

# Welcome

## *Design Thinking*

Abbas Moallem, Ph.D.

**It is only with the heart that one can see rightly; what is essential is invisible to the eye.**

Antoine De Saint-Exupery

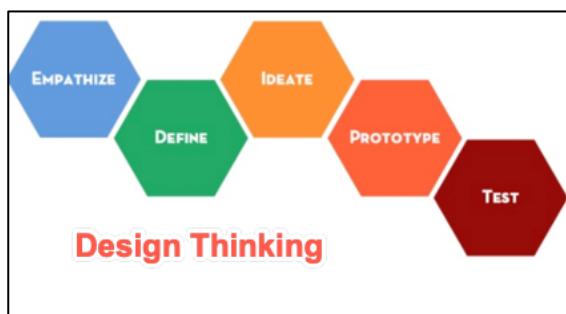
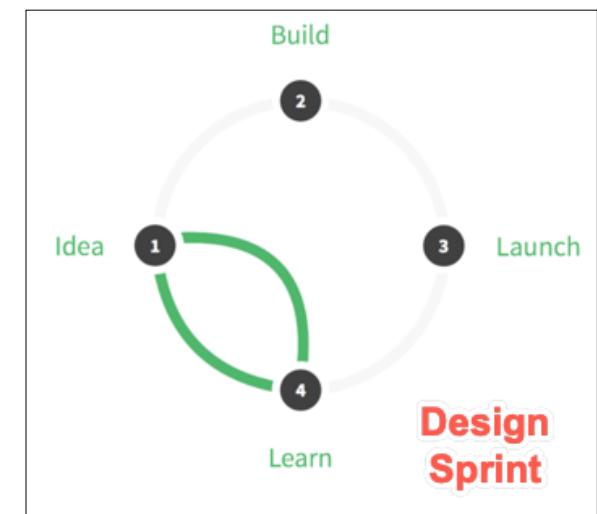
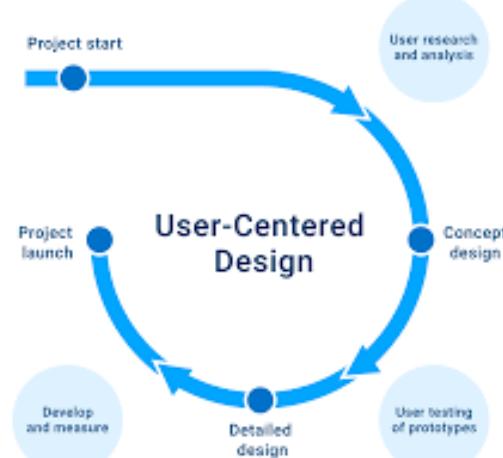
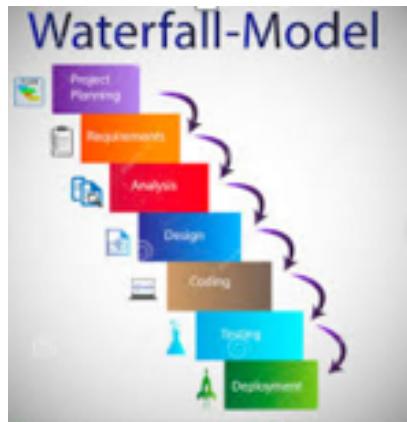
# Overview

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- **What is Design thinking**
- **5 Stages in the Design Thinking Process**
  - Empathize
  - Define
  - Ideate
  - Prototype
  - Test



# Introduction

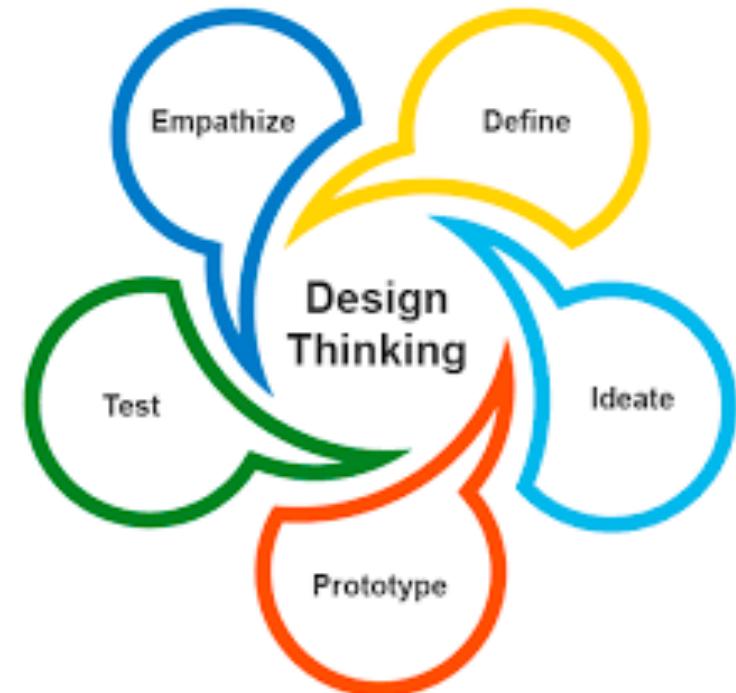


# *Design Thinking*

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**Design thinking is a process for creative problem solving. Design thinking has a human-centered core.**

**It encourages organizations to focus on the people they're creating for, which leads to better products, services, and internal processes.**

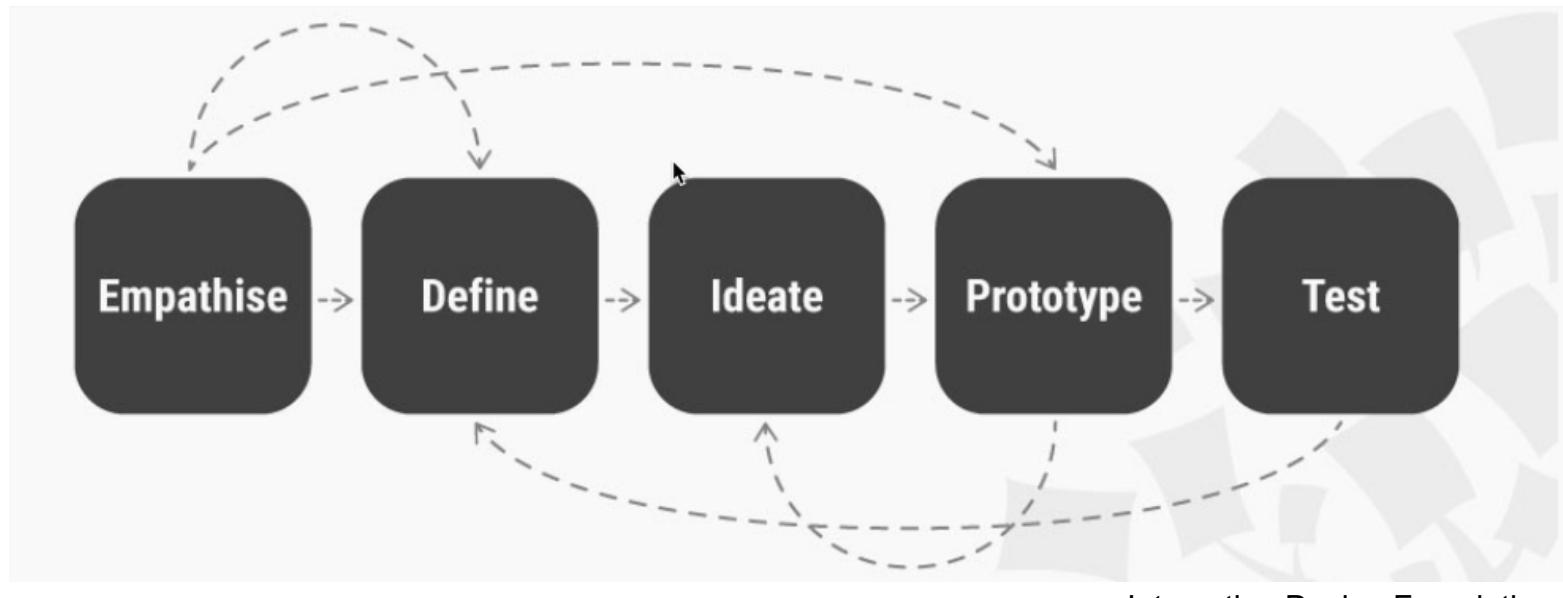


"IDEO"

<https://www.ideo.com/blogs/inspiration/what-is-design-thinking>

# *5 Stages in the Design Thinking Process*

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



# ***Step 1-Empathize***

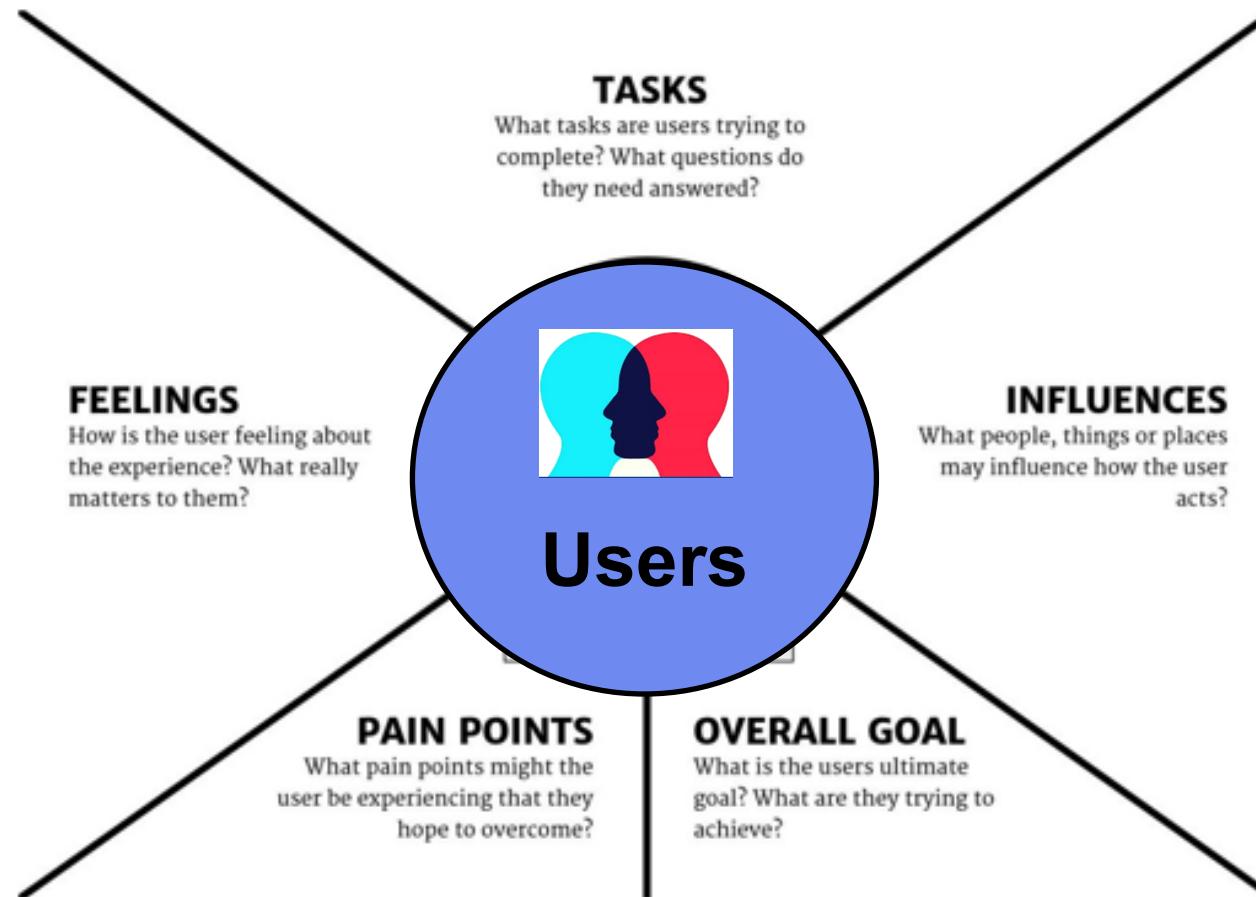
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Understand Users



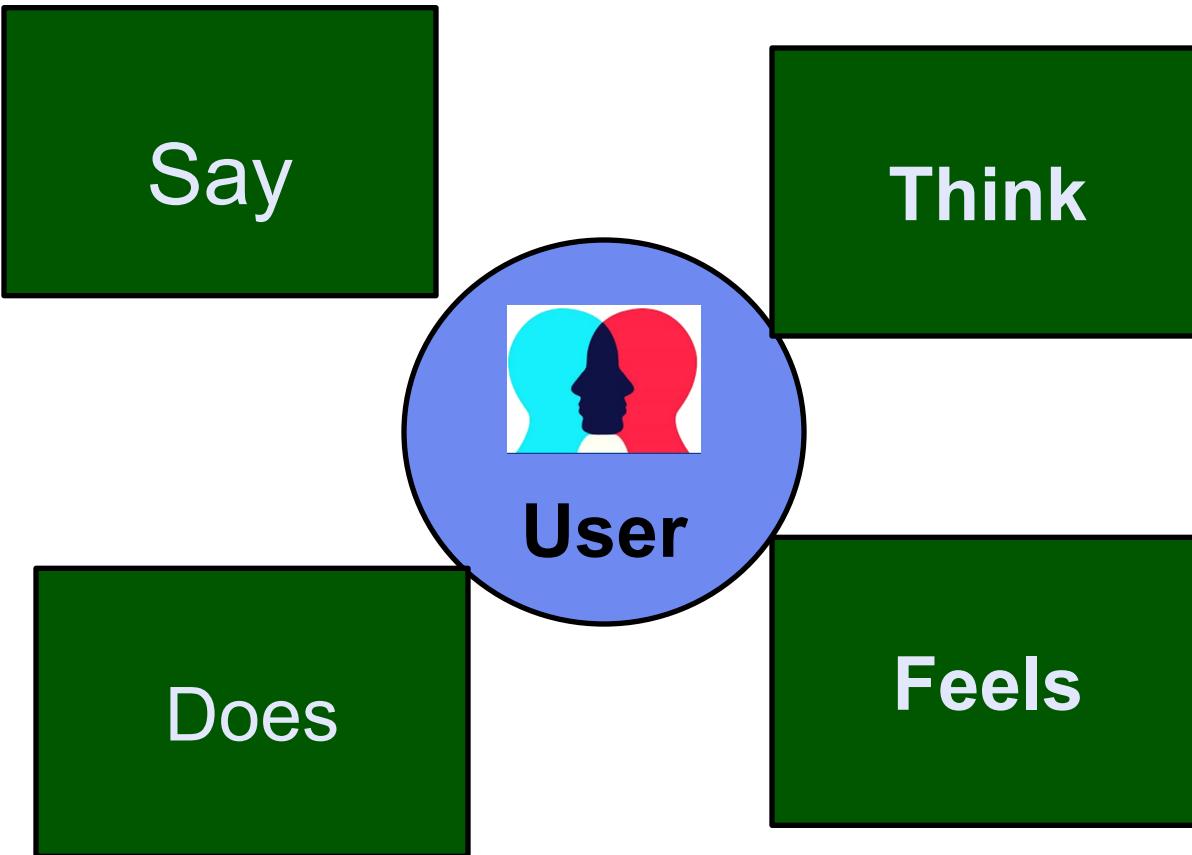
# *Understand Users*

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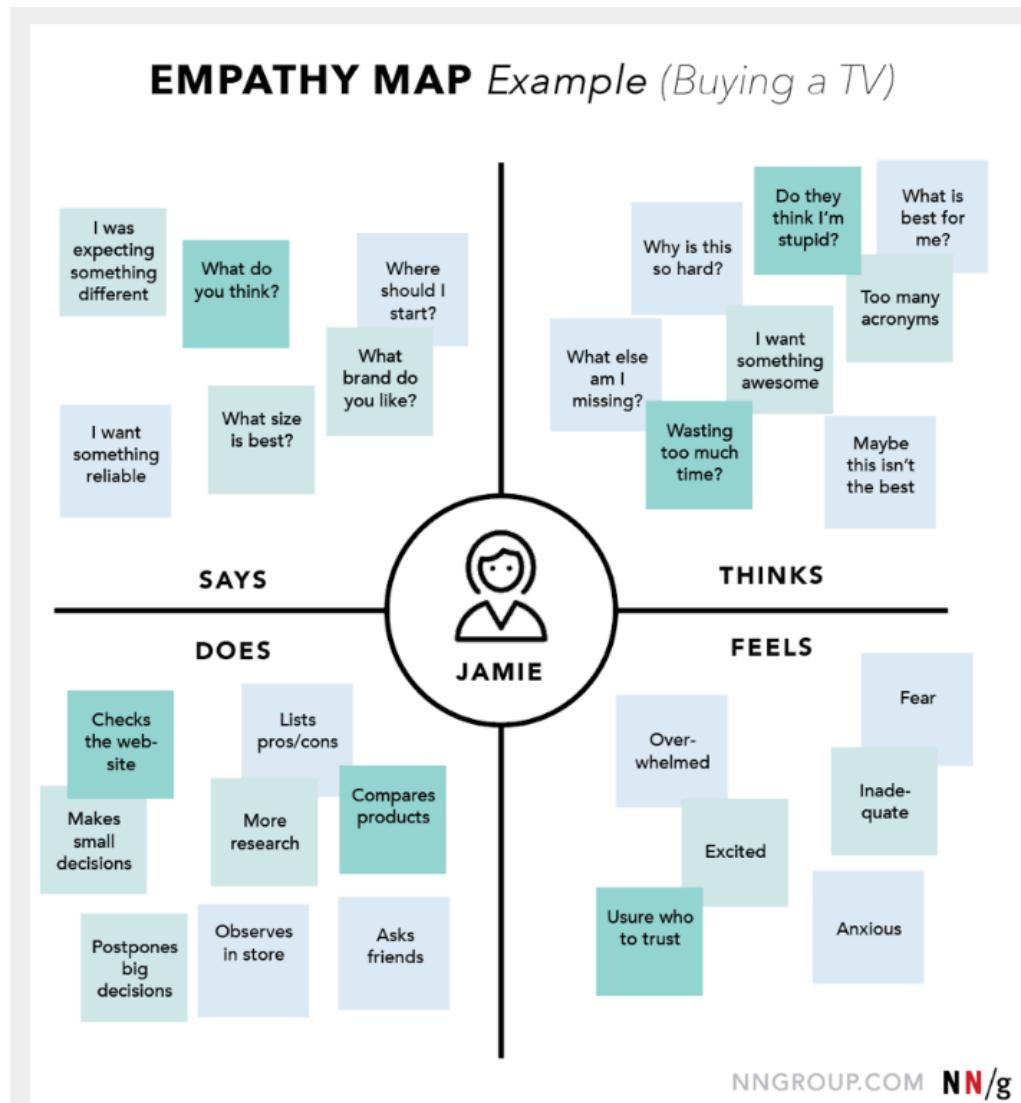


# *Empathy Map*

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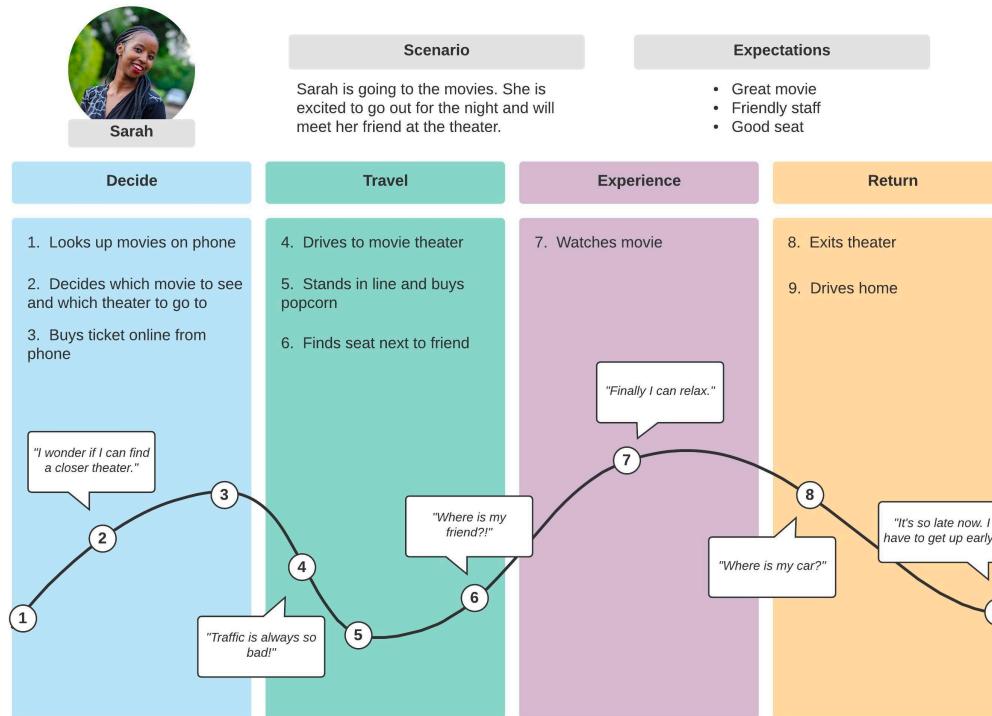
# Empathy Map Example



An example empathy map <https://www.nngroup.com/articles/empathy-mapping/>

# User Journey Mapping

## Technique to Visualization Users Daily Accomplishments



# Journey Mapping- Components

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Character,  
emotion,  
expectation

Persona/Actor

# SCENARIO

sequence of events

goal or need and  
specific  
expectations.

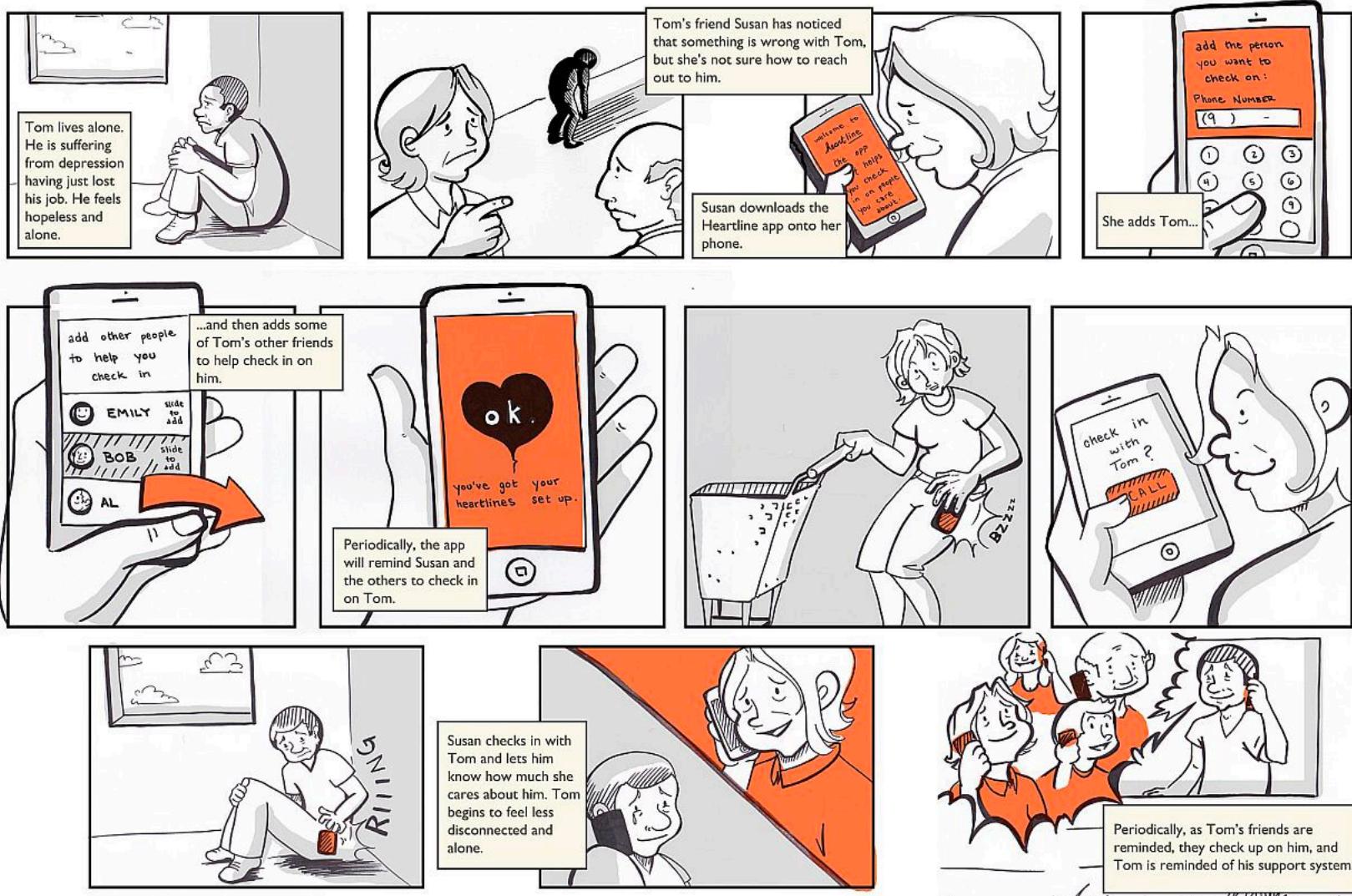


Journey  
phases are  
the different  
high-level  
stages in the  
journey

Actions, Mindsets, and  
Emotions

# Storyboarding

<https://uxplanet.org/a-beginners-guide-to-user-journey-mapping-bd914f4c517c>



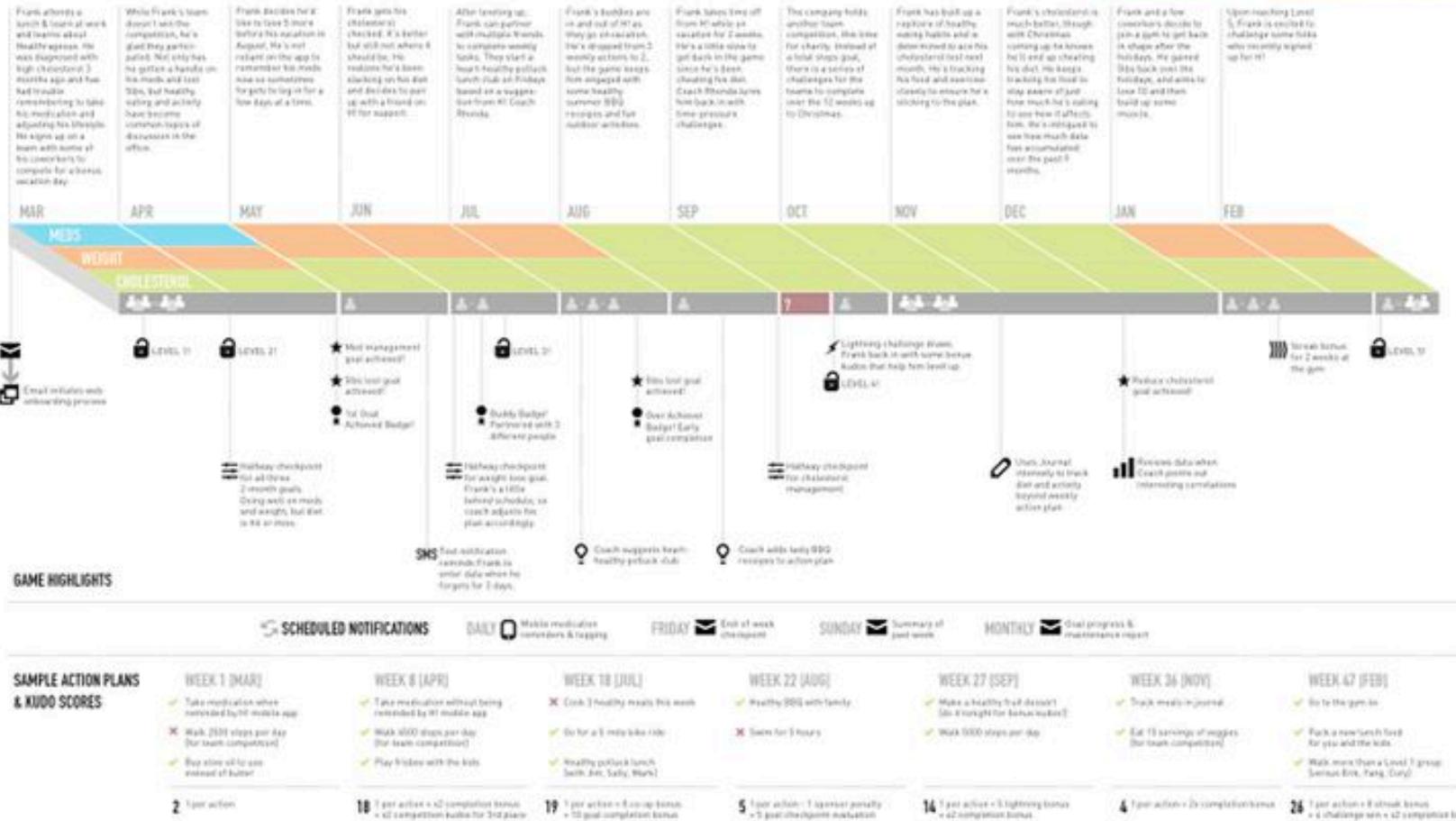
# Example

PLAYER JOURNEY Version 2  
Dec 23, 2011

mad+pow

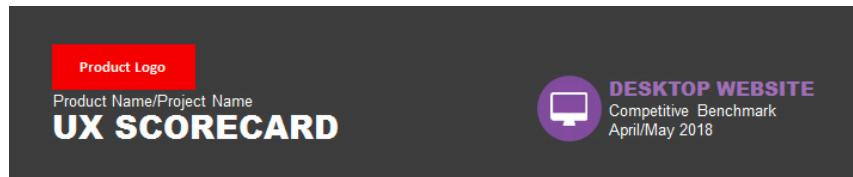
**FRANK**

43, Call Center Manager, Family Man  
Recently diagnosed with high cholesterol

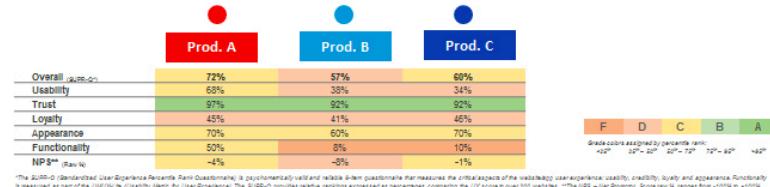


<https://uxmastery.com/how-to-create-a-customer-journey-map/>

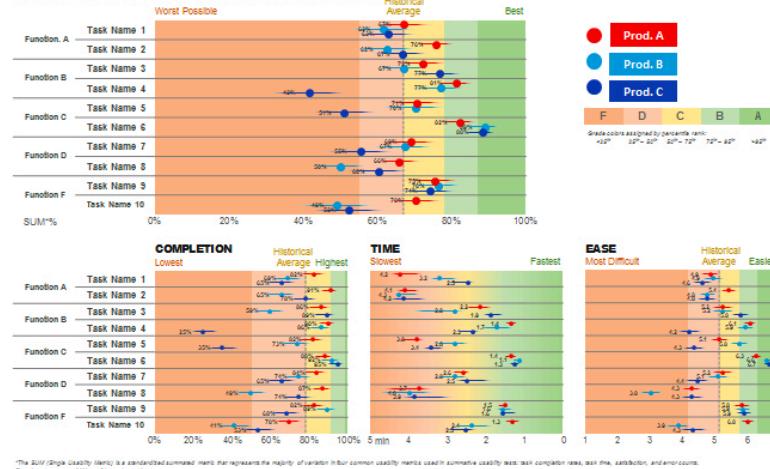
# Scorecards



## SUPR-Q: OVERALL EXPERIENCE SCORES



## SUM: TASK EXPERIENCE SCORES



**MeasuringU**  
MeasuringU.com  
MeasuringU is a research firm based in Denver, Colorado.  
MeasuringU is quantifying the user experience.

**MUIQ**  
Runux UI Testing Platform  
(Desktop & Mobile)

**UX Research**

**SUPR-Q**  
Measurement & Statistical Analysis

**Eye Tracking & Lab-Based Testing**

**BUILDING A UX METRICS SCORECARD**  
by Jeff Sauro, PhD



## **Step 2- Define**

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- Defining the core problems that that team have identified.
- Establishing features, functions that will allow to solve the problems with the minimum of difficulty.

### **D E F I N I T I O N**



# **Step 3- Ideate**

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- Generating generating ideas.
- User Needs base on observations in the Define stage.



# *Step 4- Prototype*

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Production of Low fidelity prototype for specific features





# ***Generate Design Alternatives***

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- Humans stick to what they know works
- But considering alternatives is important to ‘break out of the box’
- How do you generate alternatives?
  - ‘Flair and creativity’: research and synthesis
  - Seek inspiration: look at similar products or look at very different products



# Select among Alternatives

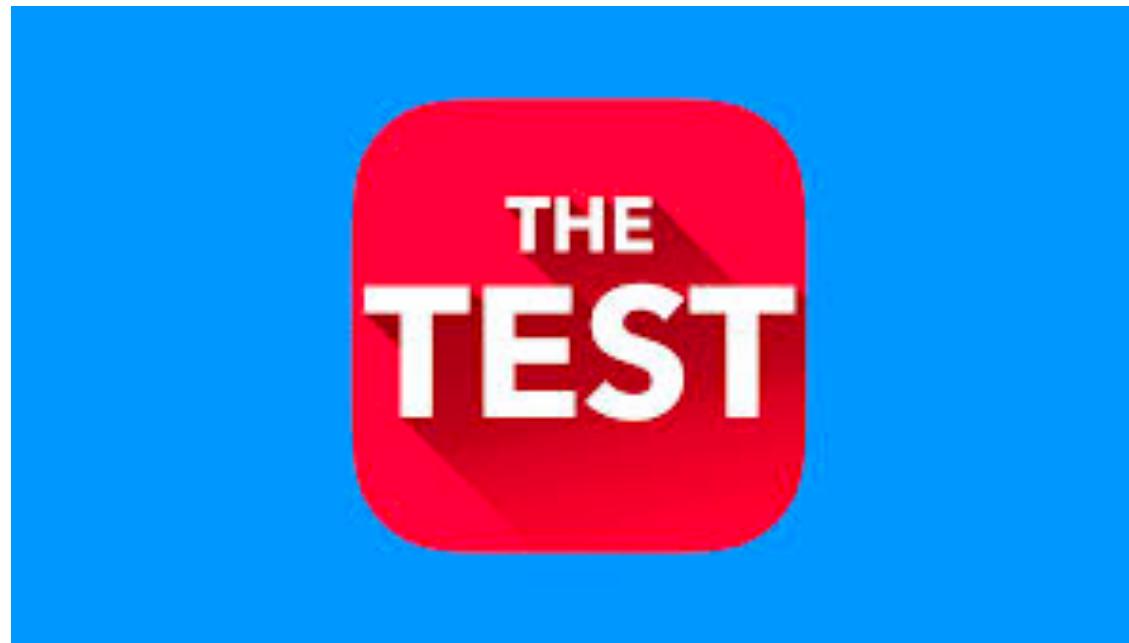
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- Evaluation with users or with peers, e.g. prototypes
- Technical feasibility: some not possible
- Quality thresholds: Usability goals lead to usability criteria set early on and check regularly
- Safety: how safe?
- Utility: which functions are superfluous?
- Effectiveness: appropriate support?
  - task coverage, information available
- Efficiency: performance measurements
- Learnability: is the time taken to learn a function acceptable to the users?
- Memorability: can infrequent users remember how to achieve their goal?

# **Step 5-Test**

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Evaluation and testing test the complete product using the best solutions identified during the prototyping phase





# ***Design Sprint***

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**Design Sprint is a five-day process to solve problems and test ideas.**

## **Participants**

- Owner Decider
- Facilitator
- Marketing expert
- Customer service
- Design expert
- Technology expert
- Financial expert

## **5 Day Program**

- Set the Stage
- Monday: Map
- Tuesday: Sketch
- Wednesday: Decide
- Thursday: Prototype
- Friday: Test

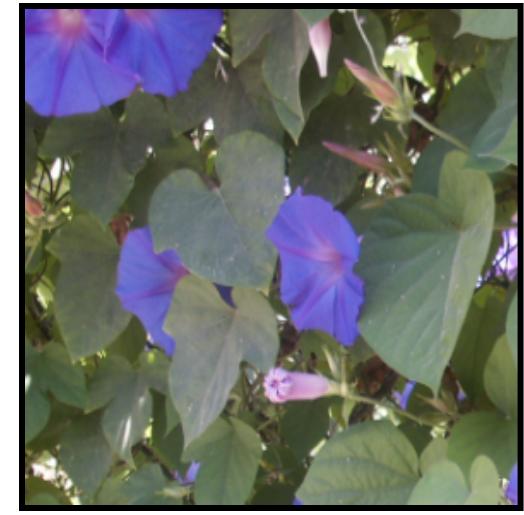


# *Summary*

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- Design thinking is a process for creative problem solving. Design thinking has a human-centered core.
- Design Sprint is a five-day process to solve problems and test ideas.





***Thanks for Your Participation***  
***...see you next week...***

# *Questions*

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# Resources

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- Course: Design Thinking - The Beginner's Guide:
  - <https://www.interaction-design.org/courses/design-thinking-the-beginner-s-guide>
- Don Norman. "Rethinking Design Thinking", 2013:
  - <http://www.core77.com/posts/24579/rethinking-design-thinking-24579>
- Tim Brown, Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation Introduction, 2009
- Bill Moggridge, "Design Thinking: Dear Don", 2010:
  - <http://www.core77.com/posts/17042/design-thinking-dear-don-17042>
- Journey Mapping 101
  - <https://www.nngroup.com/articles/journey-mapping-101/>
- Building a UX Metrics Score
  - <https://measuringu.com/ux-scorecard/>
- Templates
  - <https://uxpressia.com/templates/cjm-for-avia-travel>

# *Think Out of the box*



## MISCELLANY / THE TRUCK THAT COULDN'T

*Hoffa-hoffa-hoffa-hoffa-hoffa* throbs the engine of the big trailer truck, hurtling down from Ypsilanti and on into Ann Arbor. *Beck-beck-beck-beck-beck* clack the tires on the pavement along State Street, a sound to fill a teamster with reverie and maybe set him to thinking of pulling in soon for a bite . . . you know what the truck drivers always say: if you

want a good meal in Ann Arbor, look for a place where the University of Michigan football players eat . . . easy now, underpass coming . . . sign says 12-foot clearance . . . plenty of room—this rig stands only . . . what was the figure? . . . got it here someplace . . . ah, here . . . 12 and a half feet . . . let's see . . . that gives six inches to spare so . . . RUMPF!