

FoodBack

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FoodBack facilitates communication between chefs and patrons.

Problem Solution and Overview:

In cafeterias across America, hungry patrons are left unsatisfied and chefs receive little or no feedback on their cooking. We hope to provide a simple way for chefs to better manage their kitchen and produce satisfying dining experiences for their patrons. Our approach centers around creating a public digital board that would allow patrons to easily submit feedback to chefs in a fun, quick way. In turn, the feedback is automatically integrated into a digital recipe book that chefs can utilize to better plan and create meals. Finally, the application provides the ability for chefs to leave comments and feedback for their patrons, completing the feedback loop and enhancing patrons' understanding of their dining experience. Simply stated, we want better feedback and better food.



An example of the description interface, where chefs can add comments about the food that the user ate (left text). The user can in turn give feedback on the chef's changes (right text).

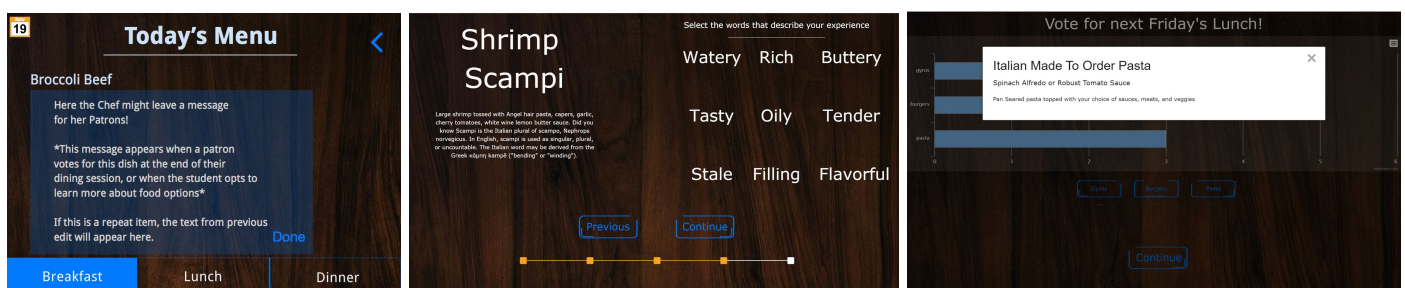
Tasks & Final Interface Scenarios

Task 1: Chef Leaving Comments for Patrons: The chef can easily leave comments about the dishes he creates through his recipe book. Patrons will see these comments as they are submitting feedback. It is important to keep the communication loop connected in both directions in order to show patrons the effort that chefs make. This provides patrons an opportunity to learn more about the food they consume.

Task 2: Patron Submitting Feedback: This may be the most critical portion of the process, as it is necessary for the chefs to continuously receive feedback to better cater their meals to their patrons. Our biggest challenge was providing relevant incentives for the patron to complete the form and making it simpler, more fun, and more useful than traditional surveys. We did so by engaging various simple but fun feedback formats, including dragging food items onto plates, clicking adjectives, and rating with stars.

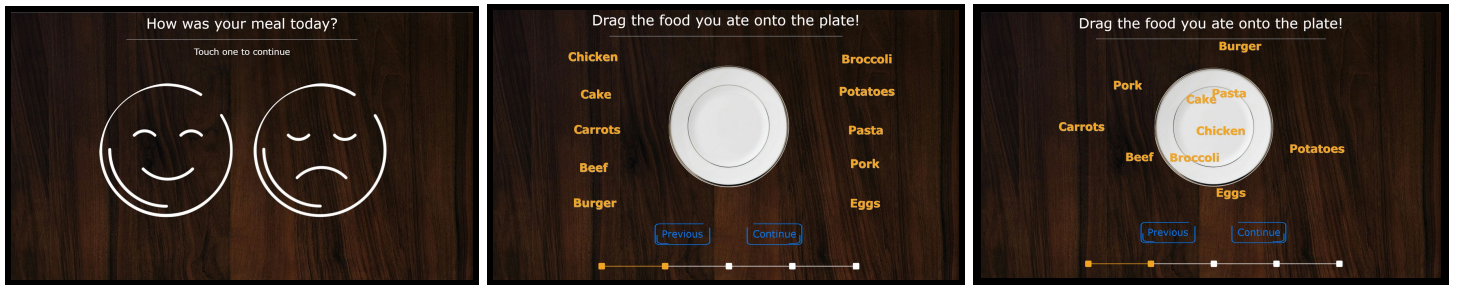
Task 3: Chef Meal Planning: Our discussions with chefs indicated that feedback should be directly integrated with meal planning. So, we embedded patron feedback into the chef's digital recipe book, from the recipe list to item pages and meal calendars. Ultimately, the interface permits chefs to implement patron feedback in their short-term and long-term meal planning.

Task 1: The chef may add comments about changes made to a dish.



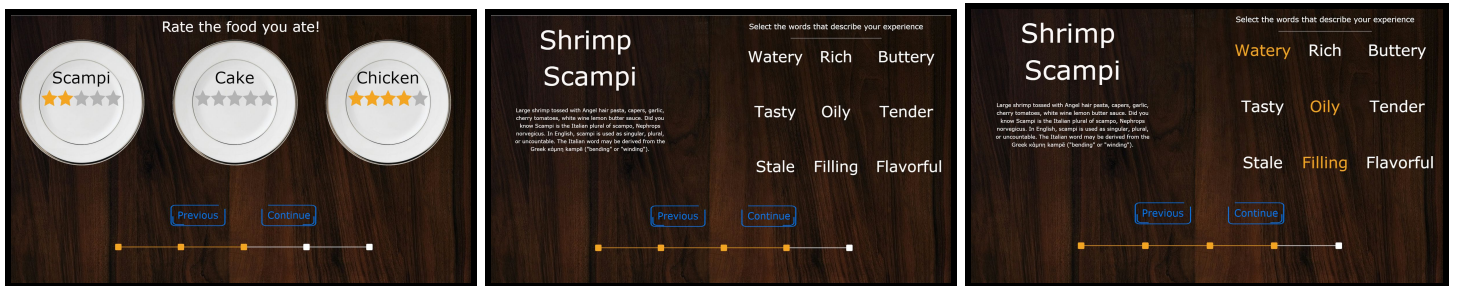
The chef can add a description on their daily menus (left), which patrons see when providing feedback (middle) and when voting on items for future meals at the Student Voting Page (right)

Task 2 pt. 1 (Below-left): Patrons are drawn in with a simple positive/negative query about meals.



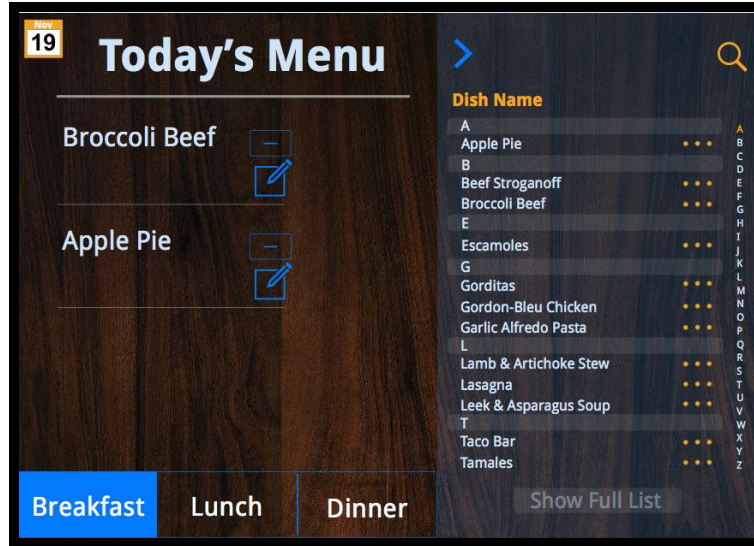
Task 2 pt. 2 (Above): Patrons indicate which dishes they ate by dragging food items onto the plate. (Above-Center: initial layout, Above-Right: after dragging)

Task 2 pt. 3 (Below-left): The patrons rate some of the dishes they ate.



Task 2 pt. 4: The patron applies adjectives to two dishes (Above-middle, Above-right).

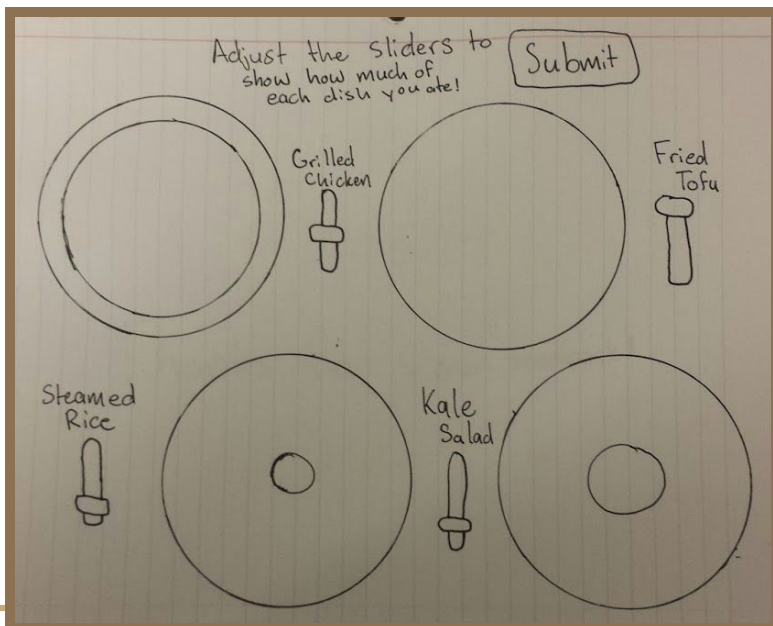
Task 3: The chef plans out her menu



Chef can access digital recipe book, storing voting data and other information

Design Evolution

Student/Patron Interface: We pursued several design principles when creating FoodBack. On the patron side we sought simplicity — minimizing learning curves for patrons; interactivity — making it fun to engage through a mix of interfaces; and flexibility — maintaining functional integrity, even when patrons do not complete the feedback. In this vein, patron feedback urged us to make FoodBack simpler as we iterated through our prototypes, from the experience prototype through the hi-fi prototype.



Originally, Foodback featured a page where students would report how much of a certain dish they ended up eating. This was ultimately cut in favor of keeping the feedback task quick and simple.

Initially, we hypothesized that the system would be fun enough to encourage routine use. However, we found that patrons required incentives to routinize participation. After talking about what they would like to see as a reward, we observed that patrons wanted a direct impact on what meals chefs would create. Using this information, we created a voting system during the survey process in order to incentivize participation in a tangible, interactive way.

Chef Interface: We initially designed an interface that displayed patron data in all sorts of graphs and charts, but the chefs unanimously felt overwhelmed and unsure of how to interact with the data. So, we decided to simplify. Speaking with Stanford dining-hall staff, we discovered that chefs increasingly have their recurring recipes digitized, which moved us to implement a solution that would integrate user feedback into their digital recipe books. Thus, we bring feedback to a place where they are already managing and planning their meals.

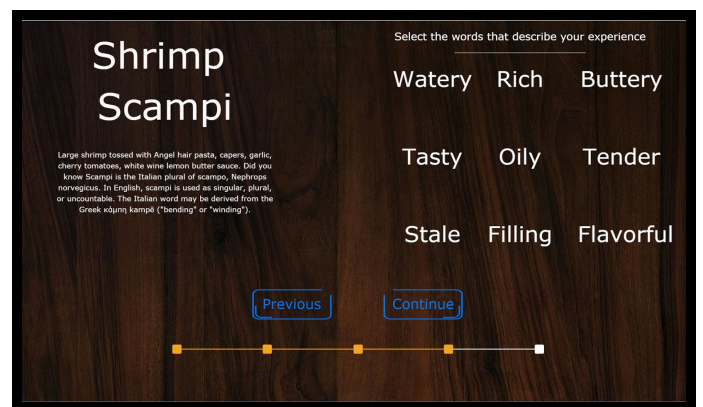
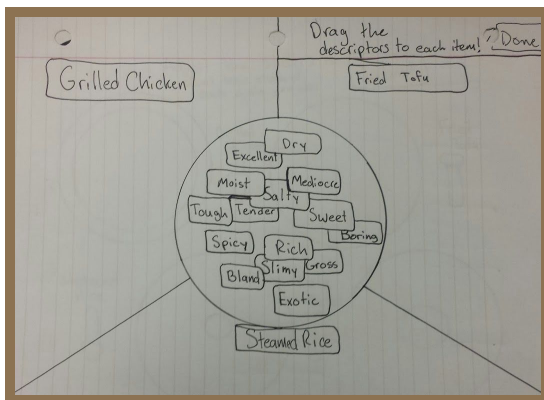
After this paradigm shift design decisions focused on how to effectively integrate the feedback tools into the Chef's recipe books. Chefs required easily accessible, uncluttered functionality. In the end we settled on making the feedback a part of the recipe itself so that whenever the chef sees a food item, he or she knows exactly what patrons thought about the food item.

Major Usability Problems Addressed

Patron/Student Interface

User Control & Freedom: Severity 3

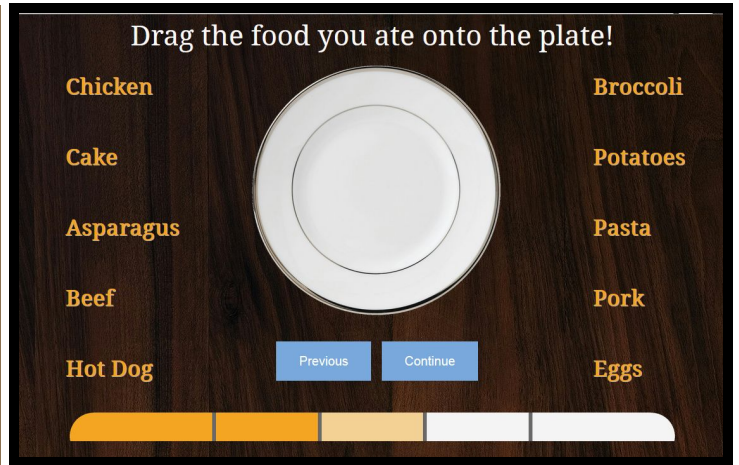
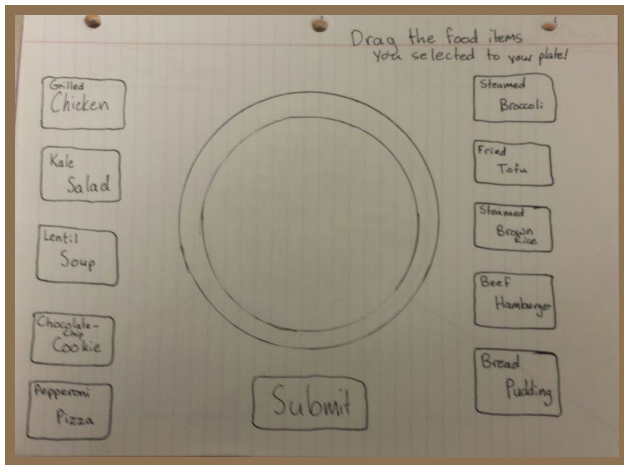
Initially we had our patrons “describe” the food by dragging it from our word bank. However, during our med-Fi presentation we learned that patrons felt as if the dragging would take too much time for each individual adjectives for each dish. Thus, we settled on a simpler click interface for adjectives. Each choice would light up on click, with the whole process taking mere seconds.



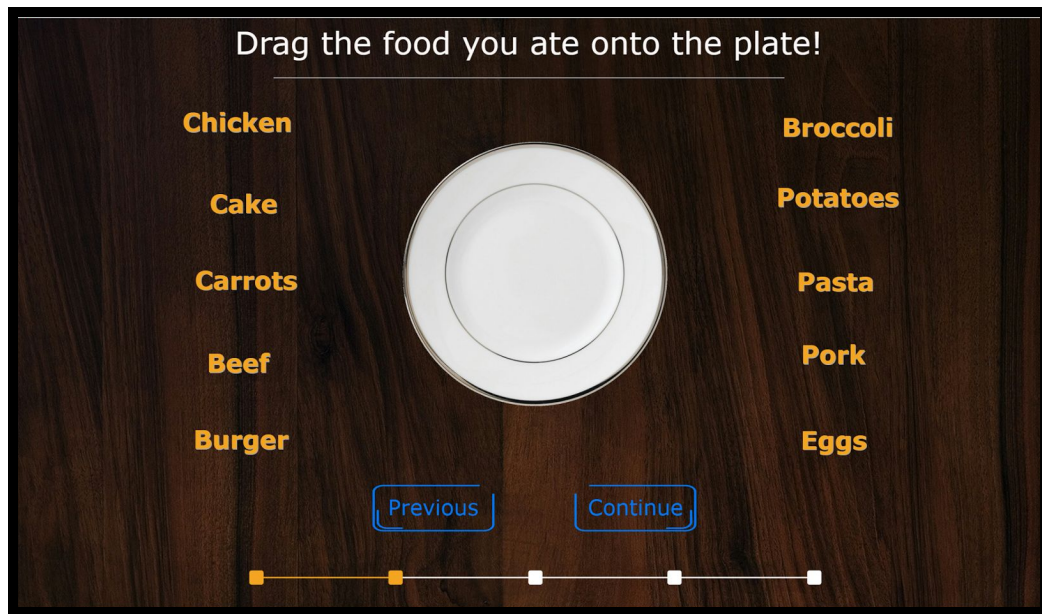
The Descriptor Dialogue began with multiple foods on one page (above left). However, we changed it to simply one food per page in order to keep the interface simple (above right).

Other Changes

Our final design change occurred after doing our heuristic evaluation. During the survey, patrons did not respond positively due to the lack of progress indicators. This made it impossible for them to go back and change their answers or see how much farther they had to go. The addition of the progress bar allowed them to fix mistakes, and to help showcase the brevity of the survey.



The evolution of the progress bar from nonexistent (upper left), to a simple oval shape (upper right), to the final, more modern, bare-bones style (below).



A major difficulty we had was finding a way for the patron to effectively see the chef's comments and feedback. Feedback from our patrons indicated that they would not really be interested in the chef's feedback unless it was put directly in front of them. Thus, we decided that integrating these comments directly into the survey was an effective way to present the information. Ultimately, the patrons are able to learn more about the options (that they are voting on and items that they describe with adjectives).

Chef Interface

Efficiency of Use Severity 4

Unsure what functionality the calendar and separate recipe list provide. We decided not to merge these two items into one because of screen space requirements, as doing so would shove too much information in one place. Instead, we edited the calendar view to make it clearer that this portion is where you would plan daily meals, whereas the recipe list's functionality is less about

planning meals and more about looking at recipe information and patron feedback.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
11/1 + Hamburgers Caesar Salad ...	11/2 + Tacos Egg Salad Lotus Dung ...	11/3 + Burritos Chips+Guac ...	11/4 + Huevos Ra... Fruit Salad ...	11/5 + Chog Mandu Finekcle ...	11/6 + Gorditas Batads ...	11/7 + Guava Pie Dog Crepes ...
11/8 + Hamburgers Caesar Salad ...	11/9 + Tacos Egg Salad ...	11/10 + Burritos Chips+Guac ...	11/11 + Huevos Ra... Fruit Salad ...	11/12 + Chog Mandu Finekcle ...	11/13 + Hamburgers ...	11/14 + Guava Pie Dog Crepes ...
11/15 + Hamburgers Caesar Salad ...	11/16 + Tacos Egg Salad Lotus Dung ...	11/17 + Burritos Chips+Guac ...	11/18 + Huevos Ra... Fruit Salad ...	11/19 + Chog Mandu Finekcle ...	11/20 + Lengua de Res Batads ...	11/21 + Guava Pie Dog Crepes ...
11/22 + Hamburgers Caesar Salad ...	11/23 + Tacos Egg Salad Lotus Dung ...	11/24 + Burritos Chips+Guac ...	11/25 + Huevos Ra... Fruit Salad ...	11/26 + Chog Mandu Finekcle ...	11/27 + Lengua de Res Batads ...	11/28 + Guava Pie Dog Crepes ...
11/29 + Hamburgers Caesar Salad ...	11/30 + Tacos Egg Salad Lotus Dung ...					

Wednesday, 11/4 >

See Voting Options

Remove All Dishes

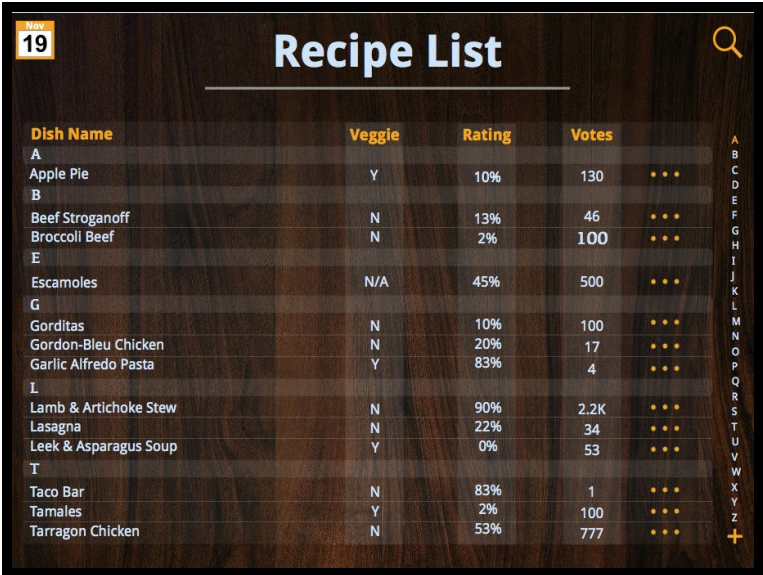
Cancel

Breakfast Lunch

The final Calendar page. The chef can easily check each day's meal, per the aforementioned changes.

User Control Severity 3

No way to get general feedback from patron page. All the feedback is now listed on the recipe page so that the chef can easily access the data from his patrons. The feedback we received indicated that this was the most logical and intuitive approach for chefs.



The final Recipe List, featuring easily accessible voting information.

Error Prevention Severity 3

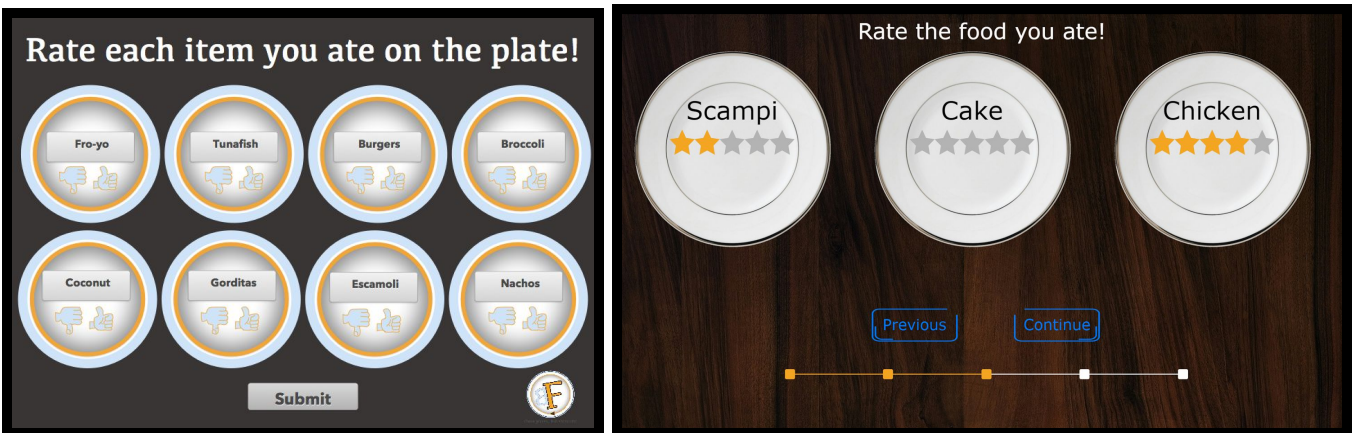
The daily menu space is far too small. We expanded the menu sidebar into it's own page, reachable from the calendar. Because chefs indicated that the daily menu is most crucial for daily workflow, we made the daily menu our homepage, accessible through an icon on every page of the interface.



The final Recipe (left) and Recipe List (right) pages, both featuring a button in the top left that returns the user to the home page.

Match Sys & World Severity 4

It is unclear what the user rating means for a dish. We changed from the thumbs up/thumbs down evaluation metric to a five star system. The average rating along with the number of votes on a given item is clearly displayed on the dish information page.



The evolution of the rating page. We transitioned from eight plates with simple up/downvotes to three plates with a more complex 5-star rating system.

Prototype Implementation

Student/Patron Interface: The patron interface was implemented as a web application using the Foundation Front End Framework along with various open source JQuery plugins. The decision to move to a web application, rather than a mobile application, was a deliberate decision in order to allow for chefs to have maximum flexibility in distributing FoodBack. For example, should a chef wish to follow up via email, the web app allows him/her to do so, rather than forcing users to download a native mobile application. Similarly, if a chef has access to SmartBoard and an iPad, the web application allows the chef to access it on both devices. Using these frameworks and plugins let us use a lot of elements and effects that would have been extremely difficult to recreate from scratch.

Nonetheless, we ran into several problems where Foundation released a new version during the course of our project, leading to numerous unexpected bugs. Since we are not using any backend databases, all of the data in the survey is hardcoded. This includes adjective choices, chef comments, and food items. In the future we could actually implement the backend features so that each generated survey is unique.

Chef Interface: Due to lack of time and resources, the final version of the the chef interface was not implemented in code, but rather completely redesigned graphically in sketch as medium-fi prototype, and then simulated interactivity via the prototyping tool marvel. This allowed us to show the bulk of the design without being forced to wade through the javascript implementation, which made sense due to the complexity of the interface. However, the amount of complexity also caused several bugs in marvel because there are so many places for the user to navigate, thus creating some inefficient navigation loops and potentially confusing situations; and all recipe data and meal plans are still hardcoded into the interface. Finally, Chef freedom is restricted via wizard of oz techniques, as only hand picked recipes are allowed to be added or deleted and routine meals are automatically generated into the voting interface.

Summary

In summary we believe that we implemented an engaging, simple way for patrons to provide feedback to chefs, and have designed a chef interface that integrate that feedback into their digital recipe book. We believe that we may have created an overly complicated design task on the chef side and in the future would look for a more streamlined interface that would allow patrons to still utilize the patron feedback effectively.



Appendix

The screenshot shows a survey interface for 'Shrimp Scampi'. On the left, the title 'Shrimp Scampi' is displayed in large white font. Below it, a paragraph of text describes the dish: 'Large shrimp tossed with Angel hair pasta, capers, garlic, cherry tomatoes, white wine lemon butter sauce. Did you know Scampi is the Italian plural of scampo, Nephrops norvegicus. In English, scampi is used as singular, plural, or uncountable. The Italian word may be derived from the Greek κάμμη kampē ("bending" or "winding").' On the right, a prompt reads 'Select the words that describe your experience'. Below this, there are three rows of adjectives: 'Watery Rich Buttery', 'Tasty Oily Tender', and 'Stale Filling Flavorful'. At the bottom, there are two blue-outlined buttons labeled 'Previous' and 'Continue'. Below the buttons is a progress indicator consisting of a horizontal line with five square markers; the first four are orange and the fifth is white.

Shrimp Scampi

Large shrimp tossed with Angel hair pasta, capers, garlic, cherry tomatoes, white wine lemon butter sauce. Did you know Scampi is the Italian plural of scampo, *Nephrops norvegicus*. In English, scampi is used as singular, plural, or uncountable. The Italian word may be derived from the Greek κάμμη kampē ("bending" or "winding").

Select the words that describe your experience

Watery Rich Buttery

Tasty Oily Tender

Stale Filling Flavorful

Previous Continue

Progress indicator: 4 of 5 steps completed.

Nov
19

Today's Menu



Broccoli Beef

Here the Chef might leave a message for her Patrons!

This message appears when a patron votes for this dish at the end of their dining session, or when the student opts to learn more about food options

If this is a repeat item, the text from previous edit will appear here.

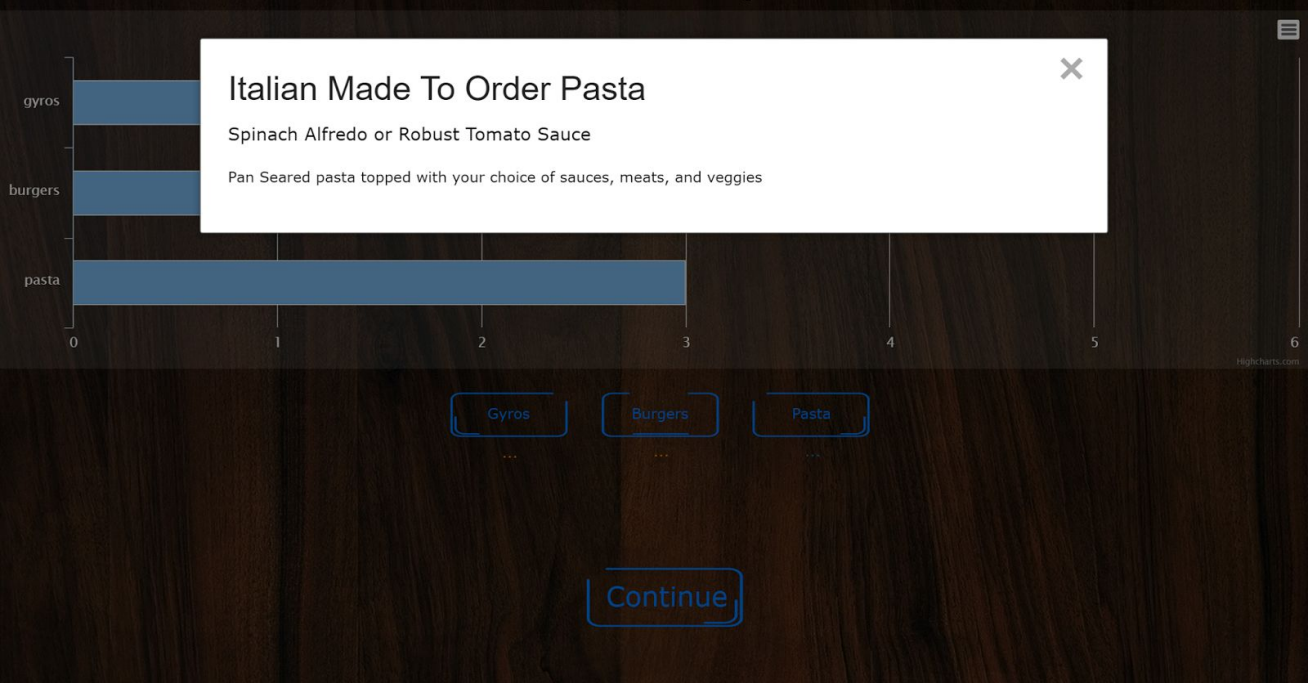
Done

Breakfast

Lunch

Dinner

Vote for next Friday's Lunch!

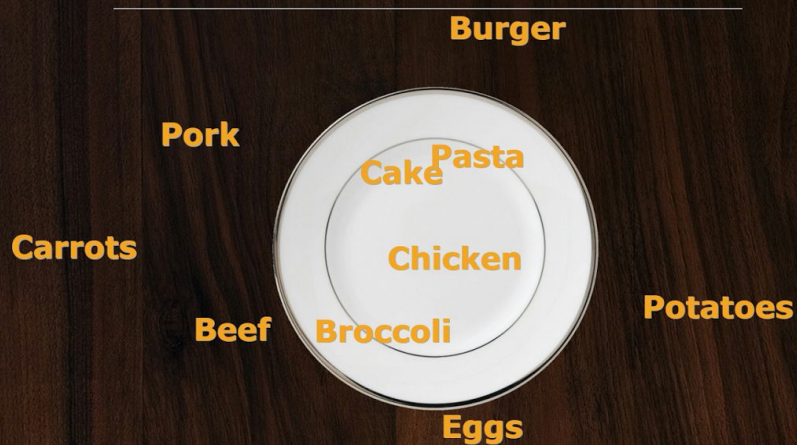


How was your meal today?

Touch one to continue



Drag the food you ate onto the plate!



Previous

Continue



Rate the food you ate!

Scampi

Cake

Chicken

Previous
Continue

Nov 19

Today's Menu

>
🔍

Broccoli Beef -
✎

Apple Pie -
✎

Dish Name

- A
- Apple Pie ● ● ●
- B
- Beef Stroganoff ● ● ●
- Broccoli Beef ● ● ●
- E
- Escamoles ● ● ●
- G
- Gorditas ● ● ●
- Gordon-Bleu Chicken ● ● ●
- Garlic Alfredo Pasta ● ● ●
- L
- Lamb & Artichoke Stew ● ● ●
- Lasagna ● ● ●
- Leek & Asparagus Soup ● ● ●
- T
- Taco Bar ● ● ●
- Tamales ● ● ●

A
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X
Y
Z

Breakfast
Lunch
Dinner

Show Full List

Drag the descriptors to each item! Done

Grilled Chicken

Fried Tofu

Dry
 Excellent
 Moist
 Tender
 Tough
 Salty
 Mediocre
 Sweet
 Boring
 Spicy
 Rich
 Gross
 Slimy
 Bland
 Exotic

Steamed Rice

Drag the food items you selected to your plate!

Grilled Chicken

Kale Salad

Lentil Soup

Chocolate-Chip Cookie

Pepperoni Pizza

Steamed Broccoli

Fried Tofu

Steamed Brown Rice

Beef Hamburger

Bread Pudding

Submit

Drag the food you ate onto the plate!

Chicken

Broccoli

Cake

Potatoes

Asparagus

Pasta

Beef

Pork

Hot Dog

Previous

Continue

Eggs



Monthly Calendar

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
11/1 + Hamburgers Caesar Salad ...	11/2 + Tacos Egg Salad Lotus Dung	11/3 + Burritos Chips+Guac	11/4 + Huevos Ra... Fruit Salad	11/5 + Chog Mandu Finekcle	11/6 + Gonditas Batads	11/7 + Guava Pie Dog Crepes
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11/29 + Hamburgers Caesar Salad ...	11/30 + Tacos Egg Salad Lotus Dung			<p>Wednesday, 11/4 ></p> <p>See Voting Options</p> <p>Remove All Dishes</p> <p>Cancel</p>		
Breakfast		Lunch				

Nov
19

Recipe List



Dish Name	Veggie	Rating	Votes	
A				
Apple Pie	Y	10%	130	•••
B				
Beef Stroganoff	N	13%	46	•••
Broccoli Beef	N	2%	100	•••
E				
Escamoles	N/A	45%	500	•••
G				
Gorditas	N	10%	100	•••
Gordon-Bleu Chicken	N	20%	17	•••
Garlic Alfredo Pasta	Y	83%	4	•••
L				
Lamb & Artichoke Stew	N	90%	2.2K	•••
Lasagna	N	22%	34	•••
Leek & Asparagus Soup	Y	0%	53	•••
T				
Taco Bar	N	83%	1	•••
Tamales	Y	2%	100	•••
Tarragon Chicken	N	53%	777	•••

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[Back](#)

Gorditas

[Edit](#)

Instructions

1. Split chicken breasts, bone and skin them
2. Combine and mix flour, salt, pepper
3. Coat chicken breasts with flour mixture.
4. Melt butter in skillet.
5. Add chicken breasts and brown on both sides
6. Add prewarmed brandy and carefully ignite.
7. Stir in chicken broth, cover and simmer ...

Ingredients

3 whole chicken breasts,
1/3 c. flour
Black pepper
1/4 tsp. tarragon, crushed
4 T. butter
1/3 c. brandy
Parsley to garnish ...

[Show More](#)

User Ratings

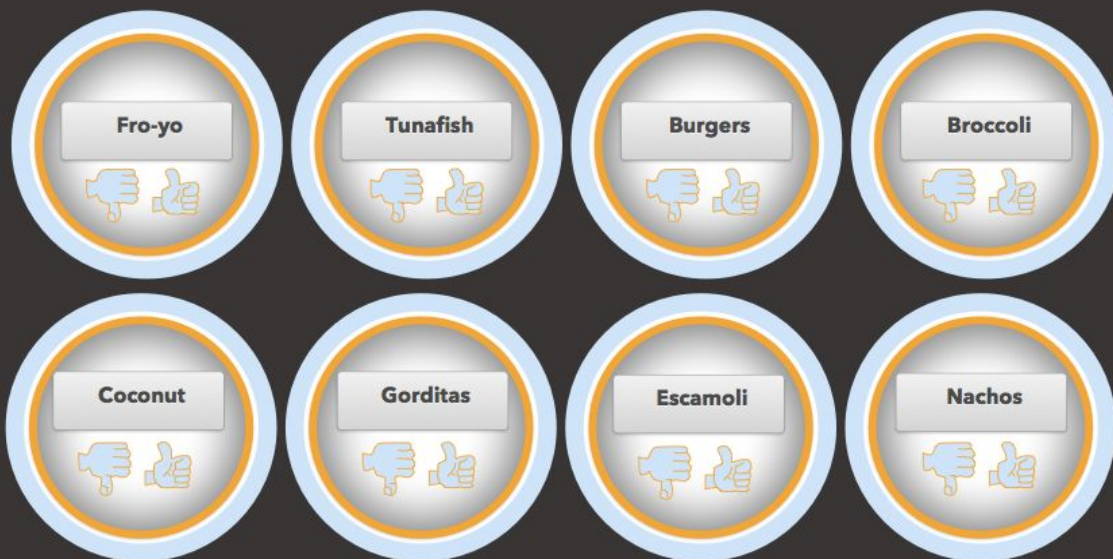


[51 Total Votes](#)

Common User Descriptions

Dry	Plush	Dry
Bland	Dank	Dirty
Stale	Plush	Spicy
Spicy	Dirty	Dry

Rate each item you ate on the plate!



[Submit](#)

