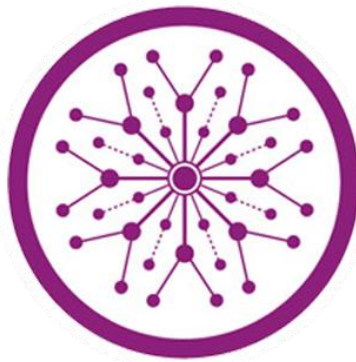


Stuttie
Final Year Project
Session 2018-2022

A project submitted in partial fulfillment of the degree of
BS in Computer Science



Department of Computer Science
Faculty of Computer Science & Information Technology
The Superior University, Lahore

Spring 2022

Type (Nature of project)	☒ Development ☐ Research ☐ R&D			
Area of specialization	E-Learning			
FYP ID	FYP-BCSM-F21-074			
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Plagiarism Free Certificate

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Project Report

Stuttie

Change Record

Author(s)	Version	Date	Notes	Supervisor's Signature
Daniyal Abdul Rehman	1.0	04/15/2022	Changes Based on feedback from supervisor	
Muhammad Ahmad	1.0	06/01/2022	Changes in final report based on feedback from supervisor	
Sana Ch	1.0	06/10/2022	Changes figure no based on feedback from supervisor	

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Date: _____ Signature: _____

HEAD OF THE DEPARTMENT

Comments: _____

Date: _____ Signature: _____

Dedication

I want to dedicate this work to my team and my Tutors who teaches me and helped me in completing this project. I dedicate this Project to my team, who always qualified me with the best knowledge which he learned from his life experience.

Acknowledgements

I would like to tell and give my huge thanks to my respected supervisor Miss Maryam who helped us to make this work possible for us. Her expertise & guidance carried us to all stages, her suggestions have served as a major contributor towards the completion of our project.

I would like to give thanks to my family for their never ending support and understanding. The prayers that they made for us actually was what maintained us this far.

Finally, most beneficial and merciful Allah, who letting us through all the difficulties. We are learning your path and guidance day after day.

Executive Summary

This report includes a detail project plan for E learning by keeping in mind the existing solution and a proposed solution is provided. The scope of the project is clearly defined. A complete and thorough system architectural diagram is given for the better understanding of the project which includes the three main phases for the implementation of the project. Implementation tools and techniques are also mentioned. Each milestone of the project is depicted by the Gantt Chart.

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Chapter 1

Introduction

Chapter 1: Introduction

The purpose of this application is to introduce the detailed requirements of the curriculum. Student, Tutor, Admin are the main roles of this program. By building this program we will make it easier for students and tutors. Through this program, the student can learn different courses, make friends. Tutors can easily give lectures on meetings and can set the total lesson price per hour. The student can register, then they can create the job and can also find school, send friend request to tutor and be approved by the tutor. Tutors can see the number of students in the group they will get paid and the application will deduct its money on the course because it is providing a center for tutors and students.

Students can pay with a variety of sources. And there is also an admin who can manage all the issues. The admin can manage student records and update and delete their data of learning and also manage all accounts.

1.1. Background

Before the internet, courses were offered to students with specific subjects. In the 1840s Isaac Pitman told his students a summary of a book. This type of writing was designed to improve the writing speed and that was popular among writers and other people who wrote many notes. Pitman is a trained tutor, that was sent to the students to complete assignments with postal mail and then sent out additional assignments for them. [1]

In 1924 the first test machine was invented and introduced. This device allows the students to test themselves. A Harvard Professor in 1954, B.F. Skinner, introduced the “teaching machine”, which helped the schools to provide structured instructions for their students. Until 1960 it was not that the very first computer-based training and program was introduced worldwide.

This CBT program was also named as the PLATO Programmed Logic for Automated Teaching Operations. It was originally and purely designed for the students studying at that University of Illinois but that has since been used in schools around everywhere. [2]

1.2. Motivations and Challenges

with the e-learning environment to understand the challenges associated it is important to define what the word e-learning means. Clark and Mayer help explain e-learning. A mandate brought about by any technology mode aimed at promoting learning. Teaching / learning in an e-learning environment is different from the usual way of studying. Tutors and students participating in this online learning environment may face new challenges. Technology-based learning platforms rapidly transform the learning environment, transforming the learning environment into a classroom-only online or mixed-online learning experience.

The potential challenges facing tutors and students in an e-learning environment should be considered to ensure student success. Therefore, there are two roles in e-learning that help to address these challenges. The first is the role of tutor and student. Both roles range from tutor-student relationships, roles, and responsibilities to visual space roles. However, the key role of the tutor is in the learning environment, which helps in overcoming the challenges, helping and maintaining the success of the student. [3]

To make it very easy to use.

- Easy to understand.
- User friendly interface.
- Secure login.
- Secure databases.
- Easily manage business payments.
- Safe transactions.
- To generate slips.
- To keep the records of payment.
- Pending payments.
- Products detailed.
- To keep the correct date or time on the slips.

1.3. Goals and Objectives

There are certain terms when it comes to e-Learning and some of them are:

- Improvement in quality of learning
- Improvement in teaching by live lectures
- Meet learning style & needs of student
- Improve in efficiency
- Improve user accessibility & flexibility in engaging of students in this learning process

1.4. Literature Review/Existing Solutions

The existing solution of E-Learning apps are: -

- Alison - Online courses from experts, available in English, French, Spanish, Italian and Portuguese
- Canvas Network - A curriculum catalog is free for Tutors to support lifelong learning and professional development.
- Coursera - Online courses taught by lecturers from well-known universities and companies.
- European Schoolnet Academy - Free online courses for professional development of Tutors in English, French, Italian and other European languages.
- EdX - Online courses from leading educational institutions.
- ICourse - Chinese and English language courses for university students.
- Future Learn - Online courses to help students learn, build professional skills and communicate with professionals.
- Courses - Chinese language courses for university students.
- TED-Ed Earth School - Online courses on nature have been made available for a period of 5 weeks between Earth Day (22 April) and World Environment Day (June 5).
- Udemy - English, Spanish and Portuguese language courses in ICT and program skills.
- XuetangX - Online courses offered by a group of universities with various courses in Chinese and English. [4]

1.5. Gap Analysis

TABLE 1.5.1 Gap Analysis

Strength • Saving traveling expense • Easily to learn • Learn from International Tutors • Live chat • Live Lectures • Live Group Chat • Blogs • New Job Opportunities	Weakness • Lack of motivation • Conventional mind set
Opportunity • Market Gap in this field • A lot of scope in this field	Threat • Competitors

1.6. Proposed Solution

Providing an online platform where a user can learn and also a Tutor can earn money by teaching students from home. Also students can live chat with Tutor. Lectures are through live meetings. Student and tutors can create post and other can see and contact with them and also make friends by sending friend request.

1.7. Project Plan

The project will be managed by dividing the whole into smaller chunks which will be described and solved in the work breakdown structure. It also includes a Gantt chart which will describe step by step completion of the project with all the milestones.



Fig 1.

1.7.1. Work Breakdown Structure

- **Project Management**
 - Requirement gathering.
 - Roles & Responsibility for group members.
- **Reports / Documentation**
 - Final Documentation Introduction
 - Requirements Analysis
 - System Design
 - Implementation
 - Testing & Performance Evaluation
 - Conclusion
 - Documentation for End User
 - Admin Documentation
- **System**
 - Development Environment
 - IDE: VS code, Visual Studio 2019, Postman, Sql server
 - Version Control: Git
 - Dev Server: Vue, .Net CoreServer for development
 - Database: Sql as development purpose

1.7.2. Roles & Responsibility Matrix

TABLE 1.7.1 Roles & Responsibility Matrix

1. WBS	WBS Deliverable	Activity #	Activity to Complete the Deliverable	Duration (# of Days)	Responsible Team Member(s) & Role(s)
Project Management	Requirement gathering	1	Completed	10 days	grouped
Presentation Layer	Designing	2	N/A	1month	Ahmad& Sana
Presentation Layer	Front-end Work	3	30%	1month	Ahmad&

					Sana
Business Logic Lay.	Databases Design	4	N/A	10 days	M. Ahmad
Business Logic Lay.	Backend Api's	5	N/A	1month	Daniyal
Implementation Layer	Api's Implementation	6	N/A	1 month	Ahmad & Daniyal
Testing Phase	Testing &Deployment	7	N/A	1 month	Daniyal & Ahmad

1.1.1. Gantt Chart

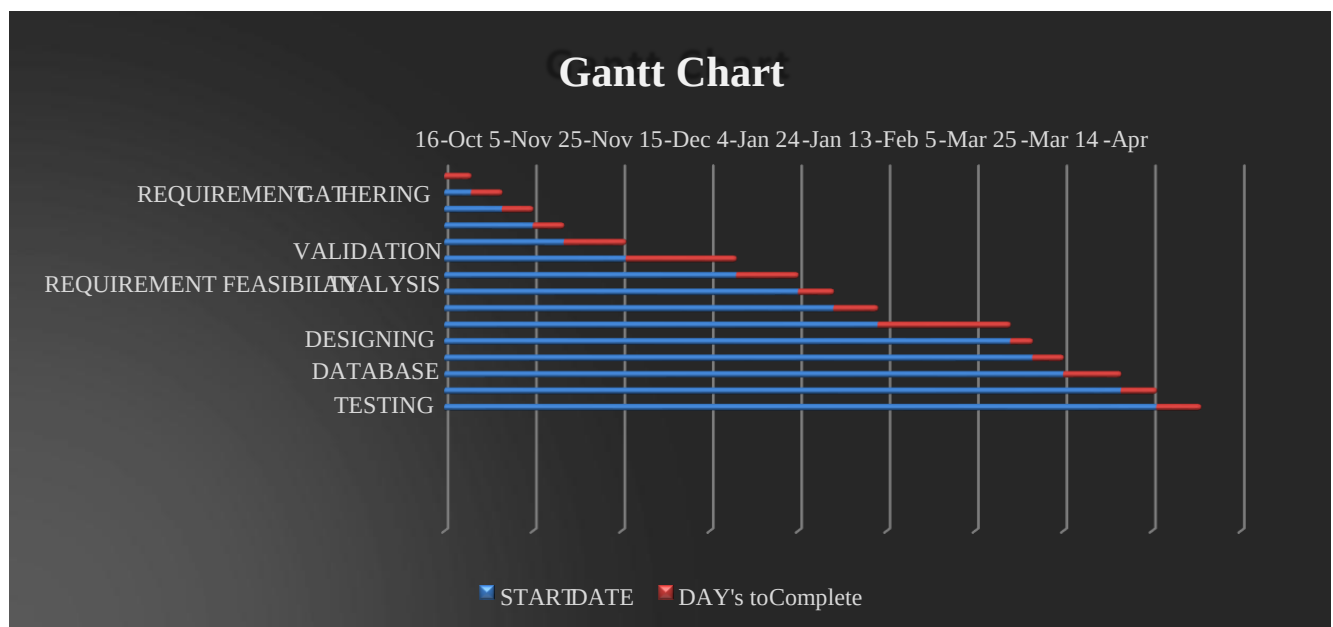


Fig 2.

1.2. Report Outline

- Provide efficiency
- Reliability
- Incremental approach
- Attractive & easy to user interface
- Back end Database
- Maintainability
- Scalability

Chapter 2

Software Requirement Specifications

Chapter 2: Software Requirement Specifications

2.1. Introduction

2.1.1. Purpose

These Requested Documents is providing clear understanding of what they are it is actually an online learning program and identifies the most important requirements for this projects successfully completed. These requirements provide an overview of everything online. The e-learning system also provides a general overview of the entire project.

This SRS defines operating software (E-learning) requirements. The document is to use by members of the project who will carry it & check the smoothness of running system. And All the requirement is set here. This document will be used in Software Process [5]

2.1.2. Document Conventions

We are using Calibri font for both headings and their description along with bold. Heading is using style heading 2. Font size for heading is 16, sub-heading is 14 and for description is 12. The description paragraphs are justified.

2.1.3. Intended Audience and Reading Suggestions

Prototype of E- learning app. This document is for: -

Developers: To understand the requirements of the app to make it up to the mark.

Testers: it verifies product will meet the requirements that are in SRS function, performance, design, and implementation.

Users: who is going to use the application.

Marketing staff: who promotes the product and generate revenue for an organization.

2.1.4. Product Scope

This will mainly be used by those people who lives at far places and go too far places like from one city to another for learning and also for the Tutors who move to another city due to their job. Now they can easily learn and Tutors can easily earn from home. Now these days due to covid-19, Stuttie is a very good options for both Tutors and students. Stuttie offer a social learning platform that allows students to access tools to help them in school. We provide the platform where students can engage for the purpose of improving their success in school.

2.2. Overall Description

2.2.1. Product Perspective

It is a commercial app and is a follow-on member of existing e-learning apps. It includes a new feature like live chat, video call, Blogs, Make friends. The existing apps of e-learning covers the specific limited thing like share just videos. This product will cover the whole things.

2.2.2. Product Functions

1) Student Features

- Social Signup/Login
- Payment per hour
- Pick available subject
- Post questions & post blogs
- Search & filter tutors
- Make Friends
- Select Tutor
- Contact with tutor through live chat, video call / forum
- Rate tutors

- Live Group Chat
- Create Job
- Ask Question or find Question
- See Blog, like and answer that blog

2) Tutor Features

- Registration
- Manage profile
- Account settings
- Push Notifications
- Schedule video call/ Schedule Lessons
- Make Friends
- Add & find school
- Live chat with friends
- Add Courses
- View Jobs & Bid for that job
- Live Group Chat & also Create Group
- Create Blogs & posts
- Check ratings & reviews
- Question, answer, queries post by blog & in question, answer section
- Students interaction either with text or Schedule video call

- See Blog, like and answer that blog

3) Admin Features

- Manage Tutors, students
- Manage subjects and courses
- Student information system management
- Manage Blogs
- Manage Reports
- Manage Rating
- All Student & Tutor Features

2.2.3. User Classes and Characteristics

- Student
- Tutor
- Admin

2.2.4. Operating Environment

Stuttie Operating Environment:

- System is Client/Server
- **Operating System:** windows
- **Platform:** Visual studio code, Visual studio 2019, Postman, Node.js, Sql Server

2.2.5. Design and Implementation Constraints

Design & maintenance of Stuttie is a challenging task. Sql database will be used. Language used will be C#&JavaScript.

2.2.6. User Documentation

The user documentation will include the following:

- User manual
- Tutorial

2.2.7. Assumptions and Dependencies

Every entity has own login id. To save the record of that entity. There will also be backup activities. If the entity delete account.

The hardware components like camera and microphone used for the video call. Poor Internet connection can also affect.

2.3. External Interface Requirements

2.3.1. User Interfaces

Application start with a main screen followed by a login page. If the user has already logged in, then he will be directed automatically to the home screen that contains the dashboard according to that entity. Every entity has its separate dashboard. The home screen will also contain a side menu in which we will have according to entity. If a student login then his dashboard contains forum, Friends, add & find Groups, Messages, Create Job, Tutor...etc.

2.3.2. Hardware Interfaces

Laptop

The application uses camera, microphone and the internet, it includes all the hardware to connect internet e.g., Modem, WAN – LAN.

2.3.3. Software Interfaces

The application uses internet for login.

- The Sql database is used.
- Application Is be web Based.
- Visual Studio Code, Visual Studio 2019 is the tool used for development.
- Vue.js, Vuex, Bootstrap used for front-end.
- .Net Core used in back-end.

2.3.4. Communications Interfaces

The application shall use the HTTPS protocol for communication over the internet.

2.4. System Features

Following are the features provided by our application:

2.4.1. Registration and Login

2.4.1.1. Description and Priority

Register a new user or login an existing user to keep their data separate

2.4.1.2. Stimulus or Response Sequences

- Student or tutor will open application.
- Application will show the login page.
- If the user is new, he will fill out the registration form.
- The application will authenticate the login details and allow the user to proceed to the home page if the login is successful otherwise it will show unsuccessful login dialog box.

2.4.1.3. Functional Requirements

- Login
- Registration
- Create Job for Student
- Add Friends
- Create Blogs
- Add Courses
- Add Groups
- Live Chat
- Live Group Chat
- Schedule Lessons
- Different Channels for forum
- Push Notifications

- Add & find School
- Reviews
- Billing & Invoice

2.5. Other Nonfunctional Requirements

- Performance is about throughput, response time
- Scalability.
- Maintainability
- Availability
- Recoverability
- Reliability

2.5.1. Performance Requirements

The Stuttie app will load and run in 3 second and must provide available data that will be fresh or updated. The response time of the app is minimized by industry practices. And other performance related: memory, storage, and processing is also minimized.

2.5.2. Safety Requirements

Terms and conditions should be defined. User should accept that and then use the application to avoid any inconvenience later.

2.5.3. Security Requirements

User authentication and authorization is used as the safety mechanism for login. So that a user can only access its own data. Use of JWT.

2.5.4. Software Quality Attributes

Our app will assure to provide the following Qualities:

Correctness: it refers to:

- code specifications with Agreement of program
- Independences of application of software.

The correctness of a program becomes especially critical when it is embedded in a complex software system.

Reliability: it derives from Correctness.

- Availability

It is the behavior over time to fulfil given specs depend on reliability of system.

it is the probability that determined by the specifications for a specified number of input under specified input conditions in a specified time interval by assuming that hardware and input are free of errors. [6]

Maintainability:

The depends on its:

- Readability.
- Testability.

Readability: Readability depends on its:

- Form of representation.
- Programming style.
- Consistency.
- Readability of the implementation programming languages.
- Structuredness of the system.
- Quality of the documentation.
- Tools available for inspection.

Testability: it is the runtime behavior under given conditions and for debugging.

it depends on its:

- Modularity.
- Structured.

Efficiency: it is the ability of software system to less utilize of time, storage, transmission channels, and peripherals.[7]

Portability:

It was designed to run software also on other computers rather than it is design for.

It depends on:

- Independence of Hardware.
- Implementation language.
- Specialized system functions.

2.5.5. Business Rules

Student can create job that will be for tutor and the tutor bid for that and contact with each other.

Tutors can add friend, group, school and also check review.

Whereas the Admin can manage all.

Chapter 3

Use Case Analysis

Chapter 3: System Analysis

In this chapter, we will discuss about the use cases regarding the actors which includes Student, Tutor and Admin separately and also full use case diagram of the system. The visual representation of the use cases is given. Also the fully dressed use case is described as per template with all the attributes which are essential for a fully dressed use case.

3.1. Use Case Model

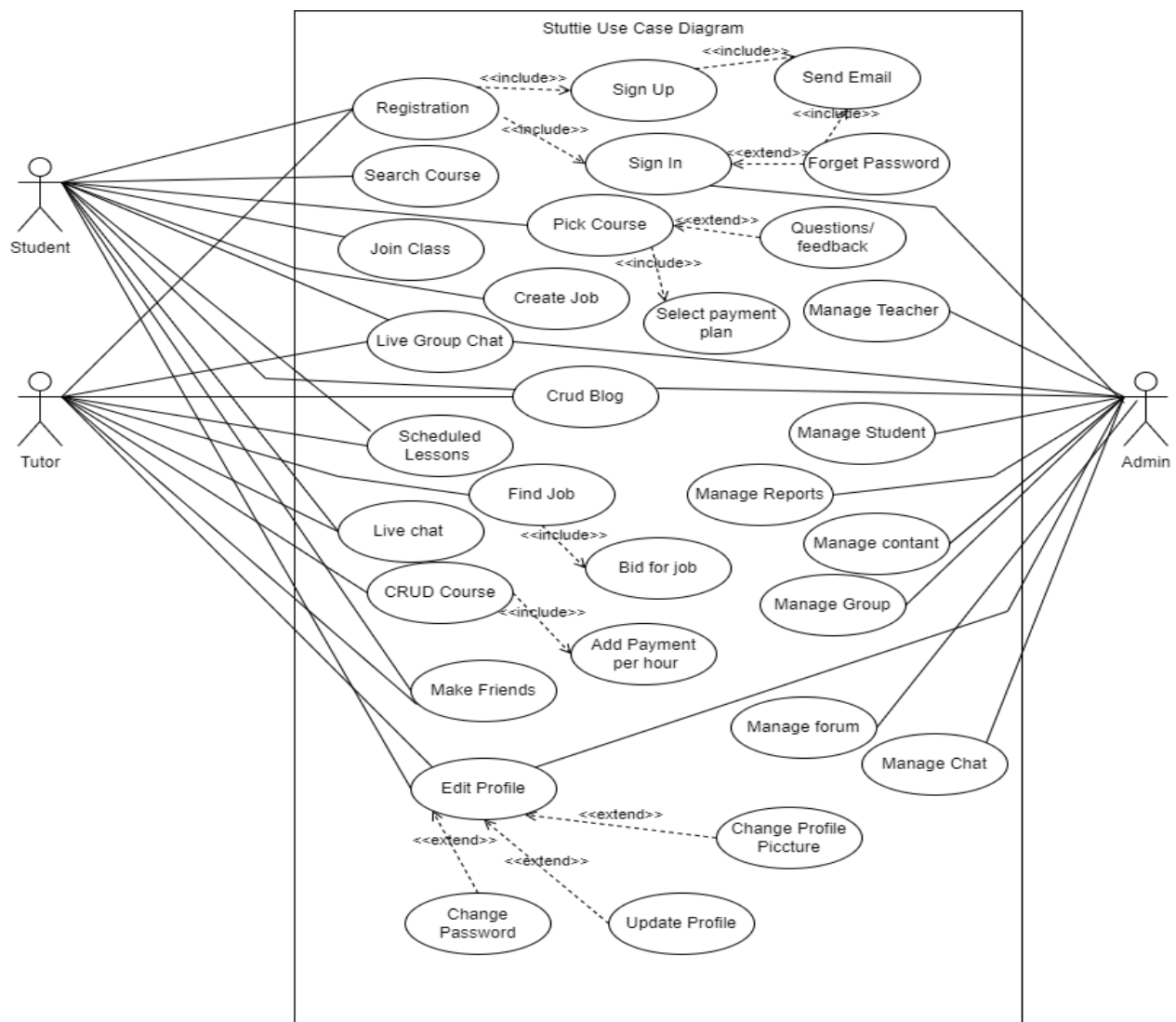


Fig 1.

3.2. Use Case Descriptions

Users

TABLE 3.2.1 Login/Signup

Use case Name	Login/Signup
Description	Both of the users must have to signup first and the login to access the app.
Actors	Student, Tutor
Pre-Conditions	System must be connected to the internet.
Post-Conditions	Successful Sign up will send Password by email to user.
Main Scenarios	Steps
Actors/users	☐ Enter Username. ☐ Enter Password. ☐ Enter Email.
Extensions	Invalid try will show Error.

Admin

TABLE 3.2.2 Manage Users

Use case Name	Manage Users
Description	The admin will manage both of the users.
Actors	Admin.
Pre-Conditions	System must be connected to the internet.
Main Scenarios	Steps
Actors/users	☐ Keep records of both users.
Extensions	☐ Will update the system on same time.

TABLE 3.2.3 Search Course

Use case Name	Search Course
Description	The student must have to search new course.
Actors	Student.
Pre-Conditions	System must be connected to the internet.
Main Scenarios	Steps
Actors/users	□Overall Information of Course.
Extensions	□Invalid Information will show Error.

TABLE 3.2.4 Live Group Chat

Use case Name	Live Group Chat
Description	Live group chat for all user to share all queries.
Actors	Admin, Student, Tutor.
Pre-Conditions	System must be connected to the internet.
Main Scenarios	Steps
Actors/users	Can Chat in Specific Course Group

TABLE 3.2.5 Join Class

Use case Name	Join Class
Description	Live Class For Learning.
Actors	Student.
Pre-Conditions	System must be connected to the internet.
Main Scenarios	Steps
Actors/users	Can Join Schedule Class

TABLE 3.2.6 Create Job

Use case Name	Create Job
Description	Student create job for teacher
Actors	Student.
Pre-Conditions	System must be connected to the internet.
Main Scenarios	Steps
Actors/users	Student Create job Then Teacher will Bid for it.

TABLE 3.2.7 Pick Course

Use case Name	Pick Course
Description	Student pick their course according to need.
Actors	Student.
Pre-Conditions	System must be connected to the internet.
Post-Conditions	Successful login will send confirmation mail to user.

TABLE 3.2.8 Manage Student

Use case Name	Manage Student
Description	Admin Will manage Student And their Issues.
Actors	Admin
Pre-Conditions	System must be connected to the internet.
Post-Conditions	Successful login will send confirmation mail to user.
Main Scenarios	Steps
Actors/users	• . Changes History

TABLE 3.2.1.9 Crud Blog

Use case Name	Crud Blog
Description	Users Can add delete Update & Read The Blog. And also can like & Answer it.
Actors	Student, Tutor, Admin
Pre-Conditions	System must be connected to the internet.
Post-Conditions	Successful login will send confirmation mail to user.

Main Scenarios	Steps
Actors/users	. Changes History

TABLE 3.2.10 Schedule Lesson

Use case Name	Schedule lessons
Description	. Tutor & Student can Schedule meeting for lessons.
Actors	Tutor, Student
Pre-Conditions	System must be connected to the internet.
Post-Conditions	Successful login will send confirmation mail to user.
Main Scenarios	Steps
Actors/users	Through Jitsi.

TABLE 3.2.11 Find Job

Use case Name	Find Job
Description	Tutor Can find Job That Student Create & Bid for it.
Actors	Teacher
Pre-Conditions	System must be connected to the internet.
Post-Conditions	Successful login will send confirmation mail to user.
Main Scenarios	Steps
Actors/users	- Through Blogs - Through Job module - Bid for job - Message Student

TABLE 3.2.12 Make Friends

Use case Name	Make Friends
Description	All User can make friends.
Actors	Tutor, Student, Admin
Pre-Conditions	System must be connected to the internet.
Post-Conditions	Successful login will send confirmation mail to user.
Main Scenarios	Steps

Actors/users	• Search Through mail, name • Send friend request
Extensions	• Other can reject or accept that request

TABLE 3.2.13 Manage Reports

Use case Name	Manage Reports
Description	The admin will manage the report of author and student.
Actors	Admin.
Pre-Conditions	System must be connected to the internet.
Post-Conditions	Successful login will send confirmation mail to user.
Main Scenarios	Steps
Actors/users	• Manage report by going to reports module and solve issue
Extensions	• □Will update the system on same time.

TABLE 3.2.14 Manage Payments

Use case Name	Manage payments
Description	The admin will manage the payments.
Actors	Admin.
Pre-Conditions	System must be connected to the internet.
Post-Conditions	Successful login will send confirmation mail to user.
Main Scenarios	Steps
Actors/users	• Manage payments transactions done. • Payment receives.
Extensions	• Will update the system on same time.

TABLE 3.2.15 Edit Profile

Use case Name	Edit Profile
Description	All user will edit there profile.
Actors	Admin, Tutor, Student.
Pre-Conditions	System must be connected to the internet.
Post-Conditions	Successful login will send confirmation mail to user.
Main Scenarios	Steps
Actors/users	• Keep the updated records of both users.
Extensions	• Will update the system on same time.

Chapter 4

System Design

Chapter 4: System Design

In System Design, we will discuss design of the system like architecture diagram, domain model, ERD diagram etc. The visual representation of diagrams is given bellow.

4.1. Architecture Diagram

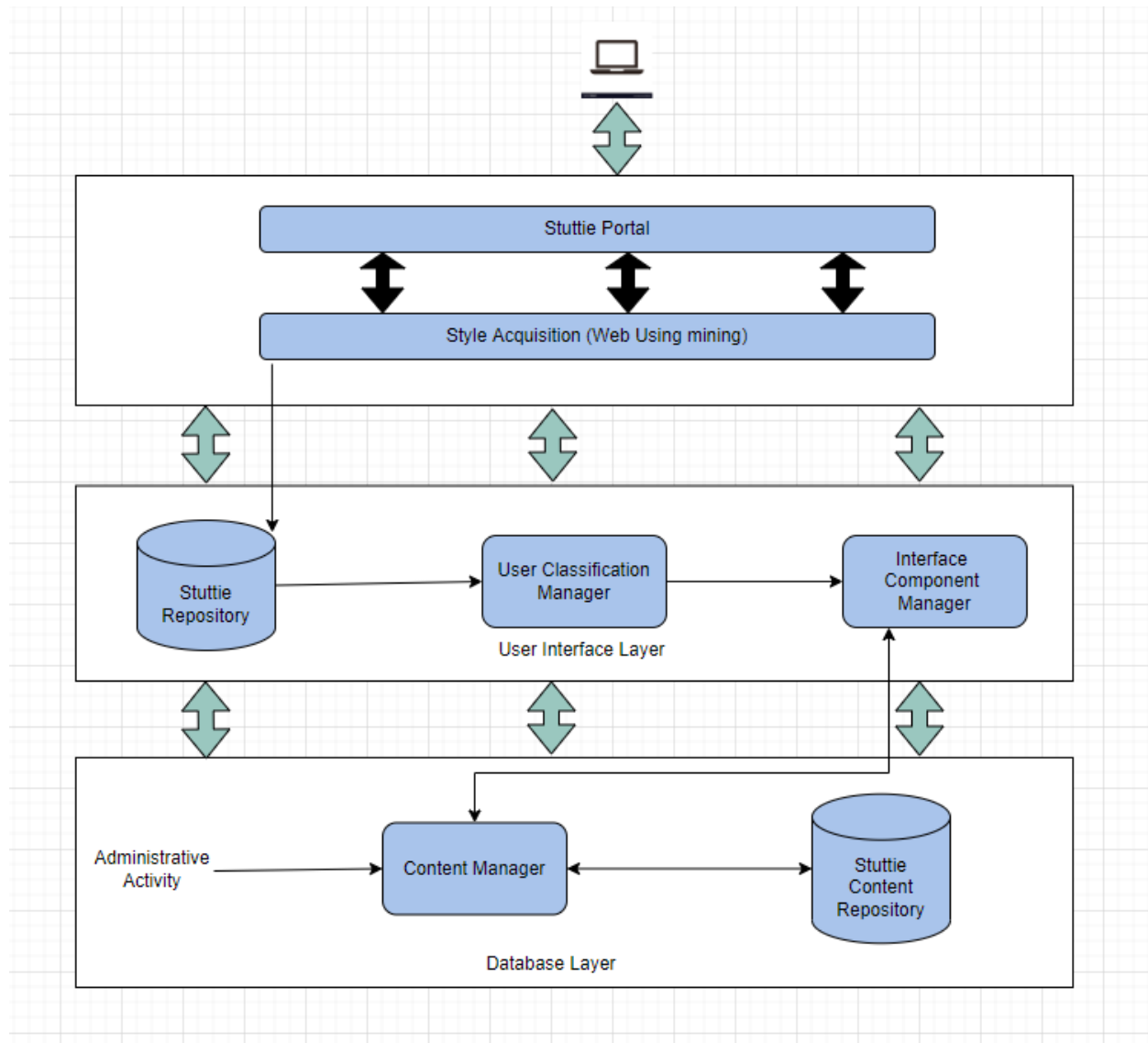
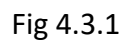


Fig 4.1.1

4.2. Domain Model

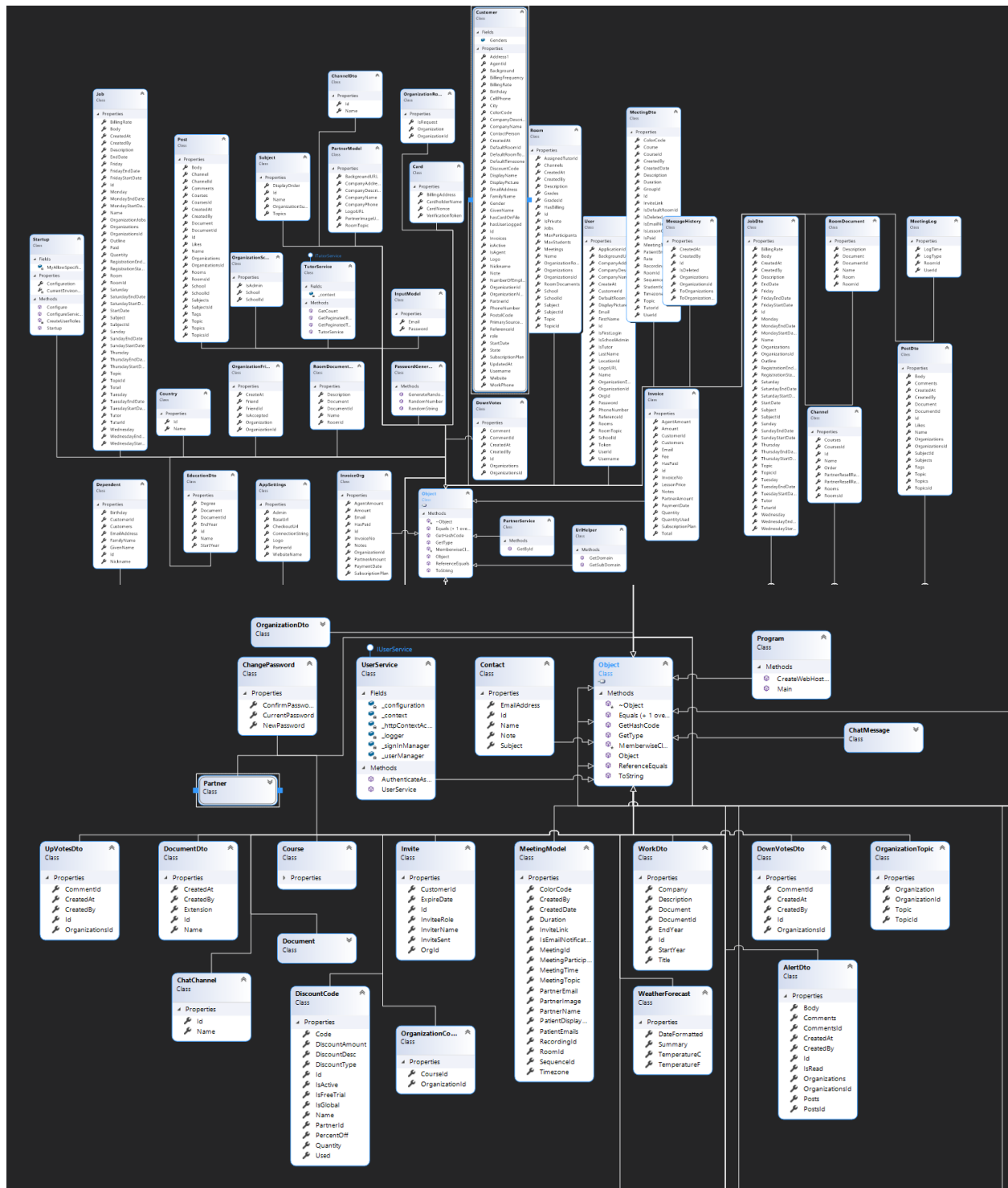


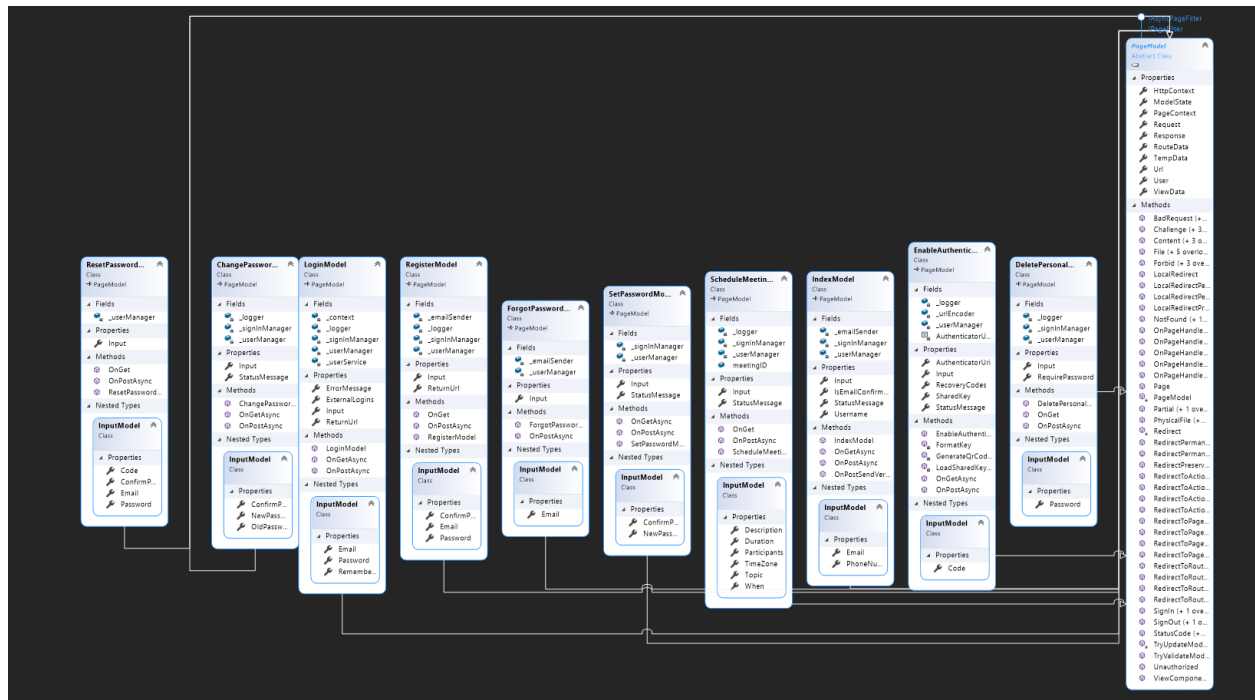
Fig 4.2.1



4.4. Class Diagram







4.5. Sequence / Collaboration Diagram

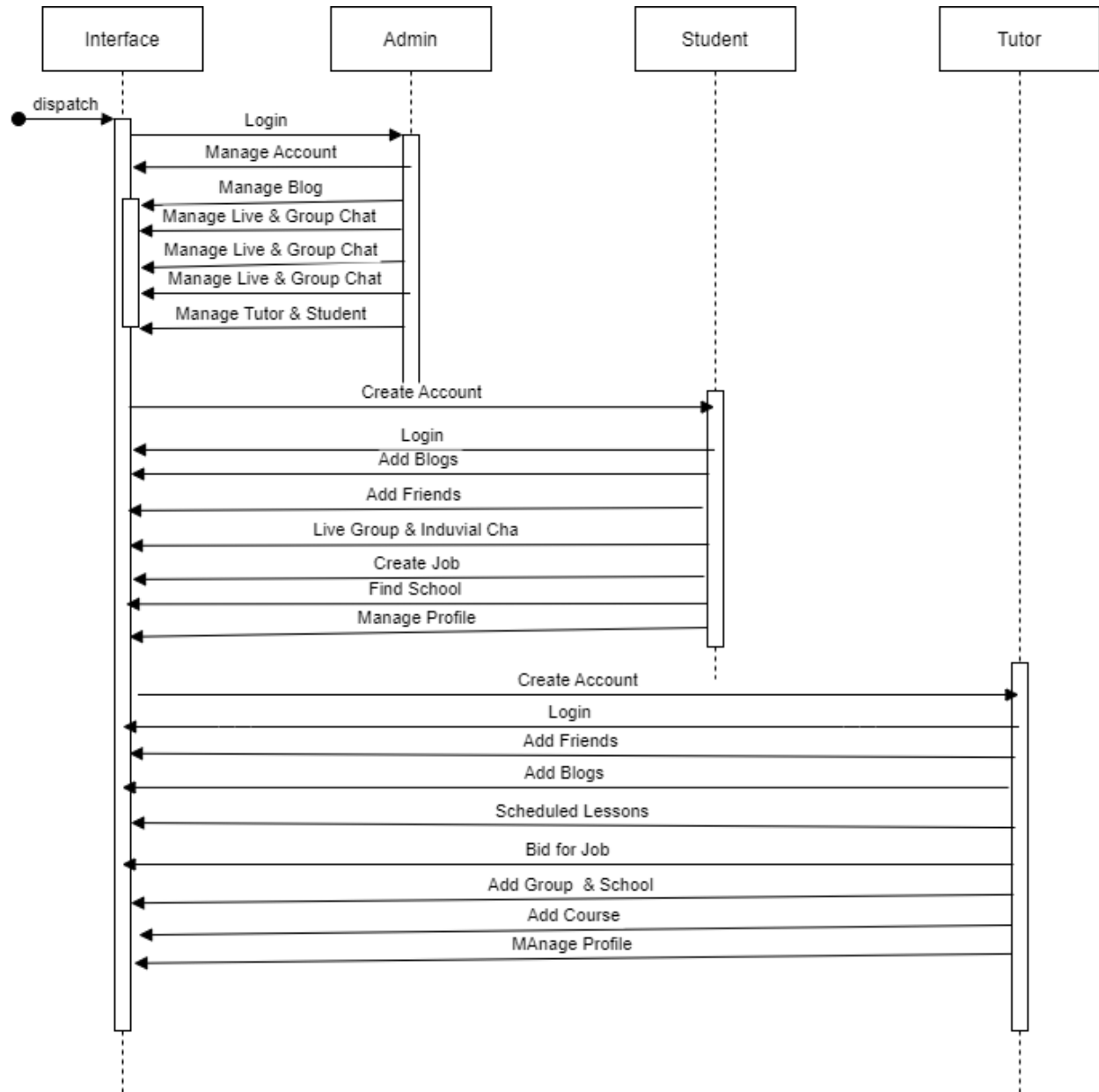


Fig 4.5.1

4.6. Activity Diagram

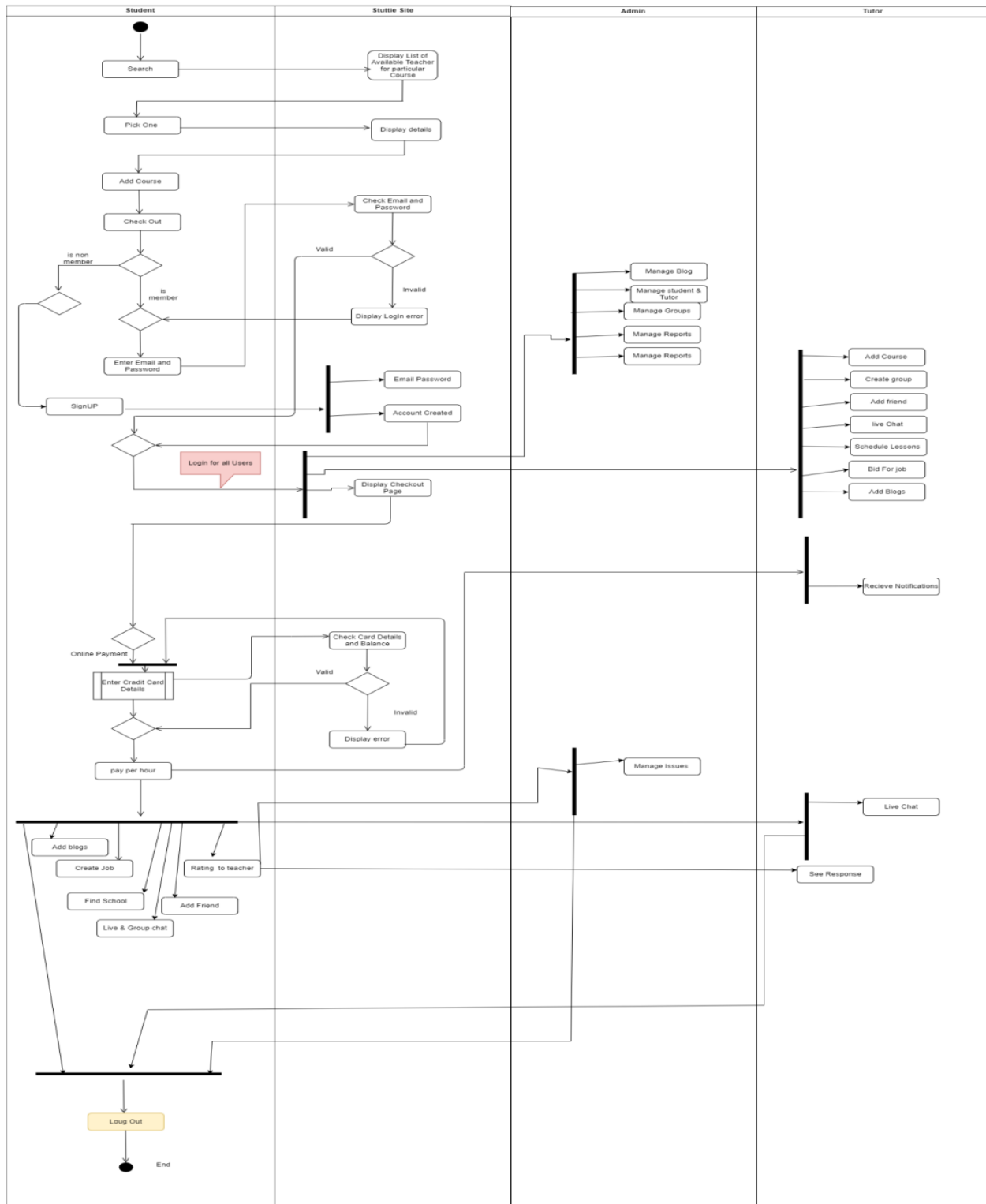


Fig 4.6.1

4.7. State Transition Diagram

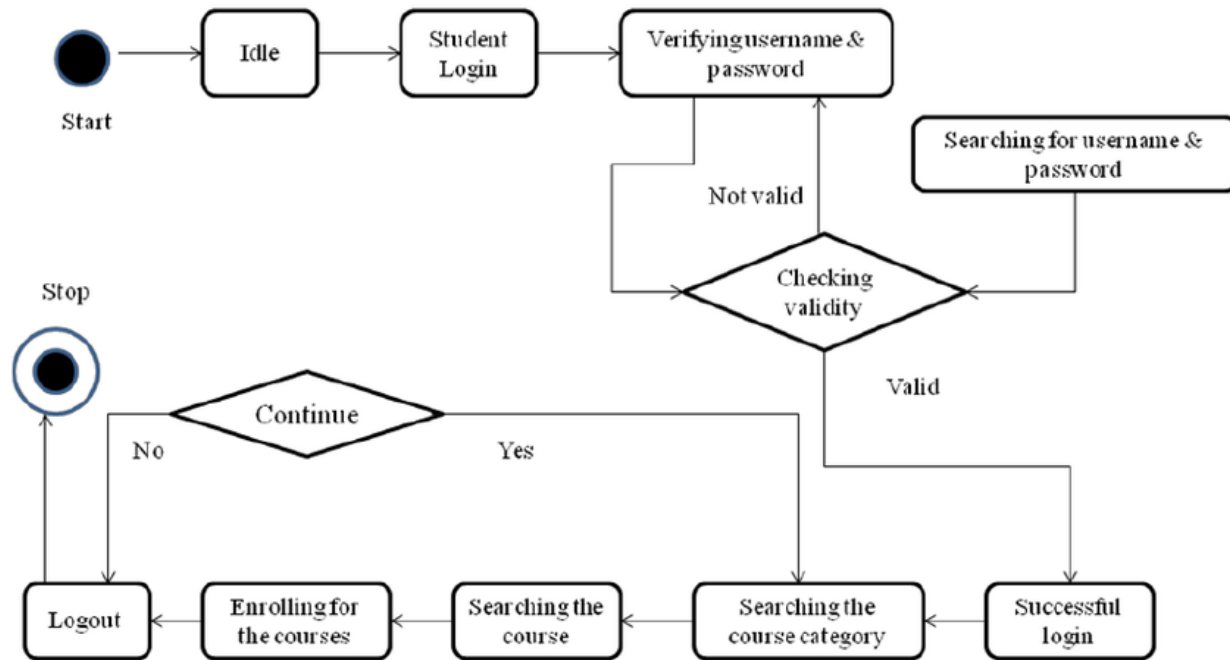


Fig 4.7.1

4.8. Component Diagram

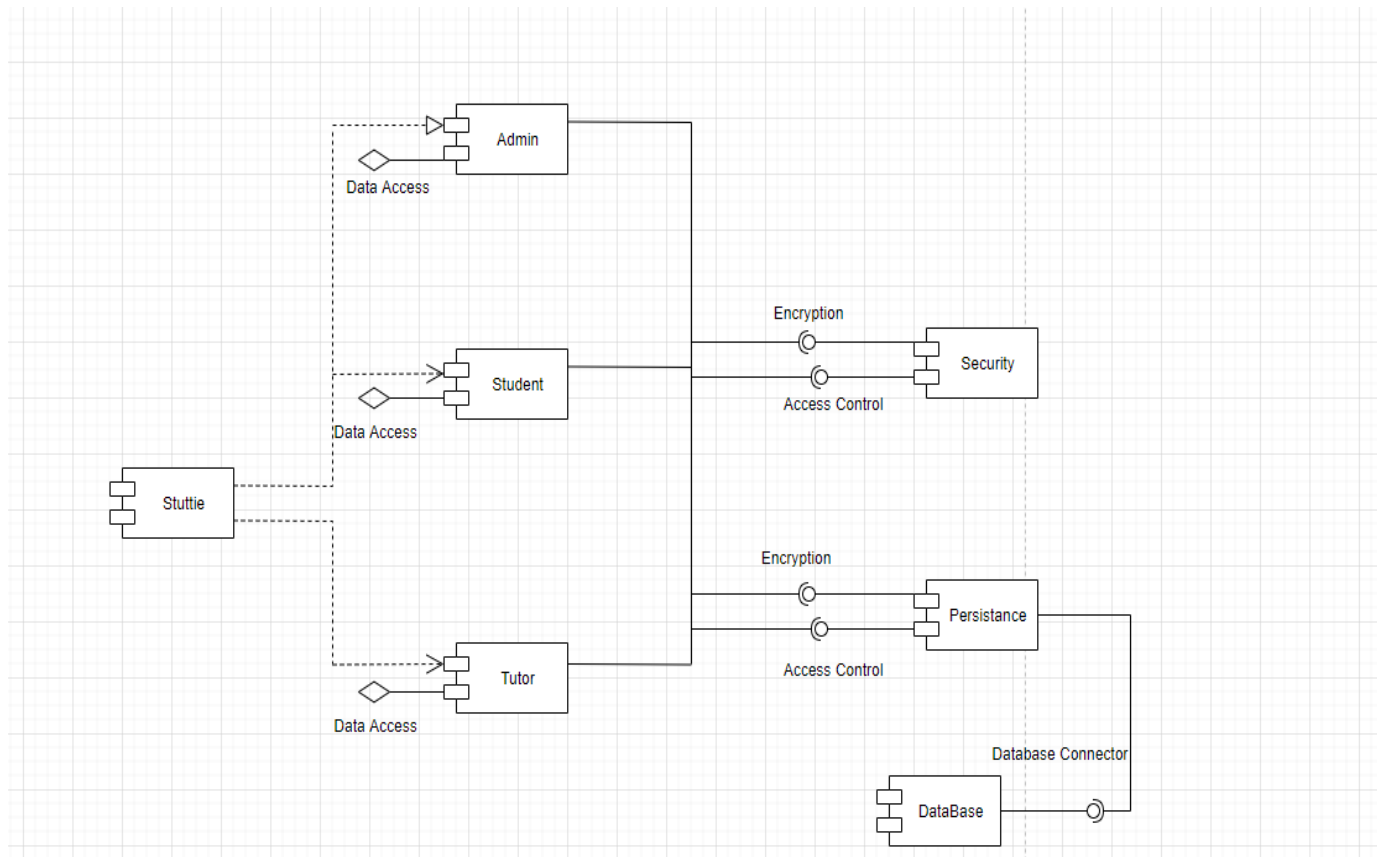


Fig 4.8.1

4.9. Deployment Diagram

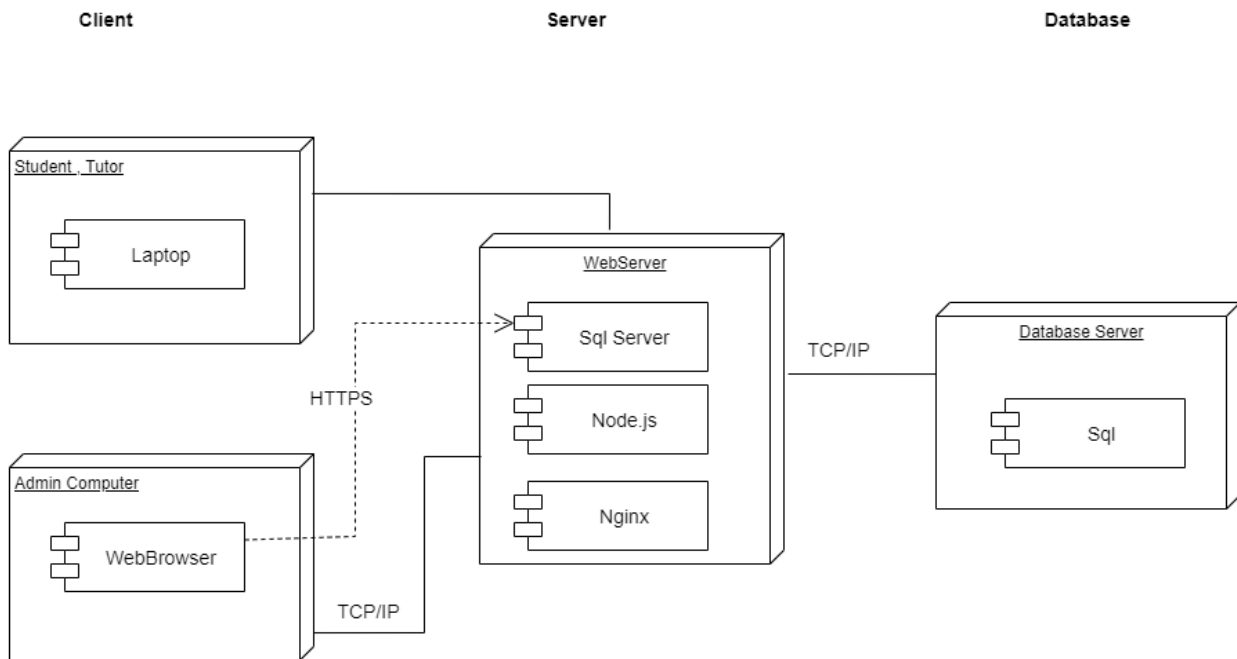


Fig 4.9.1

4.10. Data Flow diagram

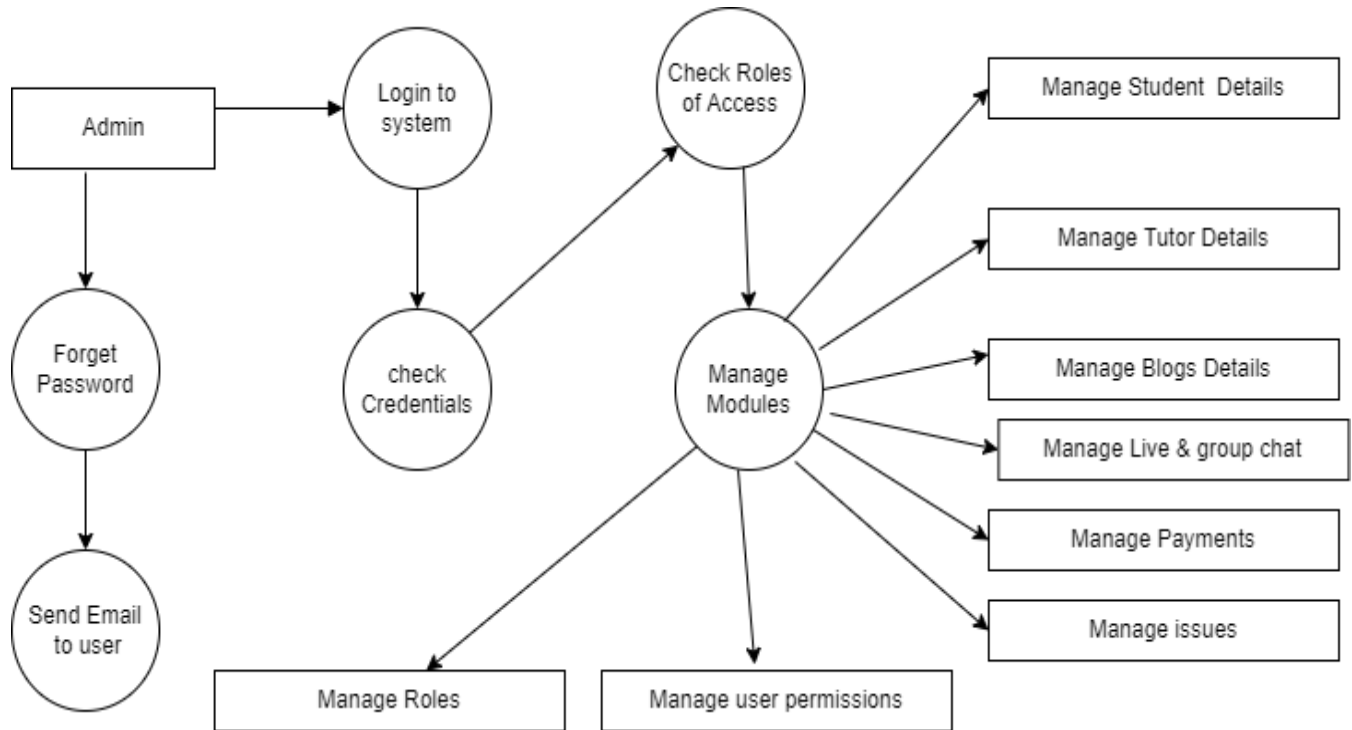


Fig 4.10.1

Chapter 5

Implementation

Chapter 5: Implementation

By using Stuttie, the both of the Student, Tutor will be able to get benefits. For Example, learning from international teachers. Here is the Following functions:

5.1. Components, Libraries, Web Services and stubs

1. Components

- Sign in / Sign up page
- Dashboard
- Friends Page
- Forum Page / Blog Page
- Create Job Page
- Add courses page
- Add Group page
- Live Chat
- Live Lessons
- Live Group Chat
- Payment page
- Notification center
- View rating and review
- Search fields

2. Libraries

- Vue js
- Bootstrap
- .Net Core
- Sql

3. Web Services

- Docker
- jitsi

- Stripe Integration

5.2. Deployment Environment

- Web

5.3. Tools and Techniques

- Vue.js
- Prettier
- NPM
- Github
- Bootstrap
- VS code
- Visual Studio 2019
- Postman

5.4. Best Practices / Coding Standards

- Use environment variables.
- Use a style guide.
- Embrace async.
- Handle errors.
- Ensure your app automatically restarts.
- Line Length. Avoid lines longer than 80 characters.
- Comments. Be generous with comments.
- Variable Declarations.
- Function Declarations.
- Names.
- Statements.

5.5. Version Control

- GitHub

Chapter 6

Testing and Evaluation

Chapter 6: Testing and Evaluation

Development final stage is to test and evaluate the app before deploy. Testing face will be done by Quality Assurance agent.

6.1. Use Case Testing

In the first case QA will check all the stakeholder are able to perform main functions in the app or not. Like login/signup, dashboard, Lessons, Live Chat.

6.2. Equivalence partitioning

Then it will be divided into Admin, Student and Tutor modules and will be tested all module separately.

6.3. Data flow testing

This test will be done to check all the screens and flow of app and flow of data is working good or not. When user entering to app using credentials user getting data from firebase is true or not.

6.4. Integration testing

Integration testing provides an individual with the opportunity to combine all the units in the program and test them as a group. This test level helps to find the flaws in the interface between modules / features. This is especially useful as it determines how efficiently the unit converges. Keep in mind that no matter how efficiently each unit runs, if it is not properly integrated, the functionality of the software program will be affected.[8]

6.5. Performance Testing

Performance test is very important. Test Firebase authentication quickly. Data storing and retrieving from firebase is fast or slow. When 2000 user using app crashing or not. Will be measure speed of app and flow speed of app. [9]

6.6. Stress Testing

Test If user increase from expectation like we assume that maximum 1000 user will use application but increase to 2000 users then how application behave.

Chapter 7

Summary, Conclusion and Future Enhancements

Chapter 7: Summary, Conclusion & Future Enhancements

7.1. Project Summary

We're changing the future of education', this is the STUTTIE vision. Stuttie offer a social learning platform that allows students to access tools to help them in school. We provide the platform where students can engage for the purpose of improving their success in school. Our business idea is 'to offer a social learning platform that allows students to access tutors at low price. We want positive change. We believe that every individual has something valuable to offer and we strive to have the same values in the way we work.

7.2. Achievements & Improvements

We have achieved our goal that is to provide ease in education. We also achieve the experience of practical work by bringing this project to the world. Improvements in this project would be by adding more enhanced modules in this project according to the increasing demand with the passage of time.

7.3. Critical Review

In this project, we manage data transition according to the authorities/role of the user by using .Net language. We try our best to secure database connections in our code. We designed our user interfaces according to the standard of our users so you can say it is user-friendly.

7.4. Lessons Learnt

The project has been a very good learning opportunity for all of us. We have gained experience on how to work on real time projects under the supervision of industry.

We have learned the complexity of e-learning system with respect to new trend in market. We have completed live chat, group chat, blogs, Add Friends in Stuttie. The overall learning experience was good as we collaborated with each other.

7.5. Future Enhancements/Recommendations

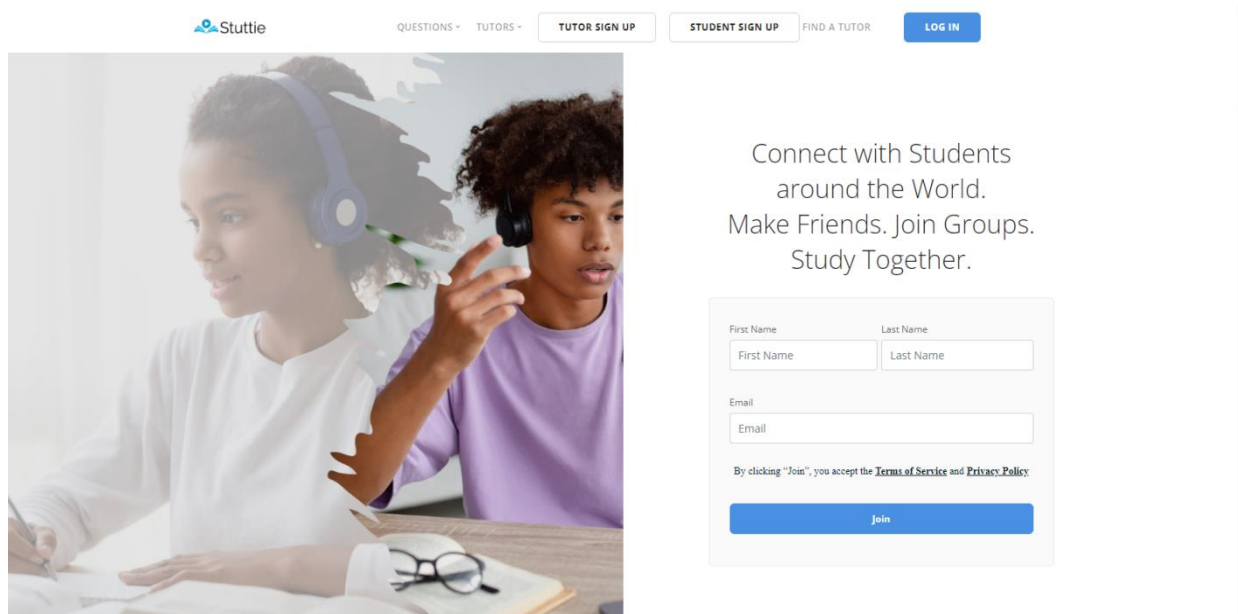
In future, more advanced and modified modules would be added to this portal. For future we have a University certificate module in the queue. Which will be done on these after completing the modules mentioned in the project's scope.

Appendices

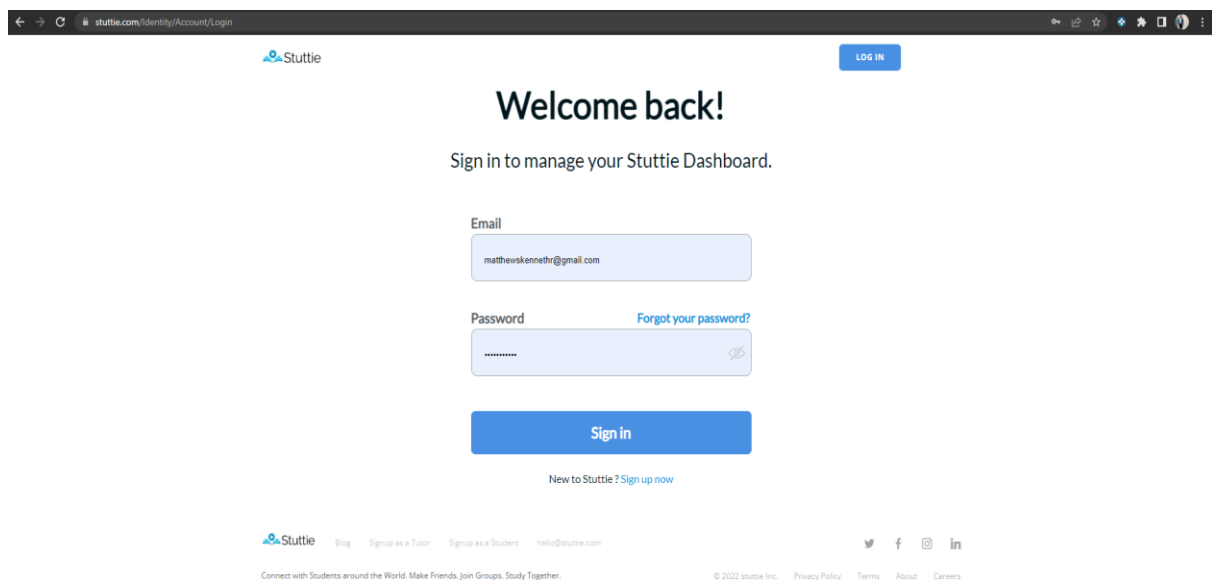
Appendix A: User Manual

This section provides application guideline for the convenient of our users.

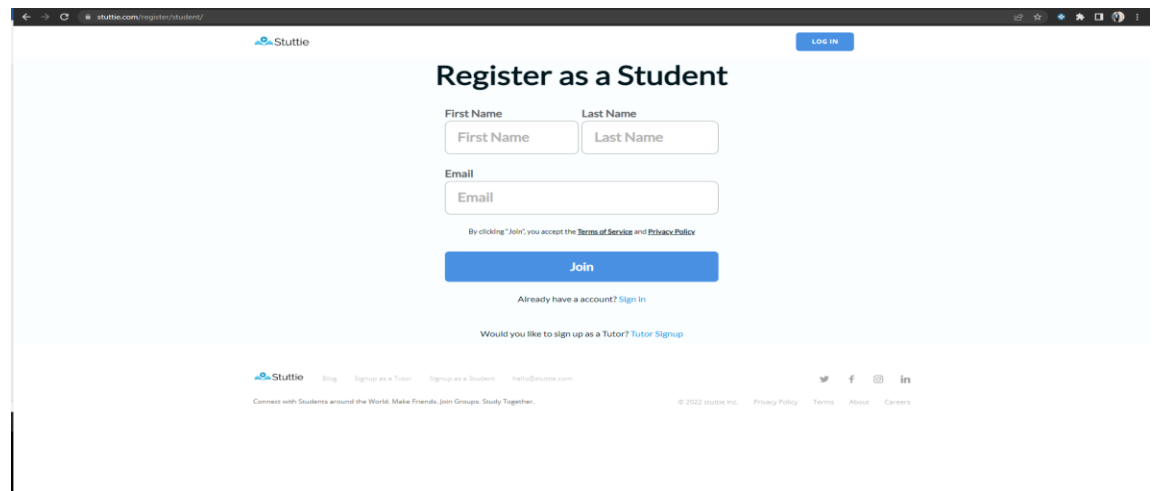
A.1. Home Screen



A.2. Login Screen

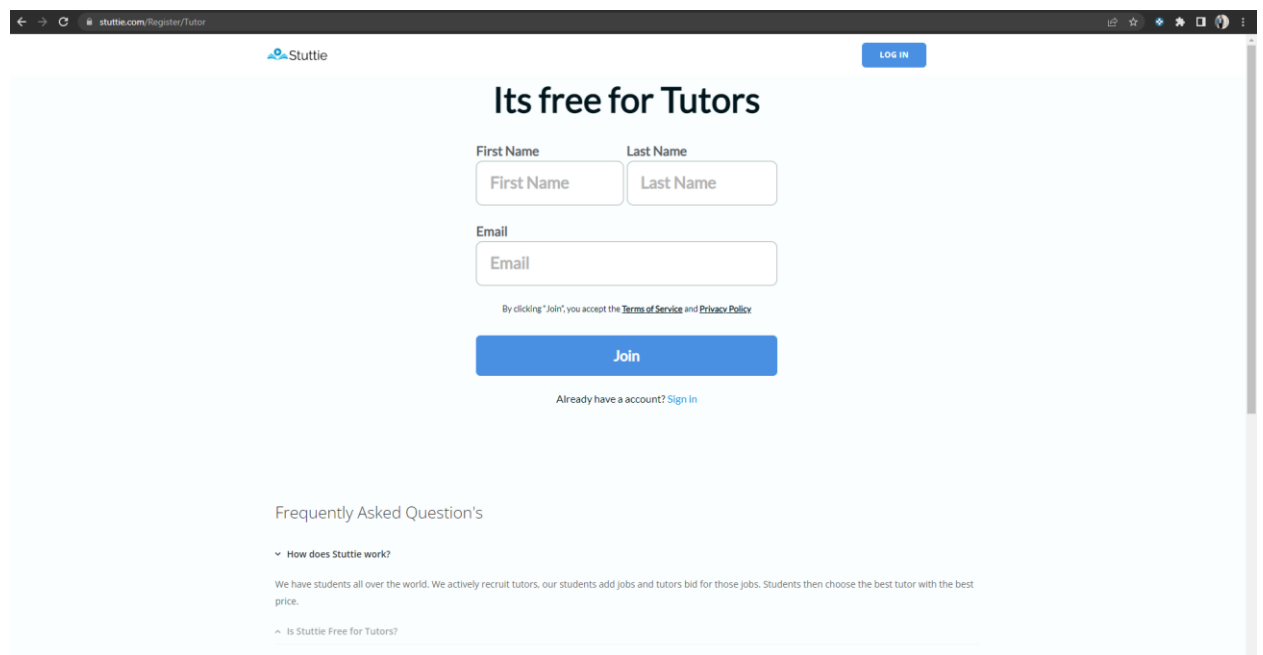


A.3. Student Signup



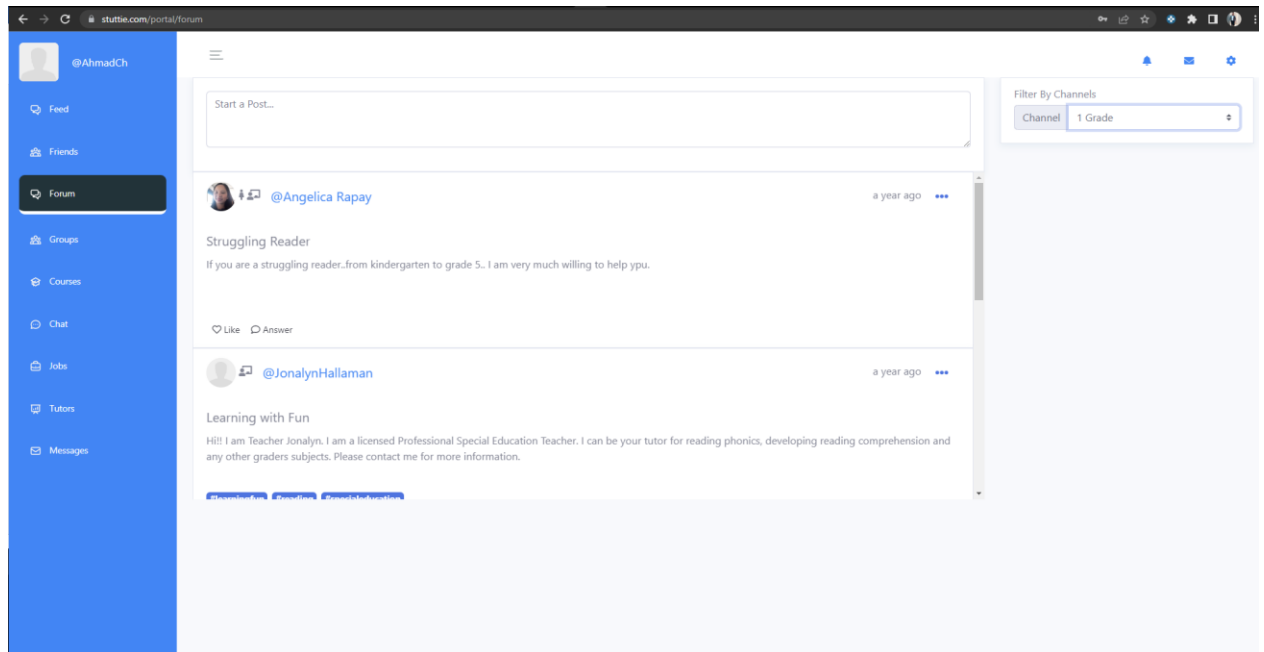
The screenshot shows the 'Register as a Student' page on the Stuttie website. The page has a light blue background. At the top, there is a navigation bar with the Stuttie logo and a 'LOG IN' button. The main heading is 'Register as a Student'. Below the heading, there are input fields for 'First Name' and 'Last Name', followed by an 'Email' field. A blue 'Join' button is positioned below the email field. A small text line states: 'By clicking "Join", you accept the [Terms of Service](#) and [Privacy Policy](#)'. Below the 'Join' button, there is a link: 'Already have an account? [Sign In](#)'. At the bottom of the form, there is a link: 'Would you like to sign up as a Tutor? [Tutor Signup](#)'. The footer contains the Stuttie logo, links for 'Blog', 'Signup as a Tutor', 'Signup as a Student', and 'hello@stuttie.com'. It also includes social media icons for Twitter, Facebook, Instagram, and LinkedIn, and a copyright notice: '© 2022 stuttie inc. Privacy Policy Terms About Careers'.

A.4. Tutor SignUp

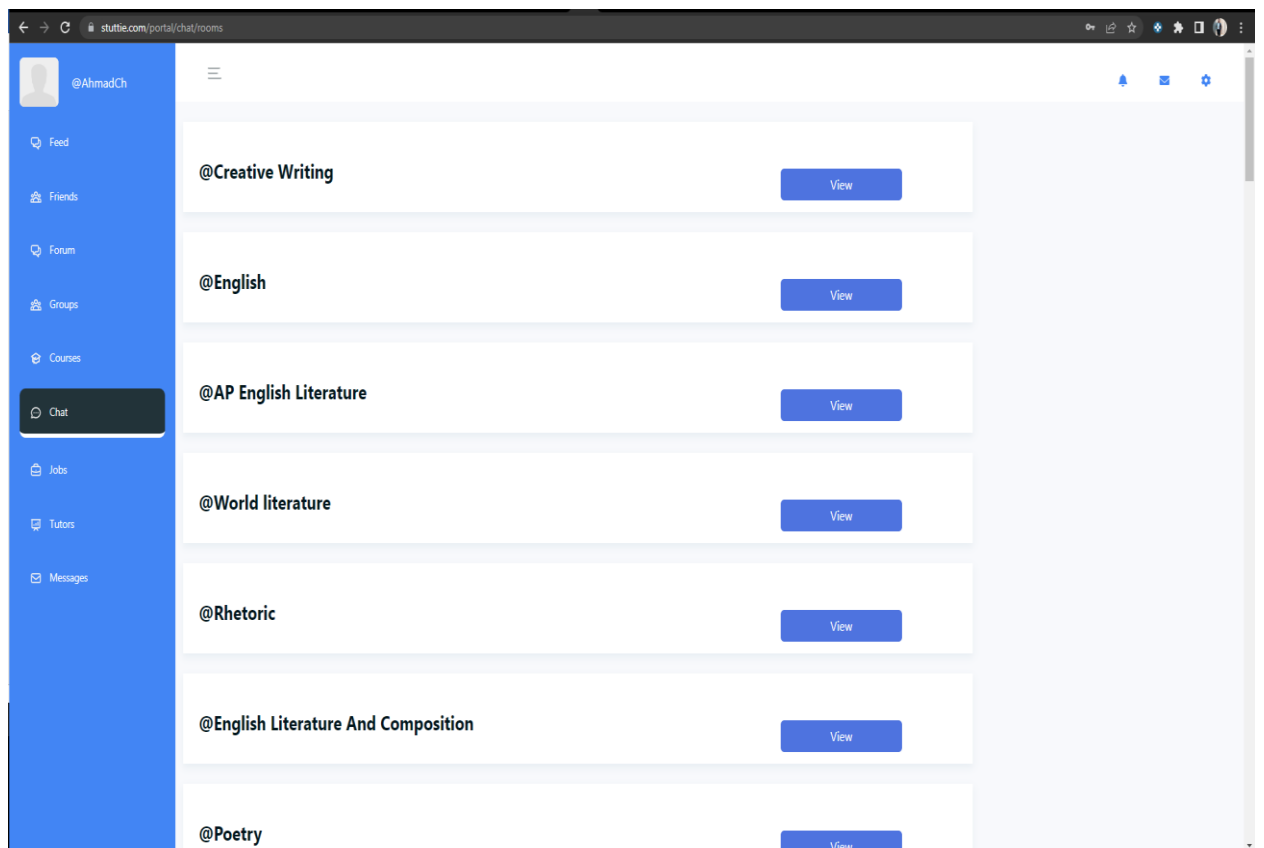


The screenshot shows the 'Its free for Tutors' page on the Stuttie website. The page has a light blue background. At the top, there is a navigation bar with the Stuttie logo and a 'LOG IN' button. The main heading is 'Its free for Tutors'. Below the heading, there are input fields for 'First Name' and 'Last Name', followed by an 'Email' field. A blue 'Join' button is positioned below the email field. A small text line states: 'By clicking "Join", you accept the [Terms of Service](#) and [Privacy Policy](#)'. Below the 'Join' button, there is a link: 'Already have an account? [Sign In](#)'. Below the form, there is a section titled 'Frequently Asked Question's'. Under this section, there is a collapsible menu item 'How does Stuttie work?'. The text below this item reads: 'We have students all over the world. We actively recruit tutors, our students add jobs and tutors bid for those jobs. Students then choose the best tutor with the best price.' Below this, there is another collapsible menu item 'Is Stuttie Free for Tutors?'. The footer contains the Stuttie logo, links for 'Blog', 'Signup as a Tutor', 'Signup as a Student', and 'hello@stuttie.com'. It also includes social media icons for Twitter, Facebook, Instagram, and LinkedIn, and a copyright notice: '© 2022 stuttie inc. Privacy Policy Terms About Careers'.

A.5. Student Dashboard



A.6. Group Chat



A.7. Add Group

The screenshot shows the 'Add Group' modal in the Stuttie application. The modal is open over a background page that says 'You haven't added any groups'. The modal contains the following fields and controls:

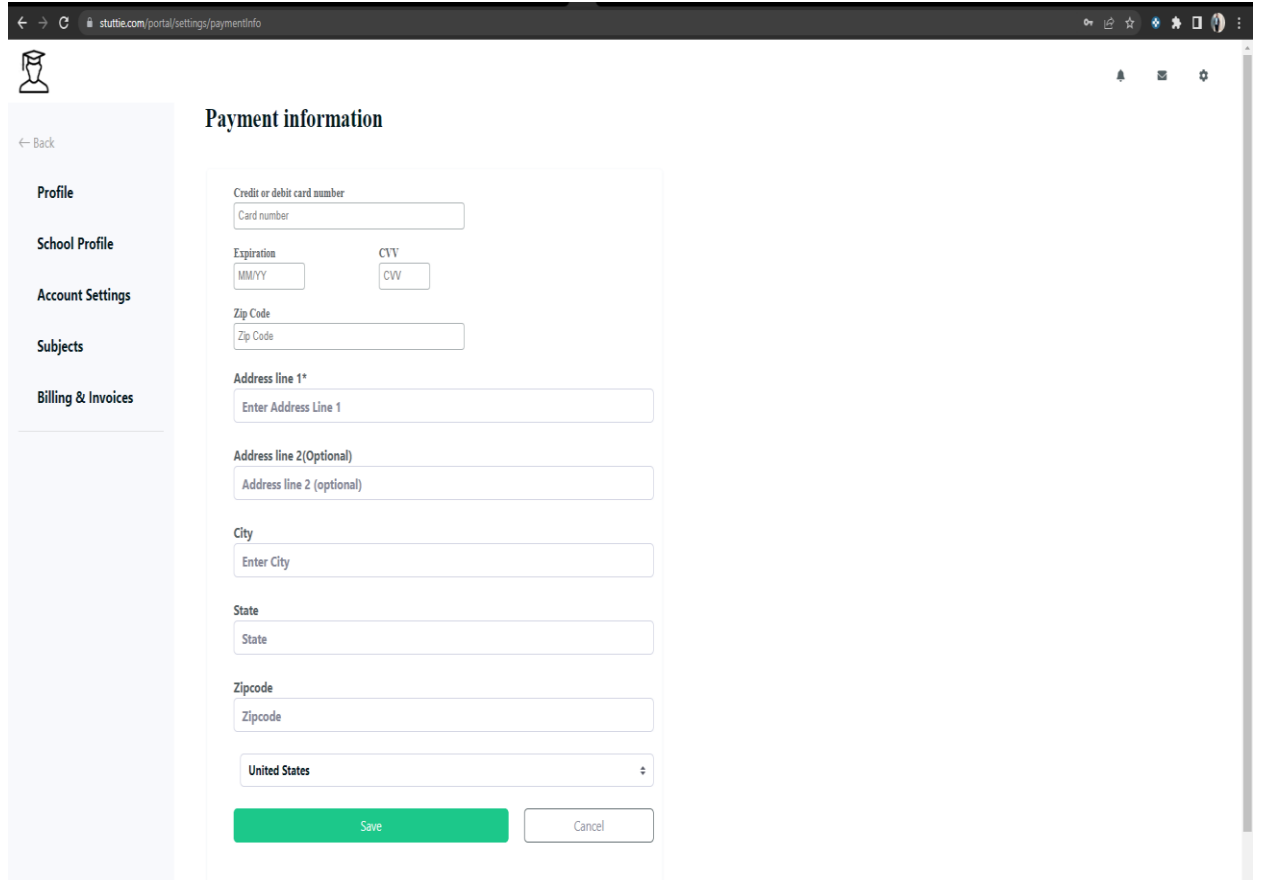
- Group Id:** A text input field containing the value '175273'.
- Grades:** A dropdown menu.
- Subjects:** A dropdown menu.
- Topic:** A dropdown menu.
- Description:** A text area with the placeholder text 'Enter your text'.
- Max Students:** A range selector with a minus sign, the value '2', and a plus sign.
- Privacy:** A radio button labeled 'Private'.
- Can anyone join or do they have to request to join this group?:** A text label.
- Buttons:** 'Cancel' and 'OK' buttons at the bottom right.

The background page also features a sidebar with navigation links: Feed, Friends, Forum, Groups (highlighted), Courses, Chat, Jobs, Tutors, and Messages. On the right side of the background page, there are buttons for 'Add Group' and 'Find Group'.

A.8. Create job

The screenshot shows the 'Create Job' page in the Stuttie application. The page has a light blue background and a sidebar on the left with navigation links: Feed, Friends, Forum, Groups, Courses, Chat, Jobs (highlighted), Tutors, and Messages. The main content area says 'You haven't created any jobs.' and features a button labeled 'Create New Job Request' in the top right corner.

A.9. Billing

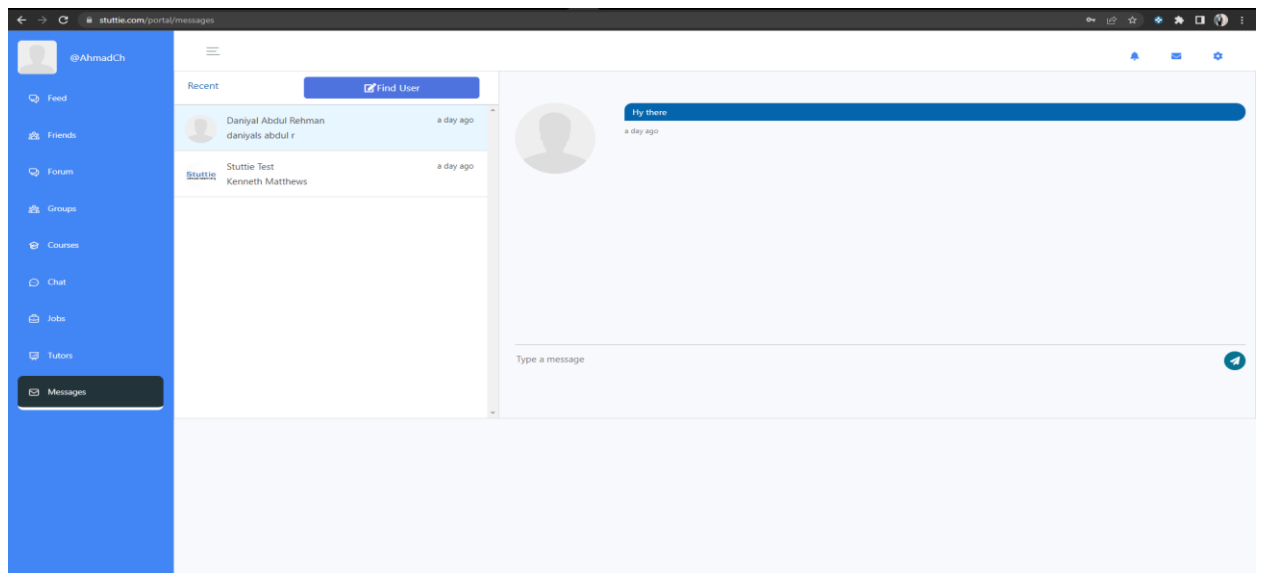


The screenshot shows the 'Payment information' page in the Stuttie portal. The browser address bar displays 'stuttie.com/portal/settings/paymentinfo'. A left sidebar contains navigation links: Profile, School Profile, Account Settings, Subjects, and Billing & Invoices (which is highlighted). The main content area is titled 'Payment information' and contains a form with the following fields:

- Credit or debit card number:** A single-line text input field labeled 'Card number'.
- Expiration:** A text input field labeled 'MM/YY'.
- CVV:** A text input field labeled 'CVV'.
- Zip Code:** A text input field labeled 'Zip Code'.
- Address line 1*:** A text input field labeled 'Enter Address Line 1'.
- Address line 2(Optional):** A text input field labeled 'Address line 2 (optional)'.
- City:** A text input field labeled 'Enter City'.
- State:** A text input field labeled 'State'.
- Zipcode:** A text input field labeled 'Zipcode'.
- Country:** A dropdown menu currently showing 'United States'.

At the bottom of the form are two buttons: a green 'Save' button and a grey 'Cancel' button.

A.10. Individual Chat



A.11. Student Setting

← Back

Profile

School Profile

Account Settings

Subjects

Billing & Invoices

Profile Info

Choose how you'll be seen across Stuttie.

Full Name	Ahmad Ch	
Gender	☐ Male ☐ Female	
Display Name	Ahmad	
Address	meet.stuttie.com/AhmadCh	
Grade		
Time Zone	(GMT-4:00) Eastern Time (US and Canada)	

A.12. Find School

← Back

Profile

School Profile

Account Settings

Subjects

Billing & Invoices

School Profile

School Information.
You don't have an assigned school.

[Find School](#)

C.1. Flyer

SUPERIOR UNIVERSITY

Stuttie (E-Learning App)
FYP-BCSM-F21-074

Industry: Southern SoftTech

Ma'am Maryam

4 QUALITY EDUCATION

Feature 1
Courses Setup

Feature 3
Live Group & Individual Chat

Feature 5
Make Friends

Feature 2
Live Lessons

Feature 4
Tutor Ratings

M. Ahmad
BCSM-F18-307

Danyal
BCSM-F18-321

Sana
BCSM-F18-505

Tools

- Vs Code
- SQL Server
- VS 2019

Techniques

- Vue.js
- Bootstrap
- Vuex
- C#
- .Net core

Department of Computer Science

Reference and Bibliography

Reference and Bibliography

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