



ANDROID APPLICATION FOR AGRI PRODUCT DISTRIBUTION



A PROJECT REPORT

Submitted by

ABHINAND R	720421104001
ASWANI M DAS	720421104008
HARIS BASHEER	720421104017
SHAHIN S	720421104042

in partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

in

COMPUTER SCIENCE AND ENGINEERING

CMS COLLEGE OF ENGINEERING AND TECHNOLOGY

COIMBATORE

ANNA UNIVERSITY: CHENNAI 600 025

MAY 2025

ANNA UNIVERSITY: CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project report “**ANDROID APPLICATION FOR AGRI PRODUCT DISTRIBUTION**” is the BONAFIDE work of “**ABHINAND R, ASWANI M DAS, HARIS BASHEER, SHAHIN S**” who carried out the project work under my supervision.

SIGNATURE

Dr. G. Chitra Ganapathy,

HEAD OF THE DEPARTMENT

Professor,

Department of Computer Science and Engineering

CMS College of Engineering and Technology
Coimbatore- 641 032

SIGNATURE

Mr. S. Dinesh Kumar,

SUPERVISOR

Assistant Professor,

Department of Computer Science and Engineering

CMS College of Engineering and Technology
Coimbatore- 641 032

Submitted for the Anna University Project Viva Voce conducted on.....

INTERNAL EXAMINER

EXTERNAL EXAMINER

ACKNOWLEDGEMENT

Any organized and systematic word calls for the corporation of a team of people. Our project does not have any exception to this. Hence these pages find the space for thanking all those who have directly and indirectly contributed to completion of this work in a successful manner.

We record our indebtedness to our Principal **Dr. N. Sudha, M.E, Ph.D.** for her guidance and sustained encouragement for the successful completion of this project.

We express our heartiest thanks to **Dr. G. Chitra Ganapathy, M.E, Ph.D.**, Professor, Head of the Department, Department of Computer Science and Engineering, CMS College of Engineering and Technology, for his encouragement and valuable guidance in carrying out our project work.

We express our heartfelt thanks to Project Guide **Mr. S. Dinesh Kumar, M.E**, Assistant Professor, CMS College Of Engineering and Technology Coimbatore, for her valuable and timely support for our project work.

We express our heartfelt gratitude to Project Coordinator **Mr. Vibin R, M.E**, Assistant Professor, Department of Computer and Science and Engineering, CMS College Of Engineering and Technology Coimbatore, for his valuable and timely support for our project work.

We also express thanks to our parents, friends for their encouragement and best wishes in the successful completion of this dissertation.

ABSTRACT

Agriculture, as the backbone of our societies, plays a pivotal role in sustaining livelihoods and feeding the growing global population. To empower farmers with technology, facilitate market access, and address linguistic barriers, we introduce the "Agri Product Distribution" Farmer's E-Commerce Application.

In today's day to day life purchasing of agricultural products by visiting stores has become a troublesome job. As a standing in a queue long time for making the payment of the shopping product and agricultural product one station to another station travelling has become difficult for customers. The most important advantage of e-commerce over traditional commerce is that the buyer can browse online shops over internet, can compare rates and order whatever they like sitting on their mobile application. Unlike traditional commerce which is carried out physically which consists man power and get products, electronic commerce has made it far easier for person to reduce physical work and to save time. To reduce these difficulties of traditional commerce, we are coming up with Agricultural E-Commerce Shopping Application, an e-commerce application which helps to choose a wide range of farming products through your smartphone rather than visiting the outlets.

In this project we have three logins, E-seva, Farmer and Customer. E-seva have direct login using already stored username and password in database. E-seva logged in then add farmers who don't know how to register themselves and update product rate. Second Farmer register and login, then add his Agri products and also can view and delete products. Finally, user register and login, then view and buy products.

TABLE OF CONTENTS

CHAPTER	TITLE	PAGE
NO		NO
	ACKNOWLEDGEMENT	3
	ABSTRACT	4
	LIST OF FIGURES	7
	LIST OF TABLES	8
	LIST OF ABBREVIATIONS	9
1.	INTRODUCTION	10
2.	LITERATURE SURVEY	12
3.	SYSTEM ANALYSIS	15
	3.1 EXISTING SYSTEM	15
	3.2 DRAWBACKS OF EXISTING SYSTEM	15
	3.3 PROPOSED SYSTEM	15
	3.4 ADVANTAGES OF PROPOSED SYSTEM	16
4.	SYSTEM REQUIREMENT & SPECIFICATION	17
	4.1 HARDWARE SPECIFICATION	17
	4.2 SOFTWARE SPECIFICATIONS	17
	4.3 SOFTWARE DESCRIPTION	17
5.	SYSTEM IMPLEMENTATION	23
	5.1 SYSTEM DESIGN	23

5.2 INPUT DESIGN	23	
5.3 OUTPUT DESIGN	24	
5.4 SYSTEM FLOW DIAGRAM	25	
6. SYSTEM TESTING	34	
7. CONCLUSION	38	
7.1 FUTURE SCOPE	39	
APPENDIX 1	SOURCE CODE	40
APPENDIX 2	SCREEN SHOTS	46
REFERENCES	48	

LIST OF FIGURES

TABLE NO	TABLE NAME	PAGE NO
Fig.5.5.1	Data flow diagram 1	30
Fig.5.5.2	Data flow diagram 2	31
Fig.5.5.3	Data flow diagram 3	31
Fig.5.5.4	Use case diagram	32
Fig.5.5.5	ER diagram	33
Fig.8.2.1	Home page	45
Fig.8.2.2	E-seva Login Page	45
Fig.8.2.3	Farmer Login pages	46
Fig.8.2.4	Add Donor	46

LIST OF TABLES

TABLE NO	TABLE NAME	PAGE NO
Table 5.5.4.1	Tbladmin	34
Table 5.5.4.2	Tbldonors	34

LIST OF ABBREVIATIONS

UI	USER INTERFACE
LCA	LIFE CYCLE ACHIEVEMENT
PHP	HYPertext Pre-Processor
GUI	GRAPHICAL USER INTERFACE

CHAPTER 1

INTRODUCTION

Today's day to day technology is at its best. People also making the best use of it. Why won't it be the same with the farmers? Usually, they go far away from their native village to the town in order to buy their agricultural product requirements. For this, they have to spend time of a whole day approximately. So, we can make use of today's technology in order to save that time for farmers. The application that we came up with enables the farmers to buy their requirements such as seeds, tools, pesticides, fertilizers etc. online by sitting in one place without even making a plan of travel. This reduces the time consumption and also decreases the price of goods comparatively. This application also gives exposure to a wide range of varieties in particular categories to the farmers so that they can buy as per their requirements. The basic goal of an Agricultural E-Commerce Shopping Application is to sell and buy goods and services online. Online Purchasing and selling are a form of electronic shopping store where the user is directly connected to the seller's computer via the internet or network. A person sitting on his chair ahead of a computer and Android application can access all the facilities of the web to shop for or sell the products. Online Shopping System helps in buying of goods, products and services online by selecting the needed products from the Android application and online site. The handcart is especially useful for who haven't time to travel to shopping. Shopping cart may be a vital feature utilized in e-commerce to help people making purchases online. The sale and buy transaction are completed electronically or physically, interactively in real-time. Buyer can sign in into an online website, once he logged in then automatically one shopping cart will be made, once buyer select a product it will automatically add to cart. In case user thinks the chosen item isn't useful for him, then he can delete that item from the cart. The application will also integrate with popular payment gateways such as PayPal and internet banking, providing customers with a range of payment options sales. Safe payment gateway with a good logistic delivery partner, A farmer can do profitable business from his/her home itself. Both time and energy are also saved. Today E-commerce lacks fully automated business processes and still requires a significant manual effort by users. So, our project tries to solve all lacking of E-commerce business process.

Farmers are the spine of India. Agriculture represents 17.-18% of the GDP (Gross Domestic Product) in 2017-18 and around half of the workforce. Agriculture is geographically the broadest financial segment and assumes a huge part of the general financial texture of India. Farmers work

vigorously all through the session to develop their harvests; they confront a lot of issues over the season like characteristic disasters, unpredictable rain, and the unavailability of water resources. Farmers need more facilities to tackle the issues. If they could manage all the issues and produce their product the second major issues arise the price, they won't get the market price of their product they face lots of issues with price money most of the time they will not get the price for their product as per there expectation because of market strategy. The farmer also manages other than farming like handling the transportation, stockpiling, or storage which is incorporated into the agribusiness market. These exercises are deficient in the economy of agricultural business. The factor which are demotivating the farmer's efforts is transportation where the farmer has to bear the transportation cost because the marketplace is far away from the farming location. It is the main obstacle in the way of effective marketing. The farming areas are not connected to the marketplace by roads. A lot of agricultural products are wasted due to the transport problem. The farmer borrows money from others to buy the seed in the market. Farmers do not use the improved seeds and fertilizers, so the quality of the product is very poor due to which they get low prices in the market. Another major storage issue, storage facilities are required by the producers as well as by the government.

The farmers need warehouses to preserve and sell their products at a suitable time. The government needs a store for keeping reserve stocks. Prices for their product because of the intermediary entities. The intermediary entities take a big share of the farmer's income without Due to the lack of storage facilities; a lot of products are damaged because of lack of storage facilities. The farmer is not getting enough doing anything. A farmer isn't familiar with various sales taking place at various places or the best deals for his product. The Intermediate Entity provides this information in a limited quantity and takes a big commission on it. They will buy the bulk number of products from the farmers at low prices and sell them to the food processing industry at high prices. The intermediate person is getting more profit than the farmer.

CHAPTER 2

LITERATURE SURVEY

1. Status and Scope of E-Commerce in Agribusiness in India

M. Balakrishnan, B. G. Kumar, Ch. S. Rao and S. K. Soam.

This study examines the current landscape of e-commerce in India's agribusiness sector. It highlights the potential of e-commerce to reduce costs and enhance demand in the food supply chain. The paper discusses the establishment of knowledge centers in villages, the use of modern IT for effective communication between stakeholders, and the envisioning of services in agriculture as Mission Mode Projects. Challenges such as digital illiteracy, infrastructure gaps, and the persistence of middlemen are identified, with recommendations for integrated strategies to overcome these issues.

2. Implementing E-Commerce Model for Agricultural Produce: A Research Roadmap

T. Banerjee, M. Mishra, N. C. Debnath and P. Choudhury

The authors propose a structured roadmap for developing e-commerce models tailored to agricultural contexts. Emphasizing the need for logistics support, dynamic pricing, and real-time data on demand-supply gaps, the paper suggests integrating farmers, transporters, and consumers into a single digital platform. The goal is to reduce intermediaries, enhance farmer profitability, and create a more efficient agricultural supply chain.

3. Trends Information Technology in E-Agriculture

E. Fernando, S. Assegaff and A. H. H. Rohayani

This literature review explores the use of Information and Communication Technology (ICT) tools in agriculture. It identifies emerging technologies such as mobile applications, cloud-based data analytics, and sensor-based farming. The study underscores the importance of user-friendly interfaces for farmers and the need for technology standardization in e-agriculture platforms to facilitate widespread adoption.

4. Scope of E-Commerce in Agri-Business in India: An Overview

R. Gupta and P. K. Sharma

This paper offers a macro-level overview of how e-commerce can revolutionize Indian agriculture. It discusses economic benefits, improved market access, and policy-level changes needed to support online agriculture trade. The study proposes government involvement to boost e-commerce adoption through subsidies, digital infrastructure, and public-private partnerships, aiming to empower smallholder farmers.

5. E-Commerce Site for Agriculture Products

M. Nayak, P. Wankhede, N. Khapekar and K. Dhote

Dhaka evaluates the benefits and limitations of online agri-input shopping. While acknowledging improved access and pricing, the paper warns of trust issues, internet dependency, and the need for better logistics in rural settings. It suggests that addressing these challenges is crucial for the successful implementation of online Agri-input platforms.

6. E-Commerce in Agri-Food Sector: A Systematic Literature Review

Y. Zeng, F. Jia, L. Wan and H. Guo

This comprehensive review categorizes agri-food e-commerce into B2B and B2C models. It underscores the importance of trust, food traceability, and logistics innovation for successful platform operation. The study also highlights the need for regional development modes of e-commerce and their impact in developing countries, suggesting that tailored approaches are essential for effective implementation.

7. Digital Market: E-Commerce Application for Farmers

M. Bhende, M. S. Avatade, S. Patil, P. Mishra, P. Prasad and S. Shewalkar

This work proposes a mobile application aimed at simplifying Agri-commerce for Indian farmers. It allows for product listing, direct selling, and dynamic pricing. Pilot testing showed

increased farmer profits and user satisfaction due to real-time updates and minimal technical complexity.

8. E-Commerce and Agribusiness

D. Dash and A. Mohapatra

This paper outlines the synergy between e-commerce and agriculture, particularly in post-harvest management. It identifies policy constraints and the need for digital extension services to facilitate the adoption of e-commerce in agribusiness. The authors advocate for strategic planning and government support to overcome existing barriers and enhance the efficiency of agricultural markets.

9. Modern Trends, Challenges and Opportunity of E-Commerce in India

S. Mukherjee and H. Michael

The authors examine India's e-commerce ecosystem, focusing on cross-sector integration. They argue for digital inclusivity and infrastructure upgrades in rural sectors to make agriculture e-commerce viable. The study discusses the importance of addressing challenges such as digital literacy, connectivity, and logistical issues to unlock the full potential of e-commerce in the agricultural sector.

10. Digital Market: E-Commerce Application for Farmers

M. Bhende et al

This paper describes a digital platform aimed at linking farmers and customers directly. It includes app design strategies, user modules, and discusses implementation challenges such as digital illiteracy and payment integration. The study emphasizes the potential of such platforms to empower farmers by providing them with direct access to markets and reducing dependency on intermediaries.

CHAPTER 3

SYSTEM ANALYSIS

3.1 EXISTING SYSTEM

Information and Communication Technology (ICT) in agriculture is an emerging field focusing on the enhancement of agricultural and rural development in India the increasing penetration of mobile networks and handsets in India presents an opportunity to make a digital tool reach a large audience. There are several products available for agriculture and farming within the United States' market but there's no such product available within the Indian market. But, most of them don't work due to language issues. This revolution in information technology has made access to relevant information easy and cost-effective. Information like schemes, weather news, use of fertilizers, ways to use machineries, etc. also plays an important role in agriculture field of India. Un Educated farmers don't know about these applications and all.

3.2 DRAWBACKS OF EXISTING SYSTEM

- However, Indian farmers, in general, remain poor with an inadequate understanding of sustainable farming for their productivity and quality of life enhancement.
- Compared to advanced nations, the productivity of Indian farmers is still very low- and their-income growth potential is limited. Interesting research is about how to guide how small-scale Indian farmers achieve their goals for sustainable farming.
- Indian farmers wrestle with basic objectives—productivity and quality.
- Small farmers are not able to fulfill sustainability goals that require the proper basis of productivity.

3.3 PROPOSED SYSTEM

Our proposed system is an integrated digital platform designed to streamline the process of selling agricultural products, providing farmers with a user-friendly and efficient solution.

Agriculture, as the backbone of our societies, plays a pivotal role in sustaining livelihoods and feeding the growing global population. To empower farmers with technology, facilitate

market access, and address linguistic barriers, we introduce the "Agri Product Distribution" Farmer's E-Commerce Application.

In this project we have three logins, E-seva, Farmer and Customer. E-seva have direct login using already stored username and password in database. E-seva logged in then add farmers who don't know how to register themselves and update product rate. Second Farmer register and login, then add his Agri products and also can view and delete products. Finally, user register and login, then view and buy products.

3.4 ADVANTAGES OF PROPOSED SYSTEM

- To support requesting for required data within less time.
- All users will have easy and fast access to the information.
- To create a mobile application that the farmers can use to sell agriculture products at a normal amount using their mobile phones.
- To create an interface between farmers and customers.
- To save time and money of Users.
- Un Educated farmers also can register and login using E-seva Portal
- To help farmers in improving their hectare production of agriculture produces.

CHAPTER 4

SYSTEM REQUIREMENT & SPECIFICATION

4.1 HARDWARE SPECIFICATION

- Processor : Dual core
- Hard Disk : 256 GB
- Ram : 8 GB
-

4.2 SOFTWARE SPECIFICATION:

- Language : Java, Android
- Tool kit : Android 2.3.3, Android SDK Manager
- IDE : Eclipse / Android Studio
- Backend : MySQL 5.0

4.3 SOFTWARE DESCRIPTION

a) Java (programming language)

In the Java programming language, all source code is first written in plain text files ending with the .java extension. Those source files are then compiled into .class files by the javac compiler. A .class file does not contain code that is native to your processor; it instead contains bytecodes — the machine language of the Java Virtual Machine (Java VM). The java launcher tool then runs your application with an instance of the Java Virtual Machine.

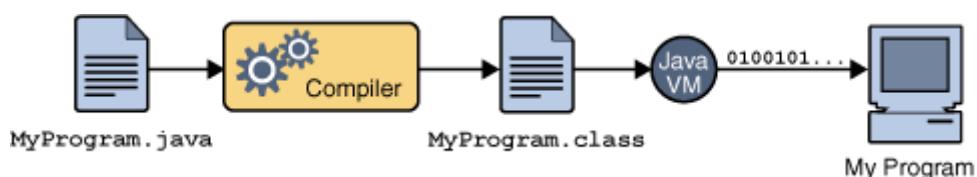


Fig.4.3.1 An overview of the software development process.

Because the Java VM is available on many different operating systems, the same .class files are capable of running on Microsoft Windows, the Solaris™ Operating System (Solaris OS), Linux, or Mac OS. Some virtual machines, such as the Java Hotspot virtual machine, perform additional steps at runtime to give your application a performance boost. This includes various tasks such as finding performance bottlenecks and recompiling (to native code) frequently used sections of code. Through the Java VM, the same application is capable of running on multiple platforms.

The Java Platform

A platform is the hardware or software environment in which a program runs. We've already mentioned some of the most popular platforms like Microsoft Windows, Linux, Solaris OS, and Mac OS. Most platforms can be described as a combination of the operating system and underlying hardware. The Java platform differs from most other platforms in that it's a software-only platform that runs on top of other hardware-based platforms.

The Java platform has two components:

- The Java Virtual Machine
- The Java Application Programming Interface (API)

The API is a large collection of ready-made software components that provide many useful capabilities. It is grouped into libraries of related classes and interfaces; these libraries are known as packages. The next section, highlights some of the functionality provided by the API.

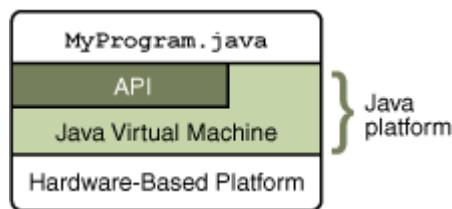


Fig.4.3.2 Architecture of the Java Platform.

b) Android

A free, open-source mobile platform. A Linux-based, multiprocessor, Multithreaded OS. Android is not a device or a product It's not even limited to phones You could build a DVR, a

handheld GPS, an MP3 player, etc.

Android is a software stack for mobile devices that includes an operating system, middleware and key applications.

The Android SDK provides the tools and APIs necessary to begin developing applications on the Android platform using the Java programming language.

- Makes mobile development easy.
- Full phone software stack including applications
- Designed as a platform for software development
- Android is open
- Android is free
- Community support

Features

- **Application framework** enabling reuse and replacement of components
- **Dalvik virtual machine** optimized for mobile devices
- **Integrated browser** based on the open-source WebKit engine
- **Optimized graphics** powered by a custom 2D graphics library; 3D graphics based on the OpenGL ES 1.0 specification (hardware acceleration optional)
- **SQLite** for structured data storage
- **Media support** for common audio, video, and still image formats (MPEG4, H.264, MP3, AAC, AMR, JPG, PNG, GIF)
- **GSM Telephony** (hardware dependent)
- **Bluetooth, EDGE, 3G, and WIFI** (hardware dependent)
- **Camera, GPS, compass, and accelerometer** (hardware dependent)
- **Rich development environment** including a device emulator, tools for debugging, memory and performance profiling, and a plugin for the Eclipse IDE.

Linux Kernel

Android relies on Linux version 2.6 for core system services such as

- security
- memory management

- process management
- network stack
- driver model
- The kernel also acts as an abstraction layer between the hardware and the rest of the software stack.

Android Runtime

- Android includes a set of core libraries that provides most of the functionality available in the core libraries of the Java programming language.
- Every Android application runs in its own process, with its own instance of the Dalvik virtual machine. Dalvik has been written so that a device can run multiple VMs efficiently.
- The Dalvik VM executes files in the Dalvik Executable (.Dex) format which is optimized for minimal memory footprint.
- The Dalvik VM relies on the Linux kernel for underlying functionality such as threading and low-level memory management.

Application Framework

- Being an open development platform, Android offers developers the ability to build extremely rich and innovative applications.
- Developers have full access to the same framework APIs used by the core applications.
- **Views** – used to build applications (lists, grid, buttons, text boxes and even embeddable web browser).
- **Content providers** – enable applications to access data from other applications or share their own data.
- **Resource manager** – provides access to non-code resources such as localized strings, graphic and layout files.
- **Notification manager** – enables applications to display custom alerts in status bar.
- **Activity manager** – manages lifecycle of applications and provides navigation back stack,
- All applications are written using the Java programming language.

Android Building Blocks

These are the most important parts of the Android APIs:

- **AndroidManifest.xml**
the control file-tells the system what to do with the top-level components.
- **Activities**
an object that has a life cycle-is a chunk of code that does some work.
- **Views**
an object that knows how to draw itself to the screen.
- **Intents**
a simple message object that represents an "intention" to do something.
- **Notifications**
is a small icon that appears in the status bar (SMS messages) for alerting the user.
- **Services**
is a body of code that runs in the background.

Development Tools

The Android SDK includes a variety of custom tools that help you develop mobile applications on the Android platform. Three of the most significant tools are:

1. **Android Emulator** -A virtual mobile device that runs on our computer -use to design, debug, and test our applications in an actual Android run-time environment.
2. **Android Development Tools Plugin** -for the Eclipse IDE - adds powerful extensions to the Eclipse integrated environment.
3. **Dalvik Debug Monitor Service (DDMS)** -Integrated with Dalvik -this tool let us manage processes on an emulator and assists in debugging.
4. **Android Asset Packaging Tool (AAPT)** – Constructs the distributable Android package files (.apk).
5. **Android Debug Bridge (ADB)** – provides link to a running emulator. Can copy files to emulator, install .apk files and run commands.

c) MYSQL – BACK END

The MySQL Reference Manual covers most areas of MySQL use. This manual is for both MySQL Community Server and MySQL Enterprise Server. If you cannot find the answer(s) from the manual, you can get support by purchasing MySQL Enterprise, which provides comprehensive support and services. MySQL Enterprise also provides a comprehensive knowledge base library that includes hundreds of technical articles resolving difficult problems on popular database topics such as performance, replication, and migration.

MySQL AB develops and supports a family of high-performance, affordable database products. The company's flagship offering is 'MySQL Enterprise', a comprehensive set of production-tested software, proactive monitoring tools, and premium support services. MySQL is the world's most popular open-source database software. Many of the world's largest and fastest-growing organizations use MySQL to save time and money powering their high-volume Web sites, business-critical systems and packaged software -- including industry leaders such as Yahoo!, Alcatel-Lucent, Google, Nokia, YouTube and Booking.com. With headquarters in the United States and Sweden -- and operations around the world -- MySQL AB supports both open-source values and corporate customers' needs.

d) JDBC

Java Database Connectivity (JDBC) is a programming framework for Java developers writing programs that access information stored in databases, spreadsheets, and flat files. JDBC is commonly used to connect a user program to a "behind the scenes" database, regardless of what database management software is used to control the database. In this way, JDBC is cross-platform. This article will provide an introduction and sample code that demonstrates database access from Java programs that use the classes of the JDBC API, which is available for free download from Sun's site. A database that another program links to is called a data source. Many data sources, including products produced by Microsoft and Oracle, already use a standard called Open Database Connectivity (ODBC). Many legacy C and Perl programs use ODBC to connect to data sources. ODBC consolidated much of the commonality between database management systems. JDBC builds on this feature, and increases the level of abstraction. JDBC-ODBC bridges have been created to allow Java programs to connect to ODBC-enabled database software.

CHAPTER 5

SYSTEM IMPLEMENTATION

5.1 FILE DESIGN

File design of an information system shows the major features and also how they are related to one another. The first step of the system design is to design logical design elements. This is the most creative and challenging phase and important too. Design of proposed system produces the details of the state how the system will meet the requirements identified during the system analysis that is, in the design phase we have to find how to solve the difficulties faced by the existing system. The File design of the proposed system should include the details that contain how the solutions can be implemented. It also specifies how the database is to be built for storing and retrieving data, what kind of reports are to be created and what are the inputs to be given to the system.

5.2 INPUT DESIGN

The input design is the link between the information system and the user. It comprises the developing specification and procedures for data preparation and those steps are necessary to put transaction data into a usable form for processing data entry. The activity of putting data into the computer for processing can be achieved by inspecting the computer to read data from a written or printed document or it can occur by having people keying the data directly into the system.

The design of input focuses on controlling the amount of input required, controlling errors, avoiding delay, avoiding extra steps and keeping the process simple. The system needs the data regarding the asset items, depreciation rates, asset transfer, and physical verification for various validation, checking, calculation and report generation. The error raising method is also included in the software, which helps to raise error message while wrong entry of input is done. So, in input design the following things are considered.

5.3 OUTPUT DESIGN

Computer output is the most important and direct information source to the user. Output design is a process that involves designing necessary outputs in the form of reports that should be given to the users according to the requirements. Efficient, intelligible output design should improve the system's relationship with the user and help in decision making. Since the reports are directed by the management for taking decisions and to draw conclusions they must be designed with almost care and the details in the reports must be simple, descriptive and clear to the user. So, while designing output the following things are to be considered.

Determine what information to present Arrange the presentation of information in an acceptable format Decide how to distribute the output to intended receipts. Depending on the nature and future use of output required, they can be displayed on the monitor for immediate need and for obtaining the hardcopy. The options for the output reports are given in the appendix.

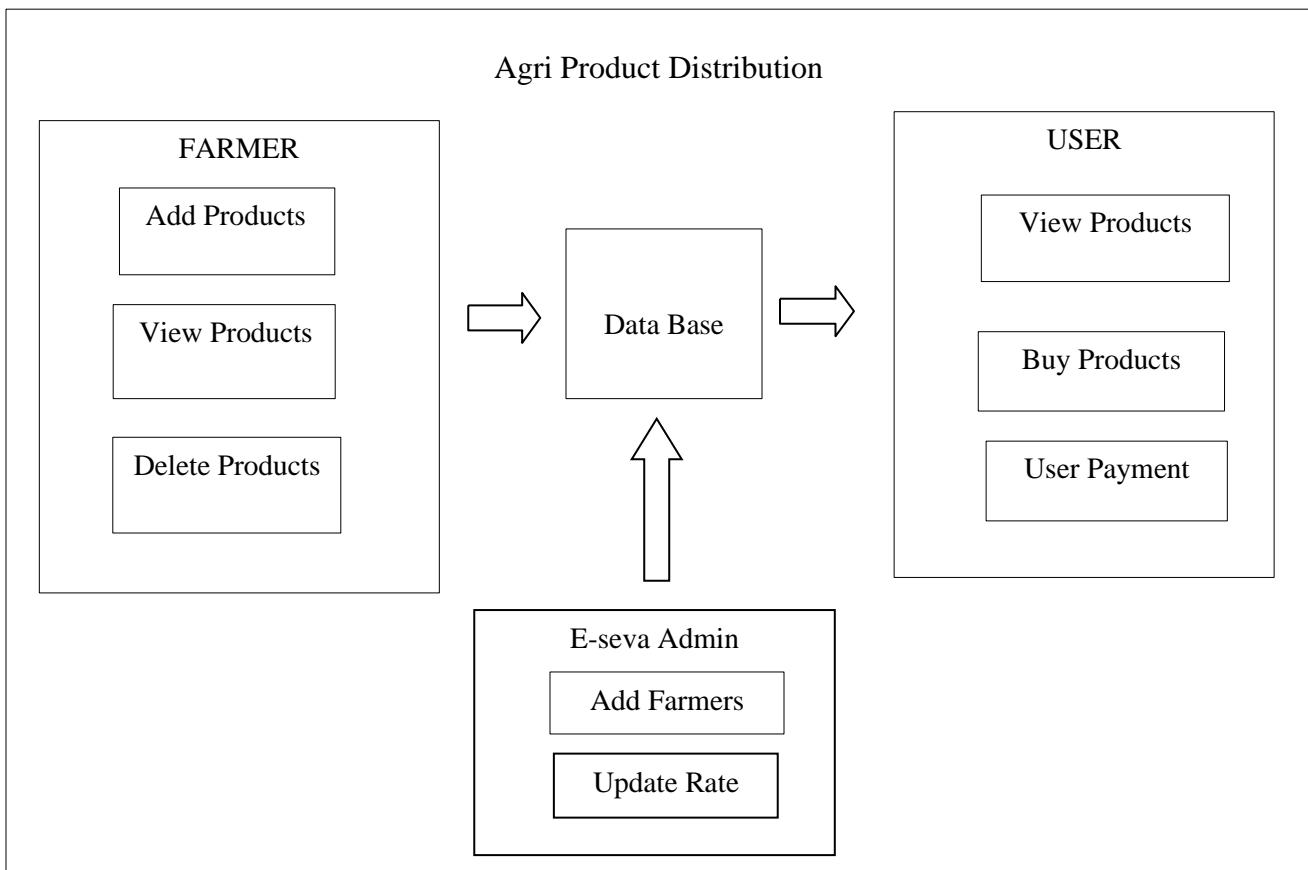


Fig.5.3.1 Architecture Diagram

5.4 SYSTEM FLOW DIAGRAM

5.4.1 DATAFLOW DIAGRAM

LEVEL O:

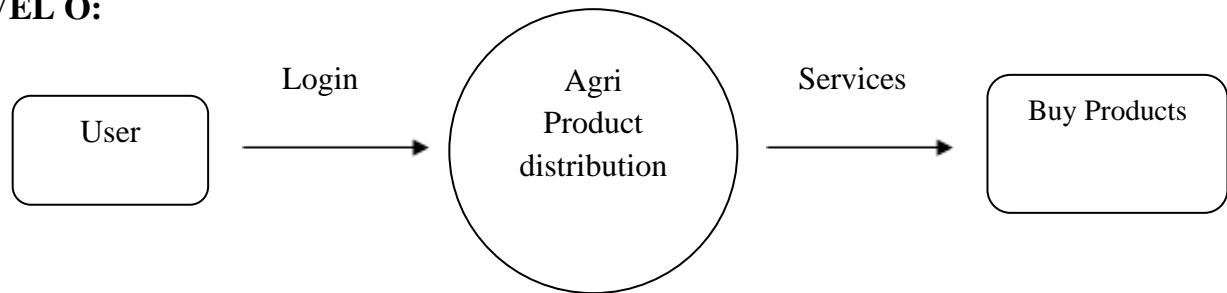


Fig.5.4.1 Data Flow Diagram for Agri Product Distribution System

LEVEL 1:

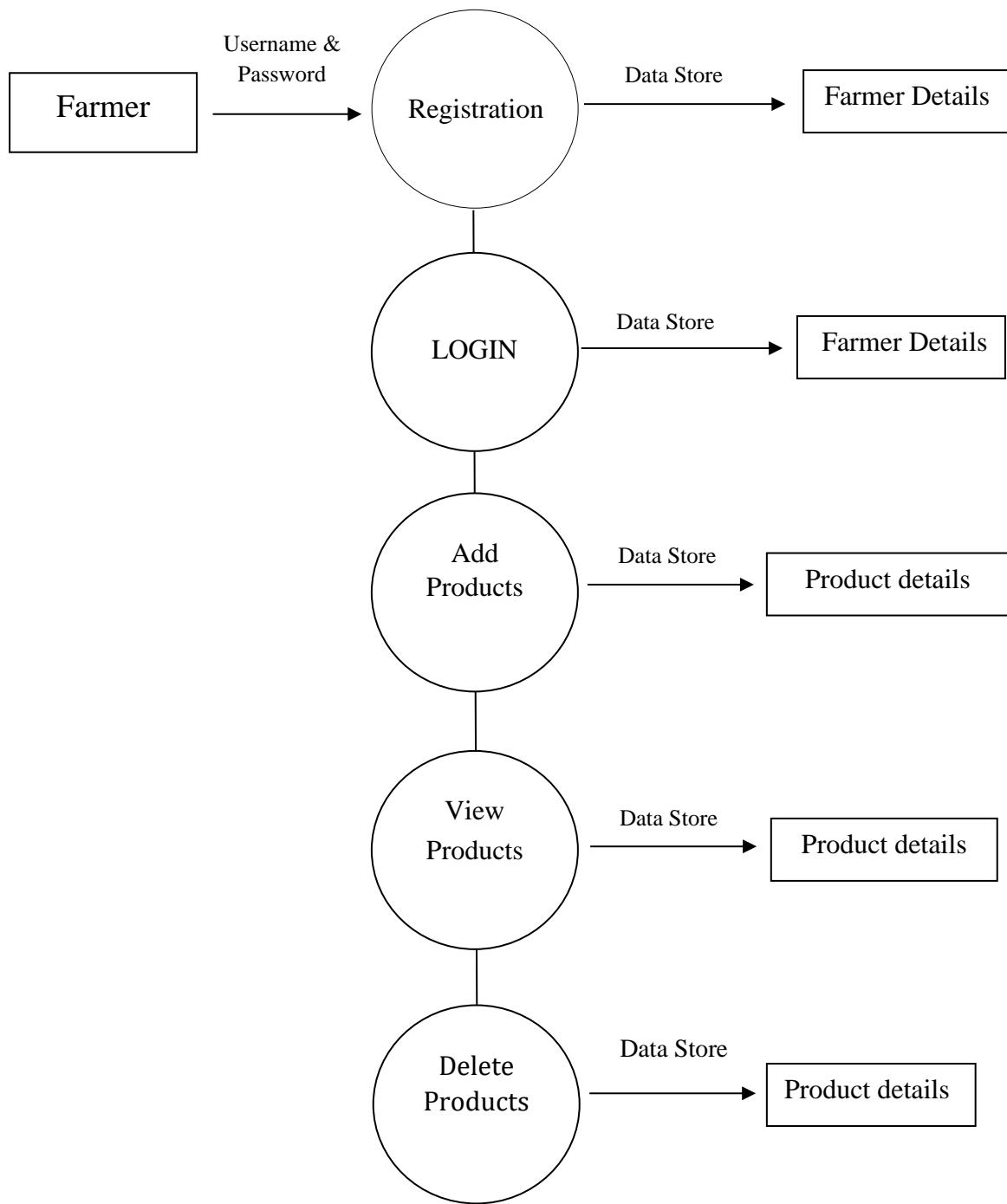


Fig.5.4.2 Data Flow Diagram for Farmer Module

LEVEL 1:

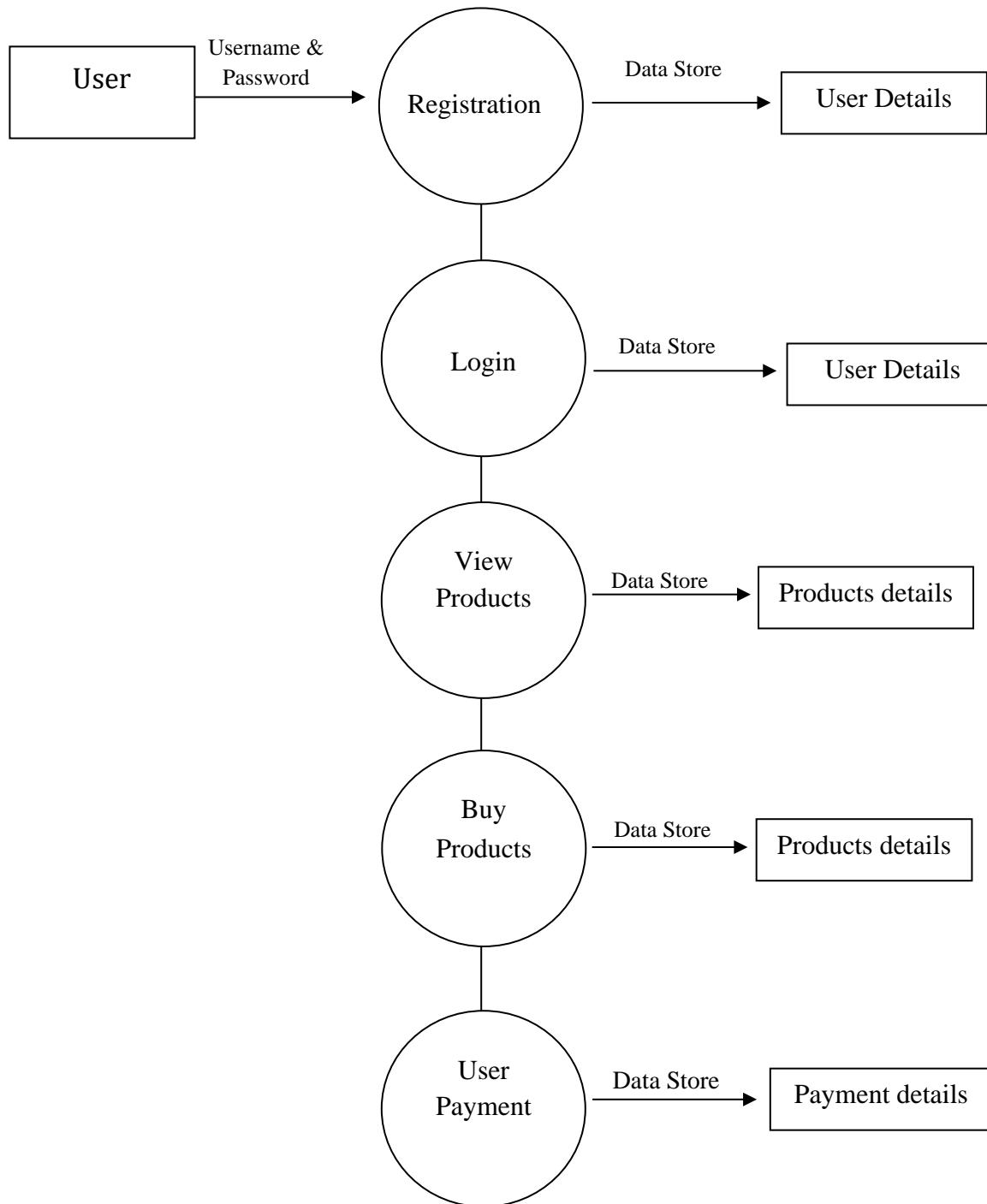


Fig.5.4.3 Data Flow Diagram for User Module

5.4.2 ER DIAGRAMS

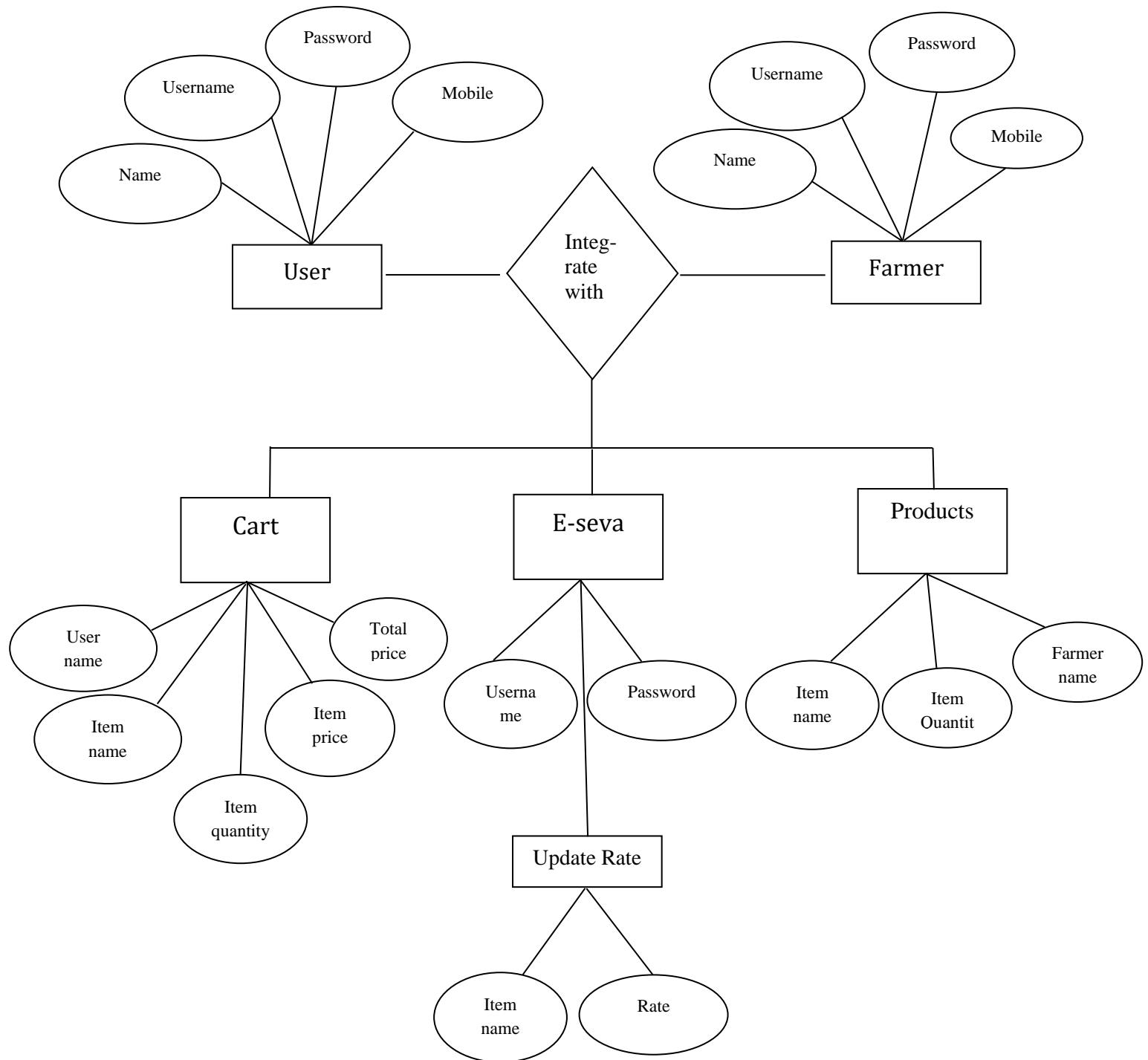


Fig.5.4.4 ER Diagram for Agri Product Distribution System

5.4.3 Database Design

Table Name: User Details

Field Name	Data type	Size
Name	Varchar	50
User name	Varchar	50
Password	Varchar	50
Mobile	Number	10

Table 5.4.3.1

Table Name: Farmer Details

Field Name	Data type	Size
Name	Varchar	50
User name	Varchar	50
Password	Varchar	50
Mobile	Number	10

Table 5.4.3.2

Table Name: E-seva Admin

Field Name	Data type	Size
User Id	Varchar	50
Password	Varchar	50

Table 5.4.3.3

Table Name: Products

Field Name	Data type	Size
Farmer name	Varchar	50
Product name	Varchar	50
quantity	Varchar	50

Table 5.4.3.4

Table Name: Rate

Field Name	Data type	Size
Product name	Varchar	50
Product price	Varchar	50

Table 5.4.3.5

Table Name: Cart

Field Name	Data type	Size
User name	Varchar	50
Product name	Varchar	50
Product quantity	Varchar	50
Product price	Varchar	50
Total Price	Varchar	50

Table 5.4.3.6

Table Name: Payment

Field Name	Data type	Size
User name	Varchar	50
Card number	Varchar	50
Cvv number	Varchar	50
Expiry date	Varchar	50
Holder name	Varchar	50

Table 5.4.3.6

5.4.4 Modules and Description

There are three modules that are used,

- E-seva Module
- Farmer Module
- User Module

E-seva Module

- **E-seva Login**

E-seva will login using username password, which already stored in database. This feature enables administrators to securely access the system using pre-stored credentials, allowing them to manage users, farmers, and product data, ensuring only authorized personnel can perform critical operations, protecting system integrity and privacy.

- **E-seva Add Farmers**

E-seva admin will add farmers who are all uneducated and don't know to register this application. This module aids farmers with limited digital literacy by manually collecting essential information, bridging the digital divide and promoting inclusivity, enabling a wider range of agricultural producers to market their products online.

- **E-seva Update Rate**

E-seva admin will update rate for all Agri products like vegetables and fruits. E-seva admin will select one vegetable and enter new rate and give submit, then rate will be updated in database. This functionality allows admins to manage and update agricultural product prices, ensuring real-time pricing based on market fluctuations. This transparency and accuracy enable informed decision-making for buyers and farmers on the platform.

Farmer Module

Registration

In Farmer registration, fill all the registration details like username, password, address, mobile number and email id. After entering these details click register button to register farmer with entered details. Then all the inputs stored in user details table in database.

Login

In Farmer login, Farmer mobile no and password for login to this application. The mobile no and password already given while registering user details. This login details verified from database, if it is entered correctly then user will allow to enter our application otherwise shows pop message like check your credentials.

Add Products

- Farmer can add products, select vegetable in dropdown menu and add quantity.
- Farmer add all these details in add products.

View Products

- Farmer can view already added products and details in like product image, name, and quantity.
- Farmer can also select and delete products in products list.

User Module

Registration

In User registration, fill all the registration details like username, password, address, mobile number and email id. After entering these details click register button to register User with entered details. Then all the inputs stored in user details table in database.

Login

In User login, enter user name and password for login to this application. The username and password already given while registering user details. This login details verified from database, if it is entered correctly then user will allow to enter our application otherwise shows pop message like check your credentials.

View Products

- User can view products, which already added by farmer like, product image name, quantity and price. The price is updated by E-seva admin.

- Here user have to click any required vegetable in product list, now user have to add required quantity of selected product and it move to user cart page with selected vegetable and given quantity. Now these details added to user cart.

User cart

- User selected products are moved in user cart with product name and quantity.
- Here user can view list of carts.
- And also delete products in cart, after deleting products user give confirmation for cart products.
- After user confirmation, user move to payment page.

User Payment

- In payment, user products and quantity of products are totaled and shows total price of cart.
- User view price and give card details for payment.
- After checked card details, if details matched then move to order success otherwise its shows payment failed.

CHAPTER 6

SYSTEM TESTING

SYSTEM TESTING

The purpose of testing is to discover errors. Testing is the process of trying to discover every conceivable fault or weakness in a work product. It provides a way to check the functionality of components, sub-assemblies, assemblies and/or a finished product. It is the process of exercising software with the intent of ensuring that the Software system meets its requirements and user expectations and does not fail in an unacceptable manner. There are various types of tests. Each test type addresses a specific testing requirement.

TYPES OF TESTS

1) Unit testing

Unit testing involves the design of test cases that validate that the internal program logic is functioning properly, and that program inputs produce valid outputs. All decision branches and internal code flow should be validated. It is the testing of individual software units of the application .it is done after the completion of an individual unit before integration. This is a structural testing, that relies on knowledge of its construction and is invasive. Unit tests perform basic tests at component level and test a specific business process, application, and/or system configuration. Unit tests ensure that each unique path of a business process performs accurately to the documented specifications and contains clearly defined inputs and expected results.

2) Integration testing

Integration tests are designed to test integrated software components to determine if they actually run as one program. Testing is event driven and is more concerned with the basic outcome of screens or fields. Integration tests demonstrate that although the components were individually satisfaction, as shown by successfully unit testing, the combination of components is correct and consistent. Integration testing is specifically aimed at exposing the problems that arise from the combination of components.

3) Functional testing

Functional tests provide systematic demonstrations that functions tested are available as specified by the business and technical requirements, system documentation, and user manuals.

Functional testing is centered on the following items:

Valid Input : identified classes of valid input must be accepted.

Invalid Input : identified classes of invalid input must be rejected.

Functions : identified functions must be exercised.

Output : identified classes of application outputs must be exercised.

Systems/Procedures: interfacing systems or procedures must be invoked.

Organization and preparation of functional tests is focused on requirements, key functions, or special test cases. In addition, systematic coverage pertaining to identify Business process flows; data fields, predefined processes, and successive processes must be considered for testing. Before functional testing is complete, additional tests are identified and the effective value of current tests is determined.

4) System Test

System testing ensures that the entire integrated software system meets requirements. It tests a configuration to ensure known and predictable results. An example of system testing is the configuration-oriented system integration test. System testing is based on process descriptions and flows, emphasizing pre-driven process links and integration points.

5) White Box Testing

White Box Testing is a testing in which the software tester has knowledge of the inner workings, structure and language of the software, or at least its purpose. It is used to test areas that cannot be reached from a black box level.

6) Black Box Testing

Black Box Testing is testing the software without any knowledge of the inner workings, structure or language of the module being tested. Black box tests, as most other kinds of tests, must

be written from a definitive source document, such as specification or requirements document, such as specification or requirements document. It is a testing in which the software under test is treated, as a black box. You cannot “see” into it. The test provides inputs and responds to outputs without considering how the software works.

7) Unit Testing:

Unit testing is usually conducted as part of a combined code and unit test phase of the software lifecycle, although it is not uncommon for coding and unit testing to be conducted as two distinct phases.

Test strategy and approach

Field testing will be performed manually and functional tests will be written in detail.

Test objectives

- All field entries must work properly.
- Pages must be activated from the identified link.
- The entry screen, messages and responses must not be delayed.

Features to be tested

- Verify that the entries are of the correct format
- No duplicate entries should be allowed
- All links should take the user to the correct page.

8) Integration Testing

Software integration testing is the incremental integration testing of two or more integrated software components on a single platform to produce failures caused by interface defects.

The task of the integration test is to check that components or software applications, e.g. components in a software system or – one step up – software applications at the company level – interact without error.

Test Results: All the test cases mentioned above passed successfully. No defects encountered.

9) Acceptance Testing

User Acceptance Testing is a critical phase of any project and requires significant participation by the end user. It also ensures that the system meets the functional requirements.

Test Results: All the test cases mentioned above passed successfully. No defects encountered.

FEASIBILITY ANALYSIS

Whatever we think need not be feasible. It is wise to think about the feasibility of any problem we undertake. Feasibility is the study of impact, which happens in the organization by the development of a system. The impact can be either positive or negative. When the positives nominate the negatives, then the system is considered feasible. Here the feasibility study can be performed in two ways such as technical feasibility and Economical Feasibility.

- Technical Feasibility:**

We can strongly say that it is technically feasible, since there will not be much difficulty in getting required resources for the development and maintaining the system as well. All the resources needed for the development of the software as well as the maintenance of the same is available in the organization here we are utilizing the resources which are available already.

- Economic Feasibility**

Development of this application is highly economically feasible. The organization needed not spend much money for the development of the system already available. The only thing is to be done is making an environment for the development with an effective supervision. If we are doing so, we can attain the maximum usability of the corresponding resources. Even after the development, the organization will not be in condition to invest more in the organization. Therefore, the system is economically feasible.

CHAPTER 7

CONCLUSION

Agriculture, as the backbone of our societies, plays a pivotal role in sustaining livelihoods and feeding the growing global population. To empower farmers with technology, facilitate market access, and address linguistic barriers, we introduce the "Agri Product Distribution" Farmer's E-Commerce Application.

In this project we have three logins, E-seva, Farmer and Customer. E-seva have direct login using already stored username and password in database. E-seva logged in then add farmers who don't know how to register themselves and update product rate. Second Farmer register and login, then add his Agri products and also can view and delete products. Finally, user register and login, then view and buy products.

The e-commerce portal will transform agriculture business has user friendly which is still indeterminate and the supply chains become more efficient. The proposed work satisfies the services provided in mobile application such as product view and purchase to access the details of agriculture product information's. The e-commerce portal reduces product and transport cost and saves time durations. The ecommerce portal is used to ensure the farmer has earned profitability for their agriculture product from the current rate of market.

7.1 FUTURE SCOPE

The Agri Product Distribution application holds promising potential for future development and expansion. As digital technology continues to penetrate rural areas, there is a significant opportunity to enhance the platform's functionality and reach. One of the key improvements could be the integration of multilingual support to make the application more accessible to farmers across different regions of India. Incorporating artificial intelligence for market price prediction can empower farmers to make informed decisions regarding the sale of their produce. Furthermore, integrating logistics and delivery services would streamline the transportation of goods, ensuring efficiency and reducing post-harvest losses. Real-time weather forecasts and alerts can assist farmers in planning agricultural activities effectively. The application can also be extended to provide access to government schemes and subsidies, helping farmers avail various benefits directly. Future versions could include blockchain technology to ensure transparency and security in transactions. Offline functionality would make the app usable even in areas with poor internet connectivity, while voice-assisted features could support users with limited literacy. Additionally, providing a personalized analytics dashboard for farmers would offer insights into their sales trends and inventory, improving their business strategies. Expanding the platform to serve B2B marketplaces could further increase farmers' profitability by connecting them directly with large-scale buyers and businesses. These enhancements can transform the application into a comprehensive digital ecosystem for agriculture.

APPENDIX

8.1 SOURCE CODE:

```
package com.skprop.agriproductdistribution;
import android.annotation.SuppressLint;
import android.app.AlertDialog;
import android.content.Intent;
import android.os.AsyncTask;
import android.os.Bundle;
import android.util.Log;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.sql.Statement;
import java.util.regex.Matcher;
import java.util.regex.Pattern;
public class FarmerRegisterActivity extends MainActivity {

    EditText edtName, edtMobileNo, edtTable, edtusername, edtPassword,
    edtprof, edtTime, edtaddr, edtcaste, edtreligion, edtssc, edthsc;
    Button btnSubmit, btnSubmit1;
    Connection conn;
    TextView reg, back;

    private String name, mobilenumber, email, username, mobileno,
    password, fathername, addr, table, time, ssc, hsc;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.farmer_reg);

        edtusername = (EditText) findViewById(R.id.mobileno);
        edtPassword = (EditText) findViewById(R.id.password);
        edtName = (EditText) findViewById(R.id.name);

        back = (TextView) findViewById(R.id.textView7);

        btnSubmit = (Button) findViewById(R.id.btn1);
        btnSubmit.setOnClickListener(new OnClickListener() {

            public void onClick(View v) {
                username = edtusername.getText().toString();
                password = edtPassword.getText().toString();
            }
        });
    }
}
```

```

        name = edtName.getText().toString();

        //ssc = edtssc.getText().toString();
        //hsc = edthsc.getText().toString();
        try {
            if (verify())
            {
                new QuerySQL().execute();
            }

            } catch (Exception e) {
            Log.e("ERRO",e.getMessage());
        }
    }

    });

back.setOnClickListener(new OnClickListener() {

    @Override
    public void onClick(View v) {
        // TODO Auto-generated method stub
        startActivity(new Intent(FarmerRegisterActivity.this,
                FarmerLoginActivity.class));
    }
});

}

public boolean verify()
{
//    EditText name, userName, password, cpassword, email, phoneNumber;
    Boolean ret=true;

    if(edtusername.getText().toString().length()<10){edtusername.setError("Invalid Phone Number");ret=false;} //It will Set but ok it wont be visible

    if(edtusername.getText().toString().length()<1){edtusername.setError("Field Required");ret=false;}

    String expression = "^(\\d{1,2})\\.(\\d{1,2})\\.(\\d{1,2})$";
    CharSequence inputString = edtusername.getText().toString();
    Pattern pattern = Pattern.compile(expression);
    Matcher matcher = pattern.matcher(inputString);
    if (matcher.matches())
    {

    }
    else
    {
        edtusername.setError("Invalid Number");ret=false;
    }
    if(edtName.getText().toString().length()<1){edtName.setError("Field
}

```

```

Required");ret=false; }

if(edtPassword.getText().toString().length()<1){edtPassword.setError("Field
Required");ret=false; }

    return ret;
}
public class QuerySQL extends AsyncTask<String, Void, Boolean> {

    ProgressDialog pDialog ;
    Exception error;
    ResultSet rs;
    @Override
    protected void onPreExecute() {
        super.onPreExecute();

        pDialog = new ProgressDialog(FarmerRegisterActivity.this);
        pDialog.setTitle("Registration");
        pDialog.setMessage("Registering your credentials...");
        pDialog.setProgressStyle(ProgressDialog.STYLE_SPINNER);
        pDialog.setIndeterminate(false);
        pDialog.setCancelable(false);
        pDialog.show();
    }

    @Override
    protected Boolean doInBackground(String... args) {
        try {
            Class.forName("com.mysql.jdbc.Driver");
            conn = DriverManager.getConnection("jdbc:mysql://mysql-75344-
0.cloudclusters.net:18880/agriproduct","admin","cU5zYktH");
        } catch (SQLException se) {
            Log.e("ERROR1",se.getMessage());
        } catch (ClassNotFoundException e) {
            Log.e("ERROR2",e.getMessage());
        } catch (Exception e) {
            Log.e("ERROR3",e.getMessage());
        }
        try {
            String COMANDOSQL="select * from farmerdetails where
username='"+username+"';
            Statement statement = conn.createStatement();
            rs = statement.executeQuery(COMANDOSQL);
            if(rs.next()){

                return false;
            }

            Statement statement1 = conn.createStatement();
            int success=statement1.executeUpdate("insert into farmerdetails
values('"+username+"','"+password+"','"+name+"')");
        }

        if (success >= 1) {
            // successfully created product

            return true;
        }
    }
}

```

```

        // closing this screen
    //}
} else {
    // failed to create product
    return false;
}

// Toast.makeText(getApplicationContext(),
// "Successfully Inserted.", Toast.LENGTH_LONG).show();
} catch (Exception e) {
    error = e;
    return false;
}
// Toast.makeText(getApplicationContext(),"Successfully Registered...", Toast.LENGTH_LONG).show();
}

}

@SuppressLint("NewApi")
@Override
protected void onPostExecute(Boolean result1) {
    pDialog.dismiss ();
    if(result1)
    {

        Toast.makeText(getApplicationContext(),"Successfully created your
credentials." ,Toast.LENGTH_LONG).show();

//        System.out.println("ELSE(JSON) LOOP EXE");
        try {// try3 open

            Intent i = new Intent(getApplicationContext(),
                FarmerLoginActivity.class);
            startActivity(i);

        } catch (Exception e1) {
            Toast.makeText(getApplicationContext(), e1.toString(),
                Toast.LENGTH_LONG).show();

        }
    }

} else
{
    if(error!=null)
    {
        Toast.makeText(getApplicationContext(),error.toString()
,Toast.LENGTH_LONG).show();
        Log.d("Error not null...", error.toString());
    }
    else
    {
        Toast.makeText(getApplicationContext(),"MobileNo Already Exist!!!"
,Toast.LENGTH_LONG).show();
    }
}
}

```

```

        super.onPostExecute(result1);
    }
}

package com.skprop.agriproductdistribution;

import android.annotation.SuppressLint;
import android.app.ProgressDialog;
import android.content.Intent;
import android.os.AsyncTask;
import android.os.Bundle;
import android.util.Log;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.sql.Statement;
import java.util.regex.Matcher;
import java.util.regex.Pattern;

public class UserRegisterActivity extends MainActivity {

    EditText edtName, edtMobileNo, edtTable, edtusername, edtPassword,
    edtprof, edtTime, edtaddr, edtcaste, edtreligion, edtssc, edthsc;
    Button btnSubmit, btnSubmit1;
    Connection conn;
    TextView reg, back;

    image.setImageResource(R.drawable.cauliflower);
    }           return true;

    // Toast.makeText(getApplicationContext(),
    // "Successfully Inserted.", Toast.LENGTH_LONG).show();
} catch (Exception e) {
    error = e;
    System.out.println(e);
    return false;
}
// Toast.makeText(getApplicationContext(), "Successfully Registered...", Toast.LENGTH_LONG).show();
}

@SuppressLint("NewApi")
@Override
protected void onPostExecute(Boolean result1) {
    pDialog.dismiss();
}

```

```

    if(result1)
    {

        Toast.makeText( getApplicationContext(),"Sucessfully
Deleted..",Toast.LENGTH_LONG).show();
        // edmessage.clearFocus();
        // edmessage.setText("");

        Intent i = new Intent(UserConfirmCart.this, UserActivity.class);
        startActivity(i);

    }else
    {
        if(error!=null)
        {
            //
Toast.makeText(getApplicationContext(),error.getMessage().toString()
,Toast.LENGTH_LONG).show();
        }
        else
        {
            Toast.makeText(
getApplicationContext(),"Invalid",Toast.LENGTH_SHORT).show();
        }
        super.onPostExecute(result1);
    }
}

```

8.2 SCREENSHOTS

Home page:

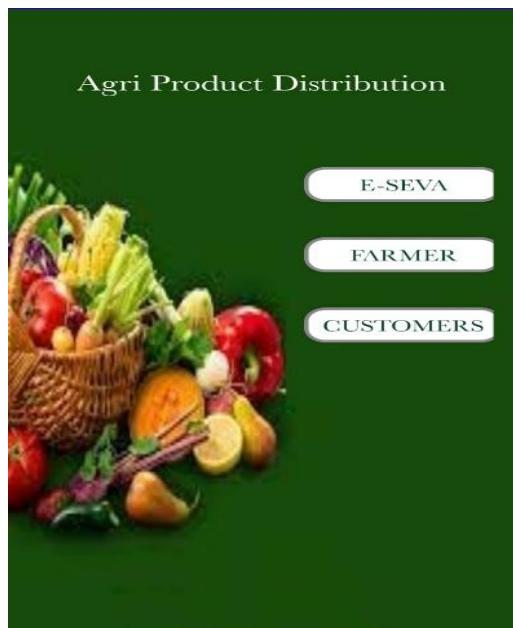


Fig.8.2.1

E-seva Login Page:

This image shows the E-seva Login page. The background has a decorative pattern of various fruits and vegetables. At the top, it says "Agri Product Distribution" and "Eseva Login". Below that are two input fields: "Enter username" and "Enter password", each with a corresponding text input box. At the bottom is a large, dark green rounded rectangular button labeled "LOGIN". In the bottom left corner, there is a link labeled "Back".

Fig.8.2.2

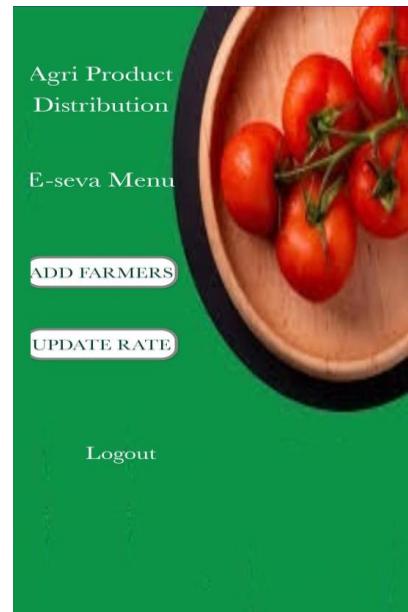


Fig.8.2.3



Fig.8.2.4

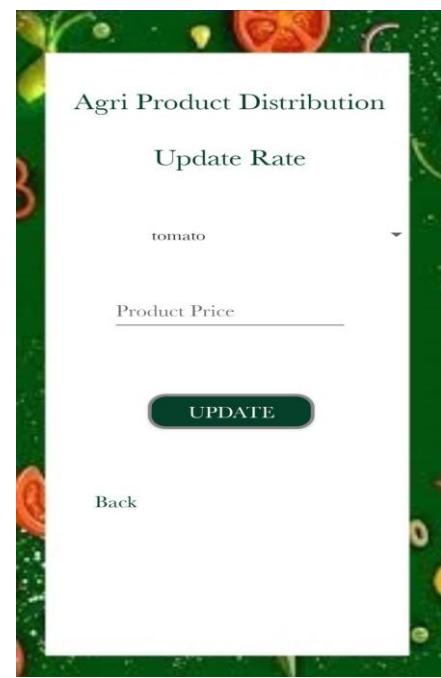


Fig.8.2.5

Farmer Login: Page:

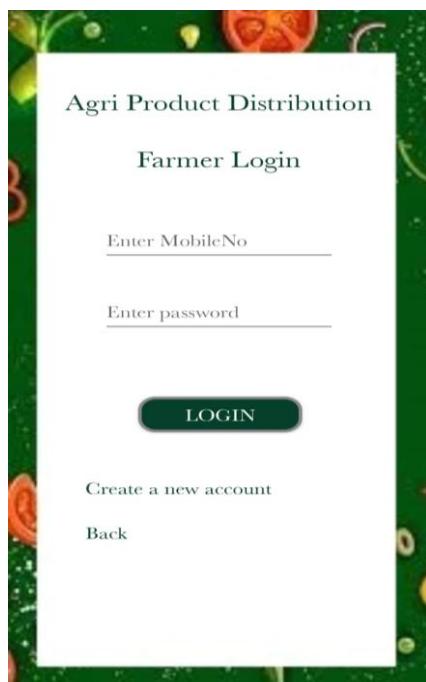


Fig.8.2.3

User Login Page:

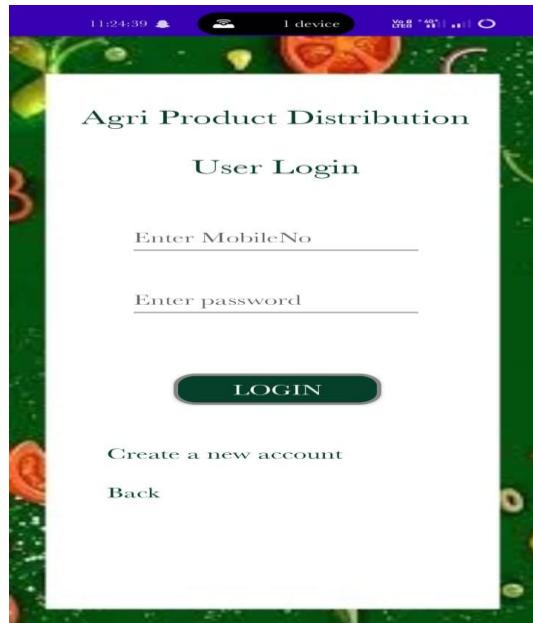


Fig.8.2.4

REFERENCE

- [1]. M. Balakrishnan, B. Ganesh Kumar, Ch. Srinivasa Rao and S.K. Soam (2018), —Status and Scope of E-Commerce in Agribusiness in India, National Academy of Agricultural Research Management, vol.5, no.1, pp.400- 413.
- [2]. Tumpa Banerjee, Monalisa Mishra, Narayan C Debnath, Prasenjit Choudhury (2019), —Implementing E-Commerce Model for Agricultural Produce: A Research Roadmap|| Periodicals of Engineering and Natural Sciences vol. 7, no. 1, pp.302-310.
- [3]. E. Fernando, S. Assegaff and A. H. H. Rohayani (2016), "Trends Information Technology in E-Agriculture: A Systematic Literature Review," Third International Conference on Information Technology, Computer, and Electrical Engineering, Semarang, pp. 351-355.
- [4]. Ranu Gupta and Pawan Kumar Sharma (2018), —Scope of E-Commerce in Agribusiness in India: An Overview ||International Journal of Advanced Scientific Research and Management, Special Issue I, pp.99-104.
- [5]. Megha Nayak, Pinky Wankhede, Neha Khaksar, KomalDhote(2019), ||ECommerce Site for Agriculture Products||International Research Journal of Engineering and Technology vol: 06 no.04, pp. 347-349.
- [6]. Surjeet Singh Dhaka (2016), —Scope of Online Shopping of Agri Inputs|| International Journal of Advance Research in computer Science and Management Studies, Vol. 4, no.6, pp.111-115.
- [7]. Yiwu Zenga, Fu Jiab, Li Wanc, and HongdongGuoD (2017), —E-Commerce in Agri-Food Sector: A Systematic Literature Review International Food and Agribusiness Management Review vol .20, no.4, pp.439-460.
- [8]. Debasis Dash and Ashabikash Mohapatra (2017), || E-Commerce and Agribusiness|| international Research Journal of Commerce and Law, vol.04, no.8, pp. 1-4.
- [9]. Mr. Subhadeep Mukherjee and Mr. HuidromMichael (2016) —Modern Trends, Challenges and opportunity of E-Commerce in India –An Overview ||SSRN Electronic Journal.
- [10]. M. Bhende, M. S. Avatade, S. Patil, P. Mishra, P. Prasad and S. Shewalkar (2018), "Digital Market: E-Commerce Application for Farmers," Fourth International Conference on Computing Communication Control and Automation, pp. 1-7.