ARCK
Requirements Document

F.O.C.U.S.

Team Members:

215055772, Antin Phillips

215097939, Ruan Olivier

215063856, Charné Keen

215131495, Klara Lategan

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1 PROJECT OVERVIEW

1.1 System Overview & Objective

Food is necessity for every person. Our system will provide a simplified way of ordering food, as well as eliminating miscommunication between providers and consumers.

The F.O.C.U.S system aims to be the hosting platform for a diverse set of food providers. The system will allow customers to find all nearby food providers based on a location.

Food providers (food trucks, restaurants, fast-food places, etc.) will be allowed to register their menus, locations, trading hours and general business information on the system. A user will be able to search for nearby registered providers and will also be able to browse the providers' menus and information. The system will also allow users to rate their experience with any of these providers. A food provider can also opt to allow users to order via the system.

If providers support ordering, they will be able to view all current orders placed and can accept or deny any of them (as well as providing expected time for order completion). Providers can specify if a user collected their order or not.

1.2 System Assumptions

- Providers will regularly update their locations and menus.
- All users will be connected to the internet when using the system.
- In this system, the only currency used will be South African Rands (ZAR) regardless of region.

1.3 Deliverables Out of Scope

- Payment via the system.
- Statistics
- Verify providers
- Consumer "trustworthiness" rating

1.4 Stakeholders

1.4.1 Business Actors

Actor	Role
Provider	Hosts their location and menu. Possibly allows customers to order food. Accepts or denies orders. Views unfilled and uncollected orders. Updates menu (and possibly location).
Consumer	Searches for, orders from and rates providers.
Time	Performs certain actions after/at certain times.

1.4.2 Development Team

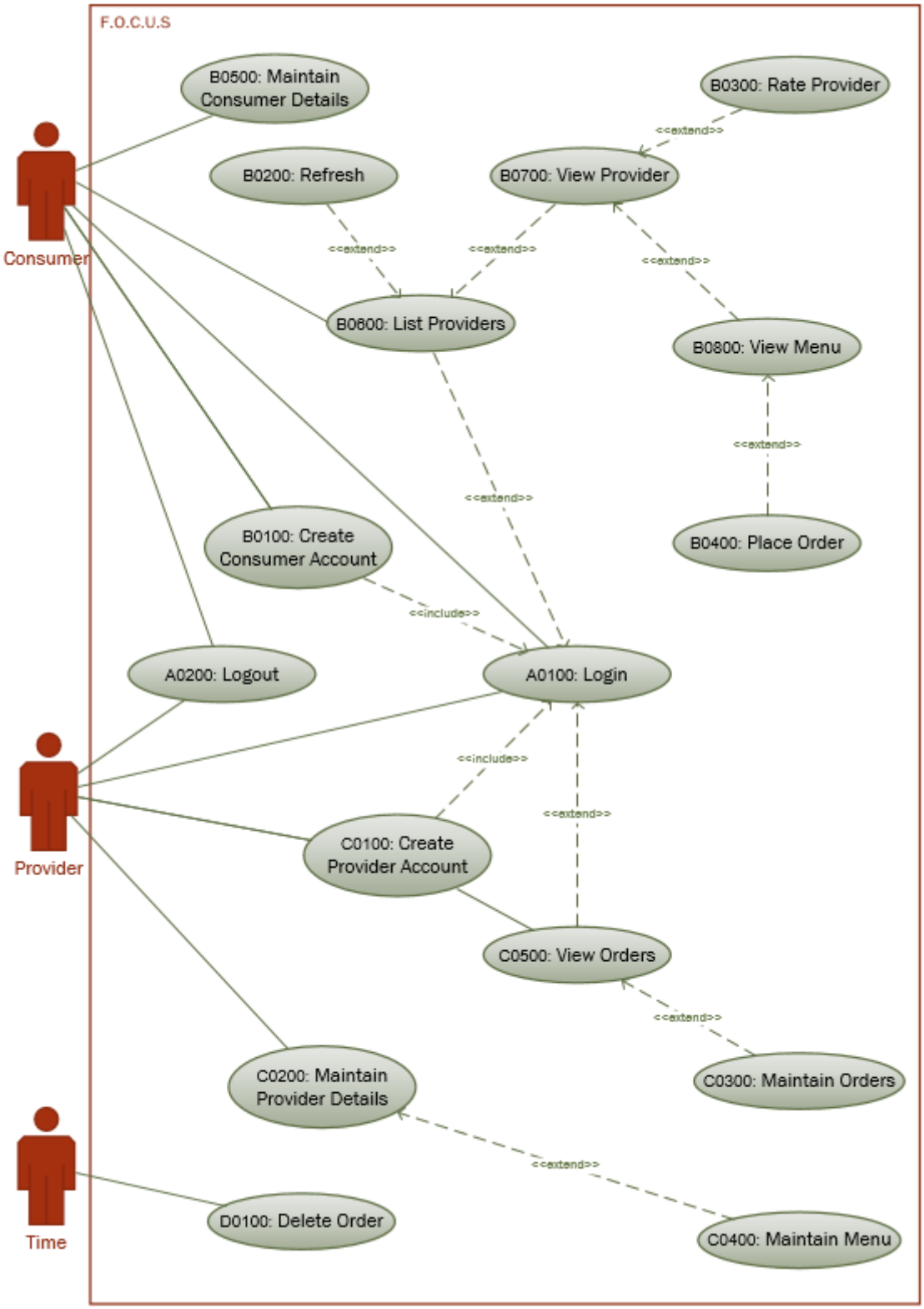
Team Member
Antin Phillips
Ruan Olivier
Charné Keen
Klara Lategan

2 FUNCTIONAL REQUIREMENTS

2.1 Business Rules

1. A consumer account cannot act as a provider account, and provider account cannot act as a consumer account.
2. Providers will use a web-based system.
3. Consumers will use a mobile (Android) system.
4. After a consumer has placed an order there is a 5 minute period in which the provider may accept or decline the order. After this time has elapsed the order will be automatically cancelled.
5. A provider may only have one location at a time.
6. Consumers have to be logged in to place an order, but anyone using the application can view surrounding providers without the need of an account.
7. It is up to the provider to decide if they want to allow consumers to order through the application.
8. Consumers may only have one rating of a provider. Although this rating may be changed at any time.
9. Consumers may view the providers in any area, not only the area surrounding them.
10. Consumers may specify the radius of the area in which they wish to view providers (there will be a maximum radius).
11. All orders will be recorded.

2.2 Business Use Case Model



2.3 Use Case Glossary

Package Id: A	Package Name: User	
Use Case Id	**Use Case Name**	**Actors**
A0100	Login	Provider, Consumer
A0200	Logout	Provider, Consumer

Package Id: B	Package Name: Consumer	
Use Case Id	**Use Case Name**	**Actors**
B0100	Create Consumer Account	Consumer
B0200	Refresh	Consumer
B0300	Rate Provider	Consumer
B0400	Place Order	Consumer
B0500	Maintain Consumer Details	Consumer
Queries/Reports		
B0600	List Providers	Consumer
B0700	View Provider	Consumer
B0800	View Menu	Consumer

Package Id: C	Package Name: Provider	
Use Case Id	**Use Case Name**	**Actors**
C0100	Create Provider Account	Provider
C0200	Maintain Provider Details	Provider
C0300	Maintain Orders	Provider
C0400	Maintain Menu	Provider
Queries/Reports		
C0500	View Orders	Provider

Package Id: D	Package Name: Time	
Use Case Id	**Use Case Name**	**Actors**
D0100	Delete Order	Time

2.4 Use Case Narratives (User Stories)

2.4.1 Package A: User

Use Case ID	Use Case Name	
A0100	Login	
Primary Business Actors		**Other participating Actors**
Consumer, Provider		
Description	A user can log into their account using their verified email and password that was used to create the account.	
Pre-Conditions	The user must have created and verified their account to use the system.	
Triggers	User wants to make use of the system. Invoked by Use Case B0100 or C0100.	
Post-Conditions	User is logged in and can perform the needed tasks.	
Basic Flow of Events	1. User opens the system from their device. 2. User inputs required information (email and password) in provided fields.	
Alternate Flow of Events	3. For consumers, Use Case B0600 is invoked.	
Alternate Flow of Events	3. For providers, Use Case C0500 is invoked.	

Use Case ID	Use Case Name	
A0200	Logout	
Primary Business Actors		**Other participating Actors**
Consumer, Provider		
Description	The user may logout of the system. They will be redirected to the login page once they have logged out.	
Pre-Conditions	The user must be logged into the system.	
Triggers	The user must want to logout.	
Post-Conditions	A user is logged out and redirected to the login page.	
Basic Flow of Events	1. The user selects log out from the menu. 2. User is logged out. 3. Use Case A0100 is invoked.	

2.4.2 Package B: Consumer

Use Case ID	Use Case Name
B0100	Create Consumer Account
Primary Business Actors	**Other participating Actors**
Consumer	
Description	Consumers can create an account on the system. Personal information such as their name, surname, email address and cell phone number will be stored as well as a password that will be used for verification when logging in.
Pre-Conditions	The consumer must have downloaded the app. The consumer must be willing to provide their name, surname, email address, cell phone number and a password.
Triggers	A consumer wants to make use of the system.
Post-Conditions	An account is created for the consumer. An email is sent to the user asking them to verify their account. Their information is stored in the database and they are able to login using their verified email and password.
Basic Flow of Events	1. Consumer opens the app from their smartphone. 2. Select create a new account. 3. Consumer inputs their name, surname, email address, cell phone number and password. 4. Consumer verifies their account. 5. Use Case A0100 is invoked.

Use Case ID	Use Case Name
B0200	Refresh
Primary Business Actors	**Other participating Actors**
Consumer	
Description	The selected radius and the location of the consumer will be verified and the surrounding providers will be re-determined and displayed on the home page.
Pre-Conditions	The consumer must be logged into the app.
Triggers	Invoked by Use Case B0600.
Post-Conditions	The providers displayed on the home page will be re-determined.
Basic Flow of Events	1. The location of the consumer will be verified. 2. The selected radius will be verified. 3. The map on the home page, will display the providers specified by the verified location and selected radius.

Use Case ID	Use Case Name	
B0300	Rate Provider	
Primary Business Actors		**Other participating Actors**
Consumer		
Description	A consumer can rate their experience with the provider. This rating consists of a score out of 5 and a potential additional comment. After a consumer has ordered and collected food from a specific provider, the consumer will automatically get prompted to rate the provider, but will have the option to not rate the provider.	
Pre-Conditions	Consumer is logged in the system.	
Triggers	Provider marked order as collected or Invoked by Use Case B0700	
Post-Conditions	The consumer rated their experience with the provider.	
Basic Flow of Events	1. Consumer is presented with the rating screen. 2. Consumer selects the amount of stars out of 5 that they wish to rate the provider. 3. Consumer presses Submit Rating.	
Alternate Flow of Events	2. Consumer opts not to rate and cancels the process.	
Alternate Flow of Events	2. Consumer adds (additional) comment about their rating. 3. Return to Basic Flow step 3.	

Use Case ID	Use Case Name	
B0400	Place Order	
Primary Business Actors		**Other participating Actors**
Consumer		
Description	Consumers can order food from providers that allow ordering. The consumer can select food items from the provider's menu and specify the quantity for each item they order. These food items are added to a cart which they can see on-screen. The consumer can also edit their cart to remove an item and/or change the quantity of an item.	
Pre-Conditions	The provider allows ordering via the system. Consumer is logged into the system. Consumer wishes to order from provider.	
Triggers	Invoked by Use Case B0800.	
Post-Conditions	The consumer's order is placed and the provider receives the order.	
Basic Flow of Events	1. Consumer is presented with the provider's menu. 2. Consumer selects food items and specifies the quantity they wish to add to their cart. 3. Consumer presses Place Order. 4. The consumer is provided with a summary of the contents of their cart. 5. Consumer presses confirms order.	
Alternate Flow of Events	2. Consumer presses Maintain Cart. 3. Consumer edits food items, by changing the quantity of an item and/or removing an item from their cart. 4. Return to Basic Flow Step 2.	
Alternate Flow of Events	4. Consumer adds (additional) comment to their order. 5. Return to Basic Flow step 4.	

Use Case ID	Use Case Name
B0500	Maintain Consumer Details
Primary Business Actors	**Other participating Actors**
Consumer	
Description	A consumer can update or review information on their account. The consumer may not delete their profile nor delete any other consumer's account.
Pre-Conditions	The consumer must be logged onto the app.
Triggers	The consumer will choose to update/review their account
Post-Conditions	If the consumer changed any details the changes will be applied. The consumer will remain on the maintain page, till navigating to a different part on the system.
Basic Flow of Events	1. The consumer will be redirected to the maintain details page to view their current account.
Alternative flow of events	2. The consumer changes the necessary information. 3. The consumer clicks on 'save' and the new information will be saved. (If the consumer does not click on 'save' the changes will not be saved). 4. The page will be refreshed with the consumer's new details.

Use Case ID	Use Case Name
B0600	List Providers
Primary Business Actors	**Other participating Actors**
Consumer	
Description	The consumer will be able to view all providers near a specific location within a specific radius. All the providers will be displayed on a map on the main page.
Pre-Conditions	The consumer must be logged onto the app.
Triggers	Invoked by Use Case A0100.
Post-Conditions	The consumer will be able to view all providers near a specific location within a specific radius.
Basic Flow of Events	1. The location of the consumer will be retrieved via the GPS on the consumer's mobile phone. 2. The default radius (that will restrict which providers will be viewed by the consumer) will be selected. 3. The location and radius will determine which providers will be displayed, these providers will be displayed on a map on the main page of the app.
Alternate Flow of Events	1. The location can be specified by the consumer and not retrieved via GPS. 2. Return to Basic Flow step 2.
Alternate Flow of Events	2. The consumer can specify the radius. 3. Return to Basic Flow step 3.
Alternate Flow of Events	1. Invoke Use Case B0200.
Alternate Flow of Events	4. Consumer selects a displayed provider. 5. Invoke Use Case B0700.

Use Case ID	Use Case Name	
B0700	View Provider	
Primary Business Actors		**Other participating Actors**
Consumer		
Description	Consumers can view a specific provider's details. These details include the provider's name, location, business hours and telephone number. The consumer can also, if they wish, view the menu, rate the provider and if the provider supports it, order.	
Pre-Conditions	Consumer is logged in the system. Consumer is viewing a specific provider.	
Triggers	Invoked by Use Case B0600.	
Post-Conditions	Consumer is presented with the provider's details.	
Basic Flow of Events	1. The provider's details are displayed.	
Alternate Flow of Events	2. Consumer selects View Menu. 3. Invoke Use Case B0800.	
Alternate Flow of Events	2. Consumer selects Rate Provider. 3. Invoke Use Case B0300.	

Use Case ID	Use Case Name	
B0800	View Menu	
Primary Business Actors		**Other participating Actors**
Consumer		
Description	Consumers can view a specific Provider's menu. The menu lists all available foods' details. Each food item's details include the item's name, price and a potential item description.	
Pre-Conditions	Consumer is logged in the system. Consumer wishes to view the menu of the provider that they are viewing.	
Triggers	Invoked by Use Case B0700.	
Post-Conditions	Consumer is presented with the provider's menu.	
Basic Flow of Events	1. The provider's menu is displayed.	
Alternate Flow of Events	2. Consumer selects Place Order. 3. Invoke Use Case B0400.	

2.4.3 Package C: Provider

Use Case ID	Use Case Name
C0100	Create Provider Account
Primary Business Actors	**Other participating Actors**
Provider	
Description	Provider can create an account on the system. Personal information such as their business name, email address and cell phone number will be stored as well as a password that will be used for verification when logging in. Provider also has the option to add the location of their business. The provider must also enter an administrative password to be used for certain tasks such as maintaining the business menu and items.
Pre-Conditions	The provider must have opened the web application. The provider must be willing to provide their business name, email address, cell phone number and passwords.
Triggers	A provider wants to make use of the system.
Post-Conditions	An account is created for the provider. An email is sent to the user asking them to verify their email. Their information is stored in the database and they are able to login using their verified email and password.
Basic Flow of Events	1. Provider opens the website from their device. 2. Select create a new account. 3. Select provider from consumer/provided option. 4. Provider inputs their business name, email address, cell phone number and passwords. 5. Provider verifies their account. 6. Use Case A0100 is invoked.

Use Case ID	Use Case Name
C0200	Maintain Provider Details
Primary Business Actors	**Other participating Actors**
Provider	
Description	Providers are able to maintain their details. A provider can update or review information on their account. . A provider will need to enter an administrative password to make changes to their details and/or menu.
Pre-Conditions	A provider must have an account be logged on to the app.
Triggers	Provider will choose to update/review account details and have access to the administrative password.
Post-Conditions	If the provider changed any details the changes will be applied. The provider will remain on the maintain page, until navigating to a different part on the system.
Basic Flow of Events	1. Provider is directed to the maintain account details page to review/update their account.
Alternate Flow of Events	2. Provider makes required changes. 3. Provider selects ‘save’, and changes are saved. 4. Page is refreshed with providers’ new details.
Alternate Flow of Events	2. Provider selects to maintain their menu. 3. Use Case C0400 is invoked.

Use Case ID	Use Case Name	
C0300	Manage Orders	
Primary Business Actors		**Other participating Actors**
Provider		
Description	Between an order's placement and its pickup, it will go through three states. The first, "Placed and pending acceptance" is the state in which the consumer has placed the order but the provider has not accepted the order yet. The second state, "Accepted and in production" is the state in which the provider has accepted the order and is currently making all items on the order. The last state, "Awaiting pickup" is the state in which the provider has completed the order and is waiting for the consumer to pick it up. After leaving the final state, the order will be archived. Providers can move orders through their three states when they see fit. This allows providers to accept orders, indicate that they're ready for pickup and indicate that they have been picked up. Consumers are notified when they orders change states.	
Pre-Conditions	Provider is viewing their orders.	
Triggers	Invoked by Use Case C0500.	
Post-Conditions	Order is moved to desired states. Appropriate consumer is notified of the state of their orders.	
Basic Flow of Events	1. Provider selects an order of interest to them. 2. Provider selects to move the selected order to the next state. 3. Provider is asked to confirm their action. 4. Order is moved to the appropriate phase. 5. Consumer is notified.	
Alternate Flow of Events	4. Order is not moved.	

Use Case ID	Use Case Name	
C0400	Maintain Menu	
Primary Business Actors		**Other participating Actors**
Provider		
Description	A provider can maintain their menu on the system. This consists of adding, modifying or removing an item, from the menu.	
Pre-Conditions	A provider is maintaining their details and selects to maintain their menu.	
Triggers	Invoked from Use Case C0200.	
Post-Conditions	Modified changes to the menu will be saved and the provider will be redirected to an updated view of the menu.	
Basic Flow of Events	1. Provider adds/modifies/deletes/views items on their menu. 2. Provider makes any changes and selects the 'save changes' button. 3. Page is refreshed with providers' new details.	
Alternate Flow of Events	2. Provider does not make any changes.	

Use Case ID	Use Case Name	
C0500	View Orders	
Primary Business Actors		**Other participating Actors**
Provider		
Description	Providers can view all current orders associated with them. They can filter orders to only see one particular state, or can choose to view all orders regardless of their state. A summary of all orders are shown, if the provider selects a particular order, all details relating to it will be shown.	
Pre-Conditions	Provider has logged in to their account.	
Triggers	Invoked by Use Case A0100.	
Post-Conditions	The provider's orders are shown in the way that they chose.	
Basic Flow of Events	1. Provider selects type of filter they wish. 2. Orders are displayed. 3. Provider selects a certain order. 4. All details related to the selected order are shown.	
Alternate Flow of Events	6. Invoke Use Case C0300.	

2.4.4 Package D: Time

Use Case ID	Use Case Name	
D0100	Delete Order	
Primary Business Actors		**Other participating Actors**
Time		
Description	After 5 minutes have elapsed after a consumer has placed an order and a provider has not accepted it, the order will be automatically cancelled.	
Pre-Conditions	Consumer must have placed order and the provider must not have accepted the order.	
Triggers	Pending order not accepted for 5 minutes.	
Post-Conditions	Order is removed from provider's interface. Consumer is notified.	
Basic Flow of Events	1. Consumer places an order. 2. Provider does not accept the order for 5 minutes. 3. Order is removed from the provider's interface. 4. Consumer is notified.	

3 NON-FUNCTIONAL REQUIREMENTS

3.1 Interface Requirements

Usability Goals

- The system will be effective and efficient, allowing the user to get accurate and relevant results in completing tasks.
- The system will be straight forward and precise to use, making it easy for the user to learn how to use the system.
- Using the system should be easy to remember and worth remembering.
- Users should trust the system and information on the system should be secure, making the system safe to use.

User Experience Goals

- The user experience should be satisfying; the system will be easy, pleasant and natural for users to achieve tasks.
- The system will have a predictable pattern, through consistency, that is easy to use and navigate.
- Terminology used in the system will be unambiguous, simple, and precise. Informative feedback will be given through tasks, confirming success or providing useful feedback in case of error.
- The system will be useful to the user and will fulfil the given tasks efficiently and effectively.
- The system will be easy and enjoyable to use. Achieving the results the user wants should not be irritating nor frustrating.

User Requirements

The user must have access to the computing device and have the ability to use the device. The system will be designed for casual users. Through clear language and informative information, navigating through and using the system will be user-friendly and straightforward.

3.2 Performance Requirements

All transitions between interfaces of the system must be relatively smooth and lag free.

All notifications received by users must be in real time.

3.3 Security Requirements

Users will not be able to use either of the systems (mobile or web) until they have registered on the system. Before the account is created (i.e. the account information is stored), the user will verify their account via their email. Upon logging in the user's entered information will be compared to the stored information, if it is correct, access to the system is granted, else is denied. This is to ensure the security of the user's information.

Users will not be allowed to view or edit the information of any other user.

Providers will have 2 passwords attached to their account. The one will be used for logging into the system while the other will have to be entered, by an authorised person, before editing any of the provider details. This will allow providers to have many people using the system without giving them the ability to change their details.

3.4 Operational Requirements

The web system must be able to run on any browser using HTML5 on any device with a screen size of at least 9”.

The Android system must be able to run on any device using Android API 21 (and higher).

4 DATA REQUIREMENTS

Entity	Example	Entity Attributes
Consumer	1 PS@gmail.com Password123 Pete Smith 0123456789	ConsumerID Email Password FName LName PhoneNo
Provider	2 JS@gmail.com Password123 Admin123 John's -33.7139 25.5207 0123456789 10:00 - 20:30 Weekdays 1	ProviderID Email LoginPassword AdminPassword BusinessName LocationLat LocationLong PhoneNo BusinessHours FoodMenuID
FoodItem	3 Chips (XXXL) 99 Best chips ever and lots of them!	FoodItemID FoodItemName FoodItemPrice FoodItemDescription
FoodCategory	1 Grill All come with a side of chips, rice or salad 2	FoodCatID FoodCatName FoodCatDescription FoodMenuID FoodCatID
FoodMenu	7 Welcome to John's	FoodMenuID FoodMenuDescription
Order	1 2 3 123	OrderID ConsumerID ProviderID OrderTotal
OrderLine	5 7 12 24 1	OrderLineID FoodItemID Quantity OrderLineTotal OrderID

Appendix A – Summary of an Existing System

System name: Chow Now

URL: https://www.chownow.com

Overview

Chow Now offers an easy solution if a restaurant wants to expand to include online ordering. The system allows a restaurant to create a highly customizable menu and interface which is then packaged as the restaurant's own application (not Chow Now's application). This prevents the restaurant from being displayed amongst its competitors.

Customers can download the application on iPhone or Android. The app allows customers to view, comment on, order and pay for items on the restaurant's menu. After ordering and paying, the customer is notified (after the order has been approved) with regards to how long the order will take to fill. All this can also be done on the restaurant's website through Chow Now's interface.

Restaurants use a tablet for their side of the system. The tablet application shows all placed orders, which should have a required time assigned to them (this time will then be communicated to the customer who placed the order). All active orders are also displayed - these are the orders that are in the process of being made or have not been collected yet. Once an order has been collected, it can be cleared from the interface. Chow Now also provides a statistics page containing many useful statistics related to sales.

Good features

The statistics page was an interesting and useful feature that we had not considered.

The interface itself is well-made, aesthetically pleasing and intuitive – we can learn from their layout.

Shortcomings (areas for improvement)

Chow Now's service is specific to one food provider; our system aims to give the user a diverse set of choices. Although, Chow Now did strictly only want to provide an interface for one food provider, so this is not necessarily an improvement, just a different direction.

Chow Now only caters for serious establishments (restaurants); our system is aimed towards all food providers, from street vendors to restaurants.

Appendix B – User Questions

Questions towards customers

Do you want to have to login to be able to view the nearby providers and their menus, or would you like to be able to view them without an account? (Keeping in mind that ordering will require logging in)

Would you like a feature that would allow a provider to specify whether your order has been accepted and how long it will take to complete?

Would you like the ability to view providers near a location that is not your current location?

How would you like nearby providers to be displayed to you, on a map or in a list format (or both)?

Questions towards providers

What level of customization would you like when designing your menu on the system?

Would you like location services to determine the location of your store or would you like to manually specify (or both)?

How would you like customer's orders to be displayed?

What information would you like to be able to place on the system?

Questions towards either

How large should the radius of nearby food providers be?

Would you like there to be a shopping cart system that allows you to add multiple items to an order before placing it?

Would you like the system to support payment?