






# UX Design

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## The 5 Competencies of User Experience Design

	Information Architecture  The interface structure and navigation scheme	Interaction Design  The page-level layout, task fulfillment and component flow	Usability Engineering  The study of discrepancies between expected and actual user behavior	Visual Design  The consistent visual treatment of elements and components	Prototype Engineering  The functioning composition of proposed interactive concepts
Groundwork	<ul style="list-style-type: none"> <li>Contextual analysis</li> <li>Business process</li> <li>Business rules</li> <li>Product branding</li> <li>Product roadmap</li> <li>UI roadmap</li> <li>Corporate &amp; product strategy</li> <li>Re-finability</li> </ul>	<ul style="list-style-type: none"> <li>Visual framework</li> <li>User feedback</li> <li>Labels &amp; content</li> <li>Error placement</li> <li>User assistance</li> <li>Form design &amp; flow</li> <li>Button groups &amp; placement</li> <li>Page-element hierarchy</li> <li>Element key states</li> <li>Product branding</li> <li>Page-level information hierarchy</li> <li>Application-level consistency</li> <li>User motivation</li> <li>Task context</li> <li>Use of UI library components</li> <li>Information dashboard content</li> </ul>	<ul style="list-style-type: none"> <li>Test goals</li> <li>Test scripts / tasks</li> <li>Navigation</li> <li>Content / terminology</li> <li>Presentation</li> <li>Interaction</li> <li>Participant recruiting</li> <li>Summative testing</li> <li>Formative testing</li> <li>Recommendations</li> <li>Working prototype environment</li> </ul>	<ul style="list-style-type: none"> <li>Visual hierarchy</li> <li>Similarity</li> <li>Proximity</li> <li>Color</li> <li>Texture</li> <li>Shape</li> <li>Direction</li> <li>Size</li> <li>Typeface</li> <li>Context</li> </ul>	<ul style="list-style-type: none"> <li>Page-element interactive states</li> <li>Designer's intentions</li> <li>Page template / type</li> <li>Technical approach</li> <li>Existing UI framework</li> <li>UI patterns</li> <li>UI components</li> </ul>
Deliverables	<ul style="list-style-type: none"> <li>Global elements</li> <li>Navigation patterns</li> <li>Application structure diagram</li> <li>Structure diagram with page types</li> <li>Information hierarchy</li> <li>High-level nomenclature</li> </ul>	<ul style="list-style-type: none"> <li>User goals</li> <li>Functional inventory</li> <li>Component requirements</li> <li>Layout patterns / page types</li> <li>Wireframes</li> <li>Storyboards</li> <li>Key states</li> </ul>	<ul style="list-style-type: none"> <li>Usability plan and scripts</li> <li>Usability sessions</li> <li>Usability findings</li> <li>Surveys</li> <li>Feedback</li> <li>Recommendations document</li> <li>Session recordings</li> </ul>	<ul style="list-style-type: none"> <li>Treatment definition</li> <li>Mockups</li> <li>Style guide</li> <li>Key states treatment</li> <li>Assets</li> </ul>	<ul style="list-style-type: none"> <li>UI component library</li> <li>Prototypes</li> <li>Variations on UI patterns</li> </ul>

S. Psomas 10-31-07

# Information Architecture

- Business level analyzes
- UI structure analyzes

## Information Architecture



The interface structure and navigation scheme

### Groundwork

Contextual analysis  
Business process  
Business rules  
Product branding  
Product roadmap  
UI roadmap  
Corporate & product strategy  
Re-findability

### Deliverables

Global elements  
Navigation patterns  
Application structure diagram  
Structure diagram & page types  
Information hierarchy  
High-level nomenclature

# Information Architecture

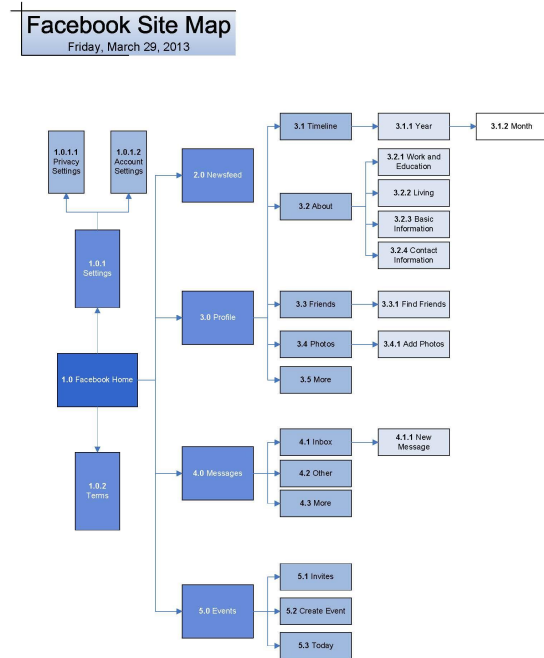
Answers questions like:

- What are users primary goals?
- How do users navigate in the user interface?
- What is the applications optimal scope and feature set?
- How are products featured and components branded?

# Information Architecture Deliverables

## Site map

- Hierarchical diagram of the applications views.



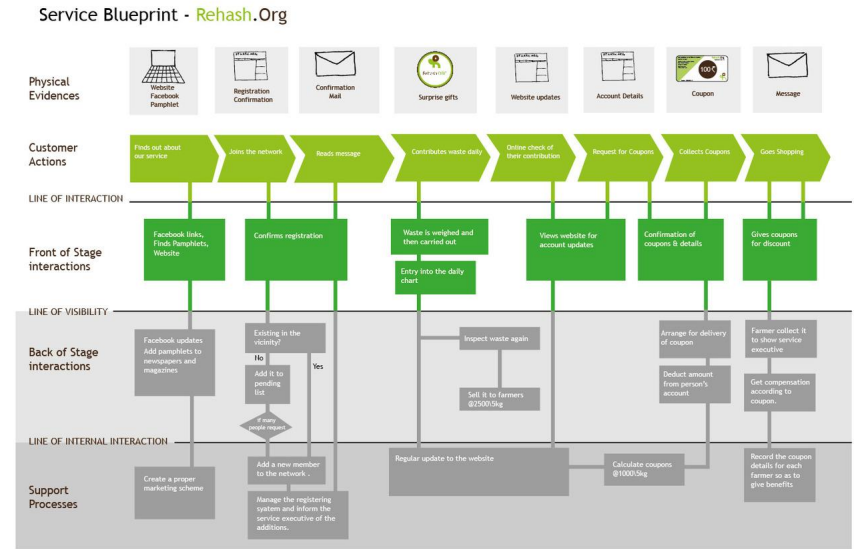


XCOM: Enemy Unknown UI map

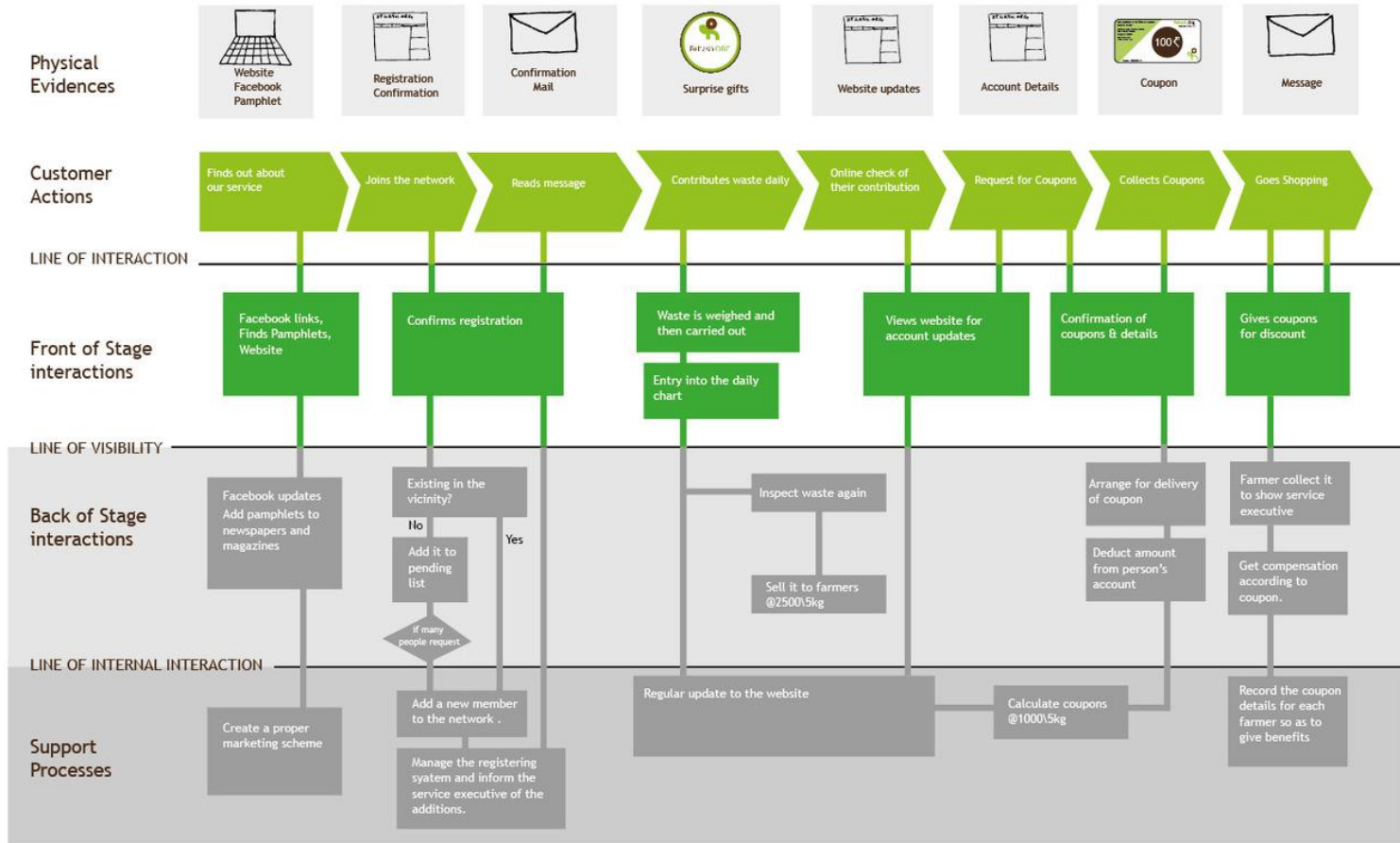
# Information Architecture | Service Blueprint

Service blueprint displays all touchpoints between the client and brand, as well as internal processes involved.

- Customer actions
- Frontstage actions
- Backstage actions
- Support processes
- Physical evidence



# Service Blueprint - [Rehash.Org](http://Rehash.Org)





# Information Architecture | Personas

Personas are a way of documenting target audience.

- Usually made up.
- Used during design process.

TASKS
Task 1
Task 2
Task 3
Task 4
Task 5

Discovery vs. Specific	
Discovery	Specific
<ul style="list-style-type: none"><li>- when [x1]</li><li>- when [x2]</li><li>- when [x3]</li><li>- when [x4]</li><li>- when [x5]</li><li>etc.</li></ul>	<ul style="list-style-type: none"><li>- when [x1]</li><li>- when [x2]</li><li>- when [x3]</li><li>- when [x4]</li><li>- when [x5]</li><li>etc.</li></ul>

## Persona: John Smith



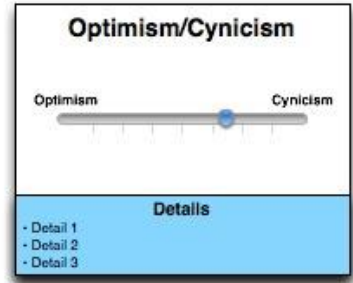
### Details

**Age:** 25  
**Sex:** Male  
**Location:** San Diego, CA  
**Occupation:** Marketing Assistant at Local Restaurant  
**Hobbies:** Video Games, Movies, Surfing  
**Likes:** Food, Girls, Geek Culture  
**Dislikes:** Baseball, Country Music, Windows (PCs)

**Other facts:**

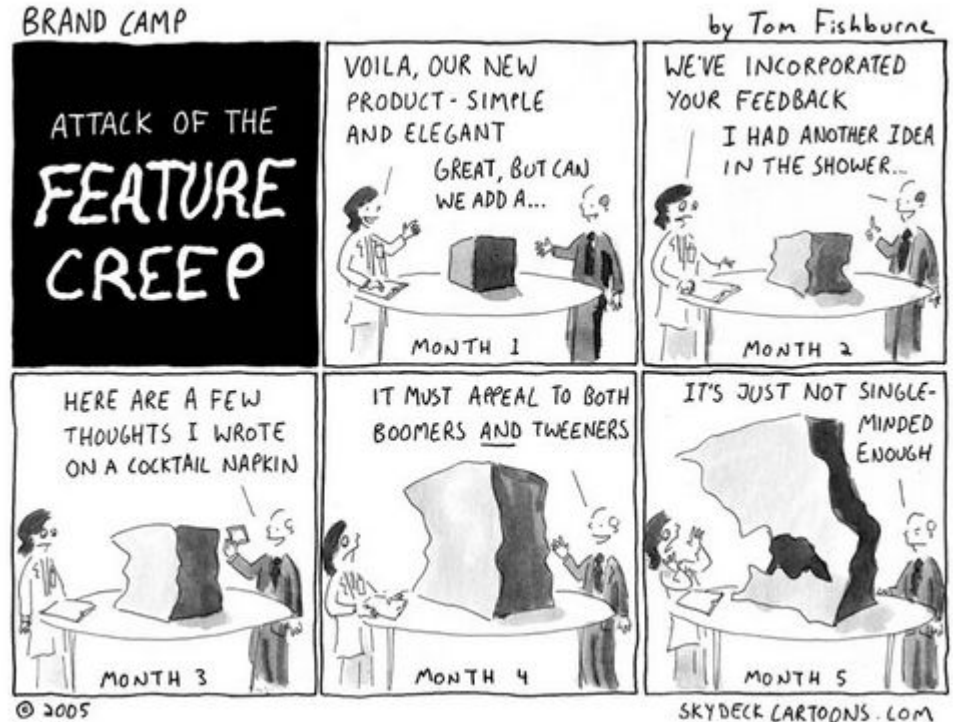
- Has an iPhone and iPad, uses frequently
- Lived in Virginia until 15
- On internet about 6-7 hours per day.
- Uses phone more than his laptop

Mental Model
Mental Model Detail 1
Mental Model Detail 2
Mental Model Detail 3
Mental Model Detail 4
Mental Model Detail



# Information Architecture | User Stories

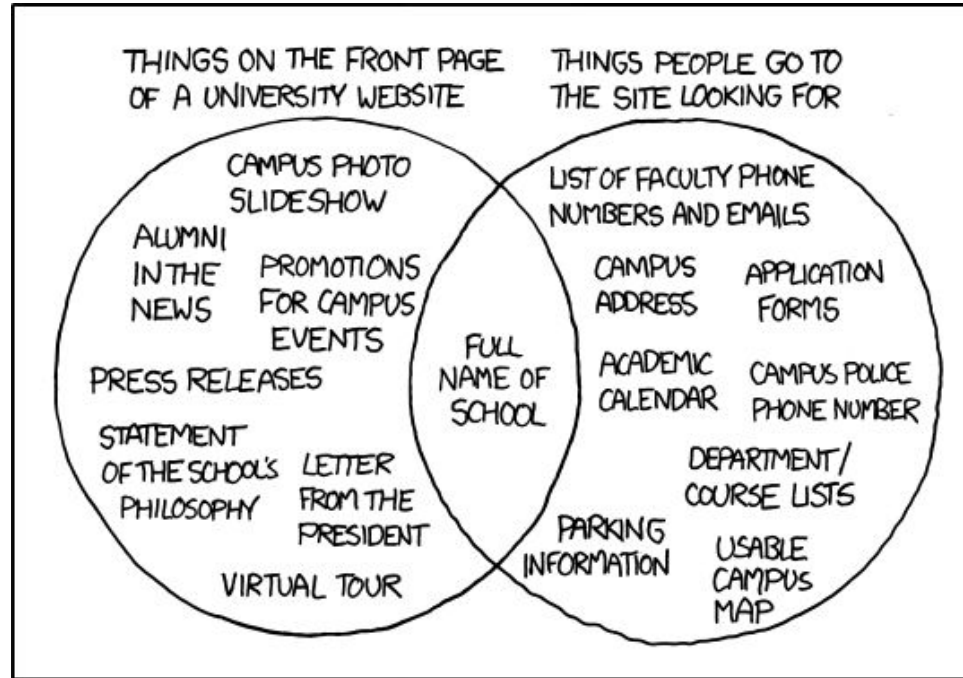
- Help keep the product user focused.
- Help prevent feature creep.
- As a user i want to [user goal].



# Information Architecture

- Consumer journey map
- User storiesEcosystem map
- Competitive audit
- Value Proposition
- Stakeholders Interviews
- Key performance Indicators

# Information Architecture



# Interaction Design

Answers questions like:

- Which layout pattern to use?
- How to draw on users intuition?
- What happens mouse/keyboard input?
- How to maintain consistency through application?
- Which UI components to use?

<http://www.uxmatters.com/mt/archives/2007/11/images/interactionDesign.gif>

## Interaction Design



The page-level layout, task fulfillment, and component flow

### Groundwork

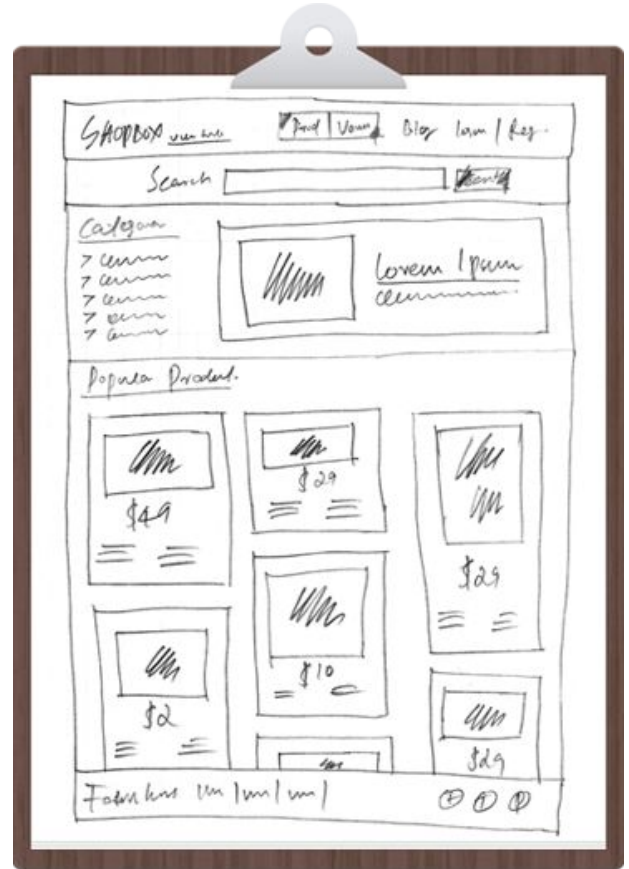
Visual framework  
User feedback  
Labels & content  
Error placement  
User assistance  
Form design & flow  
Button groups & placement  
Page-element hierarchy  
Element key states  
Product branding  
Page-level information hierarchy  
Application-level consistency  
User motivation  
Task context  
Use of UI library components  
Information dashboard content

### Deliverables

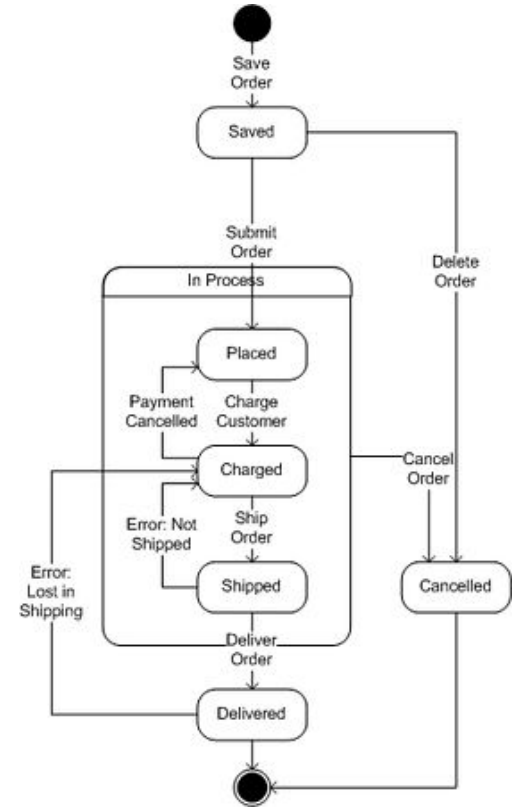
User goals  
Functional inventory  
Component requirements  
Layout patterns / page types  
Wireframes  
Storyboards  
Key states

# Interaction Design | Wireframe

- Shows placement of UI elements in a view.
- Usually in a single color.
- No visual style



# Interaction Design | Statechart



<http://sehlhorst.smugmug.com/photos/139621064-M.jpg>

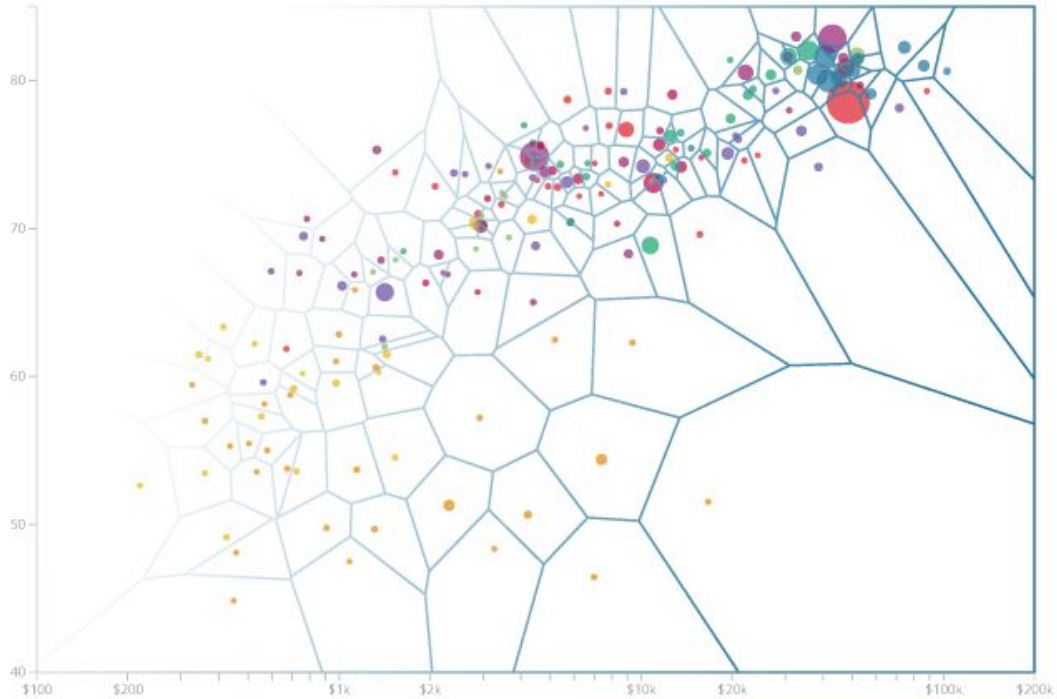
# Interaction Design | Statechart

In groups of n, create a state chart of an operating system graphical file browsers file selection states.

- Mouse input
- Modifier keys
- Keyboard commands
- Traversing the file tree



# Interaction Design | Voronoi



# Interaction Design

## Methods and deliverables

- User goals
- Flow chart
- Layouts
- Storyboards

# Interaction Design



# Functional Animation

Functional animation is:

- Subtle
- Clear
- Serves a logical purpose in design

Based on article<sup>[8]</sup> by Amit Daliot

# Functional Animation | Orientation

- Used to show transition between views
- Open/close hidden panels
- Avoids surprising transition
- Keeps user oriented

Example Videos:

[1](#)

[2](#)

# Functional Animation | Same location, new action

- Emphazises change in function of an UI element.

Example Videos:

[1](#)

[2](#)

# Functional Animation | Zoom In

- Zooms into an element from a list
- Similar to orientation group
- New view should share the dominant color of listed element.
- New view should have a clear button to return to previous list.

Example Videos:

[1](#)

[2](#)

# Functional Animation | Visual hint

- Hints user of a hidden action
- Hints user of an unconventional transition method.

Example Videos:

1

2

3



# Functional Animation | Highlight

- Used to highlight outcome of an action.
- Great for competing with noisy background/layout.

Example Videos:

[1](#)

# Functional Animation | Simulation

- Simulate topics that are otherwise hard to convey.

Example Videos:

[1](#)

# Functional Animation | Visual Feedback

- Acknowledge the user's action.
- Creates “tactile” feeling.

Example Videos:

1

2

# Functional Animation | System Status

- Used to entertain user while waiting.

Example videos:

[1](#)

[2](#)

# References

1. [The five competences of user experience design](#)
2. [Do not put labels inside text boxes](#)
3. [Using a D3 Voronoi grid to improve a chart's interactive experience](#)
4. [UX Methods and Deliverables](#)
5. [UX 101: The Wireframe](#)
6. [Documenting the Design of Rich Internet Applications](#)
7. [You are a Developer? So, you are a UX Designer.](#)
8. [Functional Animation In UX Design](#)

Thank you!

# Usability Engineering

Fancy words for testing

## Usability Engineering



The study of discrepancies between expected and actual user behavior

### Groundwork

- Test goals
- Test scripts / tasks
- Navigation
- Content / terminology
- Presentation
- Interaction
- Participant recruiting
- Summative testing
- Formative testing
- Recommendations
- Working prototype environment

### Deliverables

- Usability plan and scripts
- Usability sessions
- Usability findings
- Surveys
- Feedback
- Recommendations document
- Session recordings

# Visual Design

- Art stuff

## Visual Design



The consistent visual treatment of elements and components

### Groundwork

Visual hierarchy

Similarity

Proximity

Color

Texture

Shape

Direction

Size

Typeface

Context

### Deliverables

Treatment definition

Mockups

Style guide


Key states treatment

Assets



# Prototype Engineering

- This really doesn't need it's own design category.

Prototype Engineering	
	 The functioning composition of proposed interactive concepts
Groundwork	Page-element interactive states Designer's intentions Page template / type Technical approach Existing UI framework UI patterns UI components
Deliverables	UI component library Prototypes Variations on UI patterns