



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

Technology and Information System

(SECP1513)

Section 3

Product	Online Grocery Purchasing App
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Introduction

Low fidelity prototype is a fast, easy and simple way to interpret high-level design ideas into a tangible and testable artifact. The purpose of utilizing low fidelity prototypes is to test and ensure the design and the idea of the product are functional, practicable, and workable. There are numerous benefits to using low fidelity prototypes to represent our products. For example, utilizing low fidelity prototypes can save our time and cost. To illustrate, a low fidelity prototype does not need to be splendid and magnificent, indeed it can use a simple and quick way to represent contents, layouts and flows. By choosing to design a low fidelity prototype, we normally put more emphasis on the functionality in order to ensure we are satisfied with the products' architecture before considering aesthetics. For this reason, a low fidelity prototype is the best way for early testing.

Problem background

The spread of COVID-19 has highly led to a dramatic loss of human life worldwide and causes an unprecedented challenge to people's health and mindset. Humans nowadays prefer to stay at home and purchase their needs and essential items on the internet rather than buying them in the store. However, buying groceries through online grocery applications does not seem very popular in Malaysia as there are no apps that could provide the best service in terms of groceries purchasing. For instance, GrabFood is known as a company that could provide the supreme service in delivering food to people. This problem has given an inconvenient experience to any person who would like to restock their groceries without risking themselves to exposure of COVID-19. Furthermore, people could have to face difficulties in buying their groceries due to the distance between their house and grocer being extremely far which lead to only one or twice a week to restock their essential needs.

Proposed Solution

We decided to design an app that can be used by everyone, regardless of where they live, as long as they have access to the internet. In order to prevent the spread of the coronavirus during this pandemic, we all know that we must regulate our movements and keep them to a minimum as much as possible. People can use this app to order whatever they need from wherever they are. Orders can also be placed for family members and acquaintances. They don't have to drive to a supermarket or mall and wait in a long line to pay.

To use this software, users only need to download it from the Google Play Store or the Apple App Store. Then all they have to do is register. Name, address, phone number, and email address are all that we require as a result of the input. Because the information is restricted, this data will be safe. Customers' information is stored in the cloud. The 4th IR technologies concept, which includes big data analytic and IoT, will be used to construct this app. In addition, this app utilises cloud computing concepts such as storage and security in order to ensure that our programme runs without a hitch. In the next section of this report, we'll describe how it works.

Objective

1. To break the covid-19 chain by minimizing people's movement when they simply order and have it delivered.
2. To assist users in obtaining their needs solely through the use of their gadget.
3. To assist people in sending their love to others by delivering orders throughout Malaysia.
4. To give people the opportunity to use an app that is appropriate for all ages.

Scope

The scope of this project is to create a low-fidelity prototype of an online grocery app. This application will be used by two different types of people which are the seller and the user. At first, the user must register their account in our online grocery app and insert all important information such as address, phone number and name. After registering, the main page is displayed for the user to decide what they are going to purchase in this online grocery app. We have separated the groceries' items into 8 categories which are fruit, vegetables, meats, food spices, eggs, beverages, cookies and lastly sweets. This user friendly feature will make customers feel more convenient to choose and purchase the items that they wanted to buy. Furthermore, the price of each item will be provided to the customer before they have decided to purchase the items. Lastly, the total price of the purchased items is displayed and delivery charge will be shown to the customer.

4th IR Technology – Big Data Analytics

Big data analytics is the process of using advanced analytic techniques to examine and integrate diverse and large data sets that contain a variety of data types for example unstructured data, semi-structured data and structured data from different sources.

Big data analytics is imperative in assisting businesses to use the data collected from different origins for example social media, machine sensor data, cloud application and so on to analyze in order to discover underground patterns, market sentiments, new market trends, customer's favors and preferences, unknown connection, potential opportunities, needs of customers and other beneficial information to improve the performance, productivity and efficiency of businesses. These features are essential to elevate the competitive advantages of businesses for instance it provides the information on what particular clients are most interested in in a specific area, it is useful for the businesses to utilize the obtained information to draft a strategy to aim their potential clients. This technology not only can improve the profits of businesses but also can save our cost-of-sales and this is the reason why our group selected big data analytics technology for our project to promote our products.

For this project, our group is planning to design an online grocery application and we are planning to use big data analytics as an assistance to optimize our services. Firstly, via the big data analytics technology, we will collect the data from our users and construct shopper models based on various behavioral and demographic data for instance age, gender, favourable shopping features, brand preferences and so on. After the collection of data, we will utilize this data to analyze in order to well understand our customers' purchasing behaviours and current trends. By having these statistical data, it can assist us to draft and develop new business plans and predict the future trends, forecast the demands and estimate how our clients will behave in the next future. Besides that, predictive analytics can assist us to know what groceries are in high demand, so we could utilize this data to exactly understand inventory needs with the changes of the seasonality and economy. This information is important for us to well prepare our inventories in order to prevent the shortage of our products and meet clients' demand.

Potential clients

Problem Scenario

The epidemic had changed the course of history. Humans begin to spend the bulk of their time inside their houses in order to prevent getting infected by the covid-19 virus. As a consequence, their movements are constrained. Despite the fact that the world's schedule had altered, people still needed to get back on track. To do this, they deploy technologies that will aid them in tackling this sort of difficulty. Humans still want to have their wants addressed, and they still want to send gifts to their friends and family all over the globe, such as birthday presents and other important events. To do this, we decided to design an app that would help individuals with their requirements and give services that will address their difficulties.

Clients

Students, employees, urban residents, rural residents, and the elderly will all fall into one of five groups for this project. We create these categories to ensure that we can meet all of their requirements. We are aware that the needs of people of all ages vary.

We will supply groceries, meals, and cooking supplies to all of our clients. In many cases, employees have to make meals for their families shortly after they get home from the office. A simple way to get fresh ingredients for their meals is to order them online. However, in order to ensure the freshness of raw products such as seafood, chicken, meat, and vegetables, we only distribute them in specific locations, such as those near our store. If they need dry ingredients, they can come to us and we'll send them immediately away if they're still accessible. We'll also gather information on the most popular brand of food that diners like to prepare. You can order your meals via our applications because we accept food orders and deliver them right away for those who have a hectic schedule. We exclusively serve food that is close to the customer's location to ensure that the food is still warm and not melted as depicted in our promotional images.

We decided to offer youngsters with needs like school supplies, uniforms, and food. Because parents don't know what youngsters like, they may end up getting the wrong thing for their children when their children ask them to buy anything. Because students have a

significant danger of becoming infected with coronavirus, they are not allowed to go public. Additionally, several of the students are missing doses of vaccines. We also supply their belongings and will ship them to the address that we have in order to meet their requirements. Due to the difficulty of going outside and obtaining necessities for students who reside in the hostels we work with, we are also able to send them back home.

Almost all of the needs of urban residents can be met. Because cities have so many shopping malls and grocery stores, residents can find just about whatever they need. As a result of the traffic jams and road congestion, the delivery time may be delayed. Although they live in rural places, we are able to deliver their order. Order the gifts and we will send them to your loved ones who live in rural areas if you are an urban dweller and want to surprise them with something.

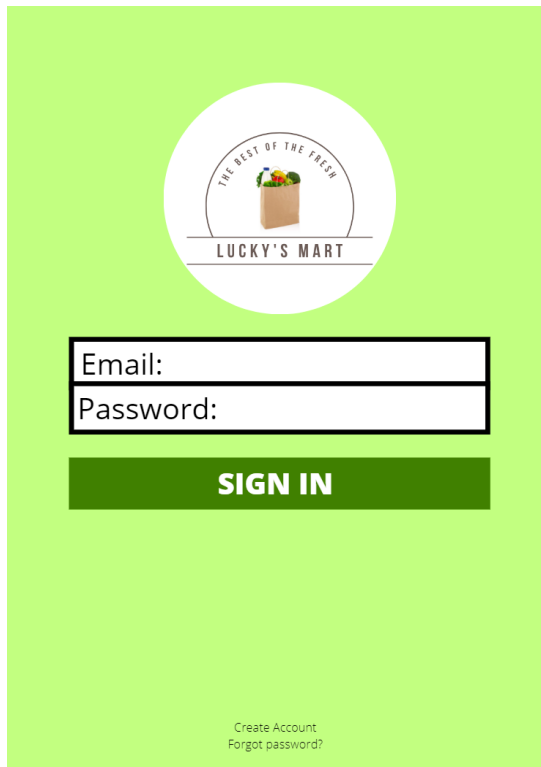
We will supply medicines tailored to the needs of the elderly. Before they may use our apps to order it, they must first consult with their doctor. When they receive the medication from us, we don't want to cause any issues. Workers will receive the same benefits as the rest of the populace. We'll set up newspaper delivery for the elderly so they can read the paper as they relax at home. Our apps must be used to pay for the services and the newspaper.

Input

People must first log in or create an account in order to utilise our programme. All we need is their name, address, phone number, and email address. Users may choose any products that they want to purchase and then examine the items that they have selected. Users may simply begin by placing the desired item in their shopping basket. We will save the information about the things in their shopping basket so that they just have to check it out when they are ready to purchase them. Users may also have a dialogue with the store owner to ensure that they are receiving the finest services possible from them. Payment difficulties are handled via online banking, thus consumers must provide their online banking username, password, and security code when making a payment. As a result, we will never save that kind of information since it is regulated and only pertains to the bank and its customers.

Architecture and Planning Design

1.



2.

Daily Groceries

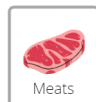
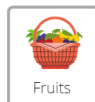


Purchase the best quality products
at the best price through Lucky's Mart app

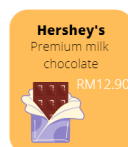
Special Promo %



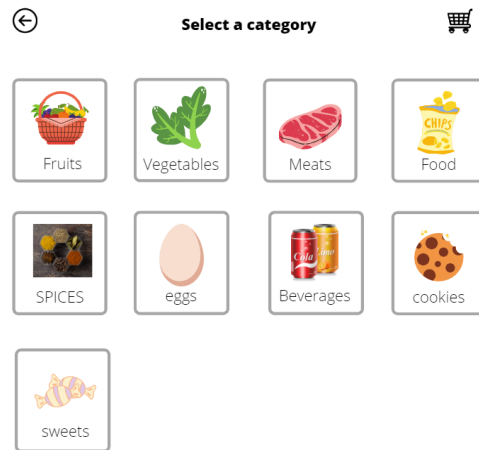
Select categories



Recently Viewed Items



3.



4.



5.

Order Details

Distance from you:

Deliver to:

Universiti Teknologi Malaysia, 81310 Johor Bahru, Johor
MA1-1-37, Kolej Tun Dr Ismail UTM , 81310 Johor Bahru, Johor,

Edit address

Edit

Estimated time to receive:

Deliver now (20 mins)

Order summary

Add items

1x

Farm House Fresh Milk

9.90

Edit

1x

1.5Kg of Strawberry

50.90

Edit

2x

Fresh Chicken

20.90

Edit

Subtotal

RM81.70

Delivery fee

5.00

Payment details

0007

|

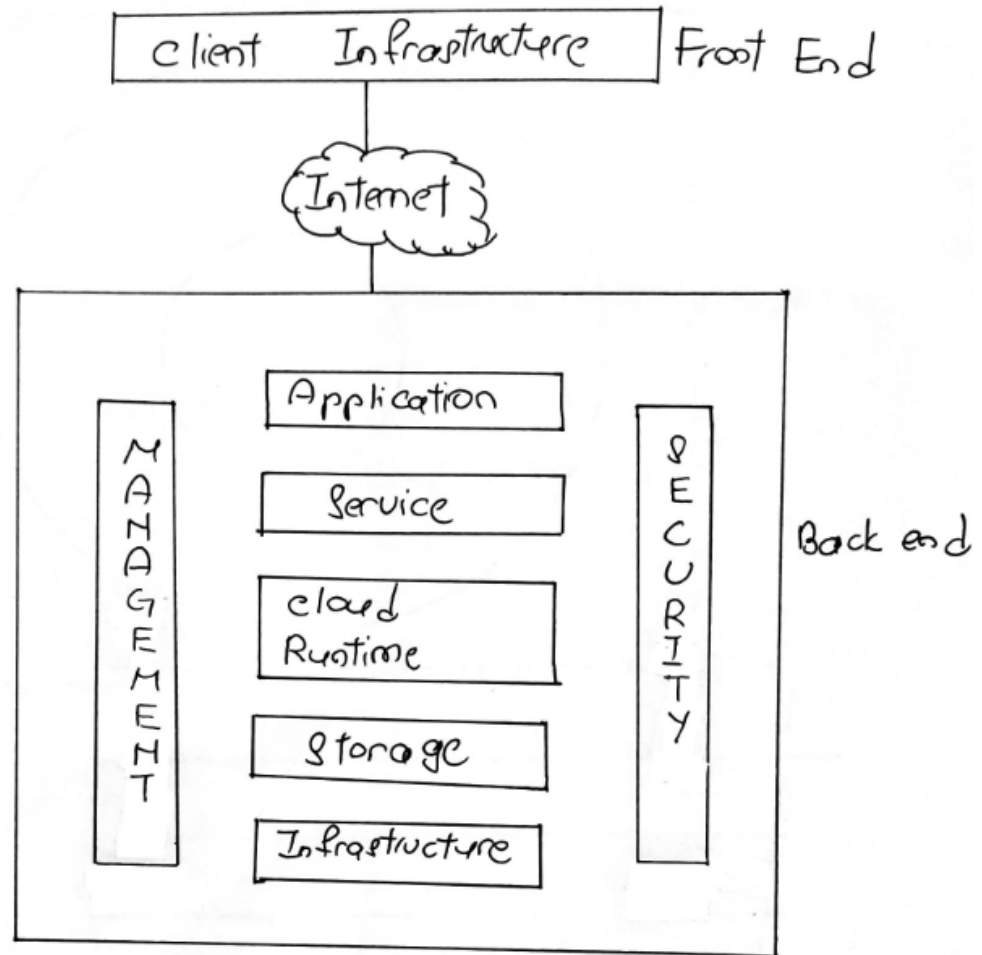
Offer

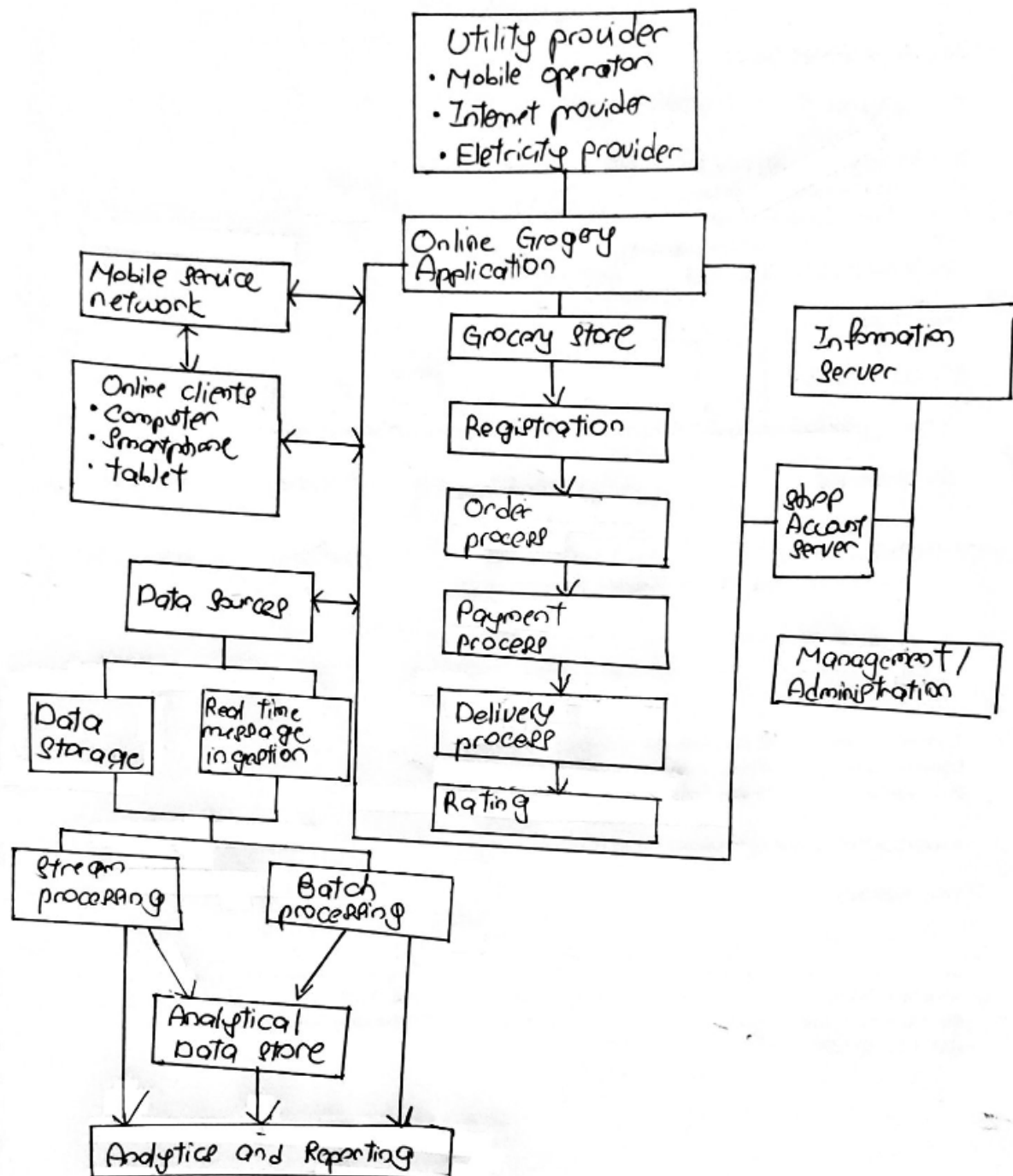
Total

RM86.70

PLACE ORDER

Cloud Architecture





Conclusion

Contribution

First and foremost, our product- an online grocery application can save the time of our clients and customers. In this fast-paced and highly competitive era, millions of Malaysians nowadays are striving hard to work from day to night in order to earn a living and support their entire families especially for those who are located in Urban areas. The fast-paced and bustling lifestyle has undoubtedly led to the communities nowadays to visit supermarkets and grocery stores to purchase essential goods and necessities for instance fresh vegetables, meat, biscuits and so on. Thus, by utilizing our product, just a single click, our clients and customers can purchase what they need via the application in just a few seconds and the payment and delivery services will also be provided in order to ensure our customers enjoy the shopping and our services. Besides that, our product also brings benefits for those who are living in rural areas, it is strongly recommended to use our product to purchase groceries because it can save their precious time to travel more than one hour to the city to buy what they need. In short, the first contribution of our product is saving time.

Then there's the fact that anyone can use our apps. There are no age restrictions since we will ensure that there is no harmful or unsuitable material for the general public material or that there is no offensive or inappropriate content. People all around Malaysia can use our apps without fear of being hacked. Students in primary and secondary schools can also use our apps to receive the information they require. We will deliver the orders throughout Malaysia, ensuring that our customers can continue to enjoy our app no matter where they live.

Last but not least, it goes without any saying that our online grocery app can be accessed through any operating system that has been programmed in their smartphones. This easy to access application will bring numerous advantages to the users as users can place their orders conveniently without needing to search the number and call the grocer's customer service. This convenient access to our application will extremely make our customer more happy to repeat orders due to excellent service provided and easy to access application.

Limitation

One of the limitations of utilizing our product – online grocery application is lack of interaction. Undoubtedly, while using our product, our clients and customers can only observe and interpret our groceries based on the reviews commended by buyers and pictures as well as descriptions provided by sellers. This insufficient information might cause our clients and customers unable to fully understand the features of groceries and fail to meet the expectation of our products when the products arrive after the purchase process was conducted . Unlike offline shopping, marketers will provide complete details on the product and if customers have any questions or queries on the products, they can directly ask there . Unfortunately, this does not occur in the case of online shopping. In short, one of the limitations of my group's product – online grocery application is lack of interaction.

The second limitation is that customers are unable to choose their groceries on their own. It is customary for us to inspect items before purchasing them in the mall or supermarket when we are shopping for groceries or other necessities. Customers cannot choose or inspect the items they have ordered before we deliver them if they use our application. Actually, we will be able to handle this situation since we will ensure that the employees select the greatest products for their consumers. Users can submit a report, a rating, or a complaint for each item that they order, allowing us to make improvements in order to better meet their requirements.

Finally yet importantly it may take a lot of time for the orders to be delivered to the required location. The delivery process will exactly depend on the distance between our grocer and the customer's location. Furthermore, customers also need to consider the condition of our country's weather as we are living in a country that is mostly raining and it will affect the delivery time in order to ensure the safety of our deliverymen and to maintain the quality of the orders before it gets delivered.

Timeline

Gantt chart

