# Software Requirement Specification (SRS)
## ( Version 1.0.4 )

## Submitted
## To
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"Research, Development & Extension of Cashew nut & Coffee Project"



## Submitted by



ServicEngine Limited
(A Concern of Abdul Monem Limited)

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# 1. Introduction

Due to the project's dispersed extent and diversity of interventions, the need of a Management Information System (MIS) has become critical for the Project Office – since the lack of reliable data, unnecessary delay due to manual/ discrete file processing to be a major constraint for effective M&E and generating evidence about the effectiveness of the project. It is assumed that relevant information to overcome limitations for collecting, storing, analyzing and using data as well as credible and efficient reporting processes will allow evidence-based project.

- ➢ Easier reporting & monitoring of project activities.
- ➢ To take appropriate decision.
- ➢ Generating Digital report.
- ➢ On line registration system.
- ➢ Collection, sorting & analyzing field data.

## 1.1  Purpose

The purpose of the document is to collect and analyze all assorted ideas that have come to define the system, its requirements with respect to stakeholders. Also, we shall predict and sort out how we hope this product will be used in order to gain a better understanding of the project, outline concepts that may be developed later and documents ideas that are being considered but may be discarded as the product develops. In short, the purpose of this SRS document is to provide a detailed overview of our software product, its parameters and its goals. This document describes the project's target audience and its user interface, hardware and software requirements. It defines how our client, team and audience see the product and its functionality. Nonetheless, it helps any designer and developer to assist in software development life cycle (SDLC) processes.

## **1.2 Scope of work (SOW)**

To automate the entire process of the Digital Monitoring and Reporting Management System (DMRMS) of ServicEngine Limitedto provide better services in a paperless and time-consuming system to serve the Coffee and Cashew Nut project related personnel and DAE officials. The design & development scope will be limited to the scope of work as identified in the TOR. The technical team shall have to undertake the following work:

1.2.1   Development of software platforms is readily available for use as Software-As-A-Service (SaaS) capable for rapid deployment with a minimal IT infrastructure and hardware requirements.

1.2.2   This software should capable to reduce the associated risks, operational cost and having technical and user-friendly Excellency significantly.

1.2.3.   The developed software platform should able to digitize any kind of transactions from both back ends and data collection needs from distance Locations. There is also should have enough flexibility in the platform to customize the dashboard, reports and user interface to suit with exact and unique requirement of the project.

1.2.4   The software platform should be provided an easy and flexible way to deploy surveys/data collection instantly using mobile devices so that required data can be collected in remote locations at the origin points in near real-time.

1.2.5   The software platform should have auto upgradations systems whenever newer versions are available from vendor end without any operational disruption and cost.

1.2.6   Develop Digital Monitoring and Reporting Management System (DMRMS) along with related features

1.2.7   DMRMS shall be hosted on internal sever of DAE.

1.2.8   DMRMS will work in only one platform namely, web application

1.2.9   DMRMS (application) must be accessible on ('any one' / all as per the requirement)

Laptops / Desktops / SMART Phones over the internet.

1.2.10 The system shall have role-based rights allocations/Login Managements.

Illustrative as detailed under (but not limited to):

Admin-The person who has access to all the modules from any locations to all locations

UEO- can upload data from Upazilla agriculture office DMRMS portal when he get data from field level of each block.

UAO-The person, who has access to make registration, content upload as well as download

DD-The person who has access only to his portal to take decision after checking all kinds of report.

1.2.11 There will be a dedicated role-based login options for all the users of the DMRMS, which can be used by the users to log into DMRMS System and use accordingly.

1.2.12 Conduct a needs assessment of the existing system to prepare the precise System Requirement Specification (SRS) for designing and developing a website development plan in the SRS, which should include context diagram of the proposed system, Sequence Diagram, Use case Diagram, and Process Flow Diagram.

1.2.13 Design the solution architecture of the website platform in a manner for better performance, flexibility, scalability, extendibility and multitenancy of the system for future expansion.

1.2.14 ServicEngine LimitedLtd. will ensure system to be tested at module integration and load level. All necessary security test at application-level architecture needs to be followed and conducted by ServicEngine LimitedLtd..

1.2.15 The DMRMS solution shall also equip with an easy to use back-end system administration to maintain the data backup and restore.

1.2.16 Email Notification / Authentication shall work on Any e-mail Application.

1.2.17 System shall consist of User management, view, add and delete User.

**1.2.18** All reports shall retrievable at Admin End in MS Excel, PDF, CSV format

## 1.3 Stakeholder

Cashew nut & Coffee Project of DAE will be the only stakeholder of this DMRMS project. After completed SDLC, SEBPO will  Source code, technical tools and related design documents shall have to handed over to the Stakeholder.

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## 1.4 Definitions, Acronyms, and Abbreviations

| | |
|---|---|
| DMRMS | Digital Monitoring and Reporting Management System |
| DAE | Department of Agriculture Extension |
| UAO | Upazilla Agriculture Officer |
| DD | Deputy Director |
| User | UEO, UAO, DD, SMO |
| SRS | Software Requirement Specification |
| SDLC | Software Development Life Cycle |
| SOW | Scope of Work |
| DB | Database |
| PW | Password |
| ID | Identification |
| DFD | Dataflow Diagram |
| SQL | Structured Query Language |
| JQuery | A client scripting language |
| PHP | Programming Language |
| Dev | Development |
| Laravel | PHP web platform |
| SDK | Software Development Kit |

All non-standard terms, acronyms and abbreviations that are unique to this document should be included in this section. References to other appendices or reference documents may be included. Index information should be in bold.

- **IEEE –** Institute of Electrical and Electonics Engineering

- **SRS –** Software Requirements Specification

- **PRD –** Product Requirements Document

- **MRD – Marketing Requirements Documents**

**This document is prepared according to IEEE Std 1002-1987, IEEE Standard Taxonomy for Software Engineering Standards**

## 2. Technical Specification

Technical specification is subject to changes without any prior notice.

| Technology Stack<br>**Web Application** | |
|---|---|
| **Component** | **Description** |
| **Platform** | Laravel |
| **Frontend** | HTML5, CSS3, JAVASCRIPT, JQUERY-3.1.1 |
| **Database** | MySQL |
| **OS** | Linux |
| **Server** | Apache 2.4. 46 |
| **Programming Language** | PHP |
| **Workstation Requirements for PC** | Intel Core i5 CPU, 8GB RAM, 1 TB HDD |

# 3. Functional Requirements

## 3.1 Overview

The main purpose of functional requirements within the requirement specification document is to define the activities or operations that take place in the system. These are derived through interactions with the users are listed below.

| Serial | Main Functions | Description |
| --- | --- | --- |
| 1 | Requirement Collection | Meeting with focal person of the project to collect requiremen in details |
| 2 | Requirement Analysis | Analysis of all requirements collected |
| 3 | Design Phase | Wireframe and Graphics design of the application |
| 4 | Development | Develop the application (Web) |
| 5 | Unit Testing and Documentation | Unit testing the developed solutions according to test criteria and document all |
| 6 | Security Management | User creation, deletion and updating with change password, termination option |

## 3.2 Module list of DMRMS Web Application:

# Proposed Features of the System

| SL No. | Functional Mode Details | Details |
|--------|------------------------|---------|
| 1. | Dashboard | • Total number of Students<br>• Total number of Teacher<br>• Visitor & Content Counter<br>• Number of Courses<br>• Number of Current Users<br>• Total BOS (Board of Studies)<br>• Total number of Journals / Research papers<br>• Total number of trainings |
| 2. | Log in Authentication | User can login using proper authentic ID & Pass. |
| 3. | User Management | Admin user can create & update user, role and access |
| 4. | Online User Registration /Signing up | During online registration both teacher & student can registrar simultaneously through online.<br>Shortly after teacher or students enroll in a course of their choice, they'll be asked to log into a learning management system (LMS). This makes online registration the first important e-learning website features. |
| 5. | Multimedia Content Management System | A user level permission will be added to upload, publish and download contents like Video, Audio, Images, Texts, Pdf etc. Each teacher can upload his specific course related contents. |
| 6. | Certificate Management | Certificate will be procured through proper authentication / course no. Only special course & training related certificate will be managed here which will conduct by Teacher's panel. |

| 7. | **Virtual Platform for live Stream, Audio/Video chat** | This E-LMS system will have 3$^{rd}$ party integrated Virtual Platform for live stream, Audio/Video Chat like Google meet. In this platform Teacher's panel can conducts special courses, Tanning or Classes for the students. Students will be connected remotely through this platform. System will automatically Stored / Archived all kind of Trainings and Classes. |
|---|---|---|
| 8. | **System Settings** | Admin user can set organization Basic information, operational information and other related info. Which will be showed automatically in web portal. |
| 9. | **Audit Trail for Log Info** | Admin user can get other user log in & log out information with particular date, time, user id. |
| 10. | **Reporting** | <ul><li>Enrolled student's reports</li><li>Enrolled teacher's reports</li><li>Demand basis user custom reports.</li></ul> |
| 11. | **Data Backup & archiving System** | Admin can back up all kinds of data of the system instantly or proudly. There will also be a Achieving system |

## 3.3 Main Features

ServicEngine Ltd. must complete installation, customization, and integration of web-based **"Digital Monitoring and Report Management Software"** with the flowing features:

- Reporting Management Software is used for tracking and evaluating the previous tasks and to forecast some specific ideas from these data. Reporting Management Software should have some common features. Such as:

- Should have database of various types of reports

- Assigned officer can store data of various report separately Data input should be minimal.

- Minimal input data has to show maximum output Maximum calculation should be done with the data given. Can make auto summary from the discrete reports.

- Can forecast from the summary.

- Can make comparison with different other aspects.

- Must have different type of users based on which task they need to perform Each Users can see the submitted reports from their subordinate's Super admin can add new user or delete previous user.

- Super admin can access and manipulate any data and can manipulate or delete if needed.

- Task Dissemination and Monitoring Software is used for disseminate tasks and monitor whether tasks have been done or how much have been done.

- Task Dissemination and Monitoring Software should have some common features. Such as Super admin will disseminate tasks for the individuals at the very beginning. Assigned officers will update tasks as per instructions.

- Super admin can monitor the tasks from his dashboard as the table of tasks at his end will auto update after marked done from the subordinate officer.

- Minimal input data has to show maximum output.

- Maximum calculation should be done with the data given.

- Must have different type of users based on which task they need to perform.

- Each User can see the submitted reports from their subordinates.

- Super admin can add new user or delete previous user.

- Super admin can access and manipulate any data and can manipulate or delete if needed.

## 3.4 Development

| Dashboard | |
|---|---|
| **Feature Lists** | **Particulars** |
| Role Wise | প্রতিটি রোলে এর জন্য আলাদা আলাদা ড্যাশবোর্ড থাকবে।<br>➢ Admin<br>➢ Regional Officer<br>➢ Upazilla Agriculture Officer<br>➢ Agriculture Extension Officer<br>➢ Deputy Director<br>➢ AD/DD (Horticulture) |
| | |

| User Management | |
|---|---|
| **Feature Lists** | **Particulars** |
| Create New User | নতুন করে ইউজার Create হবে । |
| User Update | ইউজারের তথ্য গুলো এডিট ও আপডেট হবে । |
| All User List | সকল ইউজারদের লিস্ট থাকবে। |
| | |

## Role & Permission Module

| Feature Lists | Particulars |
|---|---|
| Create Role | নতুন করে role create হবে । |
| Role Update | তথ্য গুলো এডিট ও আপডেট হবে । |
| All Role List | সকল role লিস্ট গুলো থাকবে। |
| Assign Role | Role assign করতে পারবে। |
| View Permission | যাদেরকে permission দেওয়া হয়েছে তাদের লিস্ট দেখা যাবে। |
| Assign permission | নতুন করে Permission দেওয়া যাবে। |
| Permission Assign to Role | রোল অনুযায়ী ইউজারদের permission দেওয়া যাবে। |
| Role Assign to User | রোল প্রাপ্ত ব্যাক্তি ইউজারদের assain করবে। |
| | |

## Login Module

| Feature Lists | Particulars |
|---|---|
| Admin | Role wise login like ( PD, SMO ) |
| Regional Office | Role wise login like (AD) |
| Upazilla Office | Role wise login like (UAO) |
| Upazilla Office | Role wise login like (AEO) |
| District Office | Role wise login like (DD) |
| Horticulture Office | Role wise login like (AD) |
| | |

## Forget Password Module

| Feature Lists | Particulars |
|---|---|
| Maling System | নতুন করে পাসওয়ার্ড সেট করতে চাইলে মেইল এ ম্যাসেজ যাবে। |
| | |

| Summary/Graphic Report Module | |
|---|---|
| **Feature Lists** | **Particulars** |
| Coffee | 1. Total Land<br>2. Exhibition<br>3. Training<br>4. View list for all Upazilla<br>5. Summary Report<br><br>The list will show for all Upazilla's personnel who submitted or didn't submit production data.<br><br>User / stake holder can download Upazilla data/report |
| Cashew Nut | 1.Total Land<br>2.Summary Report<br>3.Exhibition<br>4.Training<br>5.View list for all Upazilla<br><br>The list will show for all Upazilla's personnel who submitted or didn't submit production data.<br><br>User / stake holder can download Upazilla data/report |
| | |

## Training Module

| Feature Lists | Particulars |
|---|---|
| Coffee | 1. Crud<br>2. Data Approval<br>3. Training History<br>[Each list view, search, download, print option] |
| Cashew Nut | 1.Crud<br>2.Data Approval<br>3.Training History<br>[Each list view, search, download, print option] |
| | |

## Exhibition Module

| Feature Lists | Particulars |
|---|---|
| Coffee | • Varieties & Technology<br>• Business exhibition |
| Cashew Nut | • Varieties & Technology<br>• Business exhibition |
| | |

## Massaging Module

| Feature Lists | Particulars |
|---|---|
| Forward Message Up to Bottom | Role wise notification system. |
| Forward Message Bottom to immediate upper level | Role wise notification system. |
| | |

## CMS Module

| Feature Lists | Particulars |
|---|---|
| Page Management | Page manage করা যাবে। |
| Galary Management | Galary manage করা যাবে। |
| Notice Management | Notice manage করা যাবে। |
| Slider/banner Management | Slider picture manage করা যাবে। |
| | |

## Report Management

| Feature Lists | Particulars |
|---|---|
| Coffee | Fiscal year/data wise all report<br>1. Role wise report<br>2. Feature report<br>3. Advance filter option<br>4. Download all reports in PDF, Excel |
| Cashew Nut | Fiscal year/data wise all report<br>1. Role wise report<br>2. Feature report<br>3. Advance filter option<br>4. Download all reports in PDF, Excel |
| | |

# 3.5 Full Workflow and Diagrams
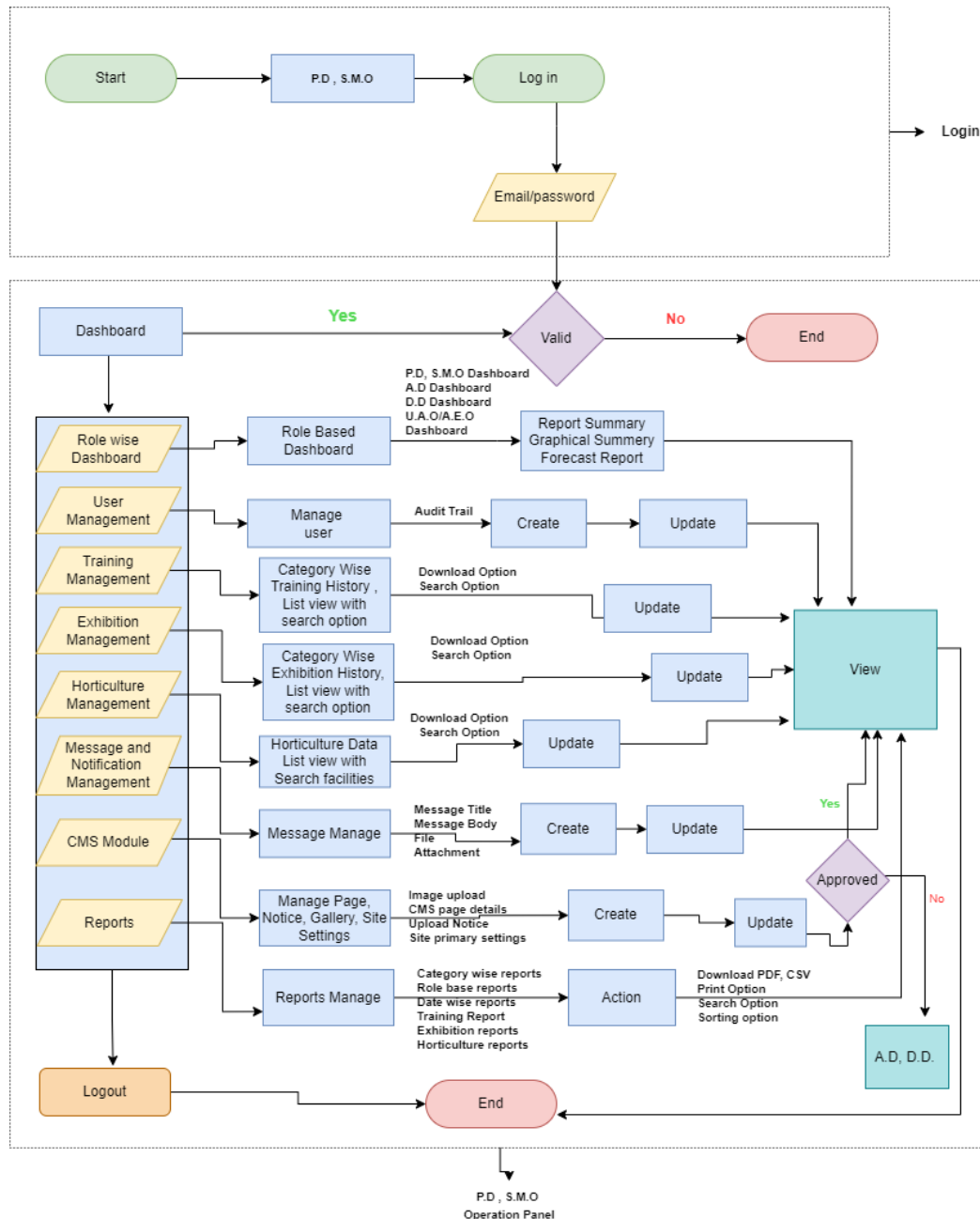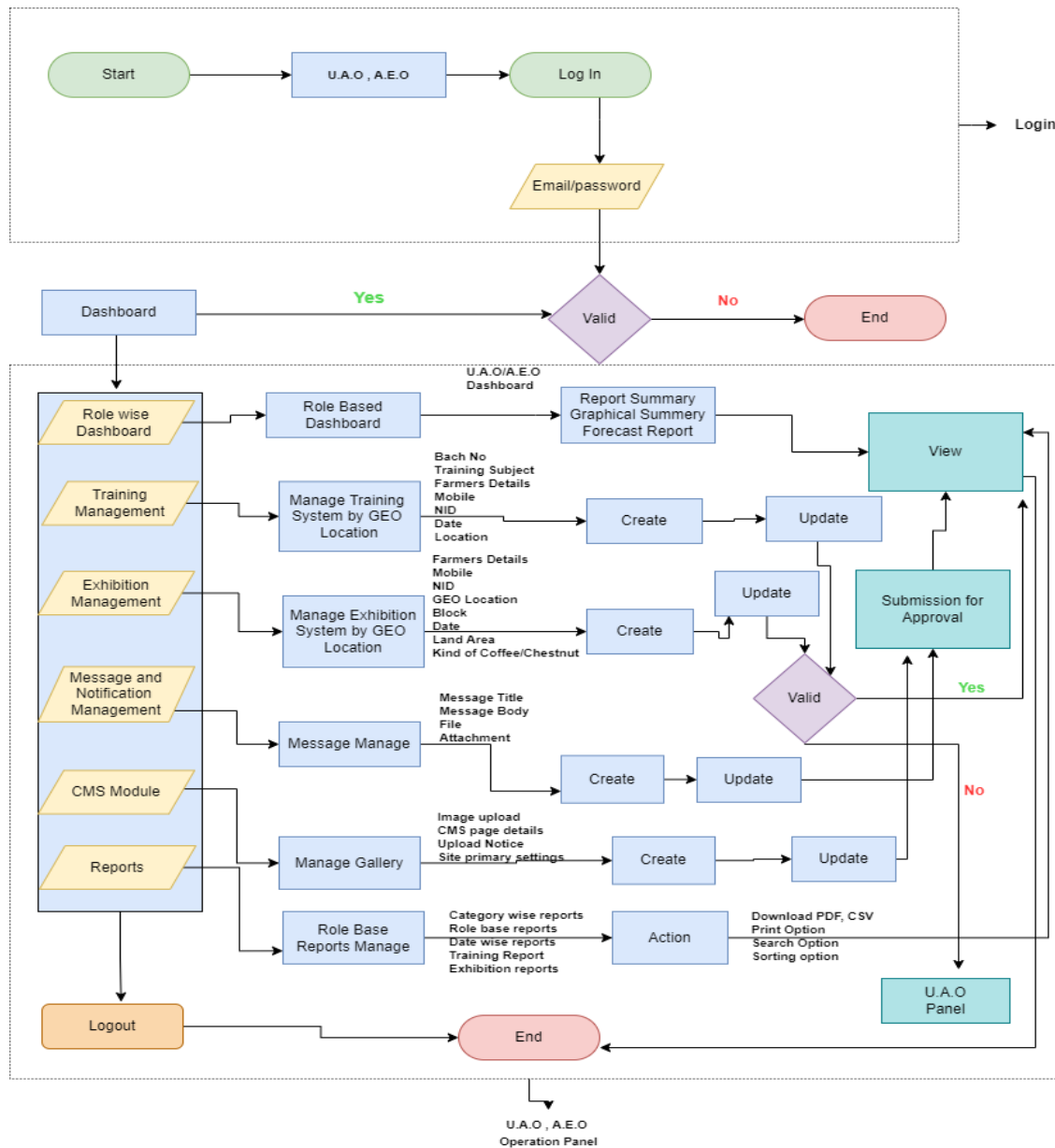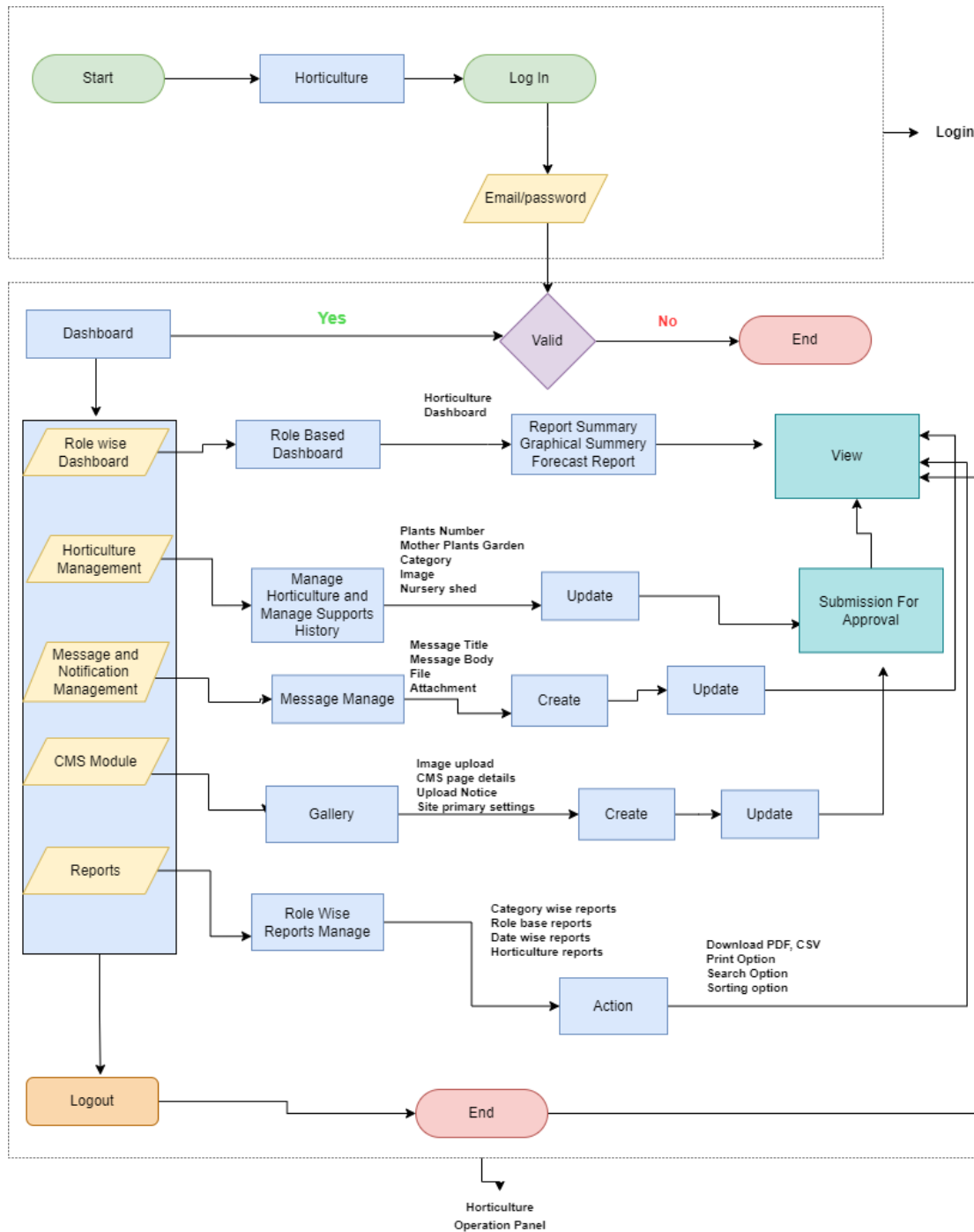
- **Admin Panel DFD given below:**



**Fig: Admin Panel Diagram**

- **(UAO/UEO) Data Entry Panel diagram given below:**



**Fig: (UAO/UEO) Data Entry Panel diagram**

- **Horticulture Centre Panel diagram given below:**



**Fig: Horticulture Center panel Diagram**

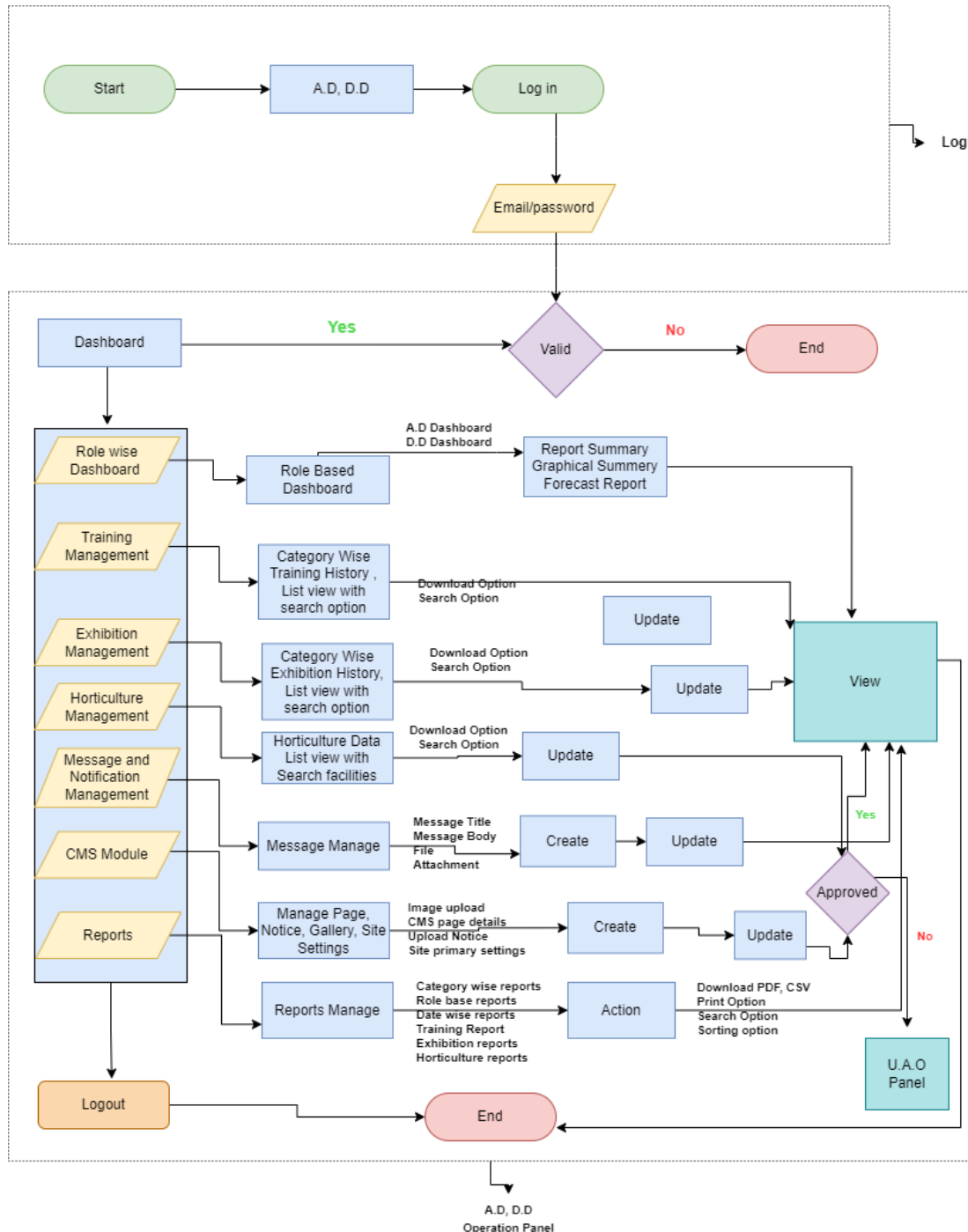- **AD, DD (District) Panel diagram given below:**



**Fig: Horticulture Center panel Diagram**

# 4. Non-Functional Requirements:

▪ **Performance:** The navigation time from frame to frame of the app within 5 seconds

▪ **Responsiveness:** User can receive calls when using the Apps

▪ **Scalability:** If data increases the page load time not more than 5 seconds

▪ **Usability:** Menu options and Page title should be clear and appropriate

▪ **Security**: Store all Apps data in apps private file area so that their content is not easily accessible and these are deleted automatically when apps is uninstalled.

# 5. Conclusion:

This document states the design level approach taken by the ServicEngine Limitedfor the project DMRMS. After giving a basic information about what the DMRMS is, the document briefly describes the problem and the solution we proposed to the problem with the figures to visualize better and steps taken to solve the problem. In other words, this document introduces the technical details of the DMRMS. In the first part of the technical design, the major functions needed to develop a DMRMS are introduced. Later on, these major functions and their sub-functions are visualized with the use case diagrams. In the second part, user interfaces are described in a detailed manner with figures. Lastly, data modules and their relationships are discussed. To conclude, this document constitutes a base for the development of a DMRMS.