ONLINE EDUCATION PLATFORM

A Mini Project

Report submitted by

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to

the APJ Abdul Kalam Technological University
in partial fulfillment of the requirements for the award of the

Degree of

Master of Computer Applications

Department of Computer Applications

MES College of Engineering
Kuttippuram, Malappuram -
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November 2022

DECLARATION

I undersigned hereby declare that the project report **ONLINE EDUCATION PLATFORM**, submitted for partial fulfillment of the requirements for the award of degree of Master of Computer Applications of the APJ Abdul Kalam Technological University, Kerala, is a bonafide work done by me under supervision of Supervisor, Assistant Professor, Department of Computer Applications. This submission represents my ideas in my own words and where ideas or words of others have been included. I have adequately and accurately cited and referenced the original sources. I also declare that I have adhered to ethics of academic honesty and integrity and have not misrepresented or fabricated any data or idea or fact or source in my submission. I understand that any violation of the above will be a cause for disciplinary action by the institute and/or the University and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been obtained. This report has not been previously formed the basis for the award of any degree, diploma or similar title of any other University.

Place:Kuttippuram

Date:2/11/2022

.....

DEPARTMENT OF COMPUTER APPLICATIONS
MES COLLEGE OF ENGINEERING, KUTTIPPURAM

CERTIFICATE

This is to certify that the report entitled **ONLINE EDUCATION PLATFORM** is a bonafide record of the Mini Project work during the year 2022-23 carried out by **FAIROOSA K.K (MES21MCA-2010)** submitted to the APJ Abdul Kalam Technological University, in partial fulfillment of the requirements for the award of the Master of Computer Applications, under my guidance and supervision. This report in any form has not been submitted to any other University or Institution for any purpose.

Internal Supervisor(s) External Supervisor(s)

Head of The Department

Acknowledgements

At the very outset I would like to thank the almighty's mercy towards me over the years.I wish to express my sincere thanks to my project coordinator, Mr.Hyderali k Assistant professor and Head of Department, Dept. of Master of Computer Applications who guided me for the successful completeness of this project. I also thank her for valuable suggestions, guidance, constant encouragement, boundless cooperation, constructive comments and motivation extended to me for completion of this project work.

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Last but not least I am grateful thanks to my parents, friends and also the persons who supported me directly and indirectly during the project.

FAIROOSA K.K (MES21MCA-2010)

Abstract

Technology-based e-learning encompasses the use of the internet and other important technologies to produce materials for learning, teach learners, and also regulate courses in an organization. Typically, e-learning is conducted on the Internet, where students can access their learning materials online at any place and time.

A major benefit hailed by online learning students is that of being able to access learning at their own individual pace and time. The flexibility to access online learning at whatever time is more convenient for the student makes education and ongoing professional training much more available to all types of people, in all types of situations.

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Chapter 1

Introduction

Technology-based e-learning encompasses the use of the internet and other important technologies to produce materials for learning, teach learners, and also regulate courses in an organization. Typically, e-learning is conducted on the Internet, where students can access their learning materials online at any place and time.

A major benefit hailed by online learning students is that of being able to access learning at their own individual pace and time. The flexibility to access online learning at whatever time is more convenient for the student makes education and ongoing professional training much more available to all types of people, in all types of situations.

1.1 Background

1.1.1 ONLINE EDUCATION PLATFORM

.Online education platform, is an e-learning conducted on the Internet, where students can access their learning materials online at any place and time.The goal of EdTech is to improve student outcomes, enhance individualized education, and reduce the teaching burden on instructors

1.3 Motivation

• Run on any operating system: - browser based applications can be run on any computer which has a fully functional browser. This cannot be adaptable for limited browser fictionalized devices(smart phone, PDAs)

• No installation of client:-browser based applications do not need installation they only communicate through browser

1.4 Objective

With this application, users don't need to move to a different city or commute long distances in order to attend the program of their choice.Users are free to choose the time slot to study the course of their choice and Students can get different university online courses Users can have a lot of variety so there is possibly, no limit to the type and number of courses that you can pursue online.

1.5 Contribution

Major Contribution in this project are :

- With this application, users don't need to move to a different city or commute long distances in order to attend the program of their choice.
- Users are free to choose the time slot to study the course of their choice
- Students can get different university online courses .
- Users can have a lot of variety so there is, possibly, no limit to the type and number of courses that you can pursue online.

1.6 Report Organization

(Sample) The project report is divided into four sections. Section 2 describes literature survey. Section 3 describes the methodology used for implementing the project.In methodology, workflow of the project, and sprints details are described. Section 4 gives the results and discussions. Finally Section 4 gives the conclusion.

Chapter 2

Existing System

There are many online education platform which provide different online courses , with limited lecture materials and there are no recorded classes.This type of online education platform only gives one chance to attend online assessment therefore many students can not get the course completion certificate.

Chapter 3

Methodology

3.1 Introduction

After the initial studies it is found that the agile model of software development is suitable and is the best method for the development of this system. Agile methodology mainly focused on the client satisfaction through continuous delivery. Also it sets a minimum number of requirements and turns them into a deliverable product. As this project has many individual requirements which can be delivered in parts and the user can gradually improve their work efficiency. Agile methodology has a family of methods of which scrum is selected for the development of this project. Scrum is a process framework that has been used to manage complex product development. It is not a process or technique for building products rather it is a framework within which various processes can be employed. Also it is a suitable method to support the development process. It focuses on lean software development and is in building better software effectively and efficiently.Agile is one of the most widely used and recognized software development frameworks. The methodology those experts agreed upon was described as ‘lightweight’ and fast. Agile is also about being adaptive and continuous improvement, as much as it is about constant feedback and speed of delivery.

Agile is a software development approach where a self-sufficient and cross-functional team works on making continuous deliveries through iterations and evolves throughout the process by gathering feedback from the end users.

3.1 Introduction

1. **The product owner (PO)** : Who represents the stakeholder and the business.

2.**The scrum master** : Ensures the process followed, removes obstructions, and protects the
developing system

3. **Development team**: Cross functional, self organizing team who actually do the actual analysis,
design implementation and testing process.

They work together in iterative time boxed durations called sprints. The first step is the creation of the product backlog by the PO. It's a to-do list of stuff to be done by the scrum team. Then the scrum team selects the top priority items and tries to finish them within the time box called a sprint. An easier way to remember all of this is to memorize the 3-3-5 framework. It means that a scrum project has 3 roles, 3 artifacts, and 5 events

These are:-

1. Roles : Product Owner, Scrum Master, and development team.

2. Artifacts : Product Backlog, Sprint Backlog and Product Increment.

3. Events : Sprint, Sprint planning, Daily Scrum, Sprint review and Sprint retrospective

The framework begins with a simple premise starting with what can be seen or known. After that the progress is tracked and tweaked as necessary. The three pillars of scrum are transparency, inspection and adaptation. In scrum everyone has a role.

ONLINE EDUCATION PLATFORM is implemented in Django-Python, a framework of Python language. Django is a high-level Python web framework that encourages rapid development and clean, pragmatic design and it's great for creating database-driven websites.. It's free and open source.

3.2 WORKFLOW

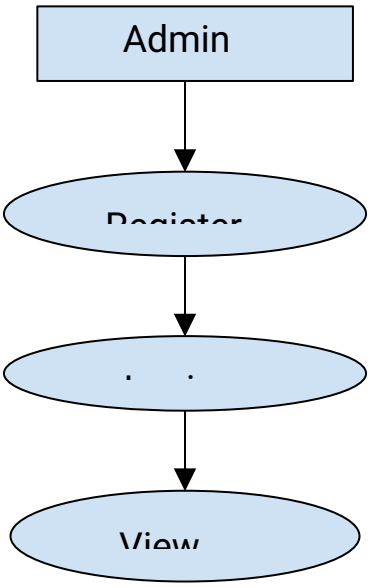
Visual Studio is a cross platform code editor, and cloud based DevOps solutions, full featured

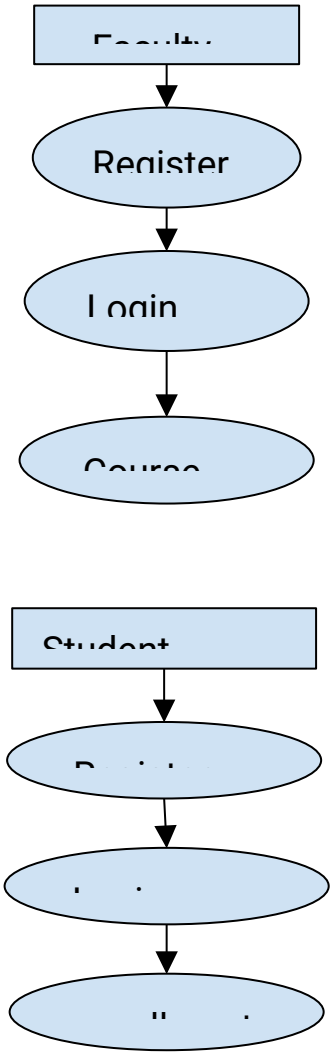
IDE for building Android, iOS, Windows, web, and cloud apps in your favorite language.

Git is used as the version control system for this project. Version control is a system that records changes to a file or set of files over time so that a specific version can be recalled later. Version control systems are a category of software tools that help a software team manage changes to source code over time. Version control software keeps track of every modification to the code in a special kind of database. If a mistake is made, developers can turn back the clock and compare earlier versions of the code to help fix the mistake while minimizing disruption to all team members.

3.2 WORKFLOW

Online education platform is an application to automate day to day work . Members can sign up and register. Head can register faculties, edit the user,faculty and course details. Admin can access the whole system and view the reports.





3.3. PRODUCT BACKLOG

A product backlog is a list of the new features, changes to existing features, bug fixes, infrastructure changes or other activities that a team may deliver in order to achieve a specific outcome.The product backlog is the single authoritative source for things that a team works on. That means that nothing gets done that isn't on the product backlog. Conversely, the presence of a product backlog item on a product backlog does not guarantee that it will be delivered. It represents an option the team has for delivering a specific outcome rather than a commitment. It should be cheap and fast to add a product backlog item to the product backlog, and it should be equally as easy to remove a product backlog item that does not result in direct

progress to achieving the desired outcome or enable progress toward the outcome. The Scrum Product Backlog is simply a list of all things that

3.3. PRODUCT BACKLOG

needs to be done within the project. It replaces the traditional requirements specification artifacts. These items can have a technical nature or can be user-centric e.g. in the form of user stories.The product backlog of the system is given in Table below:

ID	NAME	PRIORITY <high/medium/low>	ESTIMATE (Hours)	STATUS <Planned/In progress/Completed>
1	REGISTRATION	High	5	COMPLETED
2	LOGIN	High	5	COMPLETED
3	CRUD(Course,Student,University) OPERATIONS	High	20	COMPLETED
4	STUDENT ENROLLMENT	High	10	COMPLETED
5	CERTIFICATE GENERATION	MEDIUM	10	COMPLETED

3.3 USER STORY

A key component of agile software development is putting people first, and user-stories put actual end users at the center of the conversation. Stories use non-technical language to provide context for the development team and their efforts. After reading a user story, the team knows why they are building what they're building and what value it creates. A user story is a tool used in agile software development to capture a description of a software feature from an end user perspective. The user story describes the type of user, what they want and why. A user story helps to create a simplified description of a requirement. User stories are one of the core components of an agile program. They help provide a user-focused framework for daily work — which drives collaboration, creativity, and a better product overall. The user story of the system is given in Table ??

User Story ID	As a type of User	I want to <Perform some task>	So that i can <Achieve Some Goal>
1	ADMIN	Login	login successful with correct username and password
2	ADMIN	View and Manage	Can view and Manage registered users,Faculties and Universities
3	ADMIN	Verification	Verify Courses
4	USER	Register	Can users register
5	USER	Login	login successful with correct username and password

6	USER	Enrollment	Can enroll in any Courses
7	USER	View Profile	View users profile in application

3.3 USER STORY

ID	NAME	I want to <Perform some task>	So that i can <Achieve Some Goal>
8	USER	Online Assessment	Can attend Assessment
9	USER	Certificate	Can download the certificate
10	FACULTY	Register	Can users register
11	FACULTY	Login	login successful with correct username and password
12	FACULTY	Course Creation	Can create course
13	FACULTY	Online Assessment	Can create the online assessment
14	FACULTY	Certificate	Can generate the certificate after the course completion

3.5 PROJECT PLAN

A project plan that has a series of tasks laid out for the entire project, listing task durations, responsibility assignments, and dependencies. Plans are developed in this manner based on the assumption that the Project Manager, hopefully along with the team, can predict up front everything that will need to happen in the project,

how long it will take, and who will be able to do it. Project plan is given in Table below:

3.5 PROJECT PLAN

User Story ID	Task Name	Start Date	End Date	Days	Status
1	Sprint 1	16/08/2022	17/08/2022	10	Completed
4		18/08/2022	19/08/2022		Completed
5		20/08/2022	22/08/2022		Completed
10		23/08/2022	24/08/2022		Completed
11		25/08/2022	27/08/2022		Completed
2	Sprint 2	13/09/2022	23/09/2022	16	Completed
7		23/09/2022	24/09/2022		Completed
12		24/09/2022	29/09/2022		Completed

User Story ID	Task Name	Start Date	End Date	Days	Status
3	SPRINT 3	03/10/2022	06/10/2022	14	Completed
6		07/10/2022	10/10/2022		Completed
13		13/10/2022	20/10/2022		Completed

14	SPRINT 4	28/10/2022	5/11/2022	10	Completed
8		7/11/2022	11/11/2022		Completed
9		13/11/2022	15/11/2022		Completed

3.6 SPRINT BACKLOG (PLAN)

Backlog Item	Status And Completion Date	Original Estimation in Hours	Day 1 hrs	Day 2 hrs	Day 3 hrs	Day 4 hrs	Day 5 hrs	Day 6 hrs	Day 7 hrs	Day 8 hrs	Day 9 hrs	Day 10 hrs
SPRINT1												
Table designing	16/8/2022	2	1	1	0	0	0	0	0	0	0	0
Form designing	22/8/2022	3	1	1	1	0	0	0	0	0	0	0
Coding	27/8/2022	3	1	1	1	0	0	0	0	0	0	0
SPRINT 2												
Data collection	13/9/2022	7	1	1	1	1	1	1	1	0	0	0
Data processing	29/9/2022	7	1	1	1	1	1	1	1	0	0	0

Backlog tem	Status And Completion Date	Original Estimation in Hours	Day 1 hrs	Day 2 hrs	Day 3 hrs	Day 4 hrs	Day 5 hrs	Day 6 hrs	Day 7 hrs	Day 8 hrs	Day 9 hrs	Day 10 hrs
SPRINT3												

Course contents	3/10/2022	7	1	1	1	1	1	1	1	0	0	0
Assassement	20/10/2022	7	1	1	1	1	1	1	1	0	0	0
SPRINT 4												
Certificate	8/11/2022	7	1	1	1	1	1	1	1	0	0	0
Testing	15/11/2022	7	1	1	1	1	1	1	1	0	0	0
TOTAL		50	9	9	8	6	6	6	6			

3.7 USER INTERFACE

The data that are captured through this system using different user friendly graphical user interfaces. The user interface for the software shall be compatible with any browser such as Internet Explorer, Google Chrome or by which user can access to the system. Compatible with Windows OS and Linux.

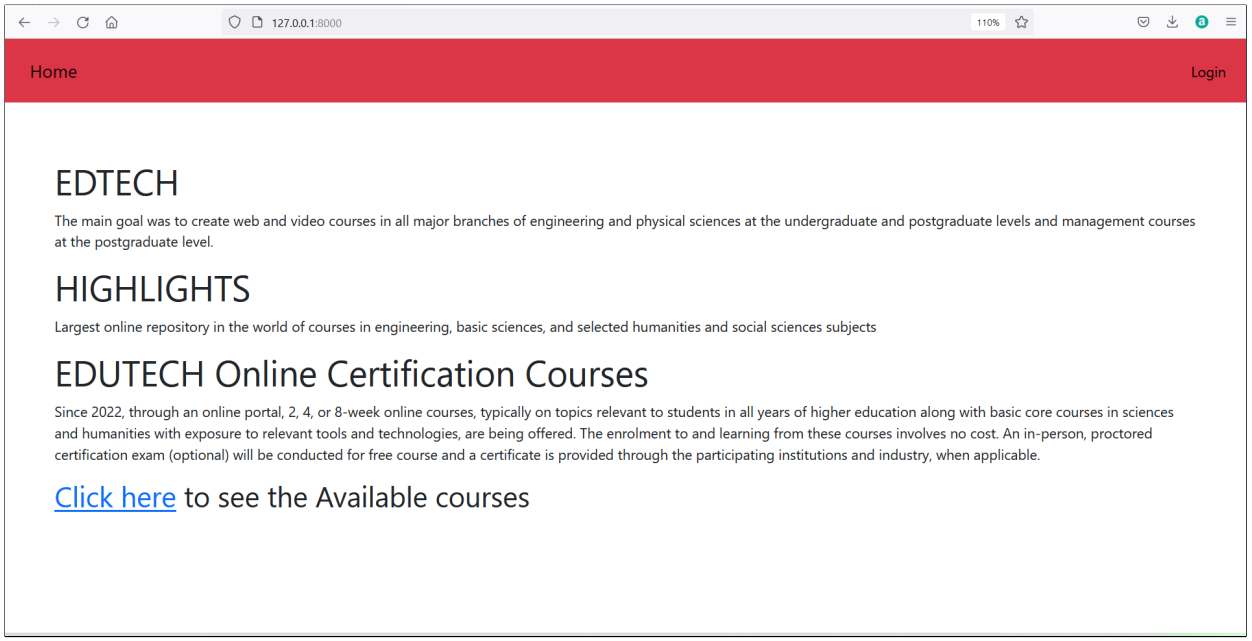
3.8 GIT

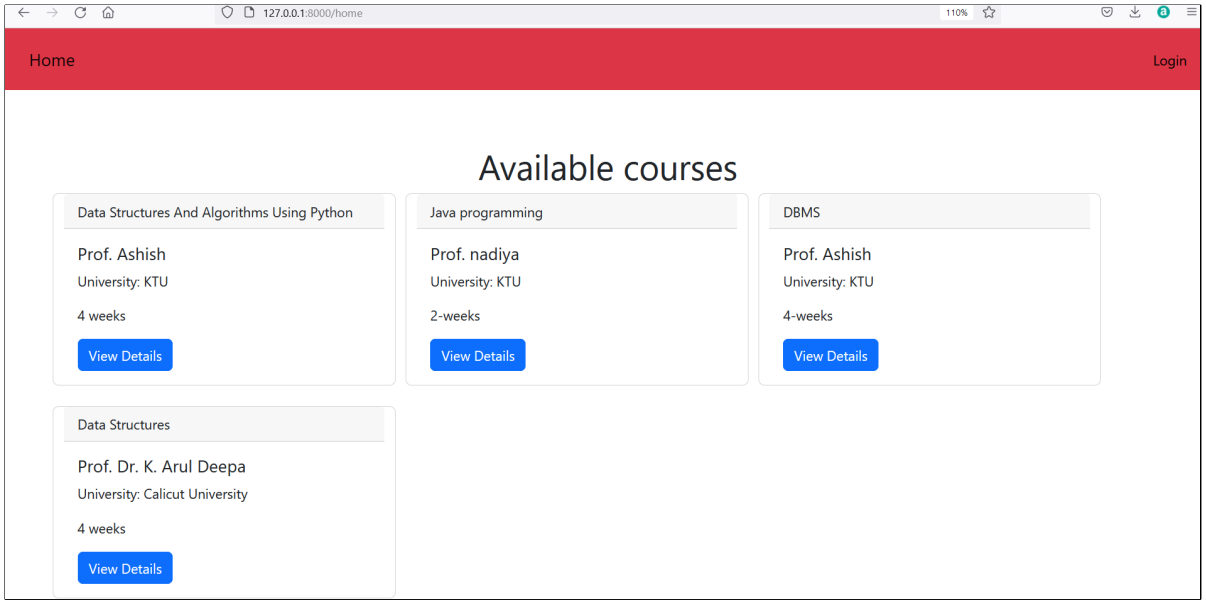
Git is a free and open source distributed version control system designed to handle everything from small to very large projects with speed and efficiency. To show the continuous development of the project the Git lab histories are shown in Appendix.

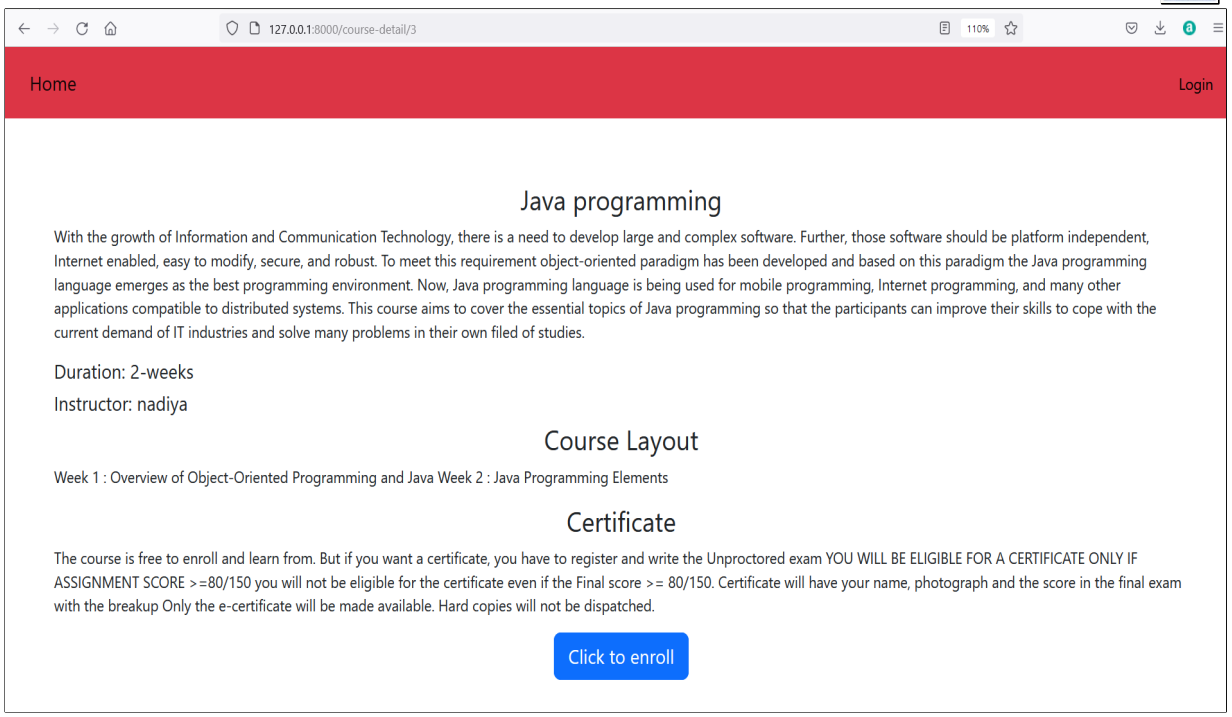
Chapter 4

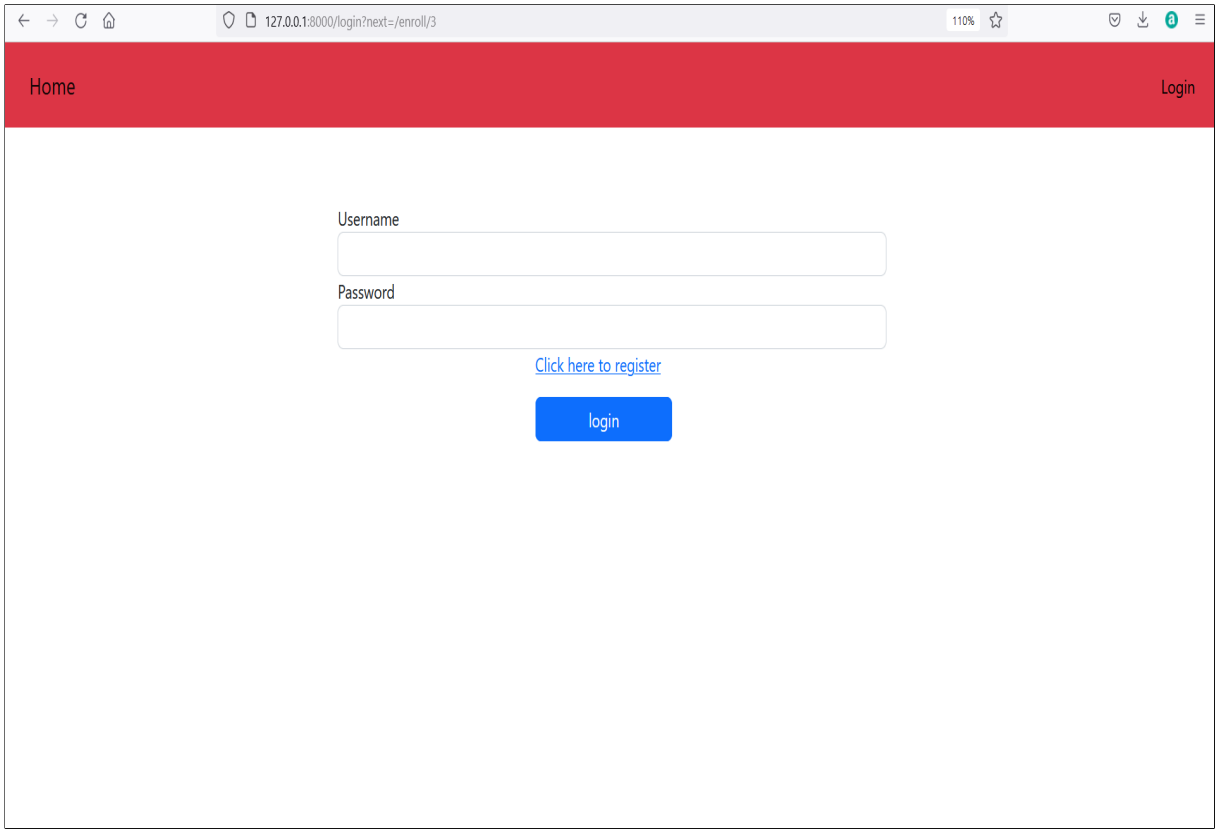
RESULTS AND DISCUSSIONS

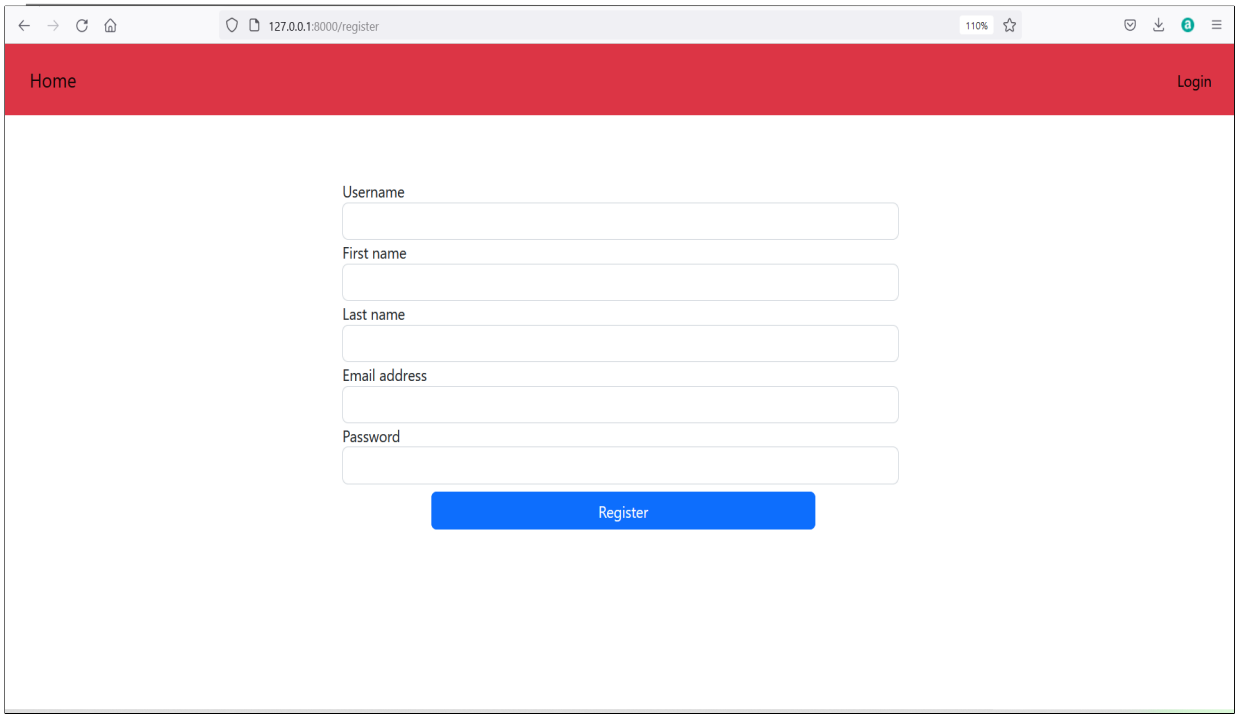
4.1 RESULTS

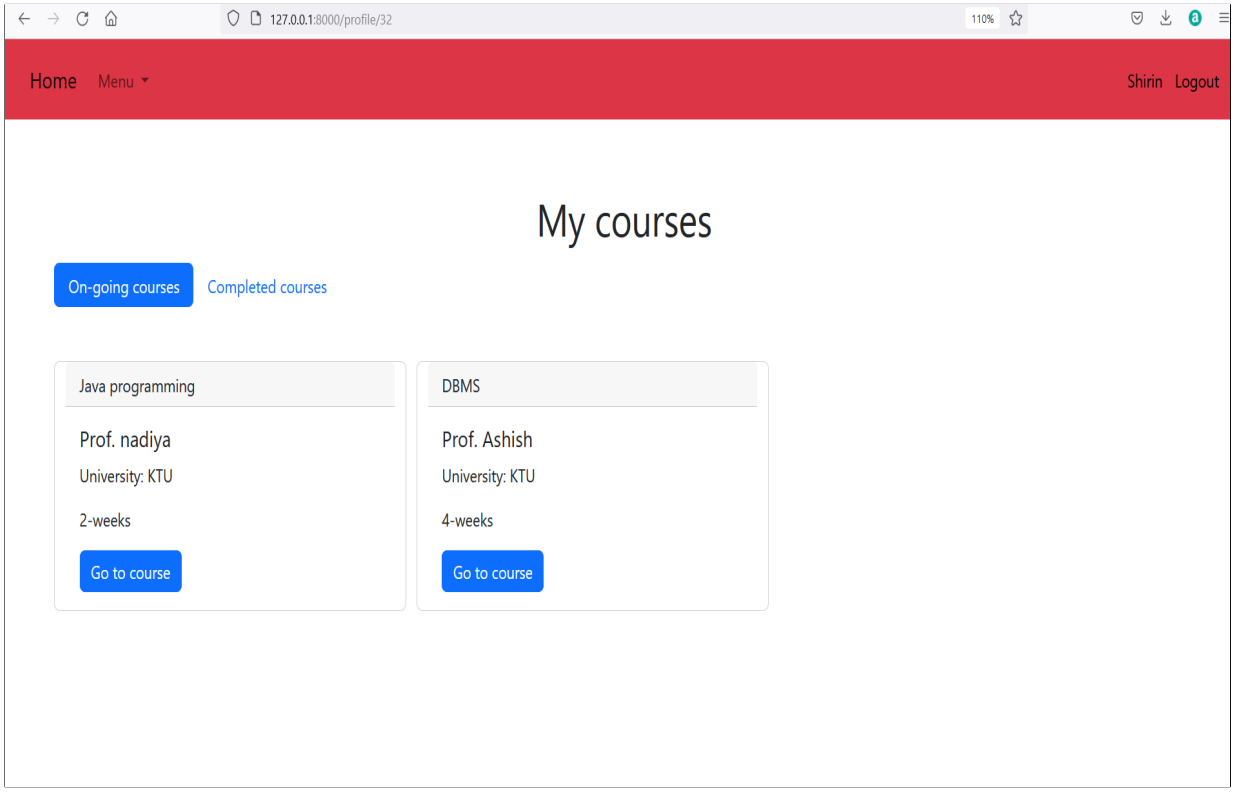


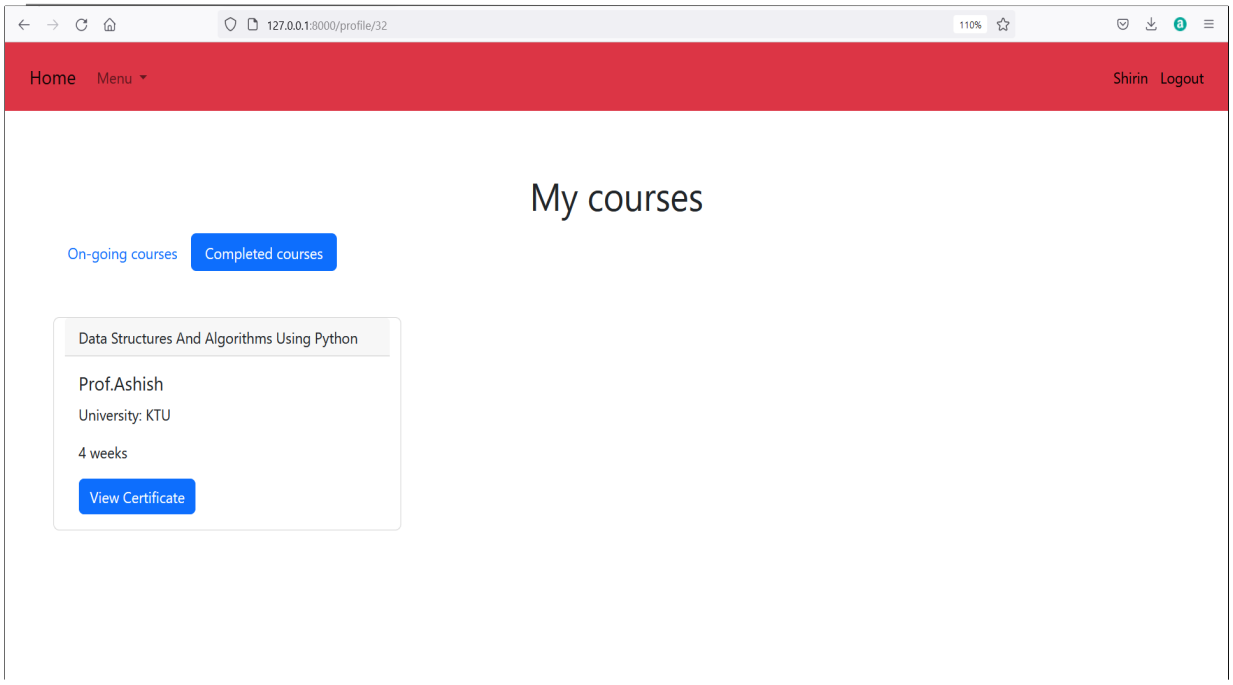


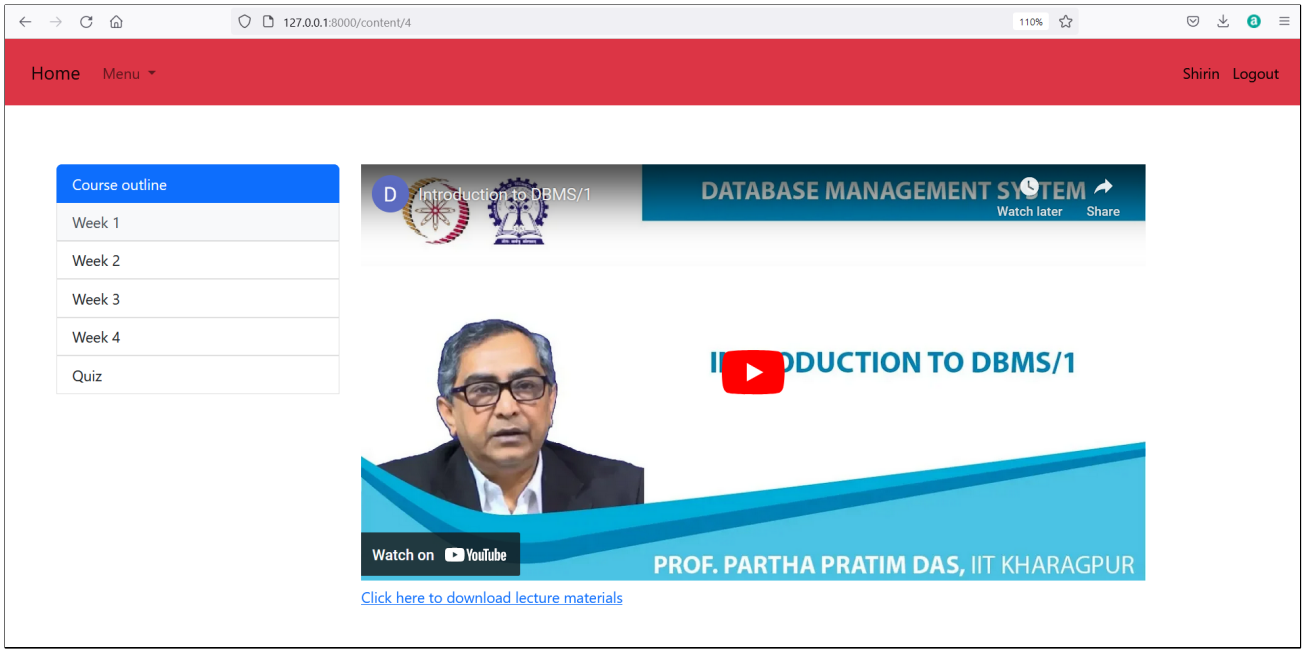

127.0.0.1:8000/course-detail/3
110%
Home
Login
Java programming
With the growth of Information and Communication Technology, there is a need to develop large and complex software. Further, those software should be platform independent, Internet enabled, easy to modify, secure, and robust. To meet this requirement object-oriented paradigm has been developed and based on this paradigm the Java programming language emerges as the best programming environment. Now, Java programming language is being used for mobile programming, Internet programming, and many other applications compatible to distributed systems. This course aims to cover the essential topics of Java programming so that the participants can improve their skills to cope with the current demand of IT industries and solve many problems in their own filed of studies.
Duration: 2-weeks
Instructor: nadiya
Course Layout
Week 1 : Overview of Object-Oriented Programming and Java Week 2 : Java Programming Elements
Certificate
The course is free to enroll and learn from. But if you want a certificate, you have to register and write the Unproctored exam YOU WILL BE ELIGIBLE FOR A CERTIFICATE ONLY IF ASSIGNMENT SCORE >=80/150 you will not be eligible for the certificate even if the Final score >= 80/150. Certificate will have your name, photograph and the score in the final exam with the breakup Only the e-certificate will be made available. Hard copies will not be dispatched.
Click to enroll

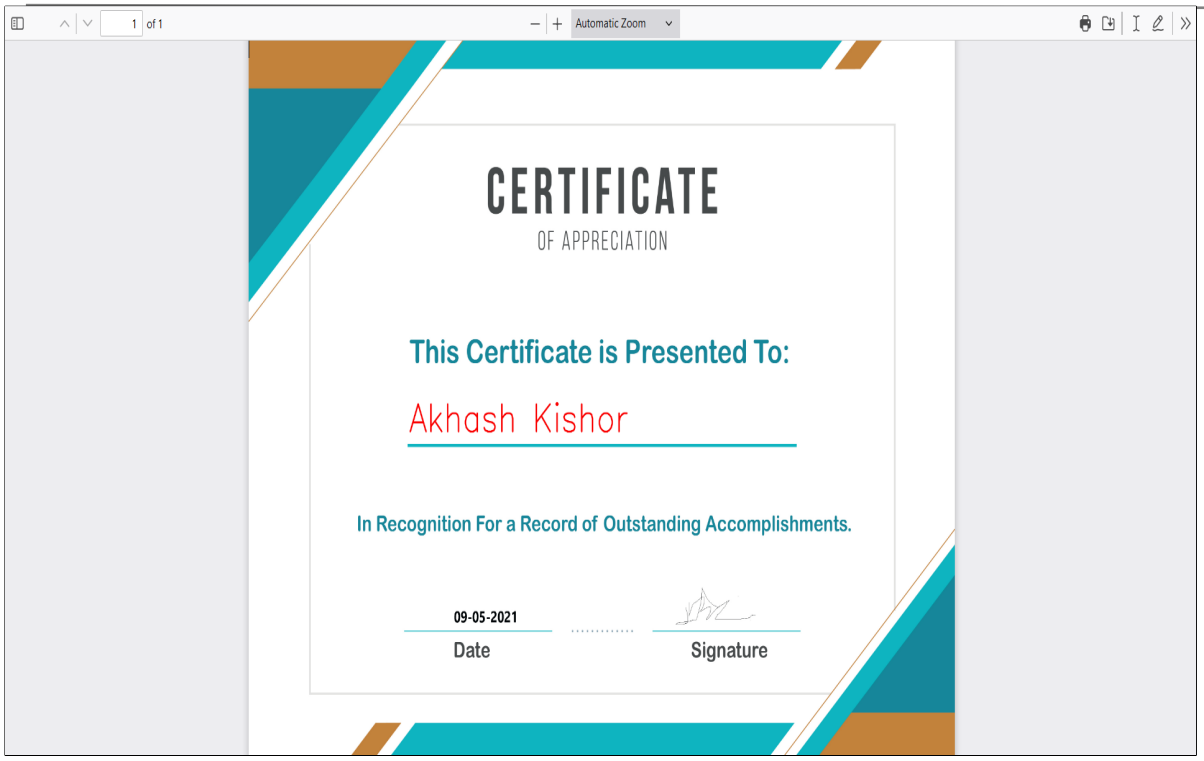

127.0.0.1:8000/login?next=/enroll/3
110%
Home
Login
Username
Password
Click here to register
login


127.0.0.1:8000/register
110%
Home
Login
Username
First name
Last name
Email address
Password
Register

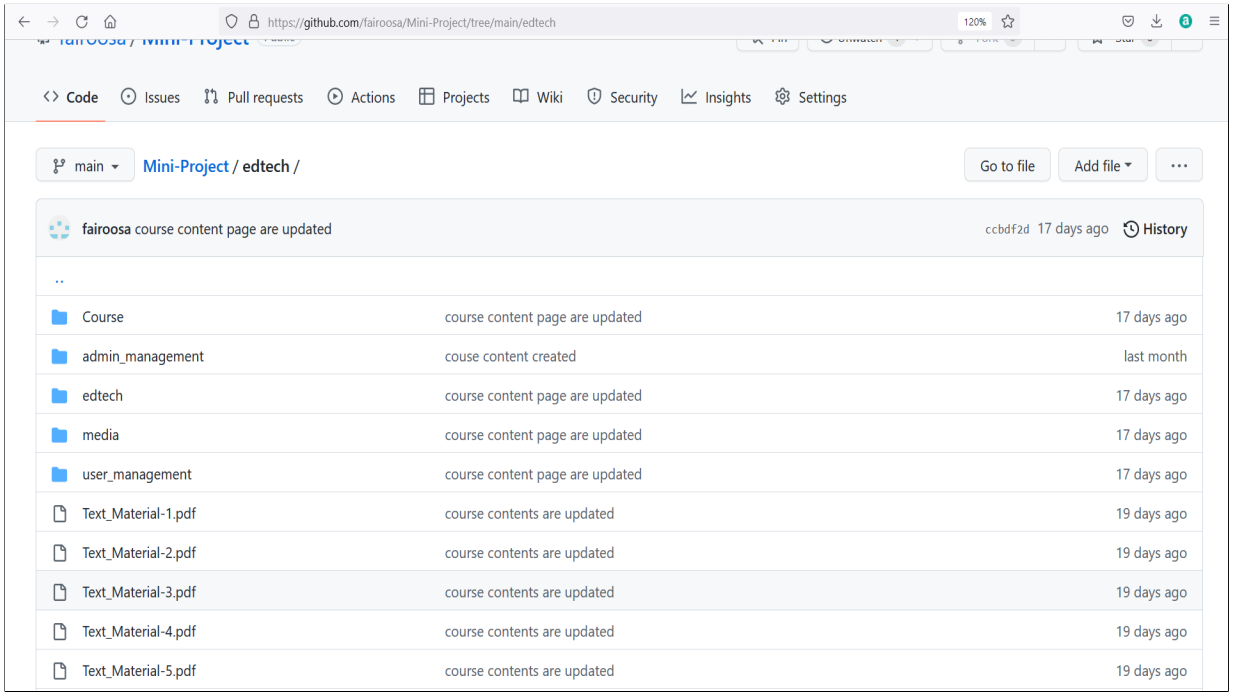

127.0.0.1:8000/profile/32
110%
Home
Menu
Shirin
Logout
My courses
On-going courses
Completed courses
Java programming
Prof. nadiya
University: KTU
2-weeks
Go to course
DBMS
Prof. Ashish
University: KTU
4-weeks
Go to course

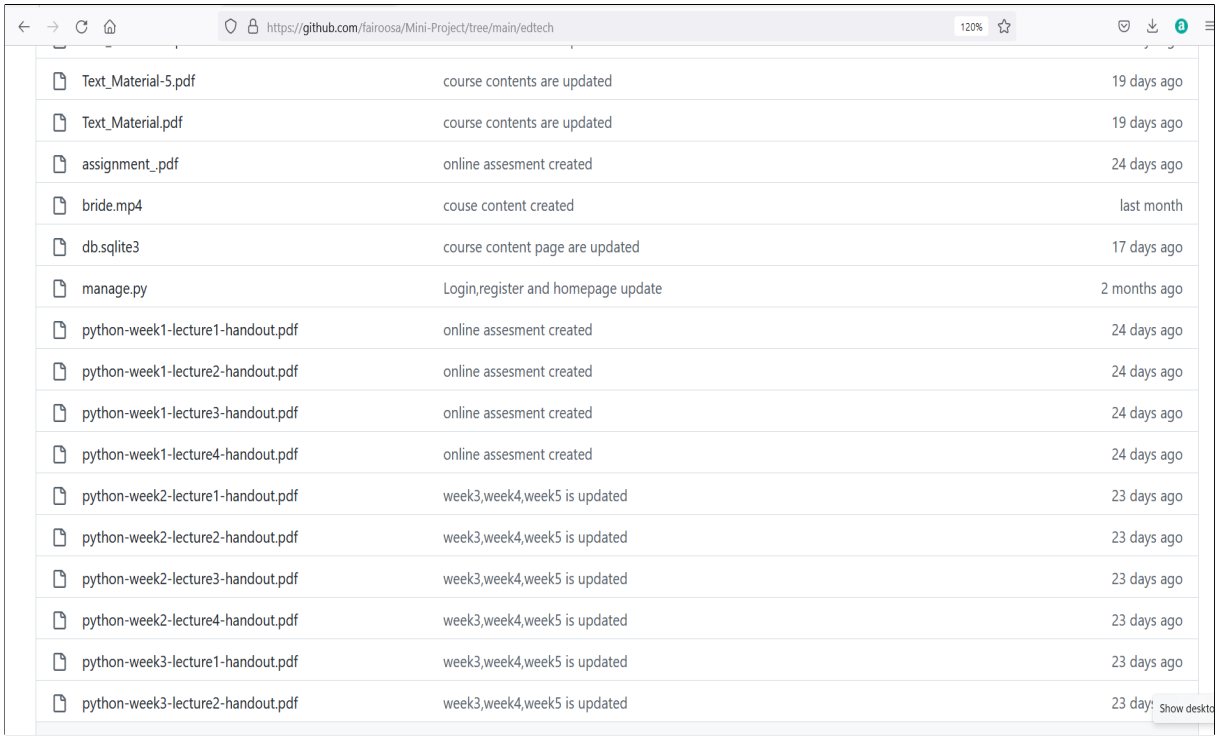

127.0.0.1:8000/profile/32
110%
Home
Menu
Shirin
Logout
My courses
On-going courses
Completed courses
Data Structures And Algorithms Using Python
Prof.Ashish
University: KTU
4 weeks
View Certificate


127.0.0.1:8000/content/4
110%
Home
Menu
Shirin
Logout
Course outline
Week 1
Week 2
Week 3
Week 4
Quiz
Introduction to DBMS/1
DATABASE MANAGEMENT SYSTEM
Watch later
Share
Watch on YouTube
PROF. PARTHA PRATIM DAS, IIT KHARAGPUR
Click here to download lecture materials


1 of 1
Automatic Zoom
CERTIFICATE
OF APPRECIATION
This Certificate is Presented To:
Akhash Kishor
In Recognition For a Record of Outstanding Accomplishments.
09-05-2021
Date
Signature

4.1 RESULTS(GIT)





Chapter 4

CONCLUSION

The Online Education Platform takes care of all the requirements of an edutech and is an easy and effective way of storing details of a course. It is easy to track fields using the friendly interface of the system. Provides accurate, fast and unambiguous data access. The project can also be altered or extended according to the future requirements and by adding modules for the course.

Appendix

Source Code

```
<!doctype html>
<html lang="en">
  <head>
        <meta charset="utf-8">
        <meta name="viewport" content="width=device-width, initial-scale=1">
        <title>Edtech</title>
        <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-
Zenh87qX5JnK2Jl0vWa8Ck2rdkQ2Bzep5IDxbcnCeuOxjzrPF/et3URy9Bv1WTRi" crossorigin="anonymous">
  </head>
  <body>
        <nav class="navbar navbar-expand-lg text-bg-danger p-3">
        <div class="container-fluid">
        <a class="navbar-brand" href="{% url 'home1' %}">Home</a>
        <button  class="navbar-toggler"  type="button"  data-bs-toggle="collapse"  data-bs-target="#navbarSupportedContent"  aria-controls="navbarSupportedContent"  aria-expanded="false"
aria-label="Toggle navigation">
        <span class="navbar-toggler-icon"></span>
        </button>
        <div class="collapse navbar-collapse" id="navbarSupportedContent">
        <ul class="navbar-nav me-auto mb-2 mb-lg-0">
        {% comment %} <li class="nav-item">
        <a class="nav-link" href="#">Link</a>
        </li> {% endcomment %}
        {% if request.user.is_authenticated %}
        <li class="nav-item dropdown">
        <a class="nav-link dropdown-toggle" href="#" role="button" data-bs-toggle="dropdown" aria-expanded="false">
        Menu
        </a>

        <ul class="dropdown-menu">
        <li><a class="dropdown-item" href="{% url 'Profile' request.user.id %}">My Courses</a></li>
        {% comment %} <li><a class="dropdown-item" href="#"></a></li> {% endcomment %}
        </ul>

        </li>
        {% endif %}
        {% comment %} <li class="nav-item">
        <a class="nav-link disabled">Disabled</a>
        </li> {% endcomment %}
        </ul>
        <div class="d-flex">
        {% if request.user.is_authenticated %}
        <a style="text-decoration: none; color: black; margin-right:14px" href=" ">{{request.user|title}}</a>
        <a style="text-decoration: none; color: black" href="{% url 'logout' %}">Logout</a>
        {% else %}
        <a style="text-decoration: none; color: black" href="{% url 'login' %}">Login</a>
        {% endif %}
        </div>
        </div>
        </div>
```

```
        </nav>

        <div class="row mt-3">
        <div class="search-section page-header-style1">
        <div class="container">
        {% if messages %}
        <ul class="messages">
        {% for message in messages %}
        <div class="alert alert-danger" role="alert">
        {{ message }}
        </div>
        {% endfor %}
        </ul>
        {% endif %}
        </div>
        </div>
        </div>

        <div class="row">

        </div>

        <div class="container mt-5">
        {% block content %}
        {% endblock%}
        </div>
        <script src="https://code.jquery.com/jquery-3.2.1.min.js"></script>
        <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/js/bootstrap.bundle.min.js" integrity="sha384-
OERcA2EqjJCMA+/3y+gxIOqMEjwtxJY7qPCqsdltbNJuaOe923+mo//f6V8Qbsw3" crossorigin="anonymous"></script>
        <script>
        var quiz_data = {"course_id": "{{object_list.0.course.id}}"}
        url = "{% url 'QuizAssesment' %}"
        function add_ans(el){
        ques = el.getAttribute("ques_id")
        ans = el.getAttribute("ans_id")
        quiz_data[ques] = ans
        }

        function mclose(){
        $("#myModal").modal("hide")
        }

        function send_quiz_data(){
        console.log(quiz_data)

        $.ajax({
                url: url,
                method: "POST",
                data: quiz_data,
                success: function(data){
                        if(data.status == "passed"){
        $("#text_id").text(data.msg)
                                $("#myModal").modal("show")
                        }else{
        $("#text_id").text(data.msg)
                                $("#myModal").modal("show")
                        }
                }
                });
        }

function open_og(){
        document.getElementById("cc").classList.remove("active");
        document.getElementById("on_id").style.display = "block";
        document.getElementById("cc_id").style.display = "none";
        document.getElementById("og").classList.add("active");
}

function open_cc(){
        document.getElementById("cc").classList.add("active");
```

```
        document.getElementById("on_id").style.display = "none";
        document.getElementById("cc_id").style.display = "block";
        document.getElementById("og").classList.remove("active");
 }

        </script>
 </body>
</html>
<!doctype html>
<html lang="en">
 <head>
        <meta charset="utf-8">
        <meta name="viewport" content="width=device-width, initial-scale=1">
        <title>Bootstrap demo</title>
        <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-
Zenh87qX5JnK2Jl0vWa8Ck2rdkQ2Bzep5IDxbcnCeuOxjzrPF/et3URy9Bv1WTRi" crossorigin="anonymous">
 </head>
 <body>
        <nav class="navbar navbar-expand-lg text-bg-danger p-3">
        <div class="container-fluid">
        <a class="navbar-brand" href="{% url 'home1' %}">Home</a>
        <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-target="#navbarSupportedContent" aria-controls="navbarSupportedContent" aria-expanded="false"
aria-label="Toggle navigation">
        <span class="navbar-toggler-icon"></span>
        </button>
        <div class="collapse navbar-collapse" id="navbarSupportedContent">
        <ul class="navbar-nav me-auto mb-2 mb-lg-0">
        {% comment %} <li class="nav-item">
        <a class="nav-link" href="#">Link</a>
        </li> {% endcomment %}
        <li class="nav-item dropdown">
        <a class="nav-link dropdown-toggle" href="#" role="button" data-bs-toggle="dropdown" aria-expanded="false">
        Menu
        </a>
        <ul class="dropdown-menu">
        <li><a class="dropdown-item" href="{% url 'Profile' request.user.id %}">My Courses</a></li>
        {% comment %} <li><a class="dropdown-item" href="#"></a></li> {% endcomment %}
        </ul>
        </li>
        {% comment %} <li class="nav-item">
        <a class="nav-link disabled">Disabled</a>
        </li> {% endcomment %}
        </ul>
        <div class="d-flex">
        {% if request.user.is_authenticated %}
        <a style="text-decoration: none; color: black; margin-right:14px" href=" ">{{request.user|title}}</a>
        <a style="text-decoration: none; color: black" href="{% url 'logout' %}">Logout</a>
        {% else %}
        <a style="text-decoration: none; color: black" href="{% url 'login' %}">Login</a>
        {% endif %}
        </div>
        </div>
        </div>
        </nav>

        <div class="row mt-3">
        <div class="search-section page-header-style1">
        <div class="container">
        {% if messages %}
        <ul class="messages">
        {% for message in messages %}
        <div class="alert alert-success" role="alert">
        {{ message }}
        </div>
        {% endfor %}
        </ul>
        {% endif %}
        </div>
        </div>
        </div>
```

```
<div class="container mt-5">
<div class="row">
<div class="col-3">
<div class="list-group">
<a href="#" class="list-group-item list-group-item-action active" aria-current="true">
Course outline
</a>
{% for j in object_list %}
<a class="list-group-item list-group-item-action" data-bs-toggle="collapse" href="#collapseExample_{{forloop.counter}}" role="button" aria-expanded="false" aria-controls="collapseExample">
Week {{forloop.counter}}
</a>
<div class="collapse {% if object_list.0.0.youtubelink == j.0.youtubelink %}show{% endif %}" id="collapseExample_{{forloop.counter}}">
<div class="card card-body">
{% for i in j %}
<ul>
<span onclick="change_video_link('{{i.youtubelink}}','{{i.pdf}}')" style="cursor: pointer;">{{forloop.counter}}. {{i.Title}}</span>
</ul>
{% endfor %}
</div>
</div>
{% endfor %}
<div>
{% if object_list.0.0.course %}
<a class="list-group-item list-group-item-action" href="{% url 'quiz' object_list.0.0.course.id %}" role="button" aria-expanded="false" aria-controls="collapseExample">
Quiz</a>
{% endif %}
</div>
<div>
{% if is_completed %}
<a class="list-group-item list-group-item-action" href="{% url 'certificate' object_list.0.0.course.id  %}" role="button" aria-expanded="false" aria-controls="collapseExample">
certificate</a>
{% endif %}
</div>
</div>
</div>
<div class="col-8">
<div class="gcb-video-container">
<iframe id="video_link" src="{{object_list.0.0.youtubelink}}" height="450" width="850"></iframe>
</div>
<div class="row">
<a href="{{object_list.0.0.pdf.url}}" target="_blank">Click here to download lecture materials</a>
</div>
</div>
</div>
</div>

<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/js/bootstrap.bundle.min.js" integrity="sha384-OERcA2EqjJCMA+/3y+gxIOqMEjwtxJY7qPCqsdltbNJuaOe923+mo//f6V8Qbsw3" crossorigin="anonymous"></script>
<script>
function change_video_link(link) {
document.getElementById('video_link').src = link;
}
</script>
 </body>
</html>
```

Data Flow Diagram

LEVEL

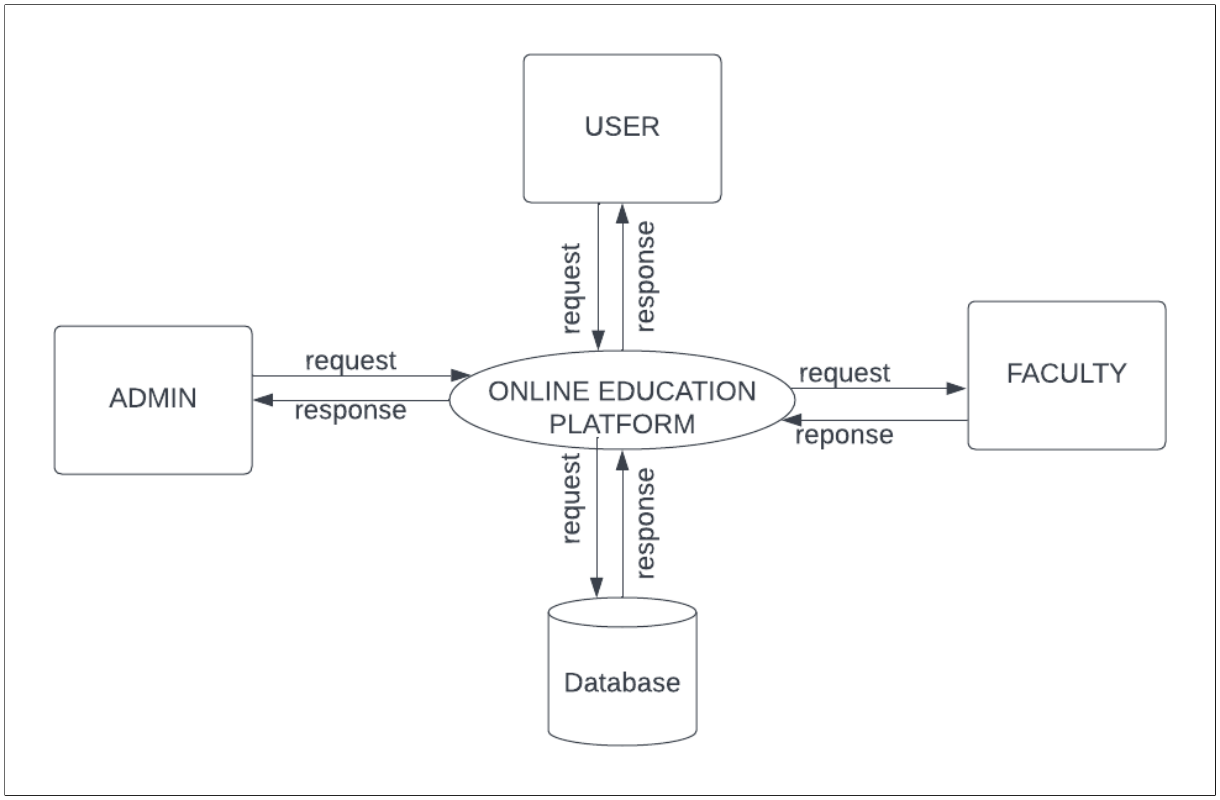


Figure A.1: Data Flow Diagram

LEVEL 1.1

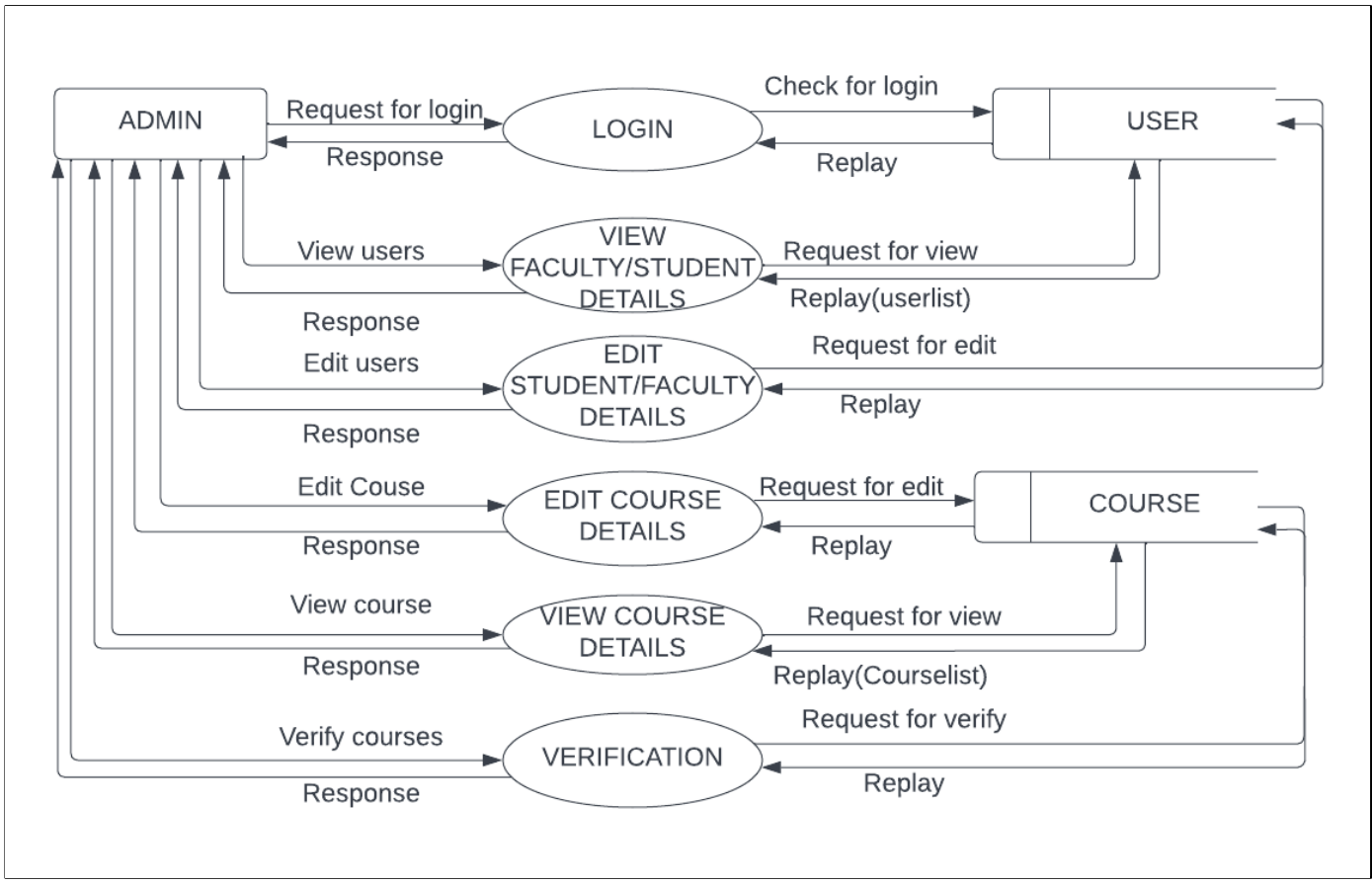


Figure A.2: Data Flow Diagram

LEVEL 1.2

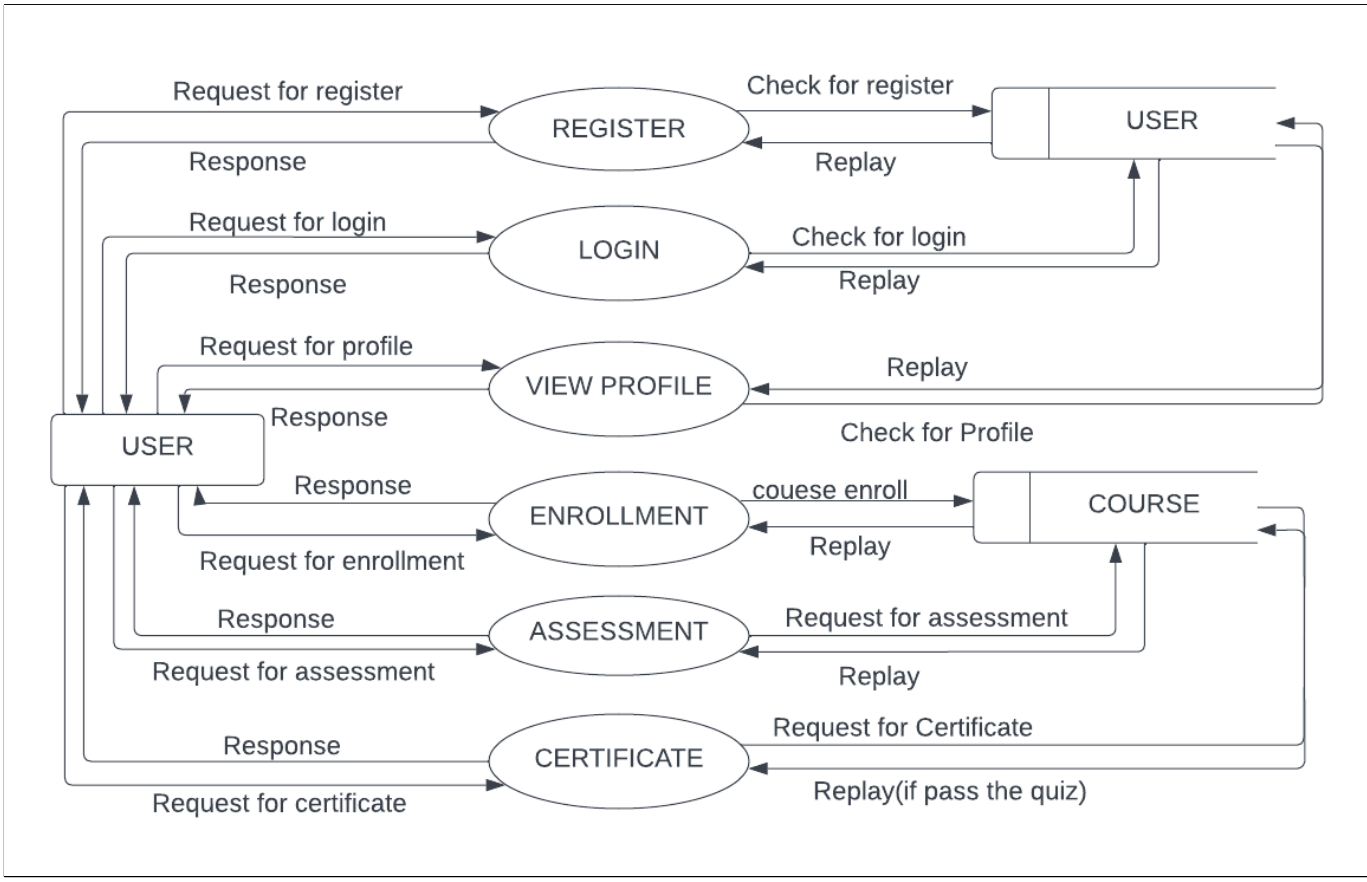


Figure A.3: Data Flow Diagram

LEVEL 1.3

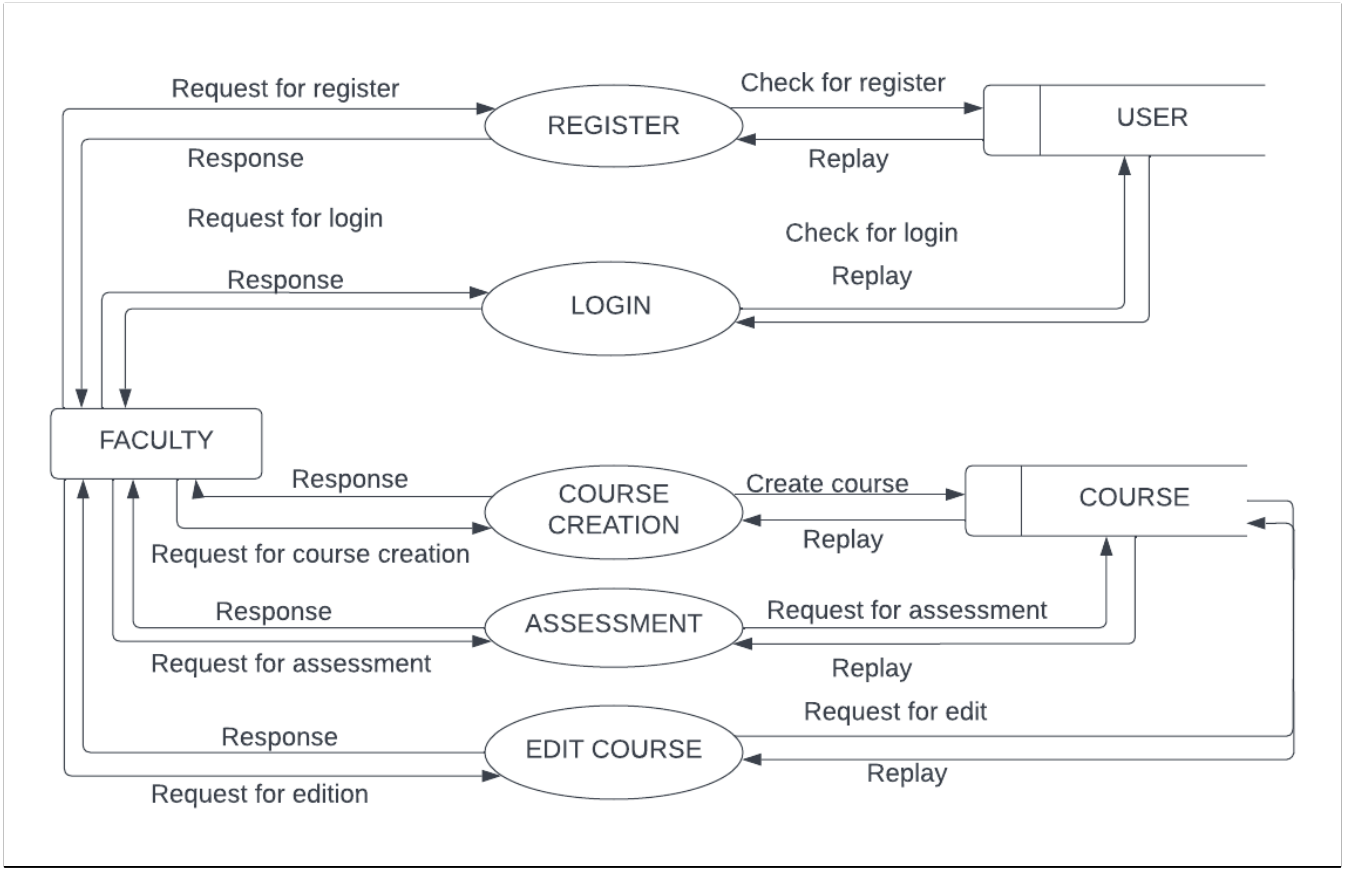


Figure A.4: Data Flow Diagram

TABLE DESIGN

Name	Type	Schema
Course_course		CREATE TABLE "Course_course" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "course_name" varchar(50) NOT NULL, "duration" varchar(50) NOT NULL, "description" text NOT NULL, "created_date" date NOT NULL, "faculty_id" bigint NOT NULL REFERENCES "admin_management_faculty" ("id") DEFERRABLE INITIALLY DEFERRED, "university_id" bigint NOT NULL REFERENCES "admin_management_university" ("id") DEFERRABLE INITIALLY DEFERRED, "is_active" bool NOT NULL, "certificate" text NULL, "course_layout" text NULL)
id	integer	"id" integer NOT NULL
course_name	varchar(50)	"course_name" varchar(50) NOT NULL
duration	varchar(50)	"duration" varchar(50) NOT NULL
description	text	"description" text NOT NULL
created_date	date	"created_date" date NOT NULL
faculty_id	bigint	"faculty_id" bigint NOT NULL
university_id	bigint	"university_id" bigint NOT NULL
is_active	bool	"is_active" bool NOT NULL
certificate	text	"certificate" text
course_layout	text	"course_layout" text
Course_coursecontent		CREATE TABLE "Course_coursecontent" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "week_no" integer NULL, "video" varchar(100) NULL, "content" text NULL, "pdf" varchar(100) NULL, "course_id" bigint NOT NULL REFERENCES "Course_course" ("id") DEFERRABLE INITIALLY DEFERRED, "Title" text NULL, "youtubelink" varchar(300) NULL)
id	integer	"id" integer NOT NULL
week_no	integer	"week_no" integer
video	varchar(100)	"video" varchar(100)
content	text	"content" text
pdf	varchar(100)	"pdf" varchar(100)
course_id	bigint	"course_id" bigint NOT NULL
Title	text	"Title" text
youtubelink	varchar(300)	"youtubelink" varchar(300)

Course_quiz		CREATE TABLE "Course_quiz" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "question" text NULL, "answer" text NULL, "option1" text NULL, "option2" text NULL, "option3" text NULL, "option4" text NULL, "course_id" bigint NOT NULL REFERENCES "Course_course" ("id") DEFERRABLE INITIALLY DEFERRED)
id	integer	"id" integer NOT NULL
question	text	"question" text
answer	text	"answer" text
option1	text	"option1" text
option2	text	"option2" text
option3	text	"option3" text
option4	text	"option4" text
course_id	bigint	"course_id" bigint NOT NULL
admin_management_address		CREATE TABLE "admin_management_address" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "address1" varchar(50) NULL, "address2" varchar(50) NULL, "city" varchar(50) NULL, "zipcode" integer NULL, "district" varchar(50) NULL, "state" varchar(50) NULL, "country" varchar(50) NULL)
id	integer	"id" integer NOT NULL
address1	varchar(50)	"address1" varchar(50)
address2	varchar(50)	"address2" varchar(50)
city	varchar(50)	"city" varchar(50)
zipcode	integer	"zipcode" integer
district	varchar(50)	"district" varchar(50)
state	varchar(50)	"state" varchar(50)
country	varchar(50)	"country" varchar(50)

admin_management_faculty		CREATE TABLE "admin_management_faculty" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "phone_number" integer NULL, "address_id" bigint NOT NULL REFERENCES "admin_management_address" ("id") DEFERRABLE INITIALLY DEFERRED, "university_id" bigint NOT NULL REFERENCES "admin_management_university" ("id") DEFERRABLE INITIALLY DEFERRED, "user_id" integer NULL UNIQUE REFERENCES "auth_user" ("id") DEFERRABLE INITIALLY DEFERRED)
id	integer	"id" integer NOT NULL
phone_number	integer	"phone_number" integer
address_id	bigint	"address_id" bigint NOT NULL
university_id	bigint	"university_id" bigint NOT NULL

admin_management_university		CREATE TABLE "admin_management_university" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "university_name" varchar(100) NULL, "email" varchar(254) NOT NULL, "mobile_number" integer NOT NULL, "address_id" bigint NOT NULL REFERENCES "admin_management_address" ("id") DEFERRABLE INITIALLY DEFERRED)
id	integer	"id" integer NOT NULL
university_name	varchar(100)	"university_name" varchar(100)
email	varchar(254)	"email" varchar(254) NOT NULL
mobile_number	integer	"mobile_number" integer NOT NULL
address_id	bigint	"address_id" bigint NOT NULL

user_management_address		CREATE TABLE "user_management_address" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "address1" varchar(50) NULL, "address2" varchar(50) NULL, "city" varchar(50) NULL, "zipcode" integer NULL, "district" varchar(50) NULL, "state" varchar(50) NULL, "country" varchar(50) NULL)
id	integer	"id" integer NOT NULL
address1	varchar(50)	"address1" varchar(50)
address2	varchar(50)	"address2" varchar(50)
city	varchar(50)	"city" varchar(50)
zipcode	integer	"zipcode" integer
district	varchar(50)	"district" varchar(50)
state	varchar(50)	"state" varchar(50)
country	varchar(50)	"country" varchar(50)
user_management_userprofile		CREATE TABLE "user_management_userprofile" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "phone_number" integer NULL, "is_verified" bool NOT NULL, "profile_image" varchar(100) NOT NULL, "created_at" date NULL, "qualification" varchar(50) NULL, "address_id" bigint NOT

Name	Type	Schema
		NULL REFERENCES "user_management_address" ("id") DEFERRABLE INITIALLY DEFERRED, "user_id" integer NOT NULL UNIQUE REFERENCES "auth_user" ("id") DEFERRABLE INITIALLY DEFERRED)
id	integer	"id" integer NOT NULL
phone_number	integer	"phone_number" integer
is_verified	bool	"is_verified" bool NOT NULL
profile_image	varchar(100)	"profile_image" varchar(100) NOT NULL
created_at	date	"created_at" date
qualification	varchar(50)	"qualification" varchar(50)
address_id	bigint	"address_id" bigint NOT NULL
user_id	integer	"user_id" integer NOT NULL UNIQUE