Project Report

On

E-COURCES

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CERTIFICATE

This is to certify that the project work titled "E-COURSES" is a bonafied project work submitted by J.SUJITHA RANI (R170820),K.BHAVANI (R170835),P.VINAY KUMAR (R171214) in the department of COMPUTER SCIENCE AND ENGINEERING in partial fulfillment of requirements for the award of degree of Bachelor of Technology in Computer science and engineering for the year 2021-2022 carried out the work under the supervision

GUIDE

P.SANTHOSH KUMAR(Sir)

HEAD OF THE DEPARTMENT

P.HARINADHA (Sir)

ACKNOWLEDGEMENT

The satisfaction that accompanies the successful completion of any task would be incomplete without the mention of the people who made it possible and whose constant guidance and encouragement crown all the efforts success.

I am extremely grateful to our respected Director,Prof. K. SANDHYA RANI For fostering an excellent academic climate in our institution.

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My sincere thanks to all the members who helped me directly and indirectly in the completion of project work. I express my profound gratitude to all our friends and family members for their encouragement.

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Abstract

In order to prevent the tough and difficult times such as corona pandemic making our lives chaotic especially in case of students, it is very crucial for them to update their skill set to get employed or to get their dream job.

Hence we need to explore all the possibilities to help students achieve their dreams. One of them and most convenient and safest form of learning is online learning.

The need for Quality Education Technology is growing exponentially. One of the most important components of the education technology business model is a Website which plays key role in communicating the content providers with students in need and delivering quality content.

Hence as a computer science student I wanted to build a website where teachers provide quality content for students and students can access it from anywhere and anytime.

Introduction

E-COURSES is a web based technology which brings up various courses Onine.Here users are first allowed to register on the website and provide personal information. Once registered with their user name and email ID details, the Users may now see a types of courses available in the web application. The user will enroll the required course .After successful registration of the student course the user can see his enrollod courses in the my courses module.The system allows admin to attach anew course to the home page. It mainly has two modules i.e.

- **ADMIN**
- **USER (STUDENT)**

Admin Module

Admin is the super user of the website who can manage everything on the website. Admin can log in through the login page.

->database:here admin can see all details in brief like total,assigned and sample enlorred tests.

->login :the admin can login through the admin user mail id and he can manage all the stuff.

->notification:the admin can get a notification when a new user enrolled.

User (Student) Module

->user can visit the application through a URL.

->testing: This section divided into two parts. One is for new user and another one is for registered user. New user (First-time user) needs to provide personal username and email ID information. A registered user only needs to provide test information; their personal information will be fetched from the database.

->Courses: In this section, Users can search their enrolled courses using username and registered mobile email and other details.

Purpose

The main purpose of E-COURSES is to provide a platform where students can enroll their courses in online and get their courses done at home.With the help of this project we are bringing the use of technology in the field of studies where students can
avail all the course facilities at their door steps.

Scope

In order to prevent the tough and difficult times such as corona pandemic making our lives chaotic especially in case of students, it is very crucial for them to update their skill set to get employed or to get their dream job.Hence we need to explore all the possibilities to help students achieve their dreams. One of them and most convenient and safest form of learning is online learning. The need for Quality Education Technology is growing exponentially. One of the most important components of the education technology business model is a Website which plays key role in communicating the content providers with students in need and delivering quality content.

Advantages:

- This web application allows students to learn online.
- Allows for faster service.
- Allows many number of students to learn easily according to their comfot.
- Easy, user friendly GUI.

Disadvantages:

- It reduces employment as the human efforts are being automated by this system.

Requirement Specification

Hardware Configuration:

Client Side:

Ram	512 MB
Hard disk	10 GB
Processor	1.0 GHz

Server side:

Ram	1 GB
Hard disk	20 GB
Processor	2.0 GHz

Software Requirement:

Front end	HTML,CSS ,ANGULARJS,BOOTSTRAP
Server side Language	---
Database Server	Firebase
Web Browser	Firefox , Google Chrome or any compatible browser
Operating System	Ubuntu,Windows or any equivalent OS
Software	---

ANGULARJS

AngularJS is a structural framework for dynamic web apps. It lets you use HTML as your template language and lets you extend HTML's syntax to express your application's components clearly and succinctly. AngularJS's data binding and dependency injection eliminate much of the code you would otherwise have to write. And it all happens within the browser, making it an ideal partner with any server technology.

AngularJS is what HTML would have been, had it been designed for applications. HTML is a great declarative language for static documents. It does not contain much in the way of creating applications, and as a result building web applications is an exercise in what do I have to do to trick the browser into doing what I want?

BOOTSTRAP

-> Bootstrap is a free and open source front-end CSS framework .

-> It includes HTML and CSS based design templates for typography,forms, buttons, tables, navigation, modals, image carousels and many other,as well as optional JavaScript plugins .

-> Bootstrap also gives you the ability to easily create responsive designs.

-> Mobile-first approach: In Bootstrap 3, mobile-first styles are part of the core framework.

-> Browser compatibility: Bootstrap is compatible with all modern browsers (Chrome, Firefox, Internet Explorer, Edge, Safari, and Opera).

-> https://getbootstrap.com

FIREBASE

-> Firebase provides different developer tools like backend infrastructure, performance monitoring, analytics, testing and messaging, etc.

-> Firebase provides two kinds of databases one is Firestore Database and Realtime Database.

-> Firestore Database is a cloud-hosted NoSQL database that our iOS, Android, Web apps can access directly via native SDKs.

-> We can create subcollections within documents and build hierarchical data structure that can scale as our database grows.

-> https://firebase.google.com

Analysis and Design

Analysis:

In recent pandemic we don’t have colleges ,universities and other educational institutions.So on those day students face so many difficulties to improve their knowledge.To overcome that issues we decided to develop a E-learning that is E-COURSES.Thia project makes students to learn from their homes and make students brighter by learning those courses.They (students) can enroll to their desired courses which they want to learn by registering into our web application.

DISADVANTAGES OF THIS PROJECT:

-> NETWORK RELATED PLATFORM

-> NO DIRECT COMMUNICATION BETWEEN STUDENT AND THE TEACHER.

Design Introduction:

Design is the first step in the development phase for any techniques and principles for the purpose of defining a device, a process or system in sufficient detail to permit its physical realization. Once the software requirements have been analyzed and specified the software design involves three technical activities - design, coding, implementation and testing that are required to build and verify the software.

The design activities are of main importance in this phase, because in this activity, decisions ultimately affecting the success of the software implementation and its ease of maintenance are made. These decisions have the final bearing upon reliability and maintainability of the system. Design is the only way to accurately translate the customer's requirements into finished software or a system.

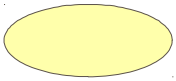
Design is the place where quality is fostered in development. Software design is a process through which requirements are translated into a representation of software. Software design is conducted in two steps. Preliminary design is concerned with the transformation of requirements into data

UML Diagrams:

Actor:

A coherent set of roles that users of use cases play when interacting with the use cases.an observable result of value of an actor.

Use case: A description of sequence of actions, including variants, that a system performs yields an observable result of value of an actor. actor diagram is drawned in a eclipse shape



UML stands for Unified Modeling Language. UML is a language for specifying, visualizing and documenting the system. This is the step while developing any product after analysis. The goal from this is to produce a model of the entities involved in the project which later need to be built. The representation of the entities that are to be used in the product being developed need to be designed.

USECASE DIAGRAMS:

Use case diagrams model behavior within a system and helps the developers understand of what the user require. The stick man represents what's called an actor.

Use case diagram can be useful for getting an overall view of the system and clarifying that can do and more importantly what they can't do.

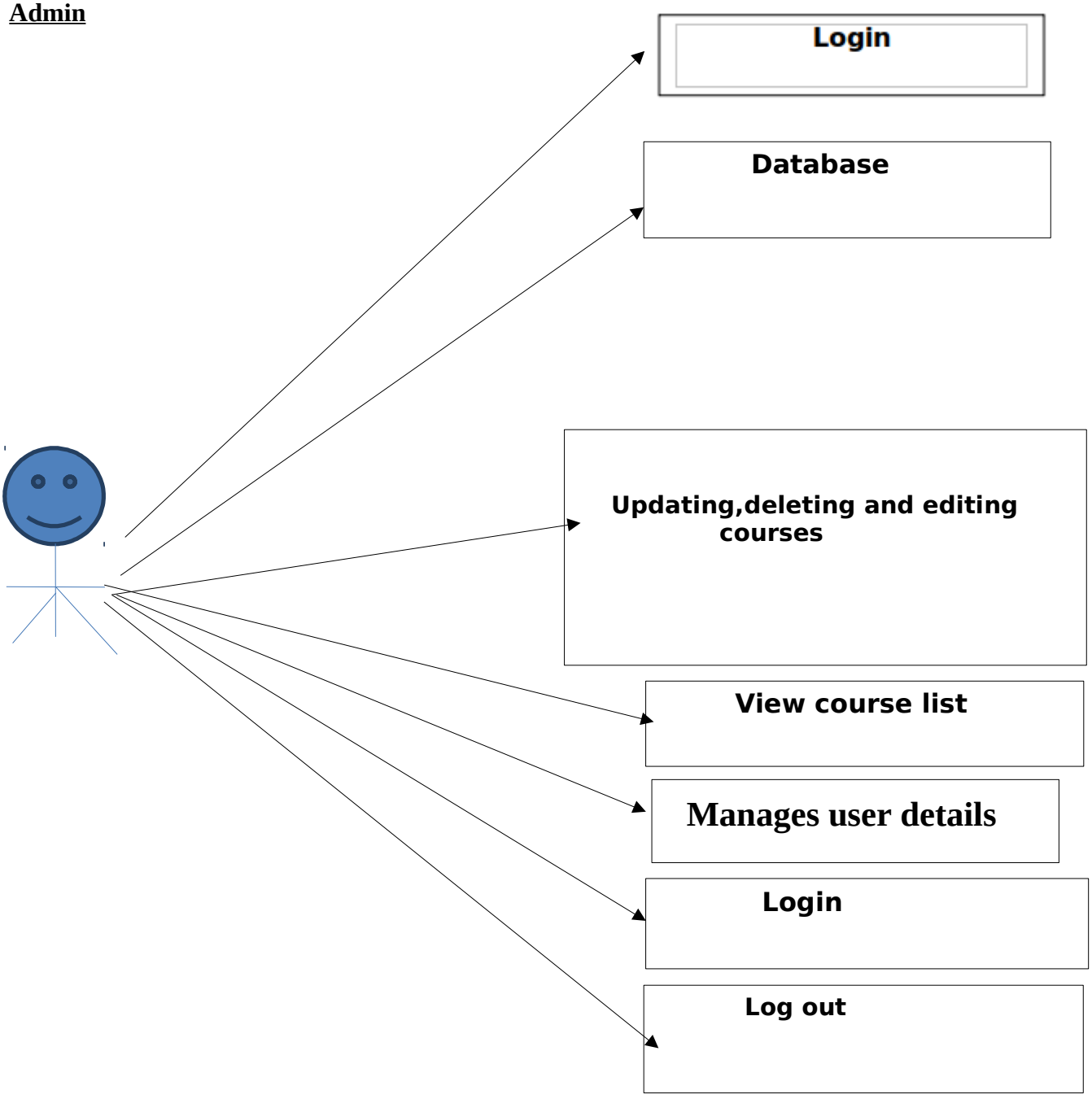
Use case diagram consists of use cases and actors and shows the interaction between the use case and actors.

- The purpose is to show the interactions between the use case and actor.
- To represent the system requirements from user's perspective.
- An actor could be the end-user of the system or an external system.

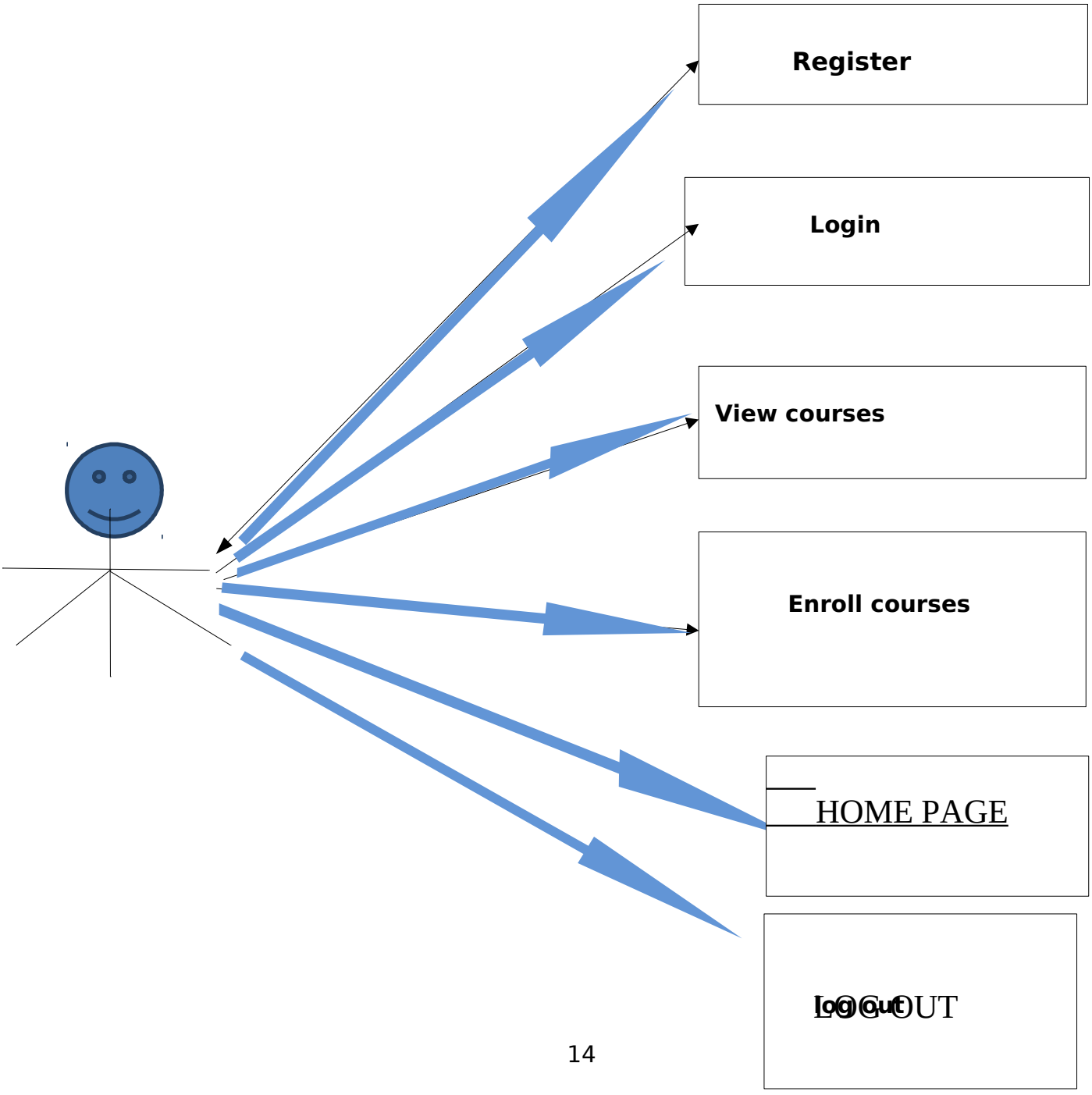
USECASE DIAGRAM: A Use case is a description of set of sequence of actions. Graphically it is rendered as an ellipse with solid line including only its name. Use case diagram is a behavioral diagram that shows a set of use cases and actors and their relationship. It is an association between the use cases and actors. An actor represents a real-world object. Primary Actor – Sender, Secondary Actor Receiver.

Use Case Diagrams:

Admin



Users (Patient)



ER Diagram:

The Entity-Relationship (ER) model was originally proposed by Peter in 1976 [Chen76] as a way to unify the network and relational database views. Simply stated the ER model is a conceptual data model that views the real world as entities and relationships. A basic component of the model is the Entity-Relationship diagram which is used to visually represent data objects. Since Chen wrote his paper the model has been extended and today it is commonly used for database design for the database designer, the utility of the ER model is:

- It maps well to the relational model. The constructs used in the ER model can easily be transformed into relational tables.
- It is simple and easy to understand with a minimum of training. Therefore, the model can be used by the database designer to communicate the design to the end user.
- In addition, the model can be used as a design plan by the database developer to implement a data model in specific database management software.

ER Notation

There is no standard for representing data objects in ER diagrams. Each modeling methodology uses its own notation. The original notation used by Chen is widely used in academics texts and journals but rarely seen in either CASE tools or publications by non-academics. Today, there are a number of notations used; among the more common are Bachman, crow's foot, and IDEFIX.

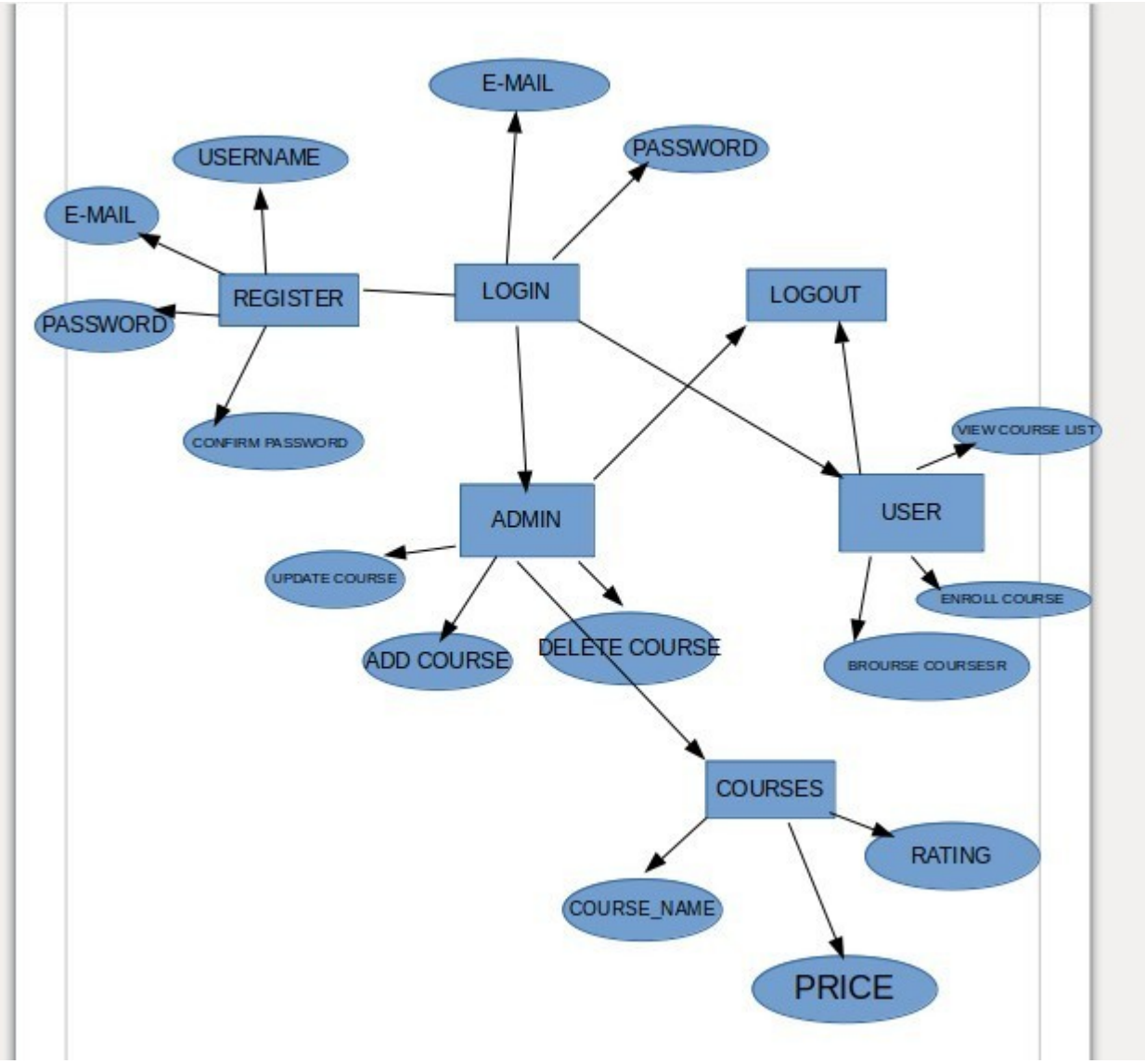
All notational styles represent entities as rectangular boxes and relationships as lines connecting boxes. Each style uses a special set of symbols to represent the cardinality of a connection. The notation used in this document is from Martin. The symbols used for the basic ER constructs are:

- **Entities** are represented by labeled rectangles. The label is the name of the entity. Entity names should be singular nouns.
- **Relationships** are represented by a solid line connecting two entities. The name of the relationship is written above the line. Relationship names should be verbs

- **Attributes**, when included, are listed inside the entity rectangle. Attributes which are identifiers are underlined. Attribute names should be singular nouns.
- **Cardinality** of many is represented by a line ending in a crow's foot. If the crow's foot is omitted, the cardinality is one.

Existence is represented by placing a circle or a perpendicular bar on the line. Mandatory existence is shown by the bar (looks like a 1) next to the entity for an instance is required. Optional existence is shown by placing a circle next to the entity that is optional.

ER Diagram



Implementation and System Testing

After all phase have been perfectly done, the system will be implemented to the server and the system can be used.

System Testing

The goal of the system testing process was to determine all faults in our project .The program was subjected to a set of test inputs and many explanations were made and based on these explanations it will be decided whether the program behaves as expected or not. Our Project went through two levels of testing

1. Unit testing

2 .Integration testing

Unit Testing

Unit testing is commenced when a unit has been created and effectively reviewed .In order to test a single module we need to provide a complete environment i.e. besides the section we would require The procedures belonging to other units that the unit under test calls Non local data structures that module accesses .A procedure to call the functions of the unit under test with appropriate parameters

1. Test for the admin module

Testing admin login form-This form is used for log in of administrator of the system. In this form we enter the username and password if both are correct administration page will open otherwise if any of data is wrong it will get redirected back to the login page and again ask the details.

Report Generation: admin can see details of the users in the main database.

Integration Testing

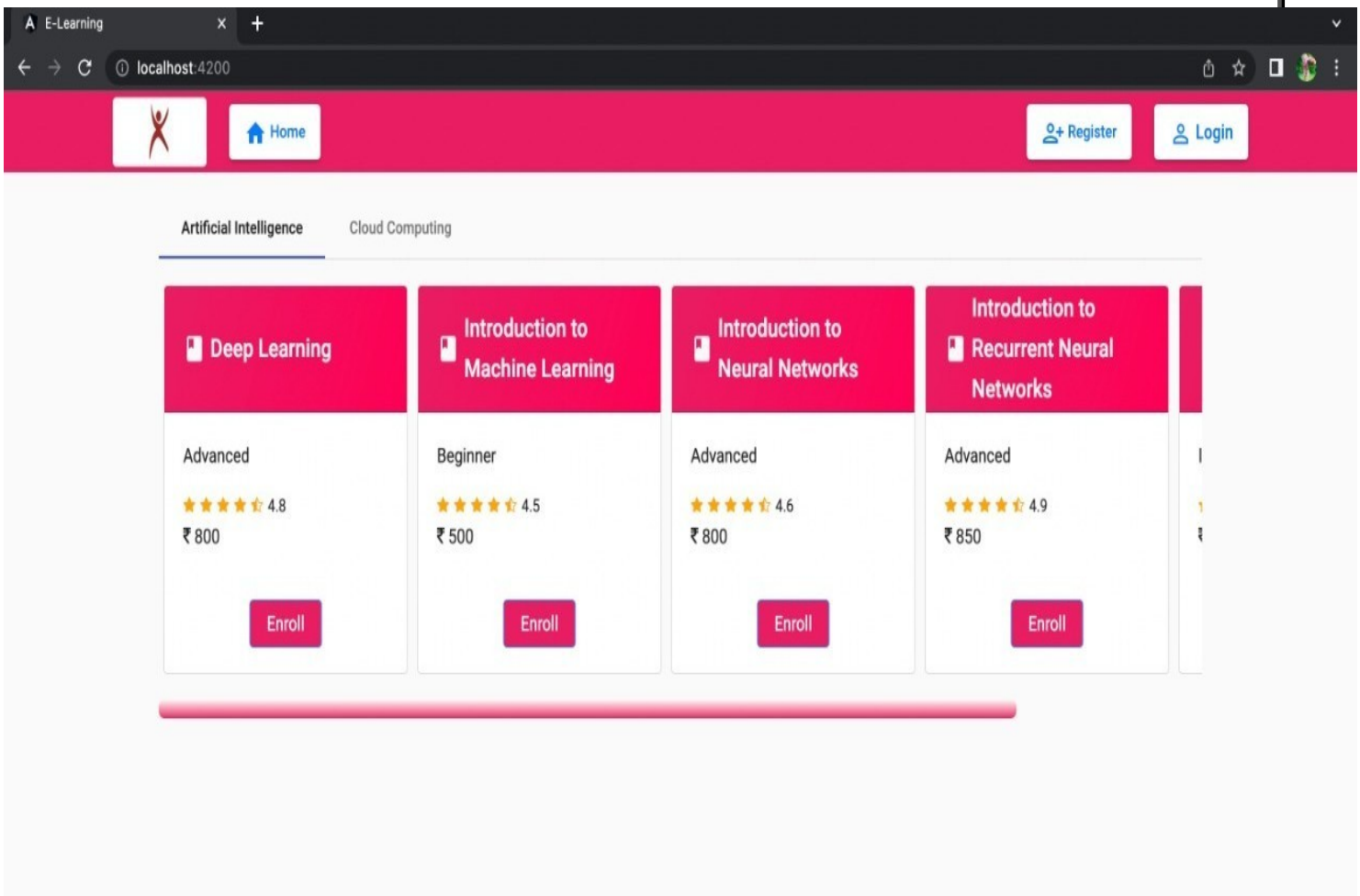
In the Integration testing we test various combination of the project module by providing the input.

The primary objective is to test the module interfaces in order to confirm that no errors are occurring when one module invokes the other module.

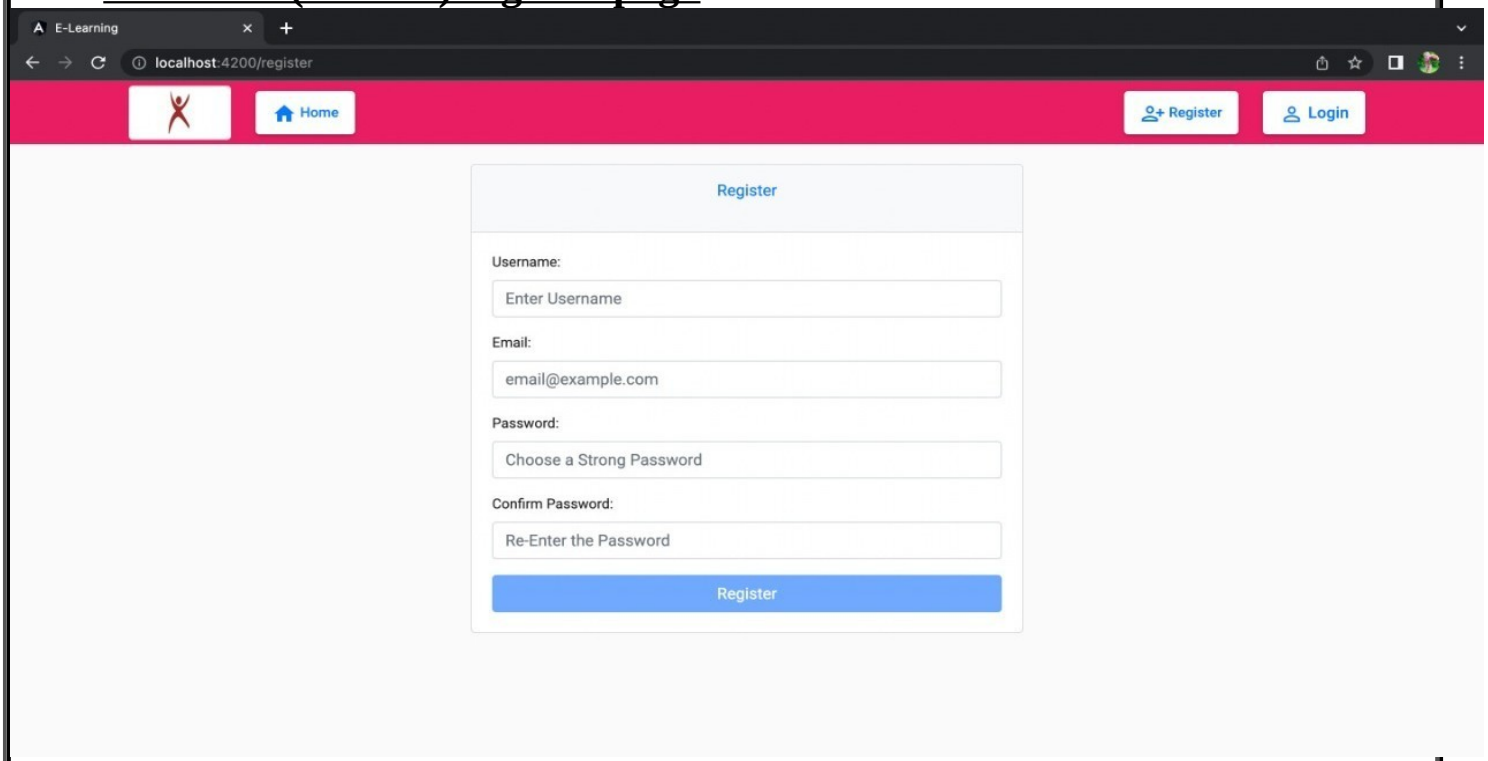
Evaluation

Project URL: http://localhost/4200/home

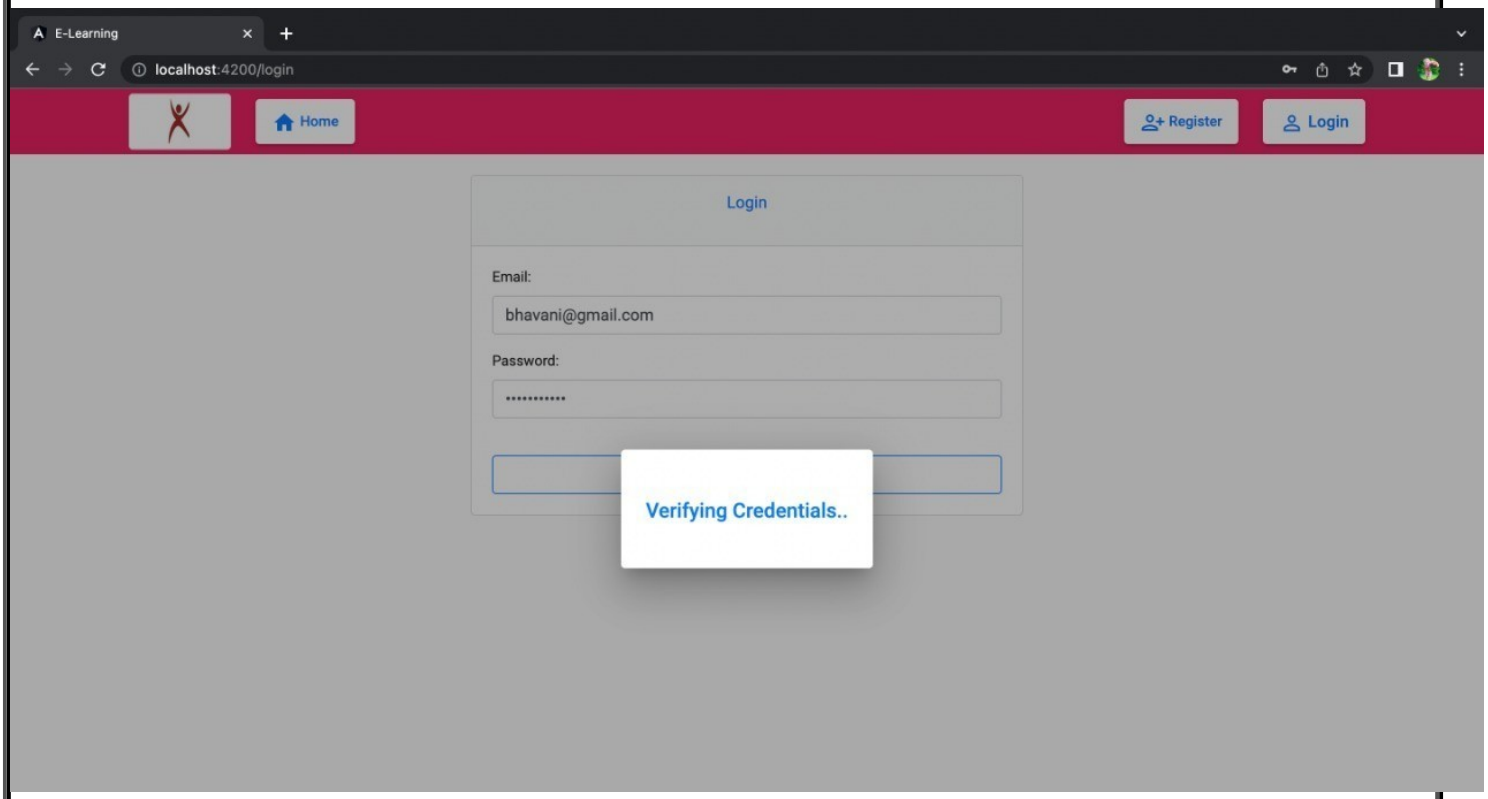
Home Page



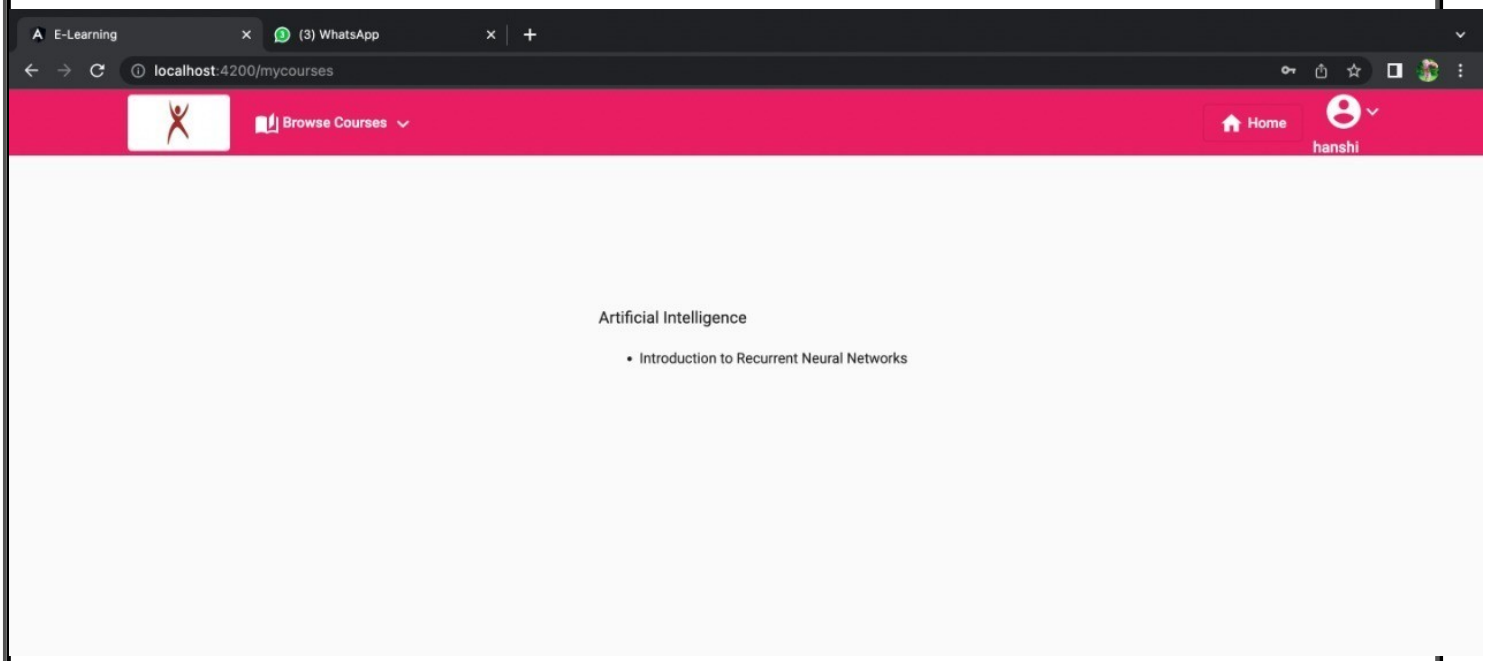
New User (student) register page



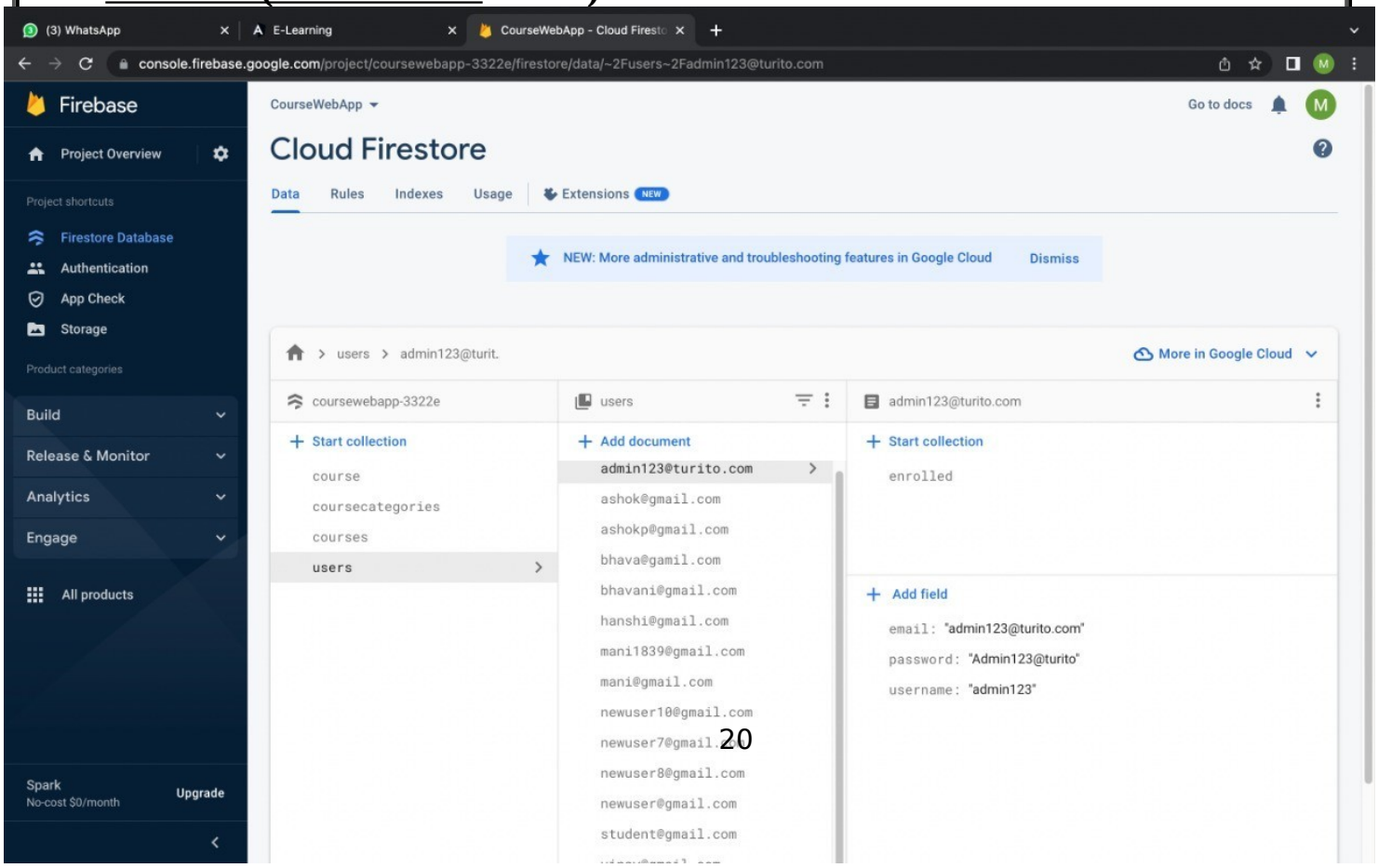
Already Registered User (student) login page



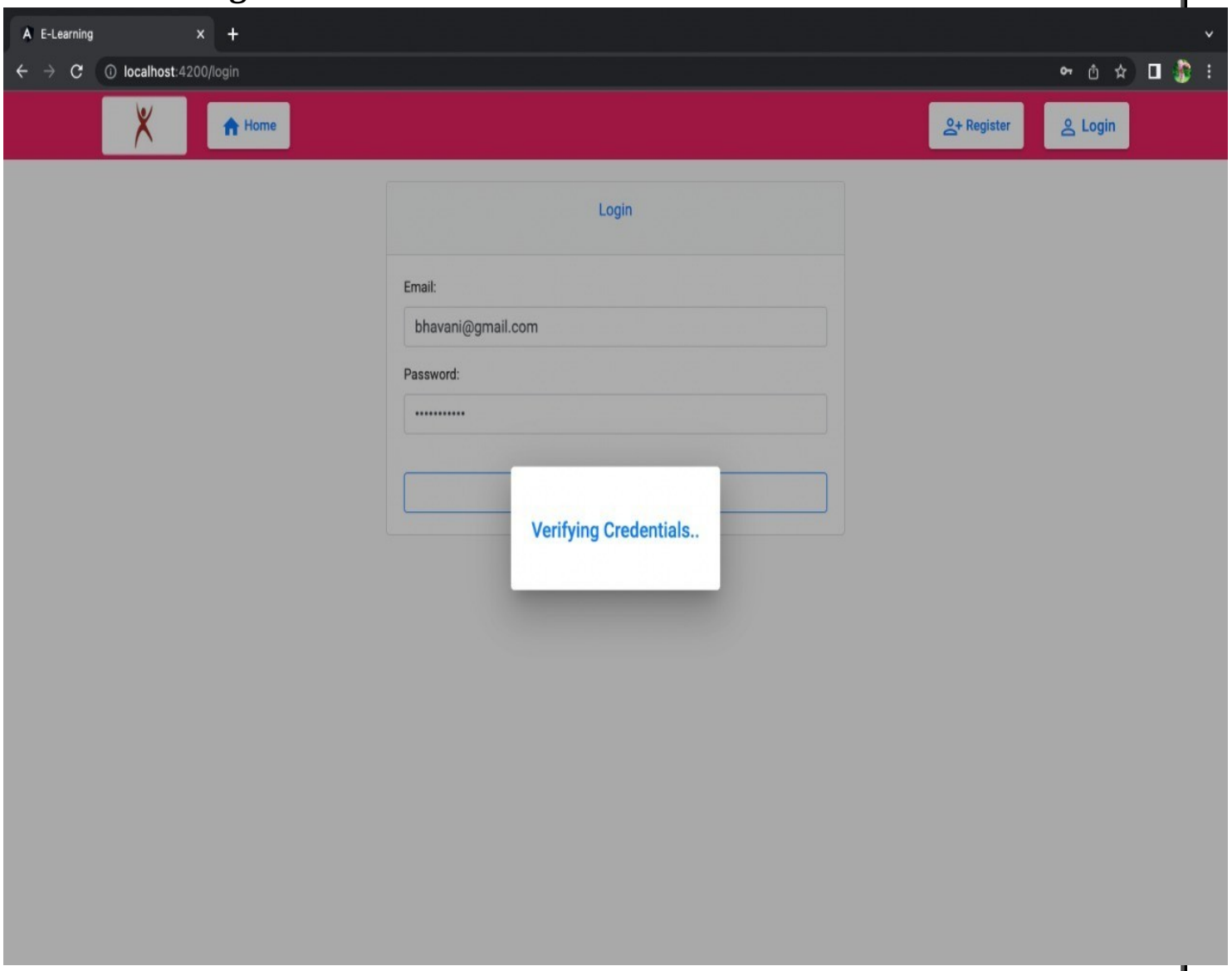
User (student) enrolled cours Details



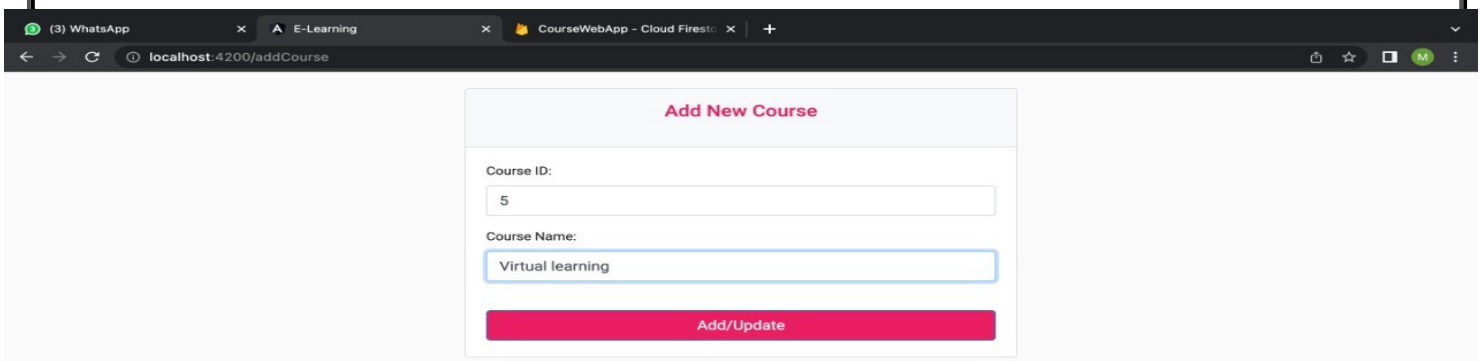
Firebase (Firestore database) course details



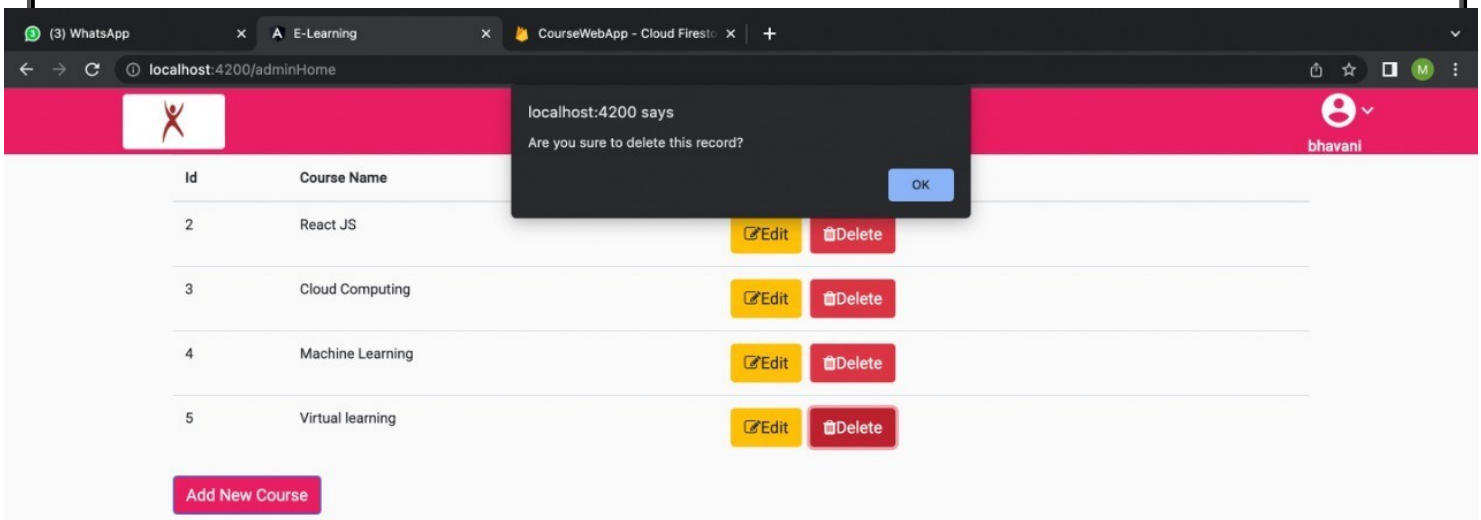
Admin Login


E-Learning
localhost:4200/login
Home
Register
Login
Login
Email:
bhavani@gmail.com
Password:
Verifying Credentials..

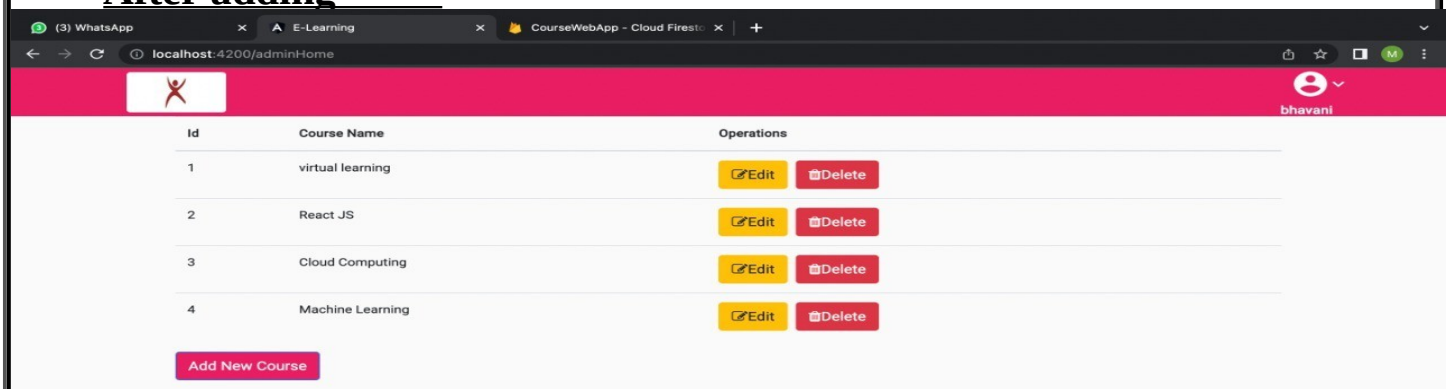
Adding course(in admin page)



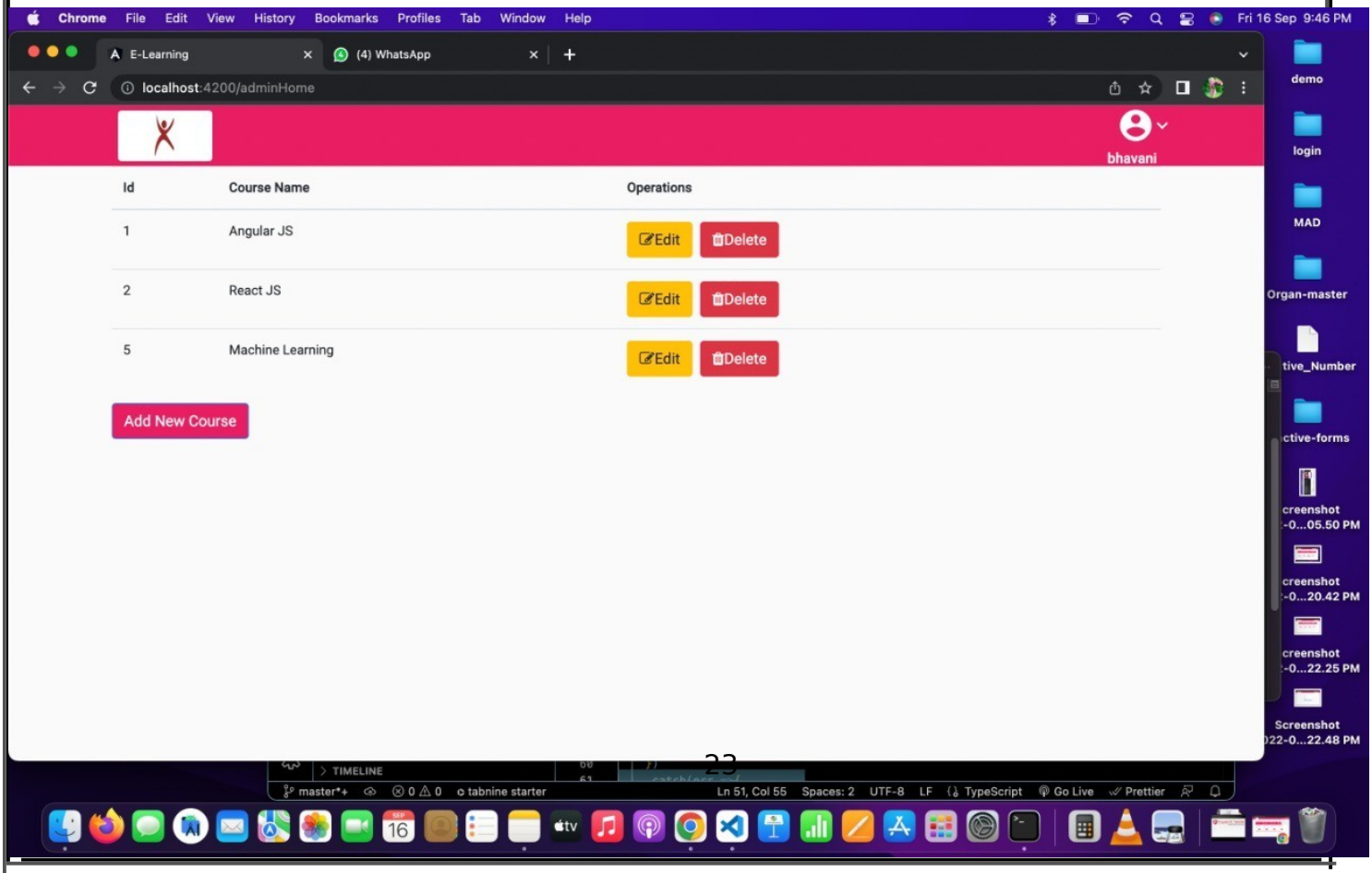
Deleting course



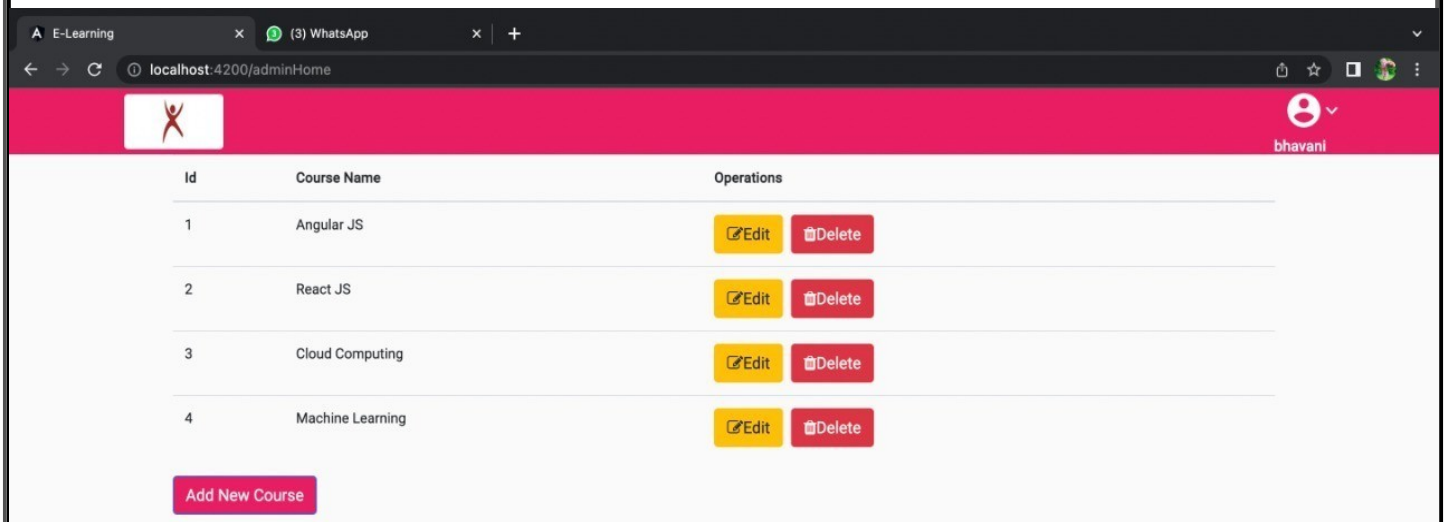
After adding



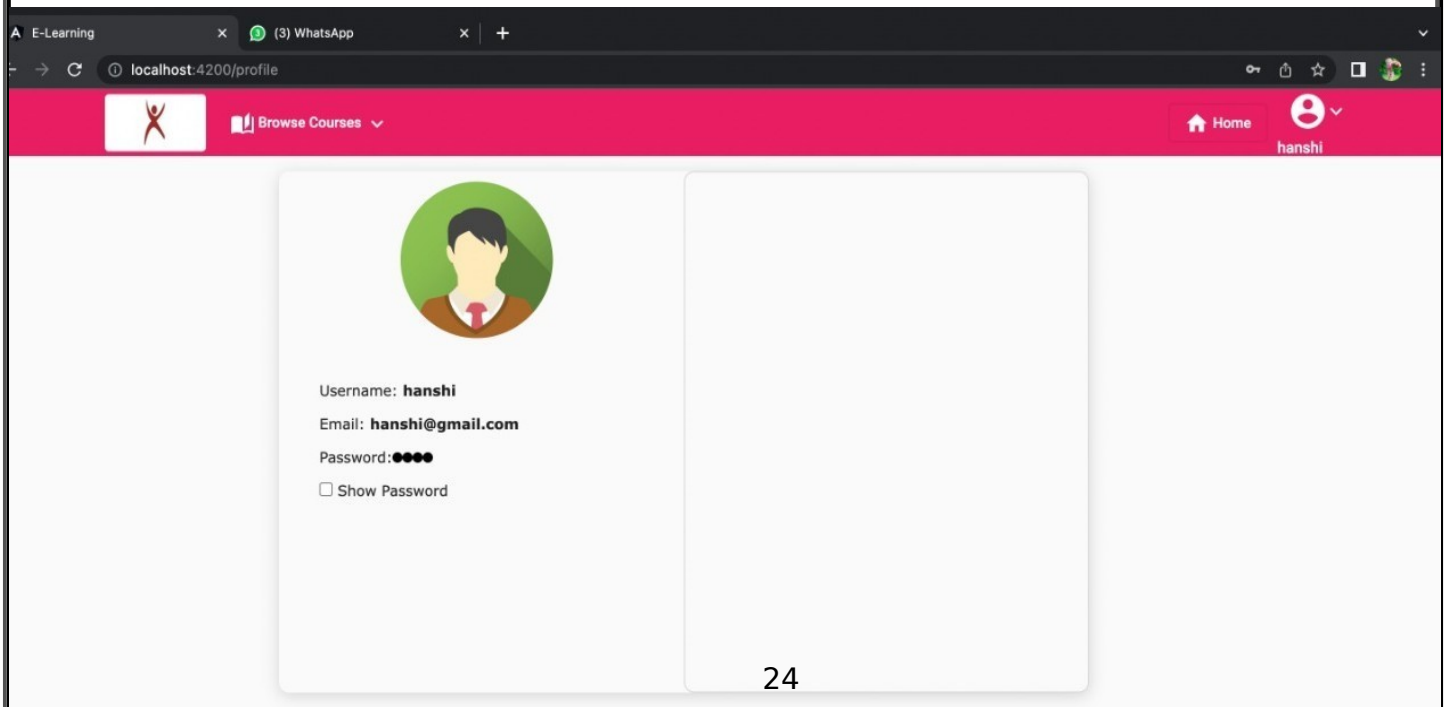
After deleting



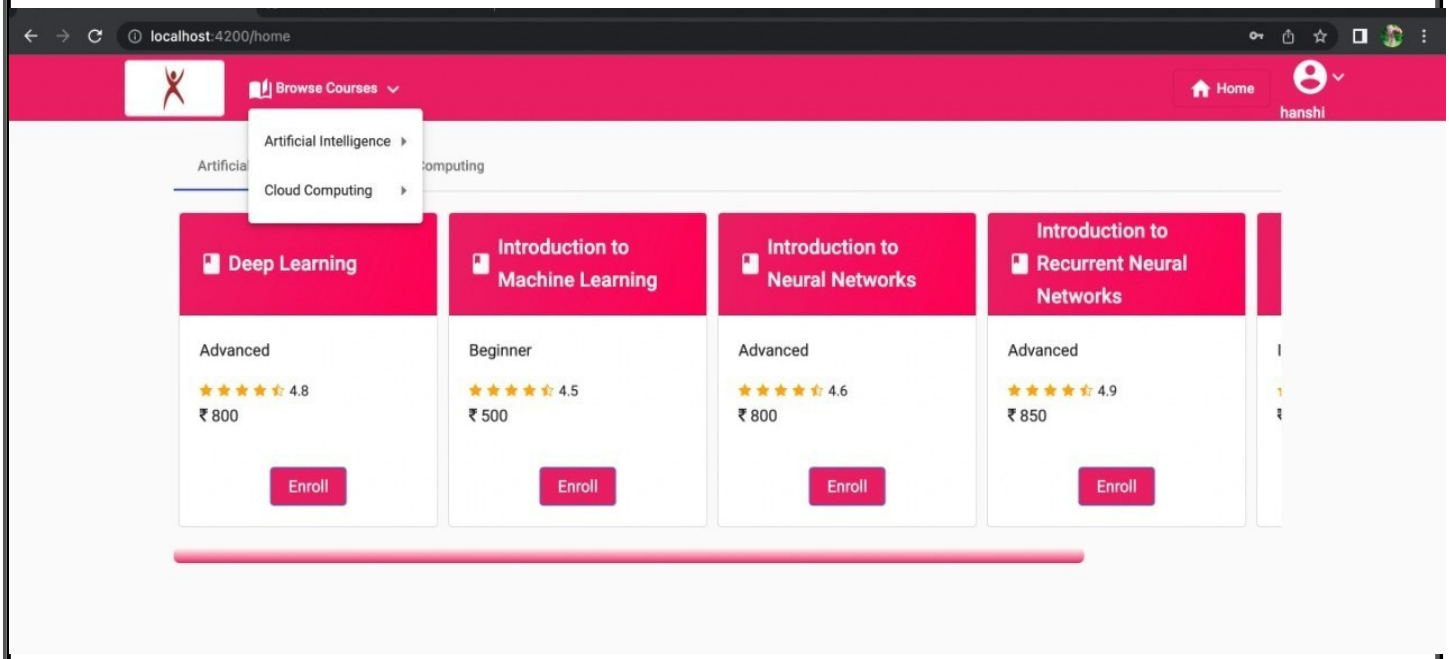
Course Details



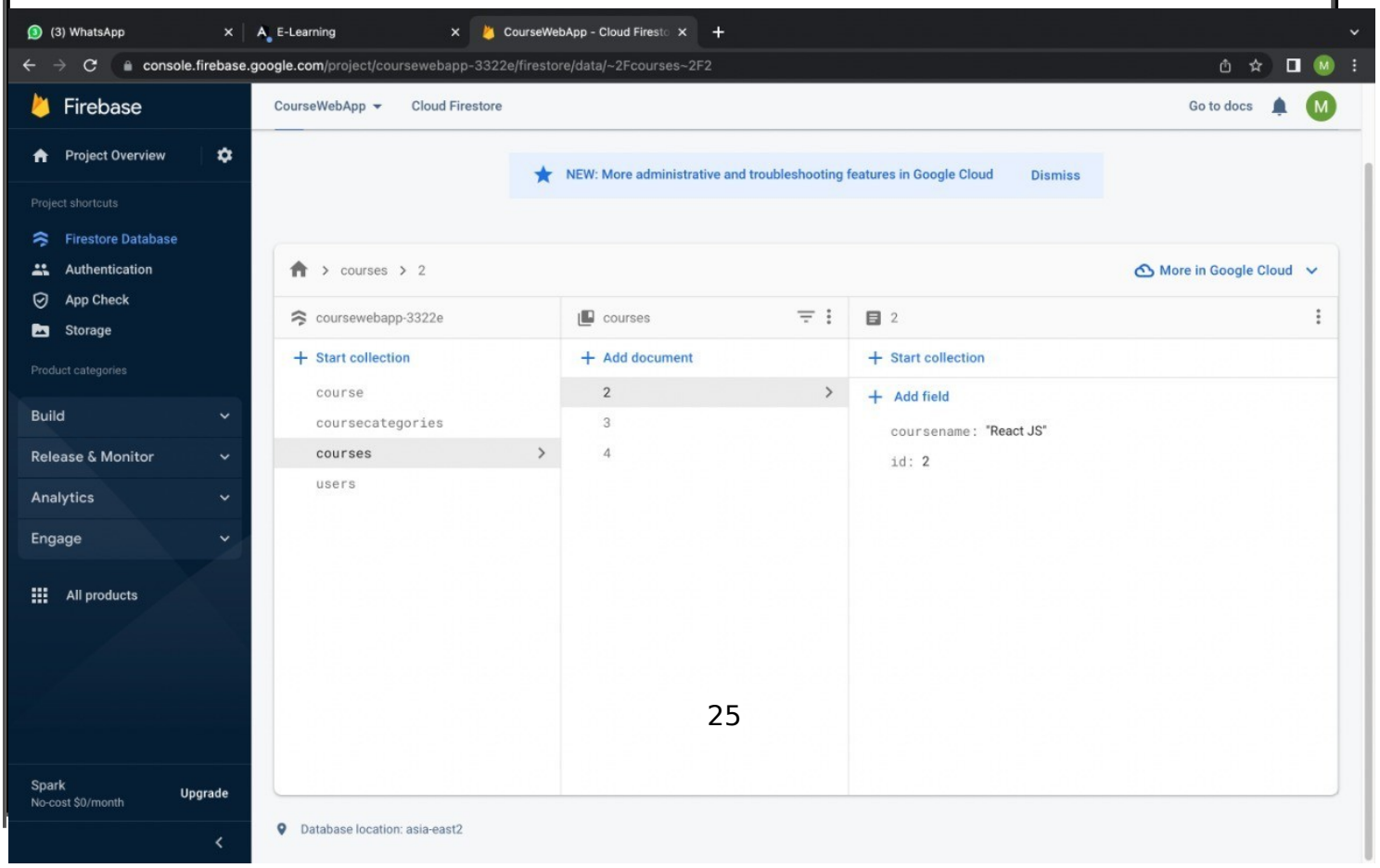
User profile



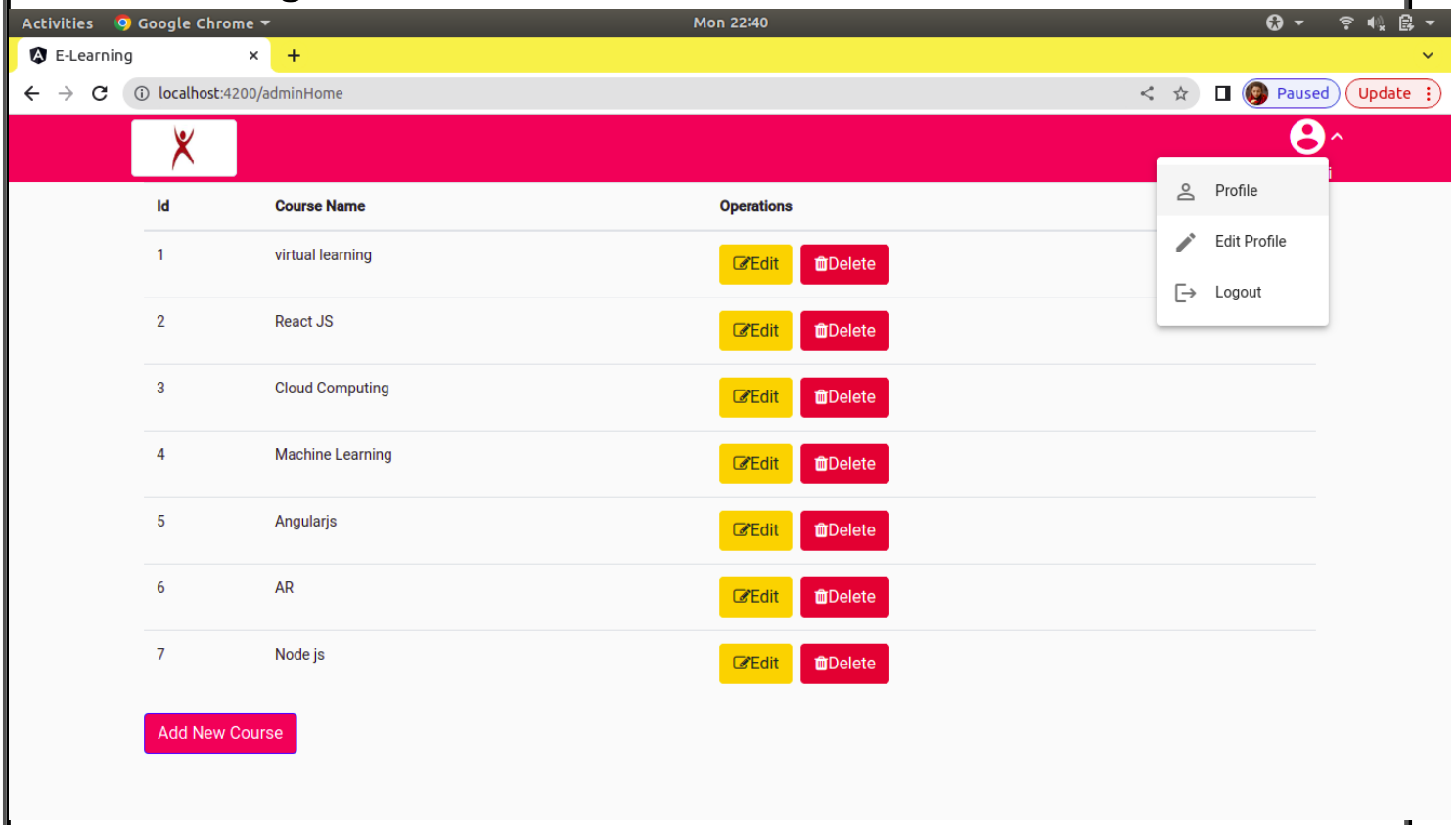
Brouse courses



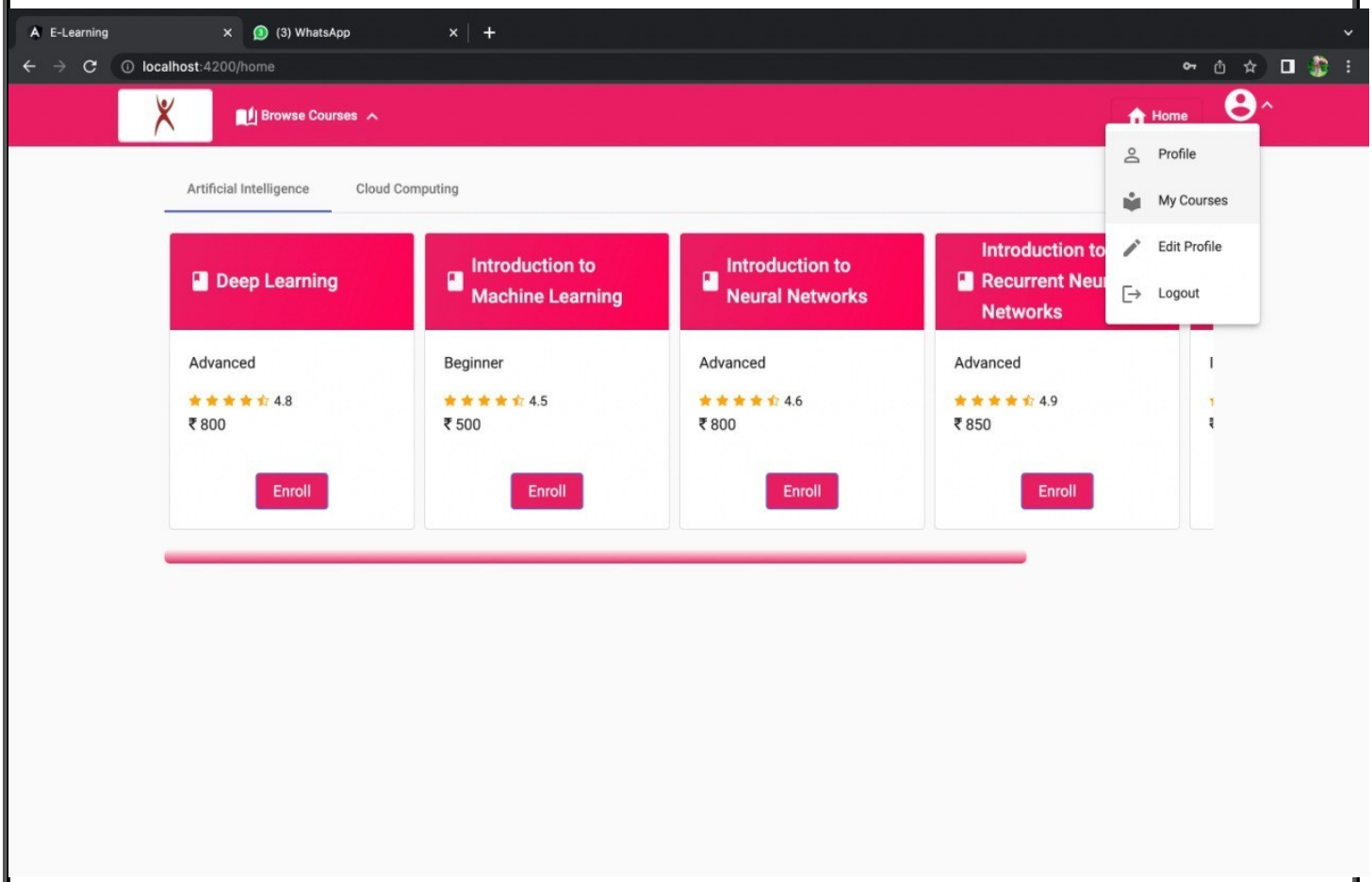
In database before adding new course



Admin Page


Activities
Google Chrome
Mon 22:40
E-Learning
localhost:4200/adminHome
Paused
Update
Profile
Edit Profile
Logout
Id
Course Name
Operations
1
virtual learning
Edit
Delete
2
React JS
Edit
Delete
3
Cloud Computing
Edit
Delete
4
Machine Learning
Edit
Delete
5
Angularjs
Edit
Delete
6
AR
Edit
Delete
7
Node js
Edit
Delete
Add New Course

Admin Logout



Conclusion

E-COURSES is very much graceful and lively. Students have to register to the portal by giving their details and they can take courses or enroll courses through online with small/little effort. The admin can edit the course, delete the course ,add the course.once the student has enrolled Into the course he can view his enrolled courses once he logged in to the portal.this web application Will run on

-> Automation of the entire system improves the productivity.

-> It provides a friendly graphical user interface which proves to be better when compared to the existing system.

-> It gives appropriate access to the authorized users depending on their permissions.

-> It effectively overcomes the delay in communications.

-> System security, data security and reliability are the striking features.

-> he System has adequate scope for modification in future if it is necessary.

References

-> https://html.com/html5
-> https://getbootstrap.com
-> https://css5.com
-> https://angularjs.com

****************************THANKYOU**************************