

Today's Agenda

- Team project
- Project management plan
- Project examples

Review: Six Design Principles

1. Visibility – Can I see it?
2. Feedback – What is it doing now?
3. Affordance – How do I use it?
4. Mapping – What is the relationship between things?
5. Constraint – Why can't I do that?
6. Consistency – I think I have seen this before?

6. Consistency

- Designing interfaces that have similar operations and use similar elements for achieving similar tasks
- Easy to learn and use

Finder File Edit View Go Window Help

Safari File Edit View History Bookmarks Window Help

Photoshop File Edit Image Layer Select Filter View Window Help

6. Consistency



6. Consistency

1

The screenshot shows the top portion of the website. It includes a navigation bar with links like 'Home', 'About', 'Contact', and 'Subscribe'. Below that is a search bar and a 'Subscribe' button. The main content area features several article snippets with titles like 'Google to Blog?' and 'Serious internet news services monitored by The Blog Herald'.

2

This screenshot shows a search bar at the top with the text 'Search'. Below it is a list of article titles and snippets, including 'Anglophobes Converging on ushers' and 'The Spammer Diet'.

3

This screenshot shows a search bar and a list of article titles and snippets, including 'Student's blog includes death threats' and 'Future search efforts will make Google look like S-tracks'.

4

This screenshot shows a search bar and a list of article titles and snippets, including 'How to blog in 5 posts' and 'Instead of postcards, senator sends Web postcards'.

5

This screenshot shows a search bar and a list of article titles and snippets, including 'Scoble vs Microsoft' and 'The Real Gilligan's Island'.

6

This screenshot shows a search bar and a list of article titles and snippets, including 'Biogginetwork launches new celebrity blog' and 'Feedster launches new look, quicker search'.

7

This screenshot shows a search bar and a list of article titles and snippets, including 'YouTubers Riot Against Paris Hilton' and 'Amanda Congdon has something cooking'.

8

This screenshot shows a search bar and a list of article titles and snippets, including 'bh Blog Herald' and 'Query_Posts and Your Homepage Design'.

8

This screenshot shows a search bar and a list of article titles and snippets, including 'The Top 100 Blogs' and 'Is a blog without comments still a blog?'.

Why Design is Hard...

- Tradeoff when applying multiple design principles
- Number of things to control has increased dramatically
- Displays are more virtual/artificial
- Marketplace pressure
 - Adding operations cheaper (computers)
 - Adding controls expensive (real estate, cost)
- Errors becoming increasingly serious

Try and Try Again

Norman thinks that it often takes 5 or 6 tries to get something “right”



Case Study

Suppose you are designing an online learning/tutorial module for college students taking Math 141.

How do you apply these design principles in your project?

1. Visibility
2. Feedback
3. Affordance
4. Mapping
5. Constraint
6. Consistency

Team Project

Objective: Design an alternative interface for a computer-based application

You are free to pick your topics:

Design/redesign

- A webpage,
- A smartphone app, ...

Team Project

Deliverables

- A written report of topic definition & understanding problem
- Design alternatives presentation
- Interim reports, e.g., evaluation plan, user testing report
- System prototype
- Final group presentation scheduled at the final exam time
- Final written report

Team Project Grading Policy

Grading policy (45% in your final grade)

- “Topic definition & understanding problem” (5%)
- Design alternatives presentation (5%)
- Final group presentation (10%)
- Final written report (15%)
- Participation grade (10%)
 - grades of interim reports * peer evals

Group Assignment

- Group assignment will be posted in Blackboard on Friday, Sep. 8
- *Contact your team members and start to work on the team project!*

First Group Project Deliverable

Each group should submit a written report of “Topic definition and understanding of the problem” including

- An introduction of the topic
- A discussion about the system/interface's purpose and requirements
 - Who are the users
 - What are the system's major functions
 - What are the environmental conditions and constraints
- A project management plan with a Gantt Chart

Each team only needs to submit a single report

Due in Blackboard 11:59 pm EST, Sunday, Sep. 24

Working in Teams

Project Management

Project Planning

- Planning helps you
 - Identify tasks
 - Order tasks
 - Identify resources
- Estimate how long tasks will take
- Essentially all industry and government projects will require you to have a project plan



Pete's Estimating Laws

1. Everything takes longer than you think (esp. early on)
2. Schedules are (almost) always wrong.
3. Under-estimated early task affects later tasks
4. Good schedule estimate is 80% confidence for near term deliverables, 60-80% for long-term deliverables.
5. Revisit the schedule and revise your estimates

How do you make a project plan?



How do you make a project plan?

- Define the scope and stay on track
 - What needs to be accomplished
 - What product is being developed
 - What information is going to be covered
- Size of the project ...
- A kickoff meeting

How do you make a project plan?

- Identify target audience
 - Existing or new
 - Avoiding being too broad

How do you make a project plan?

- Set measurable objectives
 - User goals – users' task scenarios
 - Usability goals – effective, efficient, etc.

Important Resource

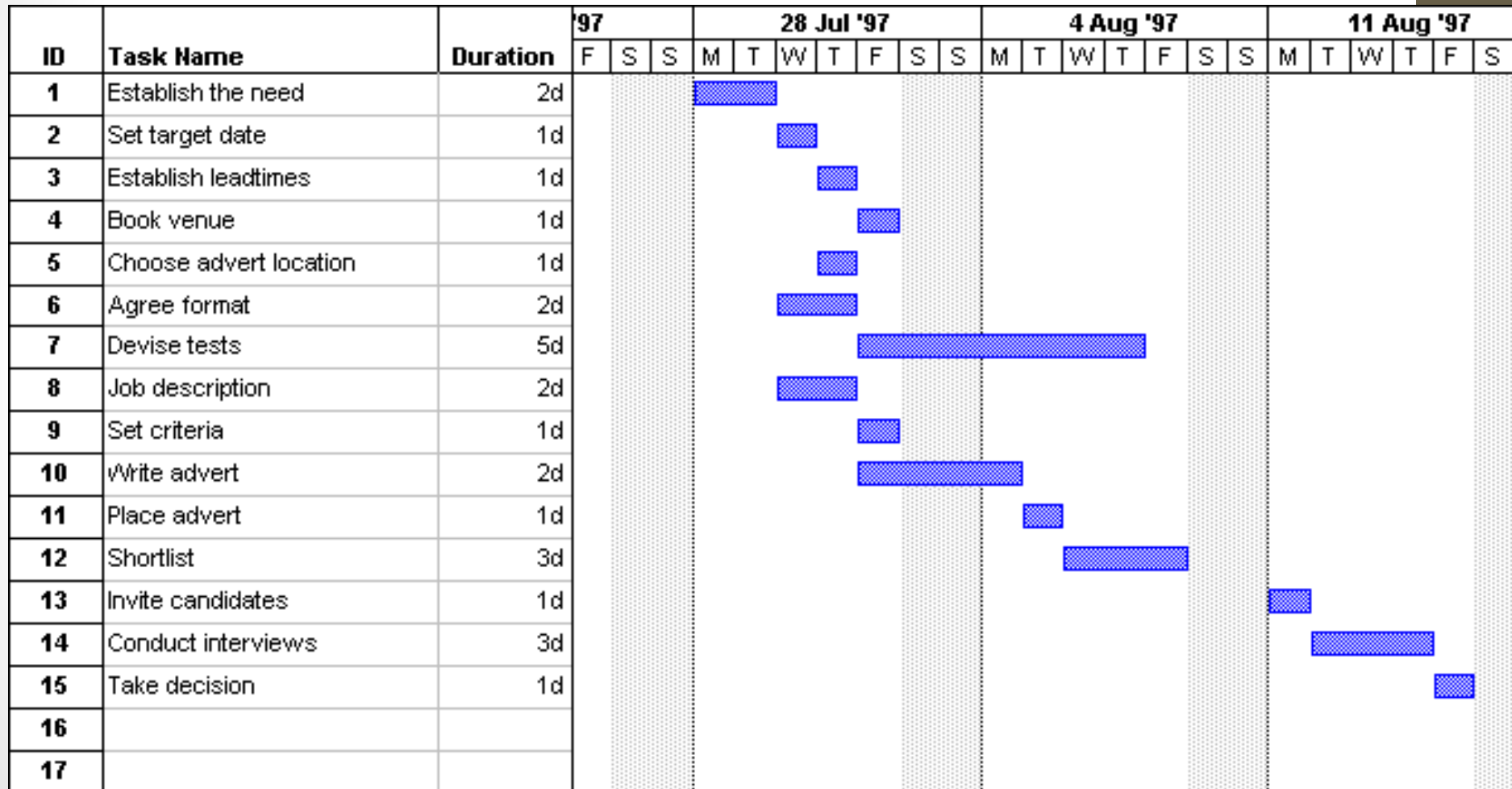
- <https://www.usability.gov/>
 - Methods
 - Templates
 - Guidelines



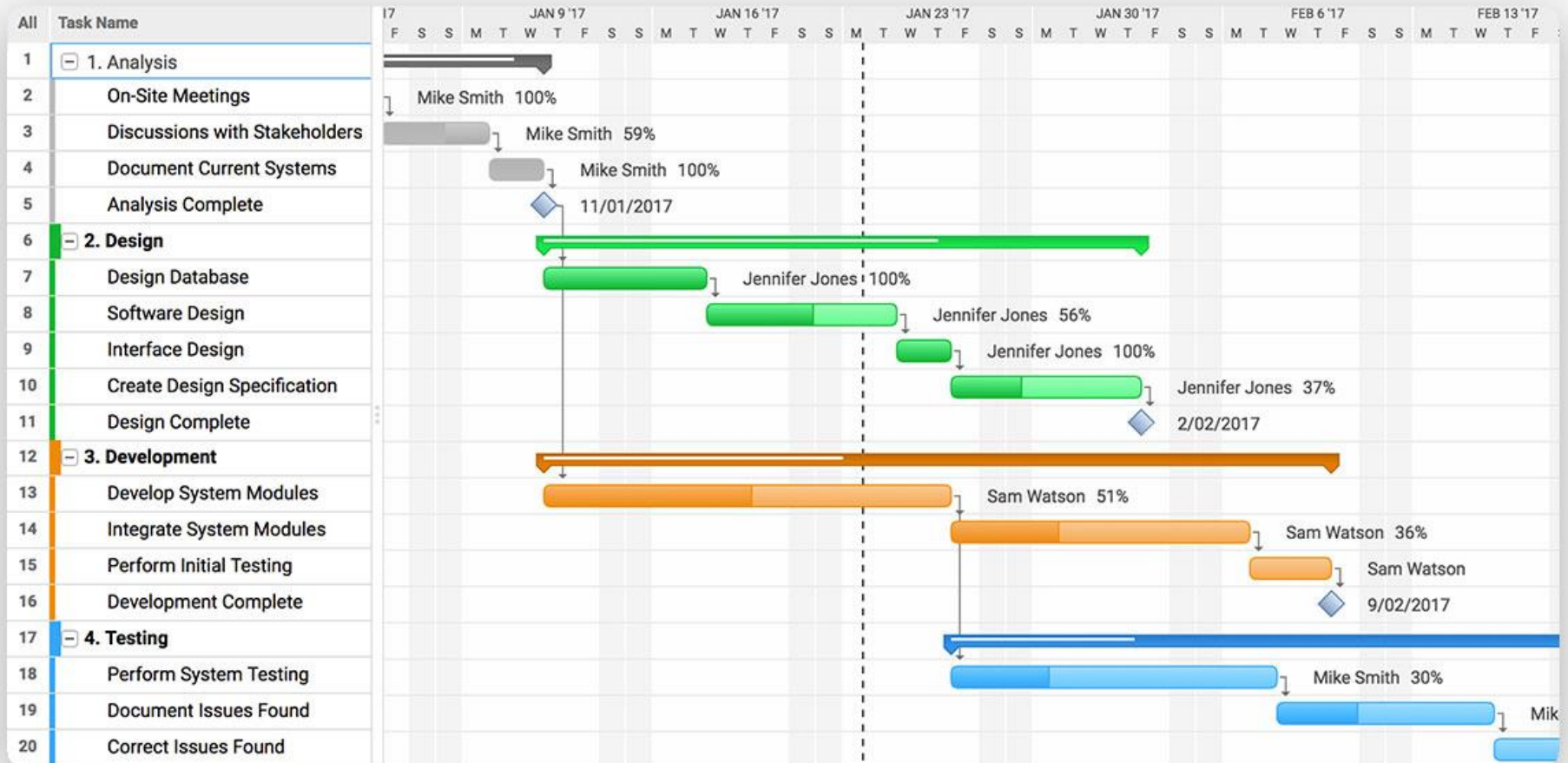
Task Timelines (Gantt Charts)

- Temporal view of the entire lifetime of the project
- Show when tasks take place and complete
- Useful for tracking progress: How does the actual progress compare with the planned schedule?
 - The timeline can show graphically how much of each task has been completed at a given time
 - Revisit the timeline as the project progresses

Gantt Chart (example 1)



Gantt Chart (example 2)



<https://www.projectmanager.com/gantt-chart>

What Dr. Tong expects to see

- Gantt Chart
 - Refer to this EVERY TIME YOU MEET WITH YOUR GROUP

Note taking - Document

Responsibilities, due dates, goals

- I expect you to do this....
 - Who does What
 - Person, task, dependencies, who impacted
- Example
 - *“Georgette will interview 5 subject matter experts by this upcoming Friday and send the materials to Stephanie, who will transcribe the data. Transcription is planned to be done on the following Tuesday. Coding with the group is set for Wednesday.”*
- **Document everything**

Examples of Projects (Ideas)



LiveFREE

live free from chemicals and allergens



Our Mission

We **connect** people who strive to **live free of harmful chemicals and allergens**. We make **dining** less stressful, finding **safe products** easier, and create a **network** of individuals who all want to live free.

The Problem



- 15 million Americans
- 1 in every 13 children
- food prepared outside of the home = ½ fatal reactions
- Trace amounts of allergens can trigger a severe reaction
 - “May contain” or “processed in a facility that also processes” labeling not required

Food Allergy Symptoms

Mild	Severe
Hives	Swelling of lips, tongue, throat
Eczema	Shortness of breath
Vomiting	Loss of consciousness
Diarrhea	Chest pain
Runny nose	Death

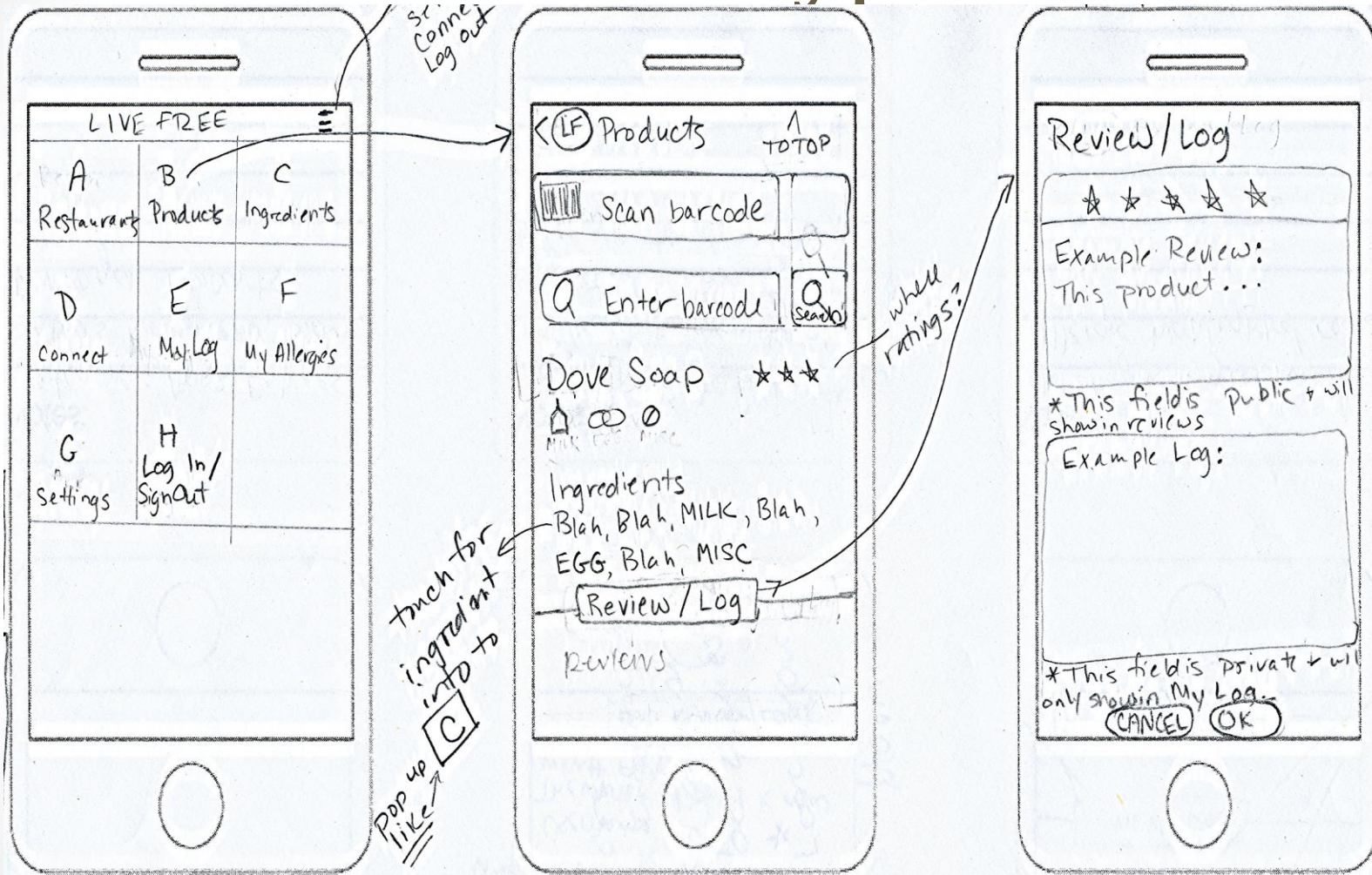
Food & Personal Product Additives

Additive	Reported Reactions	Purpose	Found in
Sulfites	Chest tightness, hives, stomach cramps, diarrhea, breathing problems, anaphylaxis	Preservative	Wine, dried fruits, white grape juice, frozen potatoes, maraschino cherries, fresh shrimp, and certain jams and jellies
Aspartame	Hives, headaches, swelling of the eyelids, lips or hands	Sweetener	Diet foods
Parabens	Severe contact dermatitis (redness, swelling, itching and pain)	Preservative	Sunscreens, shampoos, foods, medications
Tartrazine	Hives, swelling, asthma attacks	Dye	Beverages, candy, ice cream, desserts, cheese, canned vegetables, hot dogs, salad dressings, seasoning salts, catsup
MSG	Hives, headache, burning sensation on back of neck, chest tightness, nausea, diarrhea, sweating, more severe asthma attacks	Enhance flavors	Oriental foods, manufactured meat, poultry.

Food & Personal Product Additives

Additive	Reported Reactions	Purpose	Found in
Nitrates and nitrites	Headaches and hives	Preservative, prevent botulism, enhance flavors, color foods	Hot dogs, bologna, salami and other processed meats and fish.
BHT and BHA	Chronic hives and other skin reactions	Prevent color, odor, & flavor changes	Breakfast cereals and other grain products
Benzoates & preservatives	Hyperactivity, hives, itching, pain, headaches, more severe asthma attacks. May be carcinogenic.	Preservative	Soft drinks, cakes, cereals, salad dressings, candy, margarine, oils, dry yeast

Wireframe Prototype



"a wireframe is a visual illustration of a web page... to show you where each item should be placed on a page." Usability.gov

Evaluation Methods

1. Card Sorting

1.1 Main Menu

1.2 Restaurant Page

1.3 My Allergies

1.4 Menu Categories

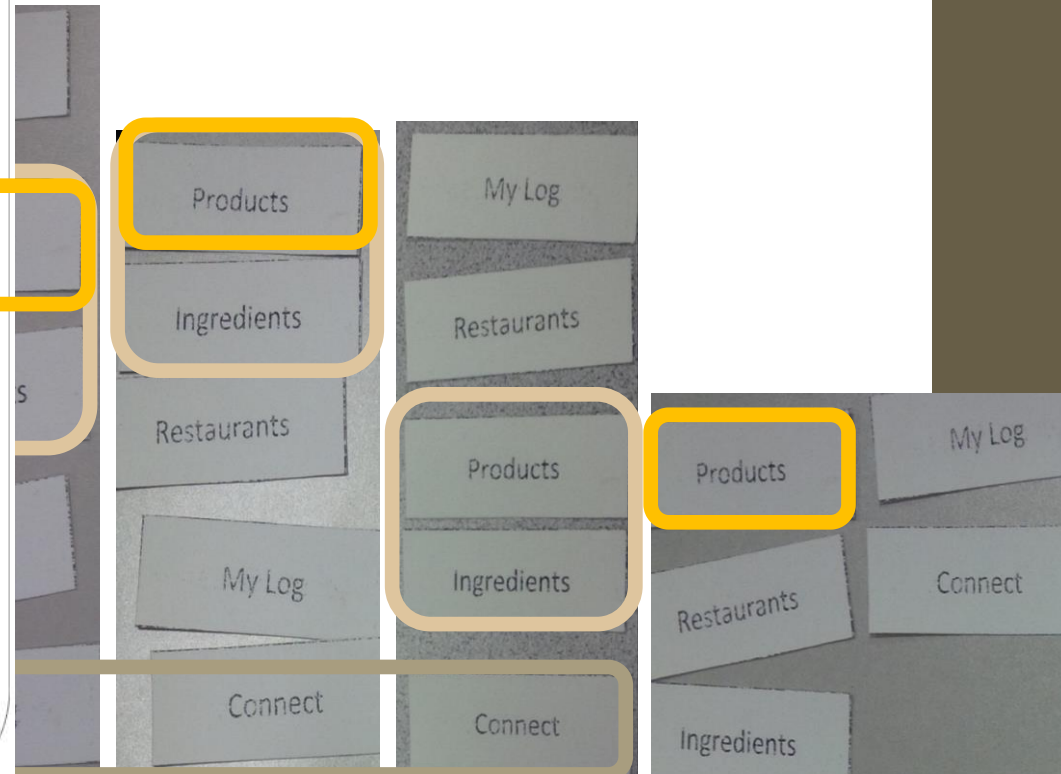
2. Questionnaire

3. Heuristic Evaluation

1. Card Sort Trends

1.1 Main Menu

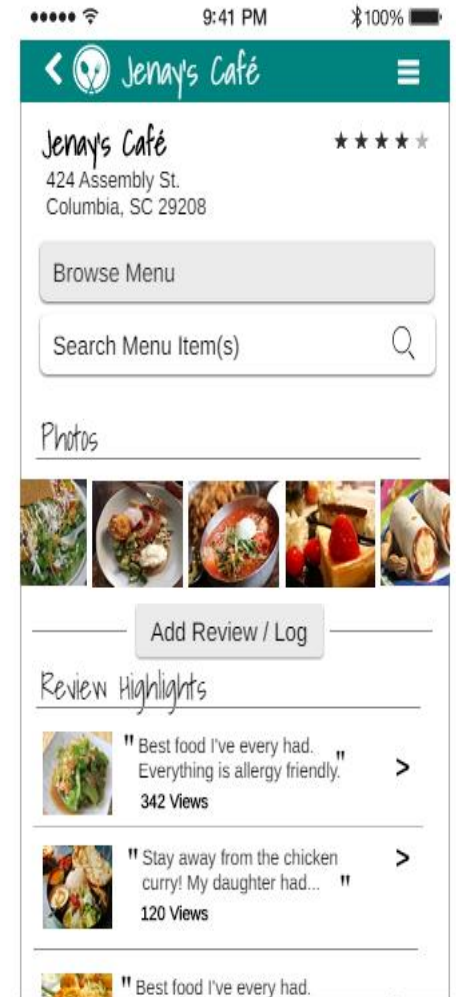
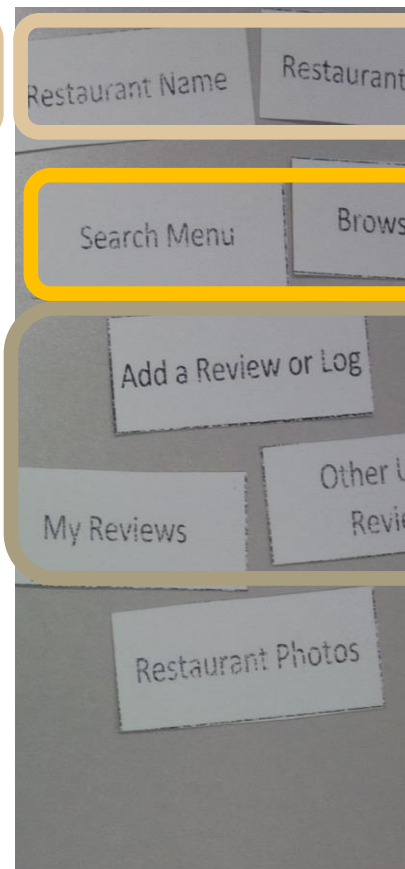
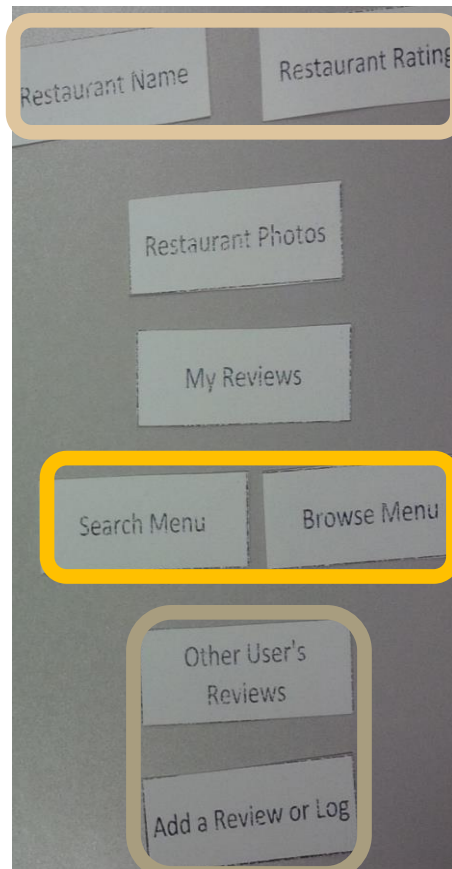
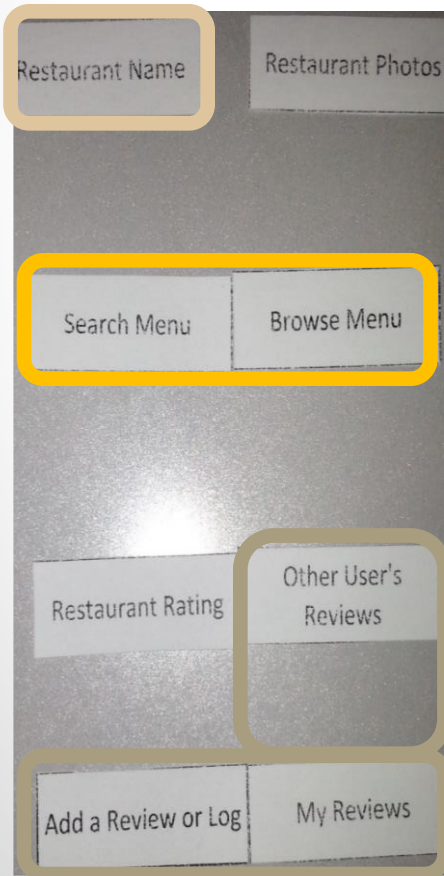
Help design or evaluate the information architecture of a website

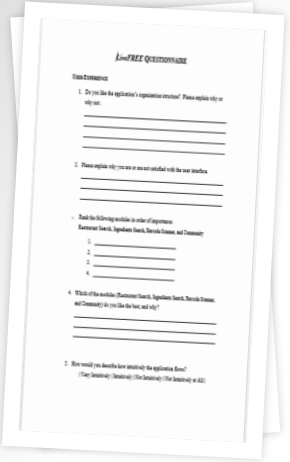


1. Card Sort Trends

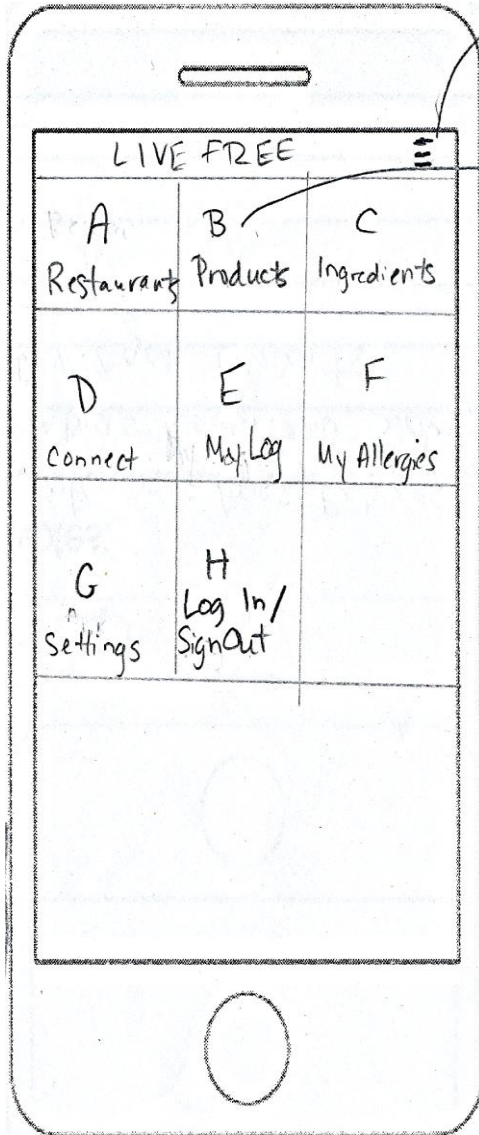
1.2 Restaurant

- 1 Restaurant name and rating first
- 2 Search Menu and Browse Menu together
- 3 Review related items together and last



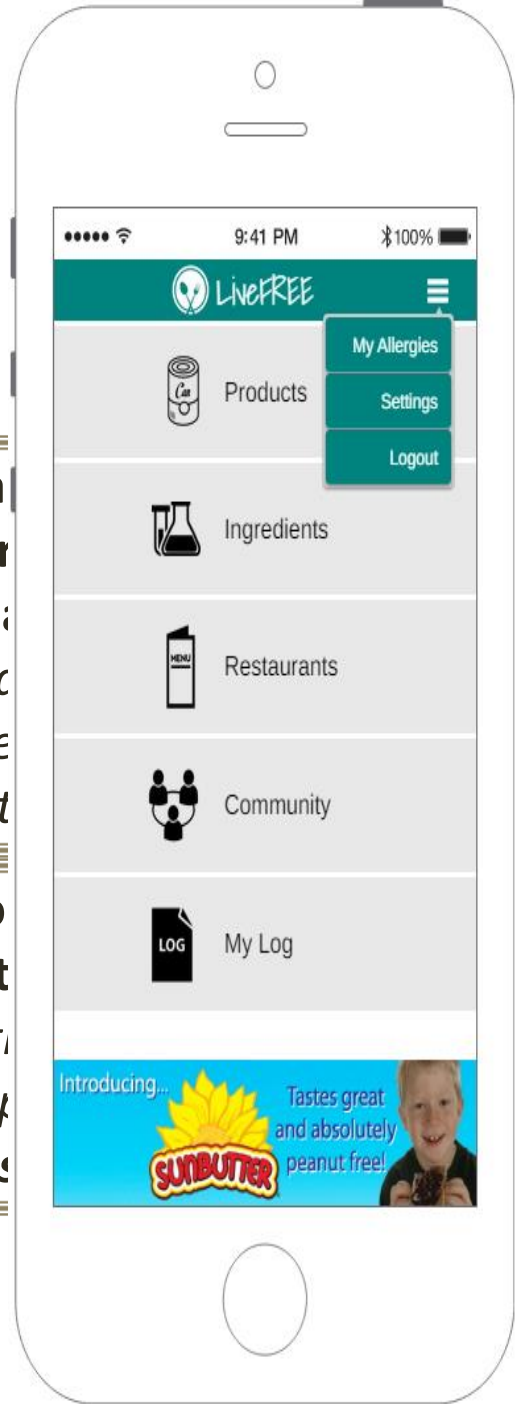


2. Questionnaire

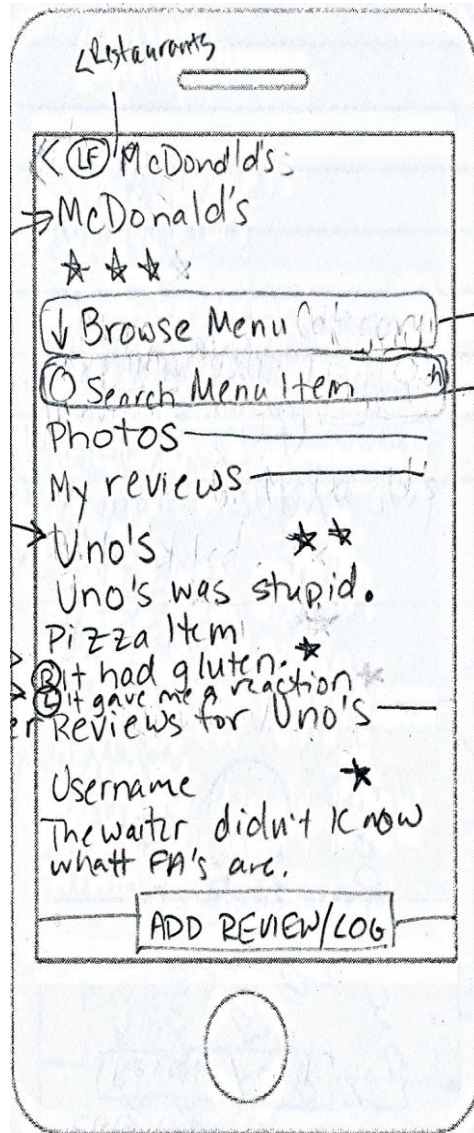
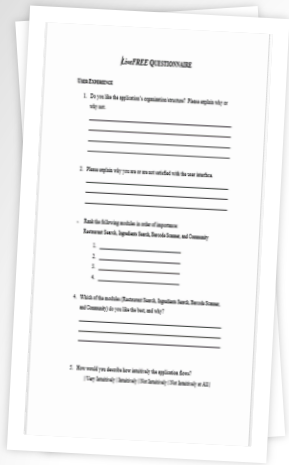


Please provide a
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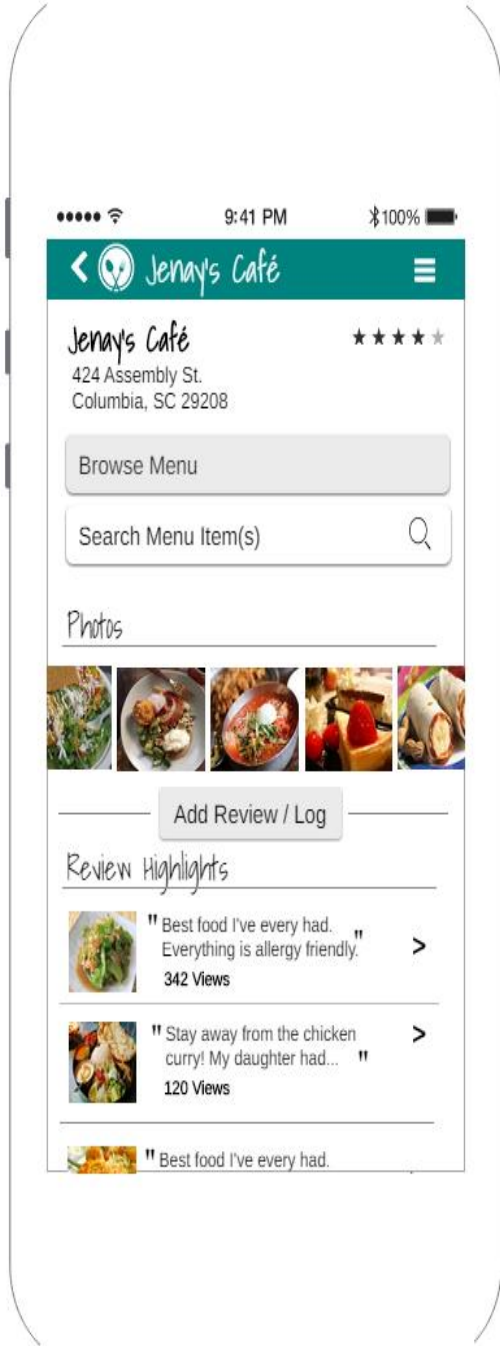
Any other co
suggest
“I am a little part
page. I might p
squares or a lis



2. Questionnaire



Please provide suggestions for improving application interface. "Restaurant seems a bit cluttered"



3. Heuristic Evaluation

1. *Visibility of system status*

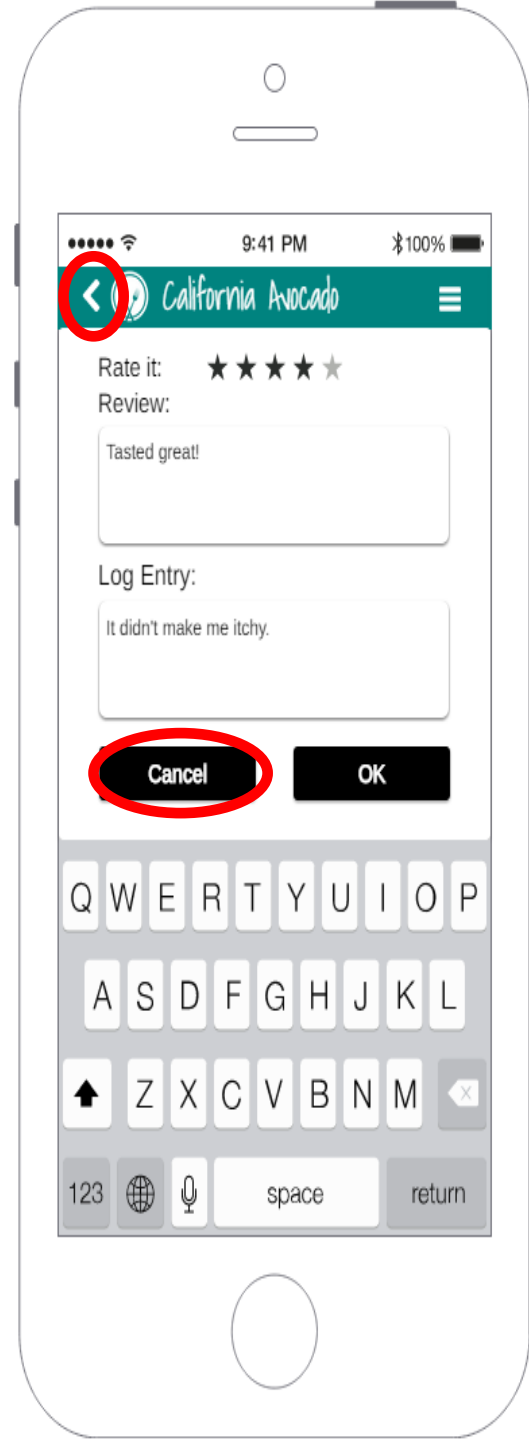
- *My Allergens: the buttons of each allergen remain highlighted in a toggle functionality*

2. *Match between system and the real world*

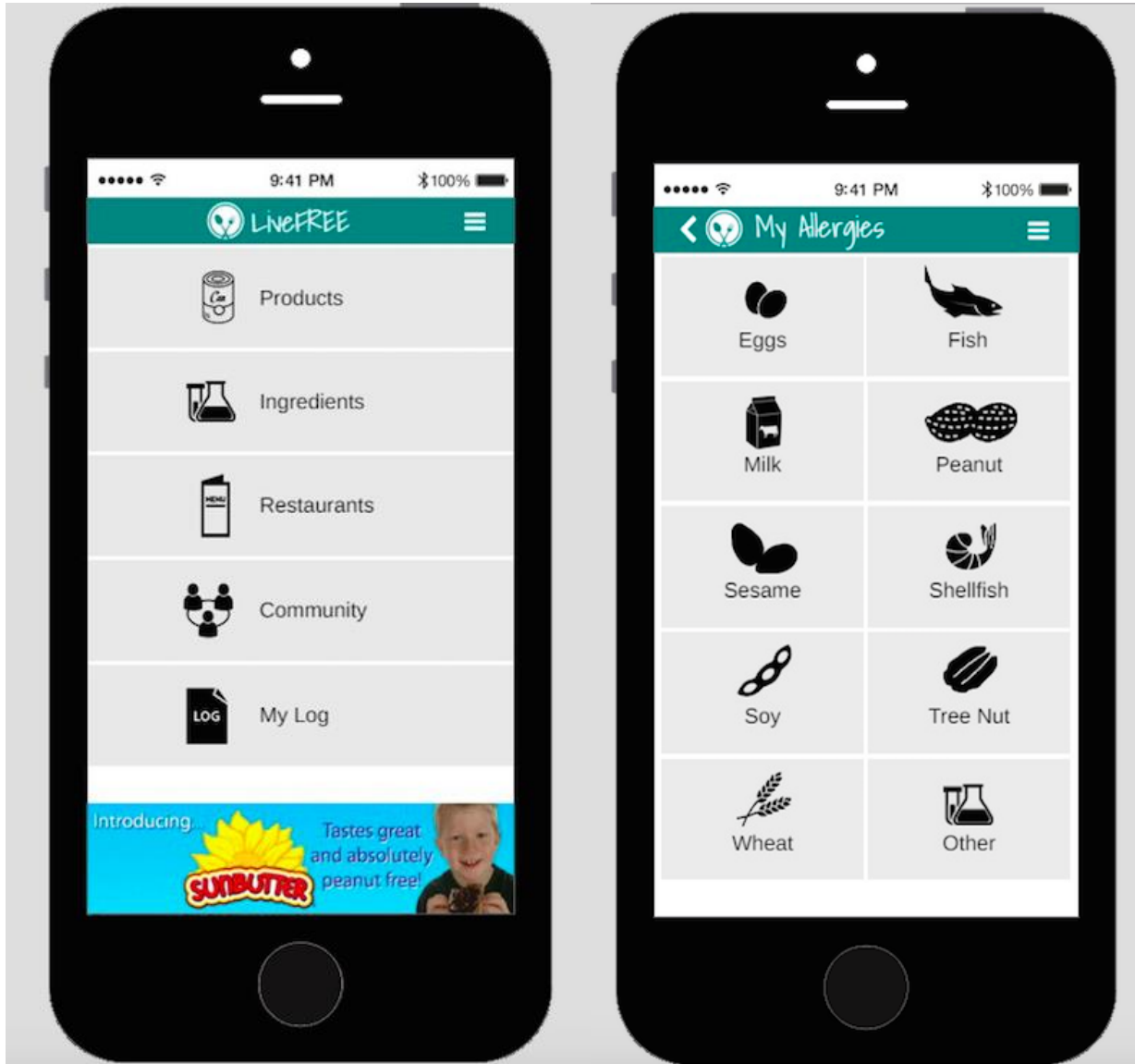
- *Users didn't always know what Connect was*
- *Term “Community” used more than connect to represent social interaction between users*
- *Renamed Connect to Community*

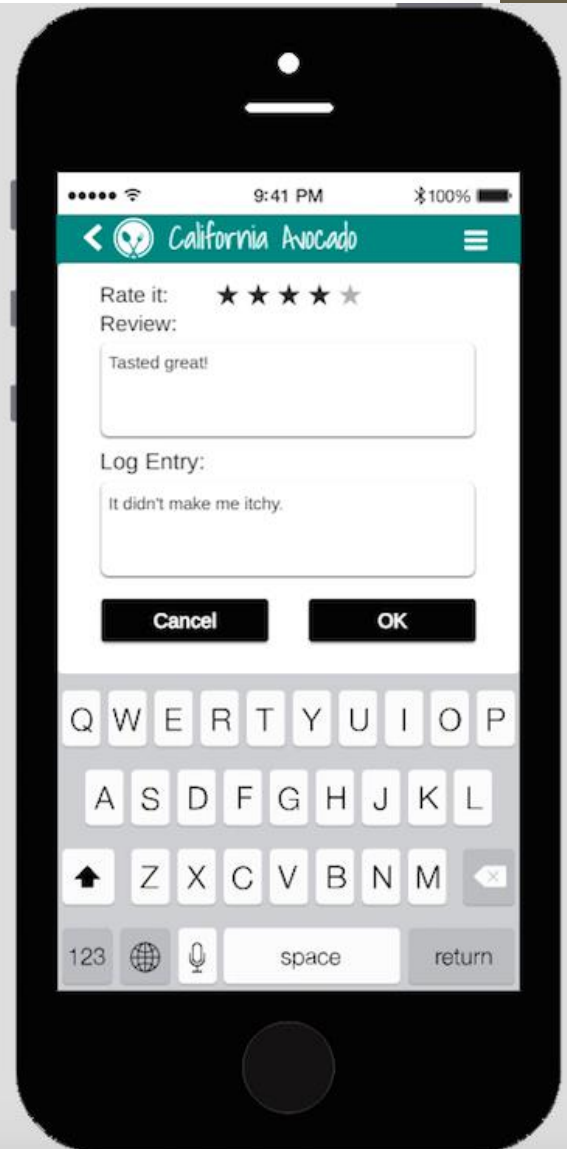
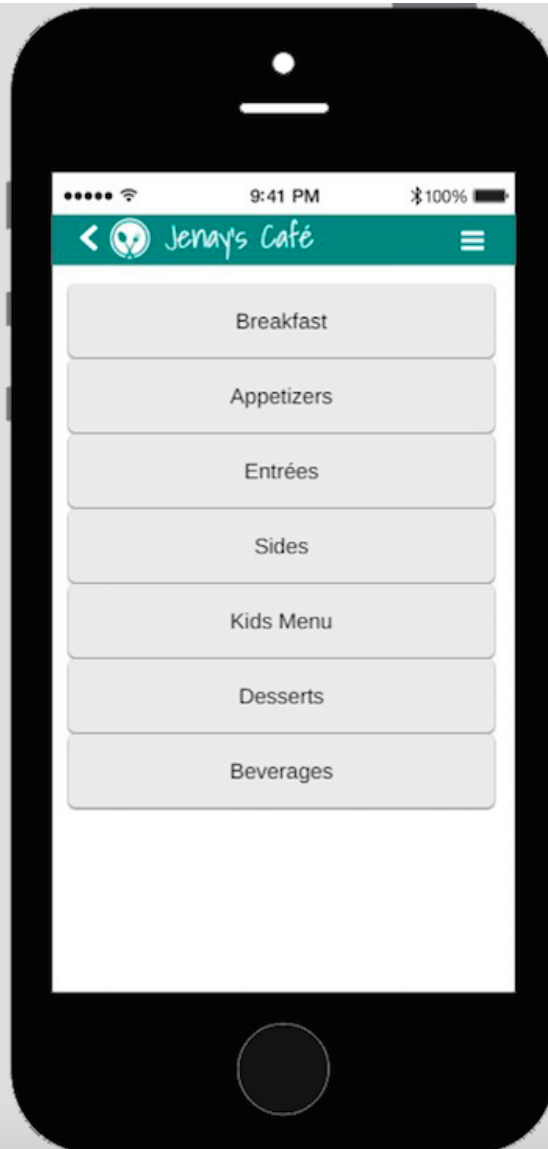
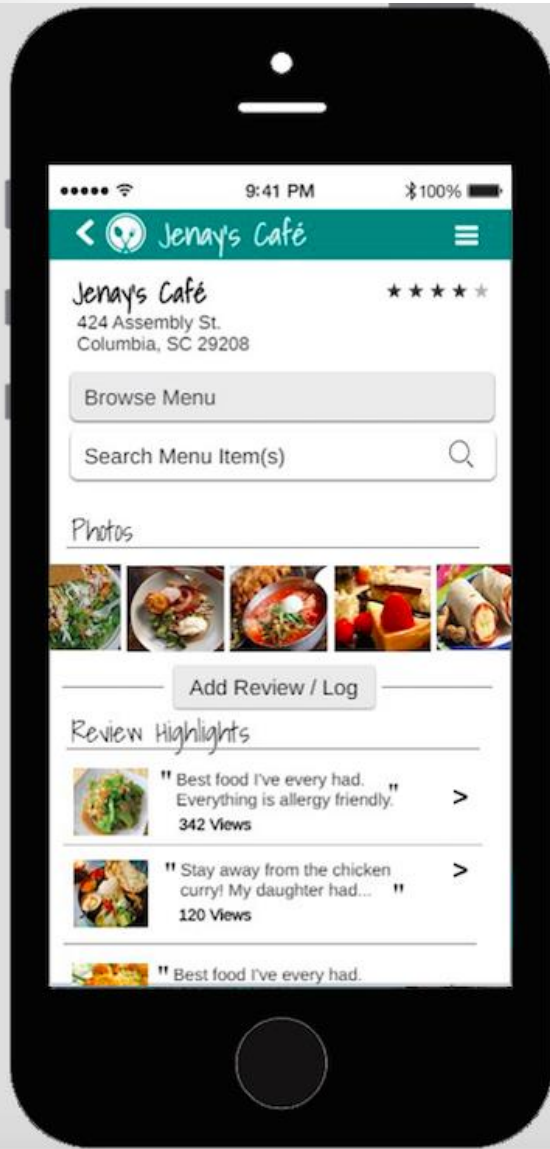
3. *User control and freedom*

- “Back” functionality on each page. “<” is a common convention
- **Review/Log pop up:** features a “Cancel” button.



High Fidelity Prototype Demo





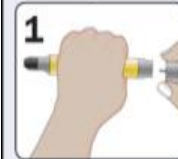
Future Content: Anaphylaxis Emergency

Action Plan

- Provide Symptoms
- Provide Epinephrine Demonstrations
 - Epi-Pen
 - Adrenaclick
 - Auvi-Q
 - EpiPen Jr
- Instructions to call 911
- Store doctor contact info

Area	Symptom
MOUTH	itching, swelling of lips and/or tongue
THROAT*	itching, tightness/closure, hoarseness
SKIN	itching, hives, redness, swelling
GUT	vomiting, diarrhea, cramps
LUNG*	shortness of breath, cough, wheeze
HEART*	weak pulse, dizziness, passing out

How to give EpiPen® or EpiPen® Jr



1
Form fist around EpiPen® and PULL OFF GREY SAFETY CAP.



2
PLACE BLACK END against outer mid-thigh (with or without clothing).

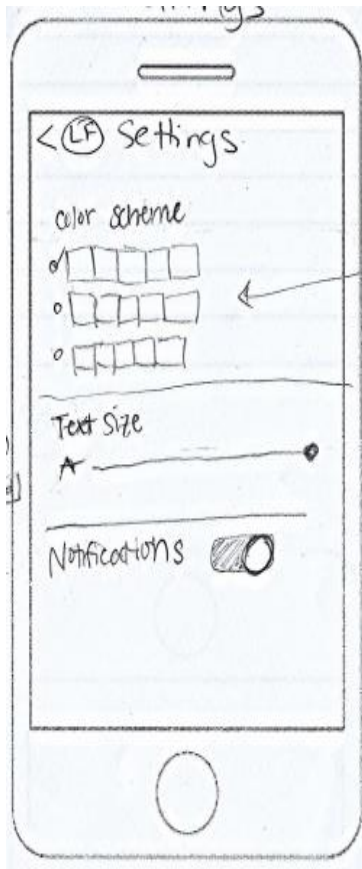


3
PUSH DOWN HARD until a click is heard or felt and hold in place for 10 seconds.



4
REMOVE EpiPen® and DO NOT touch needle. Massage injection site for 10 seconds.

Future Content

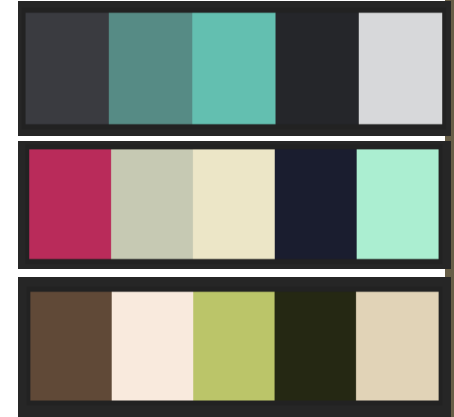


Customization

- Color Scheme
- Font size

Improvements

- Include "Add menu item"



References

1. FARE Medical Advisory Board. “Food Allergy Facts and Statistics for the U.S.” Food Allergy Research & Education. 2013.
<http://www.foodallergy.org/document.doc?id=194>.
2. Fenton, Nancy Elizabeth, Cicutto, Lisa, Clarke, Ann E., Elliott, Susan J., Harada, Laurie and McPhee, Elizabeth. “Illustrating Risk: Anaphylaxis Through the Eyes of the Food-Allergic Child.” Society for Risk Analysis, 10.1111/j.1539-6924.2010.01488.x. 2010.
3. Morris, M. “Food Allergies, Sensitivities & Intolerances.” The Root of Health. 2011. <http://www.therootofhealth.com/food-allergies-intolerances/>
4. AAFA Editorial Board. “Food Additives.” Asthma and Allergy Foundation of America. 2005.
<http://www.aafa.org/display.cfm?id=9&sub=20&cont=285>.

Questions?

- That's all for today!
- What's next?
 - We have talked about setting a foundational knowledge of what HCI is all about
 - Next, we start working in groups!
 - Project management
 - Start thinking about topics/ideas over the weekend!

Quiz #1

Quiz # 1 is available in Blackboard.

Due date: **2:30pm EST, Tuesday, Sep. 5**

Open book and open notes