

Software Requirements Specification (SRS)

For

AMU-VLAB

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1.0 INTRODUCTION

1.1 Scope

The purpose of this document is to provide detailed information about the online virtual lab system for the students of Aligarh Muslim University.

This document specifies the requirements of a platform for performing various labs virtually.

The application allows users to :

- Students can perform experiments online
- They can give graded quizzes.
- Can study from the material provided.
- Teachers can create quizzes and upload assignment material.
- Live classes can be conducted using this platform.

The application stores documents as human-readable files with the open file format.

1.2 Technologies to be used

Backend: NodeJs, Express

Frontend: EJs, SemanticUI, VanillaJS, PlumbJs, MathJax, JQuery, D3JS, PlotlyJS

Database: MongoDB

Authentication: FireBase

2.0 GENERAL REQUIREMENTS

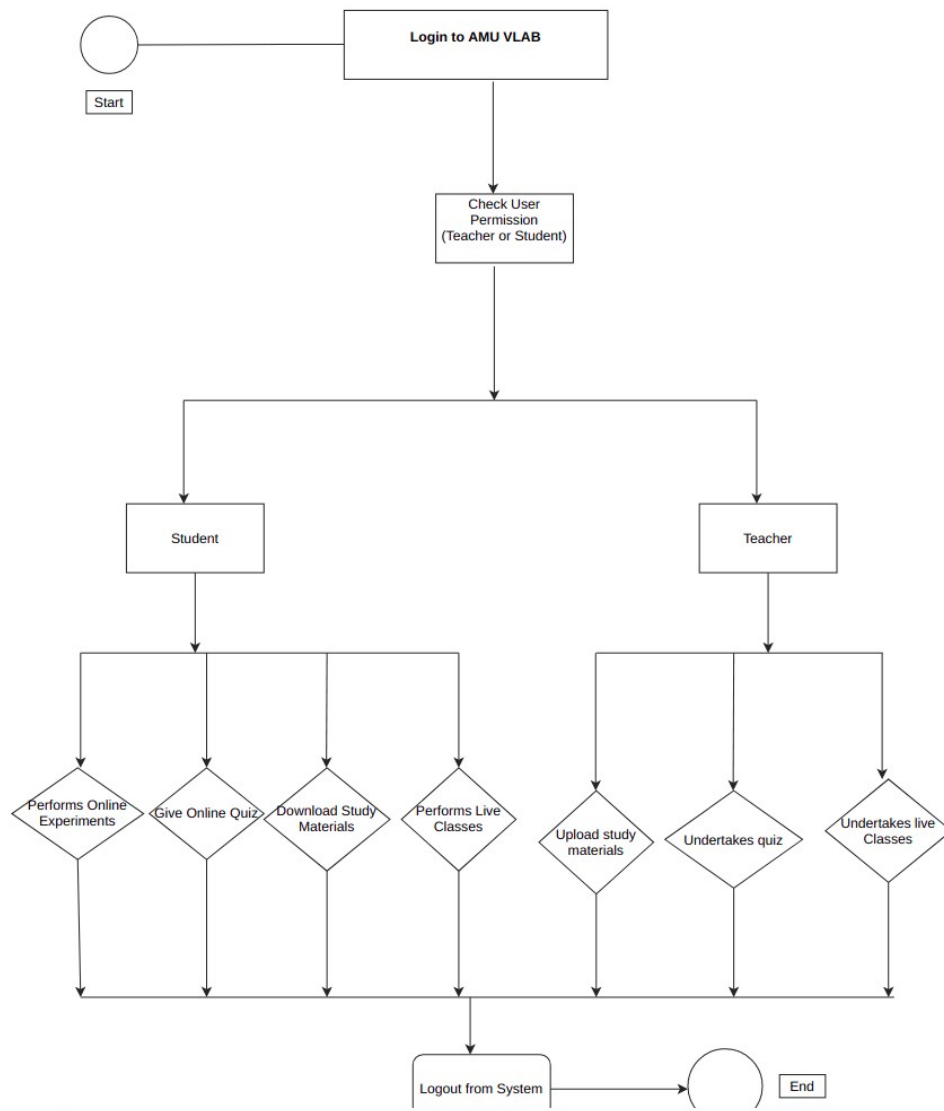
2.0.1 Proper working internet connectivity.

2.0.2 Latest Browser

2.1 Functionalities

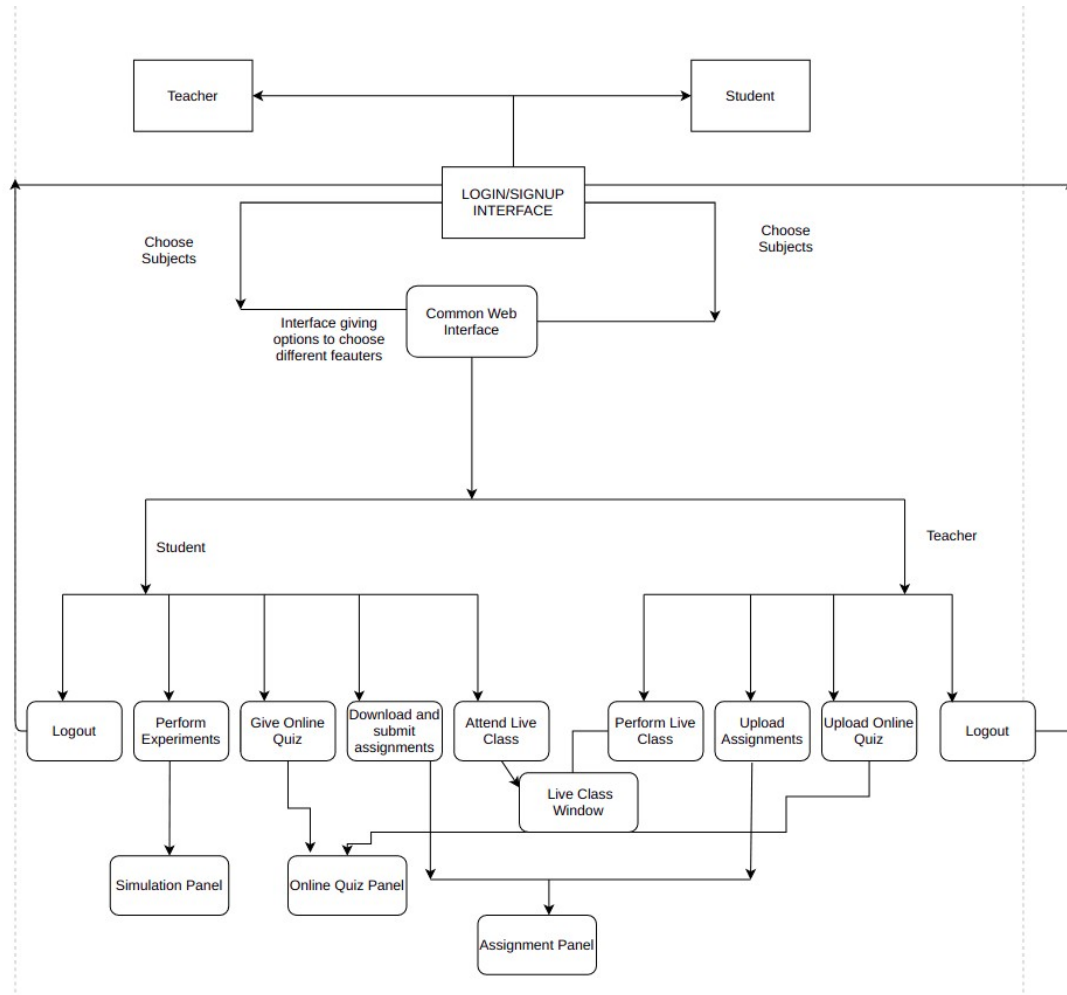
- It will include virtual labs for all basic engineering disciplines.
- Students will be able to learn, download material, and perform all their departmental practicals.
- They will be notified of their upcoming events, like graded lab quizzes that can be organized for assessment purposes on our platform itself.
- Teachers will also be able to conduct live classes on this platform.

2.2 Use Case Model Diagrams



UML Diag. For Vlab platform

2.3 Data flow Diagrams



DFD

2.3 Interfaces

2.3.1 System Interfaces:

- *The software runs in the latest version of Firefox or Chrome browsers on Windows, Linux, or Mac.*

2.3.2 Software Interfaces:

- *The software provides with Login and SignUp page.*
- *A common interface where all the common functionalities of Vlab is provided.*
- *It also provides separate interfaces for assignments , quizzes, procedures, and for taking live classes.*

2.4 General Constraints

- *At a time only a limited number of users can work simultaneously due to performance issues.*

2.5 Supplementary requirements

3.0 Definition, Acronyms, and Abbreviations

V-LAB *Virtual Lab*

4.0 References

Virtual Lab Platform -- [Link Here](#)

Web Developers Bootcamp -- [Link Here](#)