



HUSKY BITES: SMARTPHONE RESTAURANT LOCATOR

INFO 360 B

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Design Problem

How can University of Washington (UW) students find and locate restaurants on University Way (the Ave) that are currently open and determine whether they would like to eat there based off of various factors such as location, type of food, price of food, and other people's opinions? Furthermore, how can UW students find up-to-date information about these restaurants, such as their address and phone number, right away when this information may not be readily available to them?

The consequence is that people who need to eat and are unable to do so will suffer both mentally and physically. This could cause a multitude of problems such as sleep deprivation and malnourishment, which are likely to negatively affect the people's daily activities such as school or work [1]. The HELENA Study, which was done in 2006, specifically covers how eating habits and inadequate eating can cause severe lifestyle changes. While this study was done encompassing European adolescents, it also holds true in the broad majority of young men and women in the modernized world. This consequence may be aggravated by not having a quick and easy way to find food in the University District when necessary. Our application provides a solution to this problem.

Project Scope

To address the problem stated above, we decided that a smartphone application would be the best approach because a mobile application can be accessed anywhere and can hold a lot of features to help users find a place to get food on the Ave. Our application would have data on places from NE 40th St up to NE 54th St on University Way (the Ave).

Users have three ways to find a place to eat with the help of Husky Bites:

1. The user can use the initial page where a list is presented to them, sorted in categories by food type in alphabetical order (e.g. Burgers, Chinese, Pizza). The user simply needs to click on one of the categories to go to a separate page where a list of restaurants of that category is presented to the user. There is an option to list all the restaurants that are open instead of just viewing by restaurants under one type of food.
2. The user can also search for a place by name. The results are narrowed down as each letter is typed in. There is not any error correction, so a restaurant a user is looking for will not appear if they have misspelled it. If the user is browsing for restaurants to eat, the search feature would not be the most ideal method; the user should instead rely on the categories feature or map feature.
3. The user can also choose to use a map, which is powered by Google Maps, to either find where on the Ave they are or to locate a restaurant that is currently open. There are icons for restaurants that are open visible and highlighted on the map and users can tap on them for more information. When tapped, an information bubble pops up above the icon, similar to Google Maps. This information bubble contains the name, address, phone number, and rating of the restaurant, icons that appear in the restaurant's main information page, and a direction link that can be tapped on to display directions on how to reach the restaurant. If a restaurant is closed, it would not be highlighted on the map like the ones that are open.

Project Scope Cont.

Once the user gets to the page of a restaurant that they are searching for, it displays the following information:

- ◆ Icons that represent if the restaurant is: cash-only, has an ATM inside, delivers, has vegetarian options, has vegan options
- ◆ Displays the average price of a meal from the restaurant (data taken from user reviews)
- ◆ Displays how much longer the restaurant is open for
- ◆ Shows the restaurant's phone number, which you can click on to call the restaurant
- ◆ Shows the rating of the restaurant given by user reviewers

From that page, the user can read or write a review. The ratings system allows users to:

- ◆ Give a rating out of 5 stars with or without leaving a comment
- ◆ List their average meal price
- ◆ Only comment once per day per restaurant (uses the user's phone signature to check)
- ◆ Thumbs up/down system for comments for "most helpful" comments
- ◆ Sort comments by rating, thumbs ups, date

The rating system does not have:

- ◆ A report button, but if a comment reaches -5 thumbs down, it will be deleted

Project Scope Cont.

Outside of the Scope

Restaurants outside of the Ave would be outside of our scope because the user would not be able to walk over there in a timely manner. If we list restaurants that are too far away, the user would have to take quite a while to reach there either on foot or through other means of transportation. This application is meant to be convenient for those around the Seattle campus of UW. Restaurants that have delivery services but don't deliver inside of the U-District are also out of our scope.

Target Audience

The User

- ◆ User must have a smartphone and be familiar with it
- ◆ User must frequent the Ave (University Way) area late at night
- ◆ User must eat on the Ave late at night
- ◆ User typically gets food on the Ave at least once a month
- ◆ User is typically a student at UW

The user would have to fall within the above criteria because the application is designed to be helpful for those who go out onto the Ave late at night to grab food. We decided that a frequent user would be able to grab food at least once a month. This application's purpose is to inform its users of the restaurants around the Ave that they could go to, which is why the target population is those with limited knowledge of the Ave. The user must have or have access to a smartphone in order to use this application.

Profiles

Persona 1: Sally Stevenson



Sally is a freshman at UW living in Lander Hall. She is a Caucasian-American originally from Orange County, California, and comes from a wealthy family. This is her first time in Seattle, and she is still adjusting to the weather and mild culture-shock. Sally is unfamiliar with the U-District, and because she was the only person from her high school to go to UW this year, she started the year off not knowing anyone. She has made several friends on her floor in Lander over the past few weeks, but they are all freshmen and also don't much about the U-District. Sally has owned a smartphone since the beginning of last summer and is familiar with how they work. She uses her current phone, an iPhone 4, to text friends, surf the web, and play with a variety of apps.

Target Audience Cont.

Scenario 1:

One Friday night at midnight, Sally and her friends decide to go to a frat party in the University District. After partying hard for a couple of hours, dancing and drinking the night away, Sally and her friends decide to leave at 2 AM, tired and hungry. Too hungry to just head home and sleep, Sally's friend begs the group to find a place to eat before heading back. The group agrees, but none of them know of any places on the Ave that are open late. They are all still on Greek Row, and would rather not spend their time walking along the Ave looking for a place to eat. They also don't want to go home and order delivery, as that would take too long. Sally's friend remembers Sally downloaded an app called Husky Bites recently, and tells her to use it to find a place on the Ave that's currently open and nearby. Sally used the app to find that there were at least 3 places open. She heard of Memo's from some of her guy friends and checked it out. Memo's sounded appealing that it was open 24 hours, relatively cheap, and she found that it was very close to where they were. Her and her friends don't mind and they head over there to eat.

Persona 2: Bob Stanley



Bob Stanley is a 20 year old Informatics undergraduate at the University of Washington. He is a Caucasian male of Irish, English and Spanish descent but is an American born and raised and speaks English as his main language without a European accent. Bob generally stays up past 9pm on weekdays and weekends because he is generally hanging out with his friends, playing computer games, doing homework or other activities. Bob lives in an apartment a block from the University Way "The Ave" with two roommates Phil and Carolyn, both of which go to the University like him and have similar schedules. Bob also really likes technology and how it can make his life

easier. As such Bob would look up information on something using his smartphone if he was on the go because he likes using technology and knows how to use it. Because of Bob's schedule Bob often gets hungry after 9pm and likes to go out to eat on occasion at this time, and generally with his friends who are similar in schedule to himself.

Target Audience Cont.

Scenario 2:

Bob Stanley just finished playing a game of League of Legends with his two roommates, a MOBA style team competition game, on his computer and is famished, it is around 9:23pm. Neither he nor his two roommates want to cook food so they quickly get their shoes and jackets on and head into the cold winter night out their backdoor around 9:30pm. Bob first tries to remember and name restaurants that they could eat at to his friends. Bob's first idea was Aladdin's the gyro place that never seems to close, but Sam just had that for lunch and didn't want it again. Bob then remembers and offers Jimmy Johns but he isn't really feeling like going there and his roommate Phil mentions how the food is not to his liking. Finally getting exasperated Bob takes out his smartphone and attempts to find a place on the "Ave" that is open but finds that it is a difficult and time consuming task without a way to make it faster or easier that he has available. By 9:38pm Bob and his roommates get to the "Ave" and decide that since they cannot remember anything good open and that using the Internet on a smart-phone isn't worth the time it takes that they will just walk down the street until something catches their eye. After around 6 minutes in the cold the three roommates happen upon Phở Tran, a Phở restaurant that has its lights still on and a few customers eating. This restaurant happens to be open until 10:30pm as seen on their door hours listing. Seeing this, and not wanting to walk any farther the three roommates agree to stop and eat here, even if they don't really want to eat Phở but because they do not want to walk any farther and do not have an easier way of finding the "right" restaurant.

If Bob or his friends had the app, Husky Bites, they could have saved the effort on wandering around the Ave. With Husky Bites, Bob could have known the restaurants that were open when they went out. He could have checked which ones that were open that weren't the restaurants that he and his friends went to already. The restaurants on the app has ratings and reviews that could have influenced his decision. For example, he could have discovered a burger place called EJ Burger. The restaurant has a rating of 4 stars and he found that the food sounded very appetizing. A review even stated that the place had seating inside, which is great for his group. His friends has never been there and they agree to go.

Application Details

Our application has three important components. The first of these is the restaurant's information page, which contains details about the restaurant. The second component is the map that highlights which restaurants are open while displaying where the restaurant is located. The final component is the rating of the restaurant that is derived from user reviews. These help inform the user whether or not the restaurant is appealing to their peers.

In the following sections, the properties of the application will be shown. The low-fidelity paper prototypes were sketched for the iPhone, with improvements from the previous to the next, up to the working high-fidelity prototype that can be used for both iOS and Android phones.

Application Theme

Design: The overall app has a purple and yellow theme. The background is purple and the tap-able buttons are yellow. The font of the text on the app is Gabriola. The background of the sections is white with black text that displays the information.

Rationale: The color scheme is purple and yellow/gold because the Ave is very close to the University of Washington campus and those are the school's colors. It also fits with the title Husky Bites. The text is Gabriola because we wanted our application to stand out than other restaurant locating apps. Each section has a white background and black text on it because it is simple and easy to read.



Application Details Cont.

Category List

1. Search Bar

Design: A yellow bar with a magnifying glass

Rationale: It's yellow to contrast with the purple and follows the theme. The magnifying glass is already a well known metaphor for searching. It's there for people to search for a place rather than navigating through the categories

2. Map

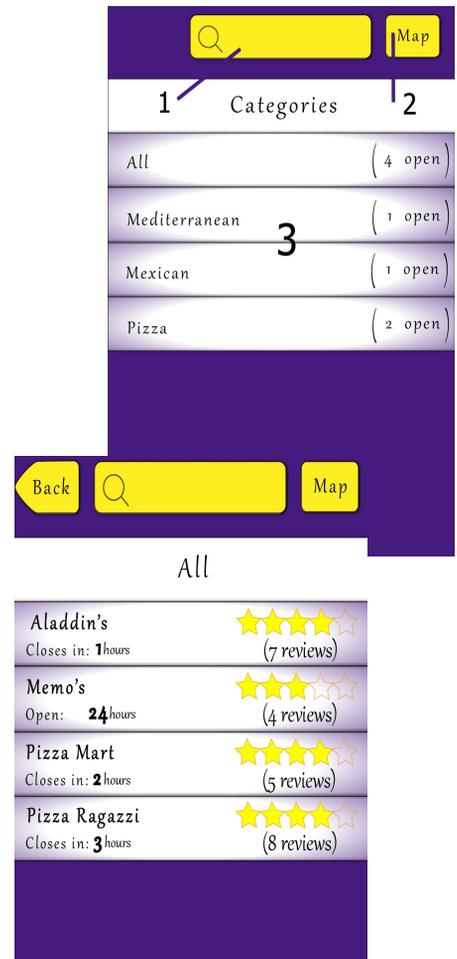
Design: Yellow button with the word "Map."

Rationale: Placed besides the search because it is also another way to navigate to find restaurants through a map rather than searching and navigating through categories. It would use the GPS that is built in with the phone.

3. Category Bar

Design: On the left, is the label of type of food or all ordered alphabetically with the number of restaurants open on the right.

Rationale: It's organized this way so that it is easier for users to pick a restaurant based on food preference first. The number of restaurants of that kind is listed on the right because it would not clutter with the category name and lets the user know that more than one restaurant is open from that category.



Application Details Cont.

Search By Name

Design: The area around the search bar at the top of the screen as well as the area below the "Results" bar is purple, the "Results" bar is white, and the actual search bar is yellow. The default state consists of a picture of a magnifying glass in the center of the screen. The input bar at the top also has a miniature magnifying glass to the left of where the cursor begins. As the user types in letters into the input bar, the picture of the magnifying glass is replaced by a list of restaurants that begin with the letters typed in. For example, if the user types in "a", then all restaurants beginning with the letter "a" will be listed. The list of restaurants is narrowed down as the user types in more letters.

Rationale: The area around the search bar at the top of the screen as well as the area below the "Results" bar is purple to match the color scheme of the app. The "Results" bar is white to clearly mark where the results list begins. The actual search bar is yellow to match the "Info" and "Cancel" buttons bordering it. The magnifying glass displayed in the default state informs the user that they are using the search function and that they have not input anything yet. The miniature magnifying glass in the input bar signals to the user that that is where they should begin typing in their input string.



Application Details Cont.

Information Page

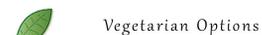
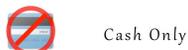
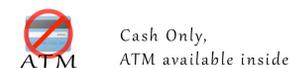
1. Top Bar

Design: The background color is purple and the the other contrasting color is yellow. The top bar provides navigation to the previous page and map, as well as the name of the restaurant the user is looking up.

Rationale: The color scheme follows the application's theme. The navigation buttons and restaurant title are on the top because it is seen in many iPhone apps such as Facebook, Yelp, and the iPhone's native apps. It reduces the learning curve of our app for the user since this top part is already familiar to them.

2. Icons and Average Price

Design: There are icons that represent certain aspects of the restaurant alongside the average meal price displayed here. The average meal price is not the mean, but is instead the median of prices of the restaurant. This box of information provides quick and basic information about the restaurant. It includes a button to view the legend so that new users can learn the meanings of the different icons.



List of icons: Cash Only, Has ATM, Delivers, Has Vegetarian Options, Has Vegan Options

Application Details Cont.

Rationale: Grouped information together in sections because it would be visually appealing and not too many breaks on the page. The icons provide easily accessed information listed on the top of the page. The average meal price would be listed to help users find the restaurant that is most appealing to them in terms of cost. We use the median as the average because using the term average can be understood as being in the “middle” by most users.

The cash only icon is a slashed-out credit card because it's easier to understand than a dollar bill. The ATM signal shows up for cash only places so that a user can withdraw cash to use at that restaurant. The delivers icon is a car because the car represents how the food is being delivered to the user. The vegetarian and vegan icons were inspired by icons that we found online. The leaf/leaves represent vegetables, and the vegan icon contains two leaves instead of one to represent the higher intensity of vegetarianism. The V shaped icon represents the word “vegan.”

3. “Closes in”... Time Section

Design: The time remaining until the restaurant closes is listed in hours and is larger than the rest of the information about the restaurant.

Rationale: The time remaining is one of the focal point of the application so that the user knows how much longer the place would be open for so they could make it there to get food or contact them for pick up or delivery. To gather more useful data for users to make the decision whether to go to a restaurant, meal price, and ratings and reviews in which will later be described. In addition, a button for more information about the restaurant is located by the time remaining because some users may want to see a menu or want to know the exact business hours. It is in a separate page so that the information is not cluttered and overwhelming for the user.



Application Details Cont.

4. Phone Number

Design: The listed phone number to the restaurant. It can be dialed when the user taps it and confirms that they want to call.

Rationale: The number is listed so that the user can get in contact with the restaurant before actually heading out to the restaurant or so that they can set up an order to go. The restaurant may have delivery service and the user may need to call them to place an order for delivery.

5. Ratings

Design: A restaurant's rating by users is based off a 5 star system. There is a separate page to read and write reviews that can be accessed through the buttons on the bottom of the page. To read, the user would tap "Read" and to write, tap "Bark." They are also side-by-side.

Rationale: Feedback from users from our first prototype said ratings and reviews would be a good way to indicate what restaurants are good and provide information that is not in the information page, and opinions, especially by the same type of users. Because of this, the ratings system was implemented. The buttons are next to each other because it would be easier to read and it would make sense to have a read and write function grouped together. To write a review, the user taps "Bark" because it fits the application's theme of UW Huskies. The application Husky Bites "barks," like how Twitter "tweets" to write about something.



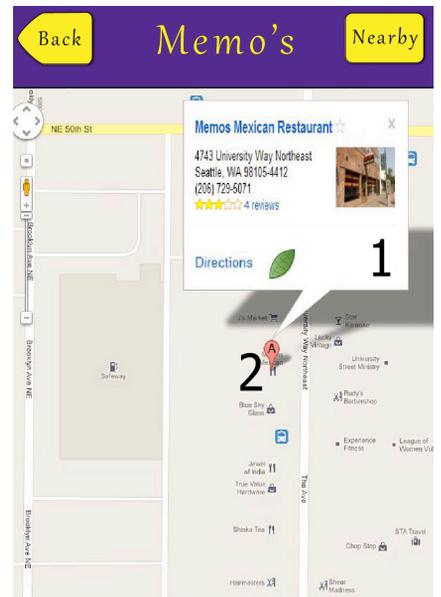
Application Details Cont.

Map

1. Information Bubble

Design: The bubble is in the shape of a rounded rectangle that pops up above the selected icon like a speech bubble. The font displayed on the bubble is white, and the stars are gold. The bubble also contains icons that state information about the restaurant, such as it being cash-only or having vegetarian options.

Rationale: The bubble is in a rounded rectangle shape because it is aesthetically pleasing and still resembles an information box. The speech bubble-like effect helps indicate which pin it is representing. The other icons (cash-only, etc.) are different colors to make them stand out from the rest of the information.



2. Pinpoint

Design: The pinpoints are in the shape of upside-down teardrops and are colored dark purple when they are not selected and are red when they are selected.

Rationale: The pinpoints are in the shape they because it is recognizable shape from Google Maps. The colors of the pinpoint are different colors to make them stand out more against their background colors.

3. (Not listed) Nearby

Design: Yellow button on top bar saying "Nearby."

Rationale: To find a list of places near the restaurant the user located, they can just click nearby to see what other places that are open that they can go too. Nearby is about 2 blocks of the restaurant.

Application Details Cont.

Rating System

Main Review Screen

1. Review Preview

Design: Each review by a user has a rating given to a specific restaurant. The rating is out of 5 stars. It lists the meal price the reviewer had with their experience and displays some of the review as a preview.

Rationale: During the extensive interview and other information gathering sessions we discovered that our users in our user base demanded the ability to rate restaurants. Without this piece of functionality our test groups would not use our app even if it solved the problem of eating out on the University Avenue. The preview conveys the important information of each review, that being the given rating, how much they paid, and a short clip of their comments. The layout shown allows for all of that information to be seen by the user quickly and cleanly.



2. Bark

Design: Large yellow button with the word bark on the bottom of the screen.

Rationale: The Bark button, functionally the review button, will be the button used to move the user to the reviewing page. The reviewing page is the page in which they can write their own review about the restaurant. The reason that the Bark button looks the way it does is to show its importance using color contrast and relatively larger size. It also says Bark instead of review, this is to stay in theme of our app being called Husky Bites. Just as Twitter uses tweets, Husky Bites will use Barks. The Bark button is also placed at the bottom of the page strategically because the bottom is the common standard location for user input options used in many different medias such as YouTube.

Application Details Cont.

Reading Review

1. Rating

Design: Filled in yellow stars represents the rating a user gave to the restaurant that appears right below the top bar.

Rationale: It's the first thing a user sees and that the rating is out of 5 stars. It would be on its own separate section because it is the most important piece of any review. Stars are used here and in all other rating related fields because they are a very common and understood graphic representing rating. Stars were even used before digital media, and as such are the obvious choice for the ratings used in our application.

2. Meal Price

Design: Text area that a reviewer can enter the amount of their meal.

Rationale: This area is where the reviewer entered how much they spent at the restaurant. It can help the user gauge how much others usually spend at that restaurant. It is also used to calculate the average price that is listed on the restaurant's information page. As discussed in the section relating to the technical aspects of this application the meal price entered here is used as a data point in calculating the average (median) meal price for the main restaurants information page. The median is used because it removes a majority of the extremes of pricing from affecting our information.



Application Details Cont.

3. Review Statement

Design: A large text area where it shows what the reviewer had to say about the restaurant.

Rationale: The box should be big enough for the user to read over. It is also limited to only 140 characters because the review should be quick and informative. It does not need to be very long. Twitter has a character cap and it is able to have informative tweets so writing what a user thinks with a 140-character cap should be no different. The cap is also used for text messaging on mobile devices. The common text message cannot contain more than 140 characters and as this app will be on a mobile device it needs to follow customary standards.



4. Date and Report

Design: The date shows when the review was posted. Below that, shows the overall rating about whether or not that review was helpful. Surrounding that rating, are arrows. These arrows can be pressed once per user, with the green up arrow representing a helpful review and the red down arrow a bad review. This response will then be tallied into the totals shown of positive, negative, and overall ratings.

Rationale: Having a time stamp on the review would be beneficial for users who would like to know more about the restaurant. The time could help them judge how recent it was and the overall rating of that review could help them make the decision on whether or not to trust the review. The green up arrow means that it is helpful because green and up is associated as positive as the red down arrow can be associated as negative.

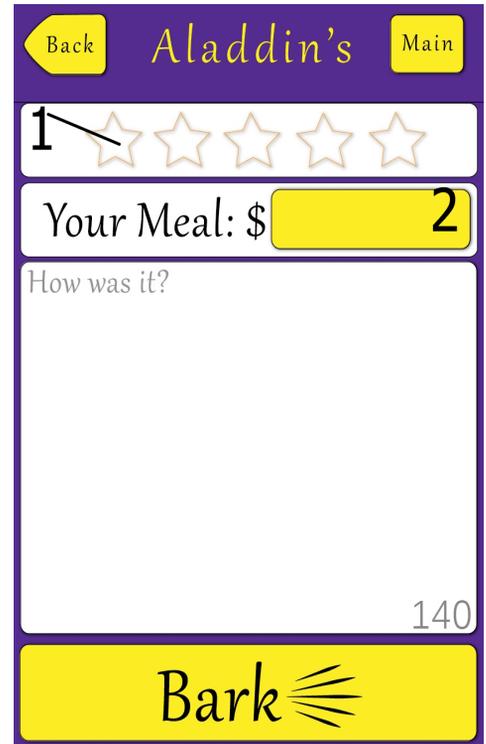
Application Details Cont.

Writing Reviews

1. Rating

Design: Filling in the yellow stars represents the rating a user wants to give the the restaurant, with more stars being a better rating for a good restaurant. The rating bar appears right below the top bar.

Rationale: The star rating is the most important part of writing a review as the writer of the review will generally want to put a rating so as to help the people who see the review. A rating is also a commonplace method of reviewing a produce or service as seen in many places such as YouTube or Newegg. Stars are used in this case of a rating because stars are a commonly used rating system and will be understood by the majority of our users.



The screenshot shows a mobile application interface for a restaurant named "Aladdin's". At the top, there are navigation buttons for "Back" and "Main". The restaurant name "Aladdin's" is displayed in a stylized font. Below the name is a rating bar with five yellow stars. The first star is filled, and the number "1" is shown to its left. To the right of the stars is a yellow input field for the meal price, with the text "Your Meal: \$" and the number "2" inside. Below the price field is a text area with the prompt "How was it?". At the bottom right of the text area is the number "140". The bottom of the screen features a yellow bar with the logo "Bark" and a stylized sunburst icon.

2. Meal Price

Design: This is a text area under the rating bar for the user to input the cost of their meal.

Rationale: This area is where the reviewer enters how much they spent at the restaurant. It can help the other users to gauge how much people usually spend at the restaurant. It is also used to calculate the average price that is listed on the restaurant's information page. As discussed in the section relating to the technical aspects of this application the meal price entered here is used as a data point in calculating the average (median) meal price for the main restaurants information page. The median is used because it removes a majority of the extremes of pricing from affecting our information.

Application Details Cont.

3. Review Statement

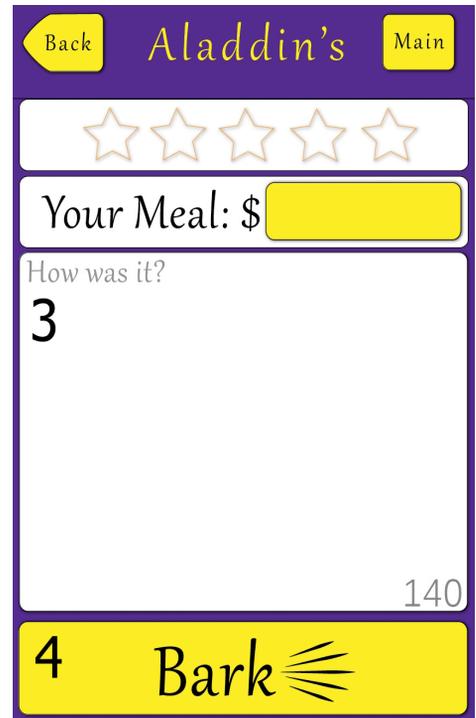
Design: A large text area that is used as a text area for the user to talk about the restaurant. At the bottom right, a small text reminder shows the remaining characters out of 140 characters.

Rationale: The box should be big enough for the user to read over. It is limited to only 140 characters because the review should be quick and informative. It does not need to be very long. Twitter has a character cap and it is able to have informative tweets so writing with a 140 character cap should be no different. The 140 character cap is also used for text messaging on mobile devices too.

4. Bark Button

Design: At the bottom of the screen will be a screen wide button with the customary iconography used throughout the application. When this button is pressed it will post the review for other to see as soon as the review is uploaded to the main application's database. Once this data is processed it will become visible to others on the review screen of that restaurant to view.

Rationale: This is the submit button for the review process that the reviewer has to press in order to submit their review. Because this button is so important it is large and colored so as to contrast as well as possible with the surrounding colors. This button is also placed at the bottom of the screen because that is a customary place for submit buttons to be placed. While some websites and applications have put their submit buttons in different places this is not the norm and we decided to stick with tried and true design schemes and place it at the bottom of the inputs on the screen.



Interactive Prototype

We prototyped an application using images and html that can be used through our mobile devices so that it interacts like a smartphone application. However, it is not a real working one. It demonstrates what the app would display when a user would be using the app around 1AM. It can be accessed here through a smartphone: <http://students.washington.edu/jwfchiu/info360>

Bibliography & Disclaimer

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Sally Stevenson Picture Source: Picture of Jessica's roommate

Bob Stanley Picture Source:

http://www.anglia.ac.uk/ruskin/en/home/news/archive/ngce_kauffman.Maincontent.0005.Image.gif

Logo Source:

<http://www.clker.com/clipart-running-husky.html>