

Student World

Final Year Project

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A project submitted in partial fulfillment of the degree of

BS in Software Engineering



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Plagiarism Free Certificate

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HEAD OF THE DEPARTMENT

Comments: _____

Date: _____ Signature: _____

Dedication

I want to dedicate this work to those students who wants to learn sand do something even though they have no resources. I also want to dedicate this project to all of my friends who have crossed this stage without any resources and faced these types of difficulties.

Acknowledgements

All thanks and gesture of recognition are to Almighty Allah, who grant us with the wisdom, quality, learning and bravery to finish this errand. We might want to pay huge amounts of thanks and offer my regards to our Supervisor Dr. Sheheryar Malik for his valuable direction, advises and support all through the learning procedure that he gave us a helpful course to finish our venture.

Executive Summary

We are developing a source that works on Website. This source totally depends on facilitating students in Study and other Educational Material. In this project we provide students with a specific source so that he/she can gather their study material from a single source and don't have to use other sources like Google Drive, Google Classroom and Dropbox etc. It provides feature in which every student of a particular class can communicate with each other in a single chat room. It provides students with extra materials of their course like video tutorials, lectures and books etc. A Particular student can provide his/her own lectures if he wants too and he also can help other students in study. A main benefit for this student is that anybody can hire him/her as a tutor. The main feature is to notify every student on their mobile numbers other than email whenever someone uploads the data.

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Chapter 1

Introduction

Chapter 1: Introduction

Many students cannot manage their study material data. They face many problems in communications with each other. It is difficult for them to find relative data about any course. Students don't care about the data they receive from their class representative or from any other source. We provide solution for each and every problem mentioned above. We provide them with a platform where they can chat with the subject relevant students. We provide them with extra study material which helps them in their educational career. By the help of this source they become efficient and more responsible.

1.1. Background

Education has invariably played a very important role in human life and it's been conducted in numerous ways in which counting on the culture and placement. Throughout the past century's men have traveled from country to country for business, migration, war and education. What to avoid ancient education was invariably tremendous and invention of web brought this idea nearer to reality.

Online Study may be a reasonably electronic exchange of study connected documents or lectures that permits students to straight forwardly receive study material and learn employing an internet program. Generally, students get irritated by attending to the various webpages associated with their topic and even if they notice their material it generally not complete or it's paid or it's a money-based package.

Online study moves the physical study and receiving lectures to a whole new standard. Online study may be a style of open learning. It covers big selection of technology and learning methodology, as well as each "Online Courses" and "surfing the internet" learning.

1.2. Motivations and Challenges

Computers and internet have also motivated the education system entirely. Online study now plays an important role in the education system. The use of internet is common so it motivates the students. The things that motivates us the most is that everything is available on internet e.g. books, audio video lectures, video tutorials, different courses and many more things. Nowadays the concept of online study portals in an institution is spreading rapidly and we are also providing a portal with extra and most beneficial features.

The challenges we face now a days in online study are these that during the searching of our study related materials we have to survey many web pages that consumes our so much time. Even though we find our relevant data it's not complete. Sometimes a student wants to find online courses, there are many free courses available but they aren't that good. If he is able to find good ones they are either paid or trial based.

So, these are some of the challenges we face in our education and also these are the thing that motivated us in creating this project.

1.3. Goals and Objectives

Goal:

Our main goal is to provide each and every student with the help they need in their study including the lectures, video tutorials, PPT slides, complete courses etc.

Time and energy efficiency:

It is time saving and energy efficient. Students without any physical effort can login to their accounts and can have access to any type of study material they need. They don't have to visit someone else for the lectures.

Accessibility:

Students can have access to their lectures, tutorials and many other things while sitting anywhere.

Scope:

The scope of our project is that students can manage their study material easily and they can have chatrooms available for each course to communicate with other students. They can also find most accurate and relevant data. A Particular Student can upload their own lectures and will also be able to help other students and the benefit they get is that they can be hired by anyone as a tutor.

This project has well accurately and perfectly designed database so that no data can be misplaced or lost. It has well designed front end that will attract the viewers and looks cool. It is a friendly user interface.

1.4. Literature Review/Existing Solutions

We have many platforms available online that provide us with the helping materials for our study. Many of which provides us only with the information about educational career like when will the admission opens, Past Papers, Location of Institutions and Career Counseling for example: ilmkiduniya.com.

Many platforms only provide material related to the subject only on trial or Paid. For Example; udemy.com.

Many Platforms only provide us only with the information about our University like where are our classes or when will our next lecture takes place for example; University Management System.

But we are taking multiple points from these platforms and combining them into one so that we can provide student of all the country with a source that will helps them in their career counseling, providing free online lectures, Helping Material (PPT Slides), Information, Stores University's own classrooms data Like: (Google Classroom).

Our Competitors will be the low-level colleges who provides diplomas of different fields, online paid Platforms who provide materials about courses only for trial or by paying.

1.5. Proposed Solution

First of all, we are providing with a platform that will help every student in their educational career finding relevant materials of their subjects. Many students visit many websites to find their material but they only get trial periods and lectures just containing the information. We are providing them with totally free and complete lectures containing videos, PPT Slides, PDF, and Word Documents etc. We are also providing them with a chatroom relevant to their subject that means a different chatroom for different courses so it will help them communicate with the other relevant students.

1.6. Project Plan

We are creating a plan that will helps us in completing our project and it includes many different steps that will tell us about the accuracy of the project. And we will be able to know the time of the project completion and how it will be completed.

1.6.1. Work Breakdown Structure

- **Project Management**
 - Work Breakdown Structure (WBS)
 - Roles & Responsibility Matrix
 - Develop Course Plan
 - Develop Schedule
- **Reports / Documentation**
 - Final Documentation Introduction
 - SRS
 - Requirements Analysis
 - System Design
 - Implementation
 - Testing & Performance Evaluation
- **Replace Existing Website**
 - Compile Research on different Website Function
 - Coordinate Brainstorming Meeting
 - Develop List of Needs based on Research
- **System**
 - **Development Environment**
 - IDE (ASP.Net/C#)
 - Version Control
 - Server
 - Database
 - **Develop Website Content**
 - Compile Website Copy
 - Compile Photos and Images
 - Compile Communication
 - Compile Server Performance
 - **Coordinate Training**
 - Training for Website Maintenance

- Develop a 'How-to' Manual
- **Promote Website**
 - Place an Ad
 - Post on Facebook, Twitter

Research blog forms free listing etc.

1.7. Roles & Responsibility Matrix

The purpose of roles & responsibility matrix is to identify who will do what.

WBS #	WBS Deliverable	Activity #	Activity to Complete the Deliverable	Duration (# of Days)	Responsible Team Member(s) & Role(s)
1.1	WBS	1	Meeting	1 Week	Hafiz Usman Ilyas
1.4	Develop Schedule	1	Meeting	1 Week	Hafiz Usman, Nida Gulzar
2.1	Documentation	2	Session	8 Weeks	Nida gulzar,Hafiz Usman
2.4	System Design	2	Meeting	2 Weeks	Hafiz Usman
2.5	Implementation	2	Meeting	6 Weeks	Hafiz Usman
2.6	Testing	2	Meeting	4 Weeks	Nida Gulzar
4.4	Promotion	4	Marketing	3 Weeks	Nida Gulzar
4.4.2	Advertisement	4	Marketing	5 Weeks	Hafiz Usman

1.8. Gantt Chart

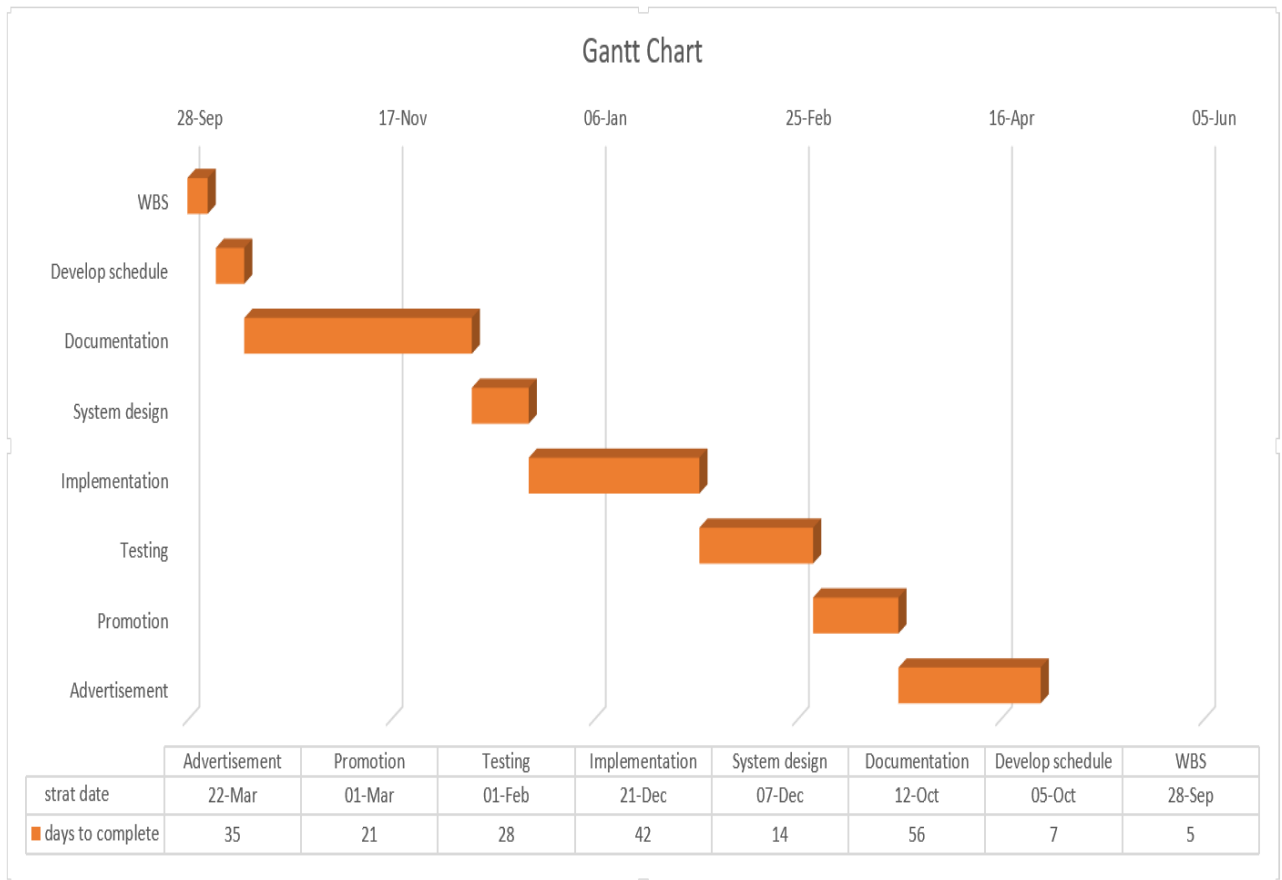


Figure 1 Gantt chart

Chapter 2

Software Requirement Specifications

Chapter 2: Software Requirement Specifications

2.1. Introduction

Many students cannot manage their study material data. They face many problems in communications with each other. It is difficult for them to find relative data about any course. Students don't care about the data they receive from their class representative or from any other source. We provide solution for each and every problem mentioned above. We provide them with a platform where they can chat with the subject relevant students. We provide them with extra study material which helps them in their educational career. By the help of this source they become efficient and more responsible.

2.1.1. Purpose

The main purpose of this project is to provide each and every student with the help they need in their studies including lectures, Courses, Video Tutorials and many other resources. Particular student can also add/search/view their own lectures.

2.1.2. Document Conventions

Standard rule of documentation has been followed in order to standardize the work in order to create efficient **Student World** to help students in their studies.

2.1.3. Intended Audience and Reading Suggestions

This report is for individuals like Software Engineers, Client, Developer, Database Designer.

2.1.4. Product Scope

Scope of our project is that a student comes to the portal and search their desired document/lecture view/read it and gain knowledge from it.

2.1.5. References

- IEEE 830-1998 standard for writing SRS document.
- I Sommerville, Software Engineering, 8th ed, Addison- Wesley, 2007.

2.2. Overall Description

2.2.1. Product Perspective

This project intends to remove the conflicts between students and education. Students can achieve their material related to study from this portal. It intends to facilitate the students with everything they need.

2.2.2. Product Functions

Website:

Register: Teachers and Students can register themselves on the portal.

Login: Registered Members can login their accounts.

Logout: After Login and spending the needy time on the portal they can logout.

Add Subject: After Login members can add/enroll subjects.

View Enroll Subject: Other registered members can view the enrolled subjects.

Add Subject Detail: The details of the related subject will be added after enrollment.

View Lectures: Registered members can view lectures and all the other material related to the subject or even if they need help in any kind of study.

Add Lectures: Teachers, students or any members can add lectures to the portal so it helps other students in the study.

Add/View Videos: All registered members can add new videos to the portal related to the study and all other members can view these videos.

Send Notifications: After uploading of lectures, videos and any other activity in the portal the notification will be sent to the students so they can stay up-to-date.

Chatroom: Chatroom is available for all the members so they can chat with each other about the related subject or lecture.

Add Tutor: Members can register themselves or add themselves as a tutor so they can be hired by someone.

Search/View Tutor: Members can particularly search tutors for themselves or someone else.

Decide what section is computerized, and how

- Every Process will be computerized
- With the help of this, Admin can print a report any time less time consuming
- A central DB is required and will be installed in sever that sever requires online implementation.

Determine detail of dataflow

Login detail

- Email (12 char)
- Password (19 int)

Register member detail

- Name (25 char)
- Email (25 char)
- Password (25 char)
- Address (20 letters)
- Contact (14 char)

Subject Detail

- Subject_id(6digit)
- Subject_name(25char)
- Subject_detail(20 letters)
- User_id(6digits)

Video Detail

- Video_id(6digit)
- Subject_id(6digit)
- User_id(6digit)
- Video_lenght(varchar 50)
- Video_link (40 char)

Delete Detail

- Tutor_id(6digits)
- Subject_id (6digits)
- Lecture_id(6digits)
- Video_id(6digits)

Tutor Detail

- Tutor (6digits)
- Tutor_name (25 char)

- Subject_name(20 char)
- Subject_id(6digits)
- Tutor_detail(20 letters)

Lecture Detail

- Lectures_id (6digit)
- lecture_name (25 char)
- Lecture_detail (40 char)
- Lecture_size (40char)
- Lecture_size(40char)

Logout Detail

- Logout detail (20 char)

Define the logic of processes

- Login table Detail
- Register table Detail
- Subject Detail
- Video Detail
- lecture Detail
- Tutor Detail
- Delete Detail
- Logout member table detail

Define the data store

- Login table contain (3steps)
- Page layout contain (3steps)
- Subject table contain (3steps)
- Tutor table contain (3steps)
- Video table contain (3steps)
- lecture table contain (3steps)
- Delete table contain (3 steps)
- Register table contain (3 steps)
- Logout member table contain (3steps)

Define Physical resources

- Sequential File
- MY-SQL

Database required with separate table

Login Page Table

- Login page with primary key (pk)

Page Layout Table

- Page layout with primary key (pk)

Subject Table

- Subject Detail with primary key (pk)
- User detail (fk)

Tutor Table

- Tutor detail with primary key (pk)
- Subject detail (fk)

Videos Table

- Videos Detail with primary key (pk)
- Subject detail (fk)

Lecture Table

- Lecture detail with primary key (pk)
- Subject detail (fk)

Delete Detail Table

- Delete Detail with primary key (pk)

Logout table

- Logout table no with primary key (pk)

Perform sizing

- 4-megabyte hardware required
- Login table contain (25 char)
- Subject table contain (13 kilobyte)
- Delete Subject table contain (5 kilobyte)
- Tutor detail table contain (30 byte)
- Logout member table contain (0byte)

Determine the hardware Requirement

- One disk drive to store the backup
- Printer to print a report
- Pc with desktop to view the data

- Server or LAN cables to connect systems

2.2.3. User Classes and Characteristics

There are 3 kinds of client of this product

Overall population

Overall population can utilize the framework to see the Subject, their Lectures and amount accessible. General client can't store the Lecture.

Clients

Clients are utilizing for review and get the lectures.

Administrator

Administrator can include, alter and erase Users, Subject, Lectures and Videos and give administrations to the client. Chairman can see the everyday routine.

2.2.4. Operating Environment

Operating Environment Win 8/10

Platform .Net Framework & IIS / C#

Database SQL Server

For Users:

Internet Browser

Internet Connection

The Student World is a site which will work in every single well-known program for a model we are taking Microsoft Internet Explorer, Google Chrome, Mozilla Firefox with Flash Player and JavaScript

2.2.5. Design and Implementation Constraints

- Client detail save into the database.
- MS SQL Server will be utilized as SQL motor and database.
- The Online Student World System is running 24 hours per day.
- Users may access from any PC that has Internet perusing abilities and an Internet association.
- Users must have their right usernames and passwords to go into their online records and do activities

2.2.6. User Documentation

User must know detail of our Website, how to use it or how to deploy it. User use internet to visit our website or for needing friendly environment.

2.2.7. Assumptions and Dependencies

- Microsoft SQL Server to store the database.
- ASP.net/C# to build up the Product

2.3. External Interface Requirements

2.3.1. User Interfaces

Client of the site will be given the Graphical UI; there is no order line interface for any elements of the item.

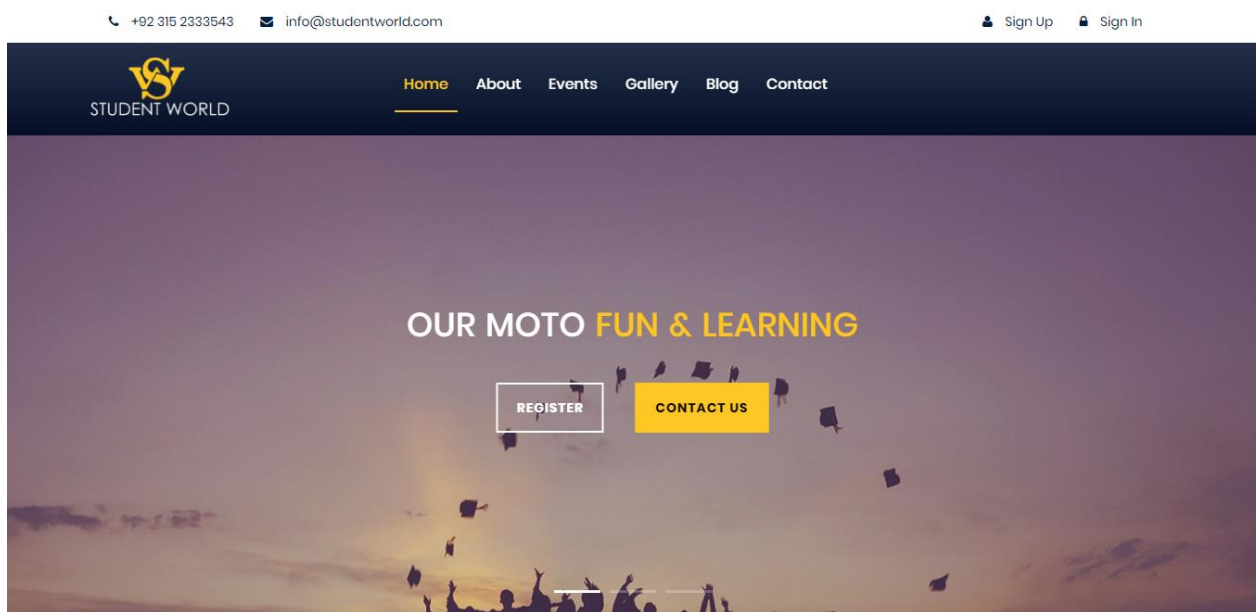


Figure 2 GUI 1

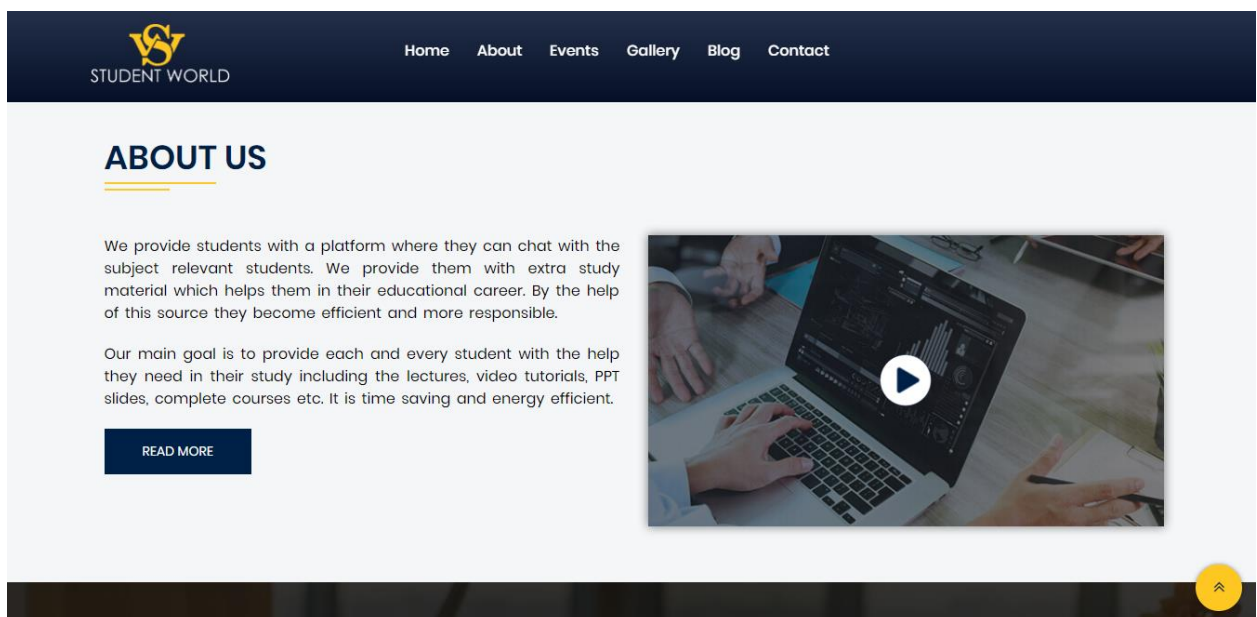


Figure 3 GUI 2

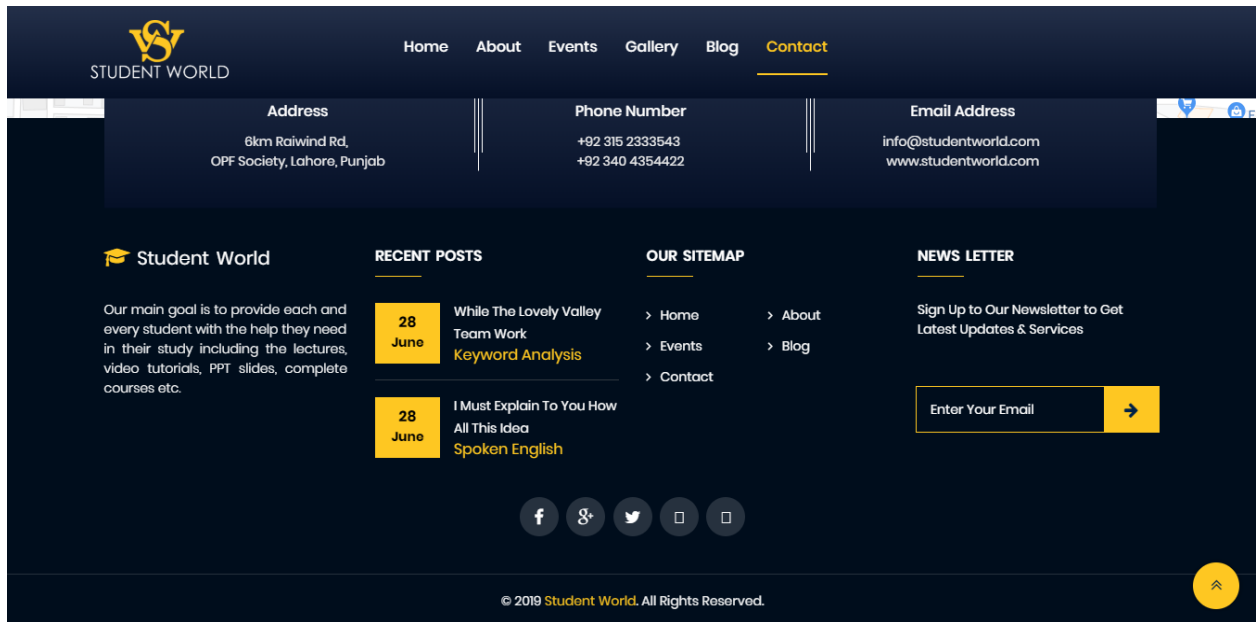


Figure 4 GUI 3

Screen Name	Description
Login	In that case the client isn't enlisted yet; he can enter the points of interest and enlist. Which requests that the client write his username and secret key. If the client entered his username or Password Incorrect then error message occurs.
Search	The registered user of Student World can enter the kind of subject he is looking for and after that he can scan for the required lecture by entering the name of the subject. User can also search/view subject and tutor by their specialty.
Subject view	The subject classifications see with capacity. Student World include/alter or erase classification from the rundown.
Add subject to account	User can add subject into the account which he wants to study
Delete subject from account	After adding the subject into the account user can also delete the selected subject from the account.
lecture Method	User selects the lecture method and proceeds to place the order.
Administer seats	Availability
Administer user	Create moodily and delete user, change password
Report	Select, view, add, save and delete reports

Table 1 GUI Screens

2.3.2. Hardware Interfaces

- Equipment prerequisites for Insurance on web will be same for both the gatherings which are takes after:
- Processor
- Ram: - 128 MB or above.
- HD: - 20 GB or above.
- Just the prescribed setup (fundamental necessities of a PC framework) no other particular equipment is required to run the product.

2.3.3. Software Interfaces

All the databases for the Student World system will be configured using access/MySQL 2018 – 2027. These databases include Subjects, lectures, Videos, Tutor and user information. These can be modified by the end user. The Student World database will include the user, Subjects, lectures, Videos and Tutor info. These detailed information databases will contain all the detail such as first name surname ID number, Gender and phone number.

2.3.4. Communications Interfaces

The two gatherings ought to be associated through either by LAN or WAN for the correspondence. Sender Communication channels Receiver.



Figure 5 Communication Interfaces

2.4. System Features

Website:

Register: Teachers and Students can register themselves on the portal.

Login: Registered Members can login their accounts.

Logout: After Login and spending the needy time on the portal they can logout.

Add Subject: After Login members can add/enroll subjects.

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Add/View Videos: All registered members can add new videos to the portal related to the study and all other members can view these videos.

Send Notifications: After uploading of lectures, videos and any other activity in the portal the notification will be sent to the students so they can stay up-to-date.

Chatroom: Chatroom is available for all the members so they can chat with each other about the related subject or lecture.

Add Tutor: Members can register themselves or add themselves as a tutor so they can be hired by someone.

Search/View Tutor: Members can particularly search tutors for themselves or someone else.

Technical Features:

Website

Software Requirements:

- Windows 10
- SQL 2012
- Visual studio 2013

Equipment Components:

- Processor – i3
- Hard Disk – 5 GB
- Memory – 1GB RAM
- Graphical Tools: Photoshop CC 2015, Adobe artist CC

Technical Features:

Application

Software Requirements:

- Android Mobile

2.4.1. System Feature 1

Function Requirement 1 Register

“User can register into the System”

Identifiers	FR-001
Title	Allows Register access online
Requirement	User name, Password, City, Email
Rational	Register to the system and provide security to personal information.
Restriction and risk	Correct data must be entered during registration, otherwise user don't register.
Dependency	Pc, Connection with server
Priority	Safety, timing

Table 2 Function Requirement Register

2.4.2. System Feature 2

Function Requirement 2 Login Function

“User can login into the System”

Identifiers	FR-002
Title	Allows login access online
Requirement	User name, Password
Rational	Login to the system and provide security to personal information.
Restriction and risk	User name and password must be correct otherwise user don't register.
Dependency	Pc, Connection with server
Priority	Safety, timing

Table 3 Function Requirement Login

2.4.3. System Feature 3

Function Requirement 3 Logout Function

“After visiting the website user can logout”

Identifiers	FR-003
Title	Allows Logout access online
Requirement	None
Rational	Logout to the system and provide security to personal information.
Restriction and risk	User must login.
Dependency	Pc, Connection with server
Priority	Safety, timing

Table 4 Function Requirement Logout

2.4.4. System Feature 4

Function Requirement 4

Select subject Function

“User can select subject and add to account”

Identifiers	FR-004
Title	Add a subject to user account
Requirement	Subject name, time, Subject Detail, date
Rational	A user must add subject into account
Restriction and risk	User must add subject
Dependency	Valid information
Priority	subject add in user account

Table 5 Function Requirement Select Subject

2.4.5. System Feature 5

Function Requirement 5

View Detail Function

“User can view subject user can also view the detail of the Subjects and Tutor.

Identifiers	FR-005
Title	Allows user to view detail
Requirement	User login and then view detail of subject
Rational	Login to the system and view detail
Restriction and risk	User must login to check the detail otherwise detail don't show.
Dependency	Pc, Connection with server

Priority	Safety, timing
----------	----------------

Table 6 Function Requirement View Detail

2.4.6. System Feature 6

Function Requirement 6

Add lecture Function

“User has ability to Add Lecture to the available Subject.”

Identifiers	FR-006
Title	Access to add lecture on schedule
Requirement	Lecture name, subject type, date
Rational	User has ability to Add Lecture to the available Subject.
Restriction and risk	Current subject, the available lecture or current timing must be adjusted.
Dependency	Valid information, available lecture is valid
Priority	Modified in order

Table 7 Function Requirement Add Lecture

2.4.7. System Feature 7

Function Requirement 7

View lecture Function

User can View the Lecture of the available subject.

Identifiers	FR-007
Title	Access to view lectures on schedule
Requirement	subject name, lecture type, date
Rational	User has ability to View lecture of available subject.
Restriction and risk	User must login to view lecture detail.
Dependency	Valid information
Priority	View subject detail

Table 8 Function Requirement View Lecture

2.4.8. System Feature 8

Function Requirement 8

Delete lecture Function

User can Delete the Lecture which he has entered.

Identifiers	FR-008
Title	Access to delete lecture on schedule
Requirement	Lecture Name, Subject Detail, date
Rational	User has ability to the delete lecture.
Restriction and risk	Current subject, the available lectures or current timing must be adjusted.
Dependency	Valid information, available lecture is valid.
Priority	Modified in order.

Table 9 Function Requirement Delete Lecture

2.4.9. System Feature 9

Function Requirement 9

Add video Function

After login user can add Videos of the specific lectures.

Identifiers	FR-009
Title	Allow user to add video to lecture.
Requirement	Type of video, video no, video name
Rational	Allow user to add video into subject easily.
Restriction and risk	None
Dependency	None
Priority	None

Table 10 Function Requirement Add Video

2.5. Other Nonfunctional Requirements

2.5.1. Performance Requirements

With a specific end goal to keep up a worthy speed at most extreme number of transfers permitted from a specific client will be any number of clients and can get to the framework whenever. Likewise, associations with the servers will be founded on the criteria of properties of the client like his area, and server will work 24X 7 times.

2.5.2. Safety Requirements

All exchanges, logged data, refreshes, client exercises are reinforcement.

2.5.3. Security Requirements

Any adjustment (insert, update and delete) for the Database might be synchronized and done just by the System manager.

2.5.4. Software Quality Attributes

Reliability

The framework can be utilized by different clients simultaneously. Any client can get to the framework with utilizing even on a low execution PC.

Availability

The framework is accessible 24 hours of the day.

Maintainability

The framework should give the ability to go down the Data.

Portability

Client can sign in to the framework whenever.

Robustness

The framework won't be separated effortlessly.

2.5.5. Business Rules

There are mostly two kinds of clients utilizing the framework, for example,

- User
- Administrator

Administrator has the full authorization of controlling the framework.

User has authorization to manage study material and tutors.

2.6. Other Requirements

At the point undertaking the principal matter to build up is to survey the plausibility of a task or item. It is essentially utilized as a measure how down to earth or gainful the advancement of a product framework will be to you (or association). This movement repeats for the duration of the life cycle.

There are numerous kinds of possibilities:

- Technical
- Economic
- Specification
- Information
- Motivational
- Legal and Ethical

Technical Feasibility

Student World site require following advances:

Server: A server will be required which will have all information of customer. It checks client name and passwords of the considerable number of clients, the areas went by the clients, an occasion created by client e.g. data about some strike in the way.

Economic Feasibility

Student World site require these fundamental to meet to work:

Cost of System:

- 1 Android Phone (GPS bolster) @ Rs.20, 000
- Internet Connection @Rs.1000/month

Advantages

- 24 hours accessible

Schedule Feasibility

We isolate the undertaking into various modules and prerequisite modules will be constructed and afterward would be coordinated to make an appropriate working application.

Specification Feasibility

This web base Application is for Windows Users. Web Application would be free of cost. Required Specifications are Windows (8, 7), Visual Studio, Rational Rose and MS Office.

Some Specifications are as take after

- Mobile telephone that help GPS
- Pentium 4 Processors
- 80 GB hard plates
- 1 GB RAM

Here enrolled are some Non-Functional Requirements:

- GUI
- User amicable
- Performance

Motivational Feasibility

The thought is given by an instructor and we are engaged to defeat the thought. As this web base application appear to be extremely useful for individuals.

Legal & Ethical Feasibility

This web base application would be accessible for all clients and will meet legitimate and moral principles. As the client who will produce occasions would be a valid client with client data accessible so it is imagined that it would be a decent affair to utilize this application.

Chapter 3

Use Case Analysis

Chapter 3: System Analysis

This framework is tied in changing over the educational framework from manual to online system. Students can register themselves on this platform and add their relevant subjects and then add lectures related to those subjects and video tutorials and also students can register themselves as tutors so that other students or visitors on website can hire them. Administrator or User both can send notifications to the specific students about lectures and videos. Administrator prepares and manages the day by day report about the platform.

3.1. Use Case Model

A utilization case is an accumulation of related achievement and disappointment situations that depict on-screen characters utilizing the framework to help an objective. A situation is a particular succession of activities and associations amongst performing artists and the framework under discourse.

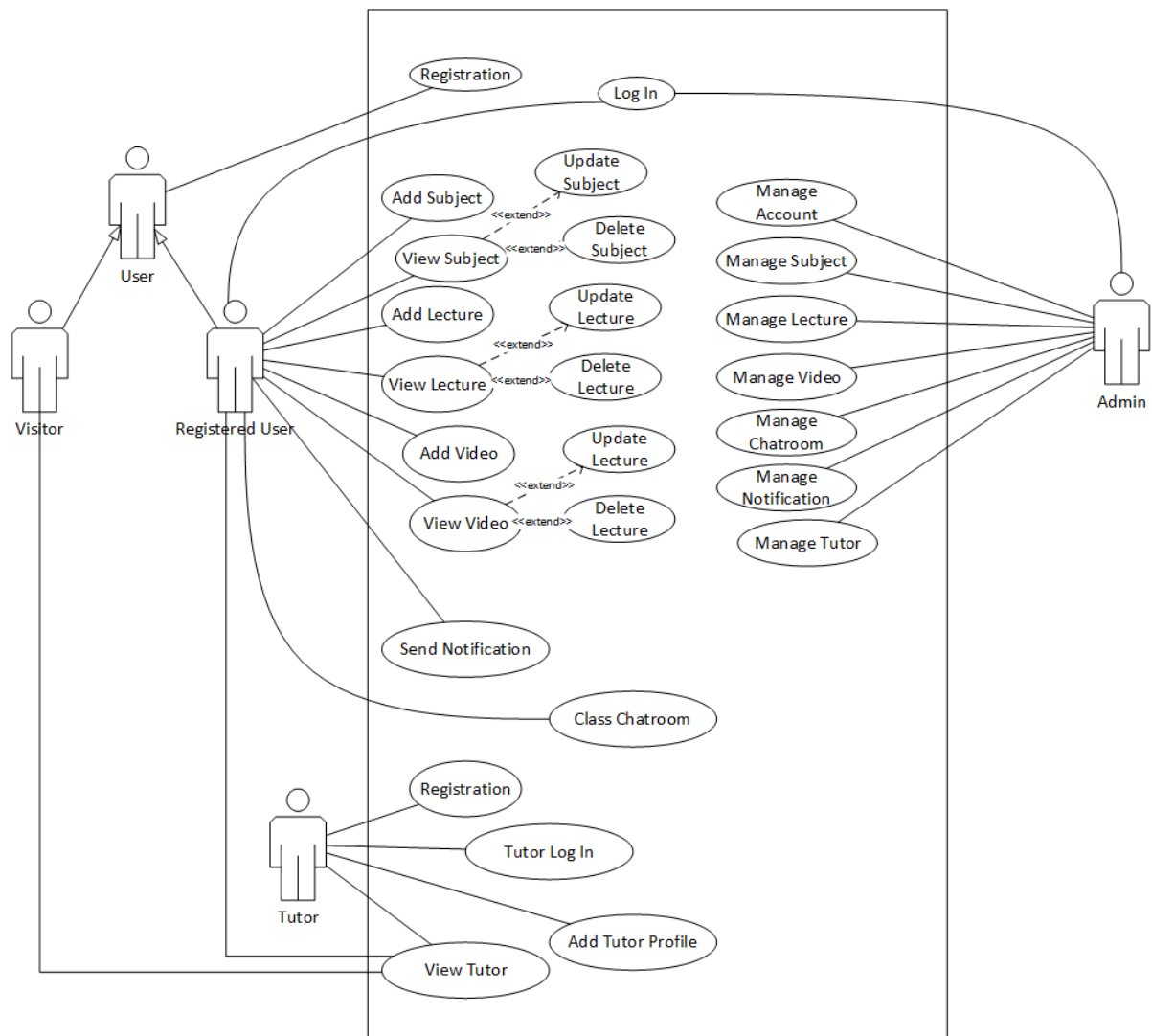


Figure 6 Use Case Diagram

3.2. Fully Dressed Use Cases

Register:

Use Case Section	Comment
Use Case id	UC-01
Use Case Name	Register
Scope	New User should be able to sign up
Level	User Register himself
Primary Actor	Unregistered User
Stake Holder	Admin

Precondition	None
Post Condition	Successfully Signed Up
Main Success Scenario	<ul style="list-style-type: none"> • User requested admin for registration • Admin click on new user registration • Admin filled the form of user registration • System register the user • System generate user name and default password for that user. • System email user name and default password to user email
Extensions	<ul style="list-style-type: none"> • Admin didn't receive registration request from user <ul style="list-style-type: none"> ○ User restart the application and he/she again fill the form for requesting registration • Admin didn't get a form for registration due to any reason <ul style="list-style-type: none"> ○ Admin delete the cache ○ If problem still remain than admin restart the application • Admin entered the wrong user data in registration form • Admin immediately delete that user • Admin click on add user • Admin again fill the form for new user and then he/she created the user • System already have registered that user

	<ul style="list-style-type: none"> • System show alert to the admin that the user already exists • Admin cancel the dialog and also close the registration for adding that user • Admin cancel the registration process at any step • Admin press the cancel registration button • System restore its previous state • User didn't get the user name and default password • User send the complaint mail to the system • Admin check the system that the right information is added or not • Admin again request system to generate username and password for that user • System send the username and password through provided mail
Special Requirement	Security

Table 11 Fully Dressed Use Case Register

Log In:

Use Case Section	Comment
Use Case id	UC-02
Use Case Name	Log In
Scope	Registered User must be able to sign in
Level	User Log In himself
Primary Actor	Registered User
Stake Holder	Admin

Precondition	Must be Registered
Post Condition	Successfully Logged In
Main Success Scenario	<ul style="list-style-type: none"> • This function starts when the user wants to login. • The user presses the login button. • The system provides the all details and login the user.
Extensions	If the customer enters the wrong password then the statement will appear “the wrong password it is “.
OSpecial Requirement	Security, Efficiency

Table 12 Fully Dressed Use Case Login

Logout:

Use Case Section	Comment
Use Case id	UC-03
Use Case Name	Logout
Scope	Registered User must be able to logout
Level	User Logout himself
Primary Actor	Registered User
Stake Holder	Admin
Precondition	Must be logged in
Post Condition	Successfully Logged out
Main Success Scenario	<ul style="list-style-type: none"> • This function starts when the user wants to logout • The user presses the logout button. • The system logout the user.
Extensions	None
Special Requirement	Security, Efficiency

Table 13 Fully Dressed Use Case Logout

Add Subject:

Use Case Section	Comment
Use Case id	UC-04
Use Case Name	Add Subject
Scope	Registered User able to add subjects
Level	User add subject
Primary Actor	Registered User
Stake Holder	Registered User
Precondition	Must be logged in
Post Condition	Successfully add subject
Main Success Scenario	<ul style="list-style-type: none"> • This function starts when user want to add new subject. • User login in to the system and click on add subject • User adds the details of subject and then click save • The system successfully adds subject
Extensions	<ul style="list-style-type: none"> • If the user adds the subject which already exist then the system show message "Subject already exist." • User then again adds details of the subject with a unique code or a different name and adds the subject.
Special Requirement	Efficiency

*Table 14 Fully Dressed Use Case Add Subject***View Subject**

Use Case Section	Comment
Use Case id	UC-05
Use Case Name	View Subject
Scope	Registered User able to view subjects

Level	User view subject
Primary Actor	Registered User
Stake Holder	Registered User
Precondition	Must be logged in
Post Condition	Successfully view subject
Main Success Scenario	<ul style="list-style-type: none"> • This function starts when a user wants to view a subject. • User enter the subject name or details and press view button. • User successfully views subject.
Extensions	<ul style="list-style-type: none"> • If the user enters detail of a subject that doesn't exist then the system shows the message "Subject doesn't exist." • User then make sure that the subject he wants to view exists and re-enter all the details.
Special Requirement	Efficiency

Table 15 Fully Dressed Use Case View Subject

Add Lecture

Use Case Section	Comment
Use Case id	UC-06
Use Case Name	Add Lecture
Scope	Registered User able to add lectures
Level	User add lectures
Primary Actor	Registered User
Stake Holder	Registered User
Precondition	Must be logged in and have a relevant subject
Post Condition	Successfully add lecture

Main Success Scenario	<ul style="list-style-type: none"> • This function starts when user want to add new lecture. • User login in to the system and opens the relevant subject for which user wants to add new lecture. • User adds the details of lecture and then click save • The system successfully adds lecture
Extensions	<ul style="list-style-type: none"> • If the user adds the lecture with the same details then the system show message "Lecture with these details already exist." • User then again adds details of the lecture and adds the lecture.
Special Requirement	Efficiency

Table 16 Fully Dressed Use Case Add Lecture

View Lecture

Use Case Section	Comment
Use Case id	UC-07
Use Case Name	View Lecture
Scope	Registered User able to View added lectures
Level	User view lectures
Primary Actor	Registered User
Stake Holder	Registered User
Precondition	Must be logged in and have an existing lecture
Post Condition	Successfully view lecture
Main Success Scenario	<ul style="list-style-type: none"> • This function starts when user want to view lecture of relevant subject. • User login in to the system and opens

	<p>the relevant subject for which user wants to view lecture.</p> <ul style="list-style-type: none"> • User adds the details of lecture and then click view • The user successfully view lecture
Extensions	<ul style="list-style-type: none"> • If the user enters detail of a lecture that doesn't exist then the system shows the message "lecture doesn't exist." • User then make sure that the lecture he wants to view exists and re-enter all the details.
Special Requirement	Efficiency

Table 17 Fully Dressed Use Case View Lecture

Add Video

Use Case Section	Comment
Use Case id	UC-08
Use Case Name	Add Video
Scope	Registered User able to Add Video
Level	User add Video
Primary Actor	Registered User
Stake Holder	Registered User
Precondition	Must be logged in and have an existing lecture/subject
Post Condition	Successfully add video
Main Success Scenario	<ul style="list-style-type: none"> • This function starts when user want to add new video. • User login in to the system and opens the relevant subject for which user wants to add new video.

	<ul style="list-style-type: none"> • User adds the details of video and then click save • The system successfully adds video
Extensions	<ul style="list-style-type: none"> • If the user adds the video with the same details then the system show message “Video with these details already exist.” • User then again adds details of the Video and adds the video.
Special Requirement	Efficiency

Table 18 Fully Dressed Use Case Add Video

View Video

Use Case Section	Comment
Use Case id	UC-09
Use Case Name	View Video
Scope	Registered User able to View Video
Level	User View Video
Primary Actor	Registered User
Stake Holder	Registered User
Precondition	Must be logged in and have a relevant video to an existing lecture/subject
Post Condition	Successfully view video
Main Success Scenario	<ul style="list-style-type: none"> • This function starts when user want to view video of relevant topic. • User login in to the system and opens the relevant video of a relevant topic. • User adds the details of video and then click view • The user successfully view video
Extensions	<ul style="list-style-type: none"> • If the user enters detail of a video

	<p>that doesn't exist then the system shows the message "video doesn't exist."</p> <ul style="list-style-type: none"> User then make sure that the video he wants to view exists and re-enter all the details.
Special Requirement	Efficiency

Table 19 Fully Dressed Use Case View Lecture

Send Notification

Use Case Section	Comment
Use Case id	UC-10
Use Case Name	Send Notifications
Scope	Registered User/Admin able to Send Notifications
Level	Admin/User send notification
Primary Actor	Admin/User
Stake Holder	Admin/User
Precondition	Must be logged in and can send notifications to particular students or everyone
Post Condition	Successfully sends notifications
Main Success Scenario	<ul style="list-style-type: none"> User runs the notification function User enters the notification details like message particular contacts etc. After entering the details, the user press send button Notifications successfully sent to particular users.
Extensions	<ul style="list-style-type: none"> If the admin/user enters the details wrong to which they want to send notifications the system show

	<p>message “User wasn’t found.”</p> <ul style="list-style-type: none"> Admin/User re-enter the details and again sends the notification.
Special Requirement	Efficiency

Table 20 Fully Dressed Use Case Send Notification

Tutor

Use Case Section	Comment
Use Case id	UC-11
Use Case Name	Tutor
Scope	Registered User able to register themselves as tutors
Level	User register themselves as tutors
Primary Actor	Registered User
Stake Holder	Registered User
Precondition	Must be logged in and able to register themselves as tutors for a particular subject
Post Condition	Successfully register themselves as tutors
Main Success Scenario	<ul style="list-style-type: none"> User login to the system User register themselves as tutors for particular subjects
Extensions	<ul style="list-style-type: none"> If a user skips some details about tutor registration then the system will not add user as a tutor. Tutor must have to enter all the details and details must be correct.
Special Requirement	Efficiency

Table 21 Fully Dressed Use Case Tutor

View Tutor

Use Case Section	Comment
------------------	---------

Use Case id	UC-12
Use Case Name	View Tutor
Scope	Admin, Registered User and Visitors able to View Tutors List
Level	Admin/User/Visitors View Tutors
Primary Actor	Admin/User/Visitors
Stake Holder	Admin/User/Visitors
Precondition	Admin, Users and Visitors able to find tutor for a particular subject
Post Condition	Successfully view Tutors
Main Success Scenario	<ul style="list-style-type: none"> • Visitor/User can view tutor from tutor list by entering specific details
Extensions	<ul style="list-style-type: none"> • If User/Visitor views tutor for a specific subject and there is no tutor in the list then the message appears "Tutor wasn't found for this subject"
Special Requirement	Efficiency

Table 22 Fully Dressed Use Case View Tutor

Chapter 4

System Design

Chapter 4: System Design

In this chapter we have attached some UML diagrams like Architecture, Domain Model, Class Diagram, Activity Diagram, Component Diagram, Sequence Diagram, Deployment Diagram, ER Diagram etc. By the help of these diagrams we have explained about our whole system that how it works. The each and every function of our system has been explained in this chapter by the help of these diagrams.

4.1. Architecture Diagram

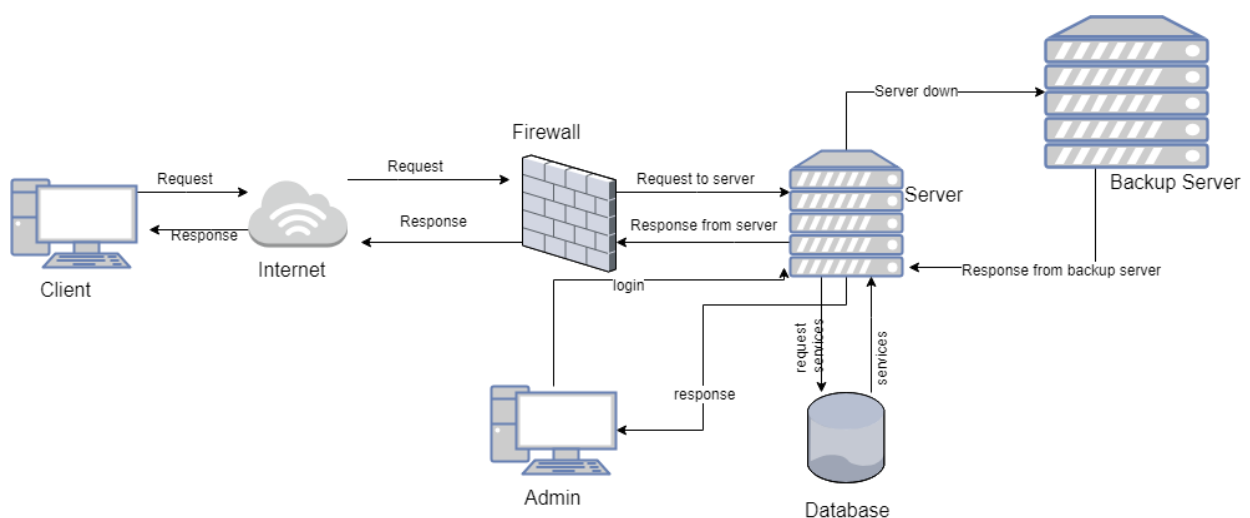


Figure 7 Architecture Diagram

4.2. Domain Model

A space express describes important abstract classes in an issue area. It is the most essential antiquity to make amid protest-situated study. A space display is generally utilized as a wellspring of motivation for planning programming objects.

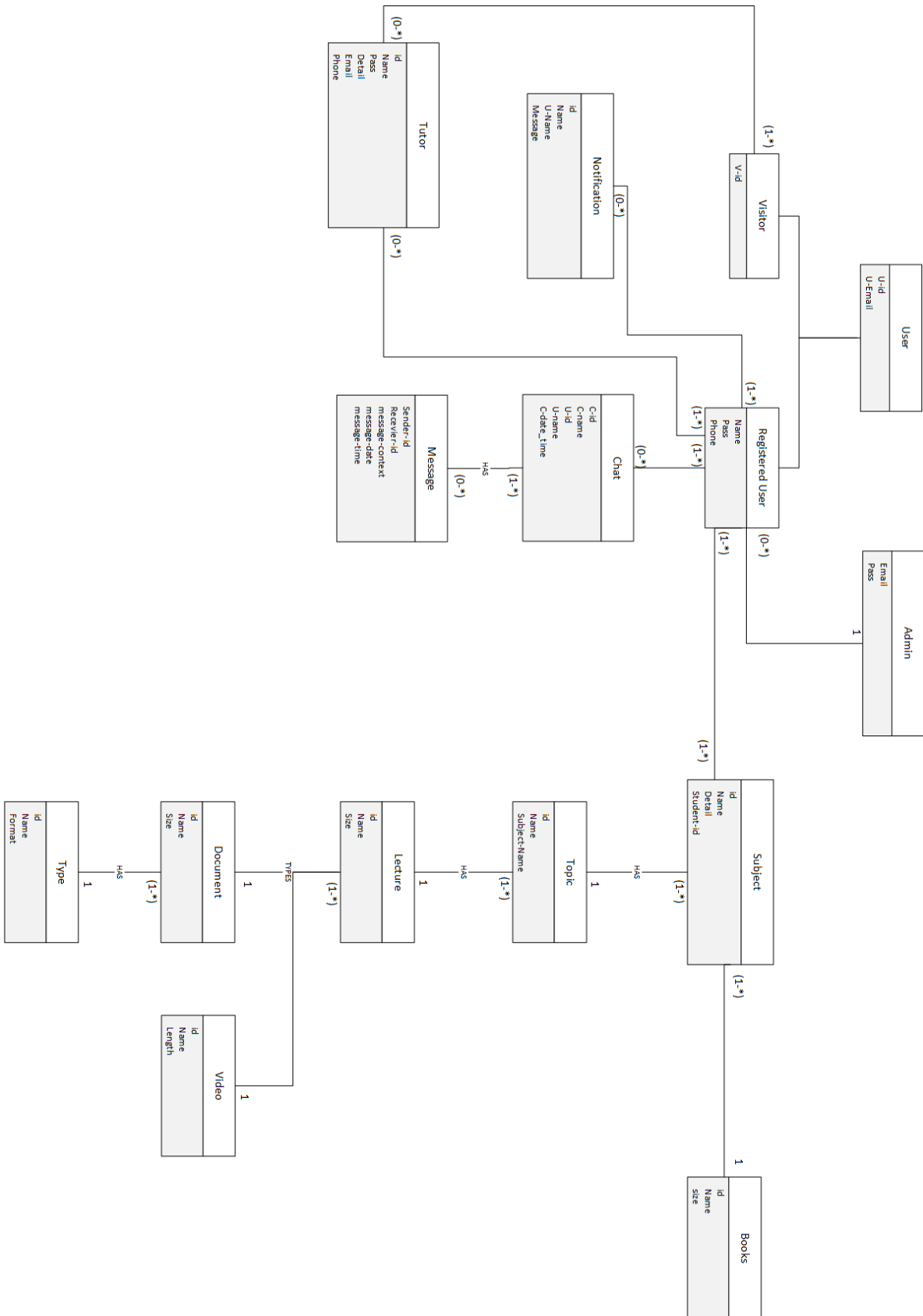


Figure 8 Domain Model

Data Dictionary

Entity Name	User			
Entity Description	It stores complete information of User account data			
Column Name	Column Description	Data Type	Constraints	Reference
U_Id	It stores id of the user	INT	Primary Key, Unique, Not Null	
U_Name	It stores name of the user	VARCHAR	Unique, Not Null	
U_password	It stores password of the user	VARCHAR	Not Null	
U_Phone	It stores contact number of the user	VARCHAR	Not Null	

Table 23 Data Dictionary User

Entity Name	Admin			
Entity Description	It stores complete information of admin account data			
Column Name	Column Description	Data Type	Constraints	Reference
Email	It contains Email of the admin	VARCHAR	Primary Key, Unique, Not Null	
Password	It contains Password of the admin	VARCHAR	Unique, Not Null	

Table 24 Data Dictionary Admin

Entity Name	Subject			
Entity Description	It stores complete information of Subject			
Column Name	Column Description	Data Type	Constraints	Reference
S_Id	It stores id of the Subject	INT	Primary Key, Unique, Not Null	
S_Name	It stores name of the subject	VARCHAR	Unique, Not Null	
S_Details	It stores details of the subject	VARCHAR	Not Null	
Student_id	It stores id of the students	VARCHAR	Foreign Key, Not Null	User

Table 25 Data Dictionary Subject

Entity Name	Tutor			
Entity Description	It stores the info of Tutor			
Column Name	Column Description	Data Type	Constraints	Reference
T_id	It stores the id of tutor	int	Not Null	
T_name	It stores the name of User	VARCHAR	Not Null	
T_password	It stores the password of user	VARCHAR	Not Null	
T_details	It stores the details of Tutor	VARCHAR	Not Null	
T_Email	It stores the email of Tutor	VARCHAR	Not Null	

Table 26 Data Dictionary Tutor

Entity Name	Chatroom			
Entity Description	It manages the chatroom			
Column Name	Column Description	Data Type	Constraints	Reference
C_id	It stores the id of Chat	int	Primary Key, Not Null	
C_Name	It shows latitude of the location	VARCHAR	Not Null	
U_id	It stores the id of chat creator	int	Foreign Key	User
U_Name	It stores the name of chat creator	VARCHAR	Foreign Key	User
C_time_date	It stores the chat time and date	VARCHAR	Not Null	

Table 27 Data Dictionary Chatroom

Entity Name	Notification			
Entity Description	It Manages the Notification			
Column Name	Column Description	Data Type	Constraints	Reference
N_id	It stores the id of Notification	Int	Primary Key, Not Null	
N_Name	It stores the name of Notification	VARCHAR	Not Null	

U_Name	It stores the name of sender	VARCHAR	Foreign Key, Not Null	User
N_Message	It stores the Notification Message	VARCHAR	Not Null	

Table 28 Data Dictionary Notification

4.4. Class Diagram

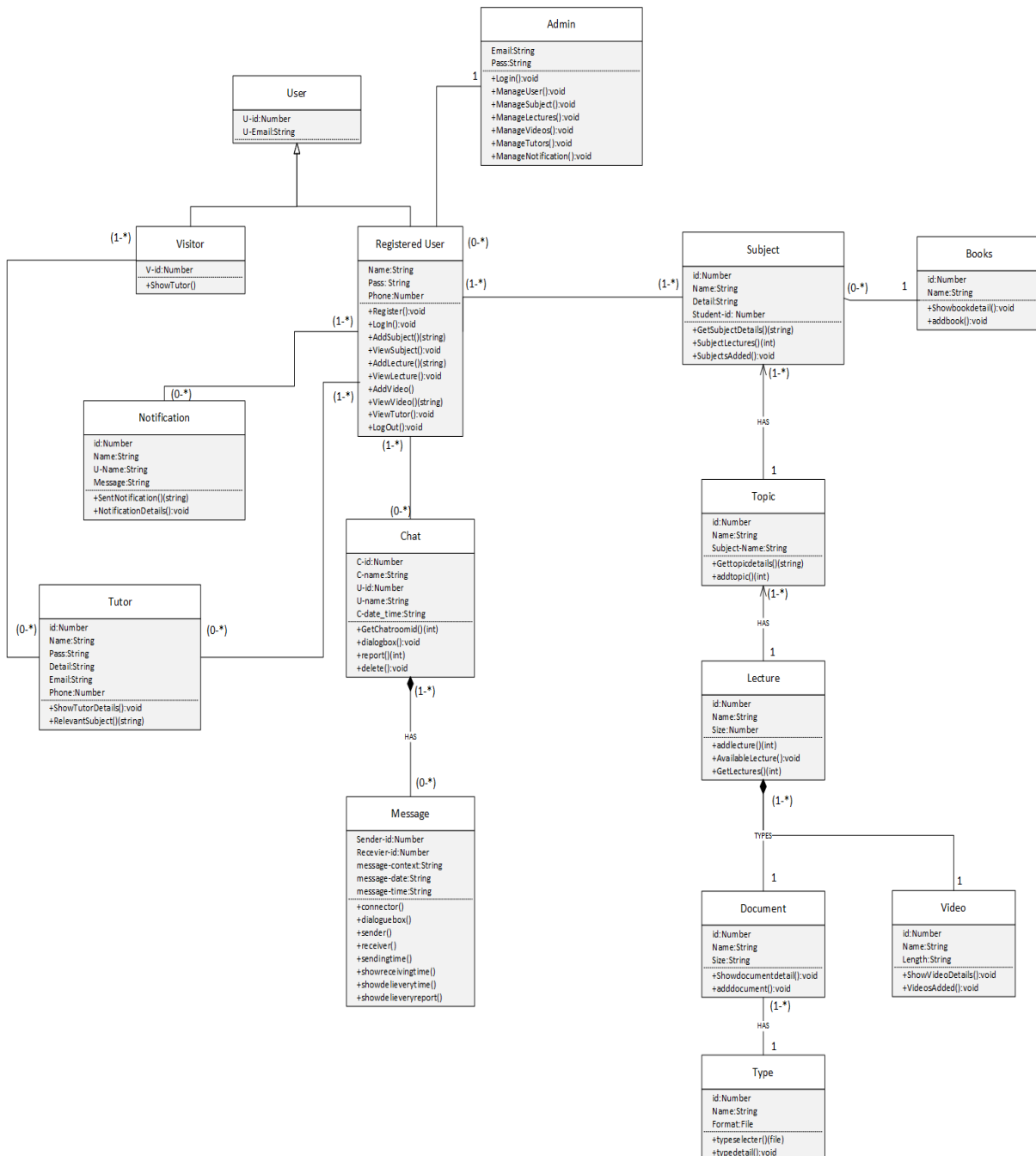


Figure 10 Class diagram

4.5. Sequence / Collaboration Diagram

User Side

1. Registration

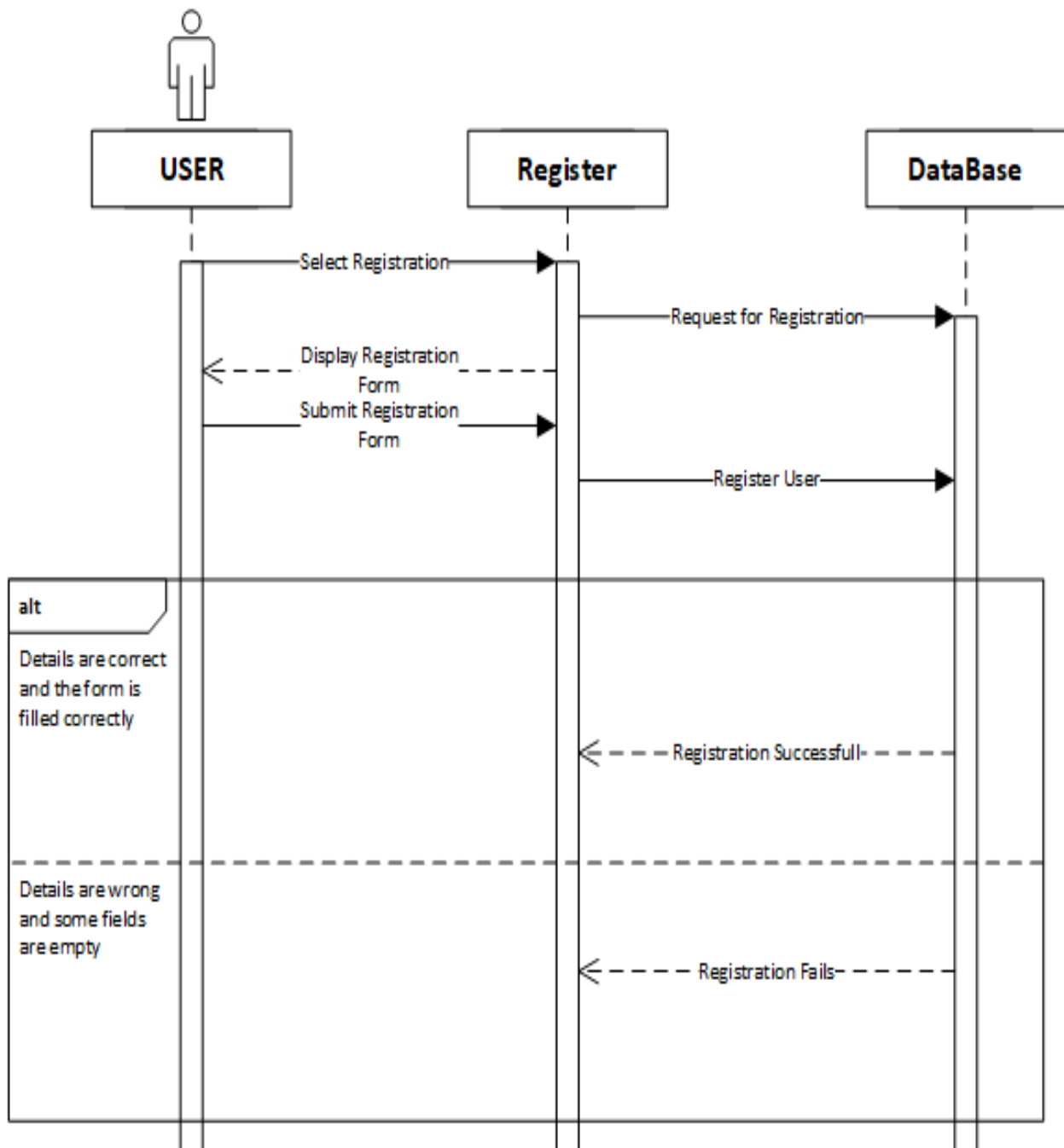


Figure 11 Sequence Diagram Registration

2. Login

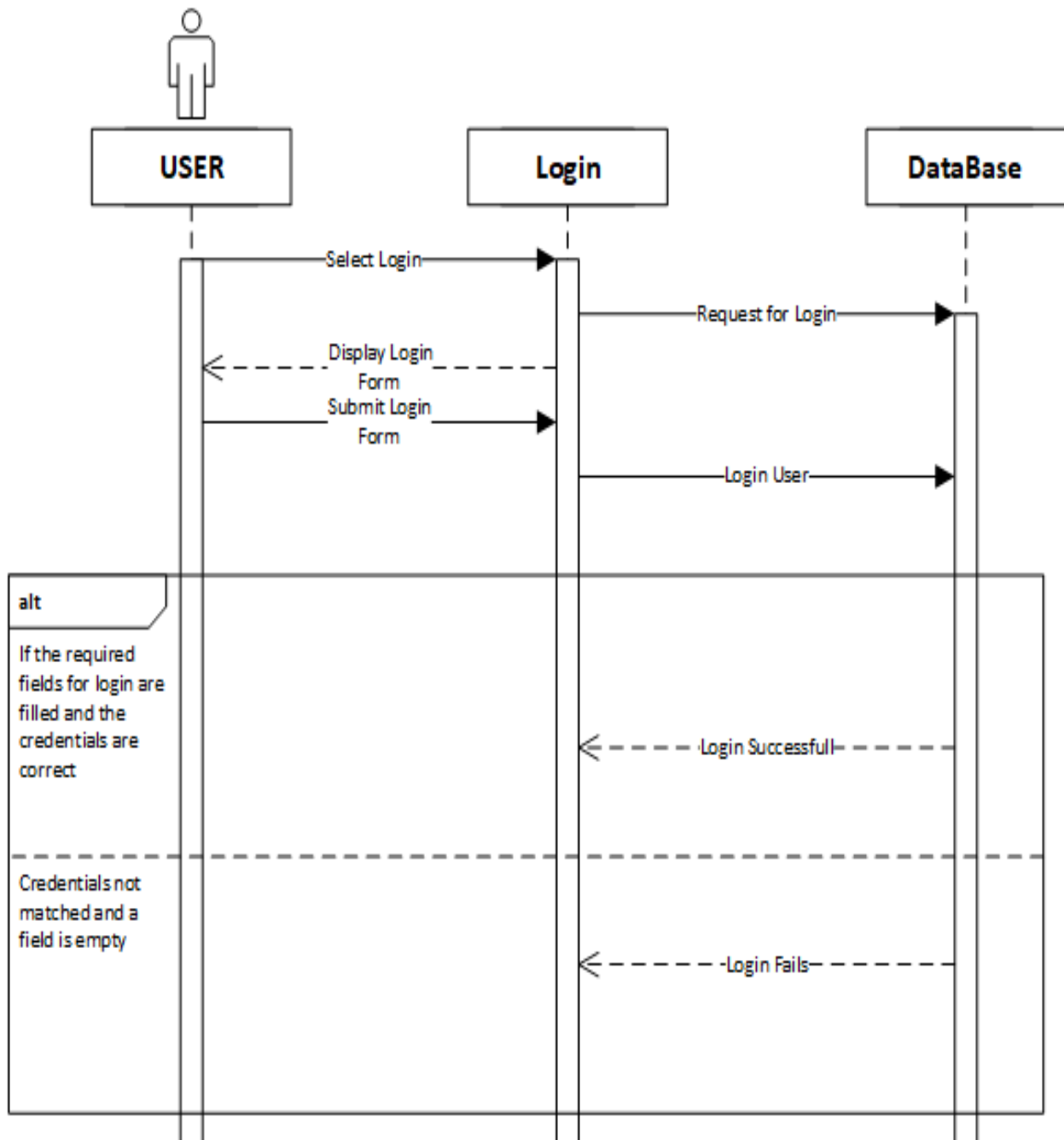


Figure 12 Sequence Diagram Login

3. Logout

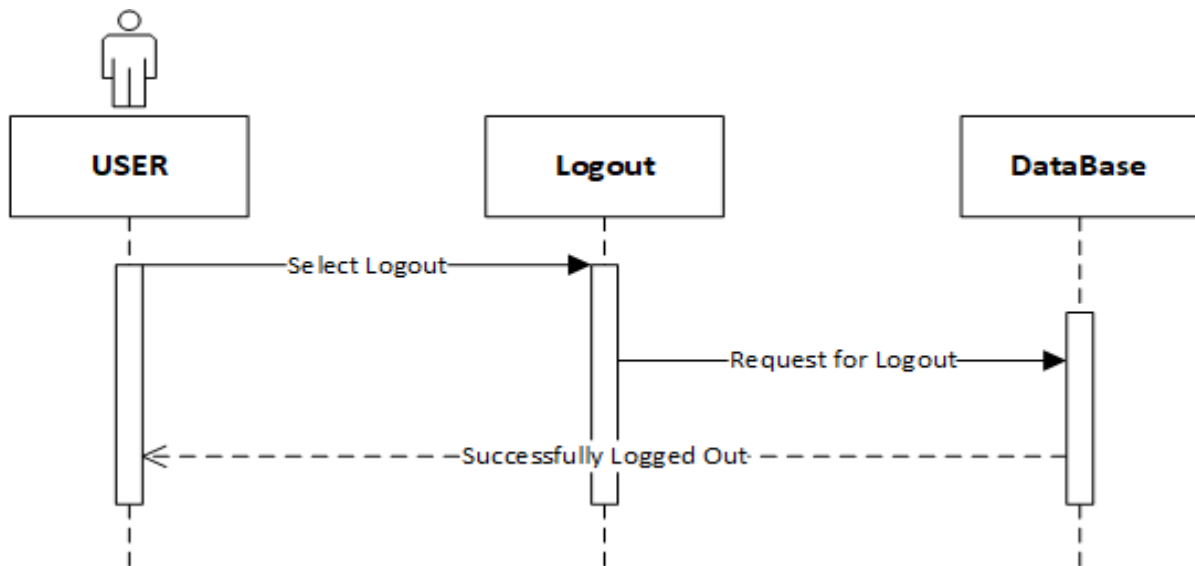


Figure 13 Sequence Diagram Logout

4. Add/View Subject

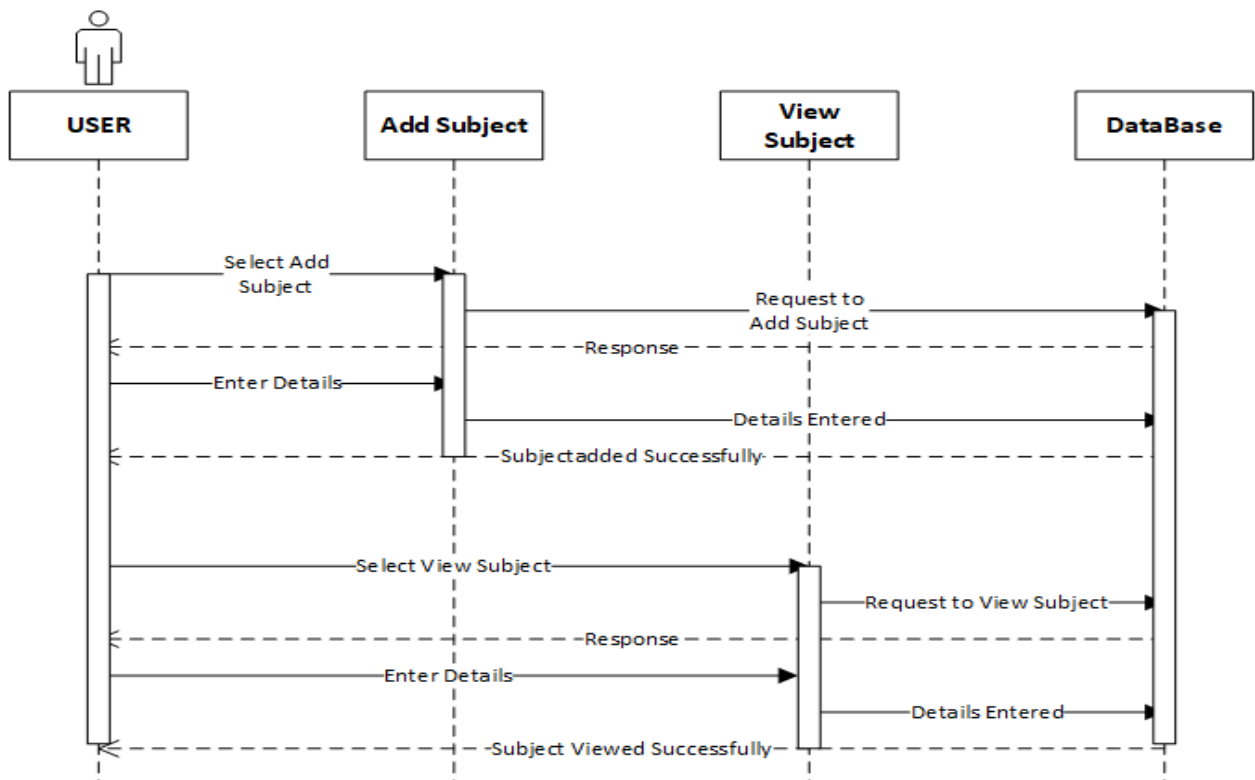


Figure 14 Sequence Diagram Add/View Subject

5. Add/View Lecture

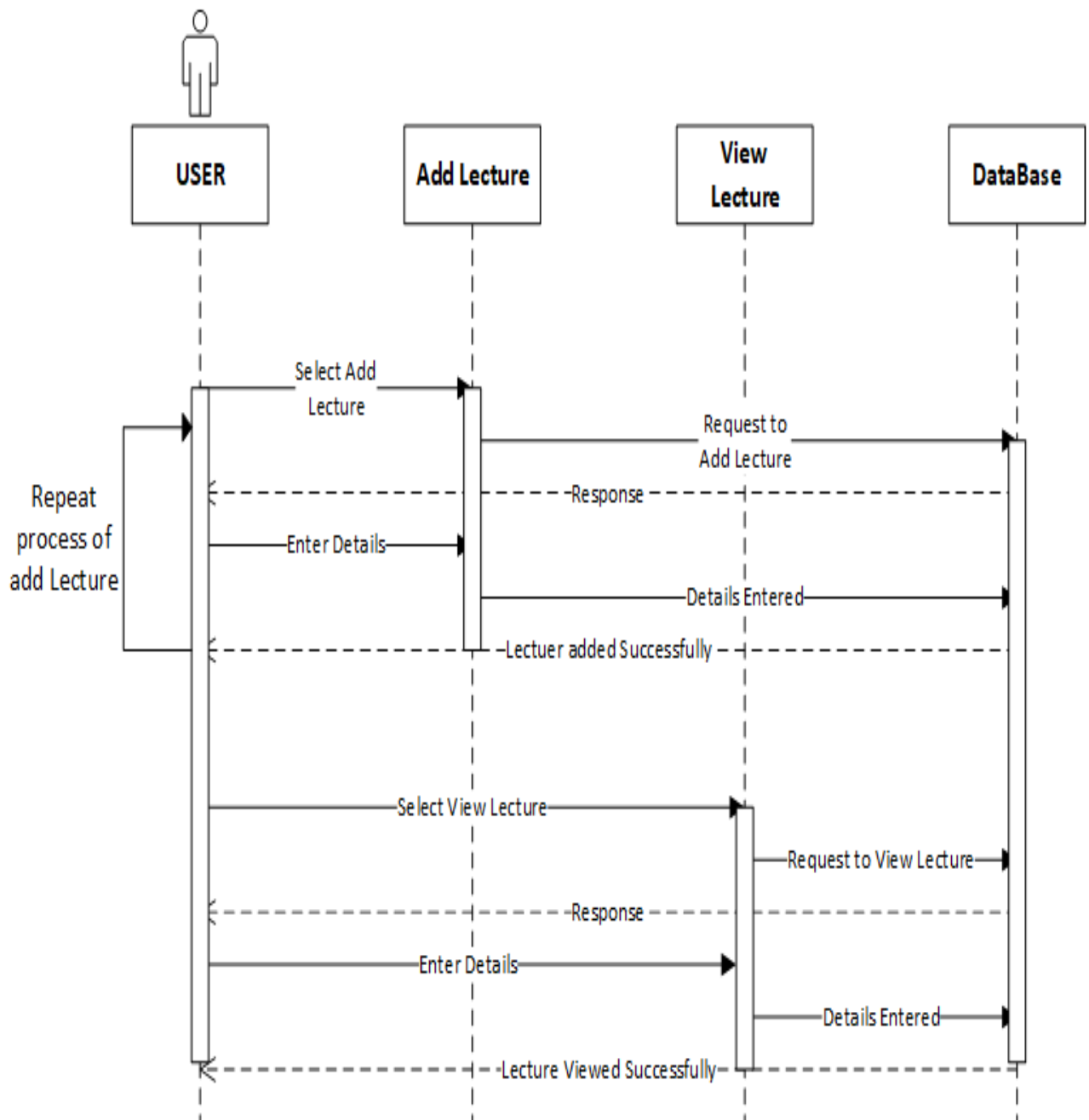


Figure 15 Sequence Diagram Add/View Lecture

6. Add/View Video

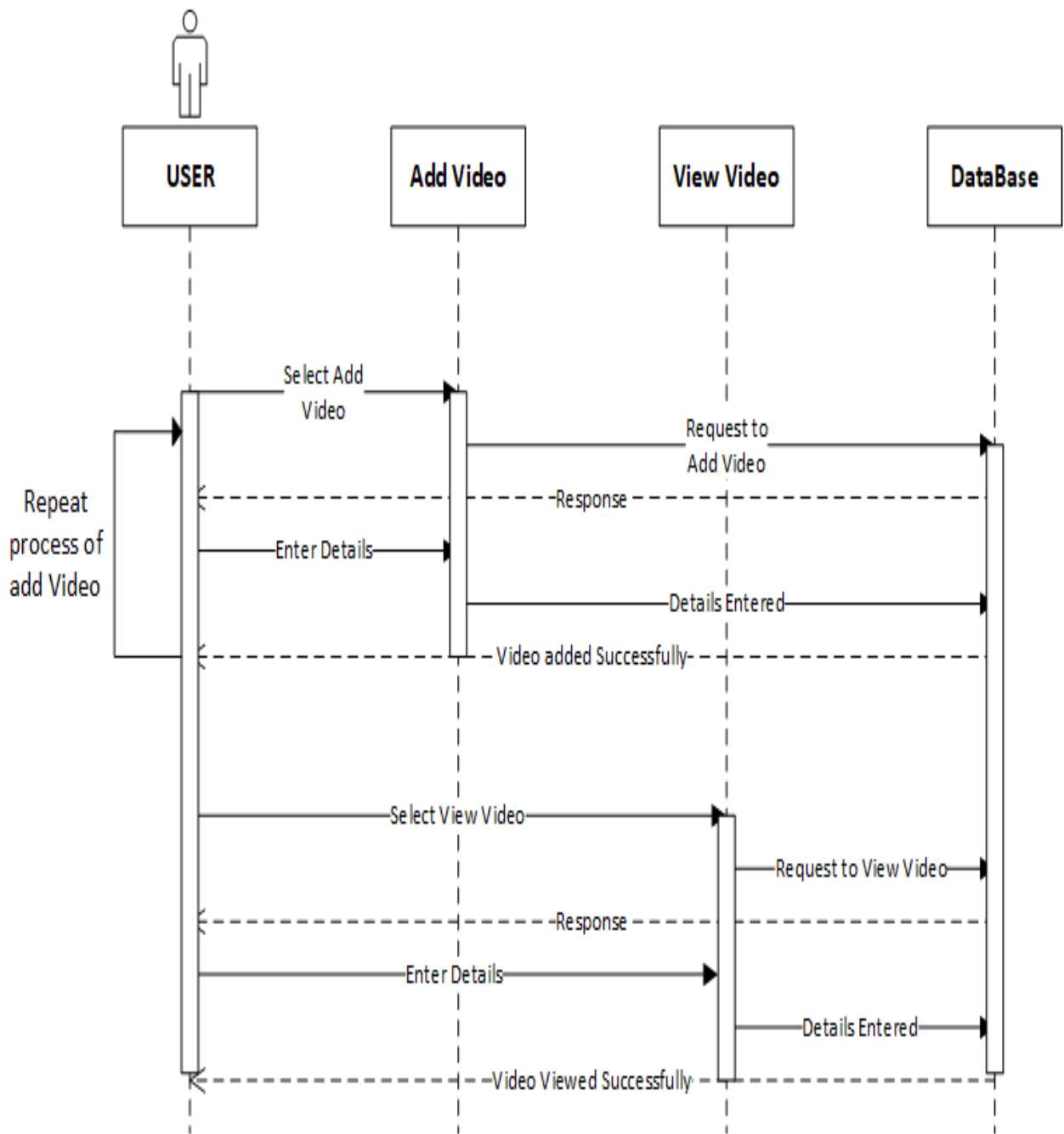


Figure 16 Sequence Diagram Add/View Video

7. View Tutor

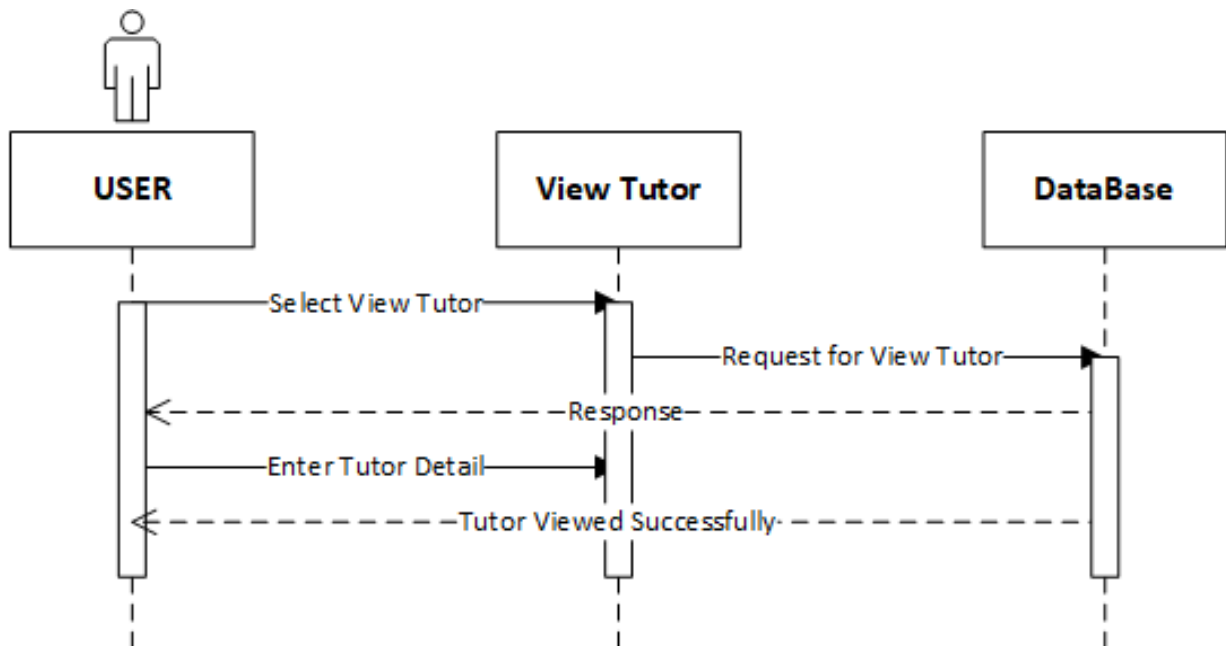


Figure 17 Sequence Diagram View Tutor

8. Send Notifications

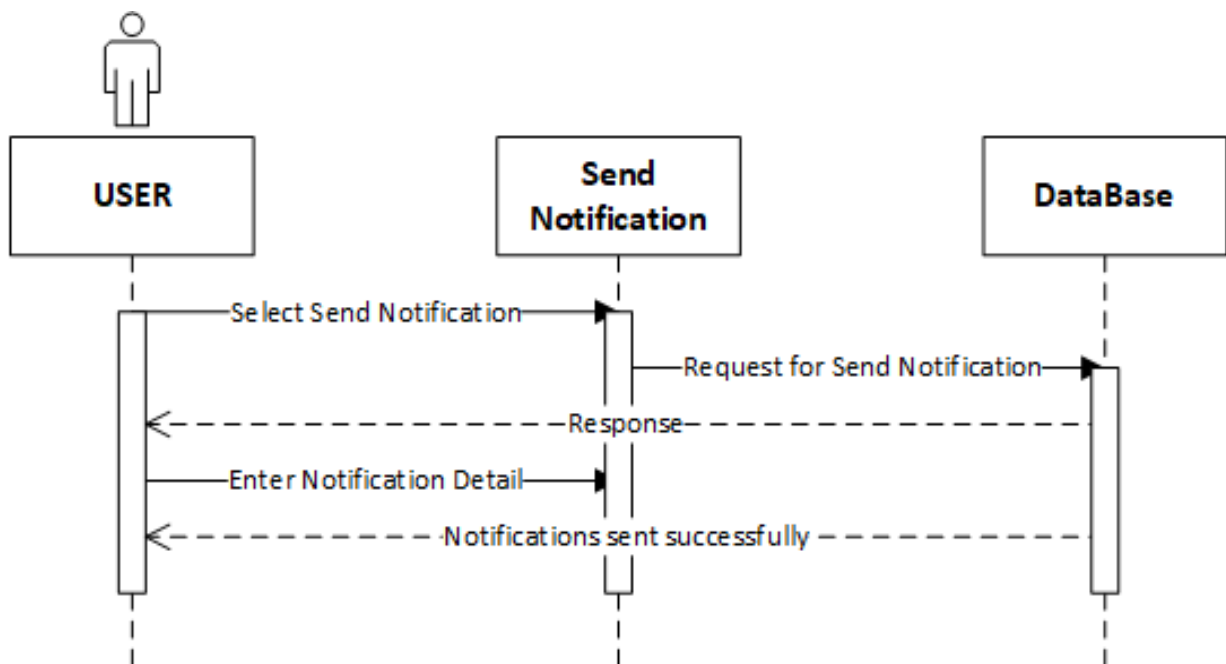


Figure 18 Sequence Diagram Send Notifications

Admin Side:

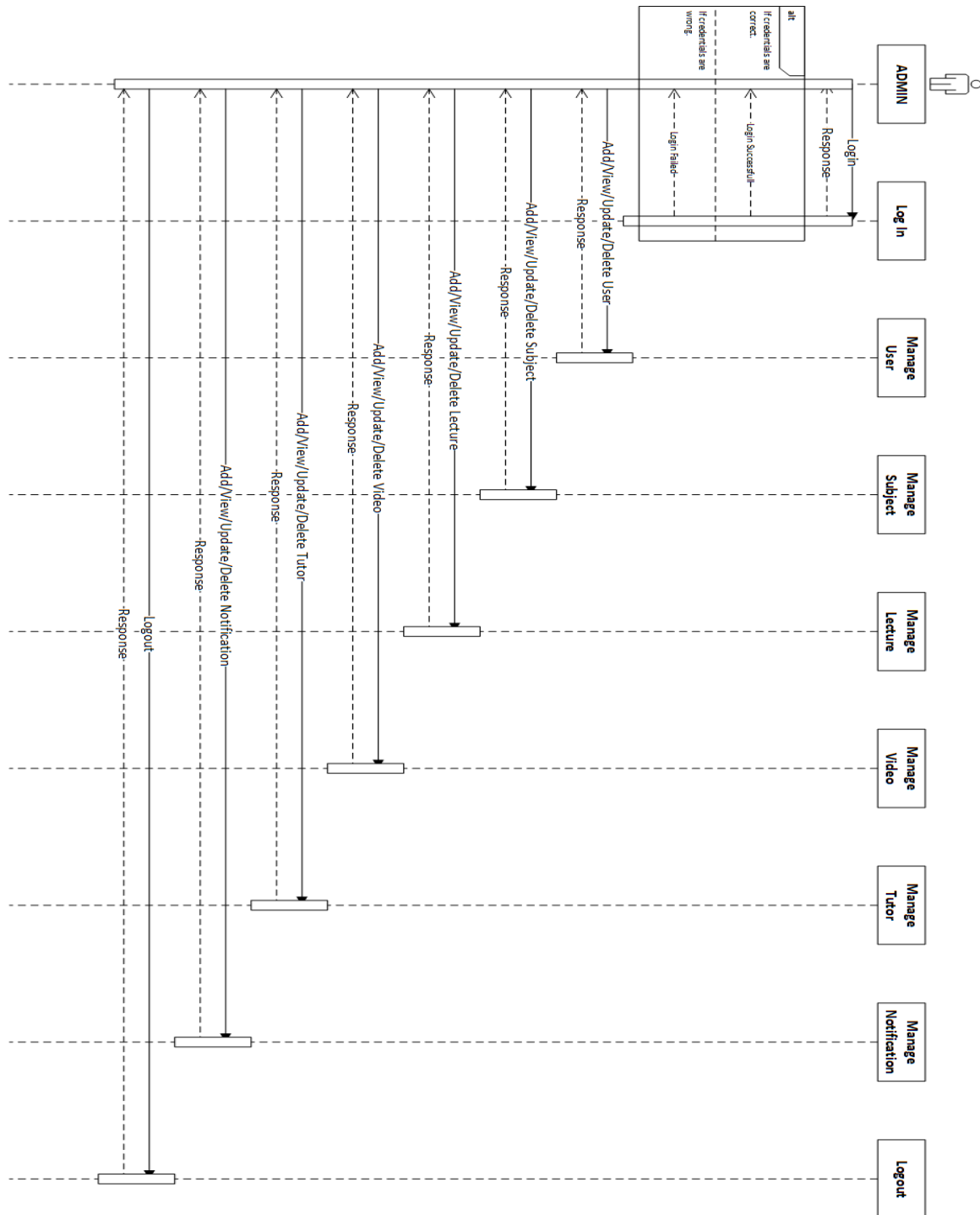


Figure 19 Sequence Diagram Admin Side

4.6. Operation contracts

4.6.1 Operation Contract#1

Name: Register

Responsibilities: To Register the new user.

Cross References: Use Case: Register

Exceptions: None

Preconditions: Register interface must be opened and user must enter valid information

Post conditions:

- A new Registration Request instance reg_Req was created
- reg_Req was also associated with Admin
- A new account instance “n” was created.

4.6.2 Operation Contract#2

Name: Login

Responsibilities: A user is logged in.

Cross References: Use Case: Log In

Exceptions: Invalid Username & Password

Preconditions: User must be registered

Post conditions:

- A login variable “login” was created
- Instance “login” was associated with Current User
- Username and password were matched with database

4.6.3 Operation Contract#3

Name: Logout

Responsibilities: A user is logged out

Cross References: Use Case: Logout

Exceptions: None

Preconditions: User must be logged in

Post conditions:

- A logout variable “logout” was created
- Variable “logout” was associated with Current User
- User was successfully logged out

4.6.4 Operation Contract#4

Name: Add Subject

Responsibilities: A user adds a subject.

Cross References: Use Case: Add Subject

Exceptions: Already Registered Subject

Preconditions: User must be logged in

Post conditions:

- A subject variable “add_subject” was created
- Variable “add_subject” was associated with Current User/Admin
- Subject was successfully added in database

4.6.5 Operation Contract#5

Name: View Subject

Responsibilities: A user views a subject.

Cross References: Use Case: View Subject

Exceptions: Subject not registered

Preconditions: User must be logged in

Post conditions:

- A variable “view_subject” was created
- Variable “view_subject” was associated with Current User/Admin
- Subject was viewed successfully

4.6.6 Operation Contract#6

Name: Add Lecture

Responsibilities: A user adds a lecture.

Cross References: Use Case: Add Lecture

Exceptions: Subject not registered

Preconditions: User must be logged in and have a relevant subject

Post conditions:

- A lecture variable “add_lecture” was created
- Variable “add_lecture” was associated with Current User/Admin
- Lecture was successfully added in database

4.6.7 Operation Contract#7

Name: View Lecture

Responsibilities: A user views a lecture.

Cross References: Use Case: View Lecture

Exceptions: Lecture not found

Preconditions: User must be logged in and able to access lecture

Post conditions:

- A variable “view_lecture” was created
- Variable “view_lecture” was associated with Current User/Admin
- Lecture was viewed successfully

4.6.8 Operation Contract#8

Name: Add Video

Responsibilities: A user adds a video.

Cross References: Use Case: Add Video

Exceptions: Relevant subject was not found

Preconditions: User must be logged in and have an existing lecture

Post conditions:

- A lecture variable “add_video” was created

- Variable “add_video” was associated with Current User/Admin
- Video was successfully added in database

4.6.9 Operation Contract#9

Name: View Video

Responsibilities: A user views a video.

Cross References: Use Case: View Video

Exceptions: Relevant video was not found

Preconditions: User must be logged in and able to access video

Post conditions:

- A variable “view_video” was created
- Variable “view_video” was associated with Current User/Admin
- Video was viewed successfully

4.6.10 Operation Contract#10

Name: Send Notification

Responsibilities: A user/admin able to send notifications

Cross References: Use Case: Send Notification

Exceptions: Particular student wasn't found

Preconditions: User must be logged in

Post conditions:

- A notification variable “notif” was created
- Variable “notif” was associated with Current User/Admin
- Notification was sent successfully

4.6.11 Operation Contract#11

Name: Tutor

Responsibilities: A user able to apply as tutor.

Cross References: Use Case: Tutor

Exceptions: Relevant subject wasn't found

Preconditions: User must be logged in

Post conditions:

- A tutor variable "tutor" was created
- Variable "tutor" was associated with Current User
- User had successfully applied as tutor

4.6.12 Operation Contract#12

Name: View Tutor

Responsibilities: A user/Admin/visitor able to view tutors

Cross References: Use Case: View Tutor

Exceptions: Relevant tutor wasn't found

Preconditions: User must be logged in

Post conditions:

- A variable "view_tutor" was created
- Variable "view_tutor" was associated with Current User/Admin/Visitor
- Tutor was viewed successfully

4.7. Activity Diagram

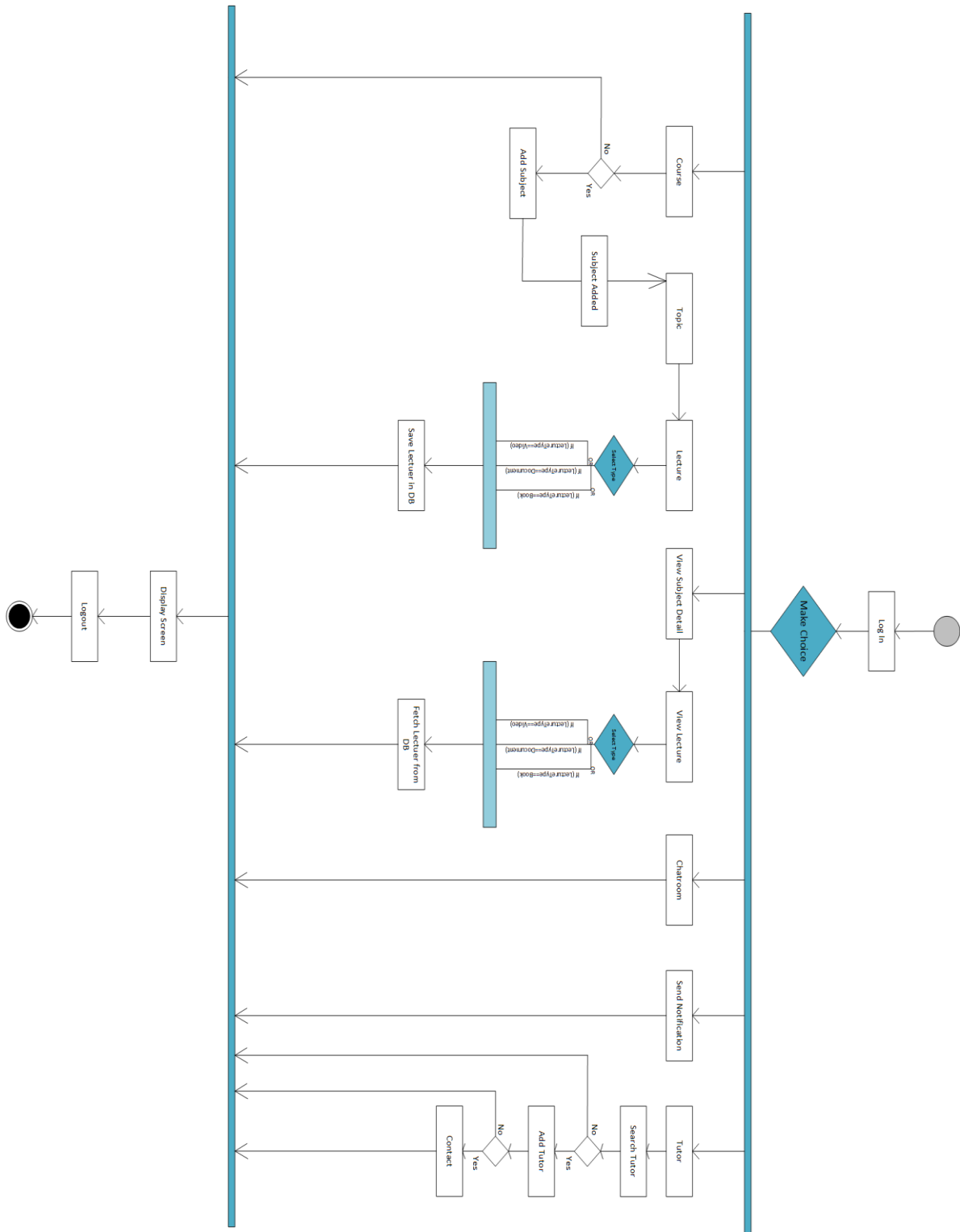


Figure 20 Activity Diagram

4.8. State Transition Diagram

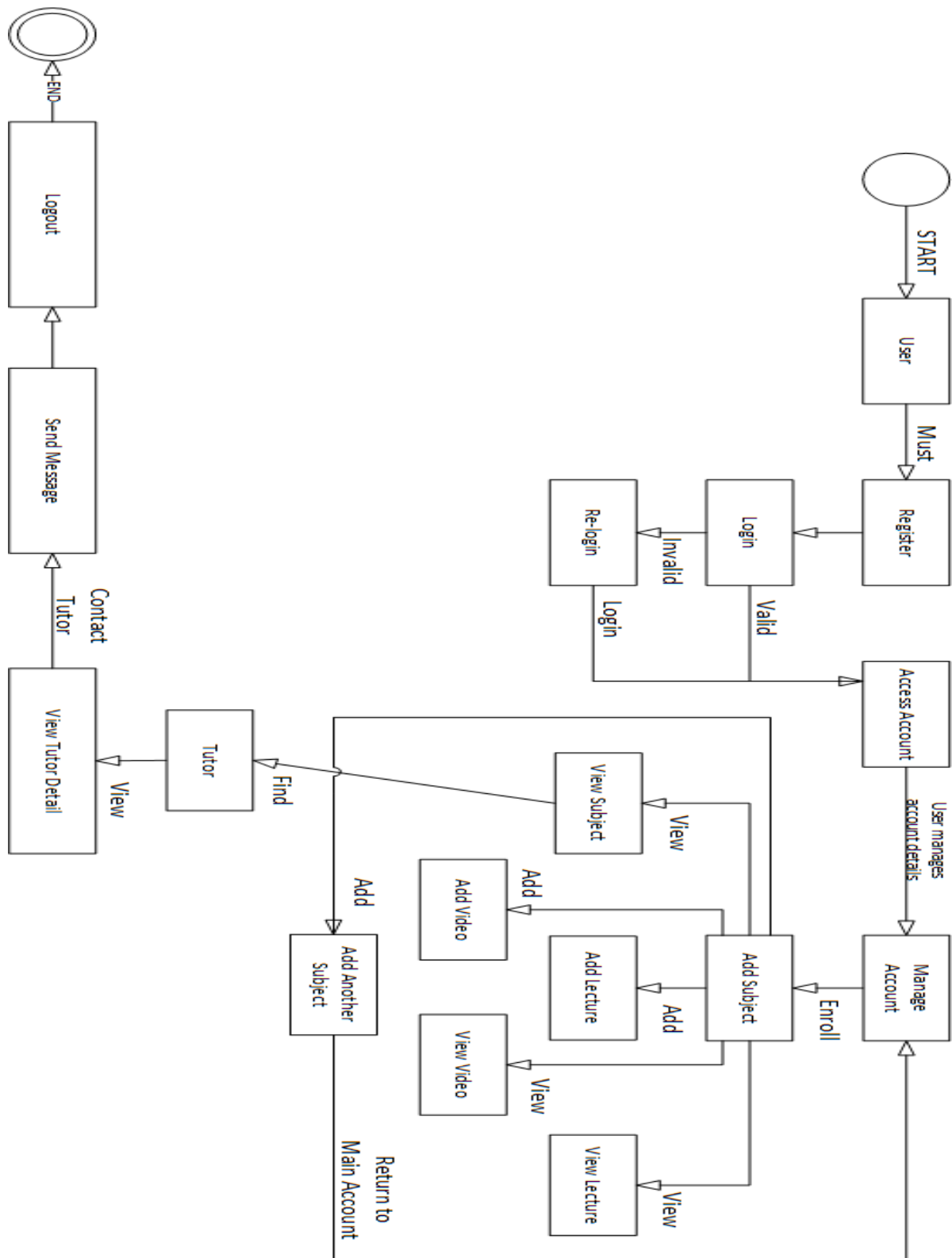


Figure 21 State transition diagram

4.9. Component Diagram

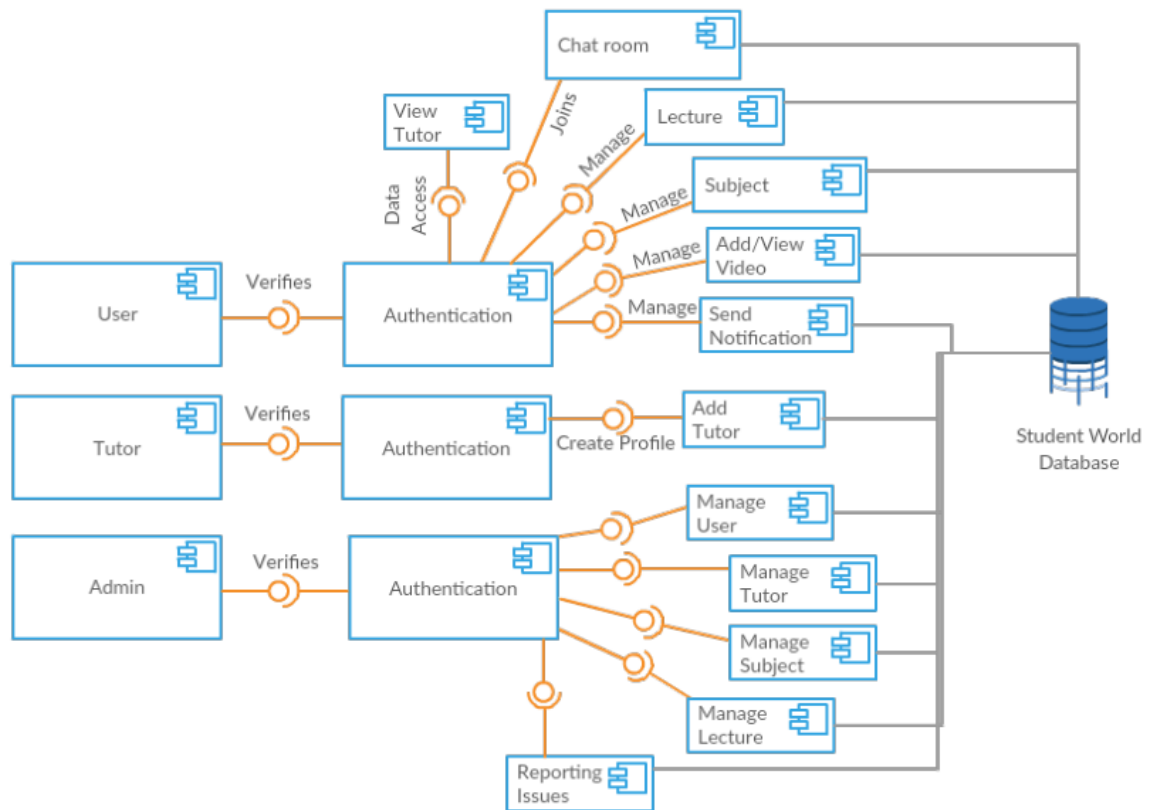


Figure 22 Component diagram

4.10. Deployment Diagram

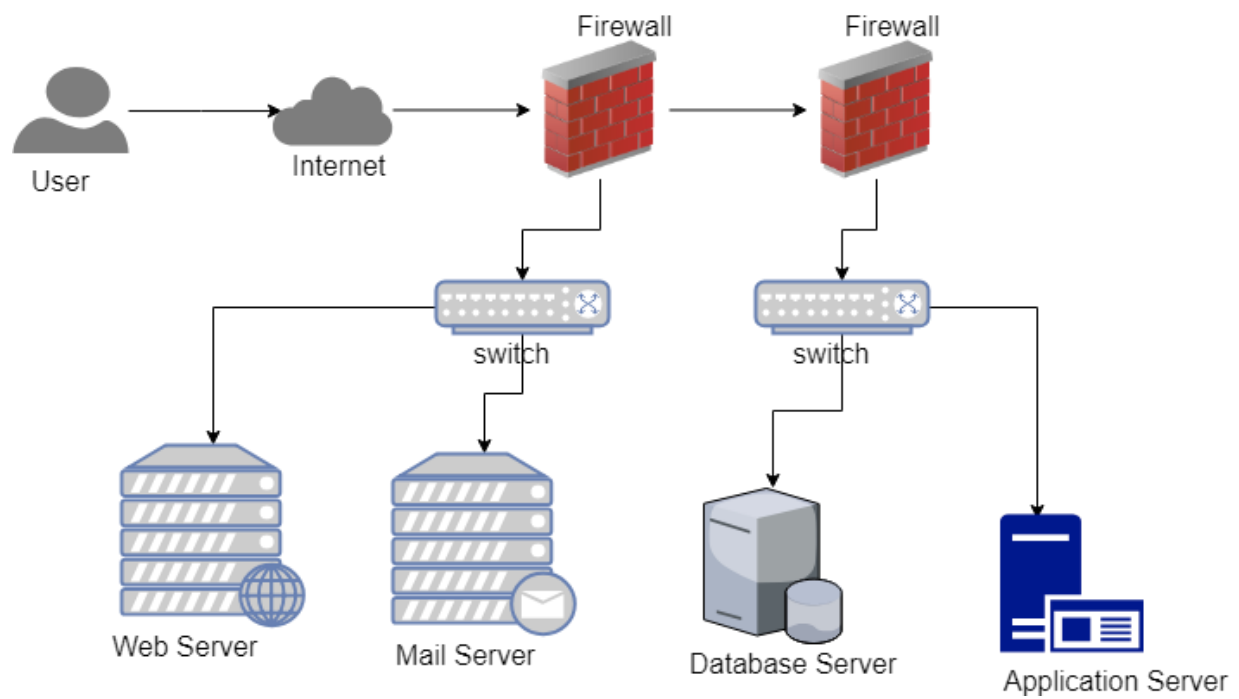


Figure 23 deployment diagram

Chapter 5

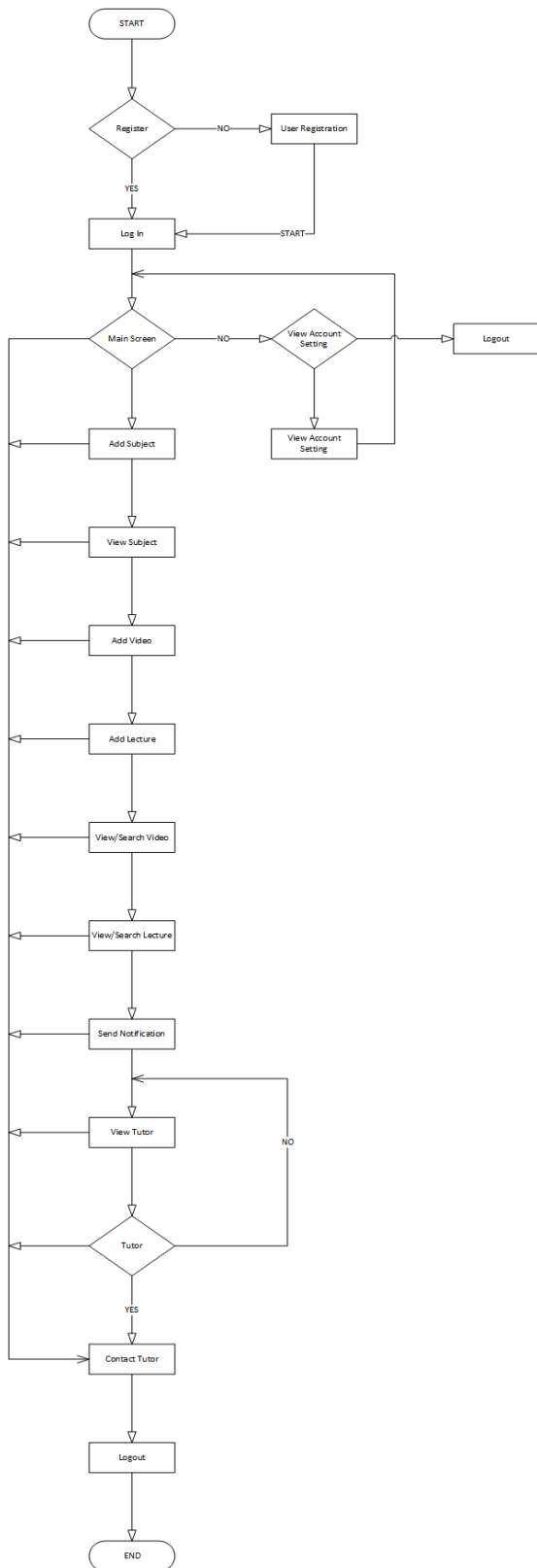
Implementation

Chapter 5: Implementation

Our main goal is to provide each and every student with the help they need in their study including the lectures, video tutorials, PPT slides, complete courses etc. The scope of our project is that students can manage their study material easily and they can have chatrooms available for each course to communicate with other students. They can also find most accurate and relevant data. A Particular Student can upload their own lectures and will also be able to help other students and the benefit they get is that they can be hired by anyone as a tutor.

This project has well accurately and perfectly designed database so that no data can be misplaced or lost. It has well designed front end that will attract the viewers and looks cool. It is a friendly user interface.

5.1. Important Flow Control/Pseudo codes



5.2. Components, Libraries, Web Services and stubs

Components:

1. Properly Structured Website

Student World is a platform that is easy to use. If a student wants any kind of lectures and tutorials they can find it from here. Our platform has a simple structure and it has friendly user interface with the most important lectures, video lectures and tutors for your help. You can find any type of study related material and tutors for yourself and for others.

2. Mobile Friendly experience

Today, the world of technology is evolving quickly; more and more people have been using their mobile devices to study online. My Student world website is mobile friendly. This website mobile navigation is easy to use and Student World having friendly environment.

Web Services

- Users straightforwardly add/view any subject, Lectures and videos from our platform without any problem.
- 24-hr access
- Relevant Lectures
- Tutors for help
- Video Tutorials

5.3. Deployment Environment

Here we need a domain on which the Student World system will exist and through the domain several people will access the application. And smart phone users can open the responsive website from any browser on either Apple phone or Android phone through which they can easily access the service and can easily receive documents. It required one administrator who will be in charge of the approval and other supervision duty.

5.4. Tools and Techniques

Applications and tools that would be used during this project preparation are as follows:

ASP.Net/C#

These are the languages, which are supported in the .NET framework/Laravel Framework. It provides latest Functionalities regarding desktop and mobile based application development.

Microsoft Word

Microsoft word is the word processor and would be used for documentation purpose Throughout the whole project.

Microsoft Excel

Microsoft excel is spreadsheet and would be used for data analysis throughout the Whole project.

Microsoft Project

Microsoft Projects provides extensive features on project management with a Prominent feature of project scheduling. Gantt charts, resource allocations. This would be Used as a project management tool throughout the whole project.

Project Modeling

Rational Rose and Microsoft Visio are to be used to draw use cases with different Perspectives as they support the language of Rational Unified Process (RUP). Use case Diagram, Data Flow Diagram (DFD), domain model and all other OOAD analysis and Design diagrams are supported.

Server

Server is required where whole data is stored.

5.5. Best Practices / Coding Standards

- No coding repetitions.
- Function and classes are always commented showing expected input and output.

Chapter 6

Testing and Evaluation

Chapter 6: Testing and Evaluation

We have developed an online education system in which students can manage their subjects and lectures according to their need. Students can login to their accounts and add courses or join already registered course according to the categories that have been listed there. After registering or joining a course student can add lectures, tutorials, documents etc. of that particular course. A test strategy is methodology that describes the various steps that need to be performed during testing and the time and effort required for performing them. The following strategies are used for testing:

- Use Case Testing
- Equivalence Partitioning
- Boundary Value Analysis
- Data Flow Testing
- Unit Testing
- Integration Testing
- Performance Testing
- Stress Testing

6.1. Use Case Testing

Register

Main Success Scenario	Step	Description
A=Actor	1	A: Fill Form: name, email, password, dob, phone.
S=System	2	S: For name field: Jack, For email field: john123@gmail.com For password field: 123xyz!# For dob: Dd/mm/yyyy For phone: +911255236624

	3	Allow Account Access
Extension		Null

Table 29 Use Case Testing Register

Figure 24 Use Case Testing Register

Login

Main Success Scenario	Step	Description
A=Actor	1	A: Enter Email and password
S=System	2	S: Valid Password
	3	Allow Account Access
Extension	2a	S: Invalid Password Message Display on the Screen

		asks for Re-enter password.
	2b	Password not valid. Application close.

Table 30 Use Case Testing Login

Figure 25 Use Case Testing Login

Logout

Main Success Scenario	Step	Description
A=Actor	1	A: Enter Logout
S=System	2	S: System Show Message to User
Extension	2a	S: User must login System Take user to home screen

Table 31 Use Case Testing Logout

Add Course:

Main Success Scenario	Step	Description
A=Actor	1	A: Fill Form and add course
S=System	2	S: Course added to database
Extension	2a	S: User must login.

Table 32 Use Case Testing Add Course
*Figure 26 Use Case Testing Add Course***Add Lecture:**

Main Success Scenario	Step	Description
A=Actor	1	A: Fill Form and add lecture
S=System	2	S: Lecture added to database
Extension	2a	S: User must login.

Table 33 Use Case Testing Add Lecture

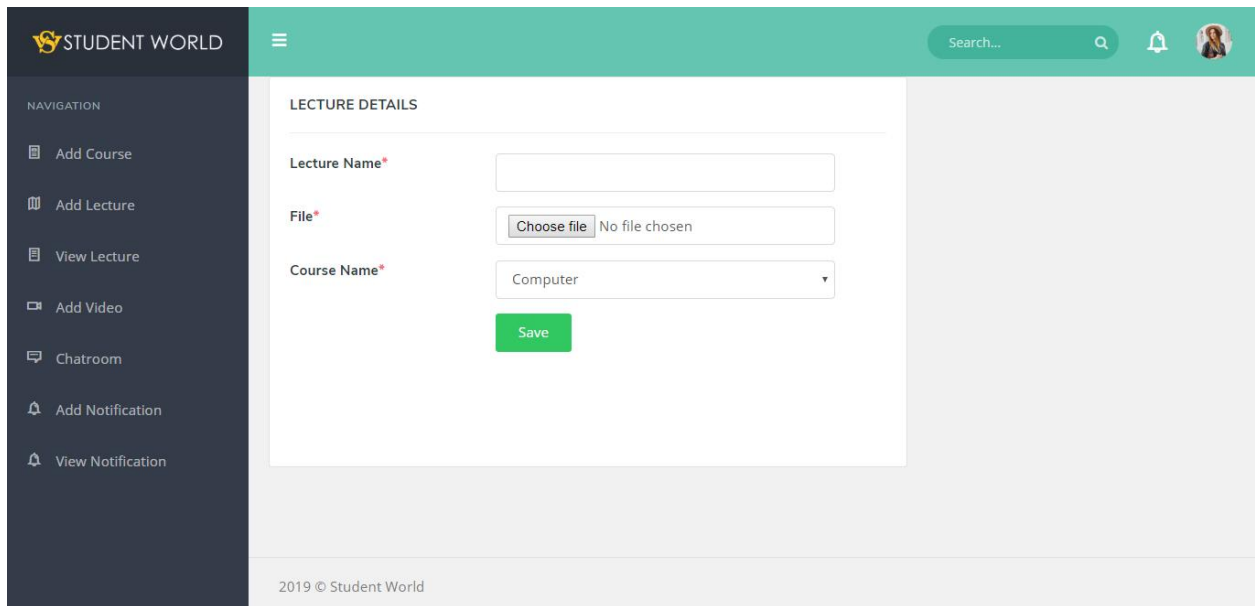


Figure 27 Use Case Testing Add Lecture

View Lecture

Main Success Scenario	Step	Description
A=Actor	1	A: View Detail of the Lectures.
S=System	2	S: System Show the list of the Lectures.
Extension	2a	S: User must login

Table 34 Use Case Testing View Lecture

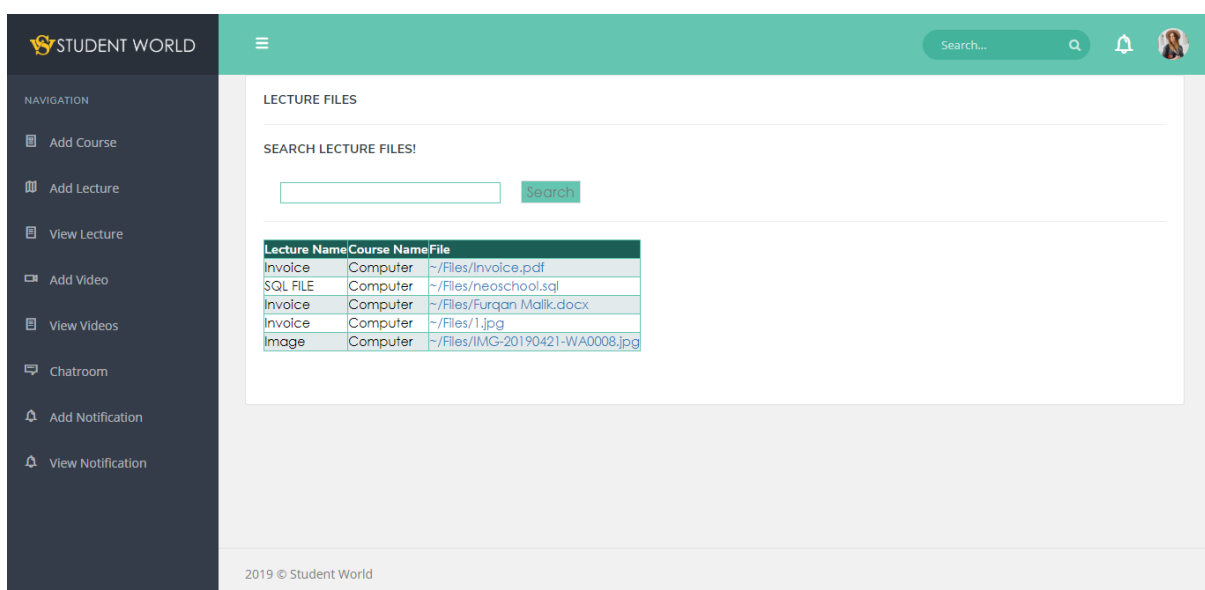


Figure 28 Use Case Testing View Lecture

Add Video:

Main Success Scenario	Step	Description
A=Actor	1	A: Fill Form and add video
S=System	2	S: Video added to database
Extension	2a	S: User must login.

Table 35 Use Case Testing Add Video
*Figure 29 Use Case Testing Add Video***View Video**

Main Success Scenario	Step	Description
A=Actor	1	A: View Video of the Course.
S=System	2	S: System Shows the list of the Videos.
Extension	2a	S: User must login

Table 36 Use Case Testing View Video

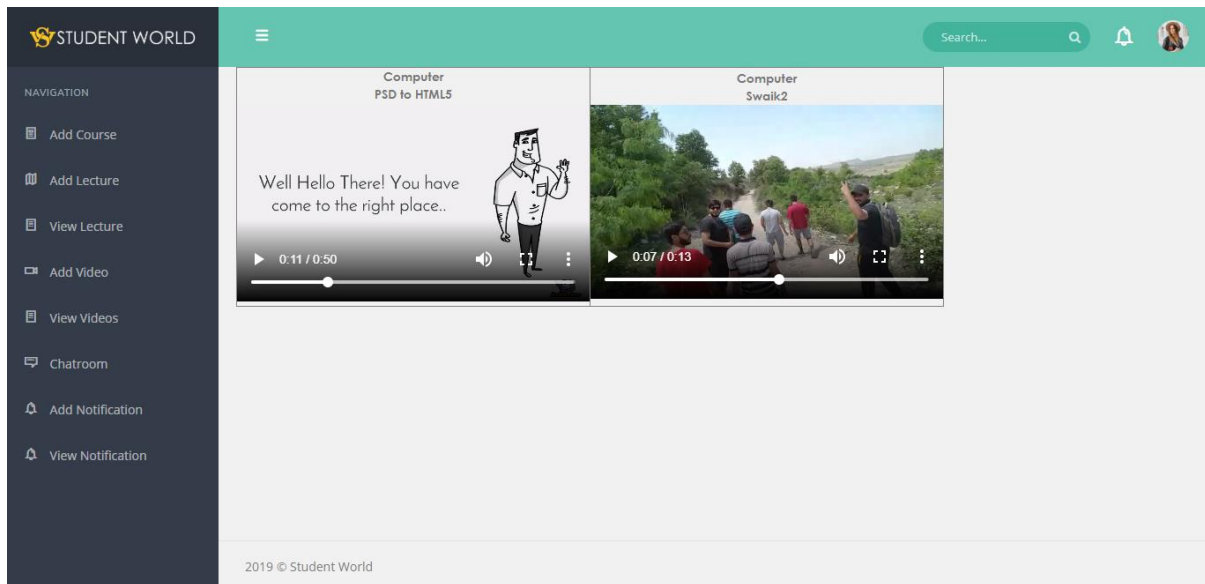


Figure 30 Use Case Testing View Video

Chatroom:

Main Success Scenario	Step	Description
A=Actor	1	A: User enters name and start group chat
S=System	2	S: Chat started
Extension	2a	S: User must login.

Table 37 Use Case Testing Chatroom

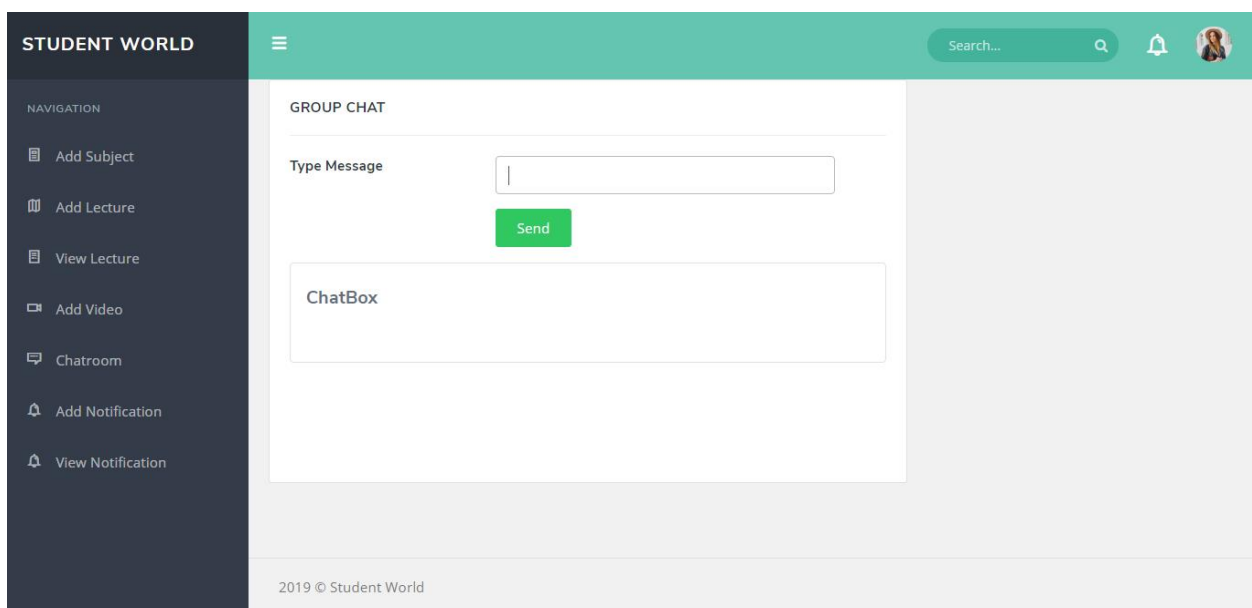


Figure 31 Use Case Testing Chatroom

Add Notification:

Main Success Scenario	Step	Description
A=Actor	1	A: Enter notification message and send
S=System	2	S: Video added to database
Extension	2a	S: User must login.

Table 38 Use Case Testing Add Notification

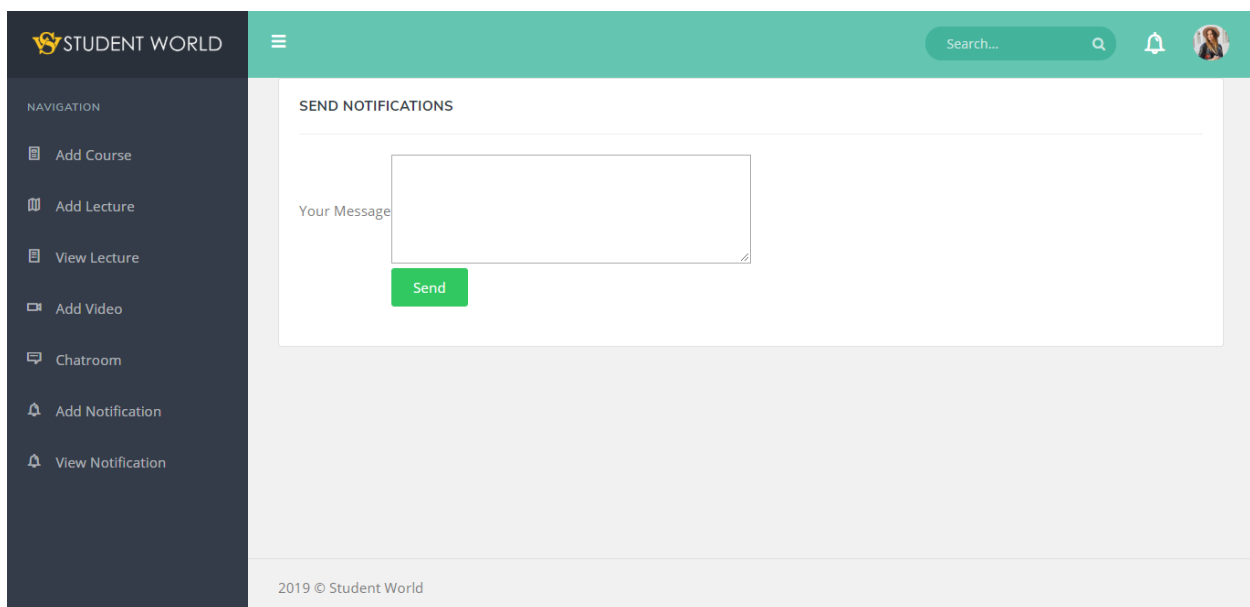


Figure 32 Use Case Testing Add Notification

View Notification

Main Success Scenario	Step	Description
A=Actor	1	A: View Notification of the Course.
S=System	2	S: System Shows the list of the Videos.
Extension	2a	S: User must login

Table 39 Use Case Testing View Notification

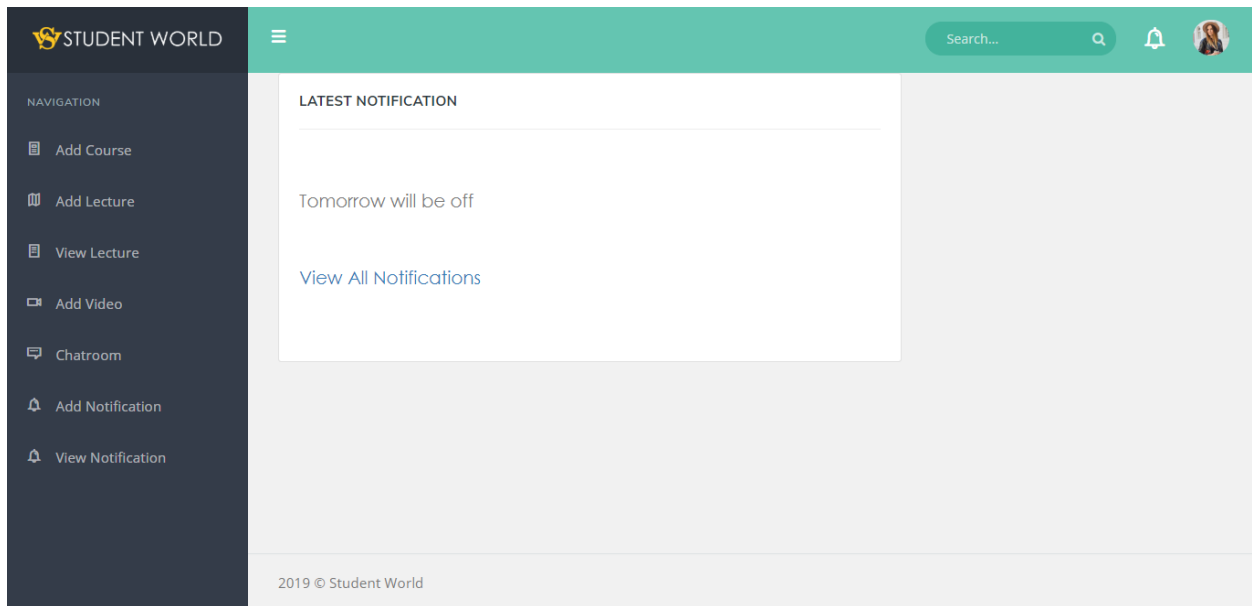


Figure 33 Use Case Testing View Notification

View Tutors

Main Success Scenario	Step	Description
A=Actor	1	A: View Notification of the Course.
S=System	2	S: System Shows the list of the Videos.
Extension	2a	S: User must login

Table 40 Use Case Testing View Tutors

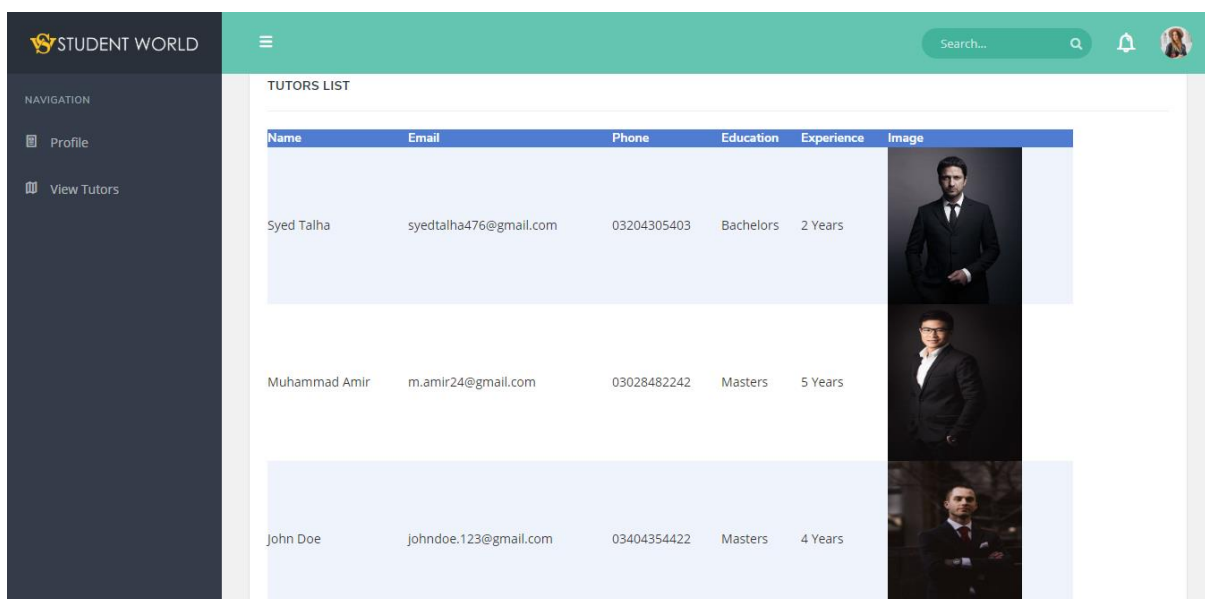


Figure 34 Use Case Testing View Tutors

6.2. Equivalence partitioning

Registration

Input	Invalid Equivalence class Partitioning	Valid Equivalence class Partitioning
Username	Less than 3 not allow	Between 3 to 50 Greater than 50 not allowed
Password	Less than 8 not allow	Between 8 to 20 Greater than 20 not allowed
Email	Admin123 Format is not allowed	Admin123@outlook.com Admin123@gmail.com
DOB	12 january 1999 is not allow	Format will be dd/mm/yyyy
Phone	It must not be in alphabets ABc1213	It must be in digits 123456789

Table 41 Equivalence Partitioning Registration

Login

Input	Invalid Equivalence class Partitioning	Valid Equivalence class Partitioning
Email	Admin123 Format is not allow	Admin123@outlook.com Admin123@gmail.com
Password	Less than 8 not allow	Between 8 to 20 Greater than 20 not allowed

Table 42 Equivalence Partitioning Login

6.3. Boundary value analysis

Register/Login

Email

Invalid	Valid	Invalid
---------	-------	---------

(min-1)	(min, +max, -min ,max)	(max+1)
3	3 to 50	50

Table 43 Boundary Value Analysis Email

Password

Invalid (min-1)	Valid (min,+max,-min,max)	Invalid (max+1)
8	8 to 25	25

Table 44 Boundary Value Analysis Password

6.4. Data flow testing.

Login

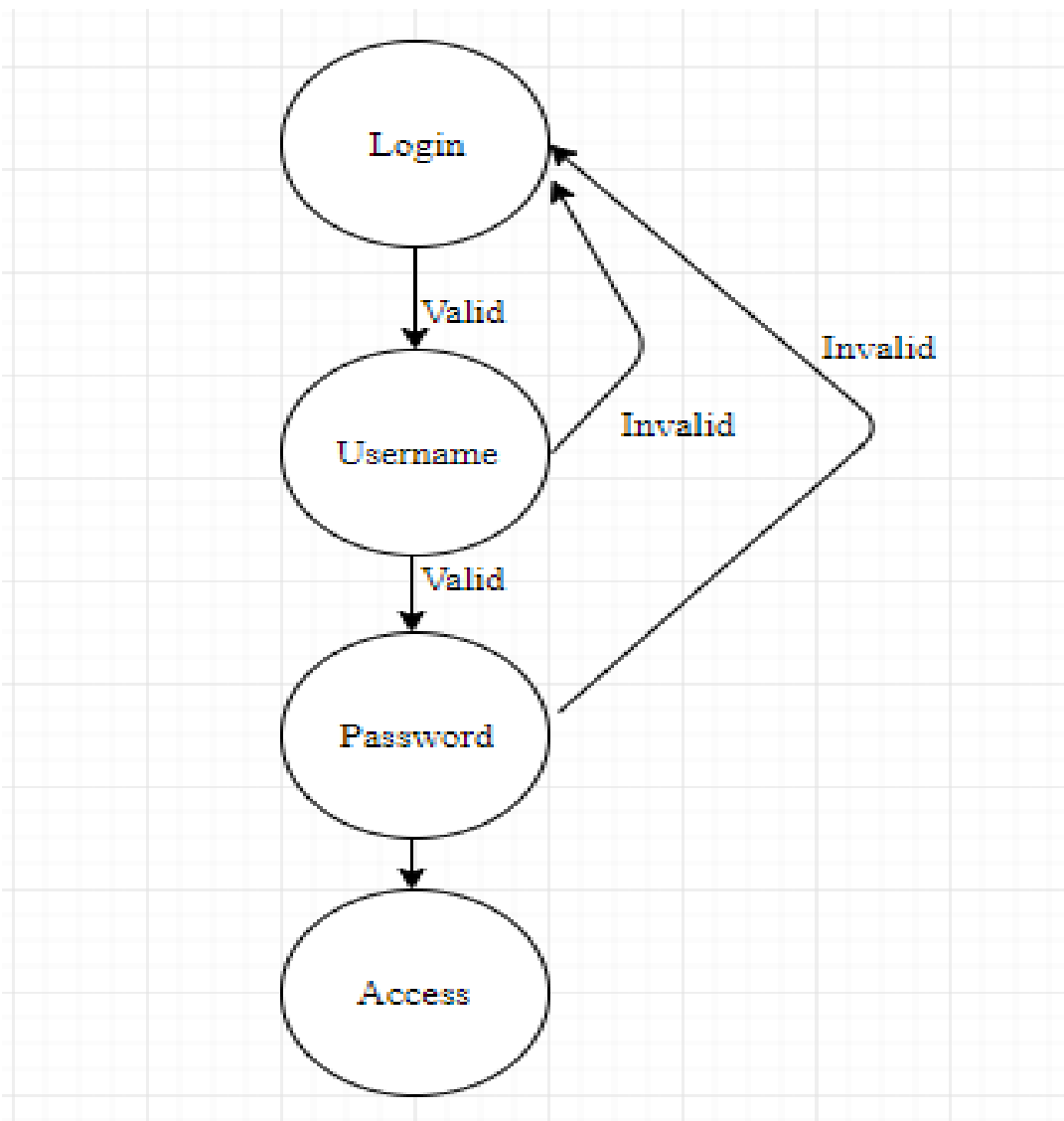


Figure 35 Data Flow Testing Login

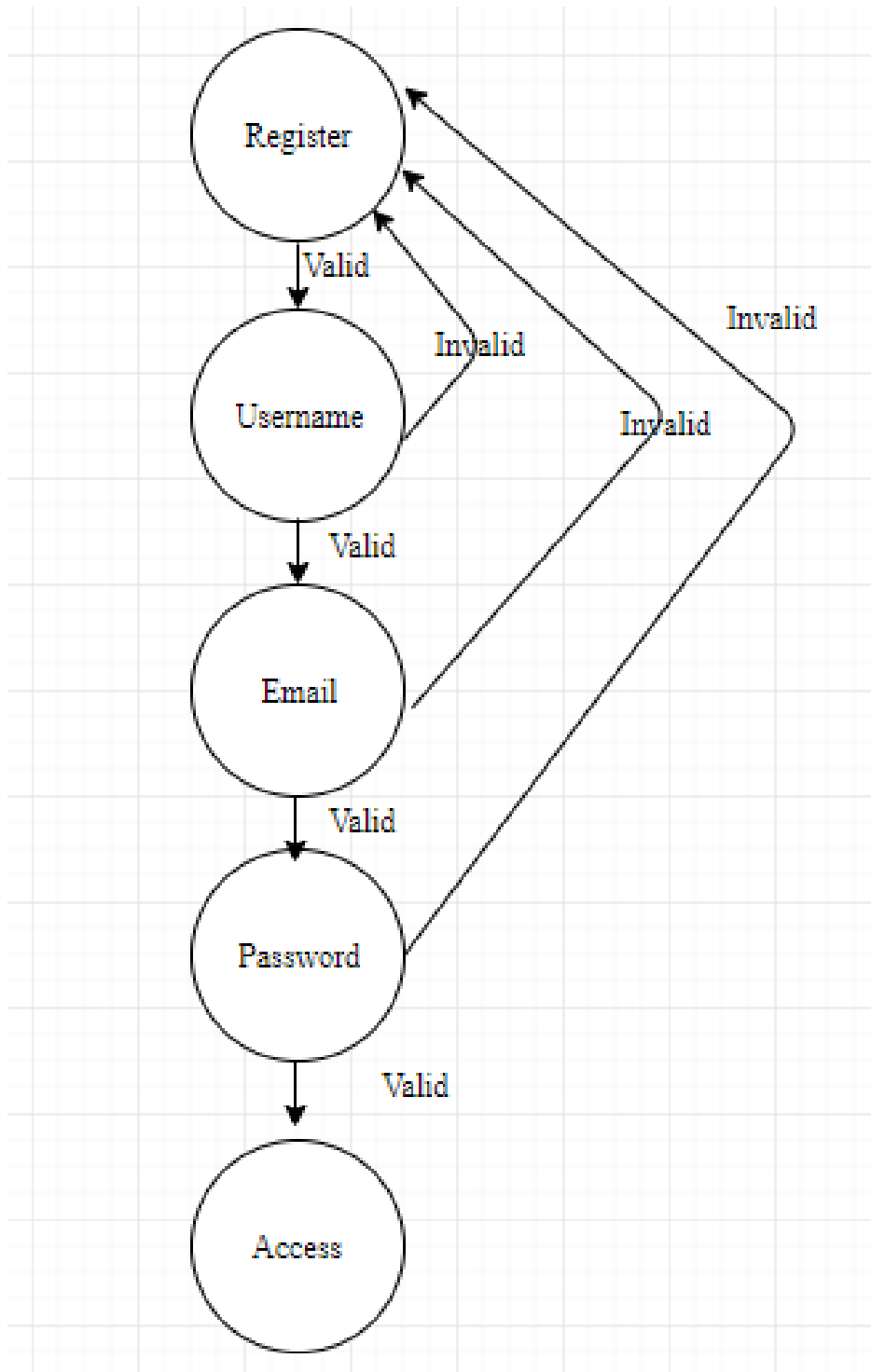
Register

Figure 36 Data Flow Testing Register

6.5. Unit testing

Unit testing is a white-box testing technique. The main consideration in this test is verification of all modules of the software system. Each module is unit tested, as follows:

- Unit testing for the module User Management is tested by valid user or invalid user.
- Unit testing for the module User Account management is provided by testing Login, Logout and creating new or deleting updating existing user.
- Unit testing for the module Theme Management is performed by entering new theme information.
- Unit testing for the module Detail of courses/lectures etc. give detail accurately.
- Unit testing for the module of Notification System is performed by sending notifications to the students in registered course.
- Unit testing for the module Add/update/delete course, lectures and students' detail.

6.5.1 UNIT TESTING

TEST CASES FOR UNIT TESTING OF MODULES

Test Case No	Identifier	Test item	Input Specifications	Output Specifications	Pass / Fail	Description
1	UTS-LOG-01	Login	Email, Password	Error message, Welcome Message	Pass	To verify login mechanism and user authentication
2	UTS-UR-01	Registration	Name, Password, Email, DOB, Phone_No	Validation Error, Successful Registration Message	Pass	To Register a New User

3	UTS-AC-01	Add Course	Course Category, Course Name	Validation Error, Successful Add Course	Pass	To Add a new Course
4	UTS-AL-01	Add Lecture	Course Name, Lecture Name, Lecture File	Validation Error, Lecture added	Pass	To add a Lecture
5	UTS-AV-01	Add Video	Course Name, Video Name, Video File	Validation Error, Video added	Pass	To add a Video
6	UTS-VL-01	View Lectures	File Name, File Size, File Type,	Validation Error, Lecture Viewed	Pass	To View Lectures
7	UTS-VV-01	View Videos	Video Name, Video Size, Video Type	Validation Error, Video Viewed	Pass	To View Videos
8	UTS-SN-01	Notification	Notification Message	Validation Error, Notification Sent	Pass	To send notifications
9	UTS-UL-01	Logout	Must login	Validation Person	Pass	Logout

Table 45 Test Cases for Unit Testing

TEST CASES FOR BLACK BOX TESTING OF DOCUMENTATION / TEXT

Test Case No	Identifier	Test item	Input Specifications	Output Specifications	Pass / Fail	Description
1	BBT-TXT-01	Syntax Grammatical Correctness Of the Content	Text written on each page of the system	Grammatically correct content or error	Pass	To check the content for grammatical & syntactical correctness
2	BBT-TXT-	Semantics	Text written on	Semantics correctness	Pass	To check the text for the use of improper

	02		each page of the system	or Bugs / errors in text		phrases terminologies and semantic correctness
3	BBT-TXT-03	Validity of contact information	All contact information provided in Contact Us or other pages of the system	Correct / incorrect information	Pass	To check all the contact information for validity
4	BBT-TXT-04	Text in title bar	Text in browser's title bar in each page	Bugs / errors in text	Pass	To check the text in title bar of each page for relevance & correctness

Table 46 Test Cases for Black Box Testing of Document

TEST CASES FOR BLACK BOX TESTING OF HYPERLINKS

Test Case No	Identifier	Test item	Input Specifications	Output Specifications	Pass / Fail	Description
5	BBT-HPL-01	Hyperlinks connectivity	All text and image hyperlinks and their sub-links on each page	Working Broken Incorrect Links	Pass	To check all the links

Table 47 Test Cases for Black Box Testing of Hyperlinks

TEST CASES FOR BLACK BOX TESTING OF GRAPHICS

Test Case No	Identifier	Test item	Input Specifications	Output Specifications	Pass / Fail	Description
7	BBT-GRA-01	Load & Display	All graphics on each page	Displayed properly/bugs, errors or delay in loading	Pass	To check that all the graphics display and load properly
8	BBT-GRA-02	Balance	All graphics on each page	All images placed properly/bugs errors	Pass	To check that all the graphics for their size and placement

Table 48 Test Cases for Black Box Testing of Graphics

TEST CASES FOR BLACK BOX TESTING OF FORMS

Test Case No	Identifier	Test item	Input Specificati ons	Output Specificati ons	Pass / Fail	Description
9	BBT-FRM-01	Text Boxes	Text and numeric inputs in all text fields	Validation checks applied / no bug found	Pass	To check that all the fields store only correct input data
10	BBT-FRM-01	Drop down lists	Input test data according to the field	-do-	Pass	-do-
11	BBT-FRM-01	Buttons	Click, double click	-do-	Pass	-do-

Table 49 Test Cases for Black Box Testing of Forms

6.5.2 USABILITY TESTING

TEST CASES

Test Case No	Identifier	Feature to be Tested	Expected Result	Actual Result	Pass / Fail	Description
1	UST- GRA-01	Aesthetic Appropriate tenses	All graphics must present a consistent and good design	Ok	Pass	To check the color scheme, balance emphasis and consistency in all graphical elements of the site
2	UST- GRA-02	Scrolling text, marquees and constantly running	Moving images and text should not be used increasingly	-do-	Pass	To check the moving elements specially text is readable
3	UST- GRA-03	Outdated information	Content provided must be up to date	-do-	Pass	To check the content specially news for outdated information
4	UST- GRA-04	Overly long download time	Pages must load instantaneously and properly	-do-	Pass	To check the loading time of all the web pages

Table 50 Usability Testing

6.5.3 COMPATIBILITY TESTING

TEST CASES

Test Case No	Identifier	Browser Software & version	Display & Load Properly	Different text sizes supported Yes/No	Downloading of web pages Supported/ Not supported
1	CMT-BRW-01	Internet explorer	Yes	Yes	Supported
2	CMT-BRW-02	Mozilla Firefox	Yes	Yes	Supported
3	CMT-BRW-03	Google Chrome	Yes	Yes	Supported

Table 51 Compatibility Testing

6.6. Integration testing

Integration testing is the technique for testing the interfaces of software components. Each software components in unit tested, and all the components are integrated to perform together. The tests are conducted to ensure that the components are working properly after interfacing.

All modules are integrated by an incremental approach, and integration testing of the system is performed as follows:

- Integrate login module and test that the software is properly connected to the database.
- Integrate all modules and test by inserting updating, and deleting records.

6.6.1 SYSTEM TESTING

System testing involves the set of tests that ensures that the entire system performs according to specifications.

6.6.2 SECURITY TESTING

Security testing is protection testing that test security methods in the system to avoid invalid intrusions. Several security checks have been included in the system. The system requires a logon ID and password to initiate. For allowing only authenticated users to log-in.

6.7. Performance testing

Performance testing uses criteria to check that the system functions according to the specifications. All unit modules have been tested successfully. The integration of these unit modules produces reports in the required format.

6.8. Stress Testing

A system evaluated under normal conditions in all previous testing techniques, and no conditions where system can fail are tested. Stress testing evaluates the system under abnormal conditions. The system is tested for various costs and number to check accuracy and to ensure that the system performs accurately under all input conditions.

Chapter 7

Summary, Conclusion and Future Enhancements

Chapter 7: Summary, Conclusion & Future

Enhancements

7.1. Project Summary

This site helps the students to effectively register and login and then add courses according to the given categories and of their need that will be useful for other students and themselves. This framework encourages the students to study more efficiently and more focused by allowing them to join registered courses and upload their own lectures according to those courses and also by uploading different related material according to the course in which they have registered. This framework enables the students to add videos or vide lectures in the joined course and also allowing them to chat with everyone in the registered course. Students in the registered course are also allowed to send notification openly so that everyone in the group can keep themselves up to date by the current activities that have been going on. The framework additionally enables users to registered themselves as tutors so that they can be hired by any student for tutoring them.

7.2. Achievements and Improvements

We have created this platform for the betterment of students and the things we improved were that after the implementation of lecture system we thought that we should add a search option because a student will find it easy with search option to view a specific lecture in the list of thousands of lectures. During the working on this project we got an idea of notification system that a student can send a notification to every student in the particular class so that it will be helpful for everyone to stay up-to-date with the current situation.

7.3. Lessons Learnt

Stay aware of patterns and advancements in online education system. Subscribe to trustworthy platforms and also watch out for the opposition and receive new innovation. Create quality system an keep it reliable. Improve user benefit, build up a decent user relationship administration. In spite of the fact that different platforms may interfere to

criticize you so remind them at each progression that there is a human on the opposite end. Focus on keep advancing and upgrading the system for better response get its name out and grow a piece of overall system.

7.4. Future Enhancements/Recommendations

The project here is simply to guarantee that the students will be able to study more effectively and efficiently in today's difficult testing world. As of now, framework works for a predetermined number of users to work. In not so distant future it will reach out for some sorts of protection strategies with the goal that proficiency can be made strides.

Appendices

Appendix A: Information / Promotional Material

We have created a platform which will help all the student in their study. We have promoted our project through digital marketing.

A.1. Broacher (Bi-Fold)

Inside

EXECUTIVE SUMMARY

We are developing a source that works on Website. This source totally depends on facilitating students in Study and other Educational Material. In this project we provide students with a specific source so that he/she can gather their study material from a single source and don't have to use other sources like Google Drive, Google Classroom and Dropbox etc. It provides feature in which every student of a particular class can communicate with each other in a single chat room. It provides students with extra materials of their course like video tutorials, lectures and books etc. A Particular student can provide his/her own lectures if he wants too and he also can help other students in study. A main benefit for this student is that anybody can hire him/her as a tutor. The main feature is to notify every student on their mobile numbers other than email whenever someone uploads the data.

GOALS & OBJECTIVE

GOAL

Our main goal is to provide each and every student with the help they need in their study including the lectures, video tutorials, PPT slides, complete courses etc.

TIME & ENERGY EFFICIENCY

It is time saving and energy efficient. Students without any physical effort can login to their accounts and can have access to any type of study material they need. They don't have to visit someone else for the lectures.

ACCESSABILITY

Students can have access to their lectures, tutorials and many other things while sitting anywhere.

SCOPE

The scope of our project is that students can manage their study material easily and they can have chatrooms available for each course to communicate with other students. They can also find most accurate and relevant data. A Particular Student can upload their own lectures and will also be able to help other students and the benefit they get is that they can be hired by anyone as a tutor.

This project has well accurately and perfectly designed database so that no data can be misplaced or lost. It has well designed front end that will attract the viewers and looks cool. It is a friendly user interface.

WHY US ?

Student World is a best platform to find any study related material a student need during the studies. By joining student world student can even create their own classrooms and upload their own lectures or tutorials. The main reasons for choosing us are:

- ✓ The best designed user interface with well organized database.
- ✓ Student world is running 24/7 with full backup power.
- ✓ Student world provide their users the best security and reliability so that their personal data cannot be used somewhere else.
- ✓ Every student can also choose their own tutor from the registered tutors.

Outside



About Us :

Student World is a platform on which students and tutors can register themselves and find it useful. Students can create their own classrooms and related to the courses and then further add lecture files, video tutorials and create chatrooms according to the course. Other registered students can join those classrooms. Tutors can be selected by the students for teaching.

Contact Us :

Address: 6km Raiwind Rd, OPF Society, Lahore
Phone: +92 3152333543
Email: info@studentworld.com
Web: www.studentworld.com

**LEARNING, EXPERIENCE
AND CONFIDENCE**

WHERE **LEARNING** BEGINS

A.2 Visiting Card

Front



Back



A.3 Standee

STUDENT WORLD



Build Your Career



Register Now and start your educational career.



<https://www.studentworld.com>



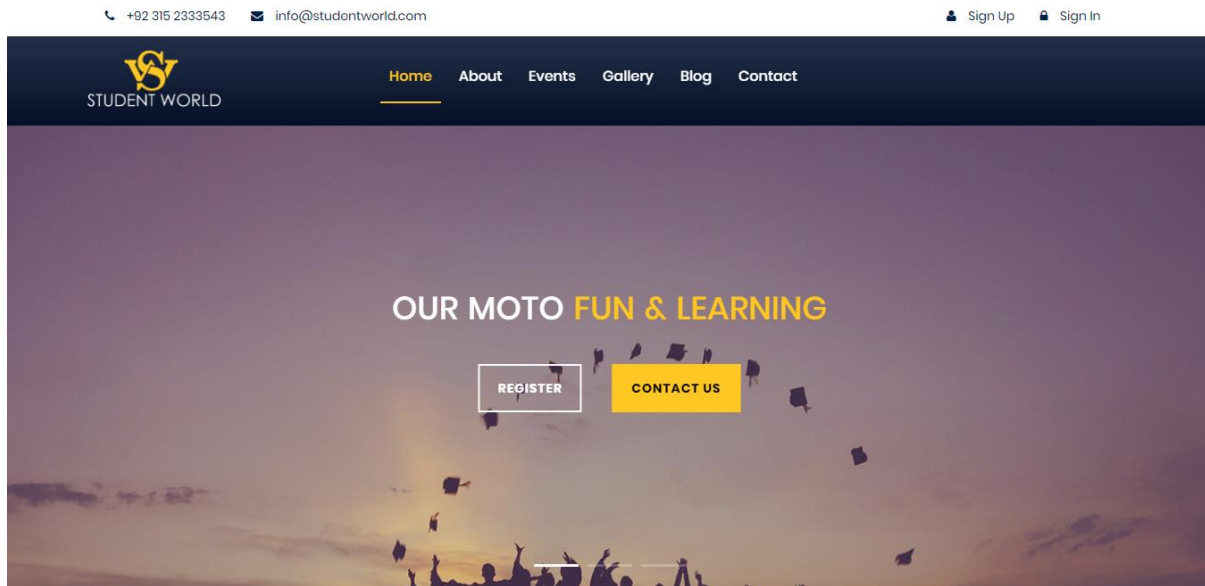
6km Raiwind Rd, OPF Society,
Lahore



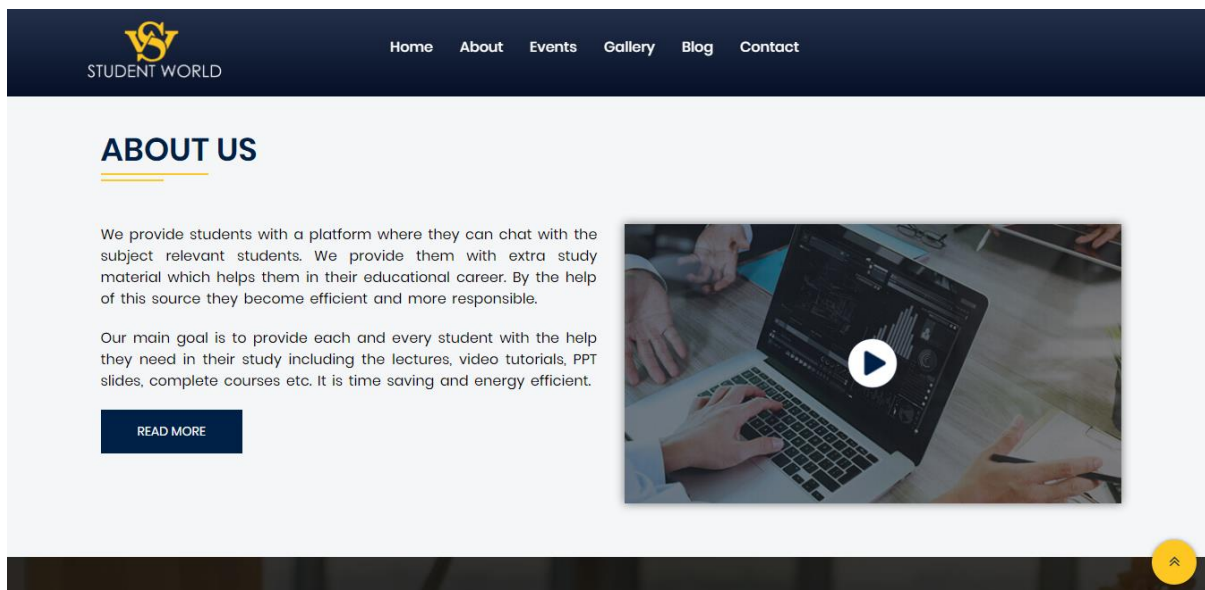
+92 315 2333543

Website Screen Shots

Home1



Home2



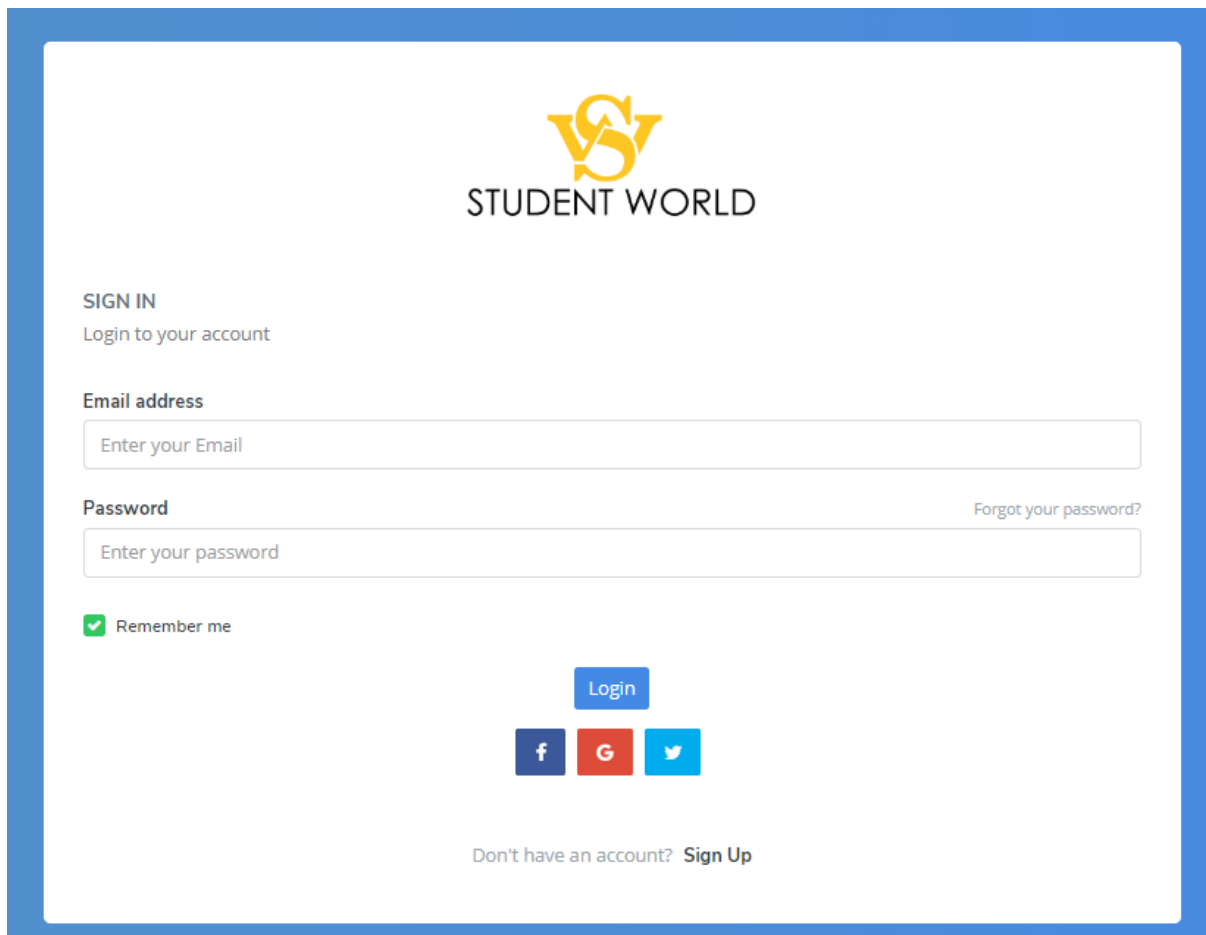
Home3

The screenshot shows the home page of the Student World website. The header is dark blue with the Student World logo and navigation links: Home, About, Events, Gallery, Blog, and Contact. Below the header, there are three columns of contact information: Address (8km Raiwind Rd, OPF Society, Lahore, Punjab), Phone Number (+92 315 2333543, +92 340 4354422), and Email Address (info@studentworld.com, www.studentworld.com). The main content area is divided into four sections: Student World (mission statement), Recent Posts (two posts about 'While The Lovely Valley Team Work' and 'I Must Explain To You How All This Idea Spoken English'), Our Sitemap (Home, About, Events, Blog, Contact), and News Letter (sign up form). At the bottom, there are social media icons for Facebook, Google+, Twitter, and two other platforms, along with a copyright notice for 2019 Student World.

Sign Up

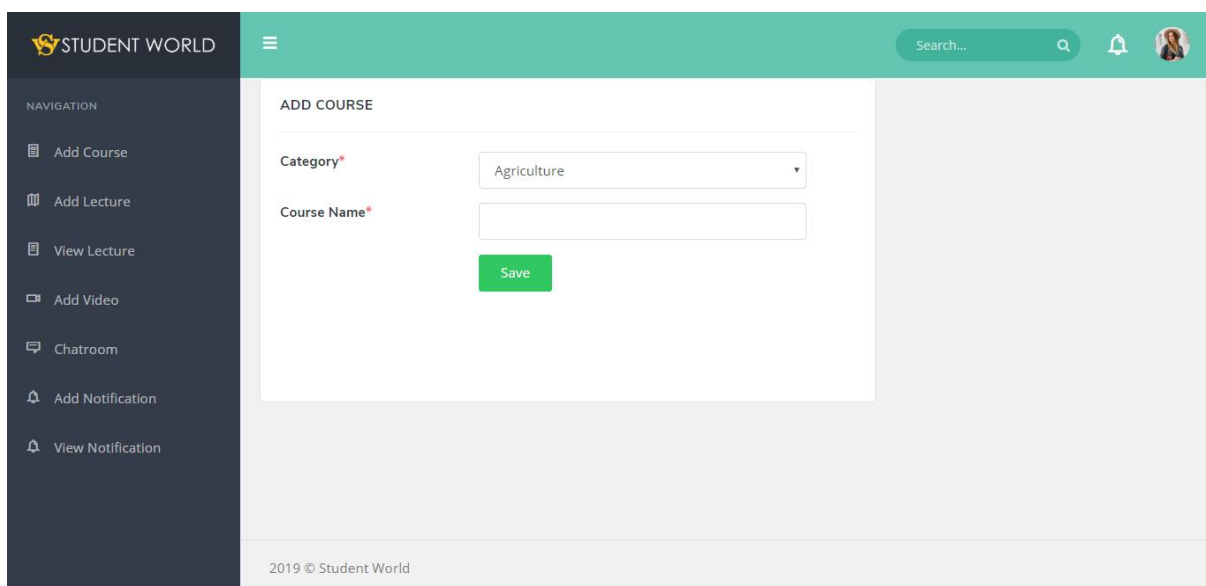
The screenshot shows the sign-up form on the Student World website. The form is centered on a white background with a blue border. At the top, the Student World logo is displayed. Below the logo, the text 'REGISTER' and 'Get access to our panel' is shown. The form contains several input fields: Name, Email address, Password, Date of Birth (with a placeholder 'mm/dd/yyyy'), and Phone Number (with a placeholder 'Enter your Number'). A blue 'Sign Up' button is positioned below the input fields. Below the button are three social media icons: Facebook, Google+, and Twitter. At the bottom of the form, there is a link for 'Already have an account? Sign In'.

Log In



The login page features the Student World logo at the top center. Below the logo, there is a 'SIGN IN' section with the text 'Login to your account'. The form includes an 'Email address' field with the placeholder 'Enter your Email', a 'Password' field with the placeholder 'Enter your password', and a 'Remember me' checkbox which is checked. A 'Login' button is positioned below the password field. Social media icons for Facebook, Google+, and Twitter are also present. At the bottom, there is a link for 'Sign Up' with the text 'Don't have an account?'.

Add Course



The 'Add Course' page is part of the Student World application. It has a dark sidebar on the left with navigation options: 'Add Course', 'Add Lecture', 'View Lecture', 'Add Video', 'Chatroom', 'Add Notification', and 'View Notification'. The main content area is titled 'ADD COURSE' and contains a form with a 'Category' dropdown menu (set to 'Agriculture') and a 'Course Name' text input field. A green 'Save' button is located below the form. The footer of the page displays '2019 © Student World'.

Add Lecture

The screenshot shows the 'Add Lecture' form in the Student World application. The form is titled 'LECTURE DETAILS' and is located in the main content area. On the left, there is a dark navigation sidebar with the following options: Add Course, Add Lecture, View Lecture, Add Video, Chatroom, Add Notification, and View Notification. The top header is green and contains the 'STUDENT WORLD' logo, a search bar, a notification bell, and a user profile icon. The form itself has three input fields: 'Lecture Name*' (a text box), 'File*' (a file upload button labeled 'Choose file' with the text 'No file chosen'), and 'Course Name*' (a dropdown menu currently showing 'Computer'). A green 'Save' button is positioned below the 'Course Name' field. At the bottom of the page, there is a footer that reads '2019 © Student World'.

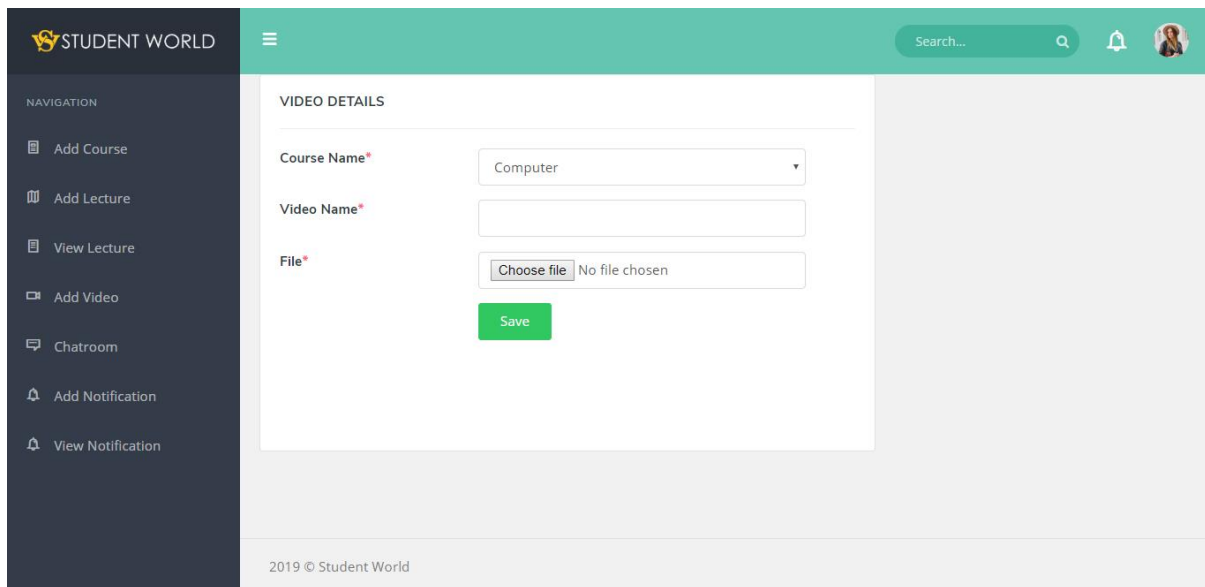
View Lecture

The screenshot shows the 'View Lecture' page in the Student World application. The page is titled 'LECTURE FILES' and is located in the main content area. On the left, there is a dark navigation sidebar with the following options: Add Course, Add Lecture, View Lecture, Add Video, View Videos, Chatroom, Add Notification, and View Notification. The top header is green and contains the 'STUDENT WORLD' logo, a search bar, a notification bell, and a user profile icon. The page features a search bar with the text 'SEARCH LECTURE FILES!' and a green 'Search' button. Below the search bar, there is a table displaying the results of the search. The table has three columns: 'Lecture Name', 'Course Name', and 'File'. The data rows are as follows:

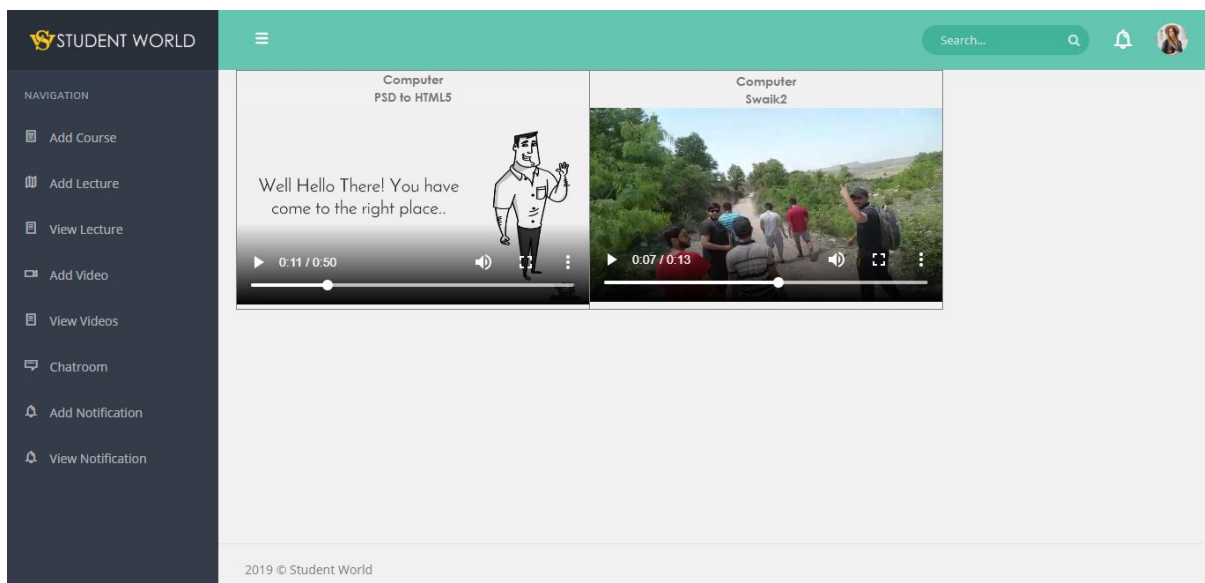
Lecture Name	Course Name	File
Invoice	Computer	~/Files/Invoice.pdf
SQL FILE	Computer	~/Files/neoschool.sql
Invoice	Computer	~/Files/Furqan Malik.docx
Invoice	Computer	~/Files/1.jpg
Image	Computer	~/Files/IMG-20190421-WA0008.jpg

At the bottom of the page, there is a footer that reads '2019 © Student World'.

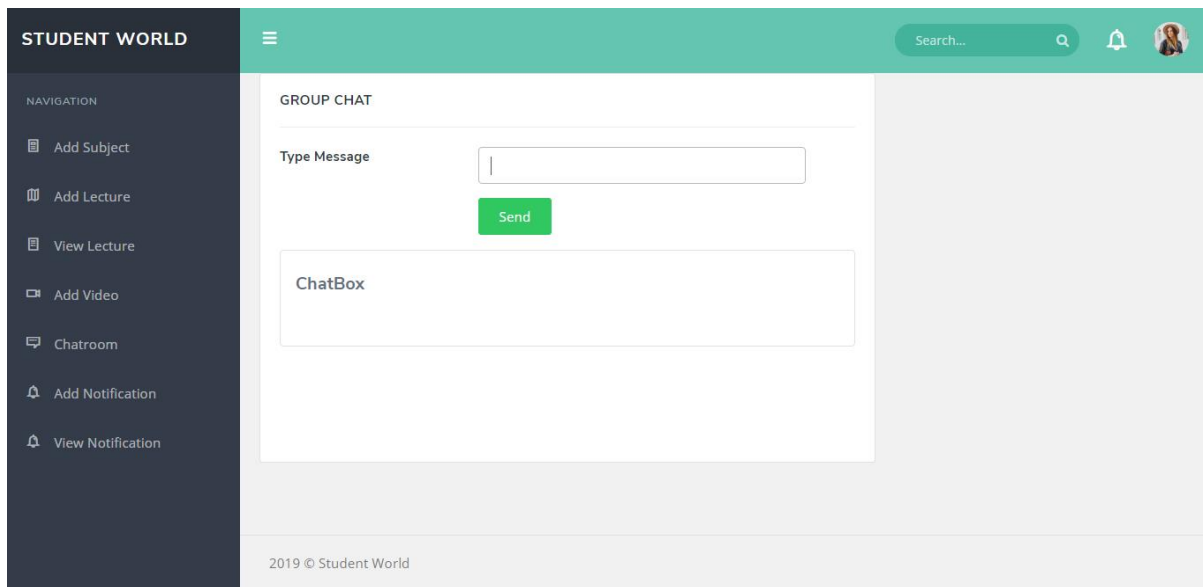
Add Video



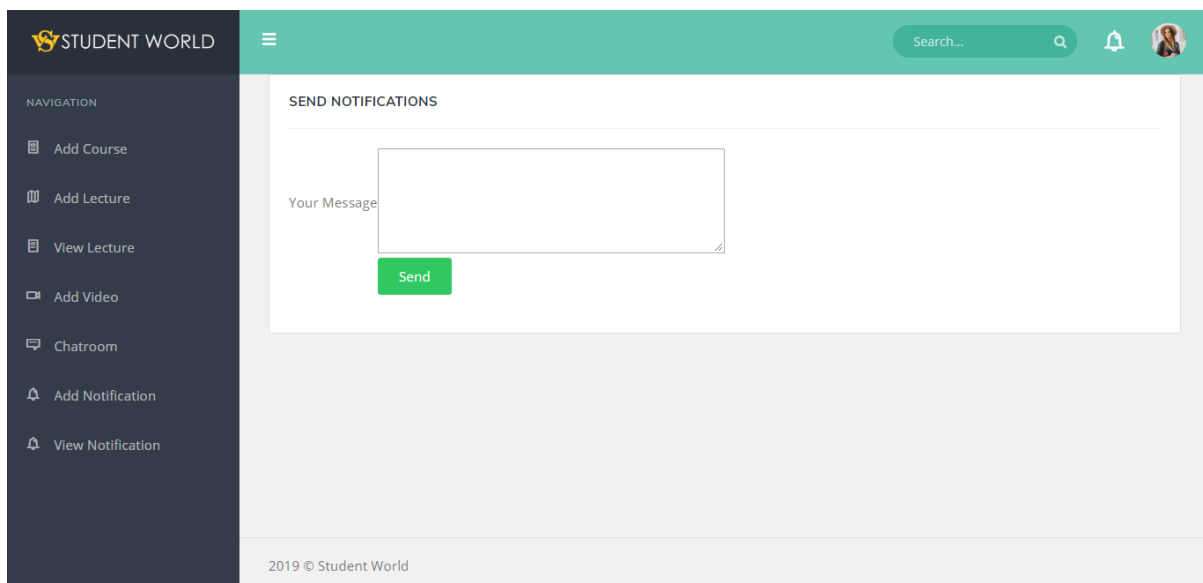
View Video



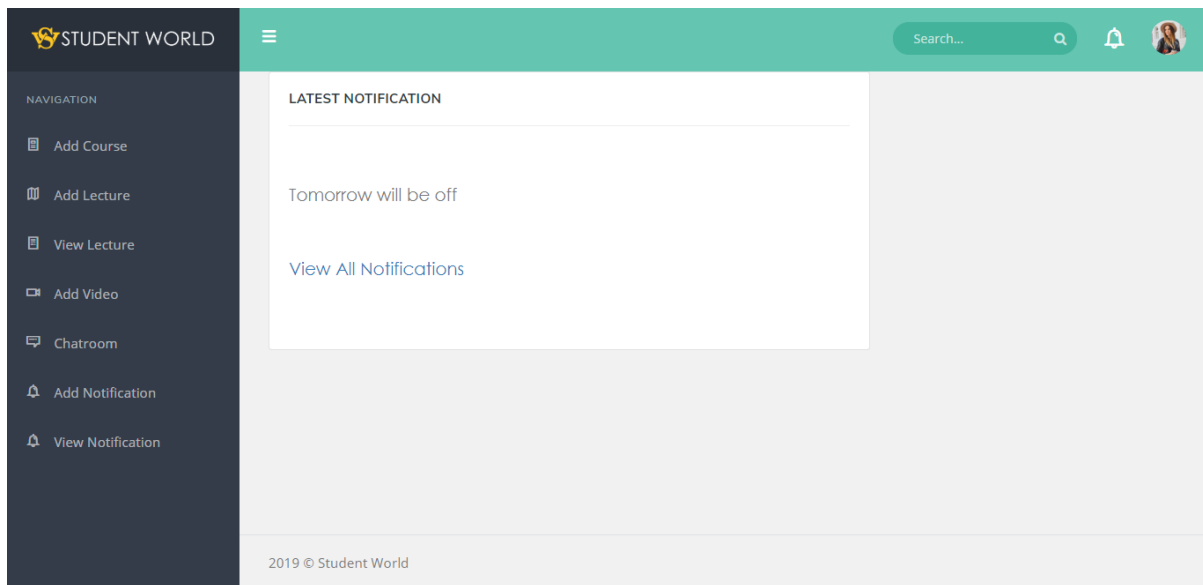
Chatroom



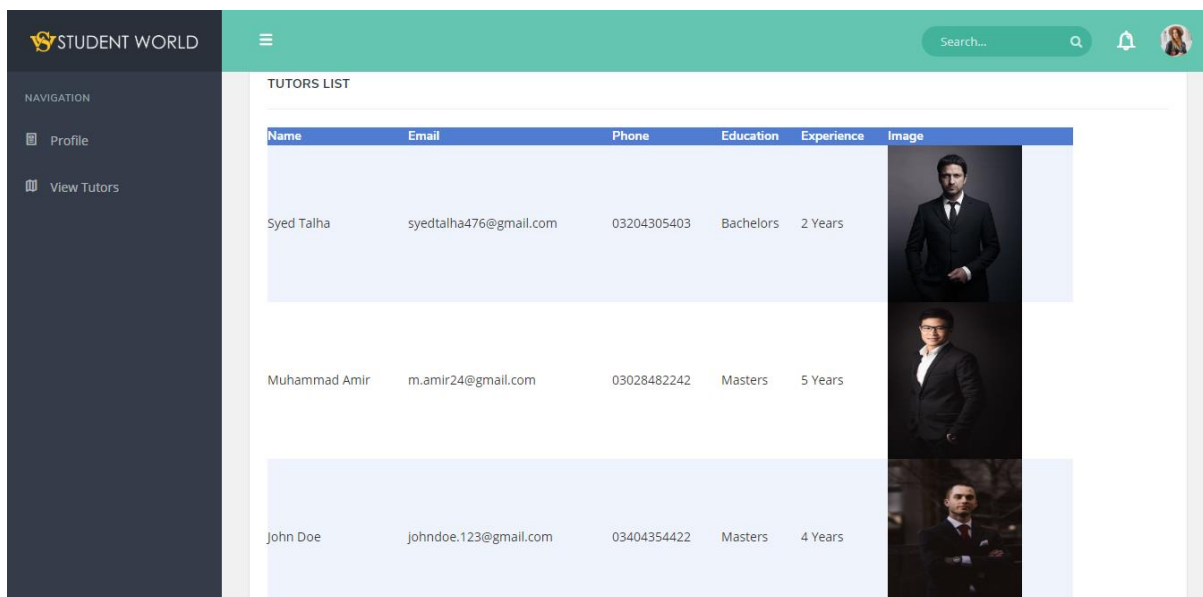
Add Notification



View Notification



View Tutors



A.4 First Level heading [16 pt, Calibri, Bold, Left aligned]

The first heading's height is 15%, font size is 40px, and it is bold, aligned center. The text color is white. The background color is CMYK. Font family is century gothic. Two more headings are used that are also bold, aligned center, color is same to the first heading font family is Century Gothic height is 14%.

A.4.1 Second level heading [14 pt, Calibri, Bold, Left aligned]

The second level heading has the Visiting Card which has 317px height, font size is 40px, and it is bold, aligned center. The text color is black. The background color is CMYK. Font family is Century Gothic. Second heading in Card is on the back. Font size is 40px, color black, and font family is Century Gothic.

A.4.1.1 Third level heading [12 pt, Calibri, Bold, Left aligned]

In third level heading standee height is 17392px we kept, it is bold, font family is Century Gothic the font size is 15%, text aligned in center, text color is black, background color is CMYK.

Reference and Bibliography

Reference and Bibliography

- [1] M. Sher, M. Rehman, "*Title of the Paper*" Conference name/Journal Name, Edition, Volume, Issue, ISBN/ISSN, PP, Publisher/City-Country, Year.