**Systems Analysis and Design**

**Phase 1 Research**

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# Introduction

The project documentation has been assembled to examine the functionality and design of food delivery service apps. (Williams *et al.*, 2020) States that the most frequent complaints about food delivery applications are late orders, order cancellations, drivers’ lack of knowledge of directions, lack of easy-to-navigate refund services, application bug reports, and amongst many other complaints highlighted in the findings. This investigation has been done to analyse the functionalities of the best-performing food delivery applications in Ireland, to familiarise with the industry competition, customer requirements, and expectations, and, therefore, to make a more informed decision in developing an online web presence for an organization. Hence, we will avoid the well-known mistakes highlighted above that were committed by many other applications. Accordingly, this investigation is to get a better understanding of the requirements from consumers and to help the organisation better compete with some of the major food delivery competitors within Ireland with the aim of providing the functionality needed by customers. In this project, we will be looking at:

* What types of functionalities are provided by food delivery applications?
* What type of functionalities do customers want?
* Which functionalities could help you stay ahead of the competition?

# Food Delivery Services Application

Food delivery applications assist customers in making knowledgeable choices when placing an order through information about the nutritional value and the time it would take to be delivered, among many other functionalities (Okumus *et al.*, 2018). This is more helpful for customers who have specific dietary requirements. With so many different functionalities evolving with technology every year, customers can use the applications based on their own personal preferences.

Users are looking for the following in an application:

* To be more personalised as per their needs,
* With easy access to reach out for feedback about the app,
* Providing efficient delivery services,
* Accessible menu that is intuitively designed to navigate through the app (Rivera, 2019).

In the following content, we will be looking at the functional features that can help the organisation stand out among its competitors, focusing on these questions:

* What is the architectural framework of the application?
* Who are the biggest competitors in food delivery services in Ireland?
* What functionalities are they providing in their applications?

## Application Architecture Framework

The design of the application is the conceptual structure that defines the functionality of the app and the interaction with the users. It is critical to first understand the user's needs and how the app will connect different applications to cater to those needs before creating the app's functionality. This kind of knowledge would help create something that is more user-centric and robust in architecture to produce results than being business-centric with fewer user functionalities. How the app is designed plays an important role in determining its performance, versatility, and user experience. Food delivery apps are increasing every day, with more users making use of their functionality (Belanche, Flavián, and Pérez-Rueda, 2020). For any business making use of mobile applications to sell their products, success is dependent on how robust the application is in the architectural framework to produce great results.

## Top 5 Competitors in Ireland

|  |  |
| --- | --- |
| **Free Application** | **Paid Application** |
| * McDonald’s App | * Love, Manuela |
| * Just Eat Ireland: - *Food delivery* | * Russian Food Recipes |
| * Deliveroo: - F*ood Delivery UK* | * Beef Cuts 3D |
| * Too Good to Go: - *End Food Waste* | * Jason Vale’s 7-day Juice Diet |
| * Uber Eats: - Food Delivery | * Jason Vale’s 5-day Juice Diet |

## Functionality features

* *User interface:* It is the layer where the user gets to interact with the app. The user would be navigating through to search for restaurants, view menus, and make orders. Understanding user needs is critical to designing an interface that will contribute to a great user experience.
* Backend services: They help manage the back end of the application. Their focus is to manage the input data and manipulate the logic to personalise the search results, making use of the algorithm to display the data within. They perform app authorizations, payment authentications, manage payment gateways, and many more.
* *Database*: It is all the information coming in from customer usage, restaurant menu items, delivery information, and much more. This focuses on customer behaviour, profile information, payment usage, and any data collected in the app. They also collect data about the orders, retain information about restaurant partners, and store all this information within the database.
* *APIs*: They help applications communicate with other systems. They manage the application’s communication with third-party services and databases. They also play a role in enhancing the user experience.
* *Third-party integration*: It is the integration of external services into the application, like a GPS system, providing map locations within the app to locate the distance between the customer and the order pick-up point, a delivery tracking system, and many other useful resources used in the app.
* *Analytics and reporting*: This is the analytics from user activity on the app, order trends, app performance, menu item trends for restaurants, speed of deliveries, and much more. With this kind of information, users can view and rate the performance of the delivery system, restaurants can know the most performing items on the menu, and much more.
* *Admin panel*: This allows the application to be managed. Such management included order management, user support, financial tracking, and much more. This is the administration point for different users’ accounts, like drivers or restaurant owners.
* *Cloud infrastructure*: The database collected from the app is stored in the cloud-based infrastructure. Allowing the application to handle a huge traffic of users and data storage collection. The application utilises virtual resources offered by cloud services.

## How does the application interaction work?

|  |  |  |  |
| --- | --- | --- | --- |
| Customer | Restaurant | Delivery Services | App Management |
| Browse restaurant. | Displays menu items and manage what is displayed | View the pickups to be completed. | User Profile: customer,  Restaurant and  Delivery. |
| View menu items | Accept order, cancel, or modify | . | Address details:  geographical location of order and pick up point and the route to deliver. |
| Customise ingredients from the order item. | Offer dietary filter and menu item detail options |  | Search functionality and personalised algorithm based on the user preference history or most ordered items in the app. |
| Cart management- add and remove items. | Accept order, cancel order, modify the order | Accept pickup, reject, and manage accepted pickups | Notifications for any changes to the order ore requests for the order. |
| Secure payment with various Payment Methods | Receives payment for the order / view the earnings dashboard. |  | Displays the discounts and promotions on offer |
| Order tracking. | Delivery confirmation, driver tracking and notifications | Notification for expected duration for deliveries, completed delivery and payment on delivery. | Menu, order, delivery, payment, content management on dashboard to offer insight (analytics and reports) |
| Rating and reviews, Live Chat or AI Restaurant Chatbots. | Receives feedback.  Communicates with customer. | Receives rating and communicates with customers. | Connects everyone to the right channel of communication. |

The information in the table is not made in a specific order of events how it is to display what role the functionality serve for a different user.

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