Team Name: Yellow

Team members: Johnny Nguyen, Bingqing Xu, Suning Hou, Pichamon Anukulkarnkusol

Project Part 2

Studio 7

Problem Space

The problem space we are looking into is food. We are motivated by the fact that many Georgia Tech students are not satisfied with the current dining experience on campus as well as the importance of taking care of our body. From both our surveys and interviews, we know that many students don't eat at school and sometimes skip meals because of several reasons and the top two reasons are the waiting lines are too long and there is not enough time to eat. The top two factors for students to choose a place to eat are the location or proximity to their current location and the amount of time they will need to spend on the waiting line. At the same time, some students also consider the nutritional value and calorie intake of their food as they would like to keep fit and stay healthy and energetic while although there are online platforms that allow people to keep track, there is not one that is designed specifically for Georgia Tech students.

Design Space

The design alternatives we considered exploring are based on different platforms such as desktop app, web app, phone app, tablet app, and watch app. The three alternatives we did explore are web app, phone app, and watch app.

A web app is accessible through many different platforms, desktop, laptop, tablet, and phone while mobile apps are only accessible through mobile devices. Because of the nature of the larger screen sizes of a desktop or laptop, we can have more information and functionalities displayed on one screen of a web app. As the screens are larger, users can view everything at one time when they are searching for the restaurants, reviewing menus and placing orders. Due to the nature of the accessibility of mobile apps through different platforms with different screen sizes, we will need to consider the layout of the prototype when users access the website

through different kinds of devices like the organization will be different when users access the website from their desktop and phone.

A phone app is easy to use in a mobile situation as people carry their phone with them all the time every single day and it is really convenient to just pick up a phone and use the app. All the functionalities can be met in the phone app as the screen size of the phone is large enough to support them. The issue with a phone app is that people sometimes are hesitant to download an extra app to their phone since they have already got a lot of apps. However, if people really stick to the phone app, it can be more effective than web apps.

A watch app is the one that has the smallest size of interface, as well as the least number of functionalities. Some functionalities will not be able to be achieved through the watch app as those will need a larger screen for display, like searching for places to eat through a map view, and viewing information including pictures and detailed descriptions of menu items. Some functionalities will be harder to achieve like placing order and viewing the nutrition intake. However, it is even easier for users to get the notification like when the meal is ready to be picked up without the need to pick up their phones or open their laptops. Another concern is that not every student has a smart watch device so that might restrict the amount of students who are able to use the app.

Prototype 1: phone app

Description

This prototype is a mobile application called NutriBuzz. After signing in with an account, NutriBuzz allows a user to search for nearby dining options, tracking nutrition intakes, and tracking budgets.

When searching for foods, the user can input a location to the searching tab to search restaurants nearby. The user can filter out dining options based on the waiting time, price level, distance, dietary restrictions, calories, payment method accepted, and types of food provided.
After selecting a specific restaurant, the user can also see the dishes offered and add dishes to their meals for tracking nutrition and budgets.

For tracking nutrition intake, NutriBuzz allows the user to input their information to set their health goals. It also allows the user to add dishes they searched to meals and generates a summary of nutrition intakes for the day.

With NutriBuzz, when a user adds dishes to the meals, the purchase of the dishes will be tracked. It also allows the user to add other purchases and will generate a summary of spending to help the user meet the budgeting goal he/she sets. Both the bank accounts and the BuzzCard can be tracked by NutriBuzz.

Rationale

The goal of our project is to elevate the dining experience of Georgia Tech students by allowing them easier access to healthy dining options. However, there are by nature a lot of factors affecting the student's dining experience, including but not limited to the taste of the food, the price level, and the waiting time. However, we can only do so much with a mobile application, otherwise, the usability will be decreased by the complexity. Therefore, we decided to focus on a few factors when designing this mobile application.

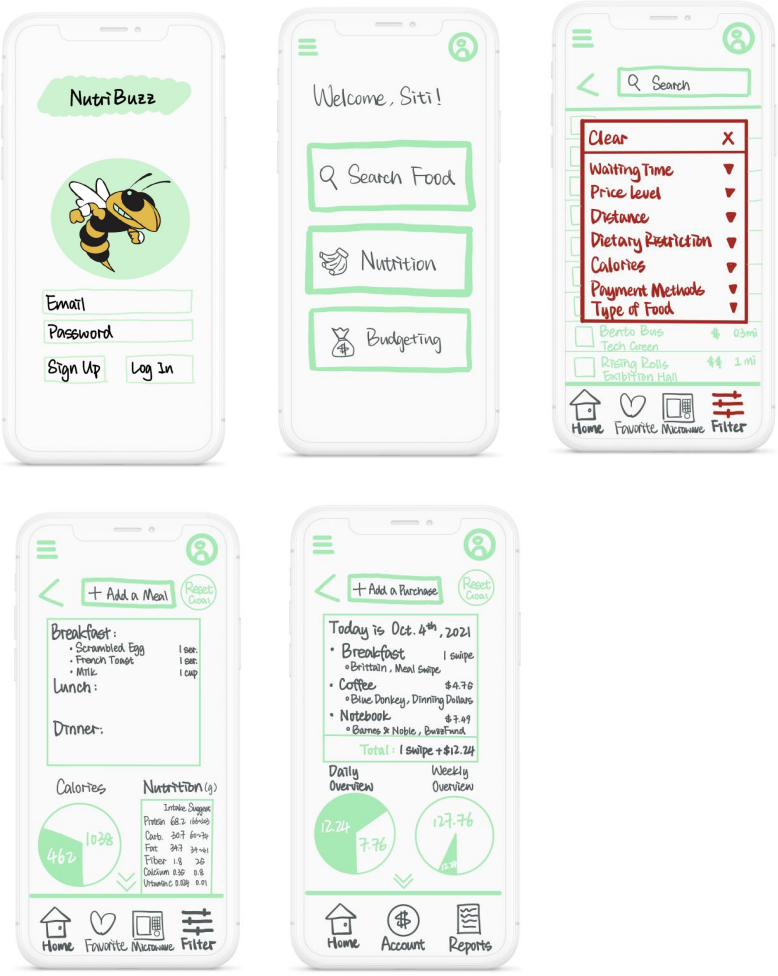
According to the result of our survey, the top two answers to the question "How important is each factor to you when choosing dining options? (1 = not important, 5 = important)" are "Waiting time" and "Location." We can see that both of these two factors are closely related to the amount of effort it takes to get the food. Also, the top answer to the question "If you skipped meals last week, why did you skip meals (Select all that apply)" is "Not enough time to eat", which can be caused by dining options being too far or taking too much time to get. Therefore, our design allows the user to put a location to see a list of dining options within their accessibility by allowing them to set their acceptable waiting time and distance. This design will help students better manage their schedule and therefore reduce the chance of them skipping meals.

According to one of our Personas created, Jeffrey Miller, our target customers are also composed of students who have health concerns and budgeting concerns. For students who are strict on their diets and concerns about nutrition intake, for example, those who have a fitness goal, there is a need for an application that keeps track of what they eat in a day and generates a report to evaluate their diet. Based on one of our UI critiques, the users are required to manually add up all the nutrition and calories information when using Nutrislice, which is a lot of work. Therefore, in our design for NutriBuzz, we allow the user to add dishes to a meal by searching and clicking on only

one button, the “Add to a Meal” button next to each dish. In this way, the users will not need to switch between different applications when they want to add up their nutrition intake.

The other UI critique we made focuses on the budgeting concern we mentioned in the previous paragraph. According to the UI critique for Mint, we found that the main reason for it not being the ideal solution to our problem statement is that it does not allow the users to track the cash flow in the BuzzCard. According to the interview result, one of the themes we found is that “The purchase of meal plans affects students’ decision on dining.” Combining the two, we decide to incorporate the functionality of tracking the budget for BuzzCard our design. In such a way, the users can have a more comprehensive idea about how to make their budget and what dining choices they can take.

Sketches



Storyboard

User Scenario

I'm a freshman. One of my biggest goals is to make a lot of friends while living a healthy and comfortable life.

On a typical Wednesday, my friends invite me to have lunch together at North Ave after we finish the Calculus I class at 12:30. I want to say "yes", but I am not sure whether there is any halal food at North Ave. Islam is one of the most important things in my life, but I also do not want to lose the chance of chatting and spending time with my friends during lunch. Therefore, I want to check on the meals at North Ave before I go. I open up NutriBuzz and tap on the "Search Food" tab. Then I am directed to a screen where I can input a location and search for dining options nearby. I put in "North Avenue" to the searching tab and hit "return." I then pull up the filter, and check "Halal" under the "Dietary Restriction" section. The "North Ave Dining Hall" shows up first on

the screen, so I click on it to see what halal meals are offered. After scanning through, I am attracted by the “falafel sandwich”, so I hit the “Add to a Meal” button right next to it, and on the pop-up window, I select “Lunch” to add to. After the pop-up window disappears, I also click on the “Add to Favorite” button next to it so that next time when I come to North Ave, I know what I have ordered before. After making the decision, I close the app, lock the phone, and walk toward North Ave with my friend.

Prototype 2: Watch App

Description

For Georgia Tech students, most students are so busy that they don’t have time taking care of the nutrients they ate. It requires a lot of processes just to research and measure the amount of calories intake. For this prototype, we want to make this process as simple as possible.

Rationale

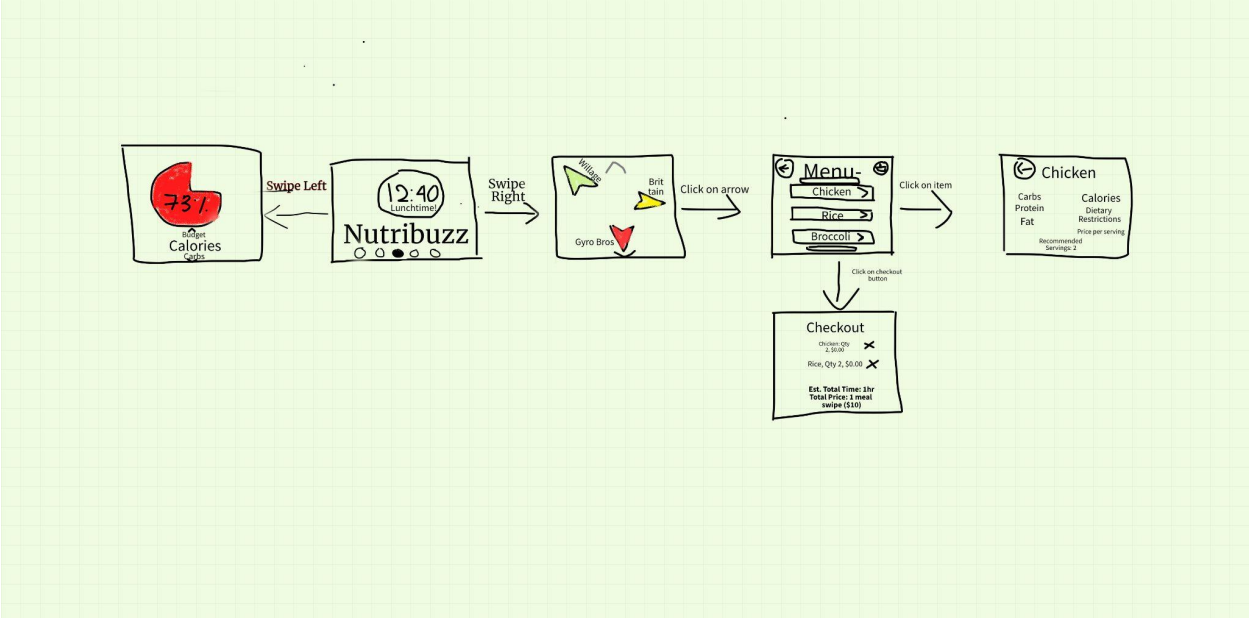
From our design implications, we noticed that many Georgia Tech students prioritize budget and time as key factors when deciding where to eat. Since we also notice that many students at our school own a smartwatch, I decided to create a Nutribuzz app designed specifically for this platform that allows students to find restaurants satisfying those 2 criterias with ease without having to pull out their phones. The smartwatch app will act as a companion to the phone (or web) app, where users can set their diet preferences on the phone app and have it synced with the smartwatch.

According to the result of our survey, the top two answers to the question “How important is each factor to you when choosing dining options? (1 = not important, 5 = important)” are “Waiting time” and “Location.” We can see that both of these two factors are closely related to the amount of effort it takes to get the food. Also, the top answer to the question “If you skipped meals last week, why did you skip meals (Select all that apply)” is “Not enough time to eat”, which can be caused by dining options being too far or taking too much time to get. Thus, time is obviously a key factor in deciding where to eat for GT students. Thus, our watch app design is geared towards maximizing affordances for finding restaurants with short waiting time within the shortest amount of time by minimizing UI clutter that doesn’t help achieve this goal and maximizing both discoverability and understanding of features that do achieve this goal

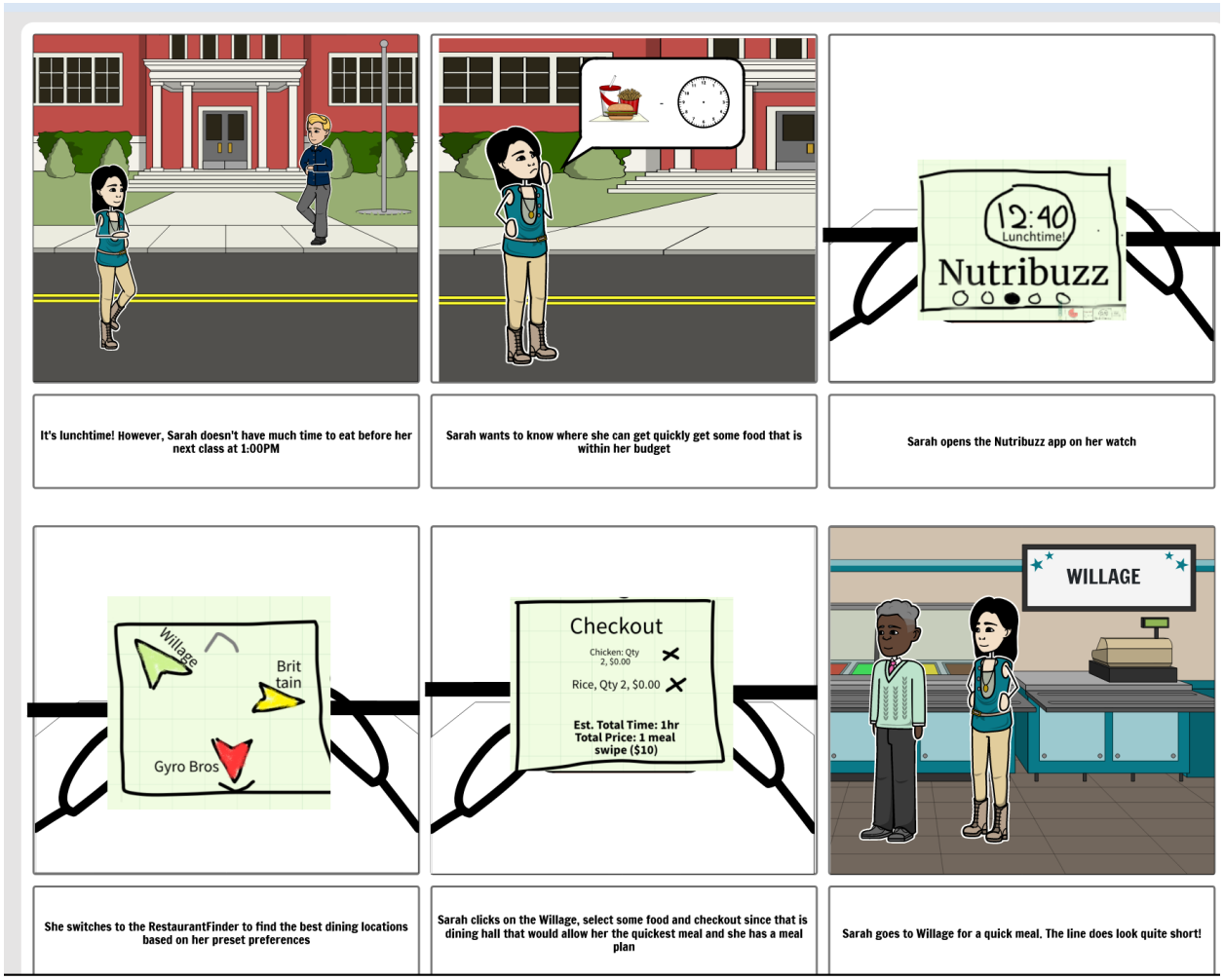
On the start screen, we have a clock (since this is a watch after all), with an indication of the current meal, how long it is until the next meal (adjustable using a companion app on their smartphone). Swiping right brings us to the

RestaurantFinder™, where up to 3 arrows representing the restaurant and its direction populate the screen. Restaurants ranked highest based on user's preference (adjustable through phone app, example could be time first, then price as tiebreaker) will be shown first, and more restaurants can be found by scrolling down. Color represents ranking, so the top restaurant based on user's preferences will be colored green, the second yellow, and the third red. Swiping left from the start screen will bring us to the budget screen, where users can quickly keep track of how much of their caloric (or monetary, and more!) budget has been spent, and whether they are on target or not (represented by color). By adding items on the menu and "checking out" using the button on the menu, the user will see how much time and money their meal choices will cost them, and make adjustments accordingly.

Sketches



Storyboard



User Scenario

I'm a junior at GT. One of my biggest goals is to find a good internship while also balancing my course load

It is a typical Wednesday, and I just got out of my Aerodynamics class. I'm hungry for some food because it's lunchtime, but I also know that I have my Aircraft Design class at 1:00 PM, and I can't be late for that! I have a meal plan, so I'm inclined towards going to one of the dining halls, or some place where I can use my dining dollars. To make sure I go to a dining location where I can get a meal and get out in time to make my Aircraft Design class. I open the NutriBuzz on my app and swipe right to see that going to Willage should take the least time to get a quick meal and run to

class just barely in time. I click on the Willage arrow, select “Chicken and Rice” as my meal, and click on the checkout button. Here I can see that it will cost me a meal swipe for this meal and take about an hour for me to finish it and go to Allen for my next class. That sounds reasonable to me, and thus I closed the app and start walking to Willage.

Prototype 3: Web App

Description

This website is designed to help Georgia Tech students plan their meals. This website will gather all restaurants on and off campus and display it in a more organized way. Moreover, we also provide the section where our users can interact with our website in keeping track of their eating habits.

Rationale

Our goal is to design the platform to help Georgia Tech students plan their meals. From the survey and interview, we found that the most important factor that students take into consideration is waiting time and locations. Both factors are similar as they relate to the time students will spend getting food. There are some other important factors we decided to promote in our design which are budgets and nutritions. On the website, the top bar shows where you are on the website. We have mainly three sections which are home, search and nutritions.

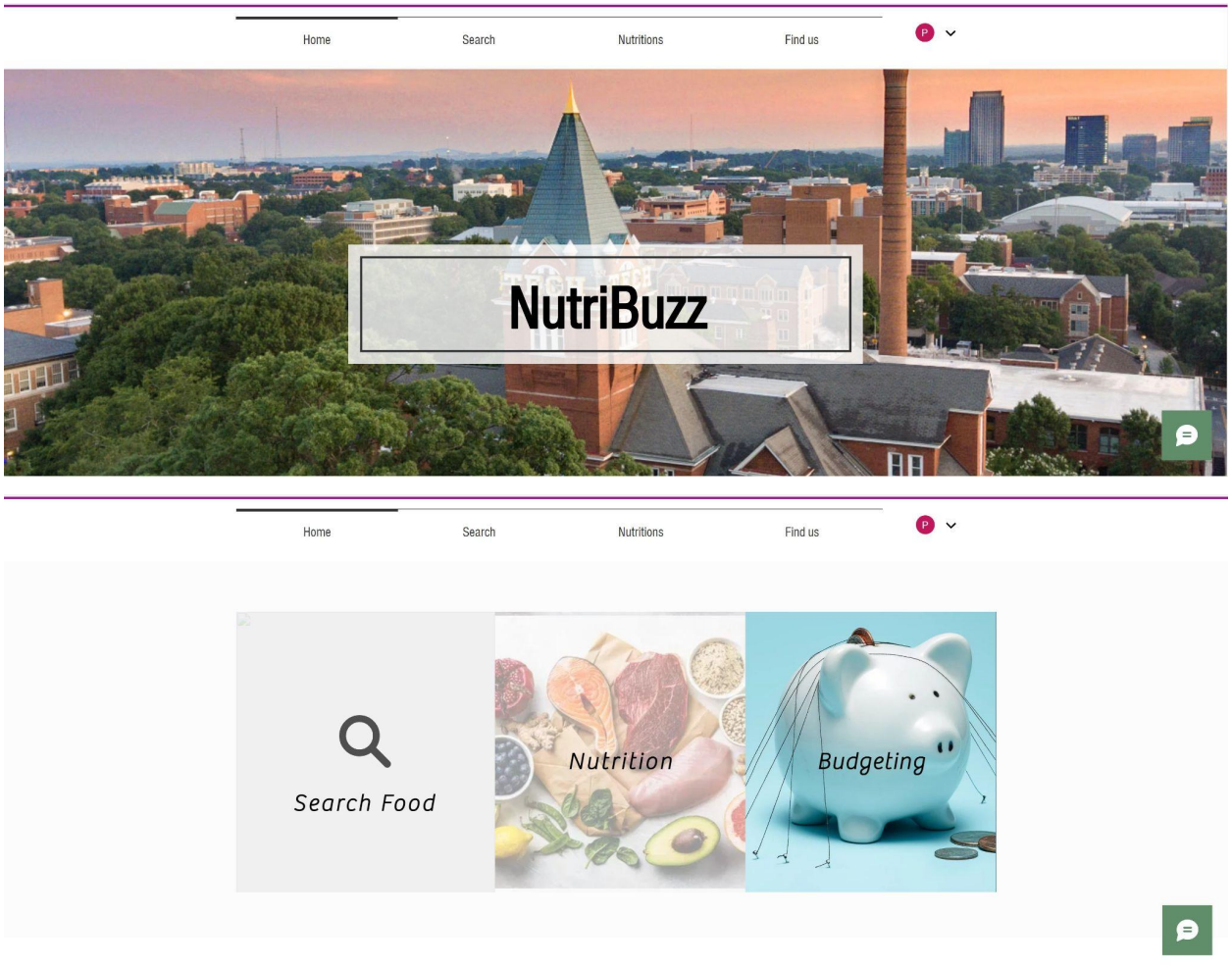
For this prototype, we are designing the website that provides information from restaurants on-campus and off-campus as we found that most upper class students mostly eat off campus(30.8% of our participants don’t purchase meals campus at all and 46.2% purchase only 1-5 meals/week on campus), so to make the dinning app widely used to Georgia Tech students we need to cooperate with restaurants around Georgia Tech as well. The result of our survey shows that time and location are the top two reasons for students to choose where to get their meals. These two factors are actually related to the amount of time students spend buying food. On our designed website for the search page, after the user input the name of the restaurant, there will be a google map display on the site with the short description about type of food and diet choice available. A combination of image and short description will give our users a brief information about the location, type of foods and diet restriction availables. This will help reduce the process of users re-looking the location on the different sites and

go through all menus to check for diet food options. Moreover, users can click on the restaurant to see more details which provide diet information, price and calories information. There is a plus sign on the right side for users to make an online purchase. Instead of students having to wait on the line, they can use that time working and go pick up later.

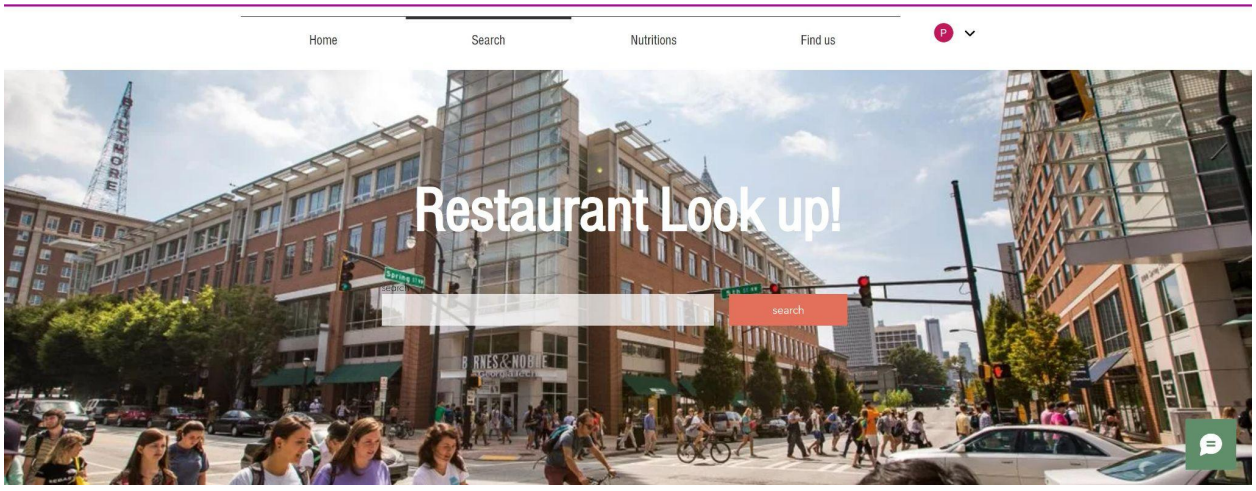
Apart from reducing time used for getting food, our focus is promoting healthy eating habits for Georgia Tech students. We design a nutrition page where students can add what they ate in a day(on the left side of the page) and our website will calculate total calories and nutrients you ate. This will help our user to keep track of their eating habits. We decided to display a list of food you had, nutritions and a pie graph of calories intake.

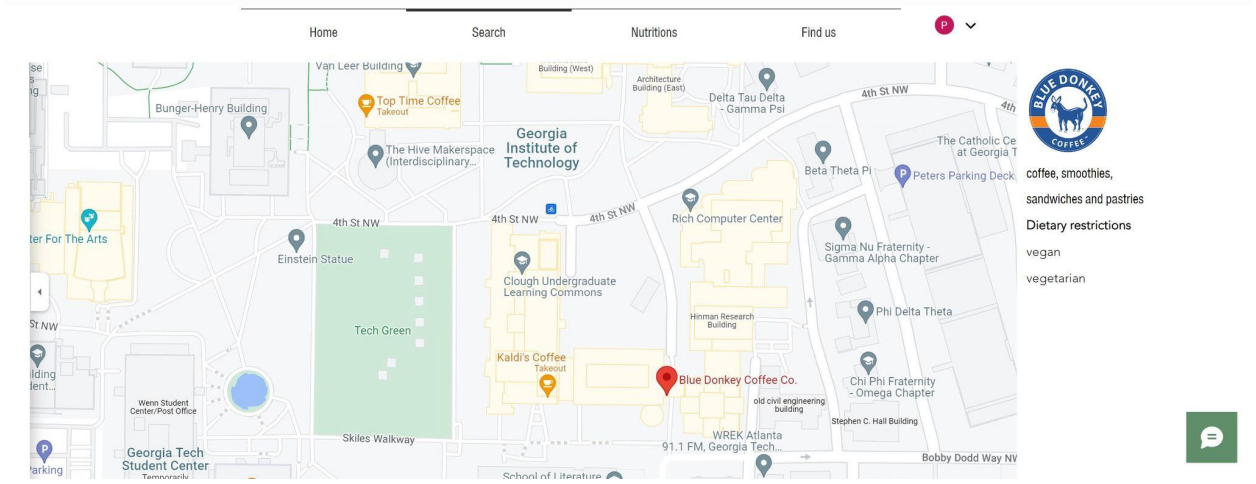
Sketches

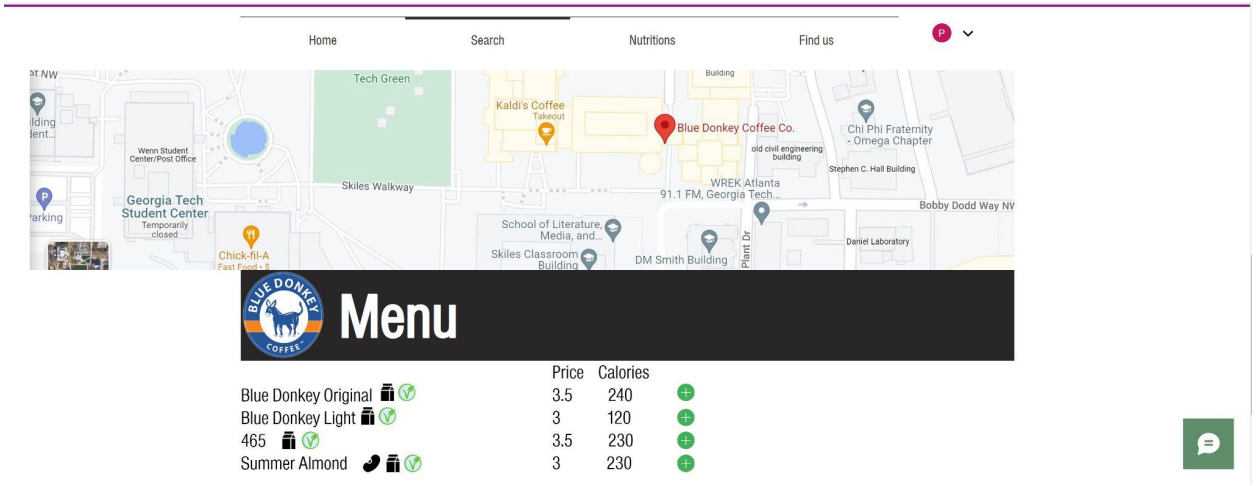
Home page



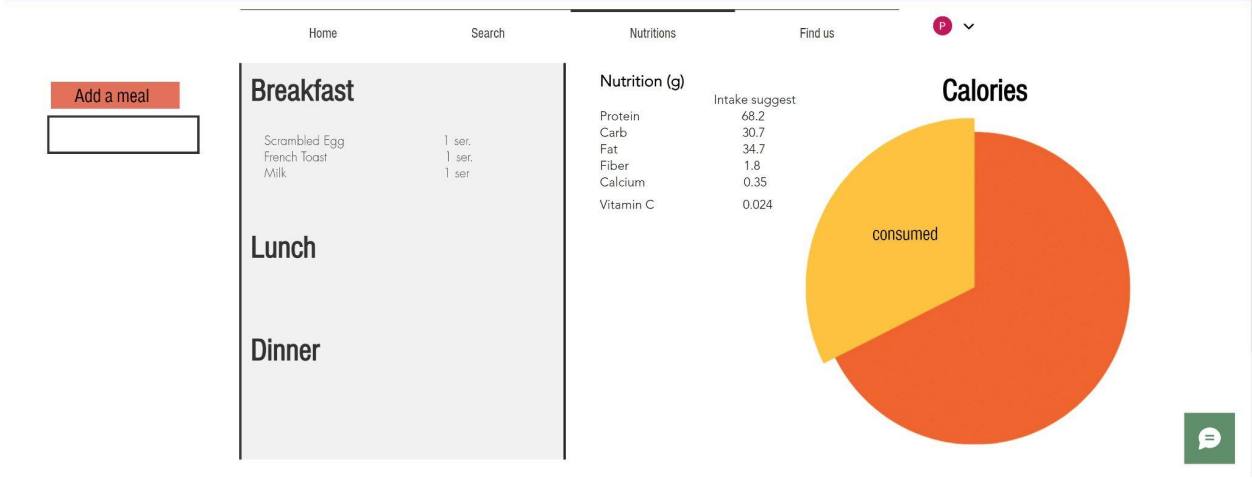
Search page


Home
Search
Nutritions
Find us
Restaurant Look up!
search

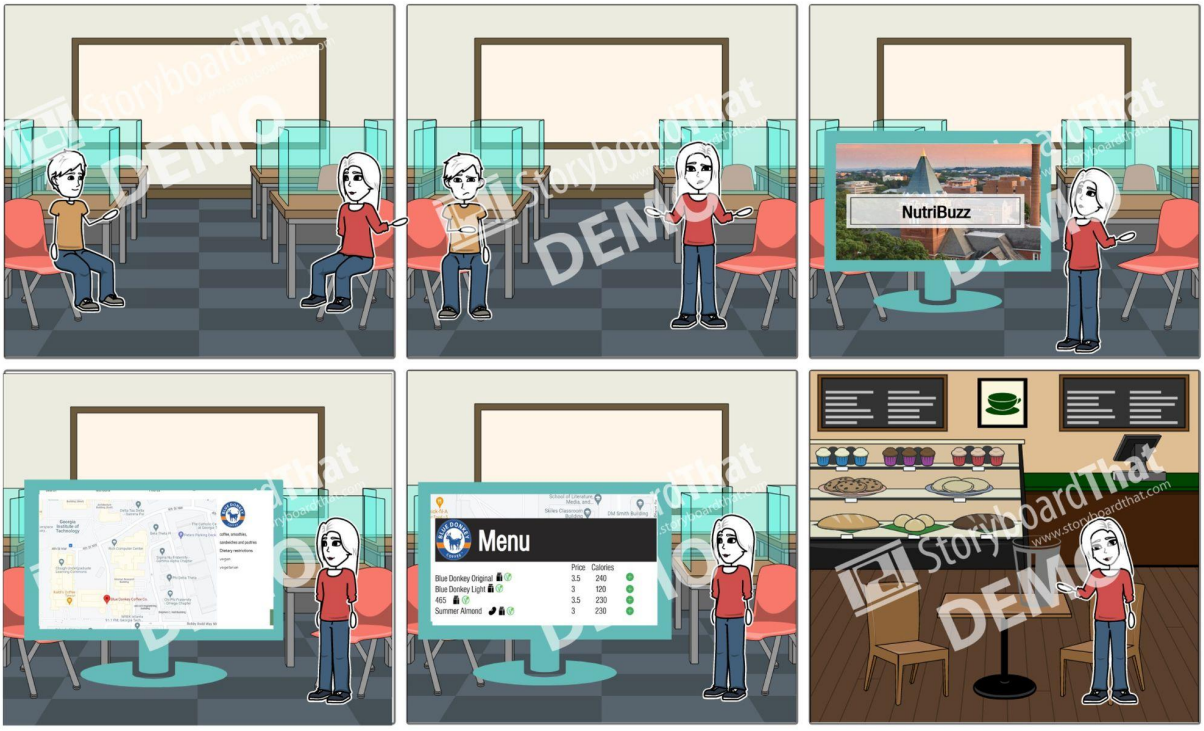

Home
Search
Nutritions
Find us
Van Leer Building
Building (West)
Architecture Building (East)
Bunger-Henry Building
Top Time Coffee
Takeout
Georgia Institute of Technology
The Hive Makerspace (Interdisciplinary...
Delta Tau Delta - Gamma Psi
4th St NW
Beta Theta Pi
Peters Parking Deck
The Catholic Ce at Georgia T
Rich Computer Center
Sigma Nu Fraternity - Gamma Alpha Chapter
Einstein Statue
Clough Undergraduate Learning Commons
Phi Delta Theta
Hinman Research Building
Tech Green
Kaldi's Coffee
Takeout
Blue Donkey Coffee Co.
Chi Phi Fraternity - Omega Chapter
old civil engineering building
Stephen C. Hall Building
Wenn Student Center/Post Office
Skiles Walkway
WREK Atlanta 91.1 FM, Georgia Tech...
Georgia Tech Student Center
Bobby Dodd Way NW
BLUE DONKEY COFFEE
coffee, smoothies, sandwiches and pastries
Dietary restrictions
vegan
vegetarian


Home
Search
Nutritions
Find us
Tech Green
Kaldi's Coffee
Takeout
Blue Donkey Coffee Co.
Chi Phi Fraternity - Omega Chapter
old civil engineering building
Stephen C. Hall Building
Wenn Student Center/Post Office
Skiles Walkway
WREK Atlanta 91.1 FM, Georgia Tech...
Georgia Tech Student Center
Temporarily closed
Bobby Dodd Way NW
School of Literature, Media, and...
Skiles Classroom Building
DM Smith Building
Daniel Laboratory
Chick-fil-A
Fast Food
BLUE DONKEY COFFEE
Menu
Price
Calories
Blue Donkey Original 3.5 240
Blue Donkey Light 3 120
465 3.5 230
Summer Almond 3 230

Nutrition Page



Storyboard



1. I'm currently working on a project with my friend.
2. I suddenly feel hungry.
3. I use Nutribuzz to find the closest place to get food.
4. I look for the restaurants on the map displayed on the website.
5. I found Blue Donkey and I decided to make an online order.
6. I walk to pick up my order without wasting time on the line.

User Scenario

I'm a second year student at Georgia Tech. This is my first year living off campus and I also decided not to use a meal plan this year.

This week is very busy because I have three midterms. Today is Wednesday afternoon and I am working on a project with my friend. I am a little bit hungry. I want to find the closest place that I can eat something and come back and continue working with my friend. I look up on the Nutribuzz website and click on the search bar section. Then I look for the restaurant on the map displayed on the page. I found Blue Donkey is the closest place. So, I considered looking at their menu. I choose to get cold brew as I see on the website that there are less calories contained in the drink. Next, I click orders at the green plus sign so by the time I walk to Blue Donkey, my order is ready to be picked up.

Design Assessment

- Usability Goals:
    - Recognition rather than recall
    - Visibility of system status
    - User control and freedom
    - Aesthetic and minimalist design
- Design Implications:
    - Good for people from all backgrounds and those who have specific dietary needs
    - Recommend based on users' preferences and dining history
    - Help with spending less time on getting food

For the usability goals, we are still aiming for all those goals since they all contribute to good design practice. For the design implications, we no longer consider recommending more food that has a price between 6 and 15 dollars since that is not considering individual differences on their budgeting and planning. We also no longer consider recommending based on whether the user has purchased a meal plan or not, since it's not on our top priority anymore.

	Mobile Phone App	Watch App	Web App
Recognition rather	Yes, users don't	Yes, screens and UI	Yes, users don't

than recall	need to remember anything in order to use the app.	icons within screens are clear as to their purpose	need to remember anything in order to use the app.
Visibility of system status	Yes, the system is clear and users can view the status easily.	Users can easily what is going on with the app at all times (and the time also!)	Yes, the system is clear and users can view the status easily.
User control and freedom	Yes, the system allows users' full control and freedom.	Yes, the system allows users' full control and freedom.	Yes, the system allows users' full control and freedom.
Aesthetic and minimalist design	The UI is beautiful but the design is not minimal enough.	Yes, the UI is stripped down to the minimum while also retaining aesthetics	Yes, the UI is beautiful and no extra stuff that is not needed.
Good for people from all backgrounds and those who have specific dietary needs	Yes, there is the feature of filtering based on specific dietary needs.	There are dietary restrictions listed with nutrition facts of the item on the menu.	There are dietary restrictions listed with nutrition facts of the item on the menu.
Recommend based on users' preferences and dining history	There is a feature of filtering based on users' preferences.	Recommendations are made by syncing with the preferences set on the phone app	There is no recommendation or filtering by preferences.
Help with spend less time on getting food	No, there aren't any functionalities that support getting food quicker.	Yes, users can reduce their time spent getting food by ordering ahead.	No, there aren't any functionalities that support getting food quicker.
Help with be aware of nutritional intake	Yes, there is a section displaying nutritional value of each item on the	Yes, there is a section displaying nutritional value of each item on the	Yes, there is a section displaying nutritional value of each item on the

	menu, as well as calculation of total intake of a day.	menu, as well as calculation of total intake of a day.	menu, as well as calculation of total intake of a day.
Help with find the closest place to eat	Yes, there is functionality to search by distance to the current location.	Yes, there is map functionality that allows users to choose and go to the closest place possible (integrated with map)	Yes, there is map functionality that allows users to choose and go to the closest place possible.

Reflections and Lessons Learned

One important lesson we learned is that sometimes we need to narrow down our target users as well as the amount of functionalities we are looking to incorporate into our design. At the beginning, we start with our target users as all Georgia Tech students and aim to improve their dining experiences. We had a lot of ideas about the functionalities of our prototype, including restaurant searching, budgeting, grocery shopping, nutrition calculation, microwave searching, and meal planning, etc. All of those functionalities can improve our dining experiences. However, it is not realistic to incorporate all the functionalities into our prototype as that is way too much. Then we narrowed down our target users to Georgia Tech students who purchase their food on or near campus.

We reconsidered the functionalities that are specifically helpful to the students who purchase their food, like searching for places to eat, viewing nutritional facts, ordering ahead and set pickup time, meal budgeting, filtering by their specific diet preferences, filtering by nutritional values, and filtering by price.

Another lesson learned is the importance of making it clear the details of our project as specific as possible and having everyone on the same page before getting started working on the project. Our first meeting wasn't really specific about all the details we were looking for in our design before we started working and there were some confusions about what exact functionalities we were gonna incorporate in our design. Then we had another quick meeting to clear the confusion and had everyone on the same page about what we are doing. For the next part of our project, we will definitely have more meetings than this one.

Poster

NUTRIBUZZ

A Dietary Assistant App for Georgia Tech Students

Problem Overview

The general problem space we want to work in is "Food." We are motivated by the fact that one of the core components of "Care" is caring for your body, and having the proper diet is essential. Our general problem space is the diet of college students. Having an affordable, balanced, and nutritious diet is essential but challenging to a lot of college students. There can be various reasons for that. There are not enough options of food on campus for us to choose from, so we cannot eat different kinds of food a day, and it usually takes a long time for students to wait for the food so that some students will skip meals. Another reason is that nutritious, low-carb food is not affordable, so some students choose processed, high-calories, and less healthy food. For students who would like to do meal prep and bring food to school, it is also hard to find a microwave on campus or wait in a long line for the microwave to heat the food.

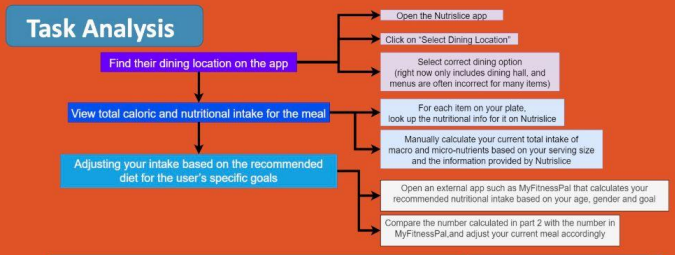
Themes

- Most of students think that microwave is hard to find on campus
- Waiting time is the most important factor for users to choose where to eat, followed by location, taste, price, nutrition and the last one is calories.
- Students are willing to pay 6-15 dollars for a meal.
- Students usually skip 1-3 meals per week
- The top two reasons that students skip the meal are not having enough time to eat or the line is too long.

Prototype

Siti signs into the app | Goes to the home page | Checks the nutrition info | Searches for restaurants | Checks for the budget

Task Analysis



Persona

Siti, 18

Goals

- Not gaining the dreaded "Freshmen 15"
- Adhering to her cultural diet as much as possible

Frustrations

- On-campus dining hall has too much unhealthy food, hard to control yourself against eating junk food
- Not sure what dining halls has food that adheres to her dietary restrictions, if at all

"So many choices in this new land, but what is right for me?"

Age: 18
Work: Georgia Tech Student
Location: Atlanta, GA
Character: FOB Freshman

Bio

Siti is a freshman from Malaysia who just matriculated at Georgia Tech, majoring in Industrial Engineering. This is her first time ever living somewhere outside of Melaysia, and she's excited to experience everything America has to offer. However, not only does she care about keeping herself fit, she also has to adhere to the Islamic dietary laws, which prohibits pork among other things. Therefore, she needs an app that can not only warn her of food served in the dining hall that might not be halal, on top of keeping track of her nutritional balance based on her input.

Key Users

Georgia Tech students, both undergraduate and graduate, both who live on- and off-campus, whether on the meal plan or not, who are attending Georgia Tech.

Key Stakeholders

- University administration: Involved in students' activities to make sure that facilities on campus, including dining services, meet their students' needs.
- Local restaurants: local restaurants want to have more Georgia Tech students as their customers.

User Scenario

As a freshman, I want to maintain my weight while also adhering to my cultural diet so that I stay healthy and comfortable

It is a typical Wednesday lunch, and I am invited to go to West Village by some of my Calculus I classmates. I don't usually eat at West Village, as it is very far away from my dorm, but I don't feel comfortable saying "no" to people who might be my best friends in the future. There are a lot of unhealthy carbs that look delicious, but my mind tells me I should know better than that! I know that Nutrislice offers a menu for dining halls, however I have no idea how the nutritional content for menu items relate to my own nutritional needs. Furthermore, I cannot be sure whether the things I'm eating are Halal or not. Gee, wouldn't it be great if there is an app that takes care of all of this for me.