Software Requirements Specification

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Abstract: Chow Now

Chow now is a food delivery app that transports food items to customers that are willing to pay an extra fee for delivery during an event in an arena. It works by selecting from a menu of food items and having the customer provide the seat number of the indicated area. Once these two conditions are met with a form of payment then the food will delivered to them in a timely manner. Customers do not have to leave their seats when watching the game or wait in a long line that will take extra time away from the game. The food menu is limited to the vendors sponsored by the event and customers will be rewarded a refund if the service fails to deliver the food.

This app uses a combination of a database and a map API to provide service to customers. The map locates the customer by the provided information on their seat. Once the app has located the person of interest then it provides the shortest path to the person. The app even gives an estimated wait time and gives the customer the location of the deliverer to eliminate any doubts or worries. This app creates a new platform for providing food and service. There are multiple forms of food delivery in the app world, however there is no food delivery for events that take place in an arena.

Problem Statement

Have you ever went to an NBA game and suddenly became extremely hungry, but had no interest in getting up to get food? Are you overwhelmed with the idea of possibly missing the game only to wait in a long line. Well no more, with the NBA food delivery app you can get your food without the hassle of getting out your seat. This food delivery works by selecting a food item from our menu, selecting a form of payment, and poof your food with be delivered without compromising your comfort.

Many people at NBA games would rather starve than potentially lose a moment of an NBA game. People also do not like waiting in unnecessarily long lines just for snack food. Now people have a more convenient option that might suit their needs. My app would also cut down the traffic for people who may still want to get up and get the food themselves. It would provide more jobs for companies at the NBA games. Workers may be able to work more efficiently now that less people are requesting food upfront and people tend to grow very irritable when food is not given to them in a certain time frame especially when they are hungry. This would limit these occurrences and increase the marketing of food items in nba games.

Hypothesis

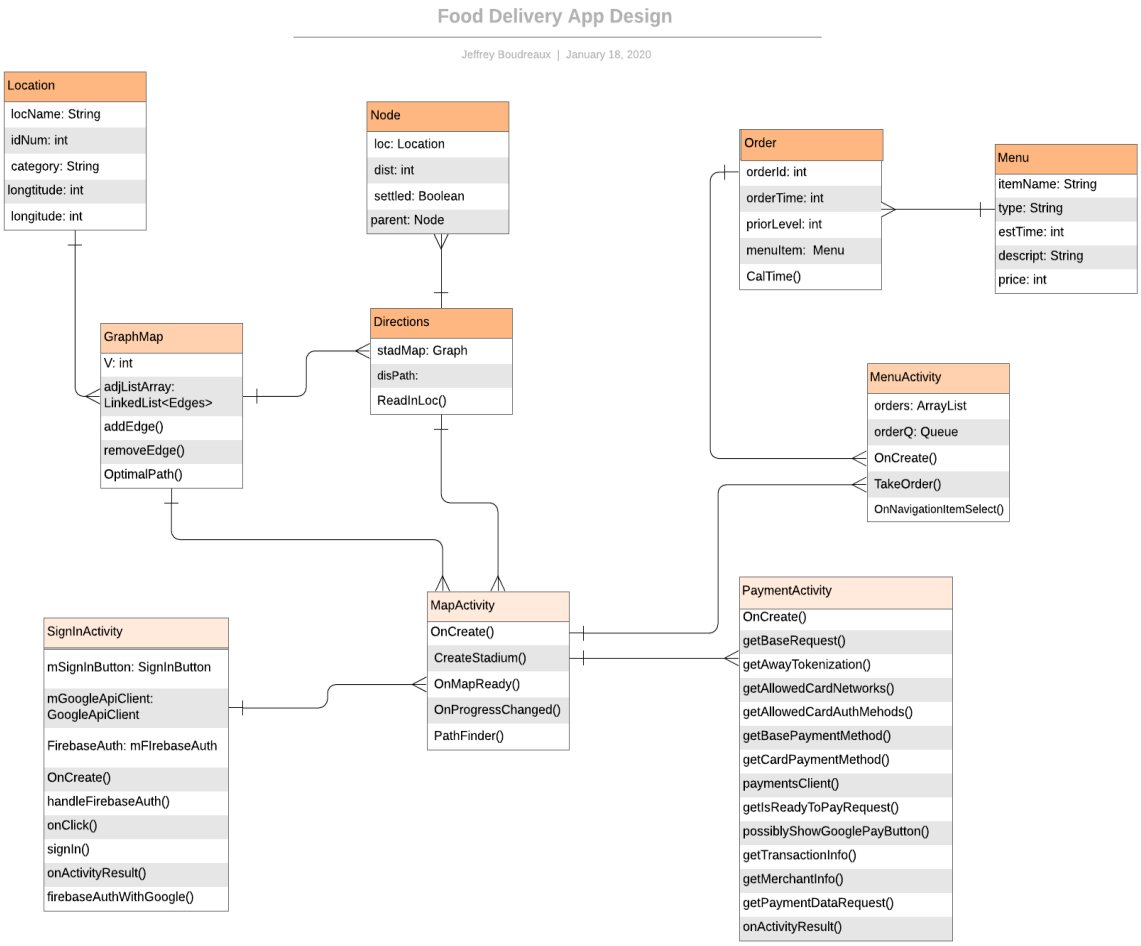
My app would work by providing a menu of food items from which the recipient can select from. The customer also must select which seat and number they would have. The seat can be selected by entering the number or clicking on the icon of the 3D model. The app will assist the deliverer with delivery by providing the best path for the him or her to take. This will be done creating points and distances sort of like a graph with the assistance of a Map API such as google maps. Whichever distance is shortest will be the path provided to the deliverer.

Objectives and Timeline

Objectives: 12 weeks

- Week 1: Create menu item objects
  - Name
  - Description
  - Cost
  - Estimated time to make
- Week 1-3: Create menu queue class for taking and processing orders
  - Created timer for when order is ready
  - Establish hierarchy of the order
  - (Optional) Add firebase data retrievals, data editing, and data deletion.
- Week 4: Create map objects
  - Seats
  - Concessions/Vendor
- Week 4-6: Create Graph of the map
  - Add objects and edges
  - Implement Dijkstra's shortest path
  - Given a 2 map objects return a path (specifically a seat and a vendor)
- Week 5-10 Utilize google maps API to create a map of the stadium
  - Add essential API code
  - Create map objects
  - Create all possible paths
  - Use graph to determine the path the user will take
- Week 7-10 Create User interface and .xml files for the menu and map
  - Menu UI/.xml
  - Map UI/.xml
- Week 9-11: Create navigation between classes
  - Dropdown menu
  - Button to access different activities
- Week 11-12: Create payment activity and .xml file
  - Google API
- Week 1-12: Testing
  - Determine maximum number of orders by making an excessive amount of orders
  - Enter multiple locations or no locations for finding customers
  - Test what happens if a customer is outside the range of the map
  - Make sure each class and activity functions properly when running individually and as a group

Design


Food Delivery App Design
Jeffrey Boudreaux | January 18, 2020
Location
locName: String
idNum: int
category: String
longtitude: int
longitude: int
Node
loc: Location
dist: int
settled: Boolean
parent: Node
Order
orderId: int
orderTime: int
priorLevel: int
menuItem: Menu
CalTime()
Menu
itemName: String
type: String
estTime: int
descript: String
price: int
GraphMap
V: int
adjListArray: LinkedList<Edges>
addEdge()
removeEdge()
OptimalPath()
Directions
stadMap: Graph
disPath:
ReadInLoc()
MenuActivity
orders: ArrayList
orderQ: Queue
OnCreate()
TakeOrder()
OnNavigationItemSelect()
SignInActivity
mSignInButton: SignInButton
mGoogleApiClient: GoogleApiClient
FirebaseAuth: mFIrebaseAuth
OnCreate()
handleFirebaseAuth()
onClick()
signIn()
onActivityResult()
firebaseAuthWithGoogle()
MapActivity
OnCreate()
CreateStadium()
OnMapReady()
OnProgressChanged()
PathFinder()
PaymentActivity
OnCreate()
getBaseRequest()
getAwayTokenization()
getAllowedCardNetworks()
getAllowedCardAuthMehods()
getBasePaymentMethod()
getCardPaymentMethod()
paymentsClient()
getIsReadyToPayRequest()
possiblyShowGooglePayButton()
getTransactionInfo()
getMerchantInfo()
getPaymentDataRequest()
onActivityResult()

Literature Review

https://www.usnews.com/news/national-news/articles/2019-07-30/survey-people-willing-to-pay-more-for-food-delivery
This article talks about the willingness of people in America to pay for convivence specifically for food delivery through the use of an app. Food delivery was already very convenient since people only had to dial up the phone number of the restaurant. Now food delivery has been combined with the most convenient tool today which is an app. The numbers show that people are willing to pay $3-10 extra for food to be delivered with no hassle and little to no effort. Also 50% of customers use apps to seek food for pickup or delivery.

This article relates to my project because it shows that people would be willing to pay for convivence. The basis of my app is providing an outlet for food at a game or event without the hassle of getting up and waiting in a long line to obtain food. The article also explains that the market for food and creating more opportunities. This app I am creating would be a unique opportunity since there is little to no direct competition in a very large market that can yield a high amount of profits.

https://www.theatlantic.com/ideas/archive/2019/08/all-food-will-be-delivered/595222/
The industry of food delivery is rapidly increasing. This article addresses the trends that are developing through food delivery such as restaurants receiving more orders outside the restaurant than inside. “Eating in is the new dining out”, according to the article. Food delivery is expanding the food market and based upon the how fast a restaurant can deliver the food to a customer. It addresses the problems with people who may not have the energy to get food. \

This correlates with my app because my app is something that would provide food quickly with little to no energy required. It would open a new opportunity for customers to use and it would increase the expansion rate of the food industry. My app would also alleviate stress of companies to speed up service they provide to customers at an event.

https://steelkiwi.com/blog/how-build-food-delivery-app-for-restaurant/
This article talks about the specifics on how to create an effective food delivery app. It provides information on the key features on may need to create an useful food delivery app such as a registration page, order management, and payment processing. Information on which industries to target is also provided with how to model the app based on the selected industry. There are a lot of variables to consider when creating a food delivery app.

Although this source may not contain any information on how to structure a food delivery app using code. It provides an outline of what the customer may expect from the app and basics the app must cover in order for it to be fully functional. My food delivery app will need features such as payment processing and order management. The article also provides multiple successful food delivery apps and the specifics on why their app stood above the rest.

https://www.sportsbusinessdaily.com/Journal/Issues/2017/05/15/In-Depth/Lines.aspx
Slow concessions can be detrimental to a vendor at a stadium. This article addresses the problems that arise from slow productivity of a vendor. There are losses in revenue when a vendor cannot provide the food in a short amount of time. People are grow irritable due to hunger and missing the game. There are solutions to the problem being developed to prevent this occurrence such as self ordering kiosks, but solutions such as this one only create another problem. This may slow the process of selecting a food item for a customer and creates potential loss of jobs for people who work in a vendor.

This correlates with my app because my app would provide spectacular service with very little problems unlike the other solutions such as the automated vendors. Using an app would cost the vendor a lot less money than investing in multiple expense machines only to encounter the exact same problem. People would be able to keep their jobs and gain an easier experience because my app would decrease the length of the line. This would increase productivity while increasing the happiness of multiple customers. This article proves that there is a need for a stadium food delivery app.

https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/the-changing-market-for-food-delivery

The market for food delivery through apps is rapidly expanding and creating new opportunities for businesses. This article not only talks about the market expanding but the changes that occurring in the market. These changes are being brought about by technological advances in convivence. There are new food delivery apps that compare prices and offering among multiple restaurants to give the customer the best result. Due to changes in the food delivery industry there are more customer behaviors are starting to change. More meals are being delivered to homes and those with the quickest service are the ones most frequently being used.

This article relates to my app because this type of cutting edge innovation will be the key for my app's success. More people are interested in convivence over money especially with technological advances. My app would provide something new to customers that would grab there attention. Eventually curiosity will become intention once they start to use the app for their convivence at an event.