

Introduction to User Experience Design

Requirement gathering findings :

User Results

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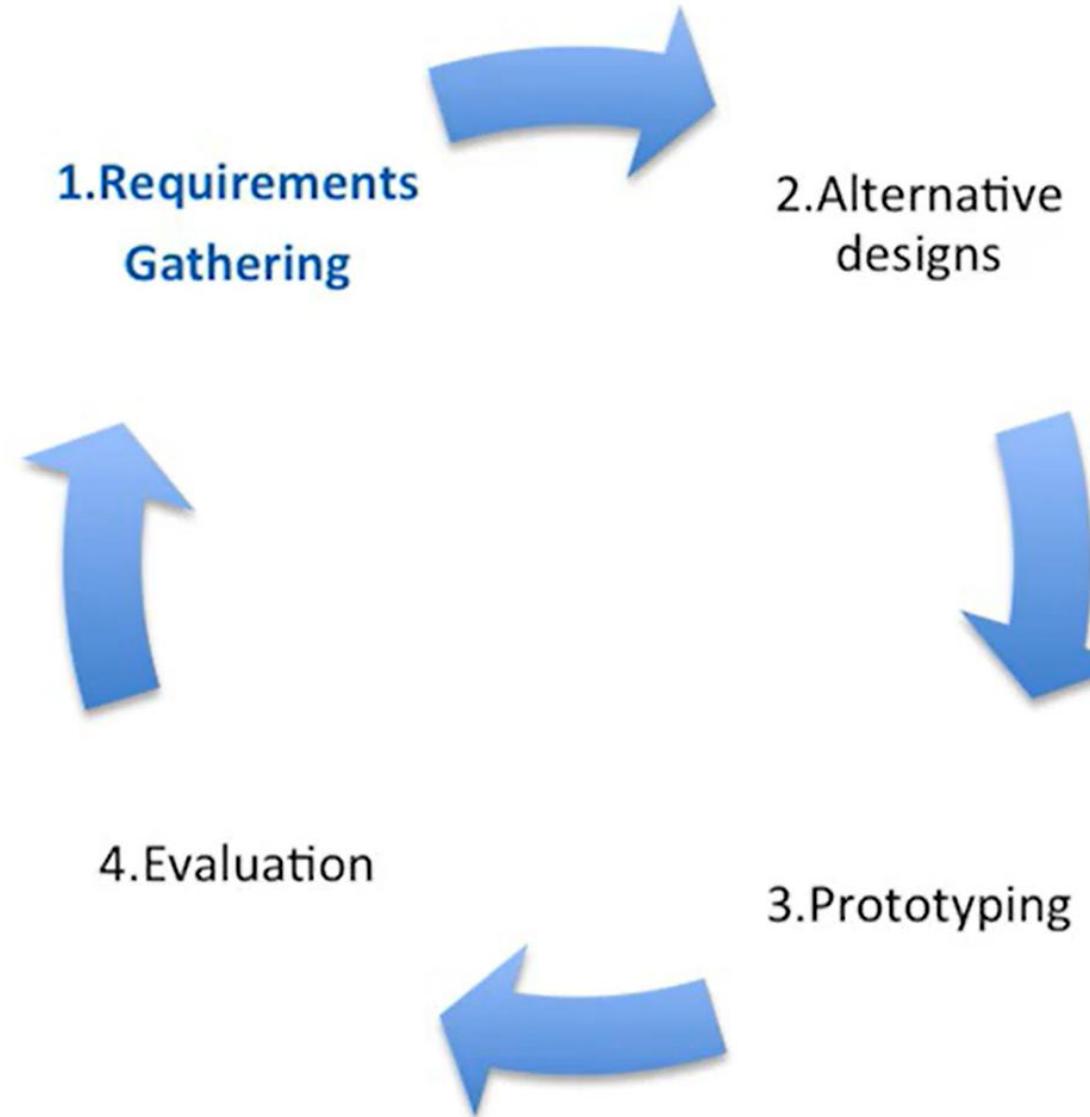
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LAB 2 – Dev/Ops - Instructions

- LAB 1
 - **Dev/Ops – Automate CI/CD pipeline**
- Components
 - Jenkins Software on Ubuntu
 - GitHub – login required for each team
 - Docker Hub – login required for each team
- Project
 - Choose your project from the Project List
 - Apply the SCRUM Framework while working on the project
- Team
 - Scrum Team with Unique ID
 - Project Owner(PO) – 1
 - Scrum Master – 1
 - Developers – 1 or 2
- Deliverable
 - Team need to demonstrate CI/CD Dev/Ops pipeline working

User interface design process



Recap

- Users use interfaces to accomplish tasks
- The first step of the design process is to understand how users are completing the task
NOW

Designer Techniques

- Discover what the user is doing now
 - Naturalistic observation survey, focus group, interview
 - Present our requirements gathering findings

Critical Note:

- The qualitative and quantitative data in the appropriate manner

Techniques to communicate RG findings

- About the User
 - Descriptive statistics
 - User Characteristics
 - Personas

Techniques to communicate RG findings

- About the User
 - Descriptive statistics
 - Range
 - Mean
 - Median

Techniques to communicate RG findings

- About the User
 - User Characteristics tables

User Characteristics table

	Teen Young Adult	Middle Age	Senior
Age	12-25	26-55	56-80
Sex			
Physical limitation			
Educational background			
Computer/It Use			
Motivation			
Attitudes			

Techniques to communicate RG findings

- About the User
 - Personas

Persona: Woman Using ATM

Sandra is 30, is married to Jason, has two children Todd(6) and Carly (18 months). They live in a subdivision that is about three miles from the town center, where the bank and stores are located. Jason uses the car for work, and works long hours, leaving at 6:45 am and returning at 8:00 pm. Sandra does not drive, so has to use public transportation. She tries to run errands and shop while Todd is in school, so she does only has to take Carly to town with her. She typically needs to make two trips to town each week to get everything done. She uses a stroller with Carly, and the bank is one flight up via escalator, so she prefers to use the ATM outside the first floor, even though there is no canopy to protect customers from bad weather.

Techniques to communicate RG findings

- About the User
 - Descriptive statistics
 - User Characteristics
 - tables
 - Personas

Introduction to User Experience Design

Requirements Gathering

Overview

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Main pitfall of Requirements Gathering (RG)

- Designers start designing alternatives when they do NOT completely understand the task, user, or how the user currently accomplishes the task

Pitfall Averted!

- Techniques to understand how the user is currently accomplishing the task
- Collected data via naturalistic observation, survey, focus group, interview

Techniques to present RG findings

- About the Task
 - Scenarios
 - Essential Use Case
 - Hierarchical Task analyses
 - Current UI Critique

Techniques to present RG findings

- About the Task (beyond descriptive statistics)
 - Scenarios
 - Essential Use Case
 - Hierarchical Task analyses
 - Current UI Critique

Critical Note:

- The qualitative and quantitative data are analyzed appropriately

Techniques to present RG findings

- About the Task
 - Scenarios
 - Essential Use Case
 - Hierarchical Task analyses
 - Current UI Critique

Scenario: Vacation Planner

“The Thomson family enjoy outdoor activity and want to try their hand at sailing during this year’s summer vacation. There are four members of the family: Sky who is 15 years old, Ted who is 17 years old, Claire who is 35, and Will who is 40. While browsing the web Claire finds a website that allows her to explore the possibilities. The site includes a web application that is called the *Travel Organizer*. She enters the family’s initial set of requirements—a sailing vacation for four novices. The system’s initial suggestion is that they should consider a flotilla holiday in the West Indies, where several novice crews go sailing together and provide mutual support for first-time sailors.”

Sharp, Rogers and Preece, 2007

Techniques to present RG findings

- About the Task
 - Scenarios
 - Essential Use Case
 - Hierarchical Task analyses
 - Current UI Critique

Essential Use Case: *Vacation Planner

Retrieve Visa Information

USER INTENTION

find visa requirements

supply required information

obtain copy of visa info

choose suitable format

SYSTEM RESPONSIBILITY

request destination and nationality

obtain appropriate visa info

offer info in different formats

provide info in chosen format

*Sharp, Rogers & Preece, 2007

Techniques to present RG findings

- About the Task
 - Scenarios
 - Essential Use Case
 - Hierarchical Task analyses
 - Current UI Critique

Hierarchical Task Analyses:

0. In order to book a flight on my favorite airline
 1. go to the website
 2. find the tab for booking a round trip
 - 2.1 enter departure/destination city
 - 2.2 enter departure/arrival dates
 3. Decide what options are best given my budget
 4. Book my flight
 - 4.1 enter frequent flyer information
 - 4.2 enter credit card information
 - 4.3 enter billing information

Techniques to present RG findings

- About the Task
 - Scenarios
 - Essential Use Case
 - Hierarchical Task analyses
 - Current UI Critique

Current UI

	What task is it used for	Clicks to complete task	What it does well	How it could be improved
Mobile apps				
Websites				
kiosk				

Current UI- Various Tasks for Airline UI

	What task is it used for	Clicks to complete task	What it does well	How it could be improved
Mobile app- Check in or Boarding pass				
Website-to book flight or check prices				
Airport kiosk- if all else fails!				

Current UI

Check in	What task is it used for	Objective measures of performance- Clicks to complete task	What it does well	How it could be improved
Mobile apps				
Websites				
Airport kiosk				

Current UI

	What task is it used for	Objective measures of performance-	What it does well - use both objective & subjective measures	How it could be improved Use both objective & subjective measures
Mobile apps				
Websites				
Airport kiosk				

Techniques to present RG findings

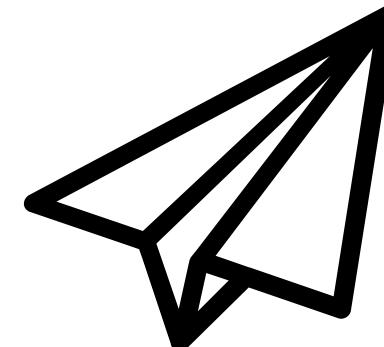
- About the Task
 - Scenarios
 - Essential Use Case
 - Hierarchical Task analyses
 - Current UI Critique

Introduction to User Experience Design

Review of Design Goals

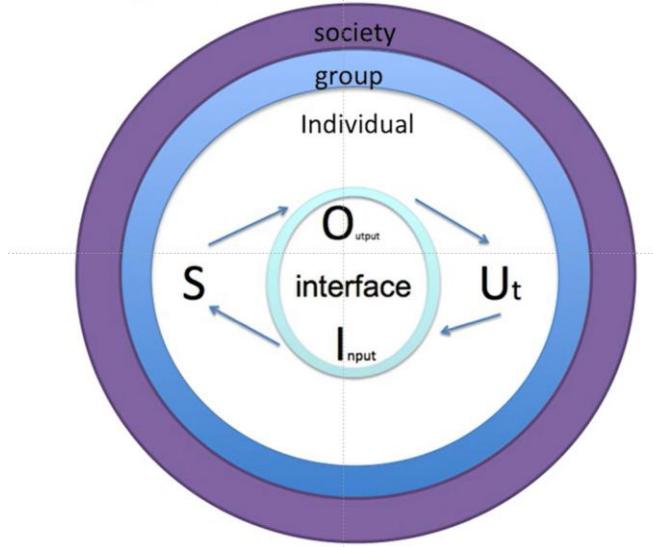
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LAB 1 – UX Design - Instructions

- LAB 1
 - **UX Design**
- Components
 - JIRA Software , Web based Free/Community Edition
 - Each teams configure one JIRA instance
 - Suggest you always use your private gmail account in Jira
- Project
 - Choose your project from the Project List
 - Apply the SCRUM Framework while working on the project
- Team
 - Give a unique name for your team – you might use this name in Jira software
 - Project Owner(PO) – 1
 - Scrum Master – 1
 - Developers – 1 or 2
- Deliverable
 - Team need to present the Final Solution Prototype in the last week of March



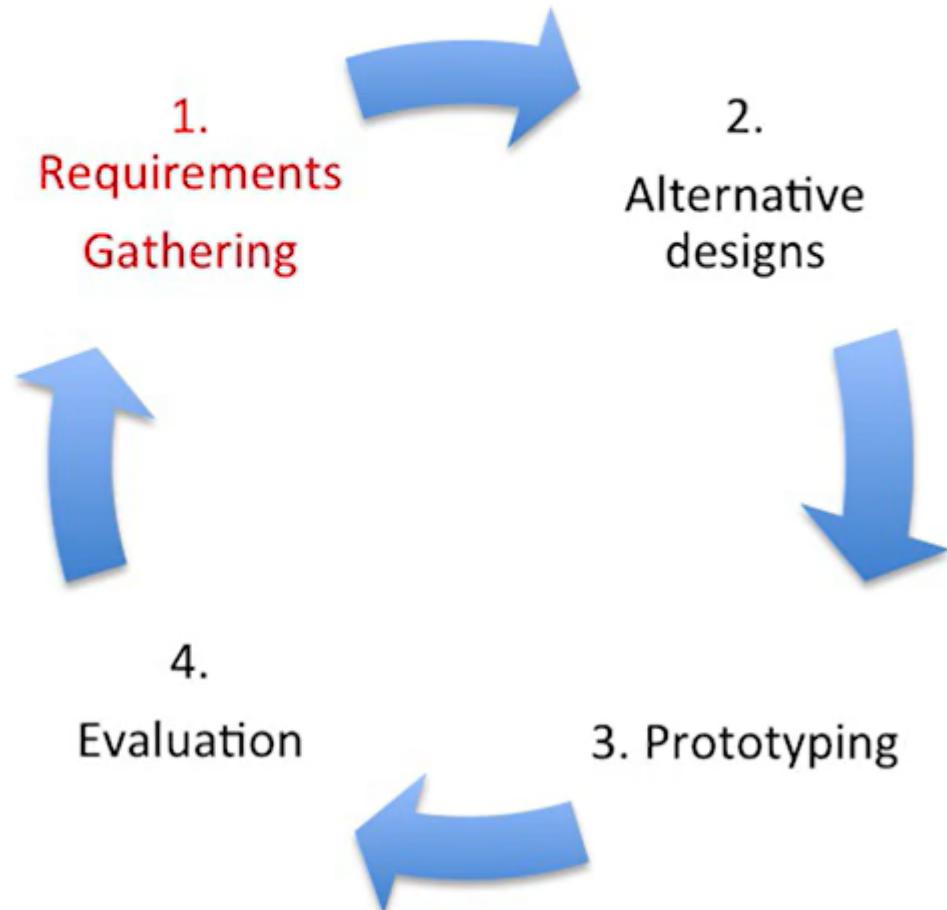
SCRUM



Core concept of User Experience design

- Users use interfaces to accomplish a task

User Interface Design Cycle



Design

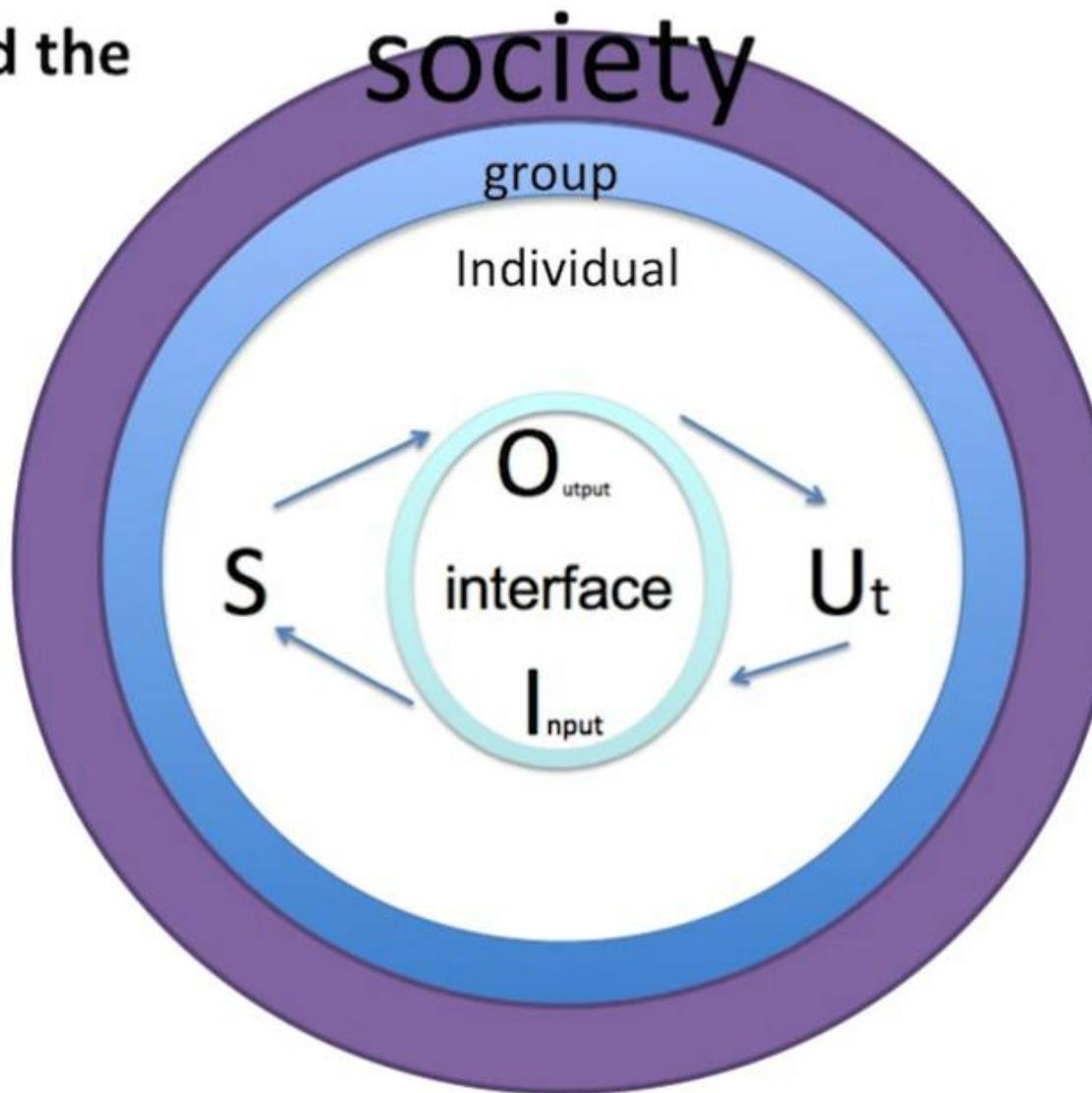
- The development of novel creation to meet some need

Novel Design

- Goal: Will be better at meeting the needs of the user than the existing design

Improving the User Experience

by keeping in mind the



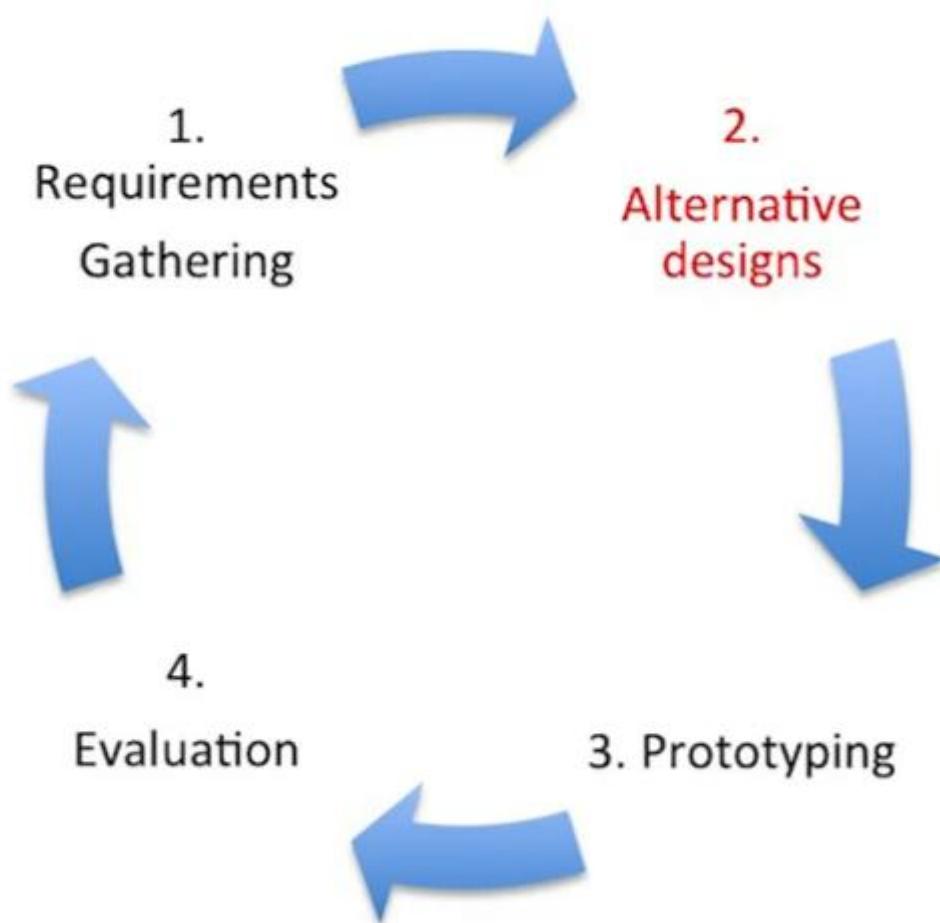
Goal of User Experience Design

- Design interfaces that are useful and usable
- Useful - allows a user to complete a task
- Usable – "...refers to the effectiveness, efficiency, and satisfaction with which users can achieve tasks when using an [interface]" (Courage, Baxter & Caine, 2015)

Designing Alternatives

- Develop novel interfaces to improve the user experience

User Interface Design Cycle



Introduction to User Experience Design

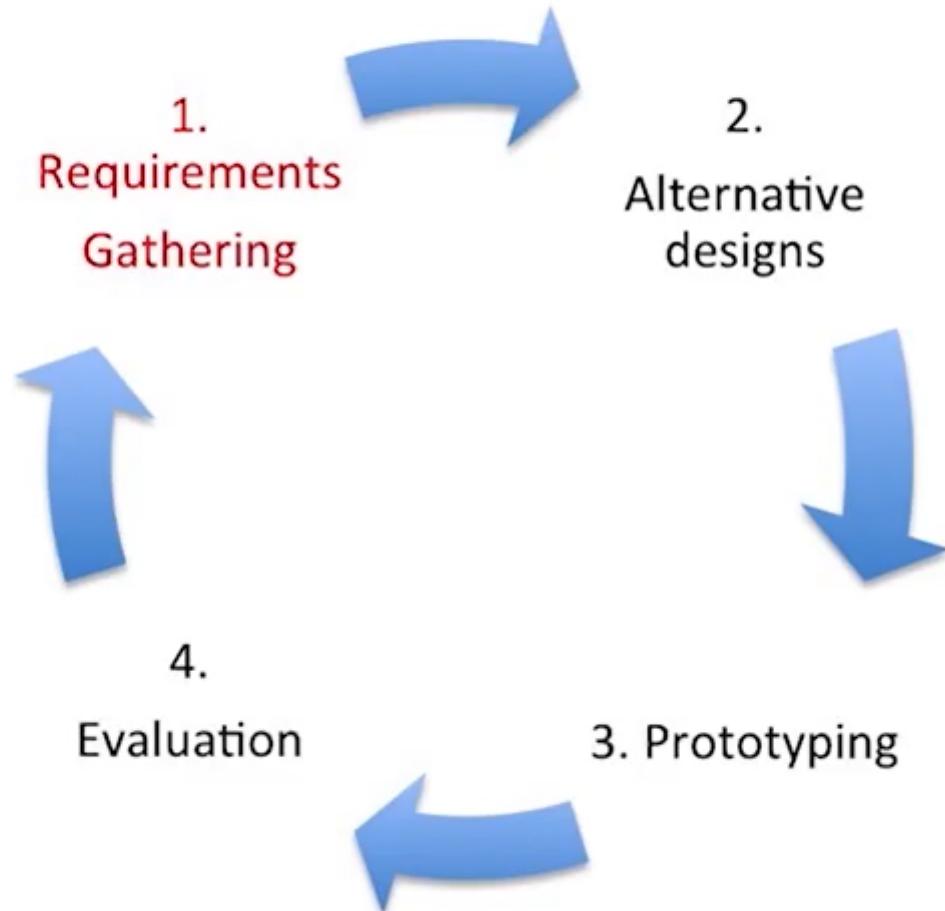
Design Alternatives

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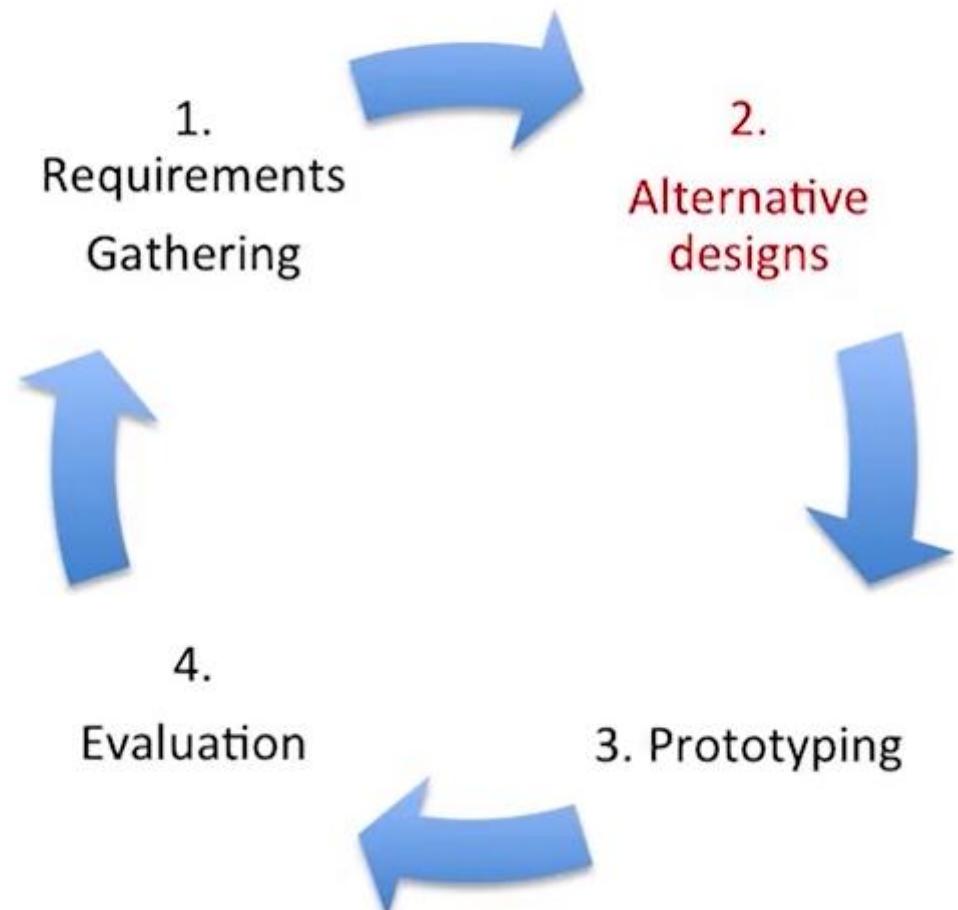
User Interface Design Cycle- Understanding Problem Space



Problem Space: GET TO KNOW YOUR NEIGHBOR

- Who are “neighbors” and what are “neighborhoods”

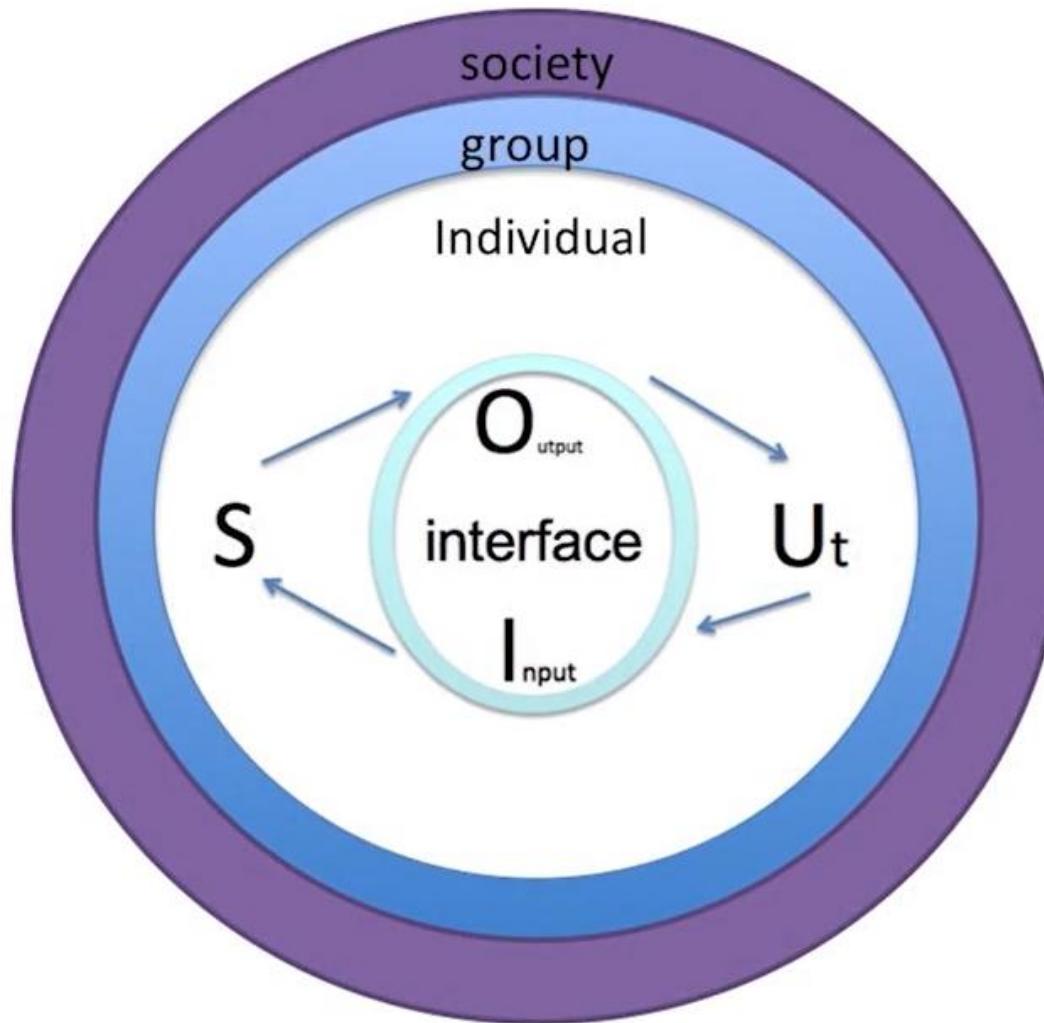
User Interface Design Cycle- Conceptualize the Design Space



Design Space: GET TO KNOW YOUR NEIGHBOR

- Who are “neighbors” and what are “neighborhoods”
 - Apartment building
 - Residential block
 - College campus
 - Business travelers visiting a new city
 - Students taking the same course in a semester
 - Students at their college’s gym
 - A commercial district

User Experience Ecosystem



Designing Alternatives – A Road Map

- Useful
 - Improve users ability to complete their task
- Usable
 - understand the functional and non-functional requirements

Designing Alternatives – Useful Designs

- What were user's explicit needs?
- What were user's implicit needs?

Designing Alternatives – Useful Designs

Get to know your neighbor- on the college campus

- What were user's explicit needs?
 - Wish they knew more people in class
 - No sense of all the daily special events
 - Hard to find a place to study on campus— must walk around
 - Ranked activities as follow: academics, social events, safety on campus

Designing Alternatives – Useful Designs

Get to know your neighbor- on college campus

- What were user's implicit needs?
 - Do well in class- get the best grade possible
 - Know who else is studying for the same exam
 - Meet study partners when they want

Designing Alternatives – Useable Designs

- Functional Requirements
 - What the system should do
- Non-functional Requirements
 - Constraints on the system and its development

Designing Alternatives – Useable Designs

Get to know your neighbor—
Study Session Organizer

- Functional Requirements
 - What the system should do
- Non-functional Requirements
 - Constraints on the system and its development

Designing Alternatives – Generating Ideas in a Group

- Brainstorming
 - Advantage: Individual experience leads to differences in the lists that are created
- Affinity Diagrams to help streamline brainstorming data
 - Individual ideas are placed on sticky notes
 - Team members organize the sticky notes according to how similar they are
 - Teams decide on what interface can meet all of the functional requirements in one category

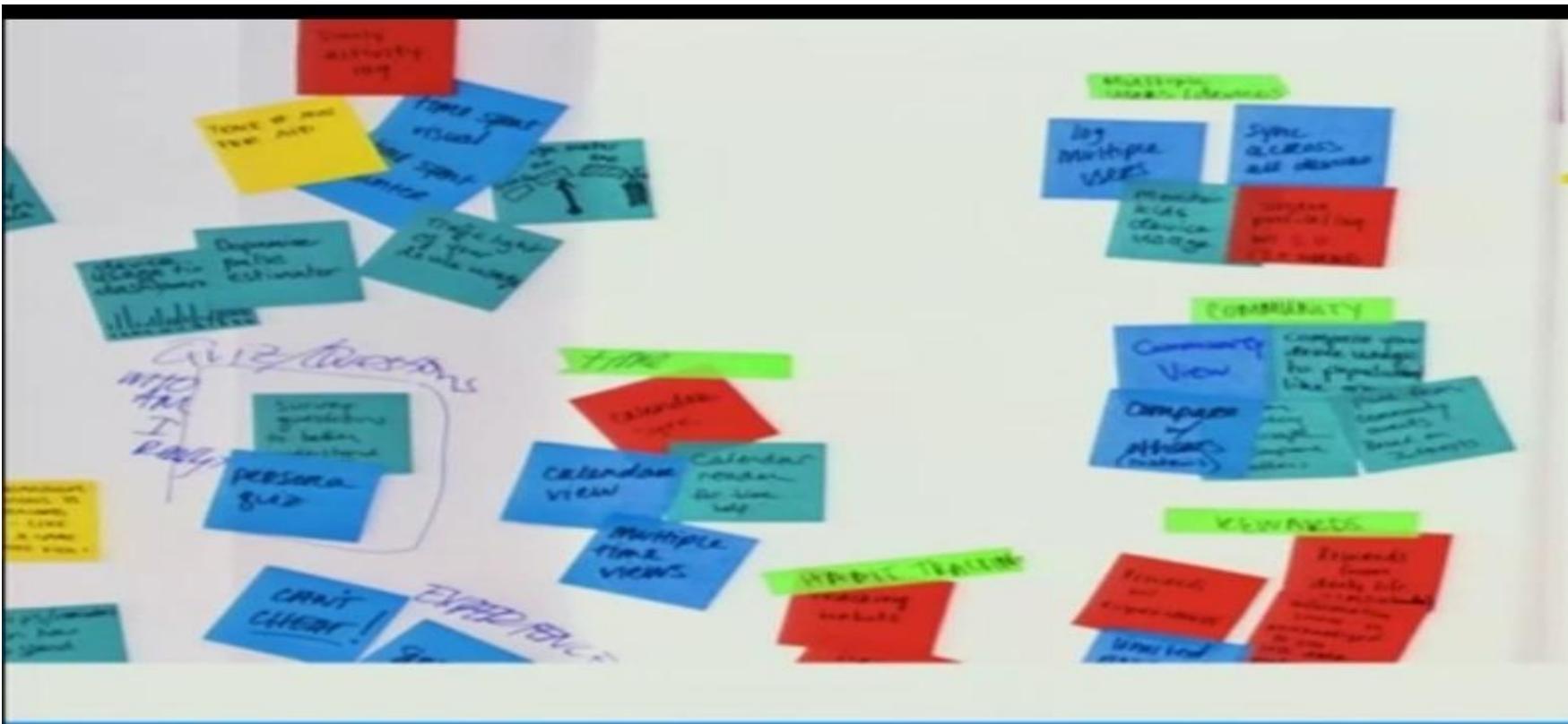
BUNDLE IDEAS

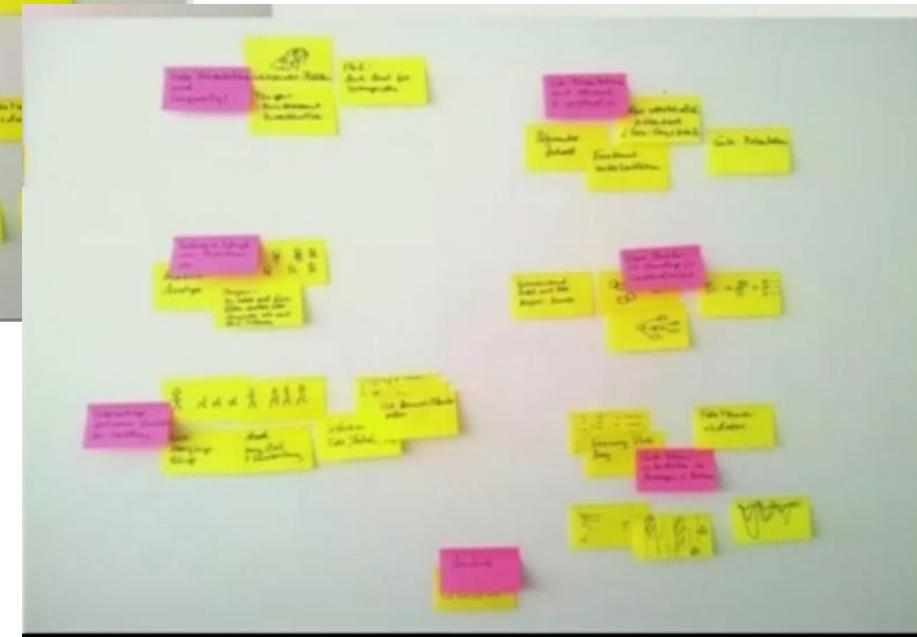
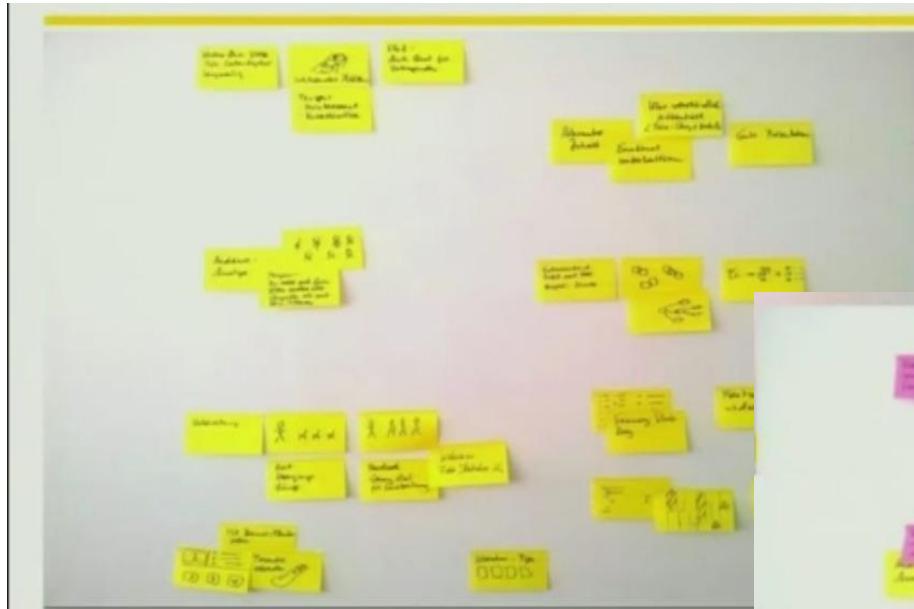
1. Cluster related ideas into groups

- Talk about the best elements of the clusters and combine with other clusters
- Start building the groups from patterns you found

2. Ask yourself how the best elements of your thinking might live as one whole idea

BUNDLE IDEAS





....AND NAME THEM

CREATE A CONCEPT

1. Examine your bundled ideas on the wall
2. Think hard about converging them into ONE concept
3. Keep referring back to your design challenge

How will I benefit ?



What is in it for me ?

I can now advertise about my shop

Discount and special goodies to people who are my regular customers

My shop is getting popular and more customers

I am into this business for many years, so I know the psychology of my customers

HOW WILL I BENEFIT ? WHAT IS IN IT FOR ME ?

Additional income with less effort and no investment



Designer Auto: Very proud to show the new machine to my children and wife

Because of this my image amongst customers particularly youth has improved

Design Alternatives- Interface Space

What kind of an interface can we use to build a study session organizer?

Design Alternatives- Thinking Outside the box

* Interface type	See also
1. Command-based	
2. WIMP and GUI	
3. Multimedia	WIMP and web
4. Virtual reality	Augmented and mixed reality
5. Information visualization	Multimedia
6. Web	Mobile and multimedia
7. Consumer electronics and appliances	Mobile
8. Mobile	Augmented and mixed reality
9. Speech	
10. Pen	Shareable, touch
11. Touch	Shareable, air-based gesture
12. Air-based gesture	Tangible
13. Haptic	Multimodal
14. Multimodal	Speech, pen, touch, gesture, and haptic
15. Shareable	Touch
16. Tangible	
17. Augmented and mixed reality	Virtual reality
18. Wearable	
19. Robotic	
20. Brain-computer	

*Sharp, Rogers & Preece, 2007

EXAMPLE - IDEATION

Problem : create a compact low cost light weight utensil
to serve airline food

Half sized
spoon and fork

Fork teeth at end
of spoon

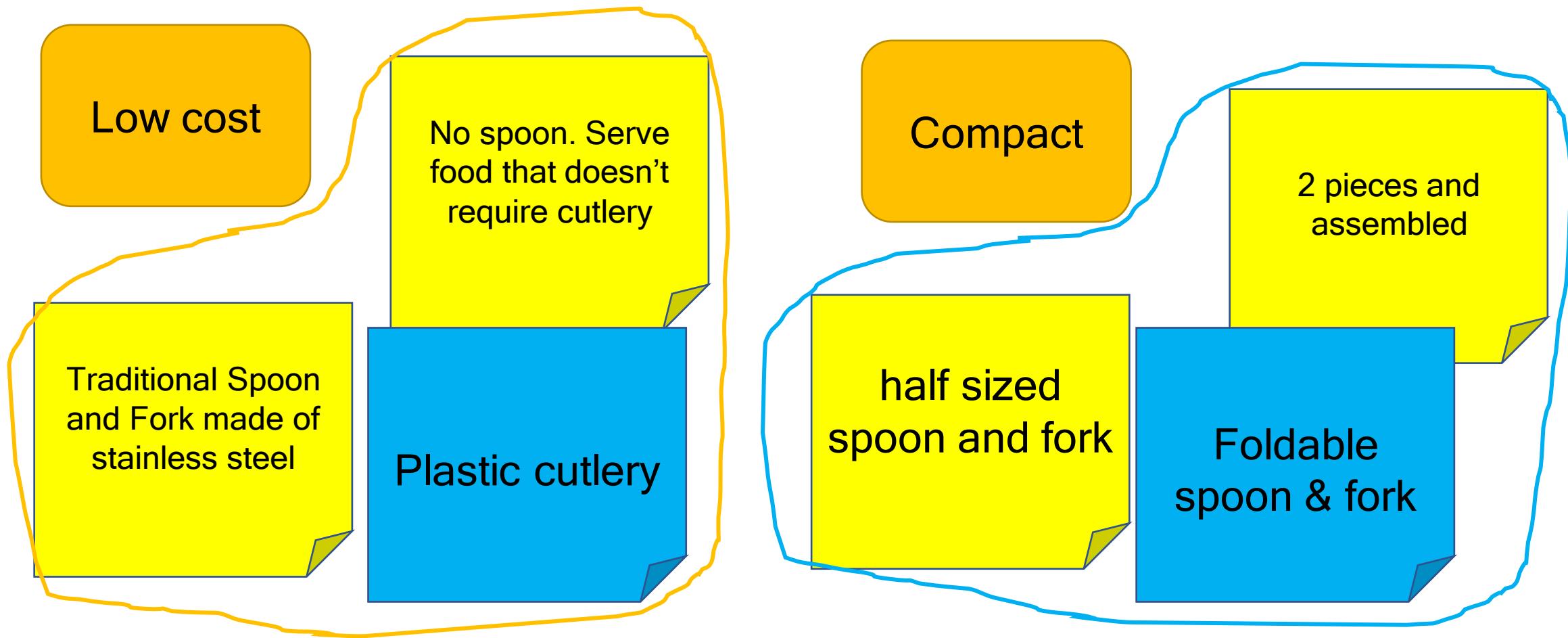
A common handle.
Attach spoon head
or fork head as
needed

Half sized spoon
and fork

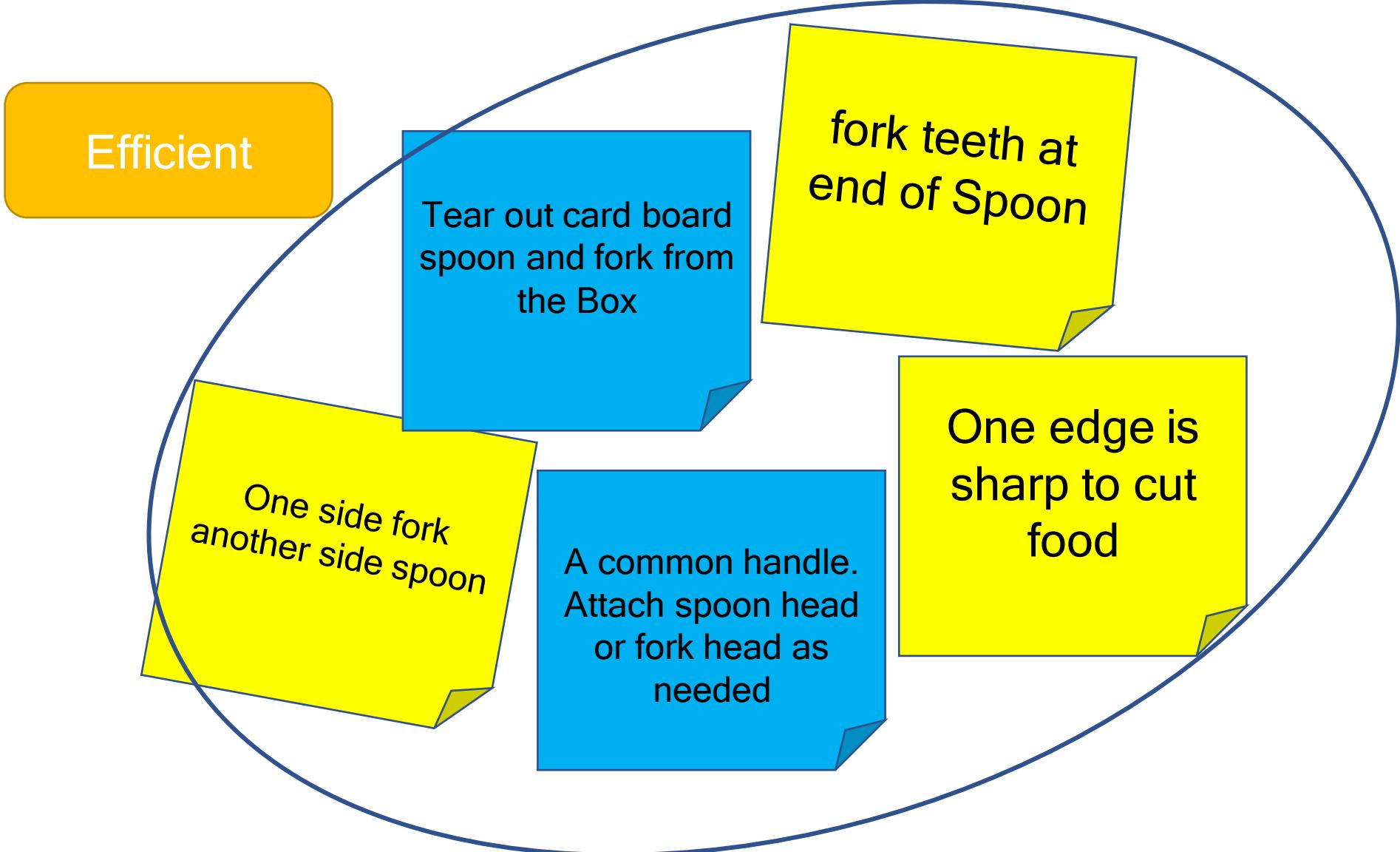
One edge is sharp
to cut food

Display brand of
product for
publicity

EXAMPLE - BUNDLE CONCEPTS



EXAMPLE - BUNDLE CONCEPTS



EXAMPLE - CONVERGE TO A SINGLE CONCEPT

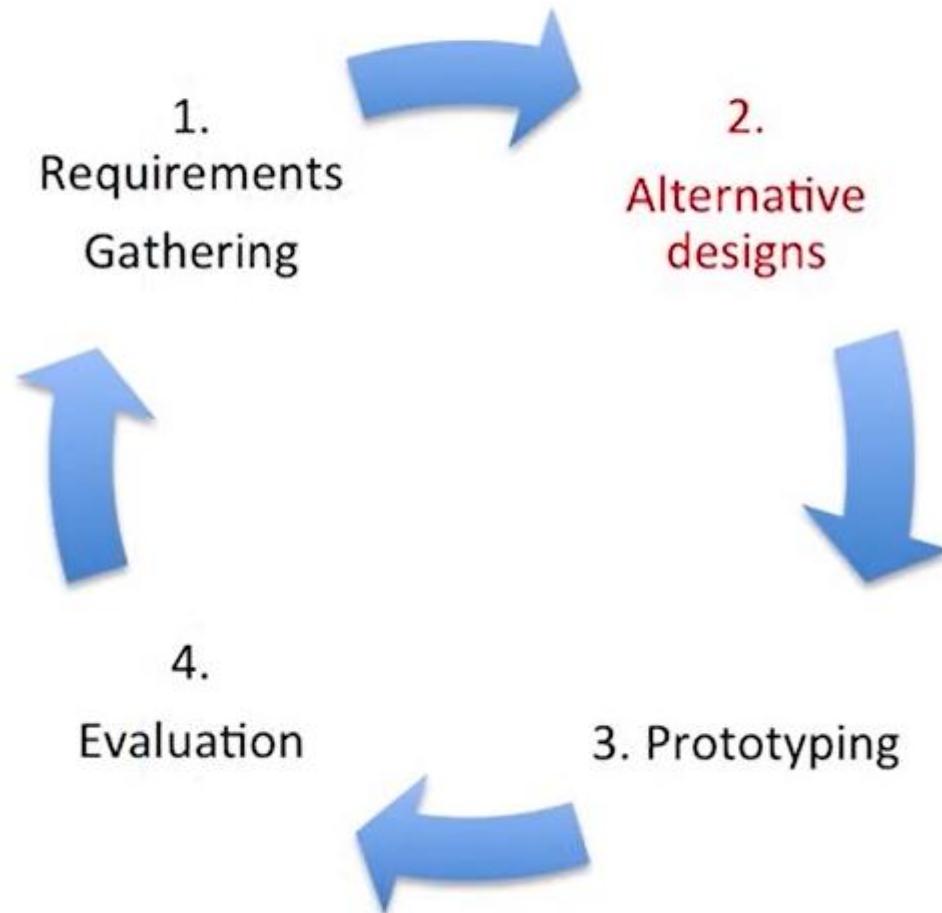


Folding handle

Made of plastic

Fork teeth
at end of
spoon

User Interface Design Cycle



Introduction to User Experience Design

Prototyping: Lesson 1

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Resources and Tools for Prototyping 1

1. <http://www.usability.gov/how-to-and-tools/methods/prototyping.html>
2. <http://www.telono.com/en/articles/lo-fi-vs-hi-fi-prototyping-how-real-does-the-real-thing-have-to-be/>
3. <http://www.usabilityfirst.com/glossary/high-fidelity-prototype/>
4. <http://www.atlargeinc.com/insights/high-fidelity-vs-low-fidelity-prototyping-web-design-and-app-development>
5. <https://www.youtube.com/watch?v=91-JnTq3MhA>

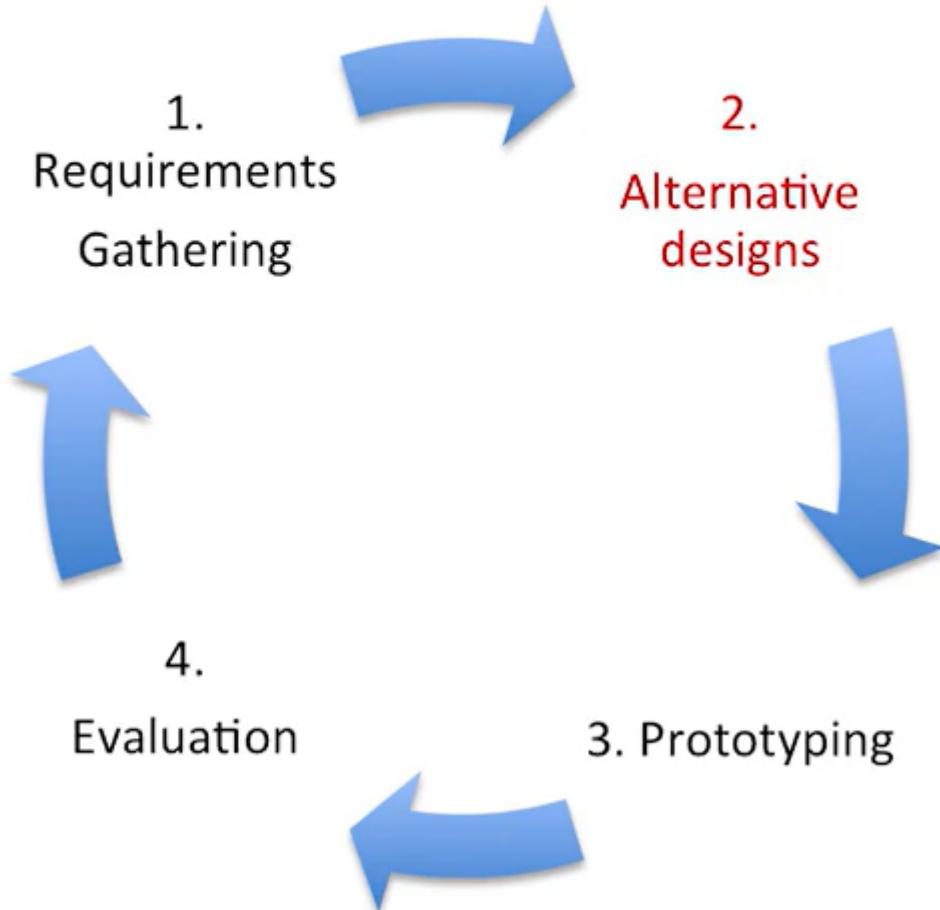
Tools

1. <http://www.uxrecorder.com/>
2. <https://www.invisionapp.com/>
3. <https://marvelapp.com/>
4. <http://www.axure.com/>

Core concept of User Experience Design

- Users use interfaces to accomplish a task

User Interface Design Cycle



Novel Design

- Goal: Will be better at meeting the needs of the user than the existing design

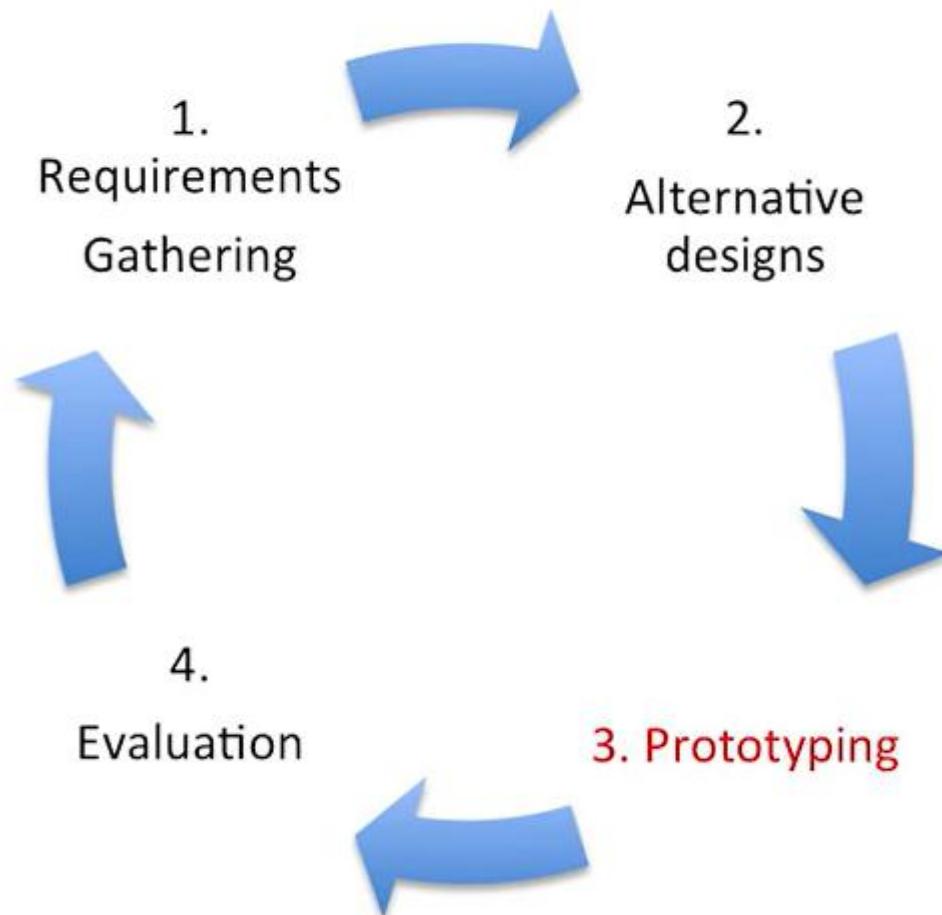
Prototype

- An early model of a novel design

Two Types of Prototypes

- Low fidelity- bears little similarity to the final design in either form or function
- High fidelity- are very similar to the final design in form and function

Why we prototype?



- Goal: to evaluate our new design

3. CONCEPTING and BUILDING

CONCEPTING
AND BUILDING

Conceptualize Designs, Create a Concept, Storyboarding and Rapid Prototyping

1. Generating Ideas
2. Top Five Ideas
3. Bundle Ideas and Create a Concept
4. Scenarios and Storyboards
5. Rapid Prototyping

SCENARIOS AND STORYBOARDS

Storytelling approach to design

- Capture moment of usage action to meet a need
- Capture user motivations and actions



Enters Station



Rides with passengers



Confirms destination



Gets off at stop



Purchases ticket



Exits station



Waits, waits, waits,...



Boards the train

Urban Mass Transit service

STORY BOARDS

- A quick , low - resolution prototype.
- Storyboards helps you visualize your concept from start to finish

Tells the story of usage of a FUTURE
Product or Service

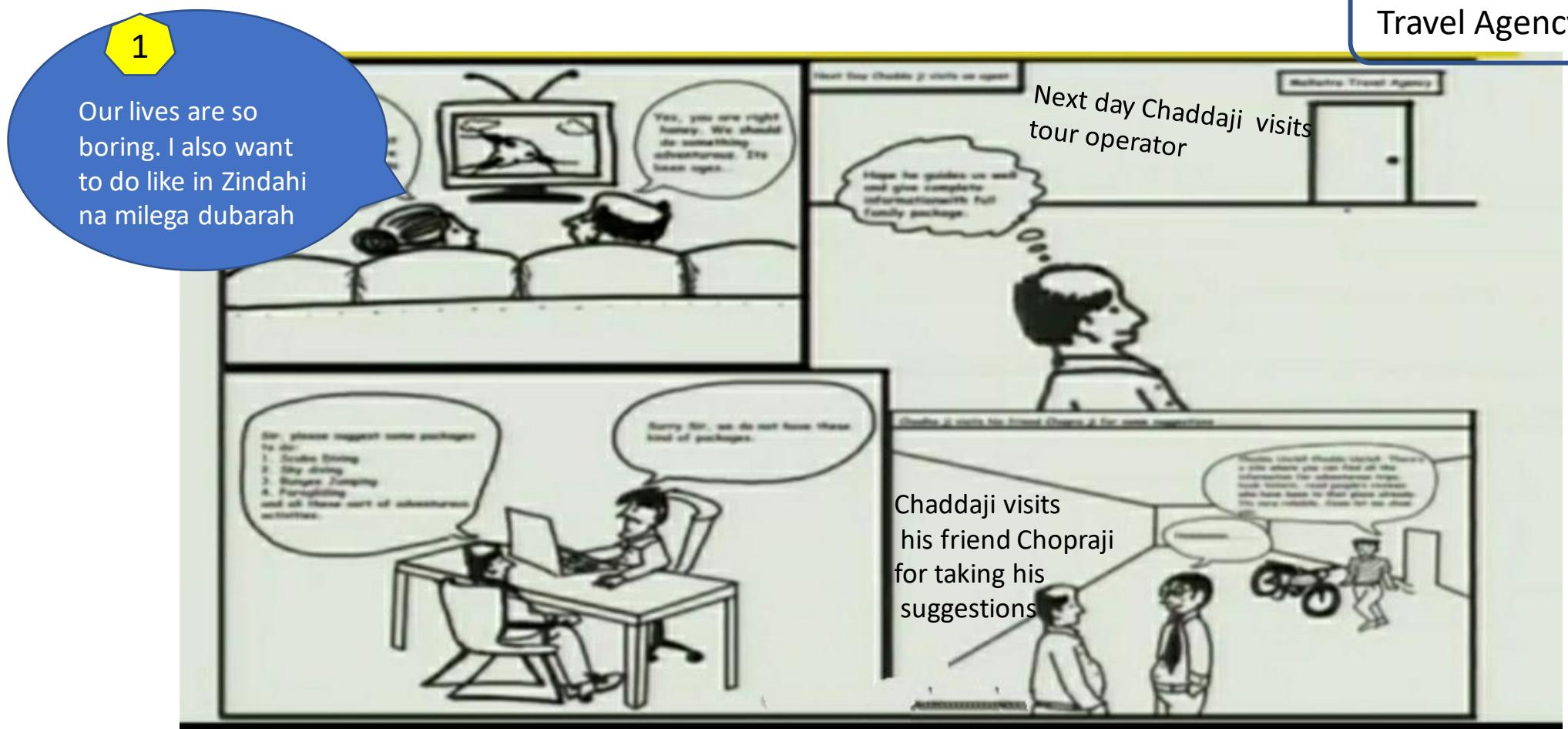
STORY BOARDS HELPS US TO ...

1. Articulate our thoughts about how the product will be in the lives of users
2. Have a shared understanding among everyone on the team before we start building the product

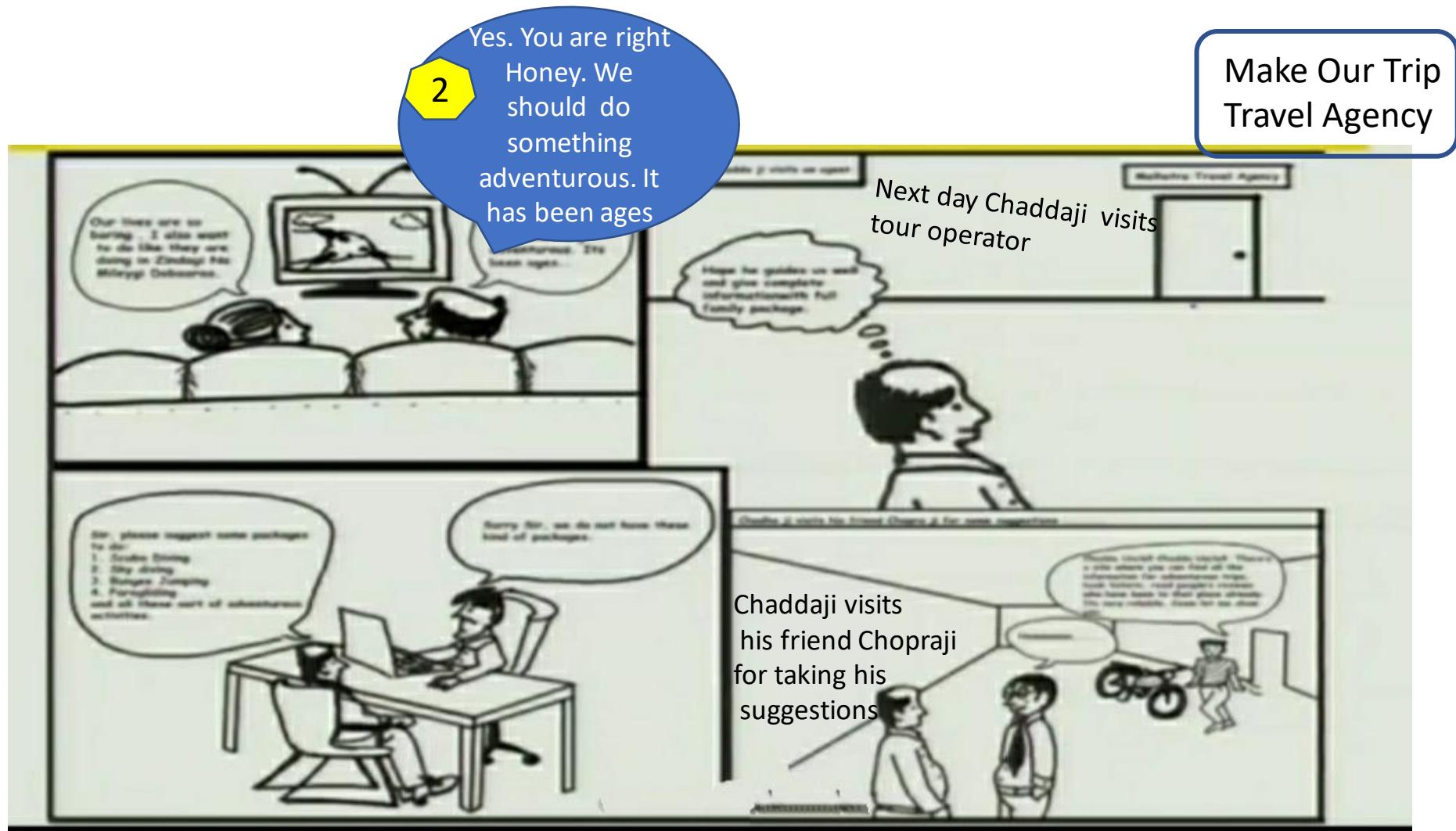
Storyboards help to fully think through your concept

SCENARIO STORYBOARDS

Make Our Trip
Travel Agency

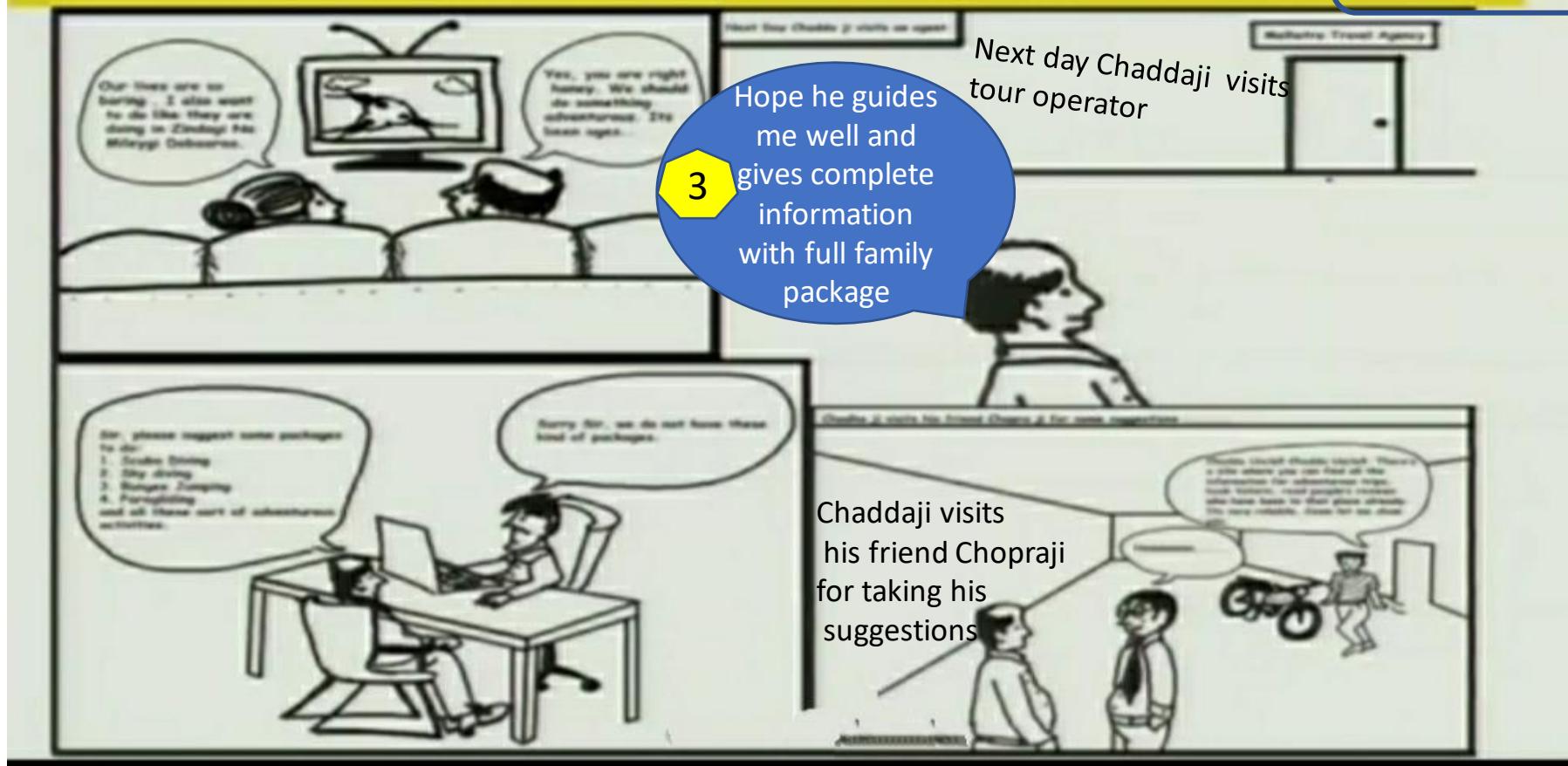


SCENARIO STORYBOARDS



SCENARIO STORYBOARDS

Make Our Trip
Travel Agency



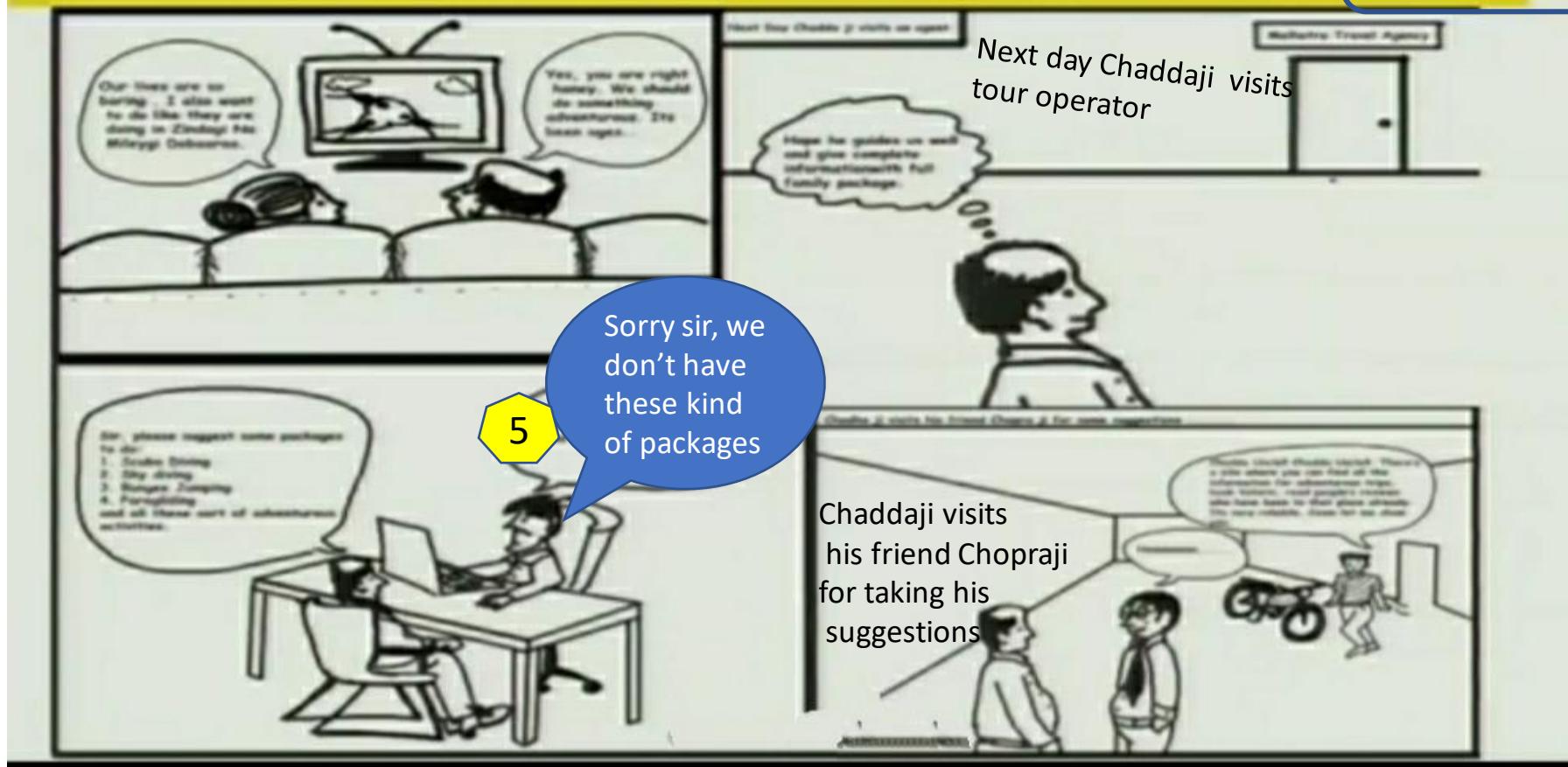
SCENARIO STORYBOARDS

MakeOurTrip
Travel Agency



SCENARIO STORYBOARDS

Make Our Trip
Travel Agency



SCENARIO STORYBOARDS

Make Our Trip
Travel Agency



SCENARIO STORYBOARDS

MJ's Story

Mary Jo's Story

MJ is on her way to office. Stops at a Bunk to fill the petrol to her car

The mobile app reminds her to take picture of the Odometer

Takes photo of how much petrol is filled and what is rate of petrol

The Mobile App informs her That an oil change is due

MJ calls her favorite car service station to schedule an appointment

MJ is happy that her car is being taken care reliable agency

STORY BOARDS HELPS US TO ...

1. Articulate our thoughts about **how the product will be** in the lives of users
2. Have a **shared understanding among everyone on the team** before we start building the product

Storyboards help to fully think through your concept

Other reasons to prototype

- Manage resources
- Iterate on the design

What will be prototyped?

- Horizontal Prototype
 - Model breadth of design features
- Vertical Prototype
 - Model a few features in depth

A Design Example

We want to prototype a study session organizer.

Identified the following features

- verify student identification
- register for multiple classes they want to study for
- enter preferred study location
- Enter preferred study time
- Rank classes in order of priority

Low Fidelity First

It's quick and easy!

Helps to verify design objectives

- For ourselves
- With colleagues
- With stakeholders

Low Fidelity First

Paper Prototyping

- Sketching
- Storyboards
- Card-based

Low Fidelity First

Paper Prototyping

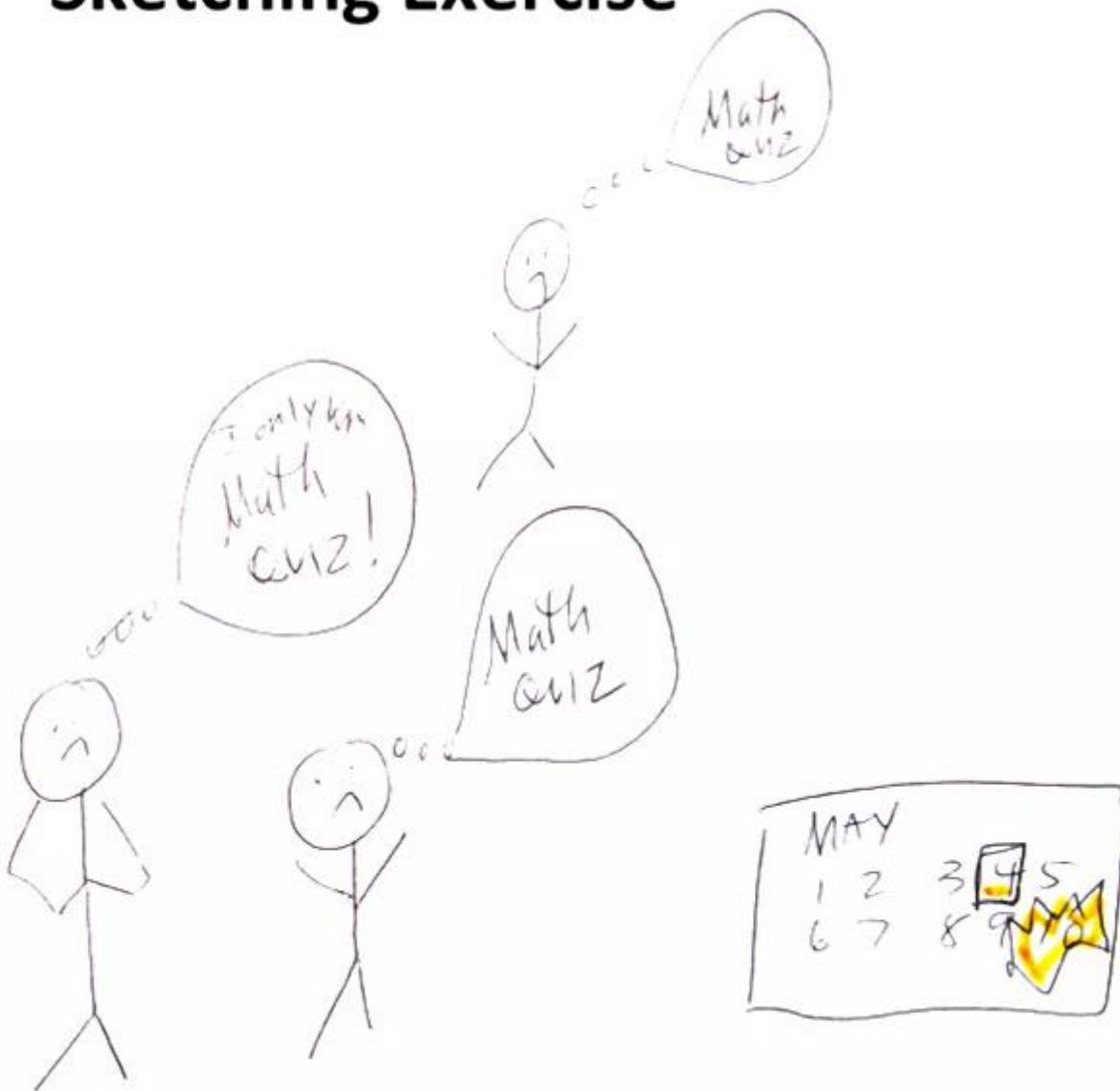
- Sketching

Sketching Exercise

Paper Prototyping

- Sketch a scene of why a study organizer is a good idea

Sketching Exercise



Low Fidelity First

Paper Prototyping

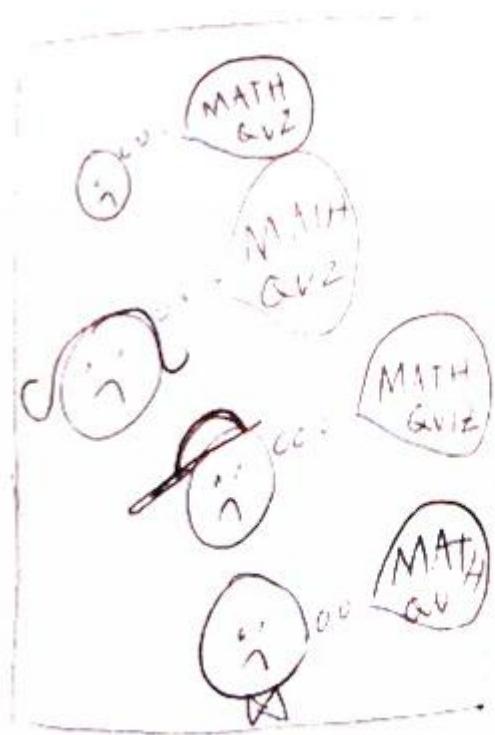
- Storyboards

Storyboarding Exercise

Paper Prototyping

- Storyboard a successful scenario with the study organizer

Sketching Exercise



Low Fidelity First

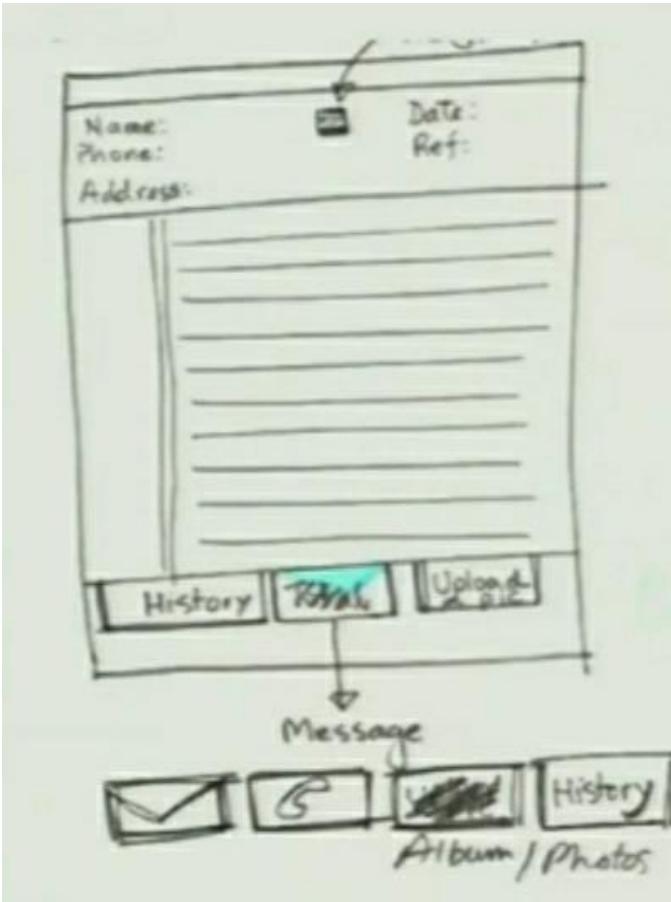
Paper Prototyping

- Card-based

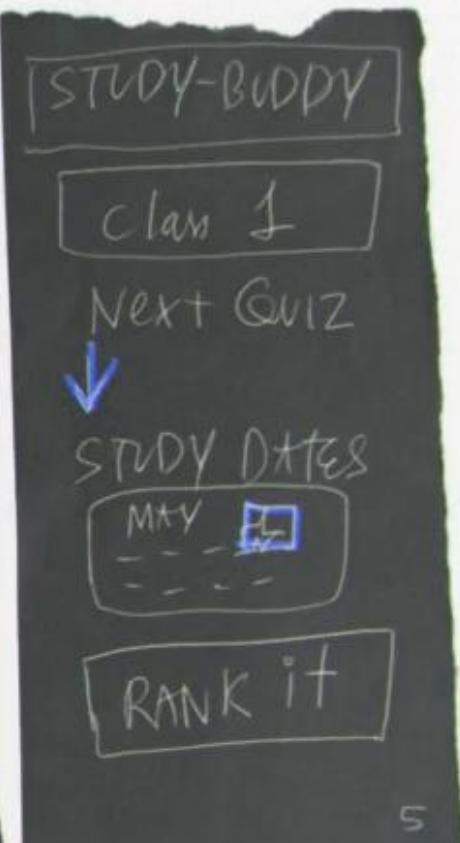
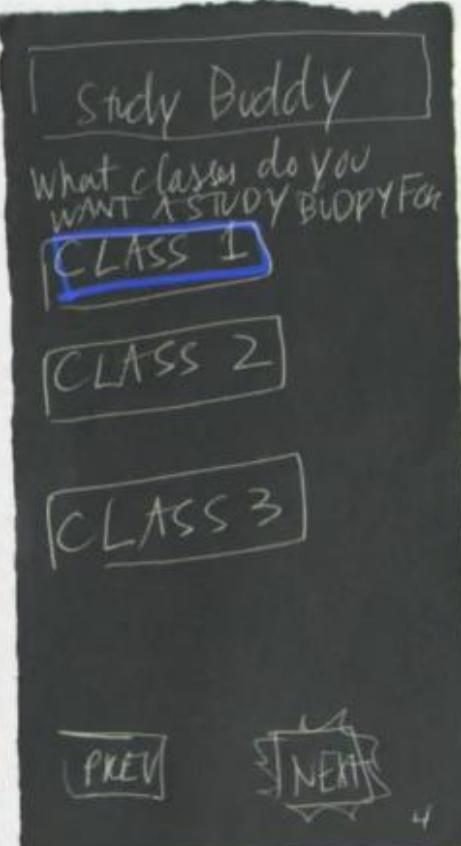
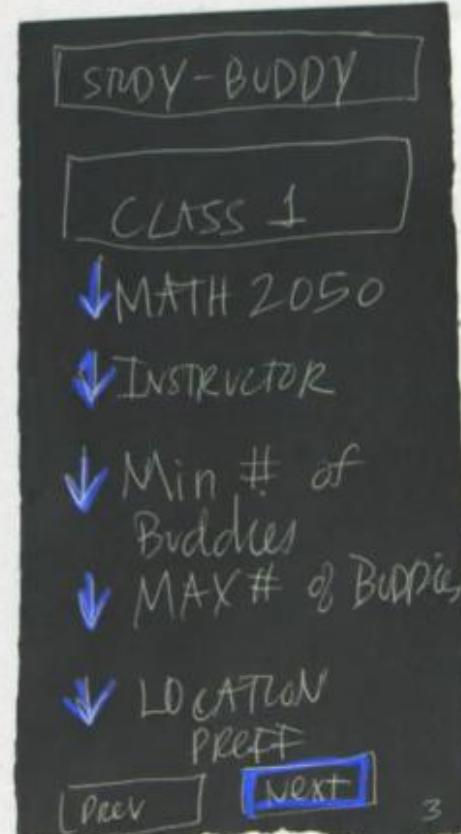
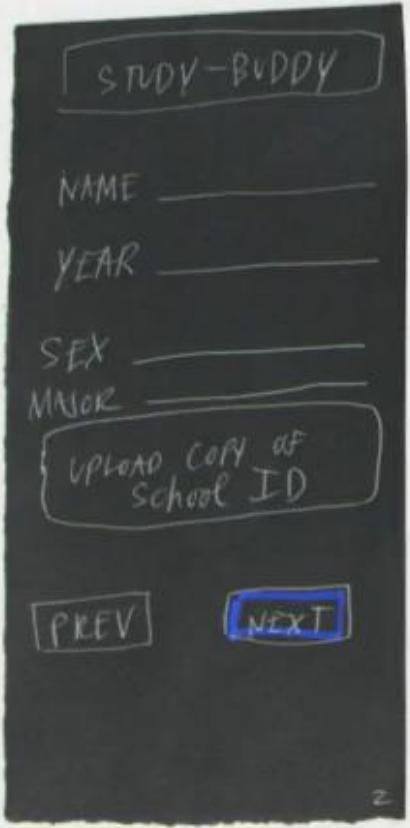
Card based Exercise

Paper Prototyping

- Do a card-based prototype of the first 5 screens of your study organizer



Card based Exercise



Low Fidelity Prototyping

Resources for Prototyping 2

1. <https://uxmag.com/articles/what-a-prototype-is-and-is-not>
2. <https://www.smashingmagazine.com/2014/10/the-skeptics-guide-to-low-fidelity-prototyping/>
3. <http://www.usabilityfirst.com/glossary/low-fidelity-prototype/>
4. <http://andrewchen.co/why-every-consumer-internet-startup-should-do-more-low-fidelity-prototyping/>
5. <http://www.telono.com/en/articles/lo-fi-vs-hi-fi-prototyping-how-real-does-the-real-thing-have-to-be/>
6. <http://it.toolbox.com/blogs/enterprise-solutions/prototyping-types-of-prototypes-14927>
7. <http://www.usabilityfirst.com/glossary/horizontal-and-vertical-prototypes/>
8. <http://marketblog.envato.com/grow-improve/creativity/introduction-sketch-ui-design/>
9. <https://www.smashingmagazine.com/2011/12/the-messy-art-of-ux-sketching/>
10. <http://www.slideshare.net/LaneHalley/how-to-draw-quick-useful-ui-sketches>
11. <http://ui-patterns.com/blog/User-interface-sketching-tips-part-1>
12. <https://uxmag.com/articles/storyboarding-in-the-software-design-process>
13. <http://www.fastcodesign.com/1672917/the-8-steps-to-creating-a-great-storyboard>
14. <http://www.slideshare.net/fgarofalo/users-story-ux-storyboarding>

Introduction to User Experience Design

Prototyping: Lesson 2

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3. CONCEPTING and BUILDING

CONCEPTING
AND BUILDING

Conceptualize Designs, Create a Concept, Storyboarding and Rapid Prototyping

- 1. Generating Ideas**
- 2. Top Five Ideas**
- 3. Bundle Ideas and Create a Concept**
- 4. Scenarios and Storyboards**
- 5. Rapid Prototyping**

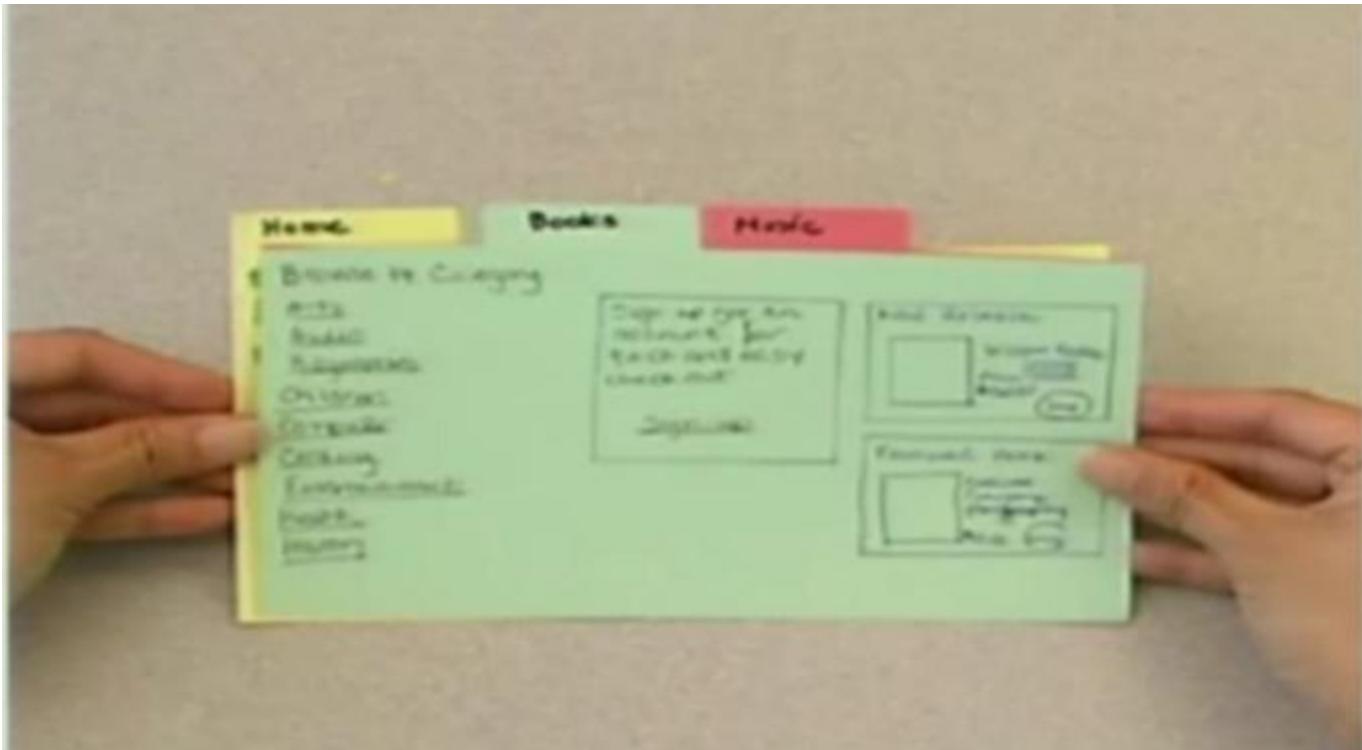
PROTOTYPING PHYSICAL PRODUCTS



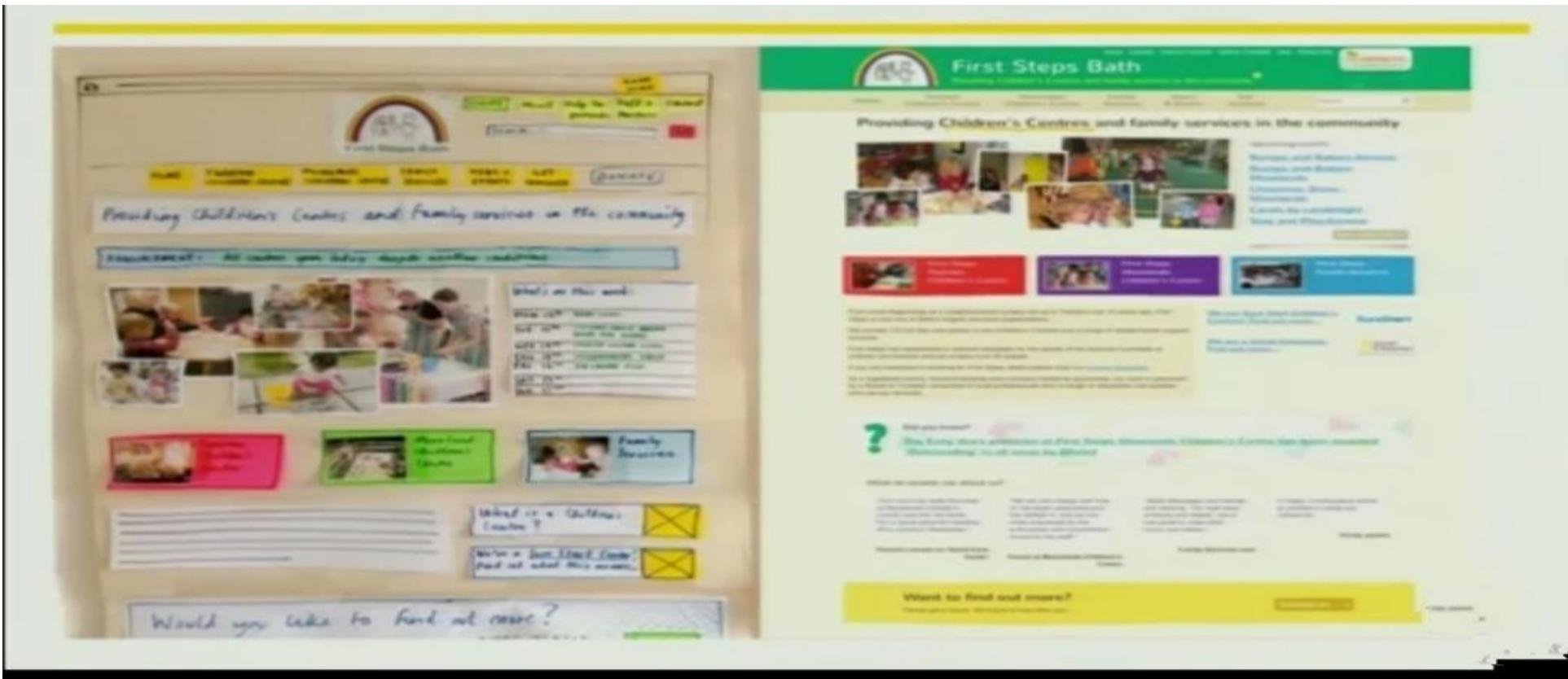
QUICK, LOW FIDELITY PROTOTYPES



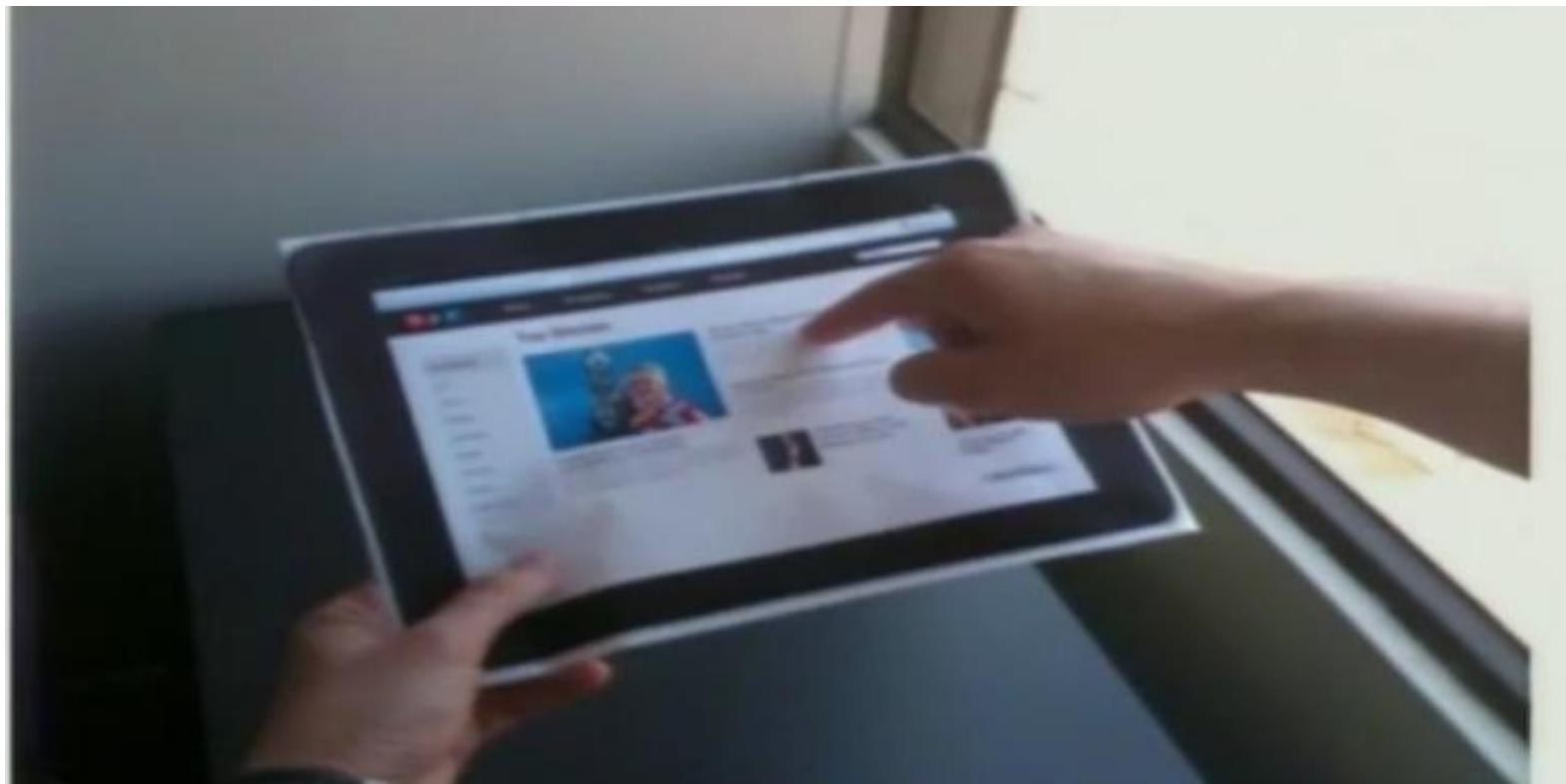
PAPER PROTOTYPE



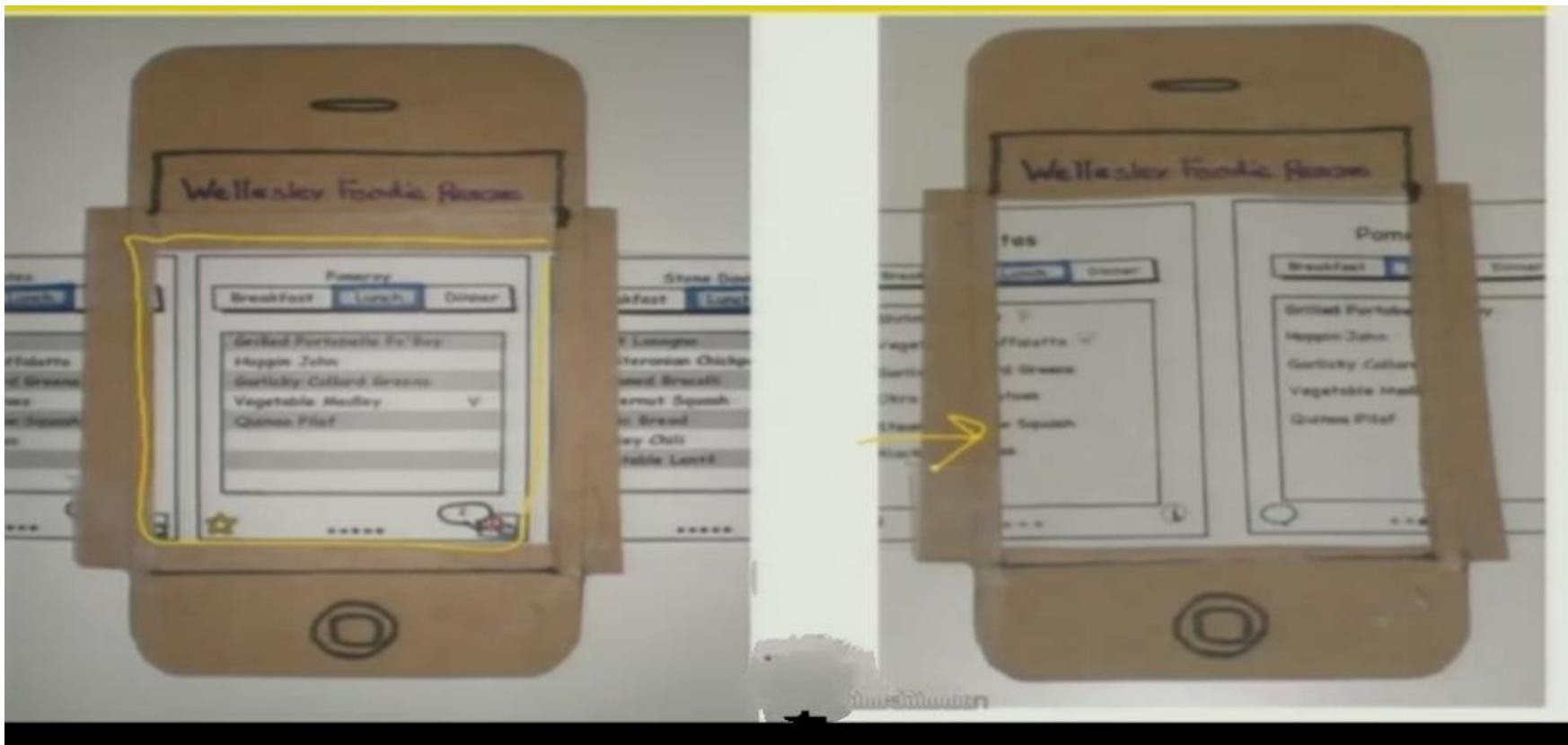
PAPER PROTOTYPE TO REALITY



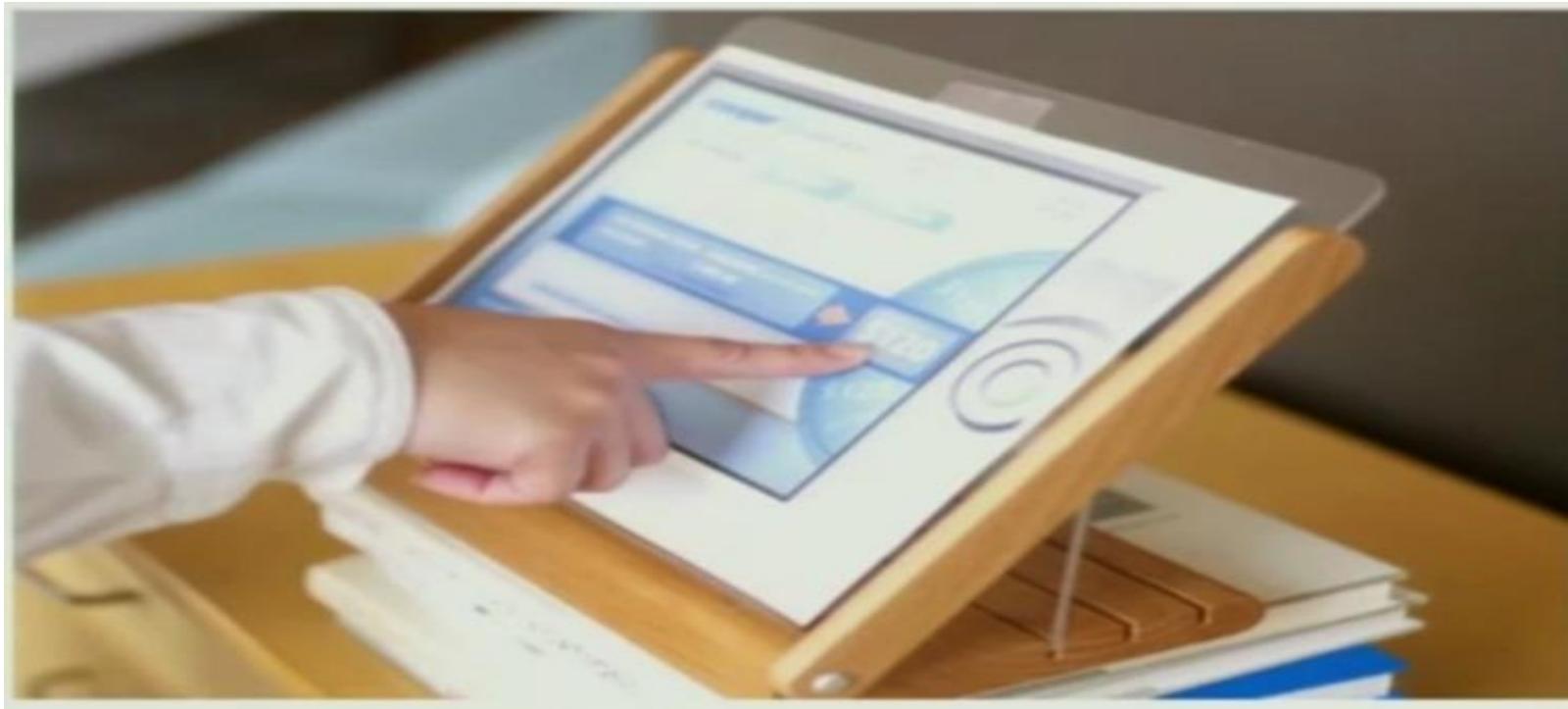
PAPER PROTOTYPE



PAPER PROTOTYPE



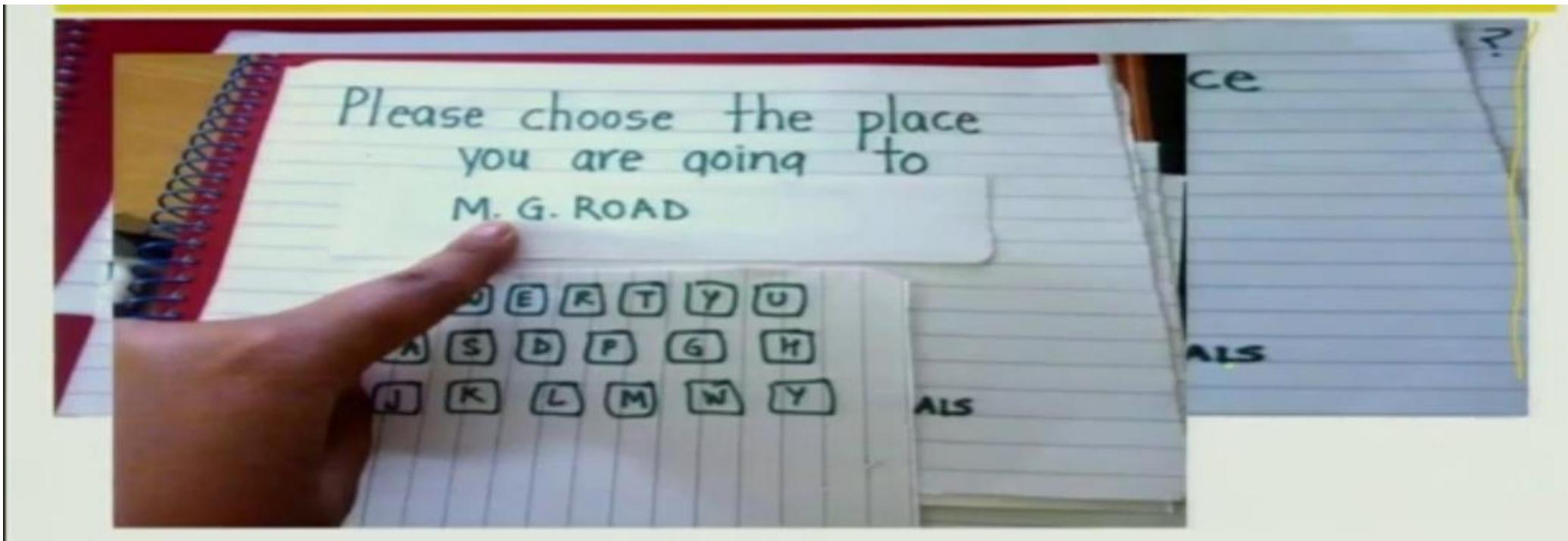
RAPID PROTOTYPE-ATM



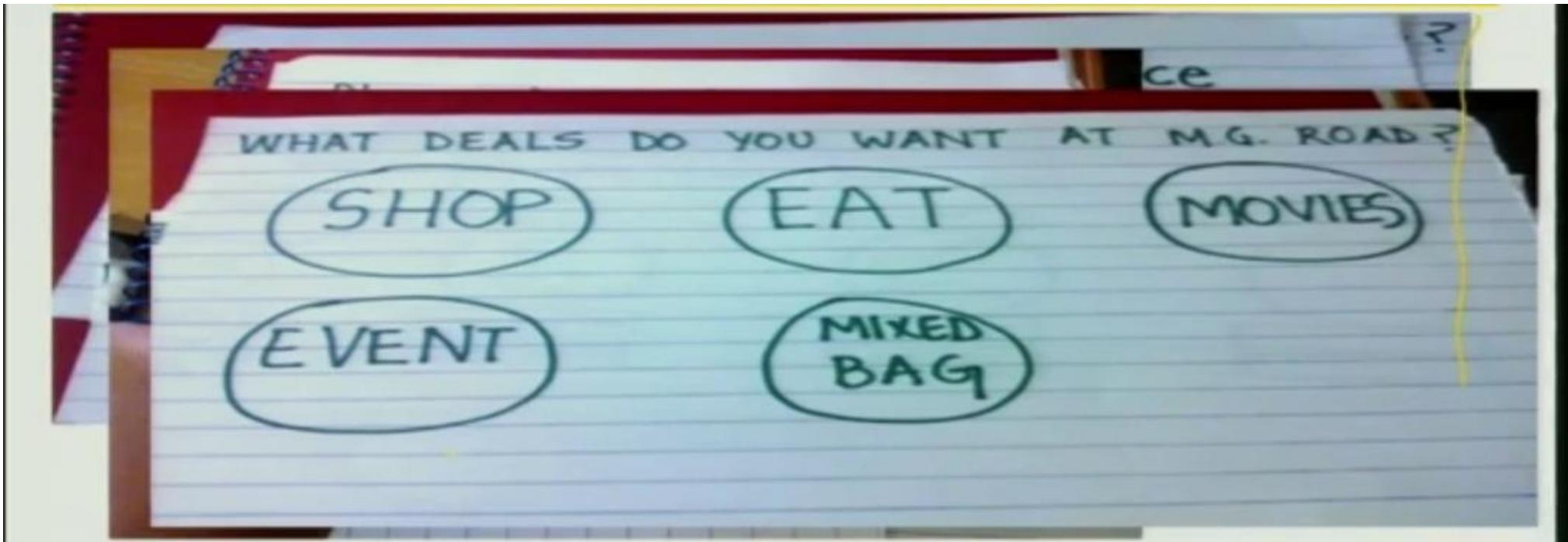


Example of physical prototyping (taken from prototyping a practitioner's guide)

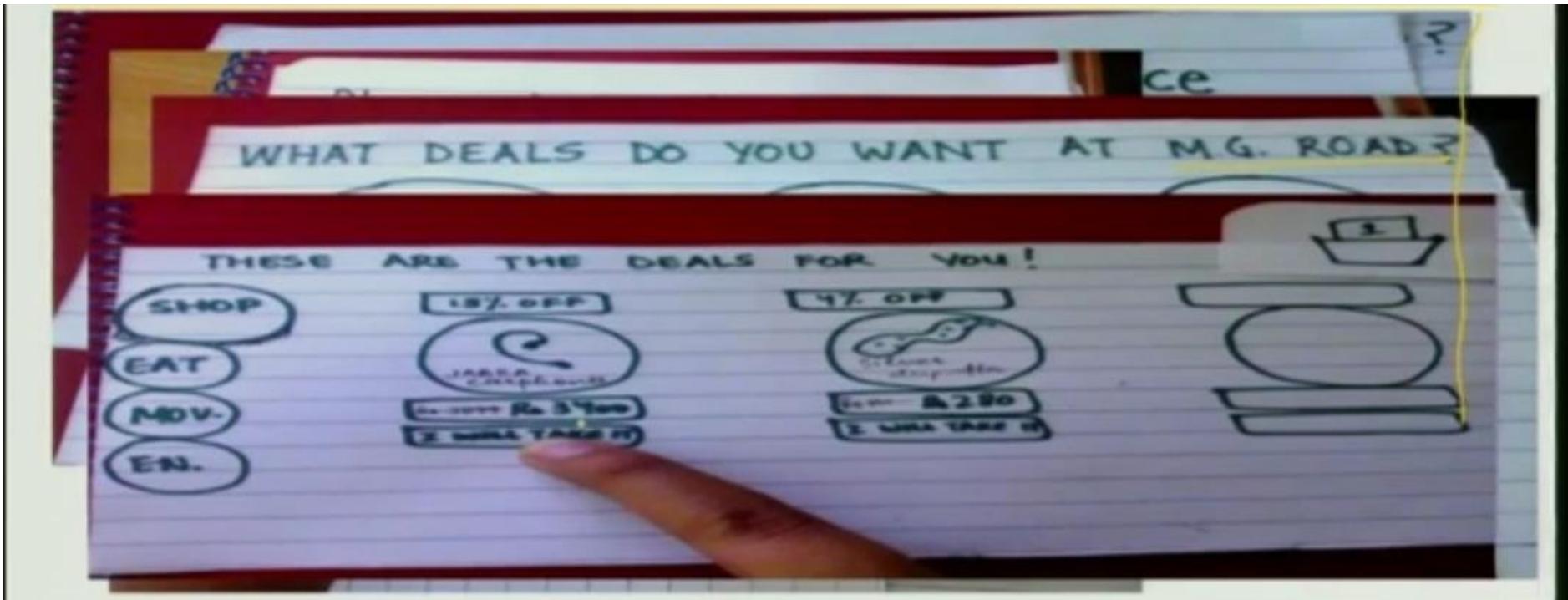
PAPER PROTOTYPE OF TASK FLOW



PAPER PROTOTYPE OF TASK FLOW



PAPER PROTOTYPE OF TASK FLOW



RAPID PROTOTYPING

1. Build your design
2. Use things you see around you
3. Make something tangible that conveys the idea you want to test
4. Not perfect , just good enough to get the idea across

RAPID PROTOTYPING

- Share ugly things.
- Get comfortable with sharing things early and often , even if they are ugly or unsettled
- get alignment within your team
- No need to make changes later on when things are at a higher fidelity

SOME PROTOTYPING TOOLS

1. Paper and pencil
2. Wood , string , tape , bottle caps, cardboard , scissors
3. Marvel
invision
Balsamiq

Two Types of Prototypes

- Low fidelity- bares little similarity to the final design in either form or function
- High fidelity- are very similar to the final design in form and function

When do we do high fidelity prototyping?

- Low fidelity prototyping no longer supports our design objectives

How do we build high fidelity prototyping?

Designer

- General software
 - For example, slide presentation software or PDF software can be adapted for this purpose
- User interface prototyping tools
 - Allow designer without development/coding skills to build high end prototypes

How do we build high fidelity prototyping?

Other professionals

- Software engineers
 - can build technical functionality
- Graphic designers
 - Ensure that new design fits in with the brand's visual specifications

High Fidelity Prototyping Exercises

- Find a UI platform and build out the 5 screens you designed in the card-based exercise from your previous lesson
 - Or build out the one that I suggested if you like it better
- Go to the “play store” of your choice and look up a study app. Consider what you would have to do to incorporate our design features into a preexisting app...

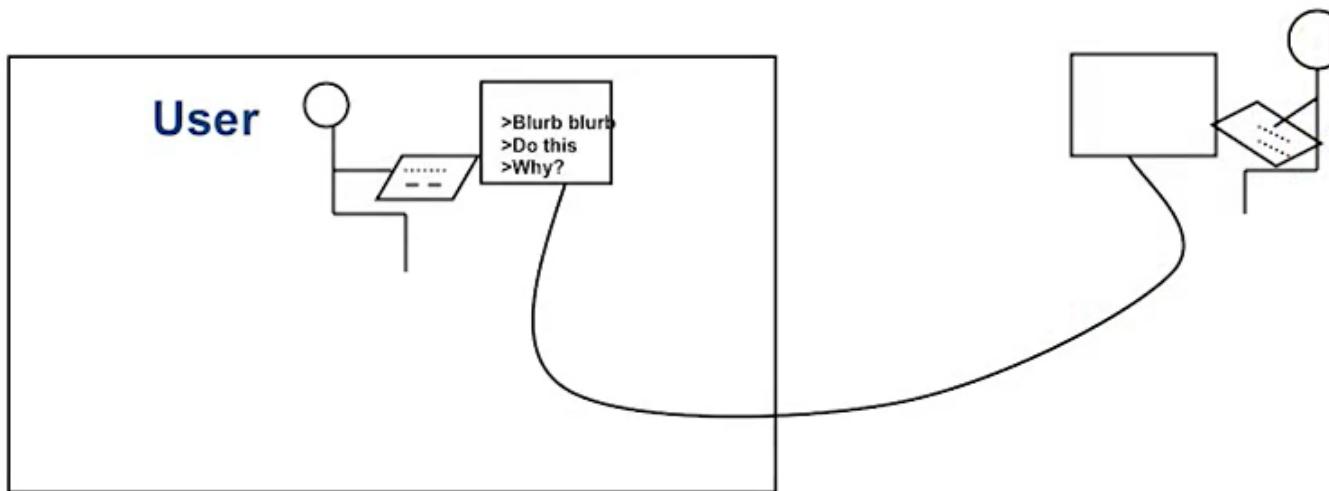
Other Prototyping Techniques

- Wizard of Oz
- Proof of Concept Video
- Metaphor Development

Wizard of Oz Technique

- Used to model functionality of a product by having a human perform the task usually performed by the computer
- User is unaware that the product is not functional

Human pretending to be the computer



Wizard of Oz Technique

- Advantages
 - Saves time and money when compared to building a functional system
- Disadvantages
 - Considerable time is required for this to work appropriately
 - Always requires multiple people to operate including a well trained “wizard”
 - User may have unrealistic expectations for the system

Proof of Concept Video Technique

- Fictional Video that shows a “working” system in a variety of scenarios

Proof of Concept Video Technique

- Example related to autism for a system we called SocialMirror
- <http://www.youtube.com/watch?v=91-JnTq3MhA>

Metaphor Technique

- Help user build a mental model of how a new design functions
- Communicates the functionality of the novel design by comparing to artifacts or systems the user knows

Metaphor Exercise

- Can you come up with a metaphor for Social Mirror?

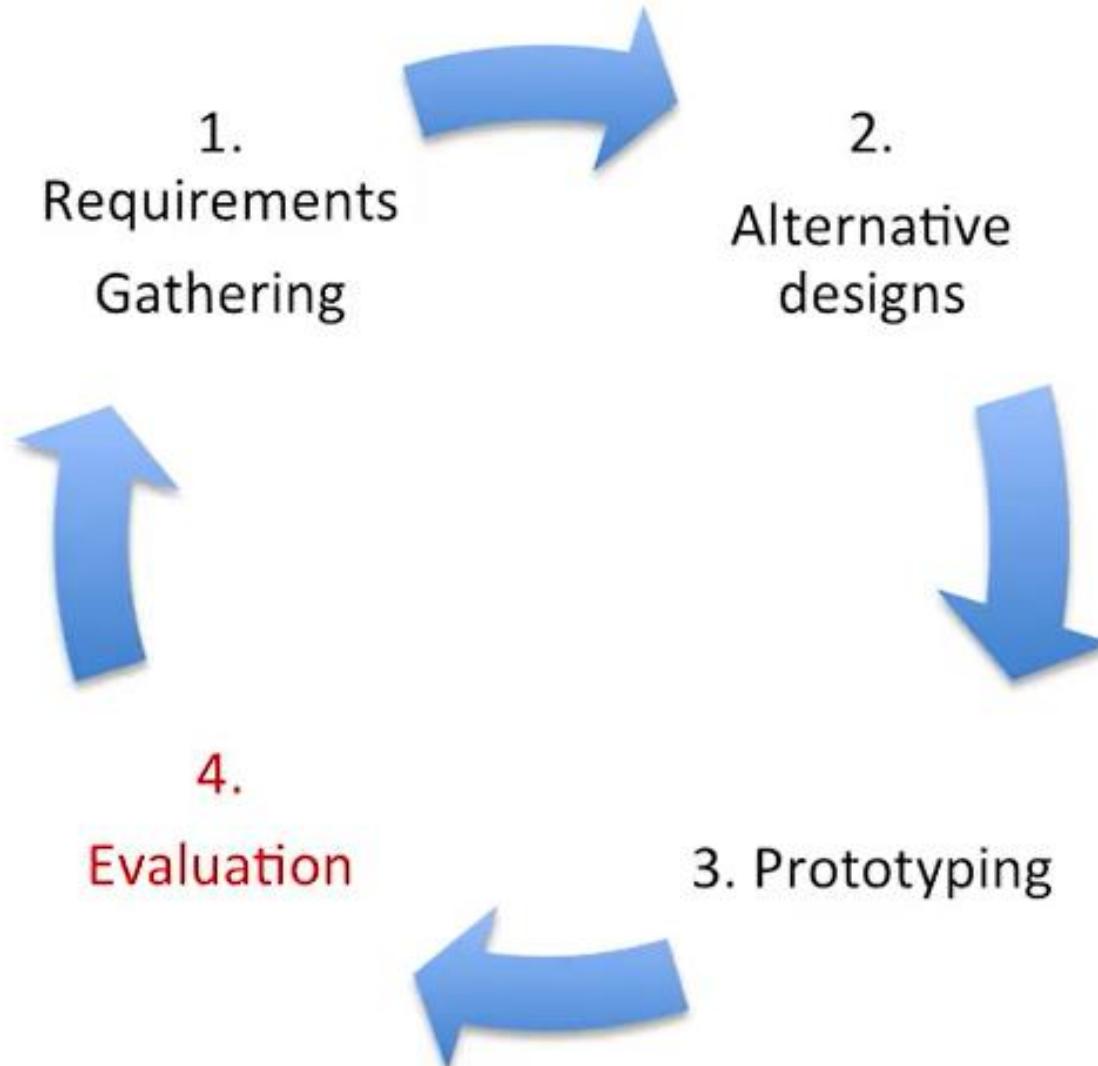
Metaphor Example

- “It’s like Mechanical Turk for individuals with special needs”
- Does the metaphor work?

Metaphor Example

- “It’s like Mechanical Turk for individuals with special needs”
- Does the metaphor work?
 - User need to know what Mechanical Turk is
 - However Mechanical Turk workers are all strangers that do tasks for pay

User Interface Design Cycle



Introduction to User Experience Design

Evaluation

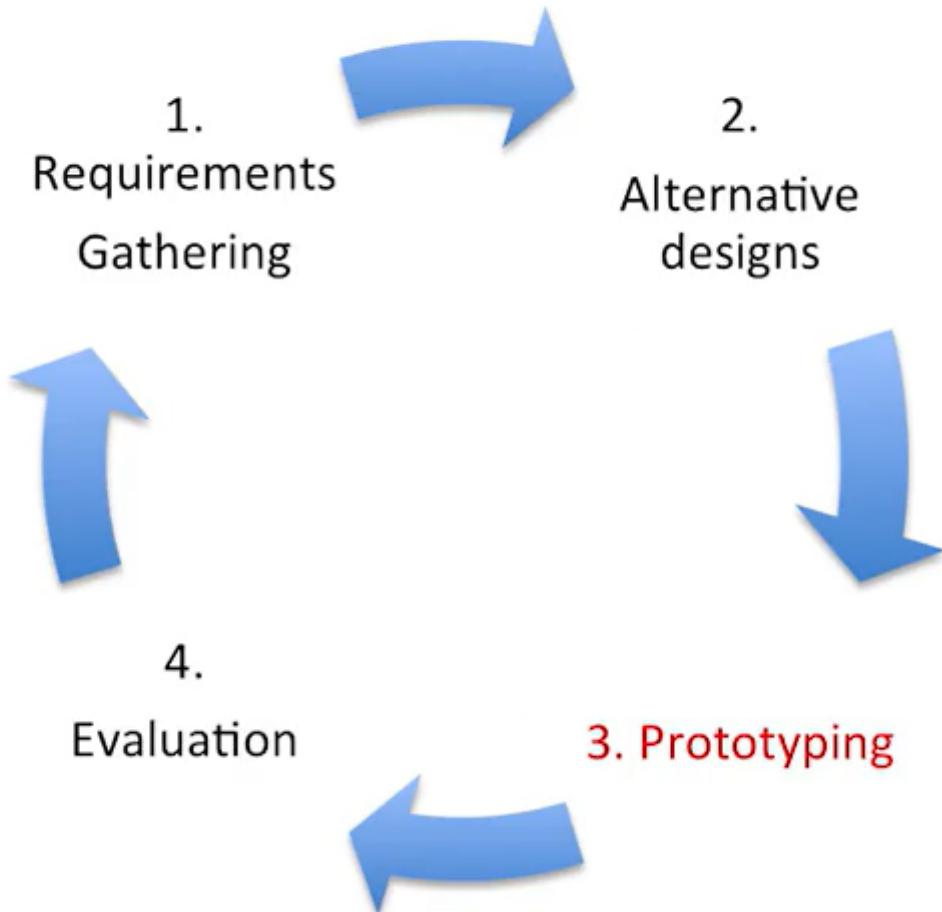
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Resources for Evaluation

1. <http://www.usability.gov/what-and-why/usability-evaluation.html>
2. <https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/usability-evaluation>
3. <http://www.wqusability.com/articles/more-than-ease-of-use.html>
4. http://www.diku.dk/~kash/papers/CHI2000_froekjaer.pdf
5. <http://www.wqusability.com/articles/more-than-ease-of-use.html>
6. <https://www.nngroup.com/articles/usability-101-introduction-to-usability/>

User Interface Design Cycle



USABILITY TESTING IN A NUTSHELL.....

1. Get representative users
2. Ask them to perform typical tasks with your design
3. Shut up and let the users do the talking
4. DO NOT PROMPT them

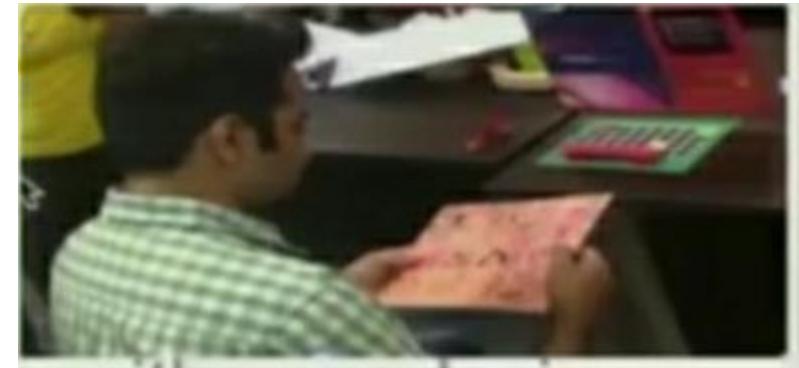


Photo 1

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Address: _____

Date: _____
Ref: _____

History Photo Upload

Message

Album / Photos

Photo 2

WHY USABILITY TESTING ?

- To get a great service/site/product, you HAVE TO test
- As a designer you soon know too much
Therefore your opinion is irrelevant and misleading
- Testing is to refine and increase success of design
- Nothing beats a live audience reaction

It's about ' performance' not preference'

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4. TESTING, REFINING and PITCHING

TESTING,
REFINING AND
PITCHING

Usability Testing, Refine and Enhance Design and Define pitch

- Importance of Testing with People
- Testing your Design with People
- Conducting the Usability Test
- Record Results , Enhance , Retest and Refine Design
- Create a Pitch for your Design

USABILITY TESTING CAN SAVE YOUR LIFE.....

.....okay , so maybe it won't save your life.....

But it certainly can keep you out of the emergency room due to the stress-induced heart attack you were about to have because you have no idea whether or not your customers can actually use the thing you just poured your life into building.....

Design

- The development of novel creation to meet some need

Novel Design

- Goal: Will provide an improved user experience than the existing design

Evaluation allows us to ascertain that we are improving the User Experience!

- Evaluation is a data driven process
- You will collect both qualitative and quantitative data

Evaluation is a data driven process!

- Now might be a good time for you to review the module on qualitative and quantitative data–

Where Evaluation and Prototyping meet

Where prototyping and evaluation meet

- Formative Evaluation conducted early on in design process with low-fidelity prototypes
- Summative Evaluation conducted with high-fidelity prototypes or final interface

Where Evaluation and Prototyping meet

The type of data we collect is related to the type of prototype we are using

- Low fidelity prototype requires that the designer collects the data
 - Time to complete a task, count number of clicks, etc
- High fidelity prototype may produce data of how the system was used
 - Time stamps of when the user started and ended a session
 - Log data of how the user interacted with the system

Where Evaluation and Prototyping meet

The type of prototype will effect where the evaluation takes place

- Low fidelity prototype require a controlled environment
 - Laboratory or office
- High fidelity prototype may be deployed in the wild
 - The user's phone or a kiosk in the field

Goal of User Experience Design

Design interfaces that are useful and usable

- Useful - allows a user to complete a task
- Usable – "...refers to the effectiveness, efficiency, and satisfaction with which users can achieve tasks when using an [interface]" (Courage, Baxter & Caine, 2015)

Evaluating if the design is useful

Ascertaining if the task can be completed is
a low bar!

Evaluating if the design is usable

- Design is effective with regards to degree to which the goals of the task are met
 - Quantitative data- questionnaires or log data
 - Qualitative data-interview with the user

Evaluating if the design is usable

- Design is efficient with regards to execution of task demands
 - Least amount of time
 - Least number of clicks
 - Few or no errors

Other measures of efficiency

- Learnability: how easy it is to carry out a task successfully
 - Measure amount of time or number of clicks to complete task and compare these to expert performance
- Memorability: how easy it is to remember how to use a product
 - Compare amount of time or clicks to complete a task after the user is away from task for a while.

Evaluating User Satisfaction

User feedback about their interaction with the design.

- Cognitive measures: Mental effort
 - For example were the steps required to complete the task intuitive?
- Emotional measures: Feelings experienced
 - Was the visual layout appealing?
 - Did she feel frustrated while completing the task
 - After completing the task did she have negative or positive emotions about the new design

Usability Requirements Data Sample

Usability Attribute	Measurement Instrument	Value to be measured	Current level	Worst performance level	Planned target level	Best possible level	Observer results
Norman features (M1L2) Initial performance	Benchmark task	Length of time to complete task	15 sec	30 sec	20 sec	10	
Satisfaction	questionnaire	Likert scale -2-1 0 1 2	2	-2	1.5	2	

Evaluating if the design is useful and usable

MUST be in COMPARISON to the

- status quo
- objective outcome

Evaluation in context

Review material from previous modules,
especially

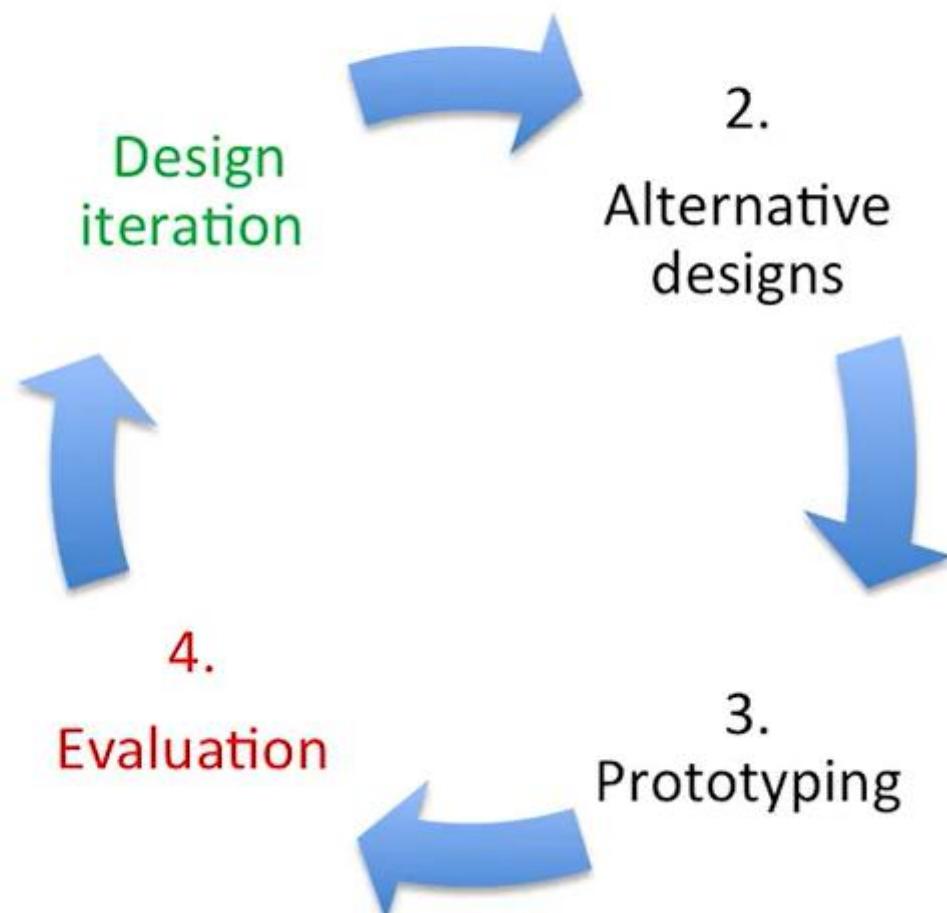
- M1L2-Fundamental features of good design
- M1L3-Cover the essentials of interacting with users
- M2L2-Covers users and data types

Evaluation beyond Usability Testing

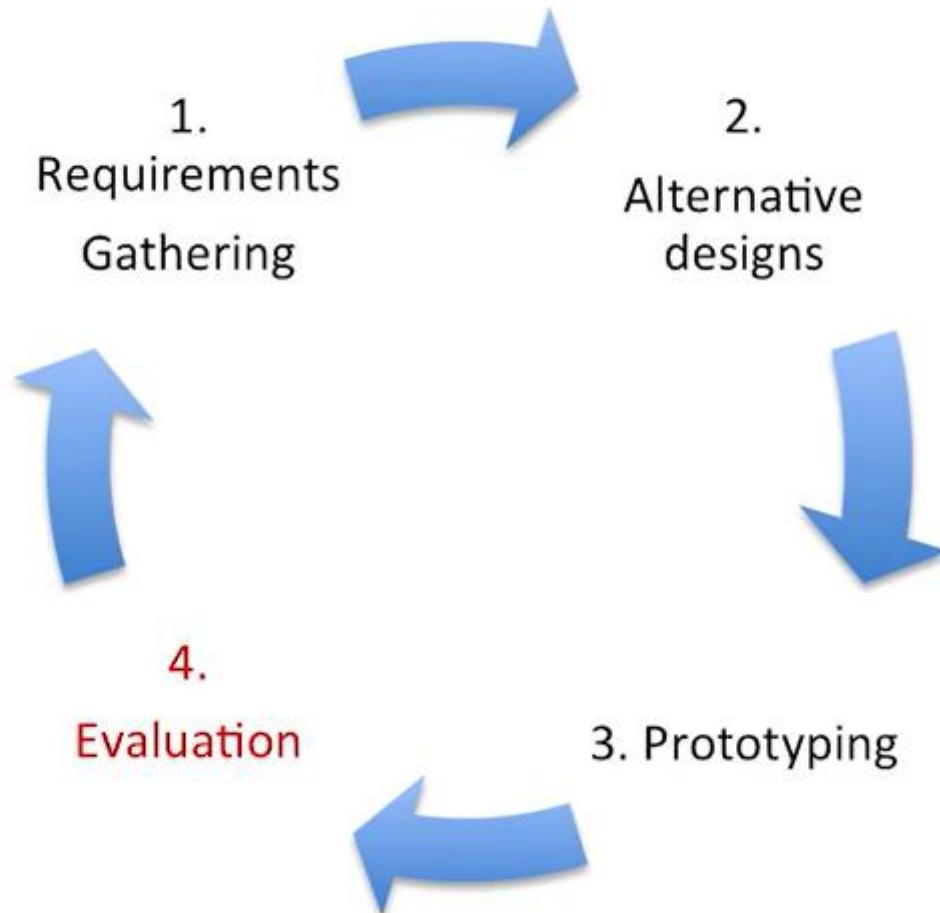
In this course we will **not** cover advanced topics these include

- Analytic evaluation- using experts to “simulate” and predict user performance
 - Heuristic Evaluation
 - Cognitive Walk Through

Evaluation data-Used to improve user experience



Conclusion-Introduction to User Experience Design



Introduction to User Experience Design

Evaluation

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