**FarmConnect**

Empowering Agricultural Commerce through Digital Platform

*Mini Project Report*

*Submitted by*

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**Reg. No.: AJC22MCA-2065**

*In Partial fulfillment for the Award of the Degree of*

**MASTER OF COMPUTER APPLICATIONS**

**(MCA TWO YEAR)**

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**



**AMAL JYOTHI COLLEGE OF ENGINEERING**

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# 2023-2024

## DEPARTMENT OF COMPUTER APPLICATIONS

### AMAL JYOTHI COLLEGE OF ENGINEERING

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**CERTIFICATE**

This is to certify that the Project report, “**FARMCONNECT”** is the bona fide work of **N AMAL THOMSON (Regno: AJC22MCA-2065)** in partial fulfillment of the requirements for the award of the Degree of Master of Computer Applications under APJ Abdul Kalam Technological University during the year 2023-24.

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**DECLARATION**

I hereby declare that the project report **“FARMCONNECT”** is a bona fide work done at Amal Jyothi College of Engineering, towards the partial fulfilment of the requirements for the award of the Master of Computer Applications (MCA) from APJ Abdul Kalam Technological University, during the academic year 2023-2024.

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# ABSTRACT

FarmConnect: Empowering Agricultural Commerce through Digital Platform - FarmConnect, powered by Flutter and Firebase, a platform that seamlessly connects farmers and buyers. Browse, select, and purchase the freshest farm products directly from growers/producers.

Front-End: Flutter

Back-End: Firebase

Key Modules

1. Admin

2. Users

a. Farmers

b. Buyers

**Admin**

FarmConnect provides admin with comprehensive tools for managing user accounts, moderating product listings, facilitating secure transactions, and ensuring a smooth and transparent experience for both farmers and buyers.

**Farmers**

FarmConnect empowers farmers to showcase their products, receive seasonal cultivation recommendations, manage inventory, fulfil orders efficiently, and access personalized guidance for sustainable farming practices.

**Buyers**

FarmConnect offers buyers a user-friendly platform for discovering a diverse array of products, placing orders, tracking deliveries in real-time, and engaging directly with farmers for inquiries and product information.

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## List of Abbreviation

# CHAPTER 1

# INTRODUCTION

### PROJECT OVERVIEW

### PROJECT SPECIFICATION

# CHAPTER 2

# SYSTEM STUDY

# 

### INTRODUCTION

Data collection and analysis, problem-solving, and system change recommendations are all steps in the process of system analysis. During this problem-solving process, there must be considerable communication between the system users and the system developers. A system analysis or research should be the first step in any system development process. The system analyst acts as an interrogator and examines the operation of the current system in great detail. The system's input is acknowledged, and the system is viewed as a whole. The many processes might be connected to the organisations' outcomes. System analysis involves comprehending the problem, identifying the significant and crucial variables, analysing and synthesising the numerous components, and choosing the best or, at the very least, most acceptable course of action.

Preliminary research is the process of gathering and analysing data in order to use it for upcoming system investigations. Initial research requires strong collaboration between system users and developers since it involves problem-solving. It carries out several feasibility studies. These studies offer a rough idea of the system activities, which can be utilised to choose the methods to employ for effective system research and analysis.

### EXISTING SYSTEM

**2.2.1 NATURAL SYSTEM STUDIED**

**2.2.2 DESIGNED SYSTEM STUDIED**

### DRAWBACKS OF EXISTING SYSTEM



### PROPOSED SYSTEM

### ADVANTAGES OF PROPOSED SYSTEM



# CHAPTER 3

# REQUIREMENT ANALYSIS

## FEASIBILITY STUDY

A feasibility study is conducted to determine if the project will, upon completion, fulfil the objectives of the organisation in relation to the labour, effort, and time invested in it. A feasibility study enables the developer to predict the project's usefulness and potential future. A system proposal's workability, which includes the influence on the organisation, capacity to satisfy user demands, and efficient use of resources, is the basis for a feasibility study. As a result, a feasibility analysis is frequently performed before a new application is approved for development. The paper outlines the project's viability and contains a number of factors that were carefully taken into account throughout this project's feasibility assessment, including its technical, economic, and operational viabilities. The following are its features: -

### Economical Feasibility

### Technical Feasibility

### Behavioral Feasibility

**3.1.4 Feasibility Study Questionnaire**

## SYSTEM SPECIFICATION

### Hardware Specification

Processor - Apple M2

RAM - 8 GB

Hard disk - 256 GB

### Software Specification

Front End - Dart, Flutter

Back End - Firebase

Database - Cloud Firestore, Firebase Storage

Client on PC - Windows 7 and above.

Technologies used - Dart, Flutter, Firebase Firestore & Firebase Storage

## SOFTWARE DESCRIPTION

### Flutter

In May 2017, Google created and released Flutter, a free and open-source mobile UI framework. Simply put, it makes it possible for you to create a native mobile application from a single codebase. This suggests that you may create two different apps with the same programming language and codebase (for iOS and Android).

Flutter consists of two important parts:

• A collection of tools known as an SDK (Software Development Kit) can help you create applications. Also provided are tools for translating your code to native machine code (code for iOS and Android).

• A framework (UI library based on widgets) is a collection of reusable user interface (UI) elements that you may customise to suit your needs. These elements include buttons, text input fields, sliders, and other objects.

Applications based on Flutter are made using the programming language Dart. Although Google created the language for the first time in October 2011, it has made great progress since then.

A front-end coding framework called Dart could be used to create programmes for both internet and mobile platforms.

### Firebase

Firebase is a backend-as-a-service (Baas). It gives developers a variety of tools and services so they can produce high-quality apps, increase their user base, and earn money. It was developed on the technology platform of Google. Data is stored in documents that resemble JSON in Firebase, a NoSQL database program.

Key features of firebase:

* Authentication: Firebase supports authentication. Passwords, facebook, google, phone number etc can be used to authenticate. We can even integrate more than one sign-in method into our app using firebase.
* Realtime Database: Data is available and synced across all the clients in realtime, even if and when the app goes offline.
* Hosting: Firebase offers the app quick hosting.
* Test lab: The app can be tested on physical devices located on Google’s data center or even on virtual devices.

# CHAPTER 4

# SYSTEM DESIGN

* 1. **INTRODUCTION**

## UML DIAGRAM

## USE CASE DIAGRAM

Explanation, Diagram

## SEQUENCE DIAGRAM

Explanation, Diagram

## 4.2.2 State Chart Diagram

Explanation, Diagram

## Activity Diagram

Explanation, Diagram

## Class Diagram

Explanation, Diagram

## Object Diagram

Explanation, Diagram

## Component Diagram

Explanation, Diagram

**4.2.8 Deployment Diagram**

Explanation, Diagram

**4.2.9 Collaboration Diagram**

Explanation, Diagram

## 4.3 USER INTERFACE DESIGN USING FIGMA

**Form Name: abcc**

Screenshot

**Form Name: abcc**

Screenshot

All Forms

## 4.4 DATABASE DESIGN

### 4.4.1 Relational Database Management System (RDBMS)

### 4.4.2 Normalization

### 4.4.3 Sanitization

**4.4.4 Indexing**

### 4.5 TABLE DESIGN

**1.Tbl\_users\_login**

Eg.Primary key: **loginid**

Eg.Foreign key: **loginid** references table **Tbl\_users\_login**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No:** | **Field name** | **Datatype (Size)** | **Key Constraints** | **Description of the field** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

# CHAPTER 5

# SYSTEM TESTING

* 1. **INTRODUCTION**

Explanation

## TEST PLAN

Explanation

### Unit Testing

explanation

### Integration Testing

Explanation

### Validation Testing or System Testing

Explanation

### Output Testing or User Acceptance Testing

explanation.

* + 1. **Automation Testing**

explanation.

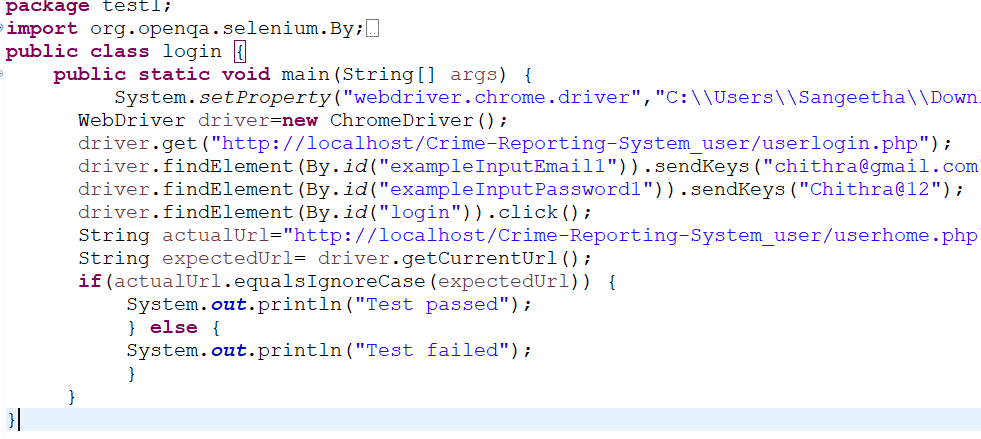
* + 1. **Selenium Testing**

explanation.

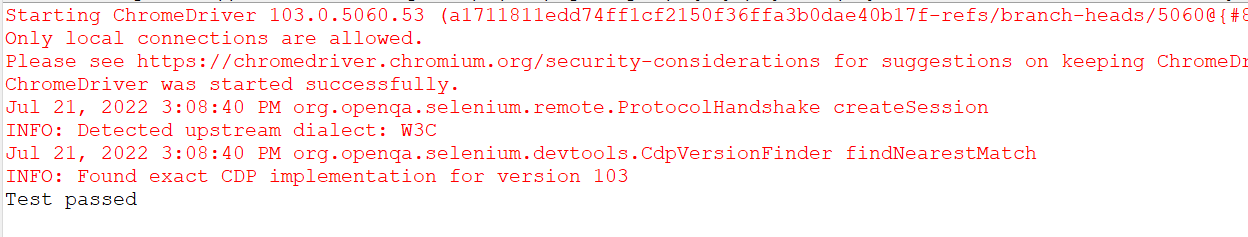
**Example:**

**Test Case 1**

**Code**



**Eg.Screenshot**



**Eg.Test Report**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test Case 1** | | | | | |
| **Project Name:** | | | | | |
| **Login Test Case** | | | | | |
| **Test Case ID: Test\_1** | | | **Test Designed By:** | | |
| **Test Priority(Low/Medium/High):** | | | **Test Designed Date:** | | |
| **Module Name**: | | | **Test Executed By :** | | |
| **Test Title :** | | | **Test Execution Date:** | | |
| **Description:** | | |  | | |
| **Pre-Condition :**User has valid username and password | | | | | |
| **Step** | **Test Step** | **Test Data** | **Expected Result** | **Actual Result** | **Status(Pass/**  **Fai l)** |
| 1 |  |  |  |  |  |
| 2 |  |  |  |  |  |
| 3 |  |  |
| 4 |  |  |
| 5 |  |  |  |  |  |
|  |  |  |  |  |  |
| 6 |  |  |
| 7 |  |  |  |  |  |
|  |  |  |  |  |
| **Post-Condition:** | | | | | |

**Test Case 2:**

**Code**

**Screenshot**

**Test report**

**Minimum 4 test cases (1 login 3 functionalities)**

# CHAPTER 6

# IMPLEMENTATION

## INTRODUCTION

Explanation

## IMPLEMENTATION PROCEDURES

Explanation

### User Training

Explanation

### Training on the Application Software

Explanation

### System Maintenance

Explanation

# CHAPTER 7

# CONCLUSION AND FUTURE SCOPE

## CONCLUSION

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* 1. **FUTURE SCOPE**

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# CHAPTER 8

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# CHAPTER 9

# APPENDIX

## Sample Code

Main functionalities

## Screen Shots