

Prototypes

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Objectives

- To create a *prototype*



Contents

- I. Card Sorting
- II. Wireframes
- III. Mockups
- IV. User Interface Flow
- V. Prototypes



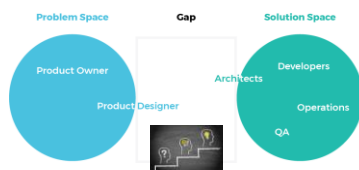
References

1. Jonathan Arnowitz et al. (2007). Effective Prototyping for Software Makers.
2. Karl Wiegers and Joy Beatty (2013). Software Requirements. Microsoft Press.
3. Joy Beatty and Anthony Chen (2012). Visual Models For Software Requirements. Microsoft Press.



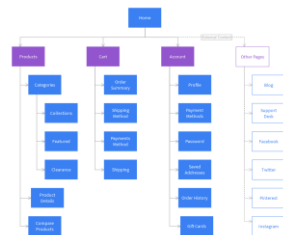
The Big Gap

- The purpose of software is to *solve problems*.
- How do we *design* a solution for the problems?



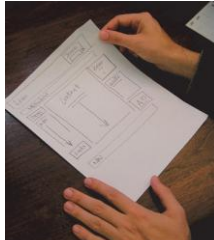
Card Sorting [1]

- Terminologies
- Information categorization
- Organization structure
- *Functions*
- Examples:
 - Site map
 - Conceptual model



Wireframes

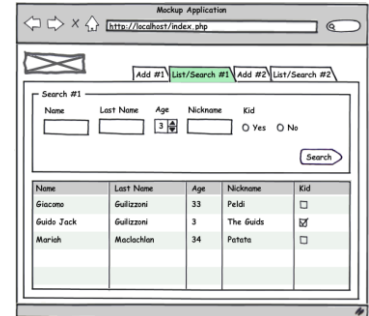
- Structural aspects
- Important task flows and scenarios
- Example:
 - A website home page and section level pages
- *You can use pencil and paper to draw wireframe, then capture it using a camera.*



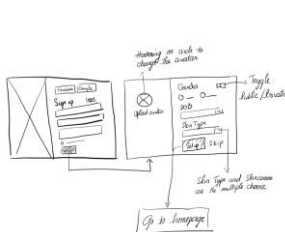
- *What are the inputs?*
- *What are the outputs?*

Creating a Wireframe

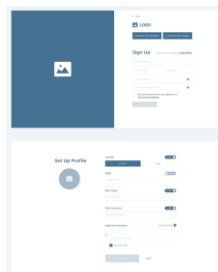
- Menus
- Label
- Text Field
- Text Area
- Date Field
- Drop Down List
- Radio Buttons
- Check Boxes
- File Uploads
- Slider
- Flip Toggle Switch
- Grid



Low and High Fidelity Wireframe



Low fidelity wireframe



High fidelity wireframe

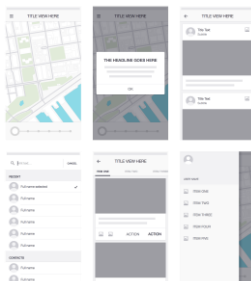
Mockups

- A **mock-up** implies behavior without actually implementing it.
- Mock-up is process flow with real UI and flow.

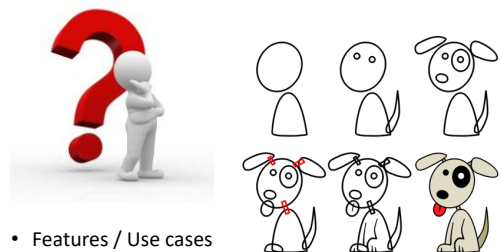


Example Mock-up

- *You can analyze UIs of competitor, capture them, then connect the UIs to demonstrate how a real world problem can be solved.*



How to Create a Mock-up?



- Features / Use cases
- Search for templates
- Brainstorm

Storyboards

- A day in the life of a user or group.
- Critical incidents or critical task situations.
- Use cases in the context of a user's actual tasks.
- A specific plot or *storyline* with *interface mockups*.



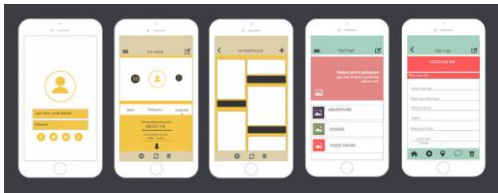
Prototypes [1]

- A *prototype* is any attempt to realize any aspect of software content.
- '*Prototyping*' is externalizing and making concrete a design idea for the purpose of evaluation.

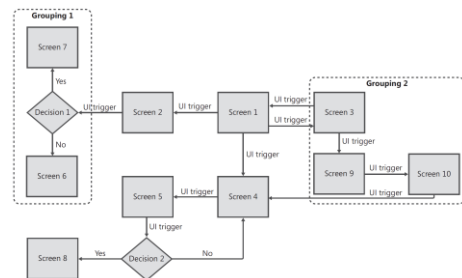


Prototypes [2]

- A *software prototype* is a partial, possible, or preliminary implementation of a proposed new product.

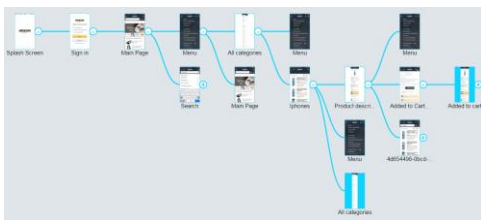


User Interface Flow [3]



UI Prototypes

- UI prototypes are visualized process flows.
- UI prototype is process flow with UI and flow and actions.
- It displays the facades of *user interface screens* and permits some *navigation* between them, but it contains little or no real functionality.

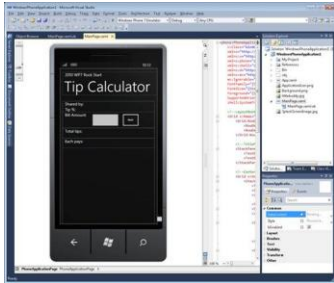


Coded Prototypes

- A day in the life of a user or group.
- Critical incidents or critical task situations.
- Use cases in the context of a user's actual tasks.
- A specific plot or storyline with interface mockups.

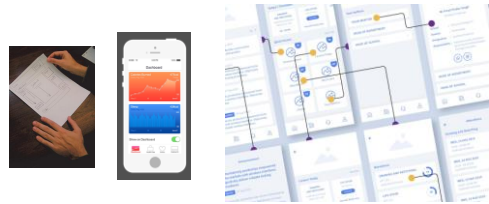


Creating Coded Prototypes



Summary

- Wireframe vs. Mockup vs. Prototype
- User Interface (UI) vs. User Experience (UX)

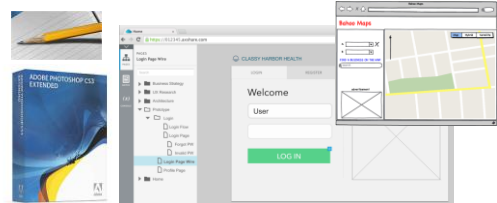


Why Create Prototypes?

- Prototyping can help answer the following questions:
 - Will the design work *properly*?
 - Can the design be produced *economically*?
 - How will *users* respond to the design?
 - Which *approach* can be taken to get from concept to product?
 - How can prototyping support *product design* specification?
 - How can prototyping contribute to better *product scheduling* and *budget planning*?



Prototyping Tools



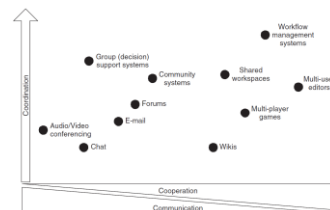
Balsamiq Mockups <http://balsamiq.com/>
 Axure RP <http://www.axure.com/>
 Fluid UI <https://www.fluidui.com/>
 Adobe XD <https://www.adobe.com/sea/products/xd.html>
 Proto.io <https://proto.io/>

Icons

- <https://fontawesome.com/>
- <https://material.io/resources/icons/>

Further Reading

- Till Schummer and Stephan Lukosch (2007). Patterns for Computer-Mediated Interaction.
 - Groupware applications.



Thank You & See You Again

