

“The Express Shopper” A Mobile Application for Shopping and Order Delivery.

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Abstract

During the recent time of the COVID-19 pandemic, people are hesitant to go out to hypermarkets and malls. As per the guidelines issued by the government people should avoid going out especially the elderly or sick people. The aim of this research work is to design and develop an application for the weekly shopping and order delivery system. In this application, many merchandises will be displayed for the purchaser to shop and choose the appropriate product such as food, clothes, or shoes, and upon completion of the shopping the order will be confirmed, and the purchaser will pick an applicable delegate to deliver the order. The application will include three types of users: the purchaser, the delegate, and the admin. The purchaser is shopping in the application and the delegate can register on the application to work with the function of delivering orders and the official can include numerous merchandises in the application and see the list of delegates. Therefore, the online shopping and ordering application has been developed, to serve people to get a simple job, which is to work as a representative for delivery and also serve the customer in shopping online faster. This will help the people to do the shopping based on their specifications to the delegates and generate employment opportunities for the delegates to help them survive in this difficult economic scenario. The application will be developed using Android Studio. The application can be deployed by any hypermarkets and in that case, it may also be customized for their needs.

Keywords –Online orders, product deliveries, Express shopper, customers, orders, delegates

Introduction

Skills and techniques aids in making life stress-free for everybody since they need info or training. The existence of a smart mobile application can enable numerous procedures and also enable a shorter way out for processes that are normally difficult to operate. The mobile applications can be a huge success as they make life comfortable for both the users and the customers. They may either make complicated processes easier, or entertain the users or assist in doing difficult tasks. There are some applications like TM DONE can facilitate the customers in the shopping and thereafter the delivery process.

This proposed work is meant to facilitate those who need to shop in urgency and want to delegate an individual for this purpose. This delegate will be responsible for shopping and delivering the goods and services at the doorstep. This will also help jobless people to earn some money and will also help people who have problems in going out and shopping especially during the pandemic times. People of all age groups will be benefitted using this application.

The proposed application will be implemented in two parts. In the first part, the customer can initiate a request, order the products needed and then choose a representative to purchase and deliver. In the second part, there are people who choose to be the representatives, they can register and upload their details for authentication.

This is probably a new idea, as generally the stores take the responsibility of delivering. This hampers with the normal operations in the stores, managing the sales and deliveries together becomes unmanageable at rush hours, this might lead to the delay in the deliveries of essential items. This representative will be a third party that will receive the order, buy on behalf of the customer and also ensure the delivery.

The application will have different categories of stores listed, like for grocery, fruits, vegetable, medical supplies, health care products, cleaning products etc. This will help the representatives to get some earnings, especially at the time of pandemic, where many people are getting jobless.

The application will have all the details on the process, and details needed for the different category of the users to register. This application motivates people interested in delivering orders and customers who need to shop quickly.

Project Scope

The scope of this task is to plan and develop a mobile app for express shopping. It also delivers stress-free and quicker options for shopping from end to end using the application and avoids killing time and toil by proposing individuals to work as representatives to accept and distribute orders. The application will comprise complete facts and info about shopping stores and representatives, and it will be put in storage in the database. The created database will stock the info for the client or the representative. The application will also permit all info to be protected in the database, and the administrator can update, insert, and delete the data. The application will comprise all shopping info such as the label of the order, a image of the order, and others, as well as info about the representative that the client will select to take delivery of and deliver their order. The express shopper is a mobile application for distributing orders, to oblige the Omani community assumed that info on stores and products to make the order and shop faster, as well as the data of the representative who will take delivery of the order. It also purposes to offer work opportunities to labor as an order distribution representative.

Objectives

- 1) Display the details of the stores as per the category selected, display the details of all the products selected according to the category specified by the user.
- 2) Allow representatives to register in the application and receive orders.
- 3) The customer selects the representative, orders and specifies the delivery date and time.

Literature review

“TM DONE Application” This application is available in Oman. The application delivers at your doorstep. The goods or services can be chosen from restaurants or hypermarkets. The delivery date time and place can be specified. All the leading hypermarkets like Carrefour and Lulu are listed there. The application does not allow the customer to choose the representative to deliver, the system will automatically assign the job to some representative. (TMDONE 2020).

Android Studio 4.1 Development Essentials – Java Edition (Book). The book focusses on teaching the skills to develop applications in java for Android devices. It explains everything that needs to be learned for an application development, access to the database, application navigation, and data linking (2020 Neil Smyth).

Project Management (Book). This book is by Adrienne Watt. The purpose of the book is to introduce the student to project management principles, tools and techniques, the finest methods to train and complete the work in the agreed time, and ways to initiate the work, strategy, scheme, examine and implement it. The author also explains about the shareholders and in what way to deal with them in the project, in what manner to trail info through the different stages of project management, and also just how to fund this project (Adrienne Watt 2020).

MS Project 2010 (Website). This site covers general information about Microsoft Project 2010. It embraces a comprehensive description of the platform and its practice. MS project helps in consolidating the numerous jobs in the project and also to identify the interval of the project to be concluded (TechSoup Global 2020).

“SHIEN Application”. This app is accessible on apple store and google play. The SHIEN app is an online style collection that delivers facilities to clientele and concentrates profoundly on women’s fashion. It also deals with men’s apparel, baby outfits, accoutrements, shoes, hand baggage, and other goods. The application encounters the requirements of clientele of dissimilar ages and offers its goods at economical rates and its goods are distributed to all parts of the world. So, if you are eyeing for gorgeous and stylish clothes, then She

is one of the finest online stores in the realm of apparels and fashions, and at affordable prices. However, there are some glitches in the application such as: the distribution price is occasionally very high, or it is not likely to exchange any part of garments or shoes because it will take a long time. (2009-2020SHEIN).

Methodology

For my project, I chose Dynamic System Development Method (DSDM). DSDM is a model that splits teamwork, systematizes all features of the system, and progresses appropriately and has a perfect project knowledge. There are numerous whys and wherefores for choosing this project methodology, such as: First, it is a model for working in the initial phase to outline the main primacies from the start of the project to its end. Second, it organizes time, price, and project distribution through time and cost. Third, it allows communication in all steps that will help in evolving the application. Fourth, it permits adding new structures between consecutive periods that will aid me to keep a watch at my app.

Data Collection and Analysis

The screenshot shows a questionnaire titled "The express shopper" with 9 questions. The questions are:

- Gender: Male (رجل) or Female (انثى).
- Do you prefer to shopping by: Mobile application (online) (تطبيق الهاتف (عبر الإنترنت) (الحصول عبر الإنترنت) or Going to the mall by yourself (الذهاب إلى المركز التجاري بنفسك).
- What are the things that you would like to buy online? (ما هي الأشياء التي ترغب في شرائها عبر الإنترنت?) Options: Clothes (ملابس), food (طعام), electronics (إلكترونيات), Other (غيرها).
- Are you facing some problems in shopping online? (هل تواجه بعض المشاكل في التسوق عبر الإنترنت?) Options: Yes (نعم), No (لا), Sometimes (بعض الأحيان), I don't know (لا أعرف).
- Do you think that there are competing applications for (The express shopper: A mobile application for shopping and deliver orders)? (هل تعتقد أن هناك تطبيقات منافسة لـ (التسوق السريع) تطبيق هاتف للتسوق و توصيل الطلبات?) Options: Yes (نعم), No (لا).
- Can you work as a delivery representative? (هل يمكنك العمل كمندوب توصيل?) Options: Yes (نعم), No (لا).
- Do you agree that online shopping is better than going to the mall by yourself? (هل توافق على أن التسوق عبر الإنترنت أفضل من الذهاب إلى المركز التجاري بنفسك?) Options: Strong Agree (أوافق بشدة), Agree (أوافق), Strong Disagree (أوافق بشدة لا), Disagree (أوافق لا).
- What is the maximum time you spend for shopping? (ما هو أقصى وقت تقضيه في التسوق?) Options: 1 Hour (ساعة), 2 Hour (ساعتين), 3 Hour (ثلاث ساعات), 4 hours or more (أكثر من 4 ساعات).
- How do you rate the mobile app for shopping and order delivery app as opposed to shopping yourself? (كيف تقيم تطبيق الهاتف المحمول للتسوق وتوصيل الطلبات بدلاً من التسوق بنفسك?) A 5-star rating scale.

Figure 1 Questionnaire

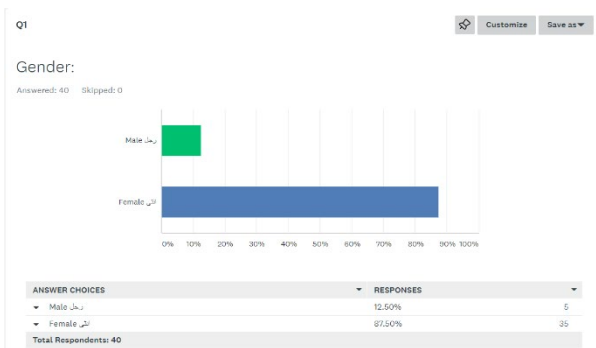


Figure 3 Q1



Figure 2 Q2

- 87.50% of the females are interested in using the app.
- Only 20 % of the people prefer using representatives to shop for them.

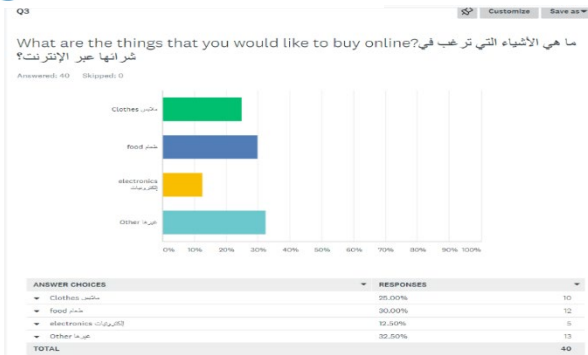


Figure 4-Question 3

- In the above graph, It shows the number of people who want to buy the different category of items using this application.
- In the above graph, 52- 50% people sometimes face problems in online shopping. 37.50% people said they face some problems and 7.50% said they do not face any problem. 2.50% people were neutral.



Figure 5 Q4

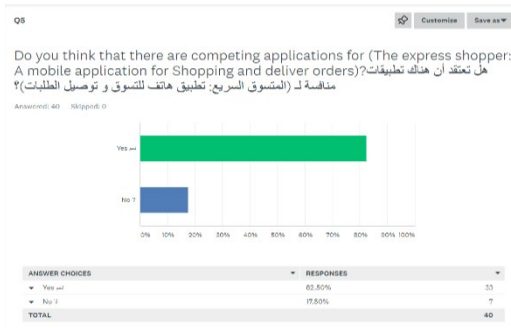


Figure 6 Q5

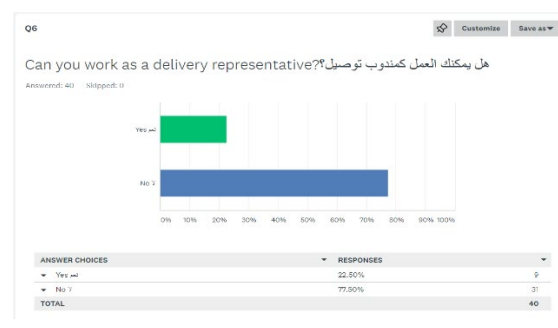


Figure 7 Q6

- Overall, 82.50% of clientele consider there are competitors for the app. On the other hand, 17.50% of clientele think that there are no competitors.
- Only 22.50% of them wanted to become representatives.

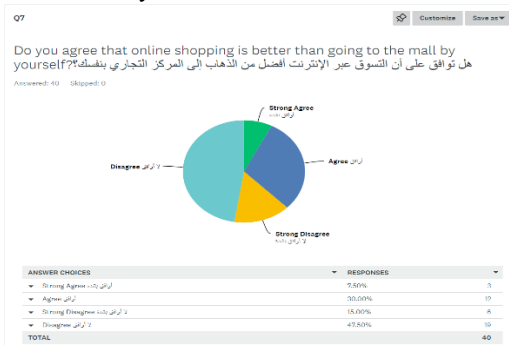


Figure 8 q8



Figure 9 q9

- 30% of clientele agree shopping online. And 7.50% strongly agree that shopping online is enhanced. And 47.50% of clientele disagree that shopping online is better. And 15% strongly disagree.
- 40% clientele devote two hours in online shopping, and 17.50% devote only one hour. 30% of clientele devote 3 hours in online shopping and 12.50% of clientele devote 4 hours or more.

Design Diagrams

After doing a lot of literature review and analysis the following design diagrams have been created for the proposed system for implementation of the idea.

Block Diagram

It is a drawing that is used to plan new systems and progress old systems. It is the series of functionality while using the application.

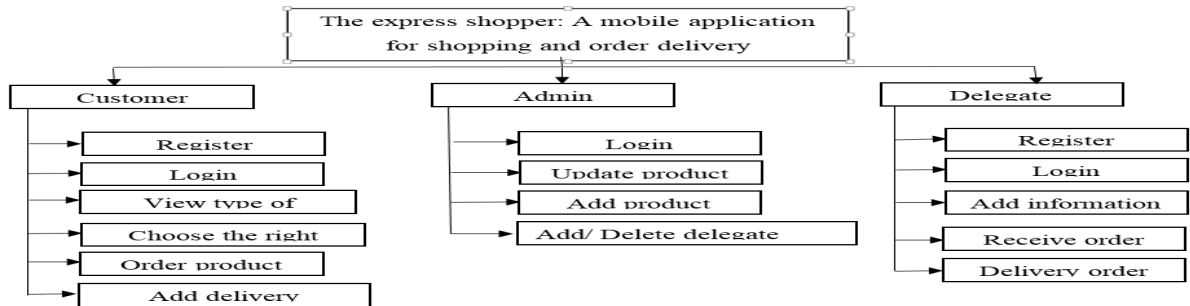


Figure 10-Block Diagram

Context diagram

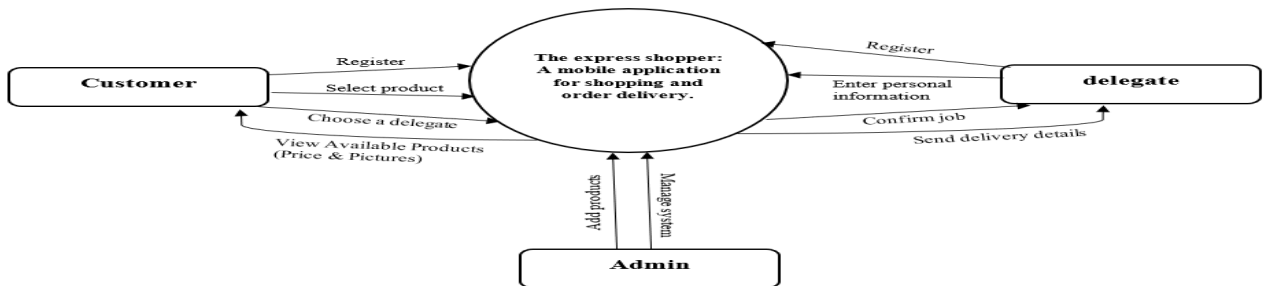


Figure 11-Context diagram

Use Case Diagram

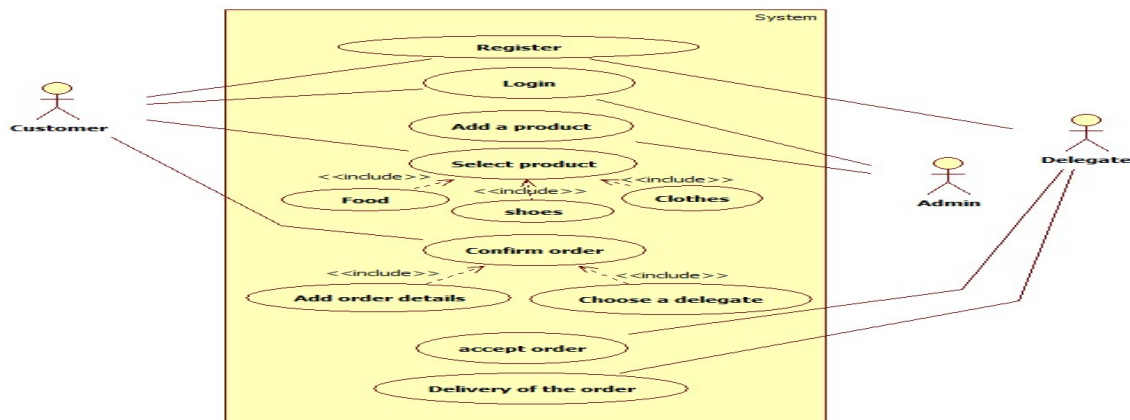


Figure 52-Use Case Diagram

ER Diagram

They are relationships amongst the entities that are stored in the database. The entity is the item, which is unique component of the data. ER diagrams are used to draw diagrams for database design.

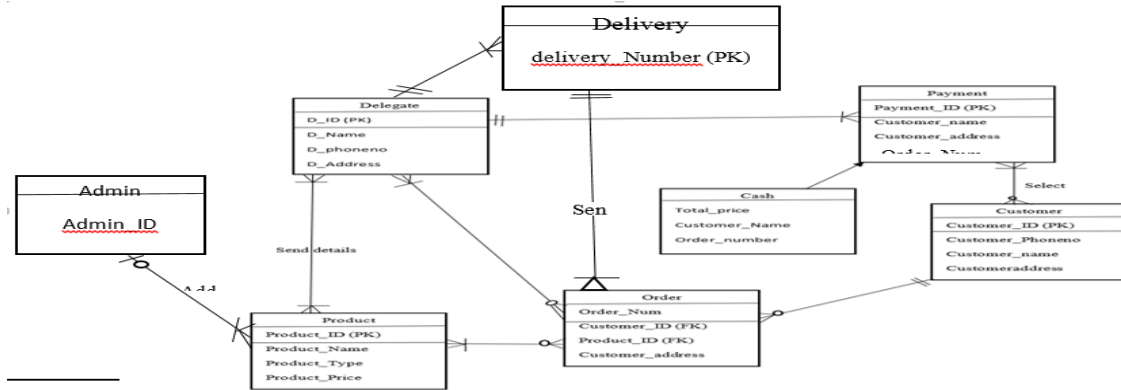


Figure 13-ER Diagram

Conclusion

The idea of the project is the implementation and development of a shopping application that the user can shop through by choosing the product he wants, and he can choose the time, day, and appropriate representative to deliver the order. The new idea in the project is that some people can register as delegates to deliver orders and get a job in the application, and it is the job of a delivery delegate. A person can register their personal data in the application to list in the program as a representative to distribute orders to households. Customers can also decide on the suitable representative when concluding the order.

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