**PROJECT PROPOSAL ON:**

**E-COMMERCE GROCERY BUSINESS TO CUSTOMER APPLICATION USING PYTHON**

**BY:**

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**1.1** **BACKGROUND OF THE STUDY**

Grocery shopping in the 21st century is changing drastically, and one major element of this change is online grocery shopping (Peregrin, 2018). Given this prior work, when juxtaposed with in-store shopping, online grocery shopping has the potential to dramatically limit the impact of both the cognitive barriers to healthy food access as well as community access barriers related to healthy food purchase within the supermarket food environment: consumers can shop online at any time and online grocery shopping allows low-income food desert dwellers and customers with limited mobility to order groceries online and have them delivered (Appelhans, 2017).

**1.2 STATEMENT OF THE PROBLEM**

The factors that influence the course of development of this work is the problem that customer encounter when they want to purchase groceries, customer have to practice in-store shopping, and some even go around with a lot of cash to purchase groceries which is very dangerous and risky, all this problem motivate me to embark on this project work in order to eradicate the above problems mentioned. Thus, it is necessary to introduce an information system that would be used for the recording of event regarding and complication related to grocery ordering.

**1.3 AIM AND OBJECTIVE OF THE STUDY**

The project is aimed at developing an e-commerce grocery platform that can be used by anyone interested in purchasing groceries. which efficiently meet customers grocery demands and ensure proper financial accountability.

**OBJECTIVES**

The objectives of this research work are as follows:

* Data set will be generated upon registration of the buyers, product and purchases made on the site.
* In the front-end development modern technologies such as HTML, CSS, and JavaScript will be employed to create an interactive UI and UX as well as Django which is a Python web framework will be employed in developing the back-end
* Vital testing will be carried out in ensuring the efficacy of the research work
* In storing and retrieving location data; MySQL, an open-source relational database, will be used as the database technology.

**2.1 LITERATURE REVIEW**

A grocery store, often known as a grocer or just a grocer, is a store that sells a range of foods, either fresh or packaged. However, in common usage in the United States, the term "grocery shop" only refers to supermarkets of the his, her, their, etc. variety. Grocers or grocery shops are the two terms used to describe stores that sell food in the UK (though in everyday use, people usually use either the term "supermarket" or a "corner shop" or "convenience shop"). Supermarkets and hypermarkets, which are larger grocery store kinds, frequently stock substantial quantities of non-food items like apparel and home furnishings. Small grocery stores that offer primarily prepared food, such as confectionery and snacks, are known as convenience shops or delicatessens, whereas small grocery stores that sell primarily fruit and vegetables are known as greengrocers (Britain) or produce markets (U.S.)

Mini-Ordering-App-Room-Database (Sanio, L., 2021). The Mini Order is a very useful and cool application, where people can get a lot of grocery products with price, mrp, etc. and order the products with their desired number of counts/weights. The app stores the ordered products in the local database of the app and enable the users to view the orders whenever they want. The app uses the room-database as its database with update, delete, insert, insert all queries. The usage of API, to get all the products from the online storage and stores all the products in the local database.

Grocery Apps and Consumer Purchase Behavior: Application of Gaussian Mixture Model and Multi-Layer Perceptron Algorithm (Aidin, S., 2022). The purpose of this study is to investigate and compare the popularity of common grocery apps in Hungary as well as Iran. The data were gathered from Iranian and Hungarian users who had at least one online purchase experience using a grocery app. A Gaussian mixture model (GMM) and multi-layer perceptron (MLP) are used as supervised and unsupervised machine learning algorithms with Python programming to cluster customers and predict consumer behavior. The results revealed that Walt in Hungary and Snapp food in Iran are the most popular grocery apps. Users in Iran are divided into three groups of users of app services and the type of full covariance has higher accuracy compared to the other three types (96%). Meanwhile, we found that the five apps used in Hungary have provided 95% accuracy from the users’ point of view based on the diagonal covariance. The MSE value (overfitting and cross-validation) is less than 0.1 in the MLP algorithm, which shows an acceptable amount of error. The results of overfitting indicate the proper fit of the MLP model. The findings of this study could be important for managers of online businesses. In the clustering section, the accuracy and value of consumer demographic information have been emphasized. Additionally, in the classification and prediction section, a kind of “customization” has been performed with an emphasis on market segmentation. This research used GMM and MLP machine learning algorithms as a creative way to cluster and classify consumers.

Development of E-Commerce-Based Online Web Application for COVID-19 Pandemic (Mohammed, M., K., 2020). A grocery shop is a retailing shop where a general range freshly packed food products are available. On an everyday life people have to use a grocery shop to get their livelihood items. To buy the necessary products people visit a grocery shop, collect the products from different shelves and then pay for the item and proceed. But many times, this process does not seem very convenient. People nowadays are very busy. In their busy schedule they always forget to make time for grocery shopping. Some people try to avoid it because of traffic jam, just to avoid gathering of people. Moreover, in this global COVID-19 pandemic it can turn into a life threat for a person or family as well as a nation. Considering all the issues and reasons behind the issues we think online grocery store can be the best solution to all the problems. This paper presents the development of web-based online grocery store where people can do shopping using a computer or a smart phone sitting at their home very easily. Though online shopping has been known as a rapidly growing business, and although online grocery shopping has not followed these same growth patterns in the past, it is now being recognized for its potential. There will be an admin panel and a user panel. Users have to use a Gmail to log in and create an account to do shopping. Admin always use their Gmail to maintain the product availability, the website, the customers and more. This system is user friendly and it can make people life very easy, safe and time-saving specially in the e-commerce demanding period of this COVID-19 crisis.

Smart Online Grocery Shopping App Development (Mohammed, J., 2021). Shopping is one of the activities that some people consider part of their life, while others do not even think of it. This comparison makes us discover people's problems with shopping. People have shopping problems such as limited time, expats in foreign countries without cars, a transportation issue, people consider physical shopping as a waste of time, health issues, long-distance to market. And the difficulty in obtaining some items. As the problems mentioned above, we have explored our idea, which is related to personal shopping. Therefore, we have built an application that combines different market shops, i.e. (Malls, supermarkets, and pharmacies). This personal grocery shopping is an innovative app that allows the customers to get all their needs and suggest items based on previous history. Then deliver items to their doorstep and can facilitate online shopping procedure where customers can browse unlimited products all at one time. This work supports people in exploiting their time to be safer and more accessible than wasting it physically. Moreover, people can order the product from home instead of going around for long distances for shopping. In addition, this app could help people who are facing health problems and unable to buy something physically to avoid future problems. Finally, some people do not have transportation methods for shopping, and they should keep pace with the evolution.

Design And Implementation of Online Grocery Store (Zikra, A., 2016). Internet has converted a world into a global village. With the popularization of internet, online shopping has become a new and unique trend. From clothing to electronics, all the things are available on internet. Keeping up this trend, a need for online grocery store is felt because it can enhance the existing system even more. Consumers do not even need to go to a local grocery store anymore; they can buy each and everything by just sitting in a home at any time. It is fast, simple, and flexible. The Online Grocery Store is based on B2C business model. The consumer is provided with the facility of registering, signing in, viewing and ordering the grocery items and secured online transaction. The consumers may give feedbacks and comments regarding each and every product as well. HTML/CSS & PHP are used to build the basic framework of web pages. MySQL is used for storing information about the consumer and vendors (sellers). Keywords: online grocery store, e-commerce, shopping cart, web store.

**3.1 PROPOSAL METHODOLOGY**

This kind of in-depth examination is part of the research strategy, which aims to learn new facts or details about the current system. The department and the internet were used as primary sources of data for this investigation.

**3.1.1 INTERVIEW**

The main objective of using interviews as a method of data collection is to obtain information in a thorough and rigorous way. Based on the questions the researcher provided, the researcher met with the departmental project coordinators and acquired reliable information.

**3.1.2 DIRECT OBSERVATION**

This method allows varied degrees of control over the context in which they are used, and the meticulous inspection highlighted the obvious shortcomings in the current system. It was utilized to gather information/data for this study by looking at how student locate places manually.

**3.1.3 INTERNET**

In order to get a useful result, the internet will be used as a technique of data collecting. Information on areas that seem challenging or confusing will be sourced online.

A careful study like this to discover new facts or information is known as the research methodology. As a secondary source of data, the research work will include direct observation of the school, the internet, and textbooks. These methods provide reliable information and required knowledge for this research and proper guidance;

**3.2 CHOICE OF PROGRAMING LANGUAGE**

HTML and CSS will be employed in designing the front-end, Python and JavaScript technology will be used as the scripting language; SQLite will be used as the database (backend), Django will be used as the backend. The combination of the above will help build a very robust platform that will be useful, fast, and handy.

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