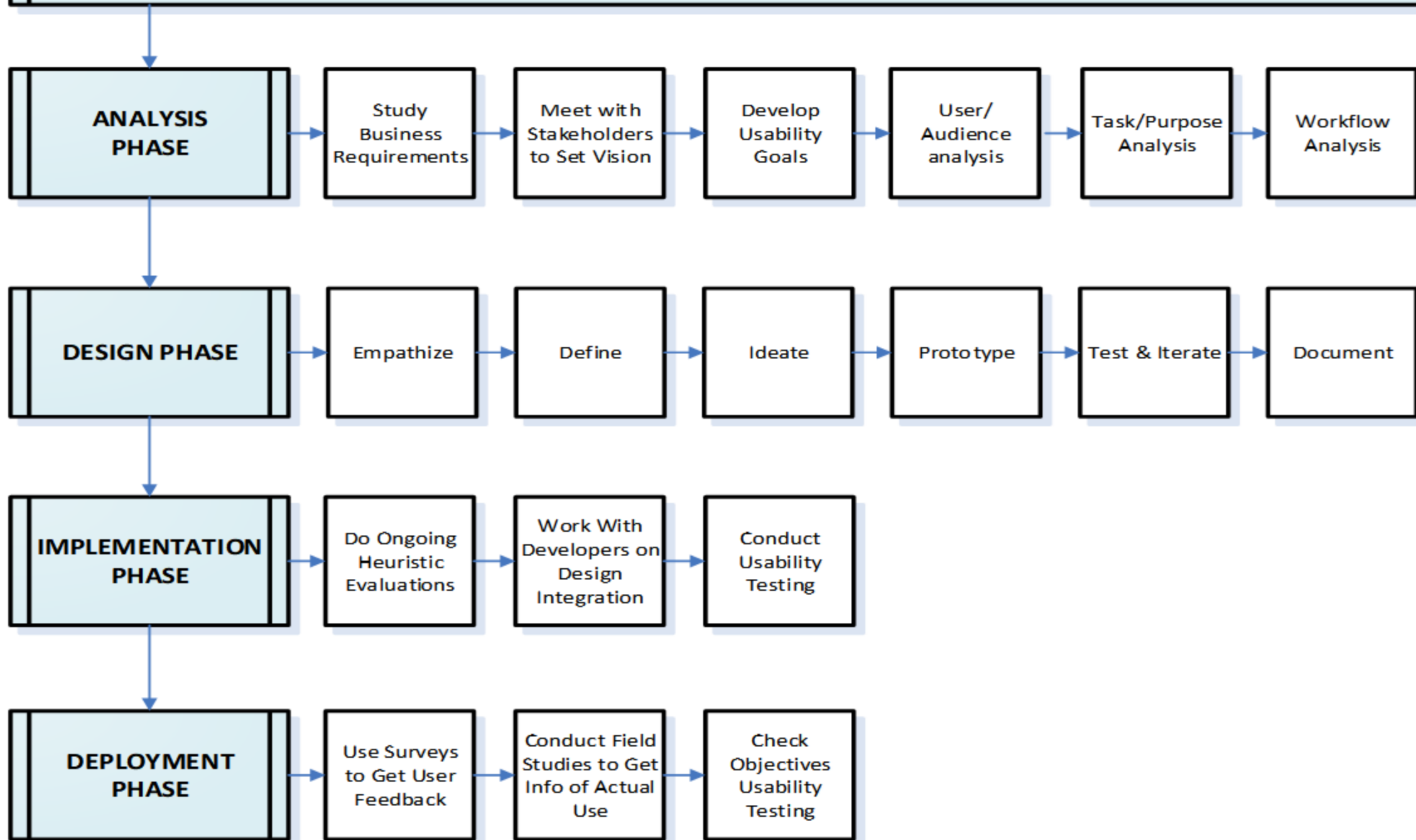
# User-Centered Design - Summary



- Process of designing a user interface from the perspective of how it will be understood and used by a human user.
- A system can be designed to support its intended users' existing beliefs, attitudes, and behaviors as they relate to the tasks that the system is being designed to support rather than requiring users to adapt their attitudes and behaviors in order to learn and use a system,
- The result of employing UCD in a system design is a product that offers a more efficient, satisfying, and user-friendly experience for the user, which is likely to increase the use and customer loyalty.

# Step by Step UCD Process

## STEP-BY-STEP USER-CENTERED DESIGN PROCESS

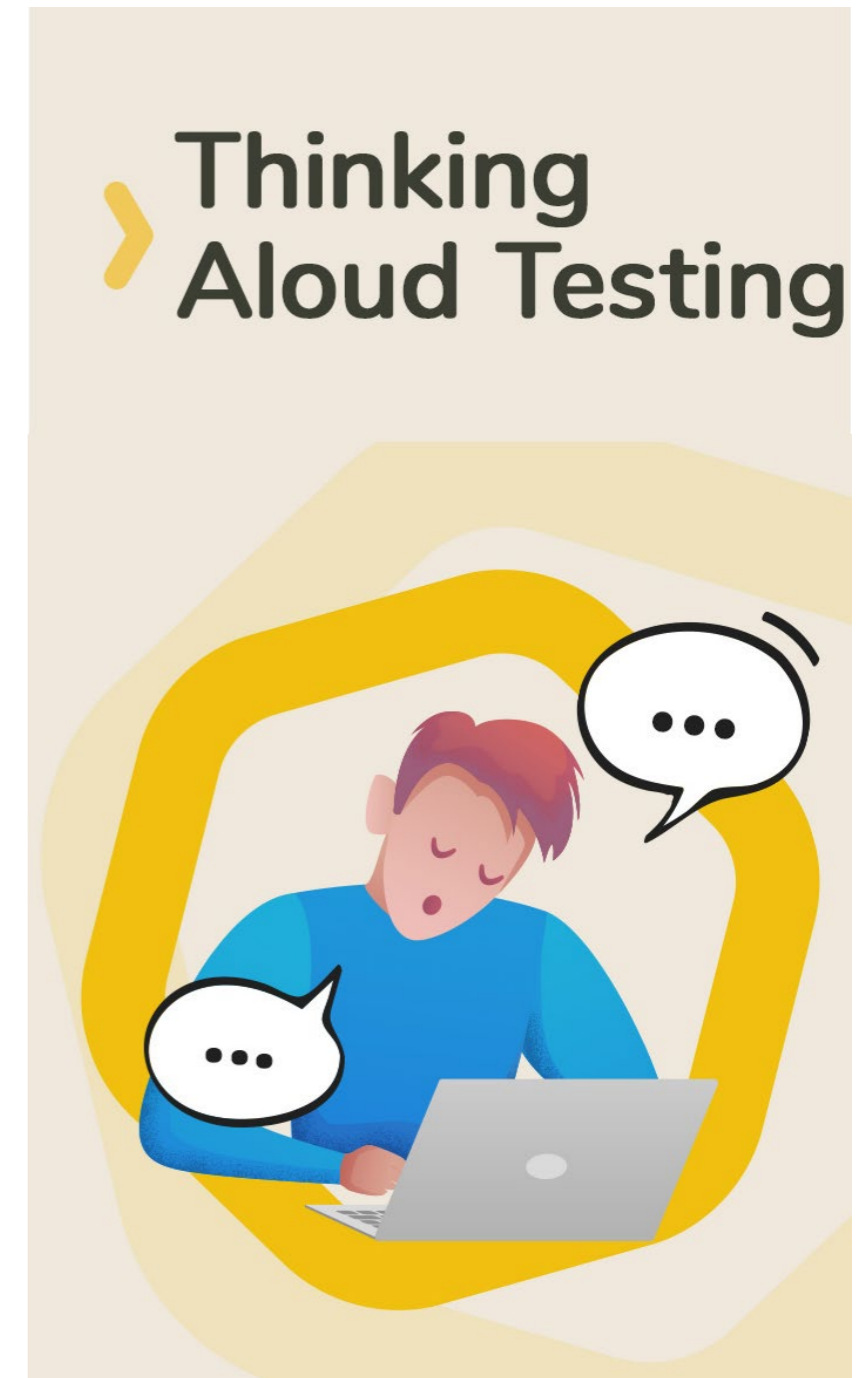


# Week 5 Assignment: Conduct UT

Conduct a Usability Testing. Using your approved facilitator guide and volunteer participant, perform a Think Aloud Test.

To be submitted:

1. Your final UT facilitator guide.
  2. Your recording of your UT.
  3. Your UT note taker notes.
  4. Post report of your UT.
- **DO NOT email these.**
  - Please DROP them to my TMS inbox.



# Week 5 Assignment: Conduct UT

As part of your reference, I am making available a usability testing session conducted with one of our clients, Carefirst.

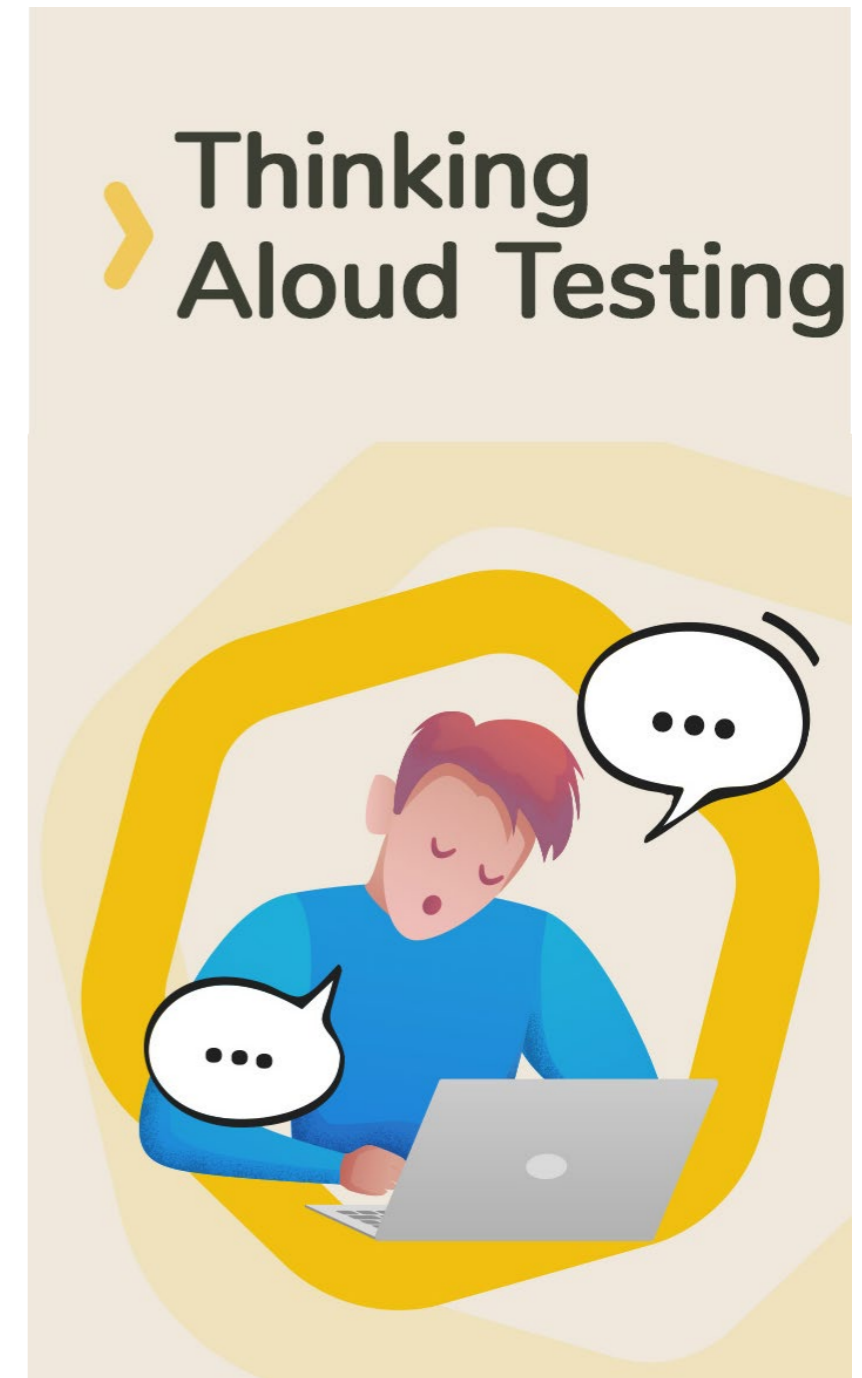
- View the recording:

**UXEval\_Billing360BillingEntity\_Session3\_2021Apr\_Carefirst.mp4**

- Peruse the docs:

**UXEvalFacilitatorGuide\_Billing360Entity\_Session3\_2021Apr\_Final.docx**

**UXNoteTakerGuide\_Billing360BillingEntity\_Session3\_2021Apr\_Carefirst.docx**



# References

## Usability Metrics:

<https://sematext.com/blog/ux-metrics/#toc-3-usability-metrics-12>

<https://www.nngroup.com/articles/usability-metrics/>

<https://usabilitygeek.com/usability-metrics-a-guide-to-quantify-system-usability/>

<https://www.eleken.co/blog-posts/usability-metrics>

## Usability vs. User Experience

<https://blog.hubspot.com/website/usability-vs-user-experience>

<https://usabilitygeek.com/the-difference-between-usability-and-user-experience/>

<https://hackernoon.com/the-ultimate-guide-difference-between-usability-and-user-experience-e926c11eac7a>

<https://ux4sight.com/blog/ux-ui-and-usability-what-they-are-and-how-they-differ>

## UX Skills Matrix

<https://medium.com/@ashley.r.otero/ux-competency-matrix-21853f42b948>

<https://lesley.edu/article/critical-ux-skills>

<https://uxdesign.cc/what-are-the-key-skills-a-great-ux-designer-needs-a1ae20685396>

<https://uxdworld.com/2020/01/21/how-to-measure-your-ux-design-skills/>

## Thinking Out Loud:

<https://www.nngroup.com/articles/thinking-aloud-the-1-usability-tool>

<https://uxspot.io/think-aloud-testing-for-usability.html>

<https://academy.test.io/en/articles/4823666-thinking-aloud-tests>

<https://www.linkedin.com/pulse/think-aloud-protocol-user-testing-emanuel-fernandes>

# References

Reporting Usability Test Results:

<https://www.usability.gov/how-to-and-tools/methods/reporting-usability-test-results.html>

<https://xd.adobe.com/ideas/process/user-testing/usability-report-user-test-findings>

<https://uxdesign.cc/how-to-write-a-user-testing-report-that-people-will-actually-read-652d15d2f92e>

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<https://maze.co/guides/usability-testing/results/>

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<https://clevertap.com/blog/usability-testing>

<https://adamfard.com/blog/usability-testing>

<https://www.nngroup.com/articles/usability-testing-101>

<https://www.crazyegg.com/blog/usability-testing>

<https://www.usability.gov/how-to-and-tools/methods/usability-testing.html>

<https://www.interaction-design.org/literature/topics/usability-testing>

<https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/usability-evaluation>

<https://usabilitygeek.com/an-introduction-to-website-usability-testing>

<https://www.experienceux.co.uk/faqs/what-is-usability-testing>

<https://www.hotjar.com/usability-testing/evaluation-analysis>

<https://bootcamp.uxdesign.cc/usability-evaluation-methods-an-overview-4574c1d50020>



# Week 6 Lesson: Mockup Apps

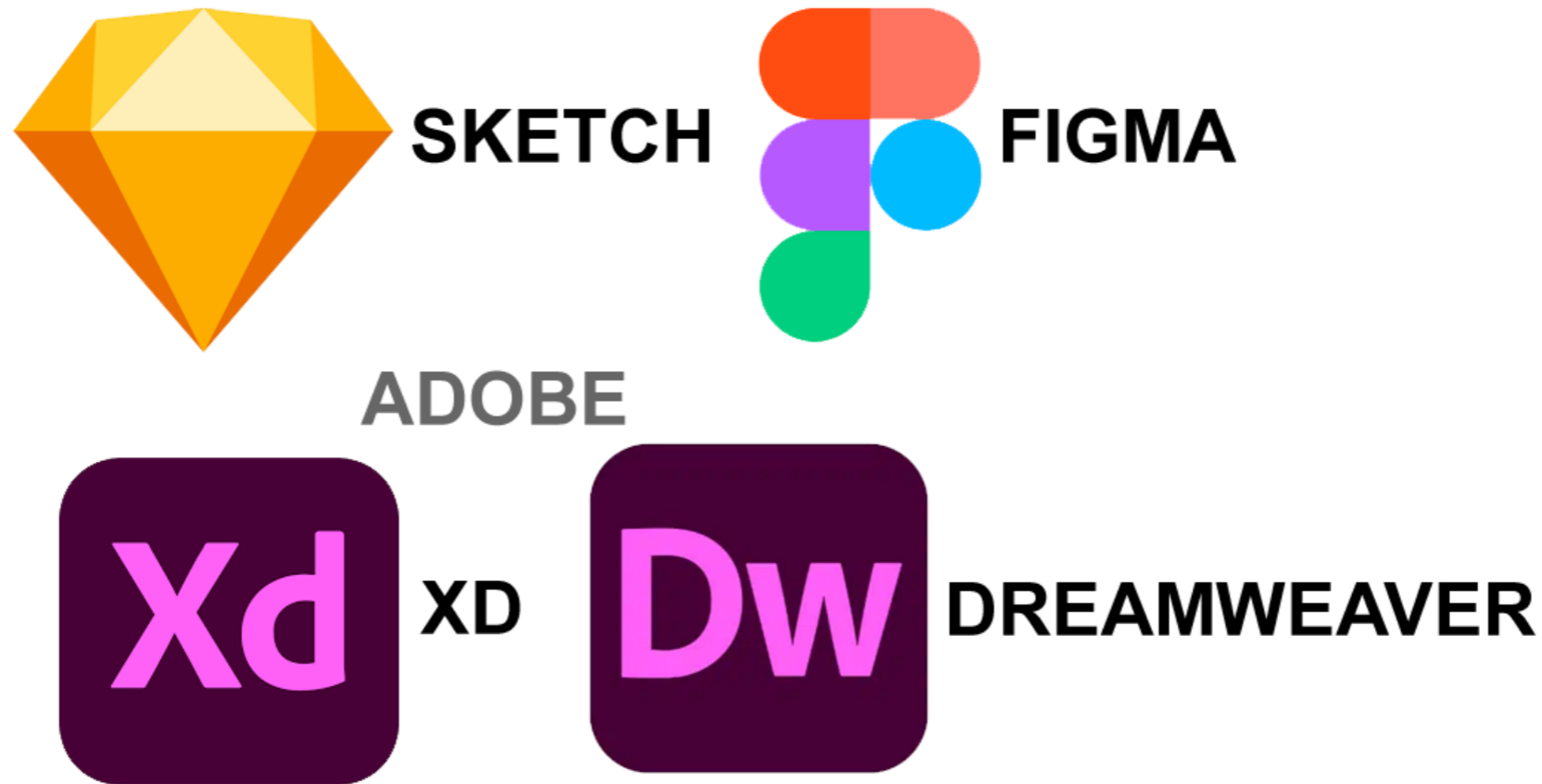


## This Week's Goals:

- Introduce Figma as a prototyping tool
- Use Figma to create a prototype
- Introduce Adobe XD

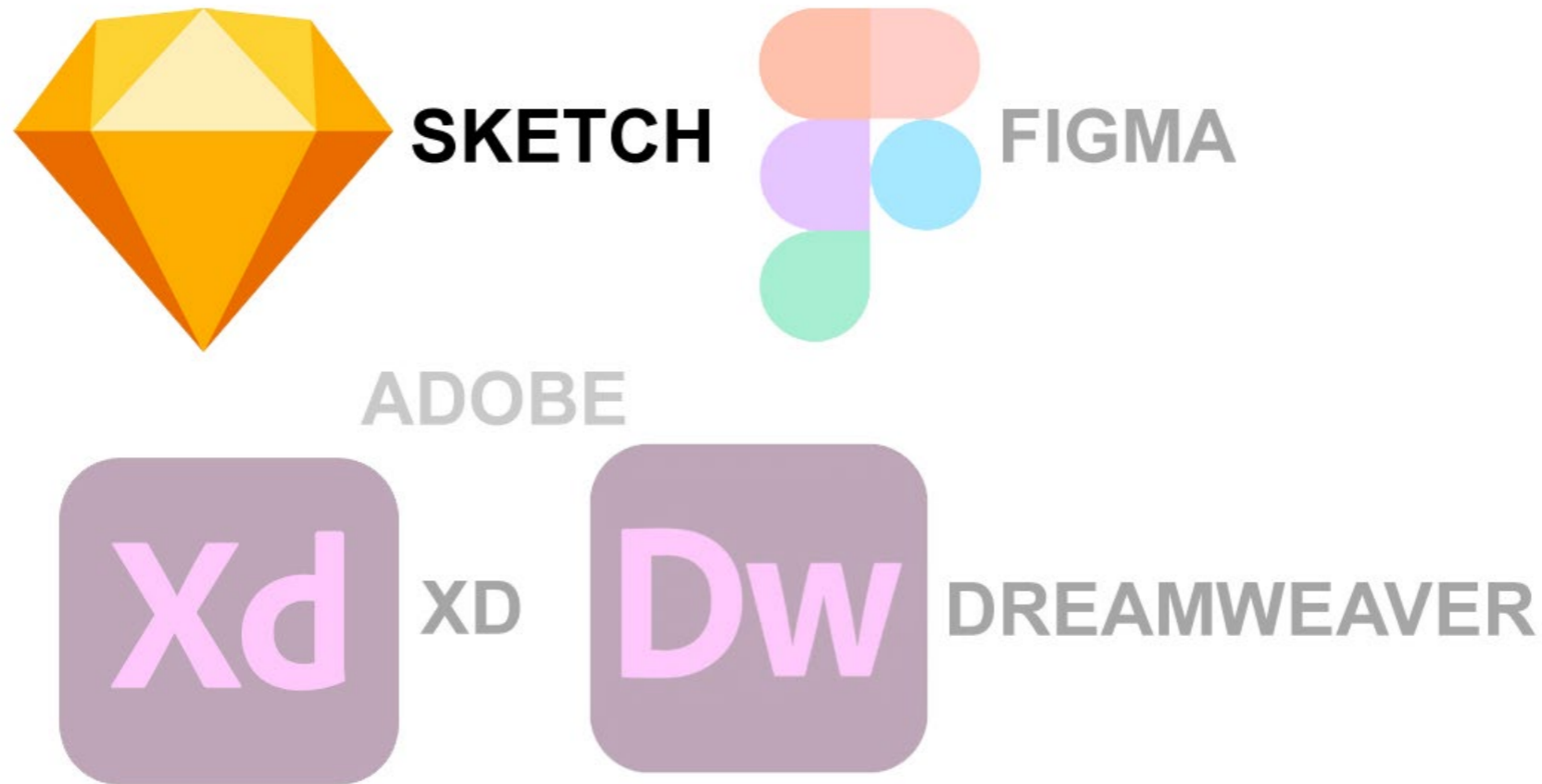


# Facets UX Prototyping Tools



- Our Facets UX Team is diverse.
- We bring different UX mock skills
- The same goal:  
Create a mockup as a blueprint or visual model to design the required functionality.

# Facets UX Prototyping Tools



## **Sketch (Medium Fidelity Tool):**

- Connect your Artboards, apply basic transitions, and then preview your designs
- Share prototypes with colleagues and clients around the world
- Only for MACs

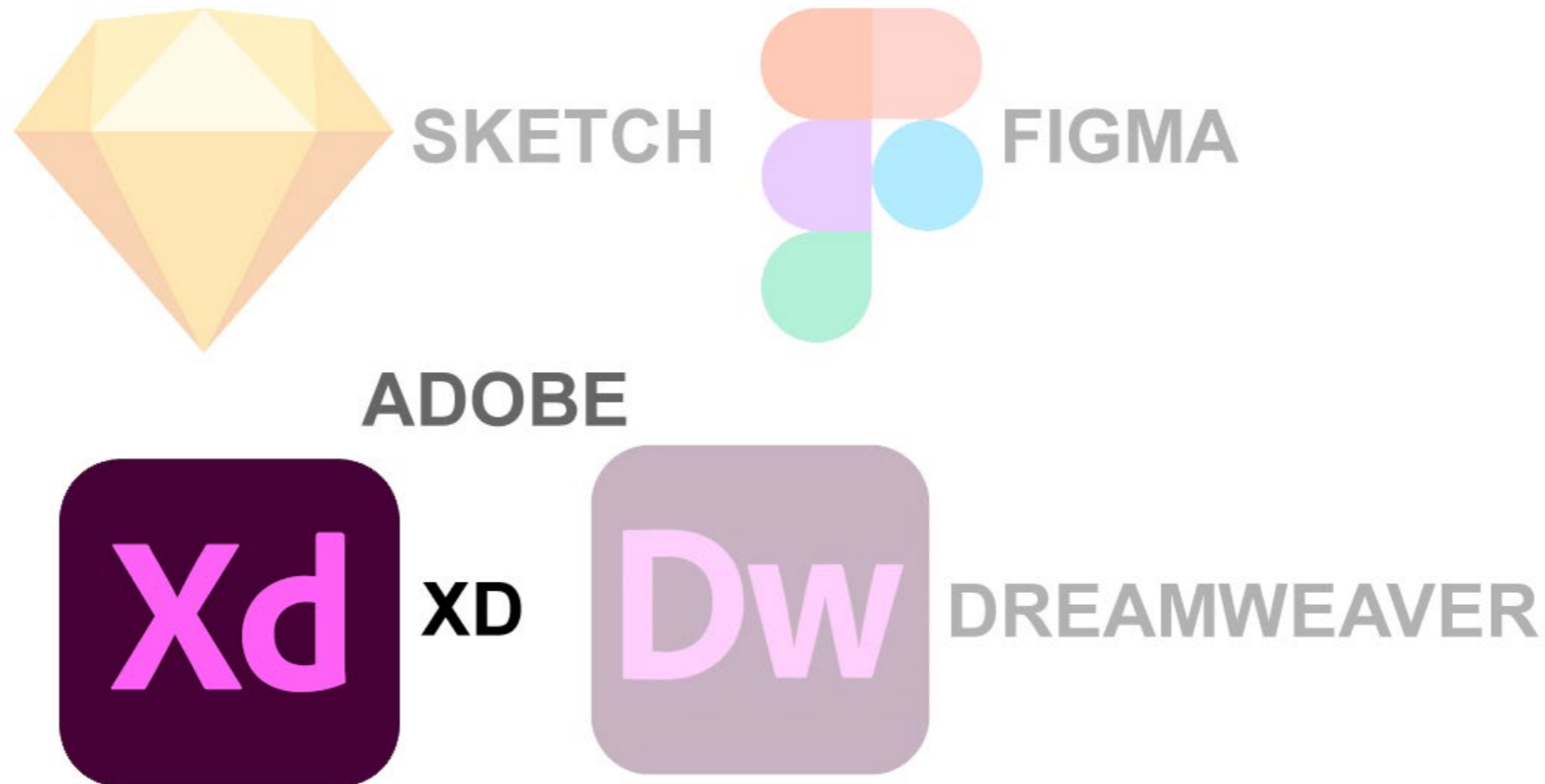
# Facets UX Prototyping Tools



## **Figma (Medium Fidelity Tool):**

- A cloud-based design tool emphasizing real-time collaboration.
- A collaborative web application for interface design usable on any platform.
- It is a vector drawing program capable of creating scalable shapes that look great at any size.

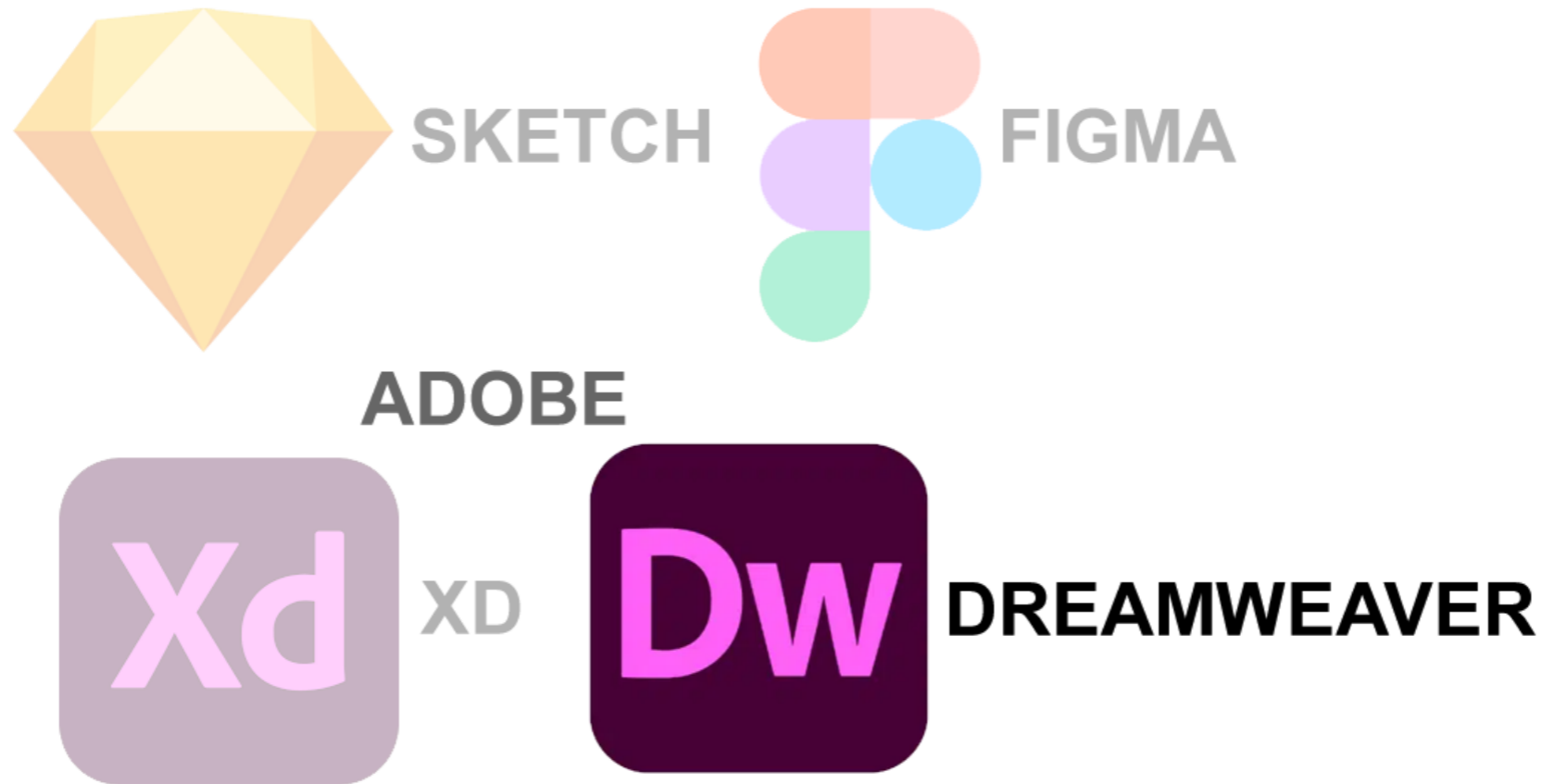
# Facets UX Prototyping Tools



## **Adobe XD (Medium/High Fidelity Tool):**

- Create medium/high fidelity prototypes
- Employs an easy-to-use vector-based experience design platform with cross-platform compatibility
- Communicate design vision and maintain alignment across teams efficiently and ability to work collaboratively

# Facets UX Prototyping Tools



## Adobe Dreamweaver:

- A what-you-see-is-what-you-get (WYSIWYG) HTML creation tool.
- An HTML editor that makes web page content easy to create and maintain.
- Used by the UX team to create high-fidelity mockups for usability testing and client demos.

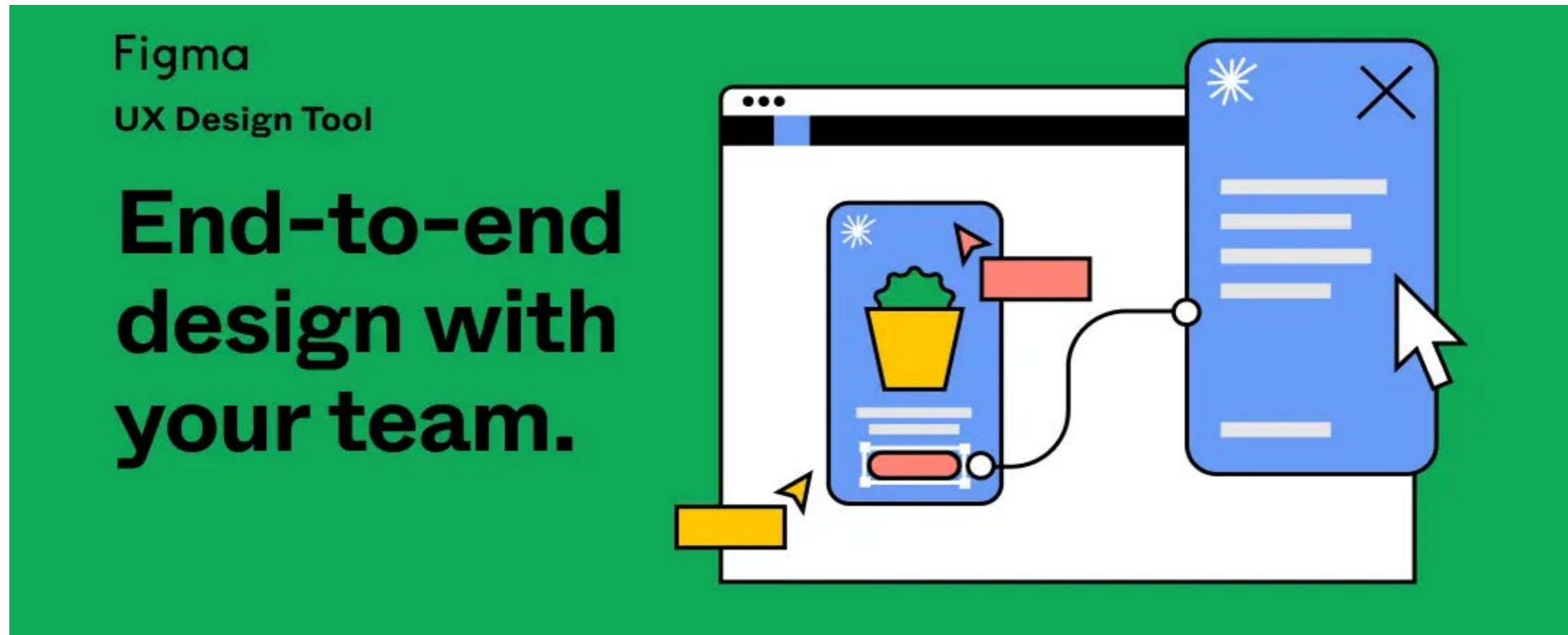
# Adobe XD Presentation



Presented by Prabhu



# Figma Introduction and Tutorial



Presented by Grace. The Figma Tutorial will be your primary lesson for this week. If you have any questions on the assignment requirements, please direct them to Grace through TMS or email, [Grace.Lopez@cognizant.com](mailto:Grace.Lopez@cognizant.com). She will be more than happy to assist.

# References

Best UX tools:

<https://bootcamp.cvn.columbia.edu/blog/ux-designer-tools/>

<https://webflow.com/blog/ui-ux-design-tools>

<https://uxcam.com/blog/ux-tools/>

UI Mockups/Prototyping:

<https://www.uxpin.com/studio/blog/what-is-a-prototype-a-guide-to-functional-ux/>

<https://www.uxpin.com/studio/blog/19-best-practices-for-faster-ui-mockups/>

<https://www.appcues.com/blog/ui-mockups-and-tools>

<https://uizard.io/prototyping/>

<https://www.protopie.io/blog/rapid-prototyping-in-ux-design>

Create Prototypes Using Figma:

<https://mockuuups.studio/blog/post/how-to-create-mockups-in-figma/>

<https://help.figma.com/hc/en-us/articles/13666942319127-Create-a-basic-wireframe-and-prototype>

<https://designcode.io/figma-handbook-ui-wireframe>

<https://www.cprime.com/resources/blog/how-to-create-your-first-ui-design-app-in-figma/>