A Smarter Mobile Application For Marketing Organic Products From Terrace Farming

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Abstract- *Now a day's lot of people uses banking services for depositing and withdrawing money for their personal purposes. So bank has to provide proper security to the customer's money. Some customers may make some fraudulent transactions like self-dealing transaction, over debit or sudden increase of money in their account these are considered as harmful transactions. To detect these fraudulent transactions.*

Customer profile analysis is been progressed and a new method is been proposed to identify the customer who perform harmful transactions using R Programming.

Keywords- Agriculture, B2C, Analysis, Terrace Gardening, Green City, Pollution Free, Community for Farmers.

I. INTRODUCTION

As people now a days didn't find the quality of the vegetables available in the market in a satisfactory way. A community called terrace gardeners came into practice through which they can bring better quality of food and spread awareness regarding quality and moderate price of vegetables and fruits in a market. But due to lack of proper advertisement and knowledge on government welfare schemes many of them are not coming forward to bring it in practice. So there is a need of channel through which we can promote the availability of fresh vegetables and fruits to our people. We propose a mobile application developed in a main view to support and promote terrace gardening in each and every home.

This application helps a terrace gardener in a way by enabling them to sell their grown products and find, combine with nearby terrace gardeners in their locality to meet bulk orders, also they can chat with terrace garden experts for making their garden grow rich, even they can apply or request for the garden kit from the government official and facilitate a consumer to buy natural organic fruits and vegetables from terrace gardener community in cheaper prices. This

Application will be helpful in growing utilization rate by connecting farmers, terrace gardeners and consumers.

Figure 1.1 Creeper application purpose

A terrace garden is a garden which is established on a terrace, roof, or patio, usually in a house or space where there is limited gardening space and no land parcel available. These types of gardens are especially popular in urban areas. Terrace gardens in the sense of patio or rooftop gardens can be ornamental or functional, and they are usually designed with container plants to make the terrace easier to manage.

II. RELATED WORK

The Millennium Development Goals (MGDs) recognized the role of urban and pre -urban agriculture (UPA) in reducing urban poverty and ensuring environmental sustainability. Mumbai Metropolitan Region is a fastest growing region in India with a population of 21 million. The rapid urbanization and high proportion of people below the poverty line along with higher migration to MMR makes the region vulnerable to food crisis. This paper focuses on the current situation of balcony gardens and terrace gardens in MMR with special attention towards their contribution in ecosystem service. An overview about the various concepts of city farming was also presented in the paper.

The question about various technical non feasibility of these production systems was also mentioned. Based on

primary and secondary data, this paper attempts to confirm that UPA is one of the best options to address increasing urban food demand and can serve to complement rural supply chains and reduce ecological food prints in India. City farming should be planned and incorporated into the city architecture for the better sustainability and resiliencies especially in MMR. [1]
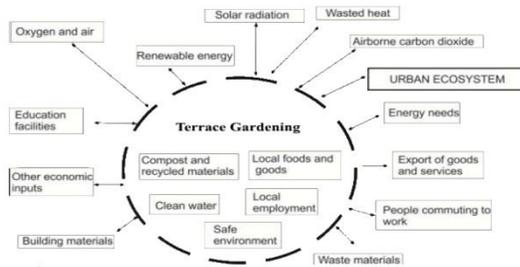

Figure 2.1 : Uses of Terrace Gardening

A **Geofence** is a virtual perimeter for a real-world geographic area. A geo-fence could be dynamically generated as in a radius around a point location, or a geo-fence can be a predefined set of boundaries (such as school zones or neighbourhood boundaries). Geofencing, used with child location services, can notify parents if a child leaves a designated area. Geofencing is critical to telematics. It allows users of the system to draw zones around places of work, customer's sites and secure areas. These geo-fences when crossed by an equipped vehicle or person can trigger a warning to the user or operator via SMS or email. [2]

Rapid population growth and migration towards urban areas increased the city dwellers'' demand for food, shelter, water and basic necessities (Cohen, 2006). Since 2010, for the first time in human history, more than 50% of the global population lives in urban areas and it is well known that uncontrolled urbanization can lead to poverty, malnutrition, social insecurity and unemployment (Kundu, 2007; Van Veenhuizen and Danso, 2007; Tacoli, 2012). In many developing countries, growing poverty, lack of formal employment opportunities, hunger, demand of food produce, proximity to markets and the availability of cheap resources including organic wastes and wastewater in cities have spurred the development of urban and peri-urban agriculture (UPA). [3]

Cloud Firestore is a flexible, scalable database for mobile, web, and server development from Firebase and Google Cloud Platform. Like Firebase Real time Database, it keeps your data in sync across client apps through real time listeners and offers offline support for mobile and web so you can build responsive apps that work regardless of network latency or Internet connectivity. Cloud Fire store also offers seamless integration with other Firebase and Google Cloud Platform products, including Cloud Functions. [4]

The Firebase Real time Database is a cloud-hosted NoSQL database that lets you store and sync data between your users in real time means there will be no issues in terms of speed since everything happens in real-time. If using Firebase, I will suggest Doing chat app via database reads/writes, It's faster and scalable. Firechat is an open-source, real-time chat widget built on Firebase. It offers fully secure multi-user, multi-room chat with flexible authentication, moderator features, user presence and search, private messaging, chat invitations, and more. [5]

Firebase Authentication provides backend services, easy-to-use SDKs, and ready-made UI libraries to authenticate users to your app. It supports authentication using passwords, phone numbers, popular federated identity providers like Google, Facebook and Twitter, and more. Firebase Authentication integrates tightly with other Firebase services, and it leverages industry standards like OAuth 2.0 and OpenID Connect, so it can be easily integrated with your custom backend. FirebaseUI provides a drop-in auth solution that handles the UI flows for signing in users with email addresses and passwords, phone numbers, and with popular federated identity providers, including Google Sign-In and Facebook Login. [6]

III. WORKING MODEL
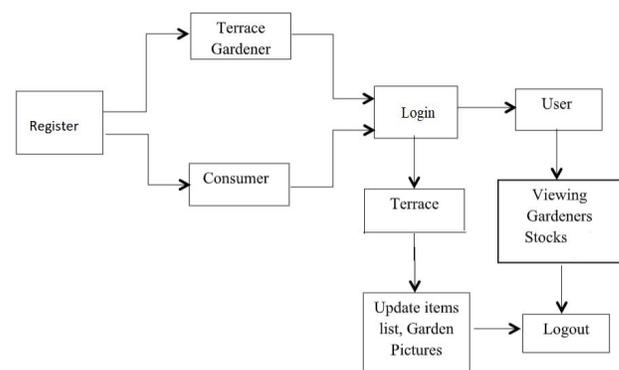
Figure 3.1 Working model Diagram

As we can see that register form in our application to register manually to select the type which you want and once register then login our own id and password. Feed the data's screen as different from consumer and terrace gardeners. As we planned to feed the consumer login to view the gardener's profiles and stocks of vegetables and other side gardeners view the sales of request from use and the profiles of user activity in our gardening page.

As we all once completed our works then sign out or logout our profile page in our app or always signed in from the options of the login page reached choose the keep signed in options.

IV. SYSTEM ARCHITECTURE

This Creeper Application contains mainly focus connecting to the peoples and gardeners and farmers. Which are all ready to change our environment with digital eco system. The main actors are only the Consumers and the Terrace Gardeners on the application . Creeper is an medium of intermediate of the gardeners and consumers.

Consumers are ready to buy the organic trusted vegetables from the trusted know environment. As the Gardeners point of view sell their products which are all exceed from our own uses and remaining products are seller by directly through our mobile application. Here the consumers also happy to buy the products and also reduces the waste of vegetables and fruits and also benefits gained by gardeners.

Figure 4.1 Architecture Diagram

4.1 Modules

- Geo fencing

- Chat application
- Cloud Firestore Database
- Firebase authentication and Authorization Cloud Fire store

4.2 Introduction to Firebase

Firebase gives you the tools to develop high-quality apps, grow your user base, and earn more money. We cover the essentials so you can monetize your business and focus on your users.

Cloud Firestore is a flexible, scalable database for mobile, web, and server development from Firebase and Google Cloud Platform. Like Firebase Real time Database, it keeps your data in sync across client apps through real time listeners and offers offline support for mobile and web so you can build responsive apps that work regardless of network latency or Internet connectivity. Cloud Firestore also offers seamless integration with other Firebase and Google Cloud Platform products, including Cloud Functions. The Cloud Firestore data model supports flexible, hierarchical data structures. Store your data in documents, organized into collections. Documents can contain complex nested objects in addition to sub collections
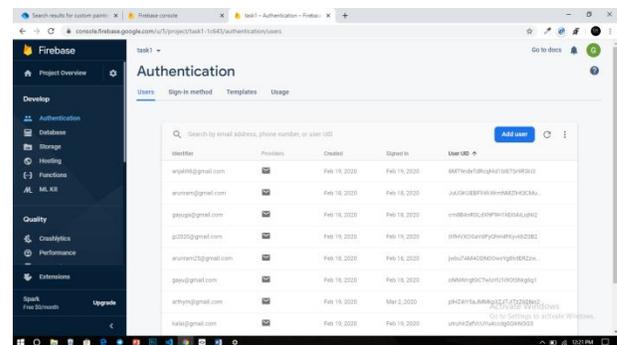
Figure 4.2.1 Firebase Setup

4.1.1 GeoFencing

A **Geofence** is a virtual perimeter for a real-world geographic area. A geo-fence could be dynamically generated—as in a radius around a point location, or a geo-fence can be a predefined set of boundaries (such as school zones or neighbourhood boundaries).

Geofencing, in a security strategy model, provides security to wireless local area networks. This is done by using predefined borders (e.g., an office space with borders established by positioning technology attached to a specially programmed server). The office space becomes an authorized location for designated users and wireless mobile devices.

Geo-fence can be used for location based messaging for tourist safety and communication.

4.1.2 Chat

Firechat is an open-source, real-time chat widget built on Firebase. It offers fully secure multi-user, multi-room chat with flexible authentication, moderator features, user presence and search, private messaging, chat invitations, and more. With Firechat, you get full-featured chat in your application with a few simple script includes. Additionally, Firechat is easy to modify and extend. Based upon it's simple underlying data model and Firebase-powered data synchronization, it's easy to add new features, modify the UI, and customize to fit your specific needs. If Firechat doesn't currently meet your needs, feel free to fork the repo and tweak the code!

4.1.3 Cloud Firestore

The Cloud Firestore data model supports flexible, hierarchical data structures. Store your data in documents, organized into collections. Documents can contain complex nested objects in addition to sub collections. In Cloud Firestore, you can use queries to retrieve individual, specific documents or to retrieve all the documents in a collection that match your query parameters. Your queries can include multiple, chained filters and combine filtering and sorting. They're also indexed by default, so query performance is proportional to the size of your result set, not your data set. Like Real time Database, Cloud Firestore uses data synchronization to update data on any connected device. However, it's also designed to make simple, one-time fetch queries efficiently.

4.1.4 Firebase Authentication

Firebase Authentication provides backend services, easy-to-use SDKs, and ready-made UI libraries to authenticate users to your app. It supports authentication using passwords, phone numbers, popular federated identity providers like Google, Facebook and Twitter, and more.

Authenticate users with their email addresses and passwords. The Firebase Authentication SDK provides methods to create and manage users that use their email addresses and passwords to sign in. Firebase Authentication also handles sending password reset emails. Authenticate users by integrating with federated identity providers. The Firebase Authentication SDK provides methods that allow users to sign in with their Google, Facebook, Twitter, and GitHub accounts.

Figure 4.1.4. Firebase Authentication

V. CHALLENGES

As we got an more issues on the terrace gardening field. Only some of them are all interested naturally to grow up their life with healthy and nature. But we proposed this Creeper to encourage more peoples get into the field of terrace gardening to make change over the pollutions cities into green cities. Some of the reason does not grow up their gardening ideas,

- Only for large scale farming
- Lower concentration on terrace gardening
- Poor user interface
- Difficult to connect with community

5.1 Existing System

The present agriculture apps are very useful for Indian farmers and agriculture community which keep up to date with the latest technology of agriculture. These apps provide help to Indian farmers and fill the information gap between the rural people and Government with rural development. These are Android apps for Indian farmers used for agriculture which provides the latest market rates, weather forecasting, Government policies and schemes for farmers, latest technology videos, news related to agriculture etc. Farmers can directly ask the question and query to the Agriculture experts using these apps to solve their query instantly also they can watch their videos related to new technology, successful farmers, and machinery.

5.2 Proposed System

The project aims to promote economy rate of terrace gardeners by growing their market range and avails customer to buy organic products directly from the terrace gardeners and helps them to connect with their neighbouring community gardeners in order to combine and sell their products for wide range orders and increase their economic growth.

5.2.1 Advantages

- Increase the Farming Rate
- Good User Interface and Technology
- Easy to communicate with gardeners
- Decrease the Pollutions on Metro city
- Mainly targeted on Metro cities to change the green city.

5.3 Feasibility Study

A feasibility study is a high level capsule version of the entire system analysis and design process. In this phase, the feasibility of the proposed system is analyzed by classifying the problem definition. Feasibility is to determine if it is worth doing and not a burden to the company .Once the problem definition has been approved, a logical model of the system can be developed. The search for alternate solution has to be analyzed.

Three major considerations involved in the feasibility study are,

- Economical Feasibility
- Operational Feasibility
- Technical Feasibility

5.3.1 Economical Feasibility

Economical feasibility is carried out to check to economic impact that the system is to have on the organization. It attempts to weight both the cost of developing as well as new implementing system, against benefits that should be obtained by having the new system in place.

A simple economic analysis in which gives the actual comparison of costs and benefit are much more meaning in this case. In addition, this proves to be useful project progresses' study was conducted to find out the economical feasibility, it was proved that the developed system is within the budget. Some of the benefits include growing market in network through terrace gardeners and consumers.

5.3.2 Operational Feasibility

The operational feasibility is carried out to check whether the system provides product apt to the requirement. It has provided the proposed system to be beneficial only, it could be turned into information systems that will meet the organizational operating requirements. This test of feasibility asks if the system will work when it is developed and installed. Few data will the operational feasibility of the project include: Sufficient support for the project from the users, his current system which was developed is well accepted to the user been involved in the planning and developed of the project.

5.3.3 Technical Feasibility

Determining the technical feasibility is the trickiest part of the feasibility study. This is because, there is no too many detailed study on the design of the system but on its implementation. Its focus is mainly on the technical requirements of the system, hence it should be noted that there is no high demands on the available technical resources. Different technologies involved should be analyzed properly before the commencement of a project. Once has to be very clear about the technologies required for the developed of the new system. The developed system must have a modest requirement such that only minimal or null changes are required for implementing the system.

VI. CONCLUSION

The objective is achieved by developing a mobile application which can be eventually improved by growing the number of users utilizing the application for their day to day purposes and also facilitate them to easily communicate with the nearby terrace gardeners.

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