

# Human-Centered Design

*Designing tools for the user experience*

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**Why is design thinking  
and framing important?**

# INTRODUCTION | Thought Exercise

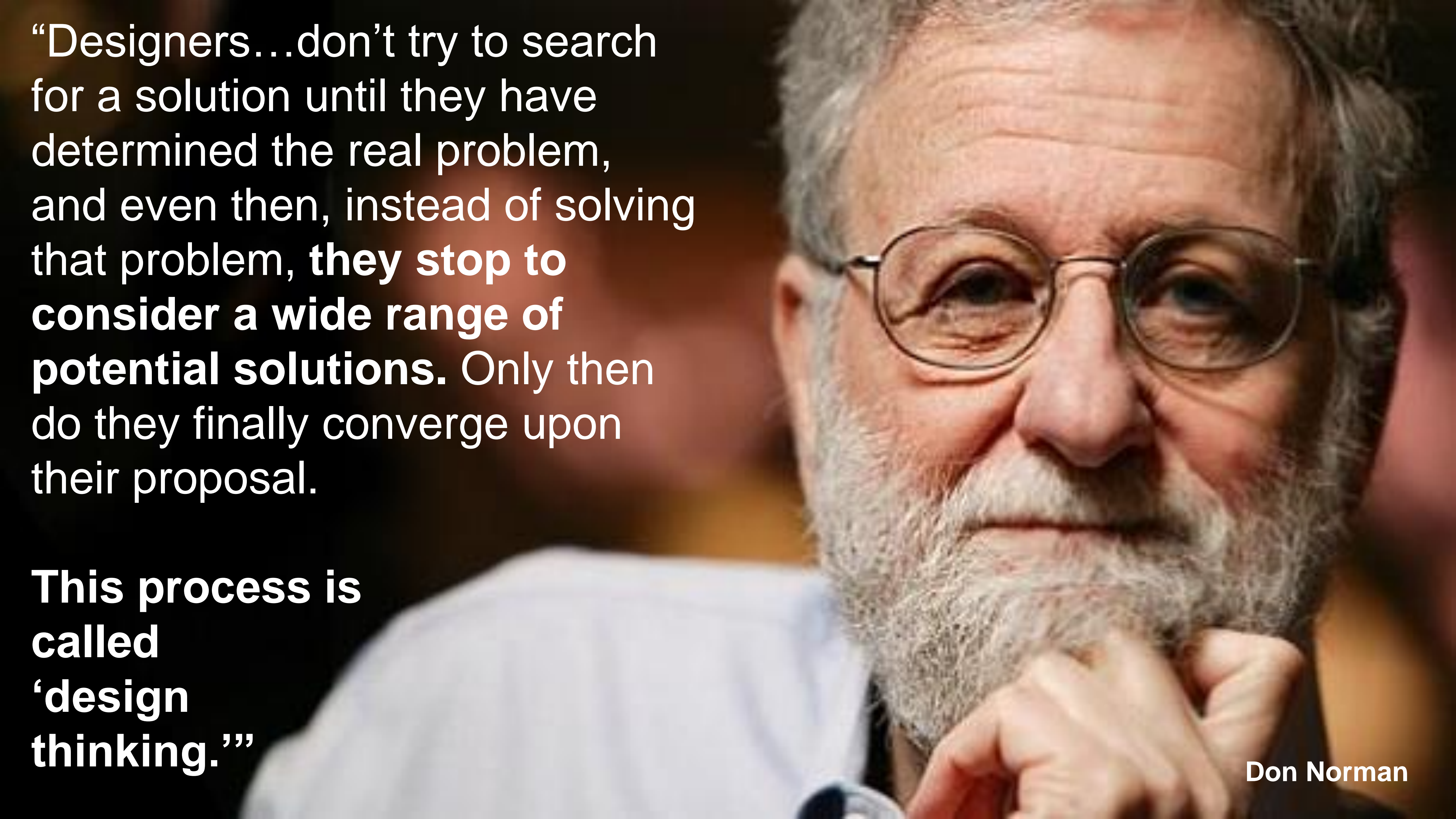
Take 1 minute to **design a vase...**

## INTRODUCTION | Thought Exercise

**Take 1 minute to design a better way for people to enjoy flowers in their home...**







“Designers...don’t try to search for a solution until they have determined the real problem, and even then, instead of solving that problem, **they stop to consider a wide range of potential solutions.** Only then do they finally converge upon their proposal.

**This process is called ‘design thinking.’”**

**Don Norman**

Why do we care **what users think** when we're designing?

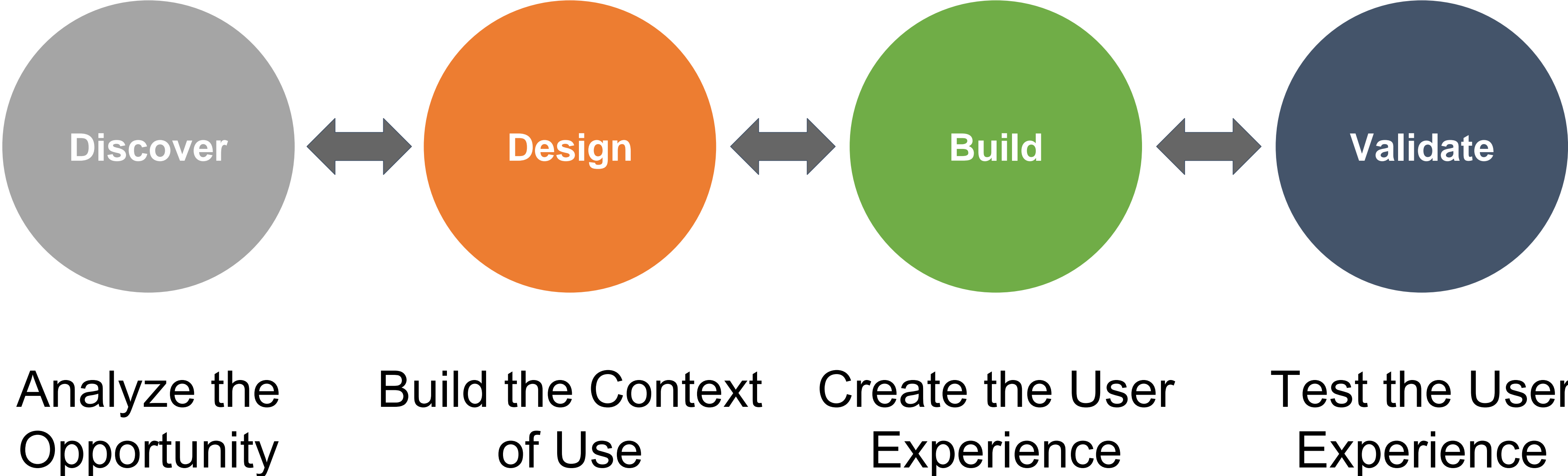


An aerial view of a park or campus walkway. A person in dark clothing is walking away from the camera on a dirt path, carrying a red bag. The path is bordered by green grass and a paved walkway. In the background, there are several wooden benches and a young tree. The scene is brightly lit, suggesting a sunny day.

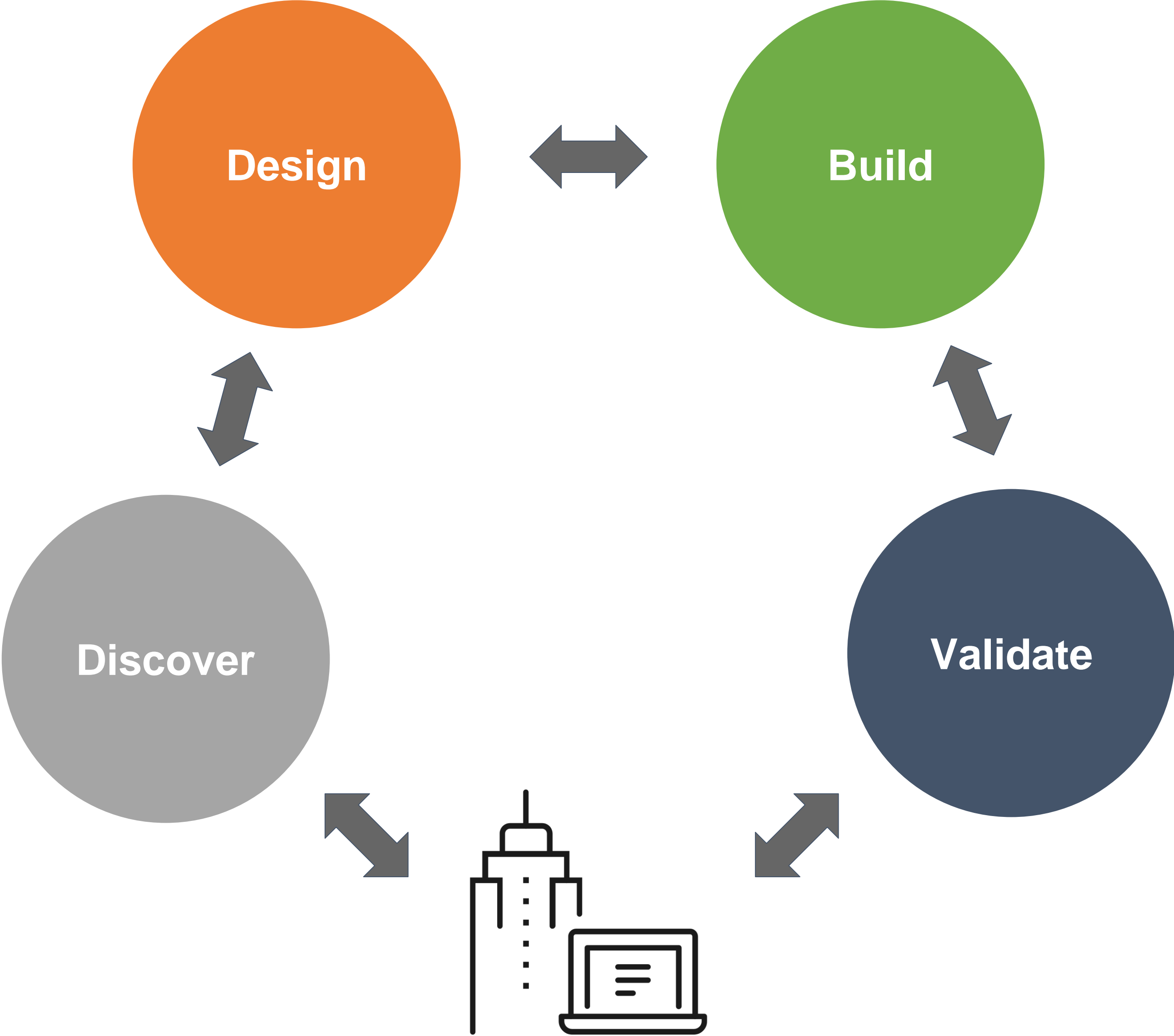
User experience

Design

# UX Design | Process

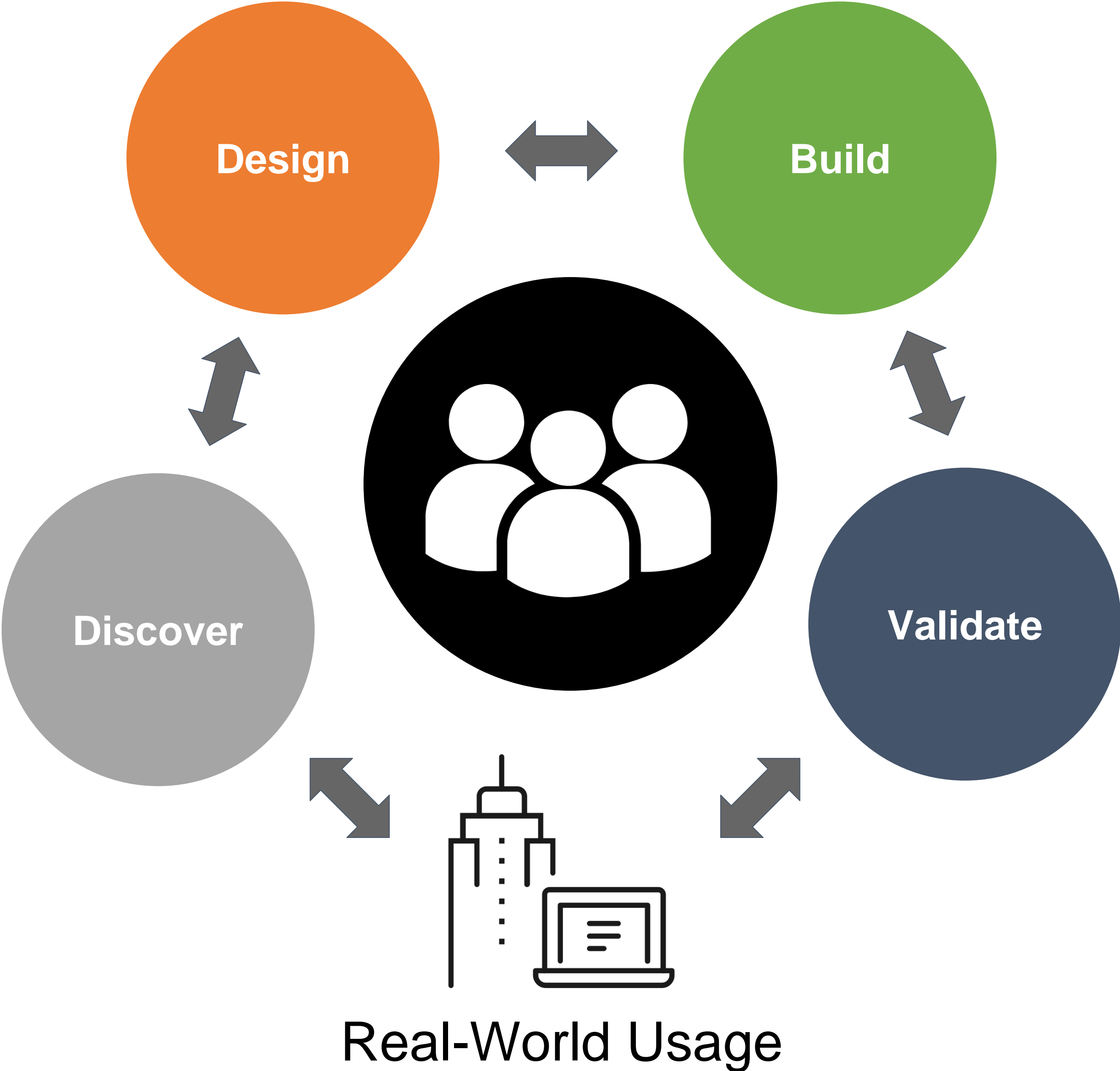


# UX Design | Process



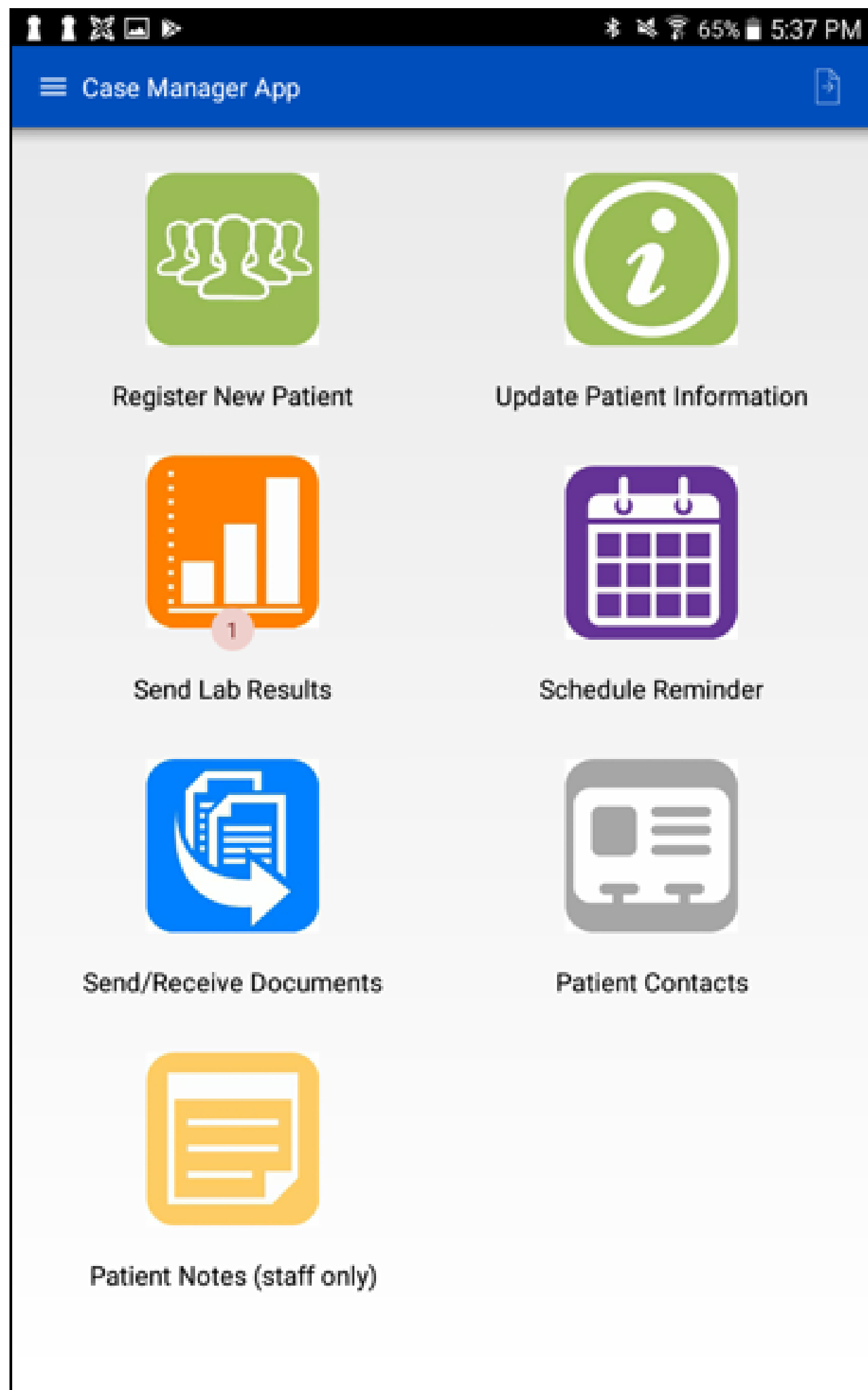
Real-World Usage

# UX Design | Process



**Objective:** Build an application that serves HIV case managers and the young patients they work with

# UX DESIGN | Case Example

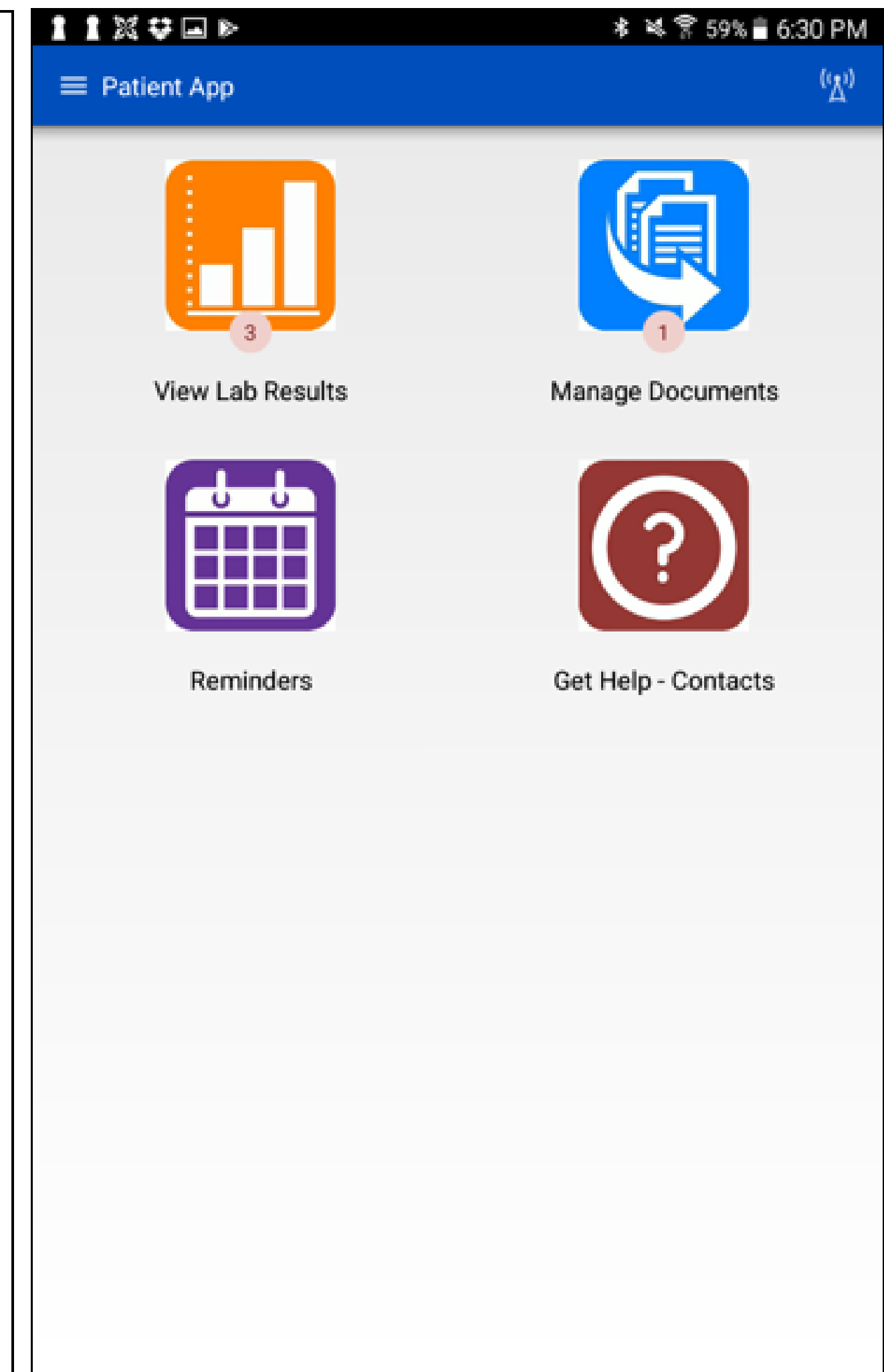


## Case Manager

- 1) Register a patient / update patient info
- 2) Send their patients a lab result
- 3) Schedule reminders (SMS or in-app) for their patients
- 4) Send unsigned documents and receive signed documents from patients
- 5) Log contacts that their patients should have saved

## Patient

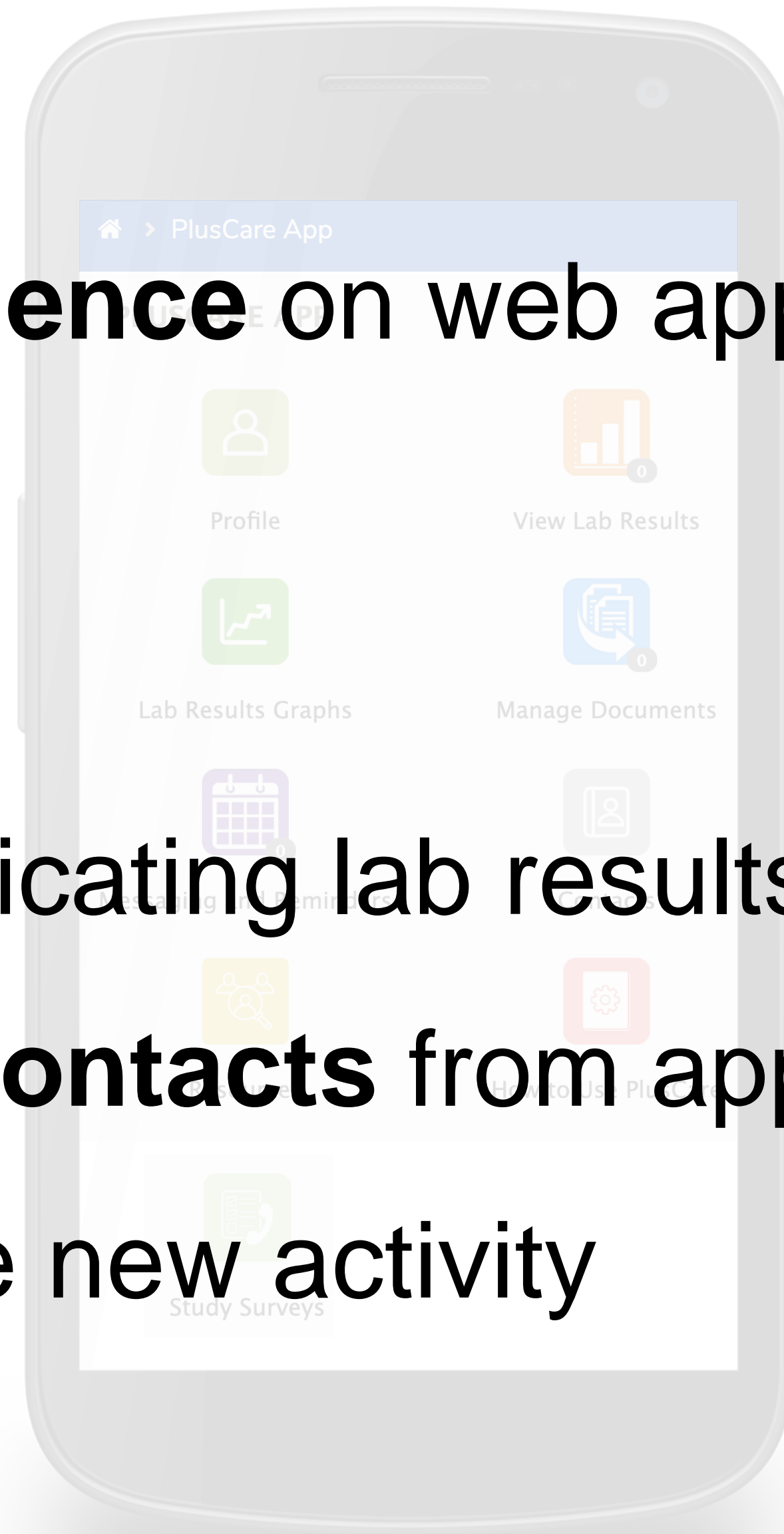
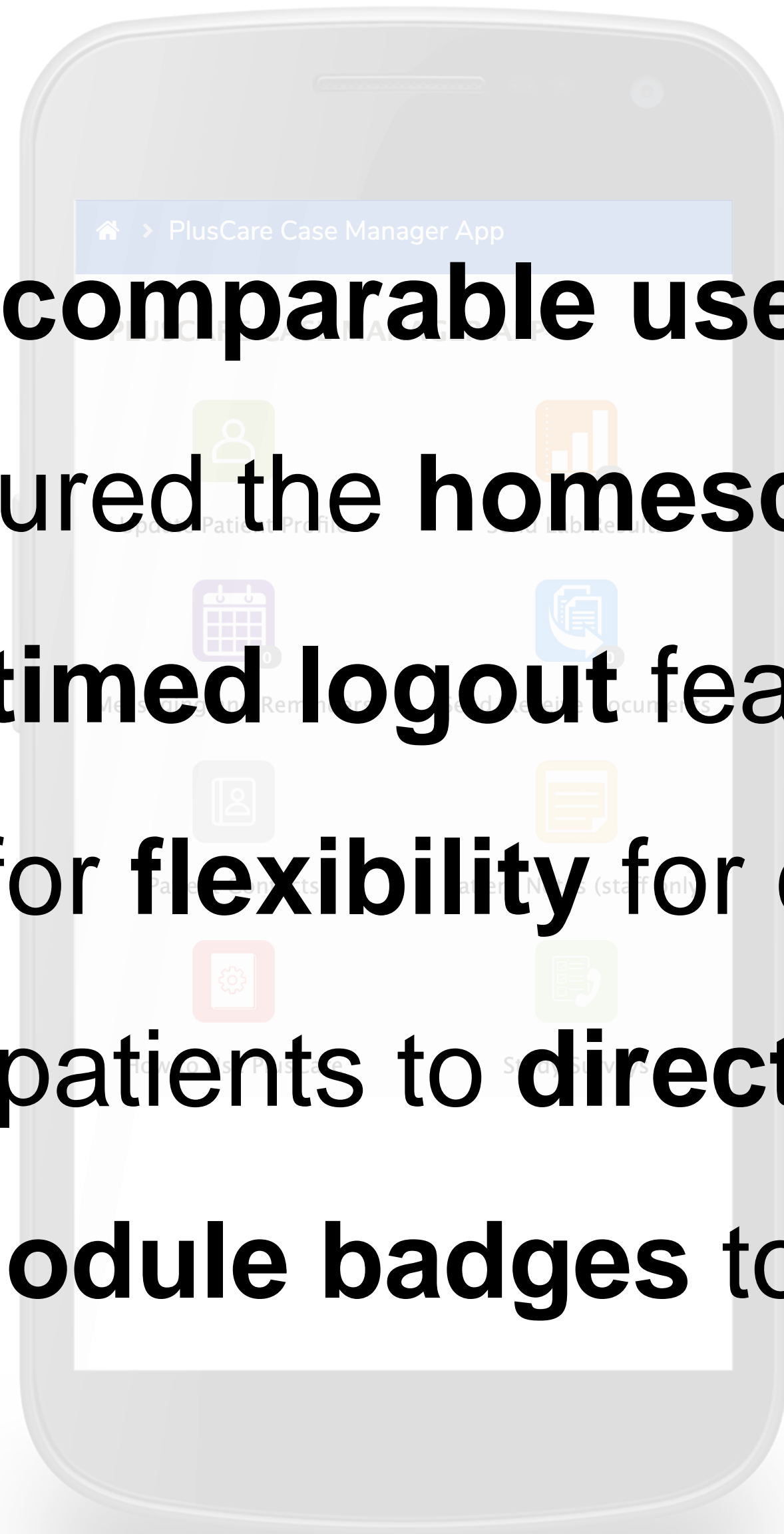
- 1) Receive and view their lab results sent by their case manager
- 2) Receive and sign documents, and send them back to their case manager
- 3) View new reminders sent by their case manager
- 4) View contacts that are registered by their case manager



**How did user feedback  
translate into action?**

# UX DESIGN | Case Example

- Ensured **comparable user experience** on web apps
- Reconfigured the **homescreen**
- Created **timed logout** feature
- Allowed for **flexibility** for communicating lab results
- Enabled patients to **directly call contacts** from app
- Added **module badges** to indicate new activity





# UX DESIGN | Methods

**DISCOVER** | Literature search...Market research...Site Visit...Group or 1:1 Interviews...Journey Mapping...Storyboarding  
| **DESIGN** | User Personas...User Stories...Card Sorting...Reverse Card Sorting | **BUILD** | Low-fidelity prototype (e.g., mockup, wireframe)...High-fidelity prototype | **VALIDATE** | Walkthroughs...Usability Testing...A/B (or multivariate testing)...Diary studies...Visual preference...

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testing)...Diary studies...Visual preference...

# Why conduct interviews at the beginning of the design process?

- **Assess** user needs
- **Capture** workflow
- **Identify** potential barriers and facilitators

## Preparing for an effective interview...

- 1. Define** the goal of your project (e.g., app)
- 2. Determine** if 1:1 or group interviews would be more appropriate
- 3. Create** an interview guide
- 4. Recruit** up to 10 stakeholders and/or potential end users
- 5. Plan** a feasible way to collect and analyze data

## Structuring the interview guide...

- Introduce yourself
- Explain the project goal and objectives of the interview
- Consent
- Survey
- Conduct the conversation
- Conclusion
- (Payment)

## Designing the interview probes...

- Ask open-ended questions
- Avoid leading questions
- Encourage story-telling
- Acknowledge emotion
- Avoid interrogation
- Encourage critical feedback

# WORKSHOP

Design a qualitative interview

## WORKSHOP | Design a qualitative interview

*Self-monitoring has been shown to promote dietary changes through increasing an individual's awareness of their daily food intake.*

**Task:** Conduct an interview with a potential target end user to inform the design of a mobile app that can be used to keep a log of food items eaten everyday and provide feedback on eating behaviors.

1. Review interview questions and interview your partner. (10 mins)
2. Revise the interview questions. (10 mins)
3. Interview your partner. (10 mins)
4. Reflect/Debrief. (10 mins)



# WORKSHOP | Design a qualitative interview

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**Task:** Conduct an interview with a potential target end user to inform the design of a mobile app that can be used to keep a log of food items eaten everyday and provide feedback on eating behaviors.

1. Introduce yourself.
2. Explain the project goal and objectives of the interview.
3. Obtain consent.
4. Conduct interview. (*Take notes!*)
  - a. Do you eat 3 meals a day?
  - b. Why do you think you are a not a healthy eater?
  - c. How much would you love using your smartphone to log the food that you eat?
  - d. Would you like to see feedback on your daily food consumption as a bar graph or a line chart?
  - e. If I designed this app for you, why wouldn't you use it?
5. Conclude.

10 mins 

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1. Introduce yourself.
2. Explain the project goal and objectives of the interview.
3. Obtain consent.
4. Conduct interview. (*Take notes!*)

**[Use your revised interview probes.]**

1. Conclude.

10 mins 

# WORKSHOP | Design a qualitative interview

Do you eat 3 meals a day?

How many times do you eat a day? Tell me a little bit about what you eat and when.

Why do you think you are a not a healthy eater?

What do you feel is considered healthy eating? Based on this, do you feel you are a healthy eater? How so?

How much would you love using your smartphone to log the food that you eat?

How would you feel about using a smartphone to log the food that you eat?

Would you like to see feedback on your daily food consumption as a bar graph or a line chart?

If you had a way to view a summary of what you eat, when, and how much, what would you like to see?

If I designed this app for you, why wouldn't you use it?

What might prevent you from using an app to help with healthy eating?

Design *with* your users, not just for them.

# REFERENCES

McNiff, K. (2017). [Are you really listening? Tips for conducting qualitative interviews.](#) *QSR International NVivo*.

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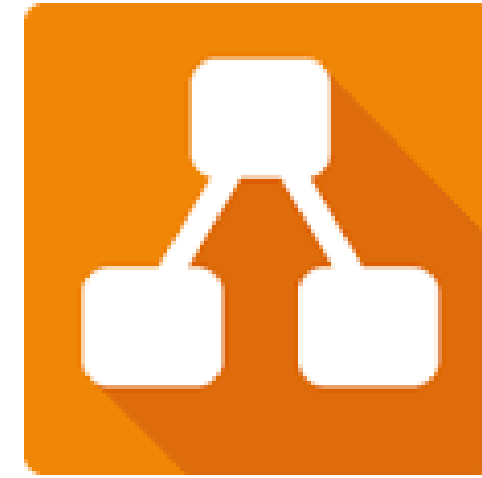
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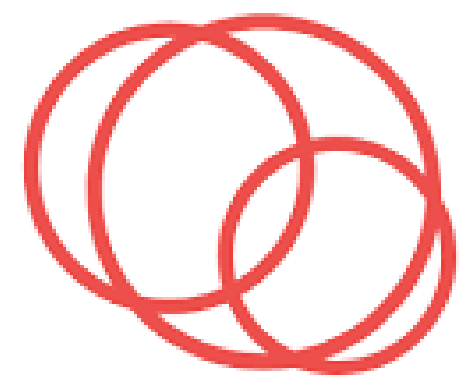
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# HELPFUL TOOLS



**draw.io**



**dedoose**  
Great Research Made Easy

**NVIVO**

**Thank you!**

Xian Ho

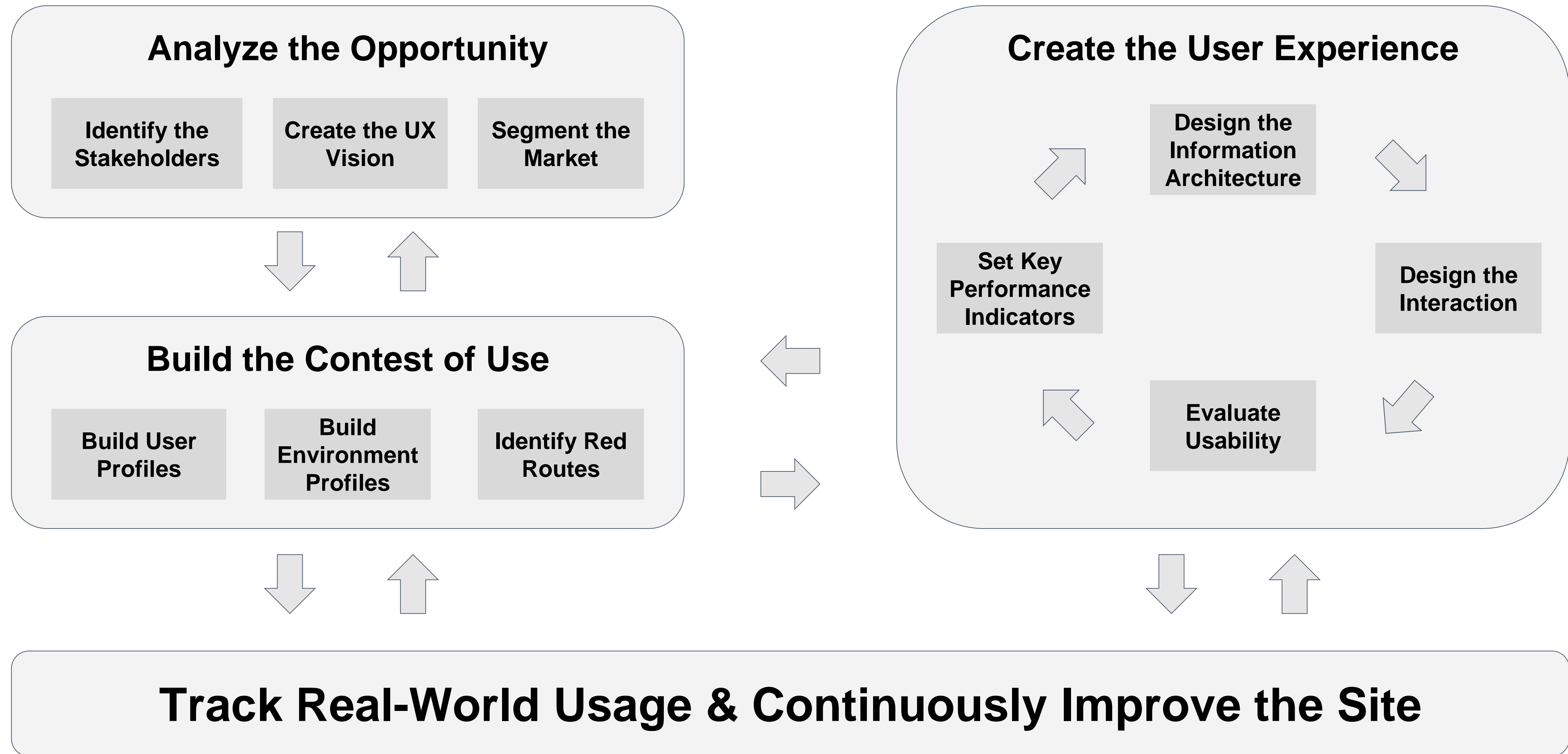
[yho@dimagi.com](mailto:yho@dimagi.com)





**EXTRA SLIDES**

# UX Design | E-Commerce Usability Framework



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

**Goal:** Identify any usability problems, collect qualitative and quantitative data and determine the user satisfaction with the product.

### Running a usability test...

- Create an interview guide
- Plan on duration of ~1 hour
- Recruit 5 representative users
- Identify 2 team members to lead the session (Moderator, Notetaker)
- Be prepared to collect usability metrics
- Provide compensation for users (if possible)

## Usability Testing Format

1. Welcome and Purpose
2. Introduction
3. Consent
4. Test Facilitator's Role
5. Test Participant's Role
6. Task List
7. Survey
8. Open-Ended Questions