FACULTY OF ENGINEERING
AHRAM CANADIAN UNIVERSITY

Courseme

E-learning Platform

Graduation Project 2022

Mansour Ashraf Sobh
Essam Mohamed Rezk
Nada Ibrahim Mohamed
Ahmed Mohamed Mansour

Abdullah Mohammed Shalabi
Omar Emad-Eldeen Abo-Deaf
Kareem Magdy Loulah
Amr Ahmed Megahed

Under Supervision of

Dr/ Soha Mohamed Dr/ Mohamed Elaskily

- What & why is the Project about
- Who else provides this service & differences
- Modeling
- Methodology
- Recommendation system
- Services - Demo
- Reference & thx

What is the Project about

What is the project?

E-learning platform for people of a variety of ages

planning to make an "easy-to-use" website for people of different ages.

Why this Project?

We started thinking about project that will be useful in several ways after the COVID-19 pandemic

☐ Useful for society

☐ Solve problem

☐ Useful for us after graduation

What is the Project about

- What & why is the Project about
- Who else provides this service & differences
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Who else provides this service & differences

Competitors Platforms

UDACITY

udemy

coursera

edX

The difference we made

- AI recommended books
- Quiz after each lesson
- Learning Paths

Who else provides this service & differences

- What & why is the Project about
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- Methodology
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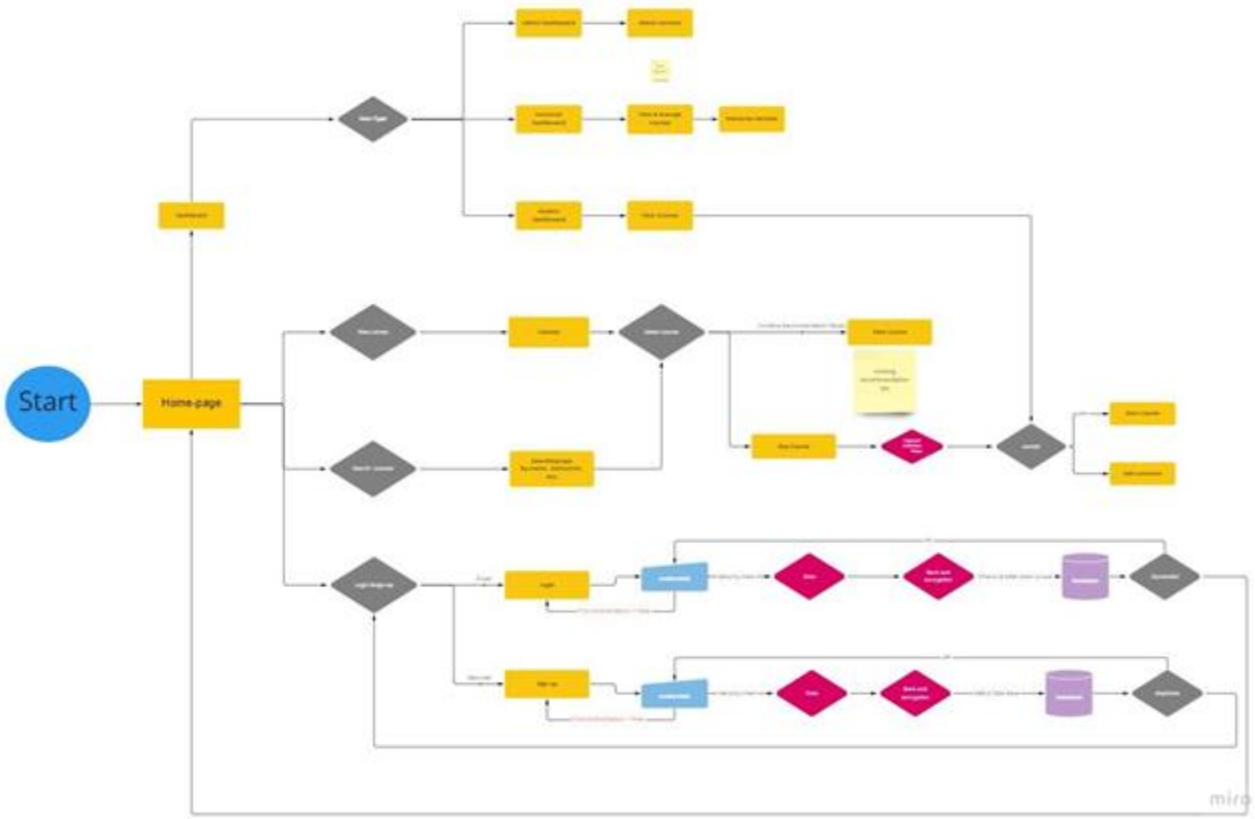
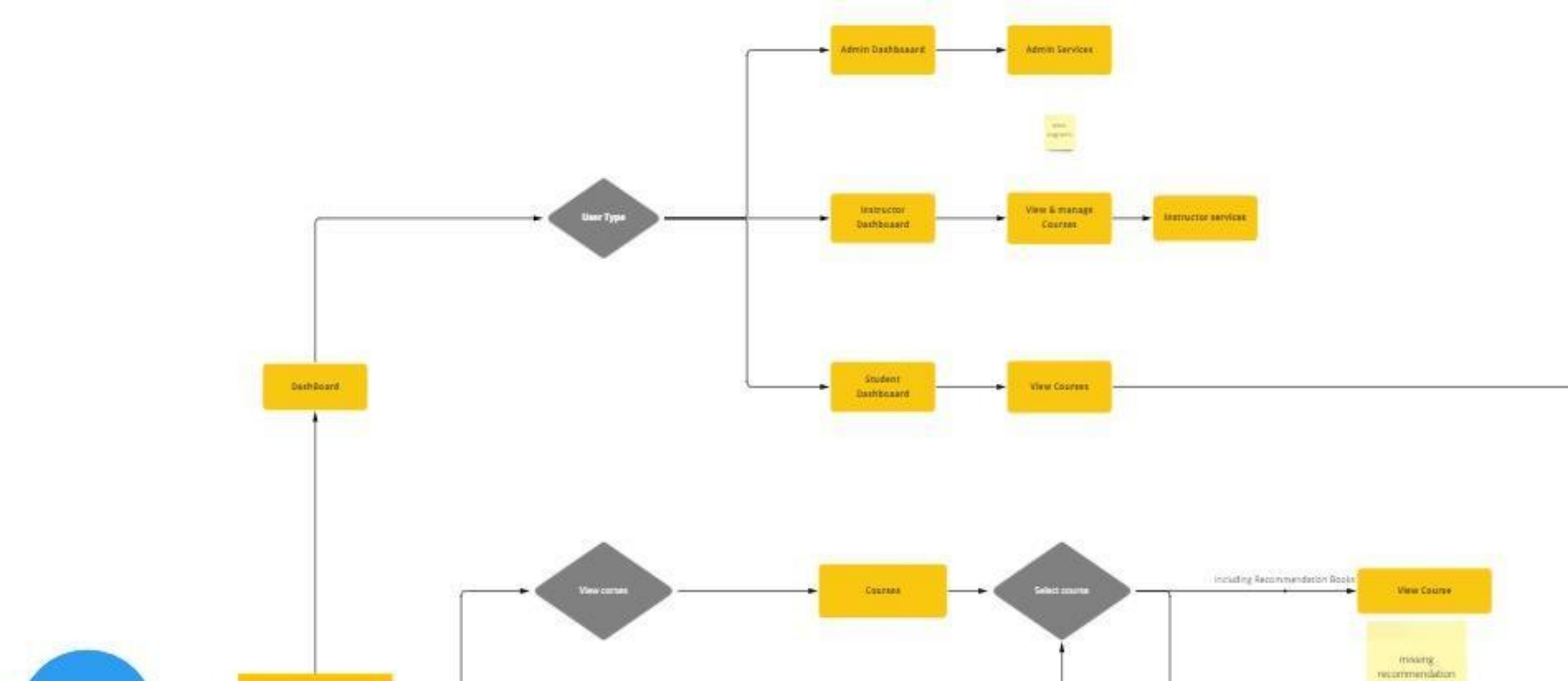
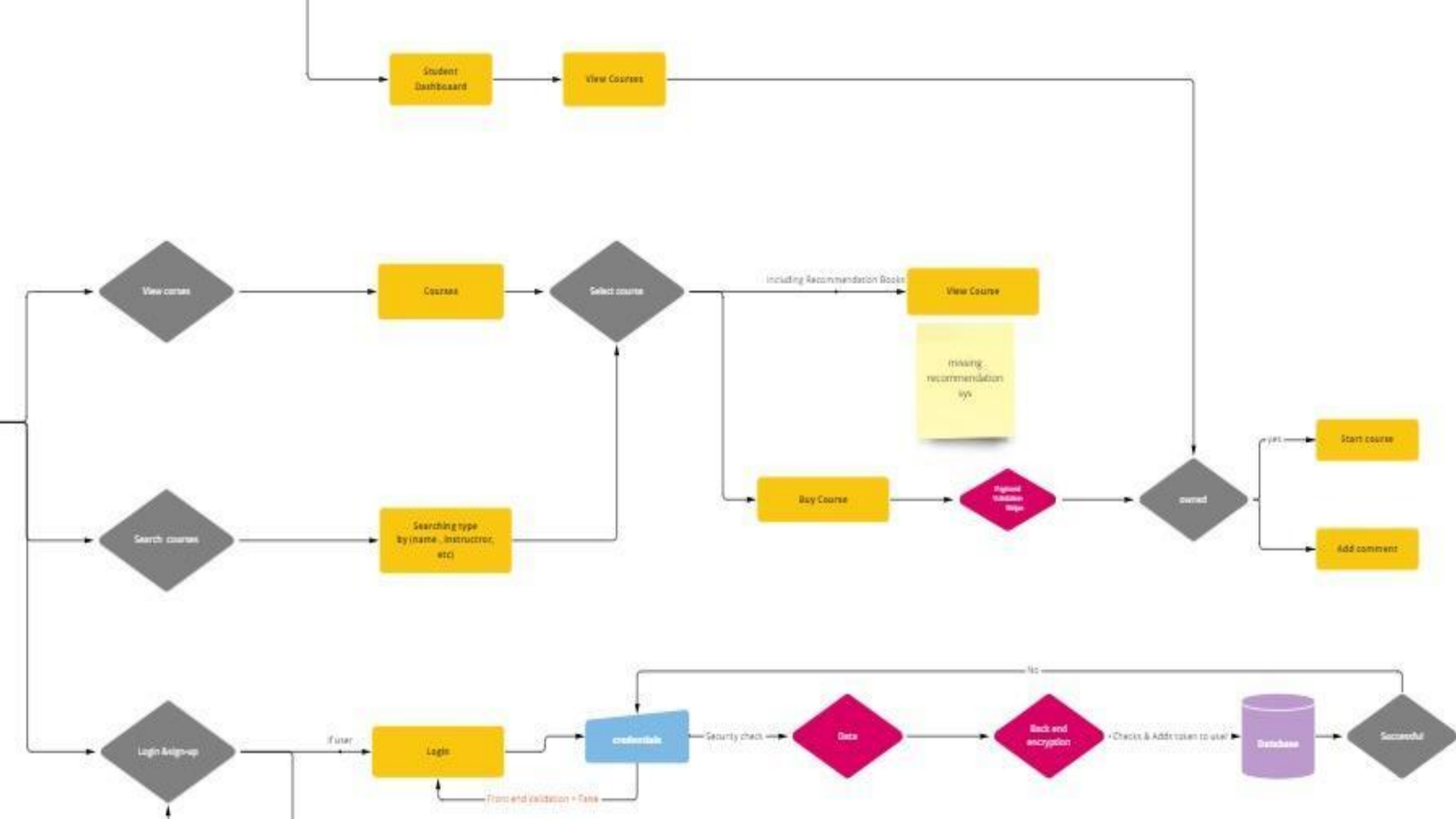
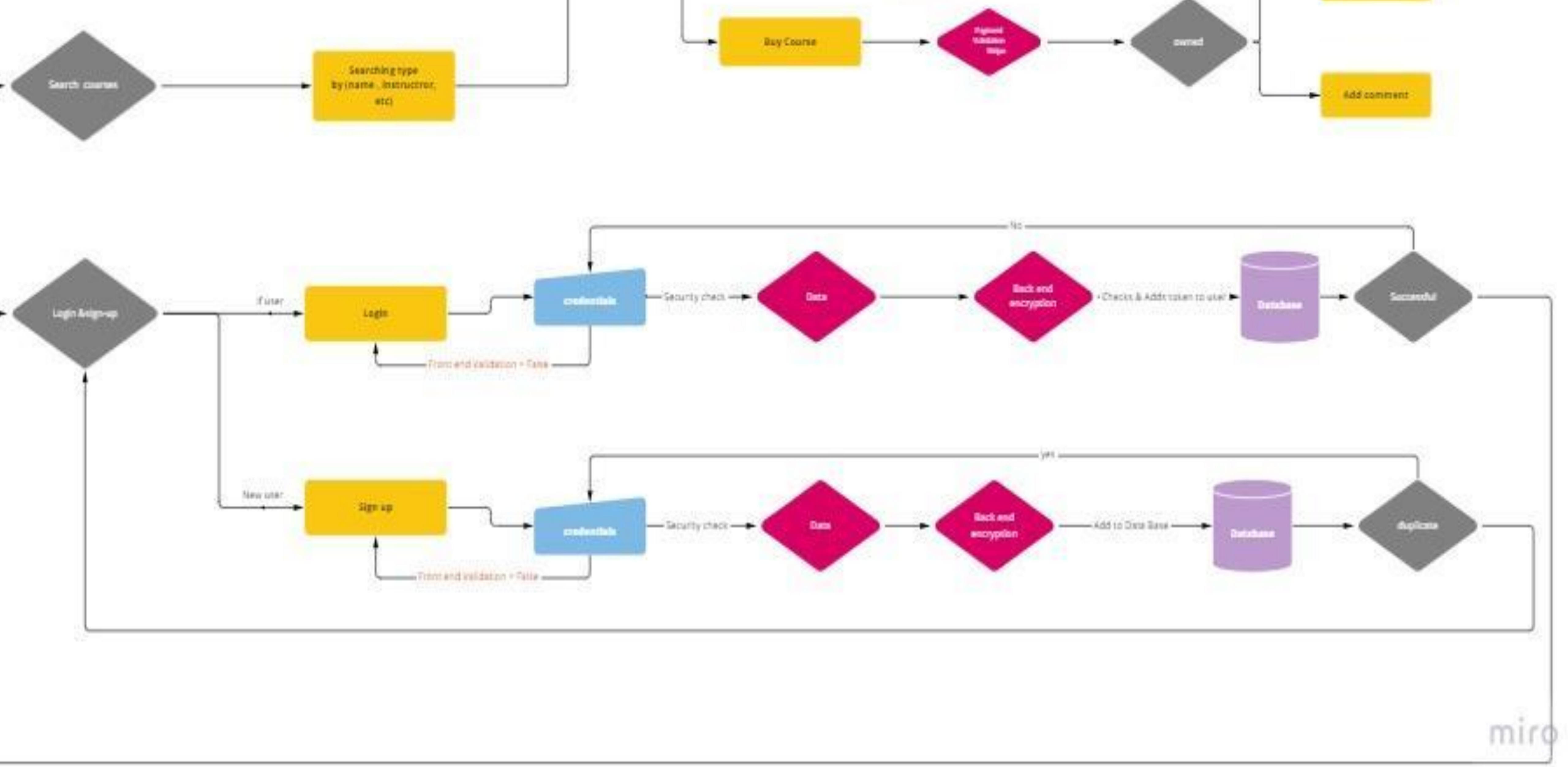
Modeling

System modeling


Start
Home-page
miro

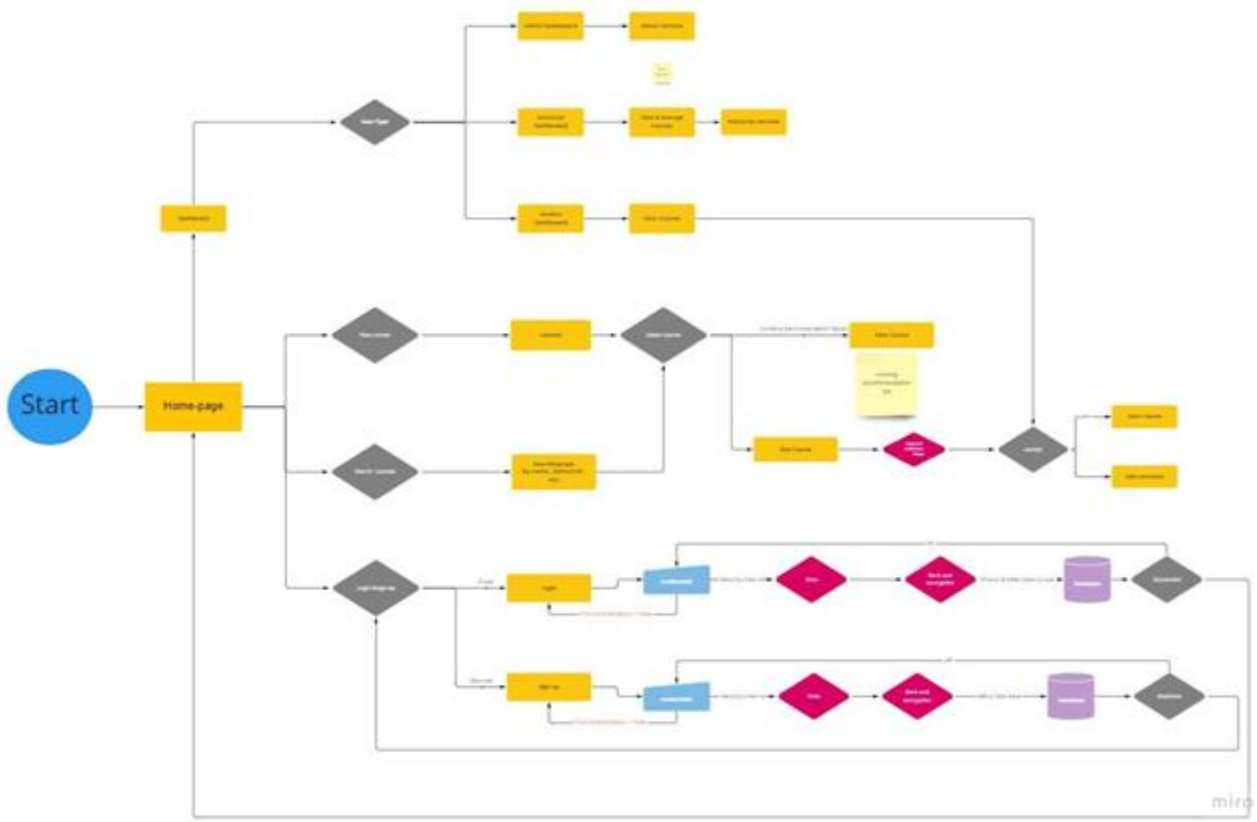

Admin Dashbaoard
Admin Services
User Type
Instructor Dashbaoard
View & manage Courses
Instructor services
Student Dashbaoard
View Courses
DashBoard
View corses
Courses
Select course
Including Recommendation Books
View Course
missing recommendation


Student Dashboard
View Courses
View courses
Courses
Select course
Including Recommendation Books
View Course
missing recommendation sys
Buy Course
Payment Validation Stripe
owned
yes
Start course
Add comment
Search courses
Searching type by (name , Instructror, etc)
No
Login /sign-up
if user
Login
credentials
Security check
Data
Back end encryption
Checks & Adds token to user
Database
Successful
Front end validation + False

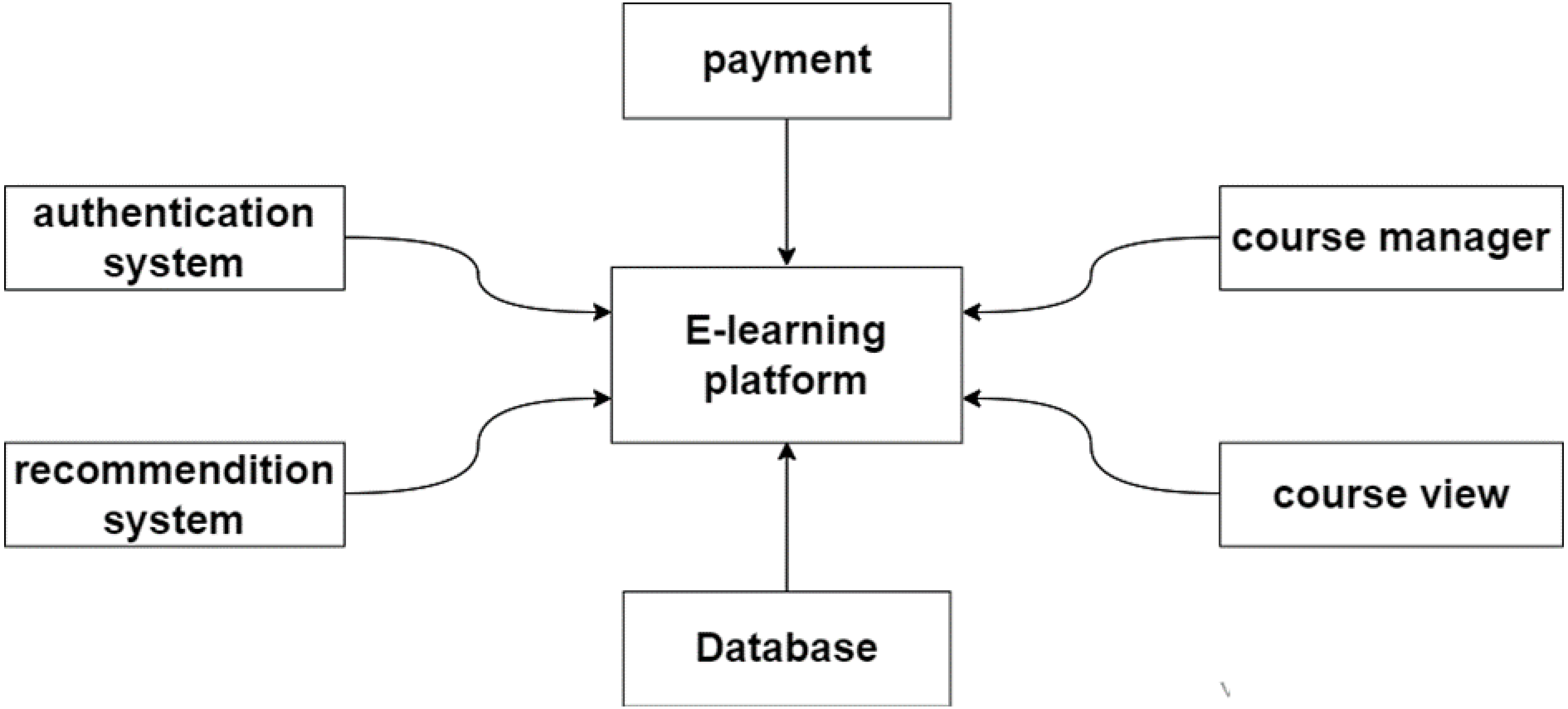

Search courses
Searching type by (name , instructror, etc)
Buy Course
Payment Validation Stripe
owned
Add comment
Login /sign-up
if user
Login
credentials
Front end Validation = False
Security check
Data
Back end encryption
Checks & Adds token to user
Database
Successful
No
New user
Sign up
credentials
Front end Validation = False
Security check
Data
Back end encryption
Add to Data Base
Database
duplicate
yes

miro

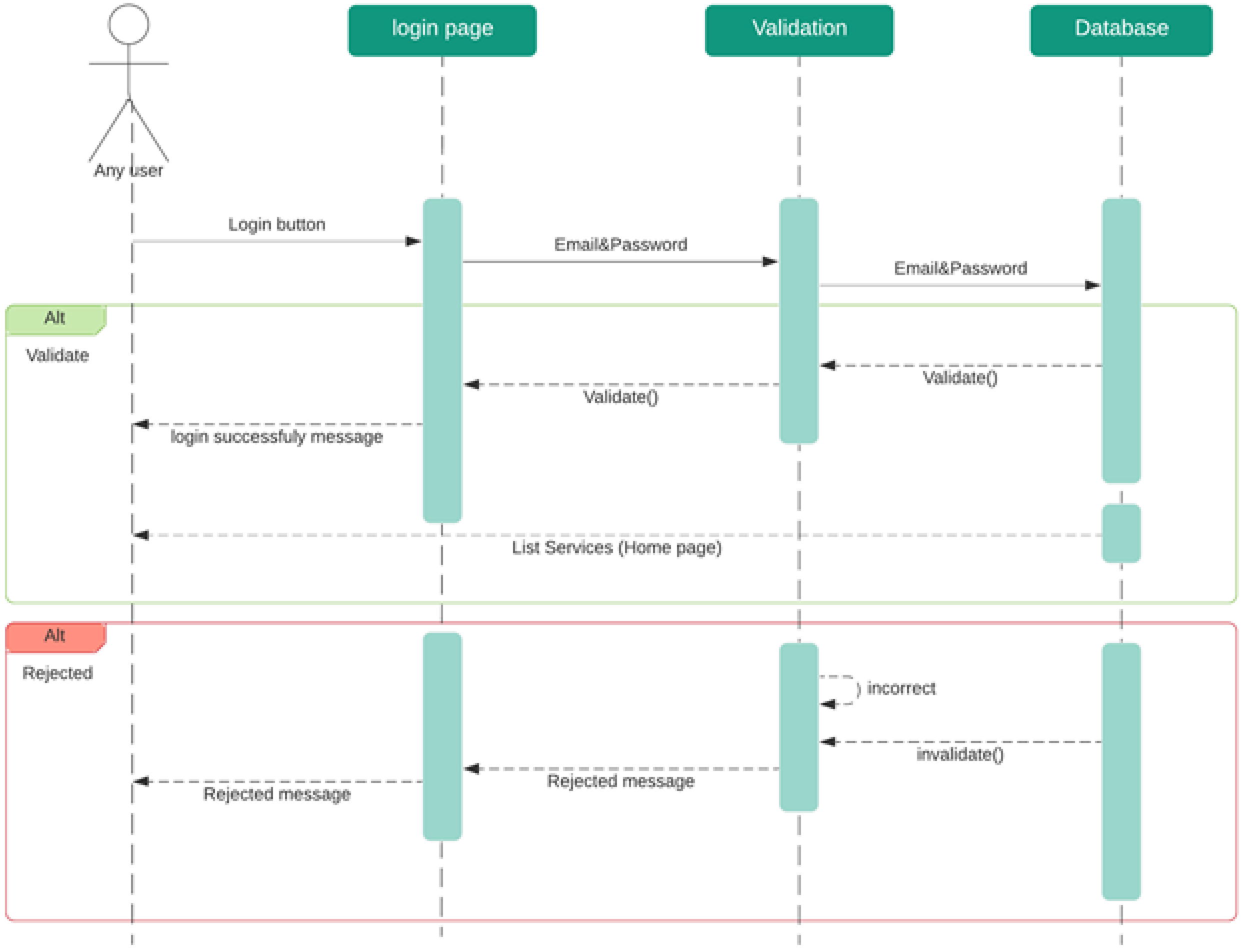
System modeling


Start
Home-page
miro

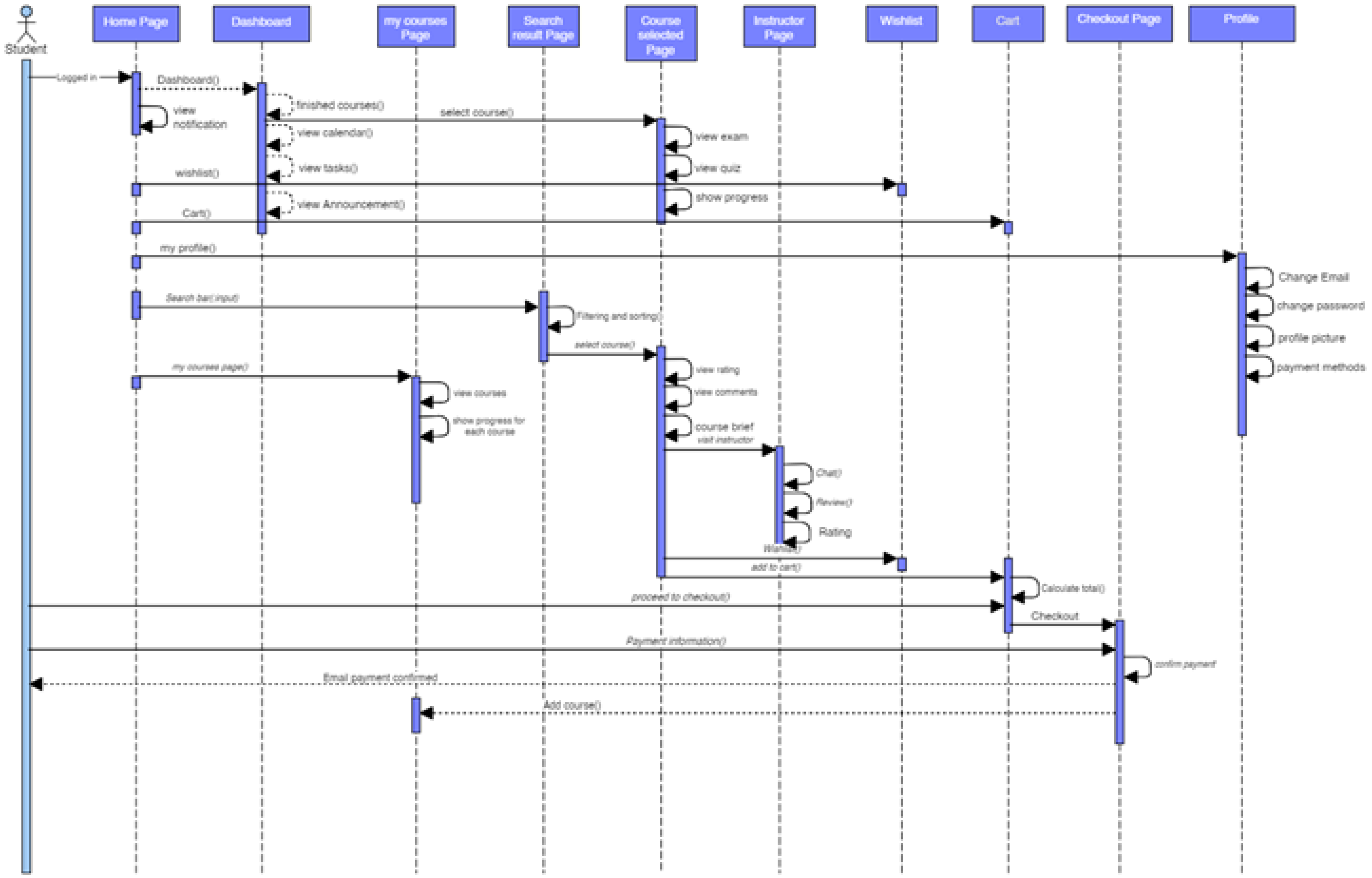
Context diagram


payment
authentication system
course manager
E-learning platform
recommendition system
course view
Database

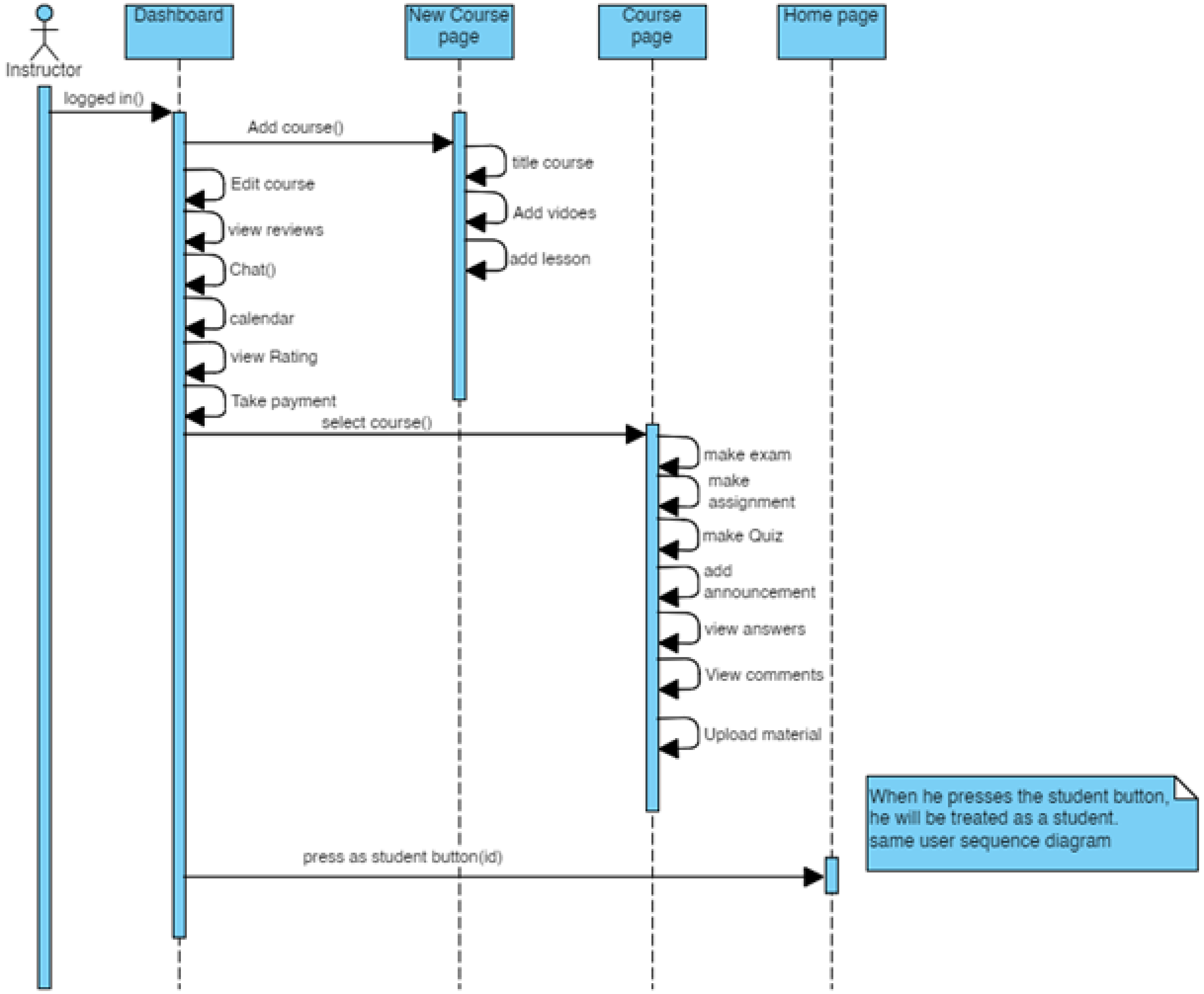
Login sequence diagram


login page
Validation
Database
Any user
Login button
Email&Password
Email&Password
Alt
Validate
Validate()
Validate()
login successfuly message
List Services (Home page)
Alt
Rejected
incorrect
invalidate()
Rejected message
Rejected message

Student sequence diagram

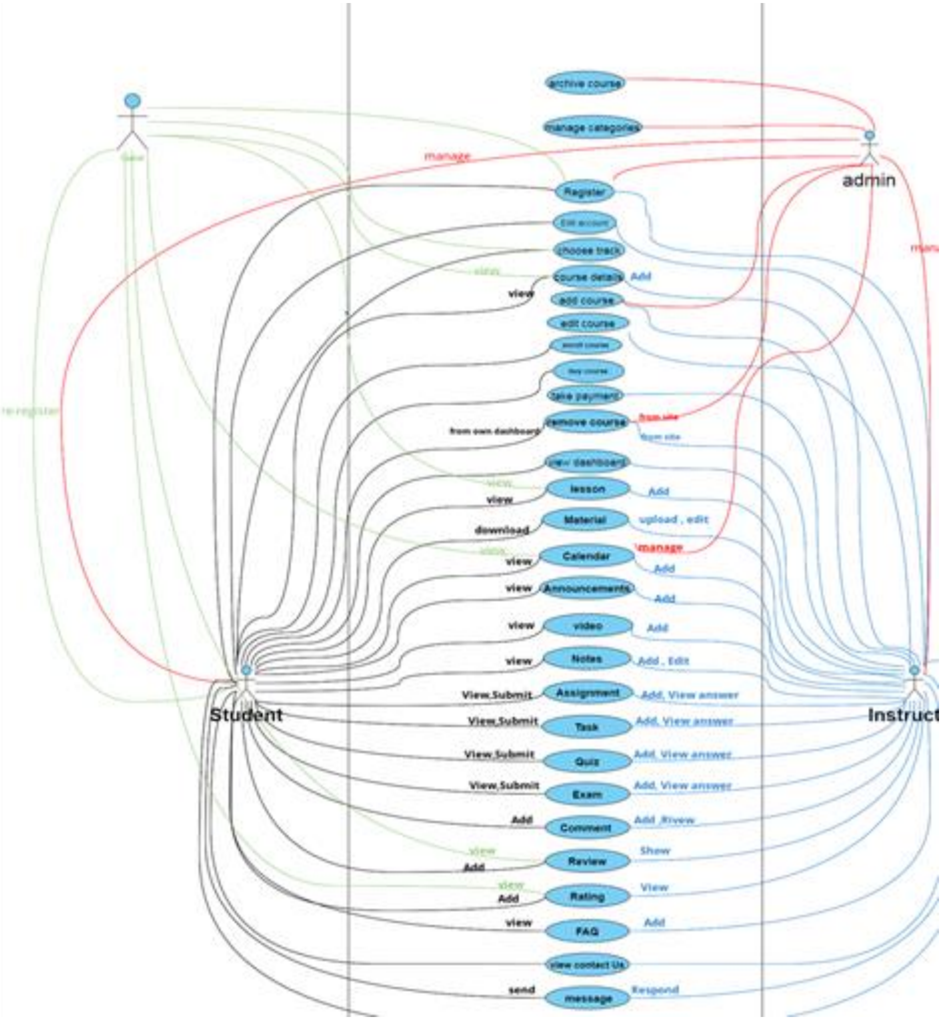

Student
Home Page
Dashboard
my courses Page
Search result Page
Course selected Page
Instructor Page
Wishlist
Cart
Checkout Page
Profile
Logged in
Dashboard()
view notification
finished courses()
select course()
view calendar()
view exam
view quiz
view tasks()
wishlist()
show progress
view Announcement()
Cart()
my profile()
Change Email
change password
profile picture
payment methods
Search bar(input)
Filtering and sorting()
select course()
my courses page()
view rating
view comments
view courses
show progress for each course
course brief
visit instructor
Chat()
Review()
Rating
Wishlist()
add to cart()
Calculate total()
proceed to checkout()
Checkout
Payment information()
confirm payment
Email payment confirmed
Add course()

Instructor sequence diagram


Instructor
Dashboard
New Course page
Course page
Home page
logged in()
Add course()
title course
Add vidoes
add lesson
Edit course
view reviews
Chat()
calendar
view Rating
Take payment
select course()
make exam
make assignment
make Quiz
add announcement
view answers
View comments
Upload material
press as student button(id)

When he presses the student button, he will be treated as a student.
same user sequence diagram

Use case diagram



Guest
re-register
manage
Student
admin
Instruct
archive course
manage categories
Register
Edit account
choose track
view
course details
Add
view
add course
edit course
enroll course
buy course
take payment
from own dashboard
remove course
from site
from site
view dashboard
view
view
lesson
Add
download
Material
upload , edit
view
view
Calendar
manage
Add
view
Announcements
Add
view
video
Add
view
Notes
Add , Edit
View,Submit
Assignment
Add, View answer
View,Submit
Task
Add, View answer
View,Submit
Quiz
Add, View answer
View,Submit
Exam
Add, View answer
Add
Comment
Add ,Rivew
view
Add
Review
Show
view
Add
Rating
View
view
FAQ
Add
view contact Us
send
message
Respond

Modeling

- What & why is the Project about
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Methodology

Front-end

React

React js is an open-source JavaScript library that is used for building user interfaces

Flexible

Community Support

Easy to test

Next.js is a JavaScript framework that enables you to build superfast and extremely user-friendly static websites

Better SEO

Fast

Increase efficiency

NEXT.JS

Ant Design

Ant Design is a React UI library that has an excess of easy-to-use components that are useful for building elegant user interfaces

Easy to use

Scalable

Customizable

Bootstrap is the most popular CSS Framework for developing responsive and mobile-first websites.

Bootstrap

Time saving

Easy to use

Customizable

Back-end

Server-side programming, and primarily deployed for non-blocking, event-driven servers, such as traditional websites and back-end API services

Scalable

Easy

Open-source

Express is a minimal and flexible Node.js web application framework that provides a robust set of features for web and mobile applications.

HTTP utility

High performance

Most popular

mongoDB®

A document-oriented database that stores data in JSON-like documents with dynamic schema.

Flexible

Atlas

Huge transactions

Mongoose provides a straight-forward, schema-based model to your application data. It includes business logic hooks and more, out of the box.

Built-in type casting

Validation

Query building

mongoose

3rd Party Services

Amazon Web Services (AWS) is the world's most comprehensive and broadly adopted cloud platform

Flexible

Scalable

Secure

Stripe is a suite of APIs powering online payment processing and commerce solutions for internet businesses of all sizes. Accept payments and scale faster.

Payment

Easy to use

Secure

Other Packages & Tools

- cors
- bcrypt
- cookie-parser
- axios
- jsonwebtoken
- react-markdown
- slugify
- redux-form
- http-proxy-middleware
- react-player
- query-string
- react-toastify

Methodology

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Recommendation system

Can the site work without the recommendation system?

Recommendation system in E-learning

What is Recommendation system?

a subcategory of information filtering systems that seeks to predict the rating or preference a user might give to an item. In simple words, it is an algorithm that suggests relevant items to users. For example, when browsing one of the instructional courses, it will suggest some similar courses for you

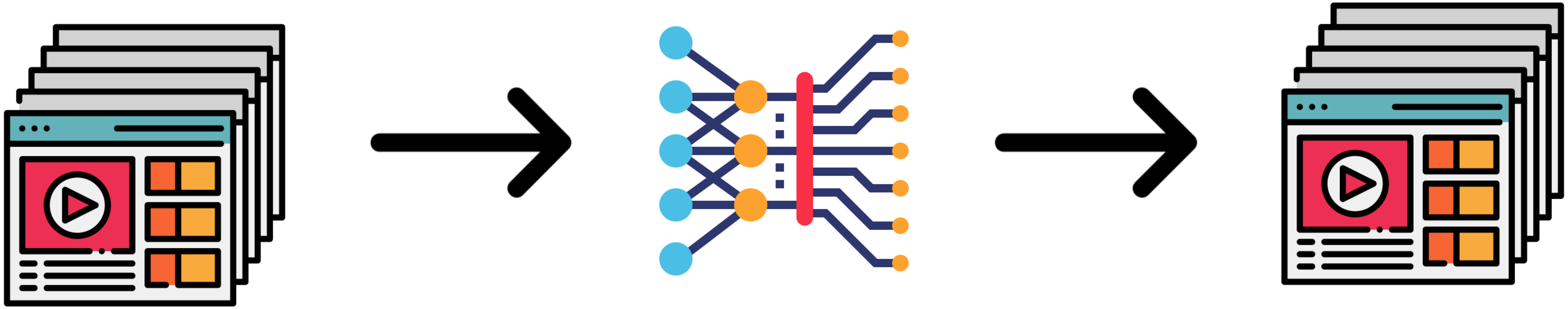
Why the Recommendation system?

Benefits users in finding items of their interest.

Help item providers in delivering their items to the right user

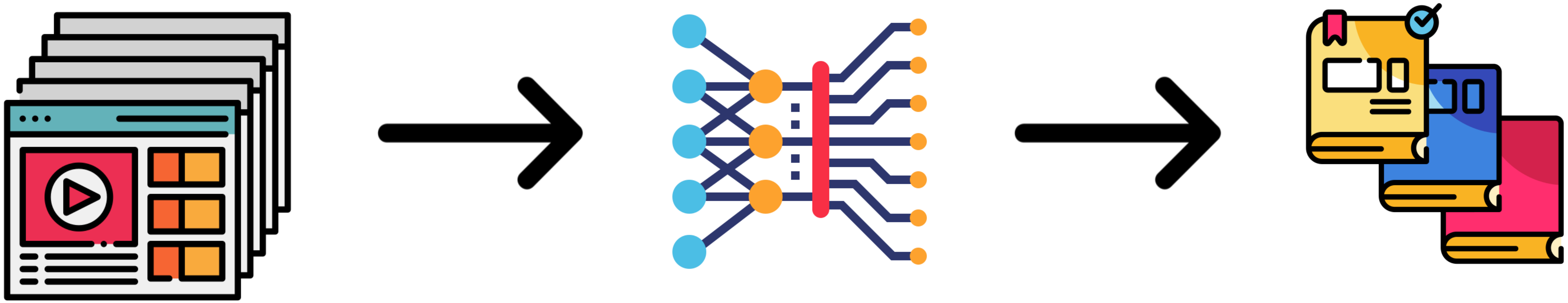
Currently available in this system

Recommend Courses from Courses

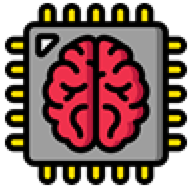


What's new?

Recommend Reference from Courses



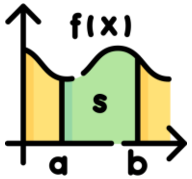
Tools

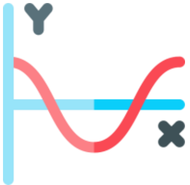


Natural language processing (NLP) is the ability of a computer program to understand human language as it is spoken and written -- referred to as natural language. It is a component of artificial intelligence (AI).

TF-IDF, or term frequency-inverse document frequency, is a figure that expresses the statistical importance of any given word to the document collection as a whole

Keyword Extraction : is automatic detection of terms that best describe the subject of document

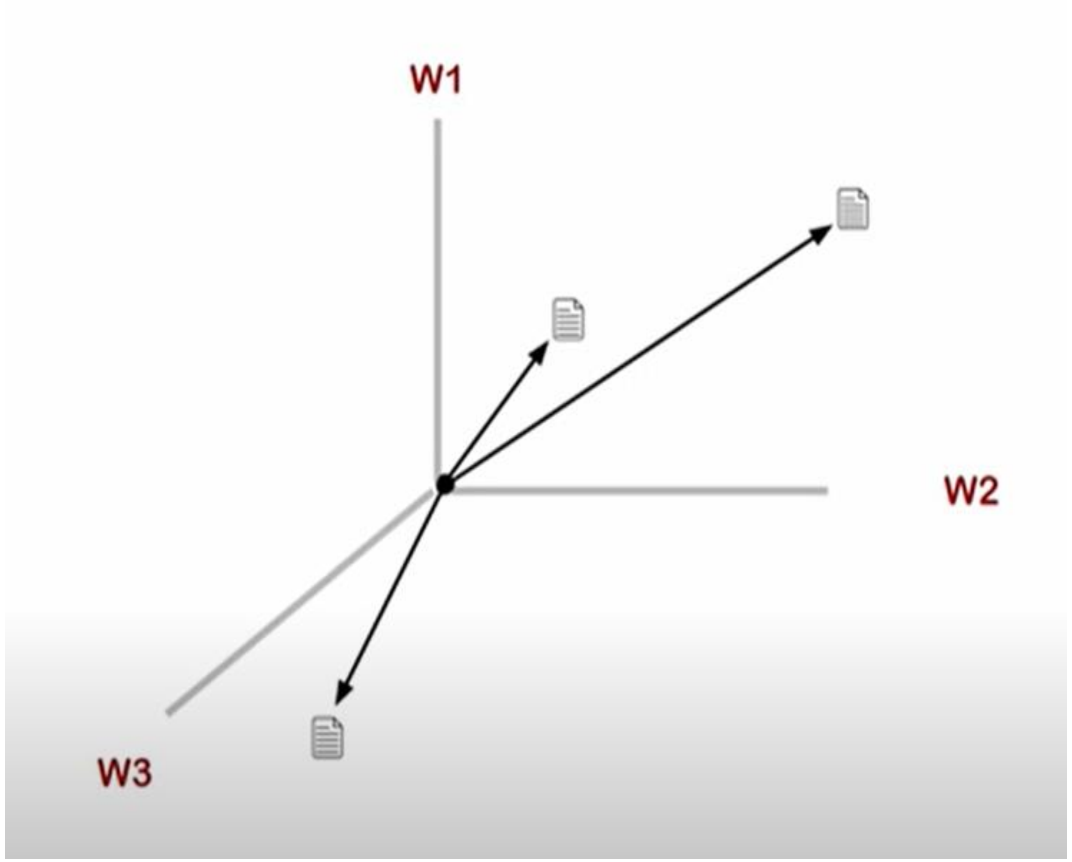


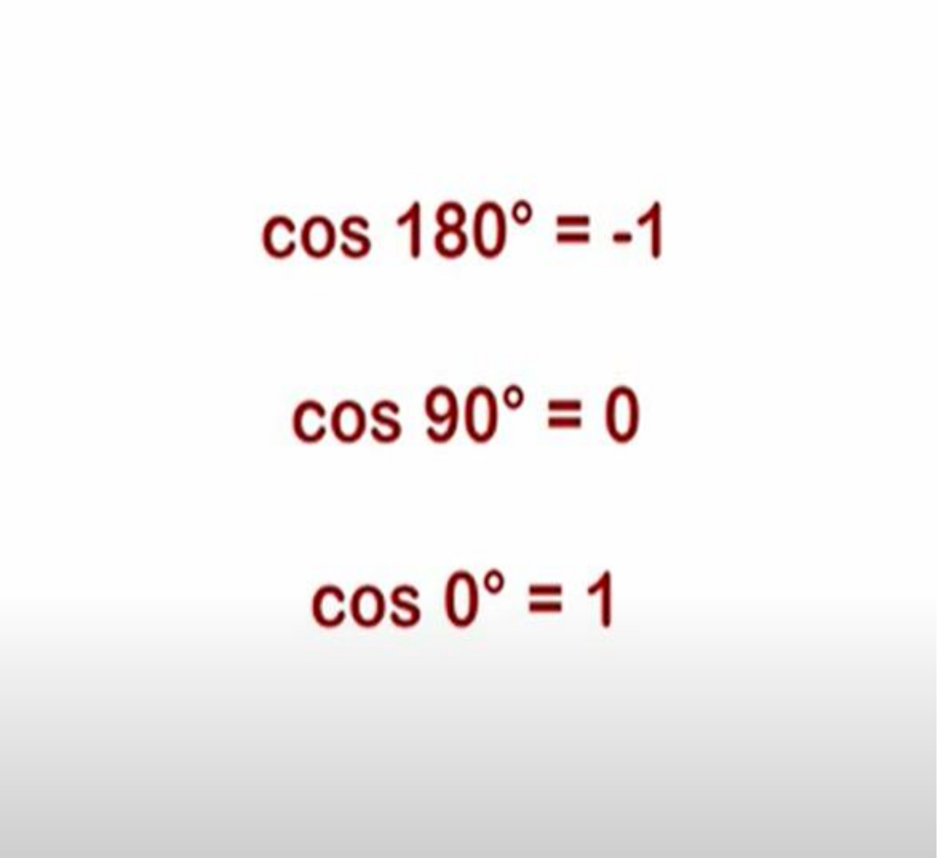


Cosine Similarity Measured by the cosine of the angle between two vectors and determines whether two vectors are pointing in roughly the same direction.

It is often used to measure document similarity in text analysis

Cos-Similarity





cos 180° = -1

cos 90° = 0

cos 0° = 1

Other tools

Flask

Flask is a web framework, it’s a Python module that lets you develop web applications easily. It’s having a small and easy-to-extend core

---

Stream lit is a free and open-source framework to rapidly build and share beautiful machine learning and data science web apps

Streamlit

Tools used for data Analysis

NumPy

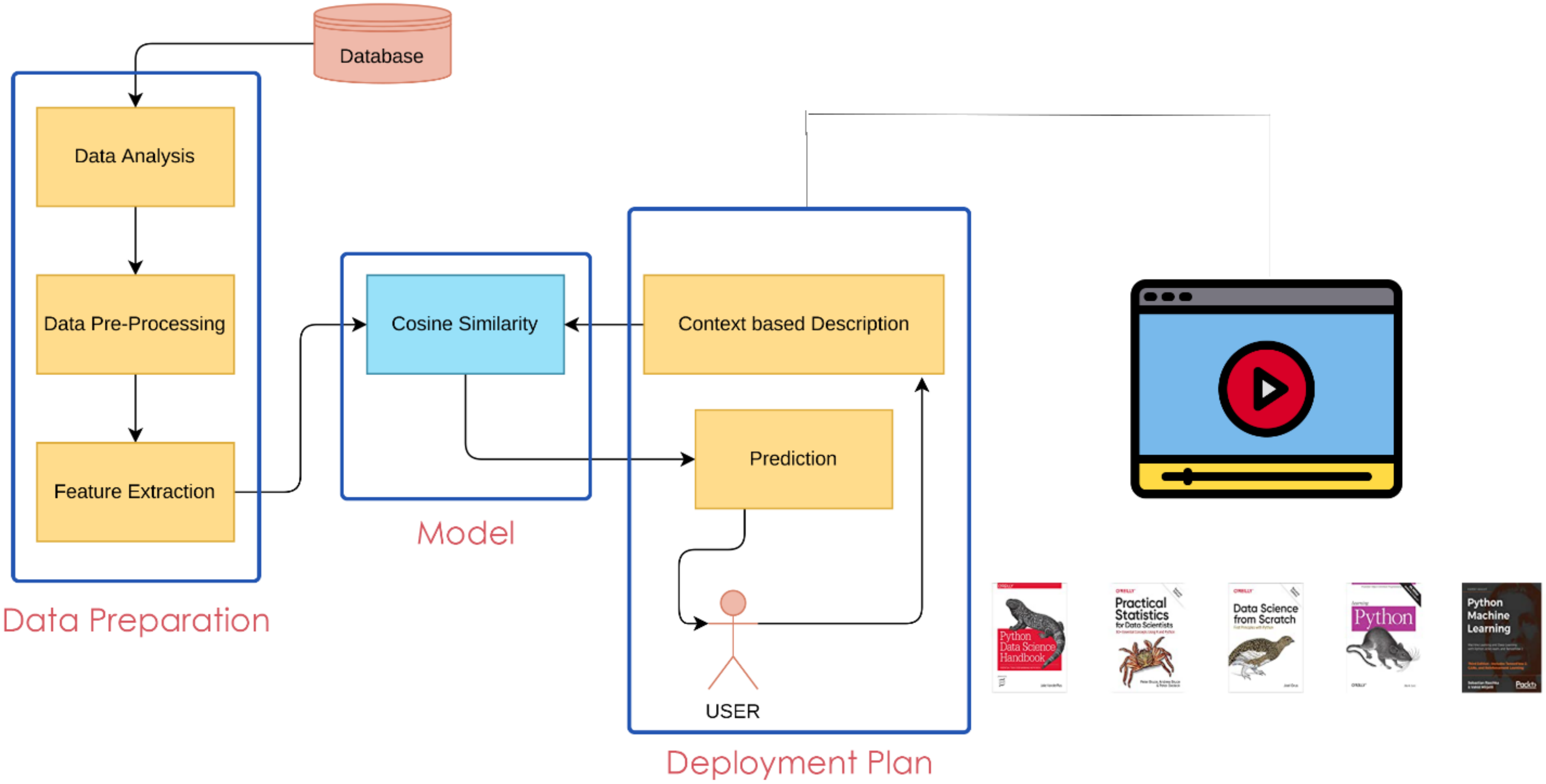
Pandas

Tools used for data visualization

Matplotlib

Seaborn

Structure



Database

Data Analysis

Data Pre-Processing

Feature Extraction

Data Preparation

Cosine Similarity

Model

Context based Description

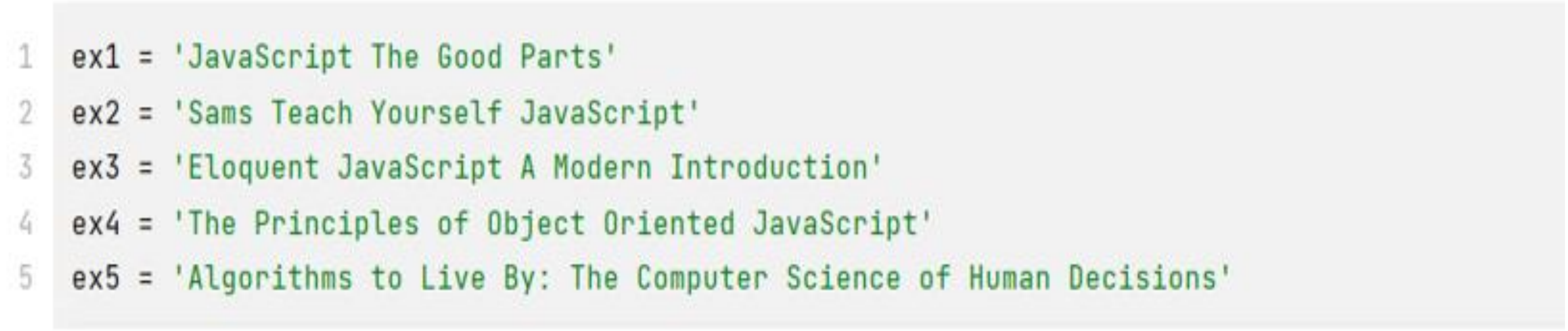
Prediction

USER

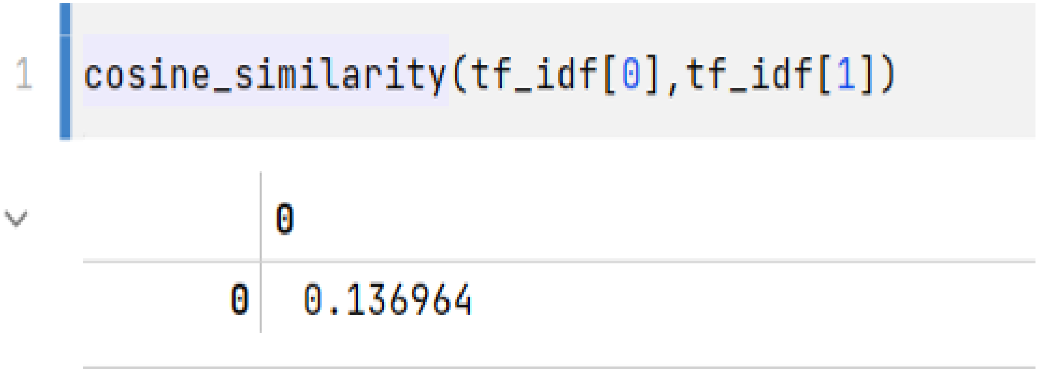
Deployment Plan

Python Data Science Handbook
Practical Statistics for Data Scientists
Data Science from Scratch
Python
Python Machine Learning

Cos-Similarity

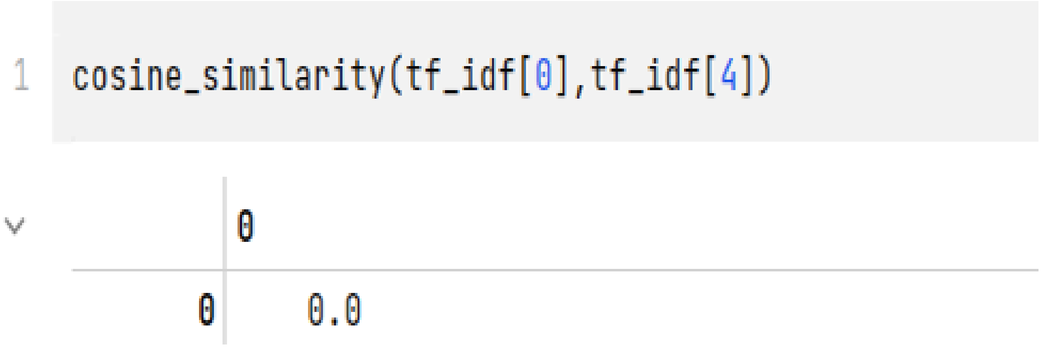


```python
ex1 = 'JavaScript The Good Parts'
ex2 = 'Sams Teach Yourself JavaScript'
ex3 = 'Eloquent JavaScript A Modern Introduction'
ex4 = 'The Principles of Object Oriented JavaScript'
ex5 = 'Algorithms to Live By: The Computer Science of Human Decisions'
```



```python
cosine_similarity(tf_idf[0],tf_idf[1])
```

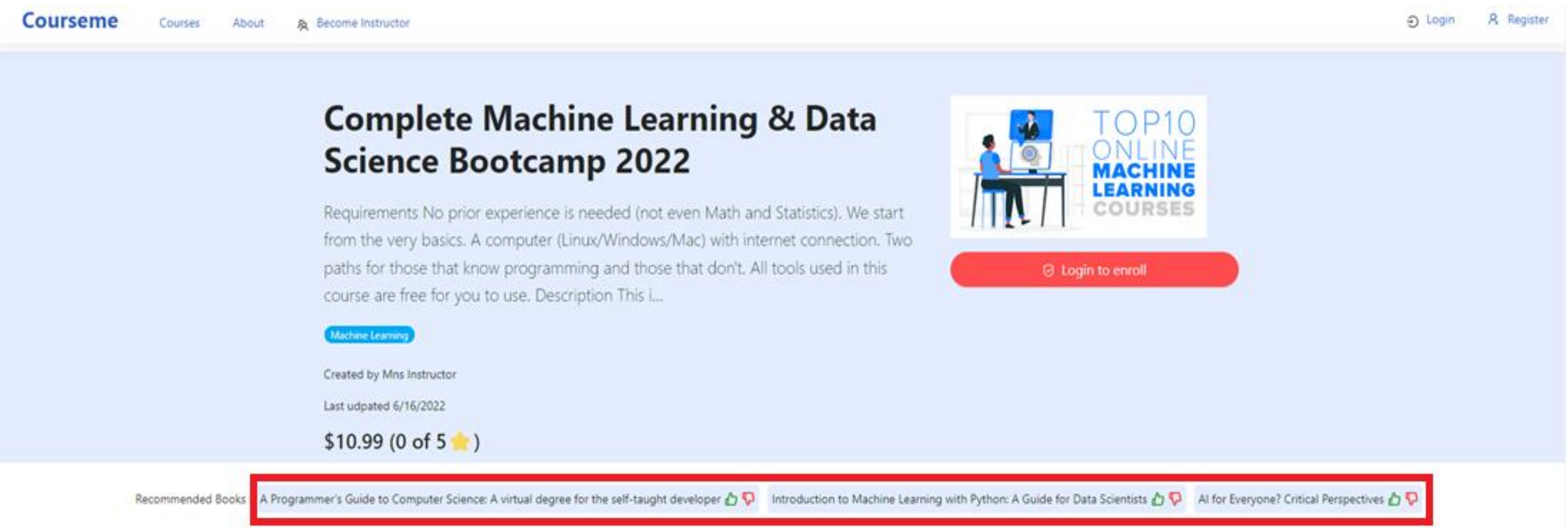
```
   0
0  0.136964
```



```python
cosine_similarity(tf_idf[0],tf_idf[4])
```

```
   0
0    0.0
```

Recommend References from Course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Machine Learning

Complete Machine Learning & Data Science Bootcamp 2022

Requirements No prior experience is needed (not even Math and Statistics). We start from the very basics. A computer (Linux/Windows/Mac) with internet connection. Two paths for those that know programming and those that don't. All tools used in this course are free for you to use. Description This i...

Created by Mns Instructor

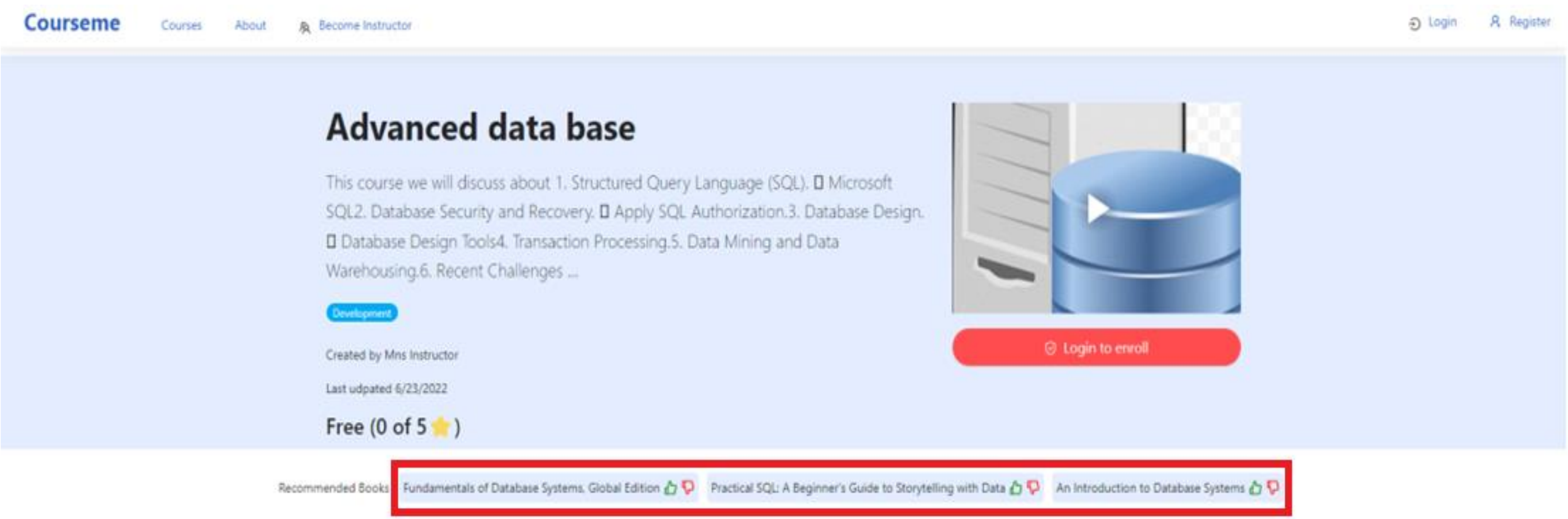
Last udpated 6/16/2022

$10.99 (0 of 5 ★)

Recommended Books

- A Programmer's Guide to Computer Science: A virtual degree for the self-taught developer
- Introduction to Machine Learning with Python: A Guide for Data Scientists
- AI for Everyone? Critical Perspectives

Recommend References from Course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Advanced data base

This course we will discuss about 1. Structured Query Language (SQL). Microsoft SQL2. Database Security and Recovery. Apply SQL Authorization.3. Database Design. Database Design Tools4. Transaction Processing.5. Data Mining and Data Warehousing.6. Recent Challenges ...

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Free (0 of 5 ⭐)

Recommended Books: Fundamentals of Database Systems, Global Edition 👍 👎 | Practical SQL: A Beginner's Guide to Storytelling with Data 👍 👎 | An Introduction to Database Systems 👍 👎

Recommendation system

- What & why is the Project about
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- Services - Demo
- Reference & thx

Services - Demo

Services

Instructor

- Create Courses
- Edit Courses
- View Courses
- Add Lessons
- Edit Lesson
- Add Quiz
- Publish/Unpublish Courses
- View no. of enrollment

- Make Account
- Reset password
- Filter courses
- View Rating
- Contact us

Student

- View Courses
- Enroll Courses
- View Lessons
- Take Quizzes
- Add Rating
- View his Enrollment

Courseme

Name inspired by what are students usually ask teachers to do **Teach me**, and what the platform provides **Courses**

Colors

Blue Hex: 2D5EBE	Light blue Hex: E3EDFF	White Hex: FFFFFF

Why blue ?

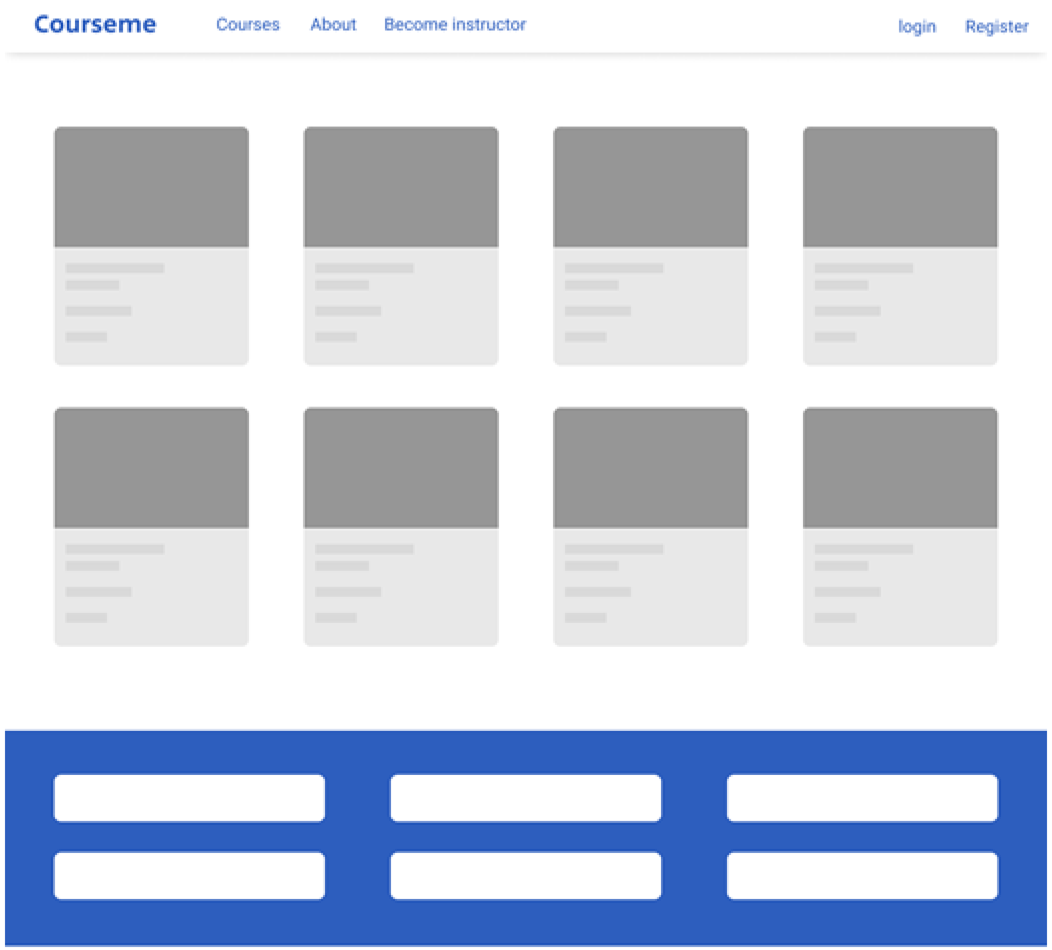
1. Blue is the color of trust and induces calm

2. Represents serenity and peace and inspires loyalty

3. Boosting productivity when u working from home

One of the most loved color

First look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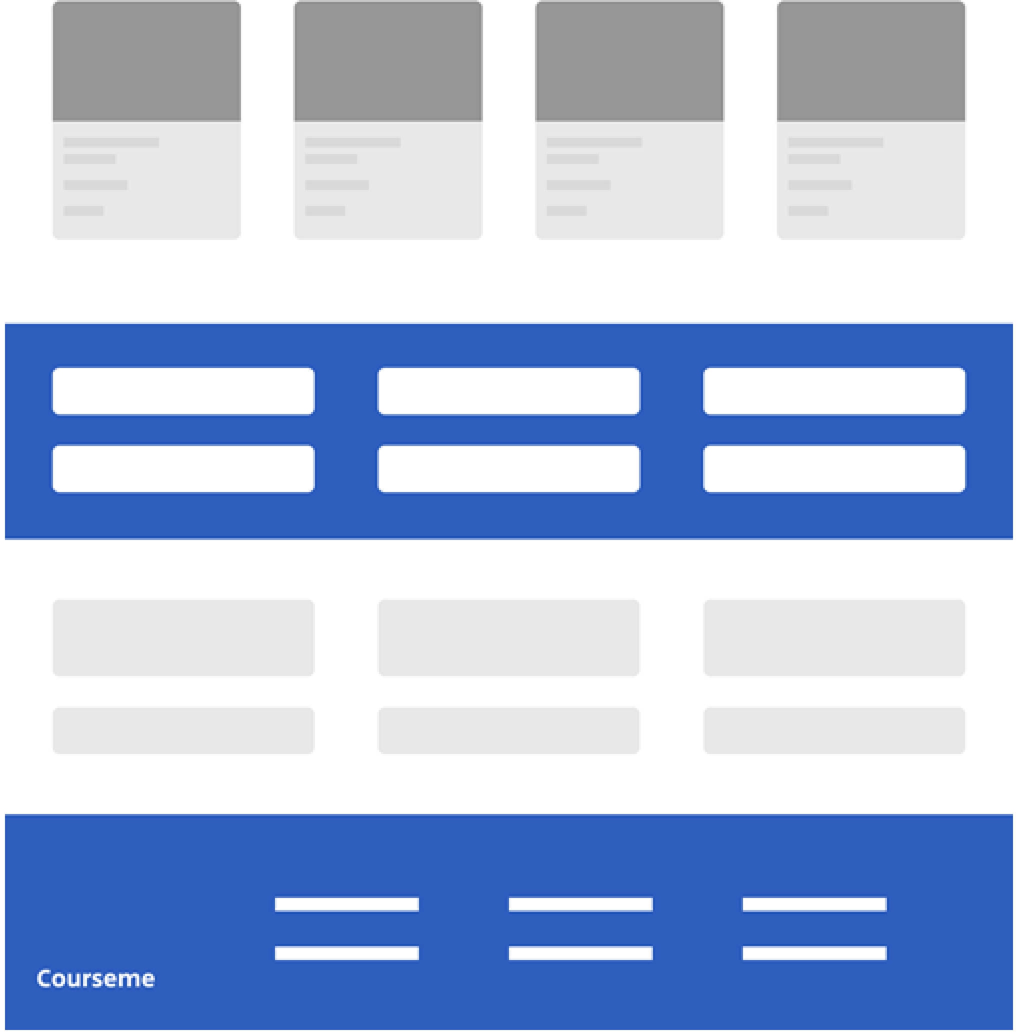
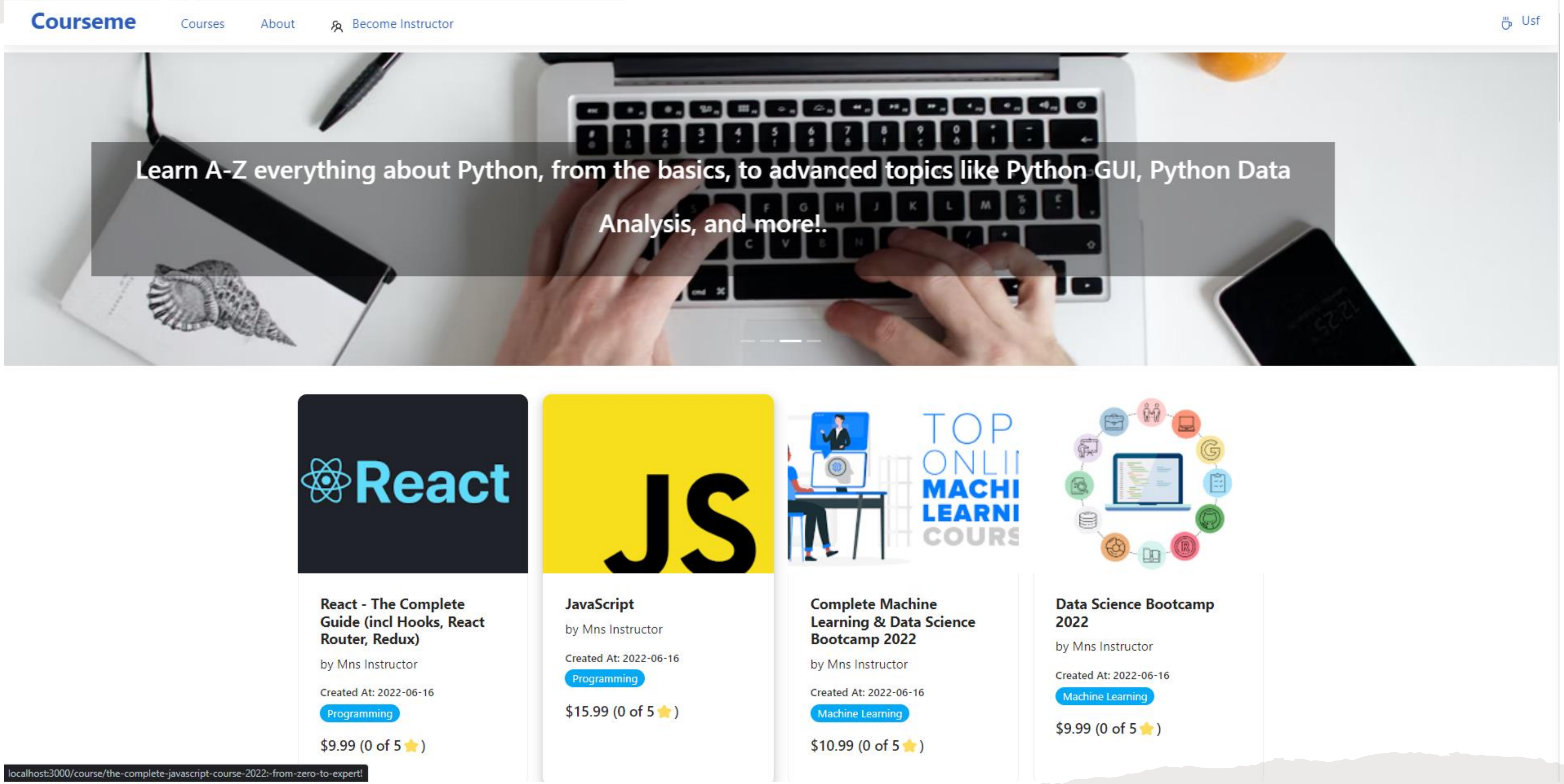
login
Register


Courseme

Demo

Landing page



Learn A-Z everything about Python, from the basics, to advanced topics like Python GUI, Python Data Analysis, and more!.

React - The Complete Guide (incl Hooks, React Router, Redux)

by Mns Instructor

Created At: 2022-06-16

Programming

$9.99 (0 of 5 ⭐)

JavaScript

by Mns Instructor

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Programming

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Complete Machine Learning & Data Science Bootcamp 2022

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Machine Learning

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Data Science Bootcamp 2022

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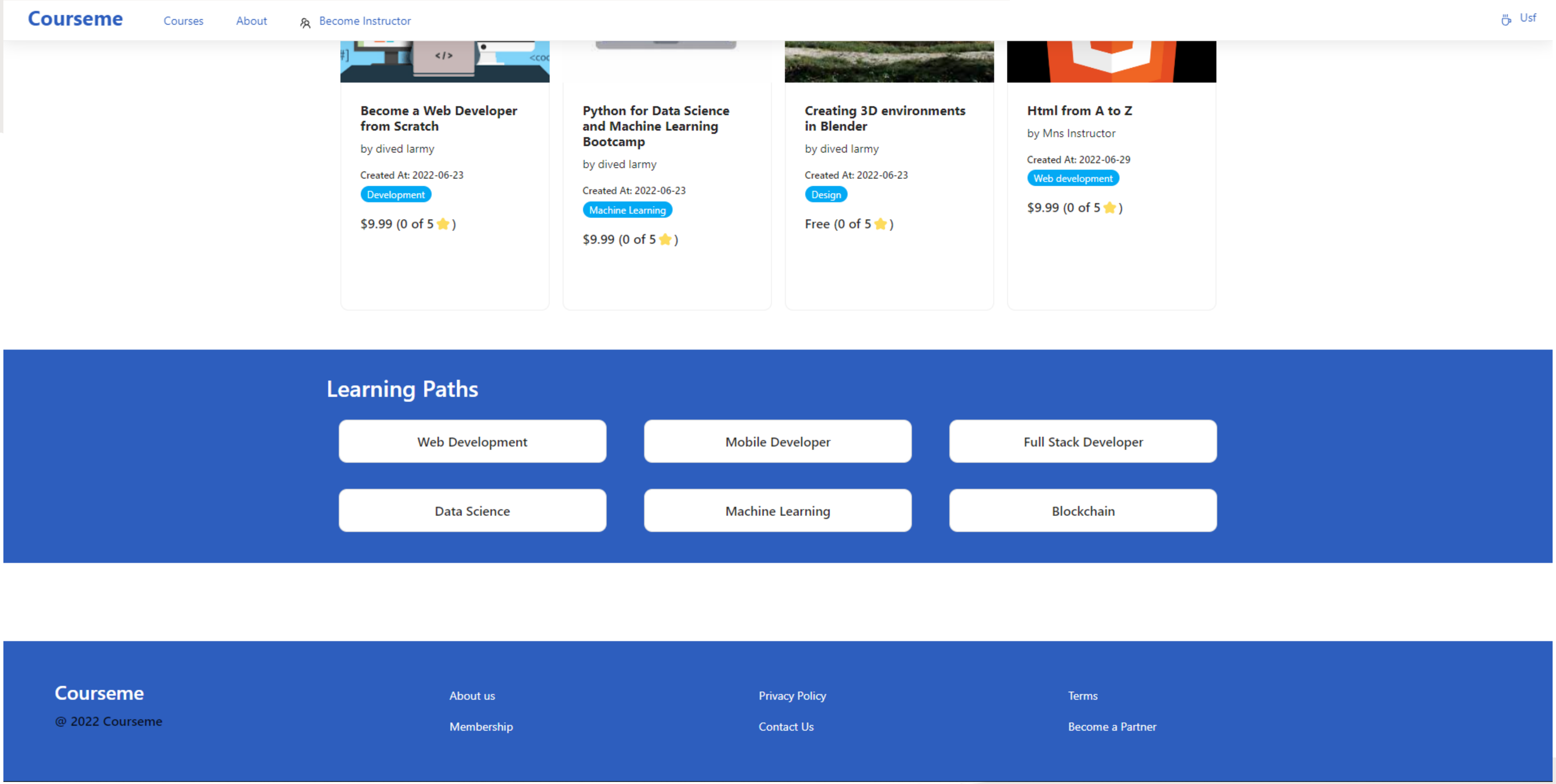
localhost:3000/course/the-complete-javascript-course-2022:-from-zero-to-expert!

Landing page



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Become a Web Developer from Scratch
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Development
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Python for Data Science and Machine Learning Bootcamp
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Machine Learning
$9.99 (0 of 5 ★)

Creating 3D environments in Blender
by dived larmy
Created At: 2022-06-23
Design
Free (0 of 5 ★)

Html from A to Z
by Mns Instructor
Created At: 2022-06-29
Web development
$9.99 (0 of 5 ★)

Learning Paths

Web Development
Mobile Developer
Full Stack Developer
Data Science
Machine Learning
Blockchain

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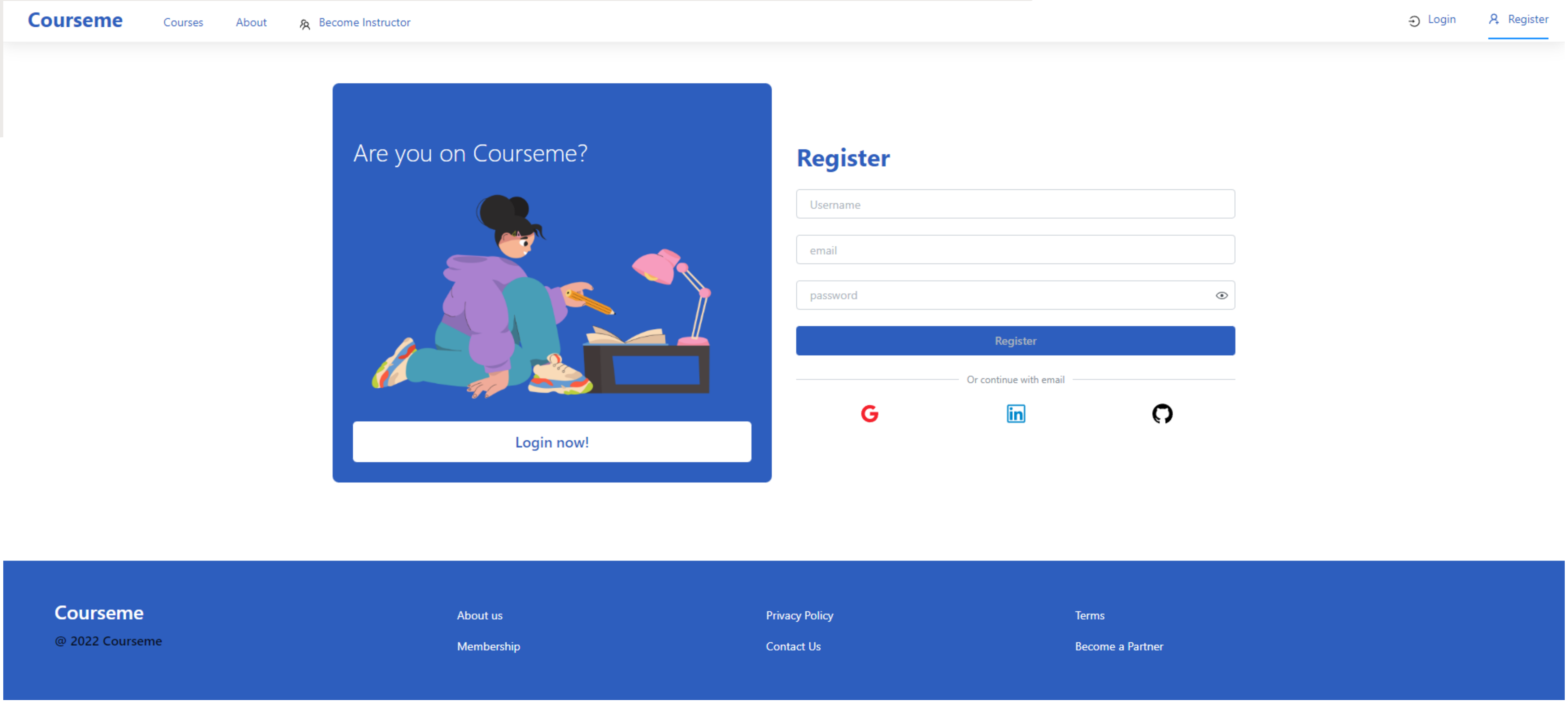
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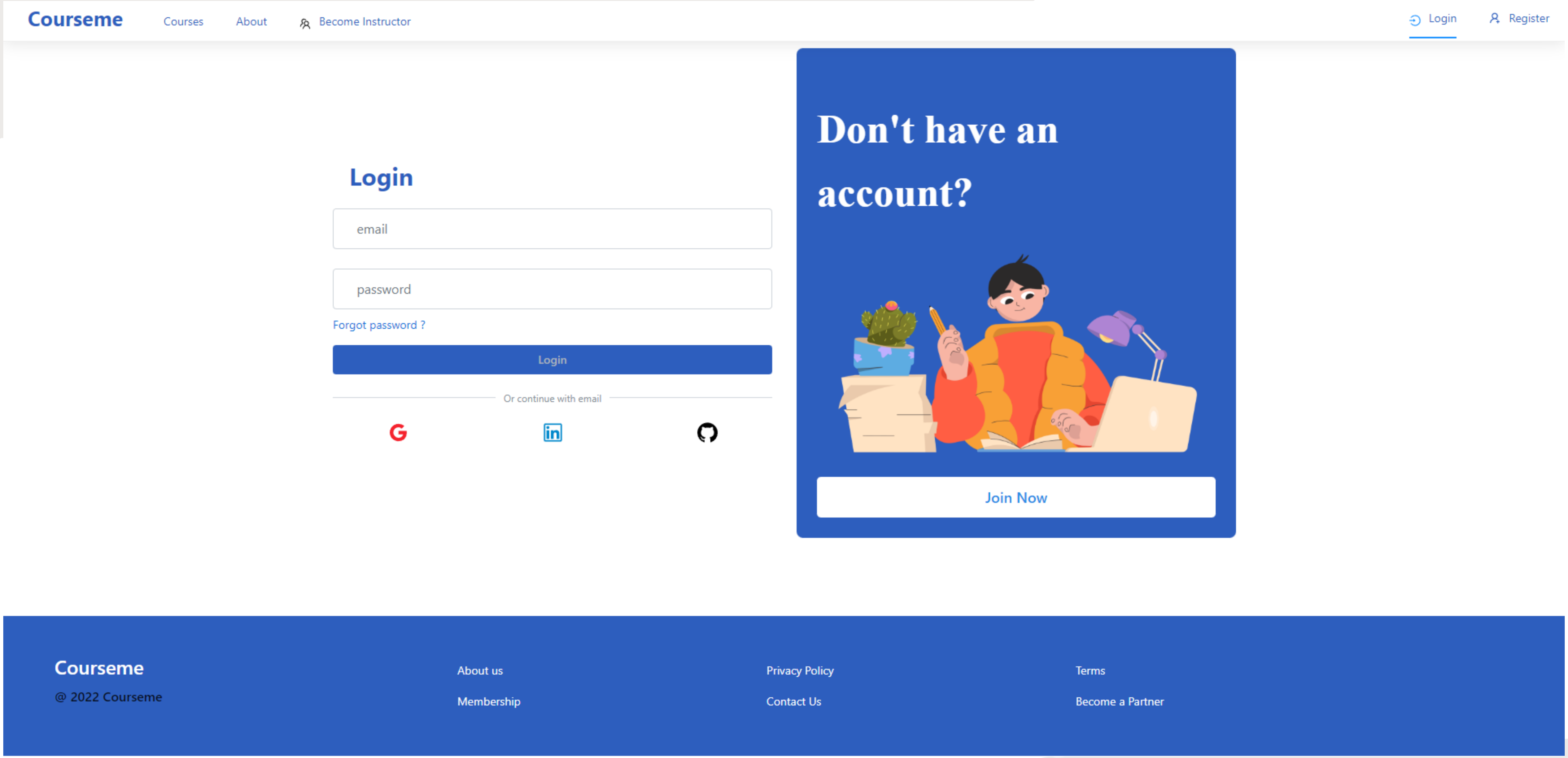

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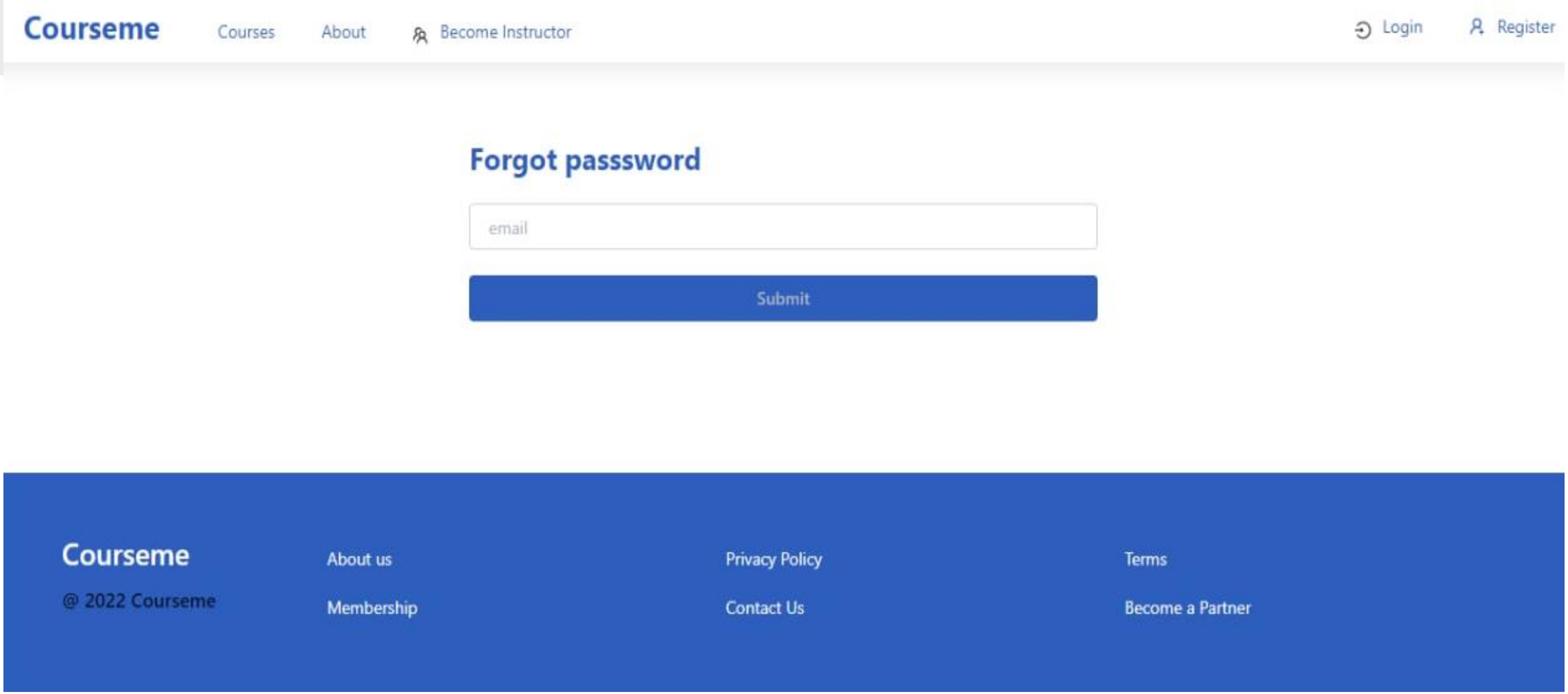

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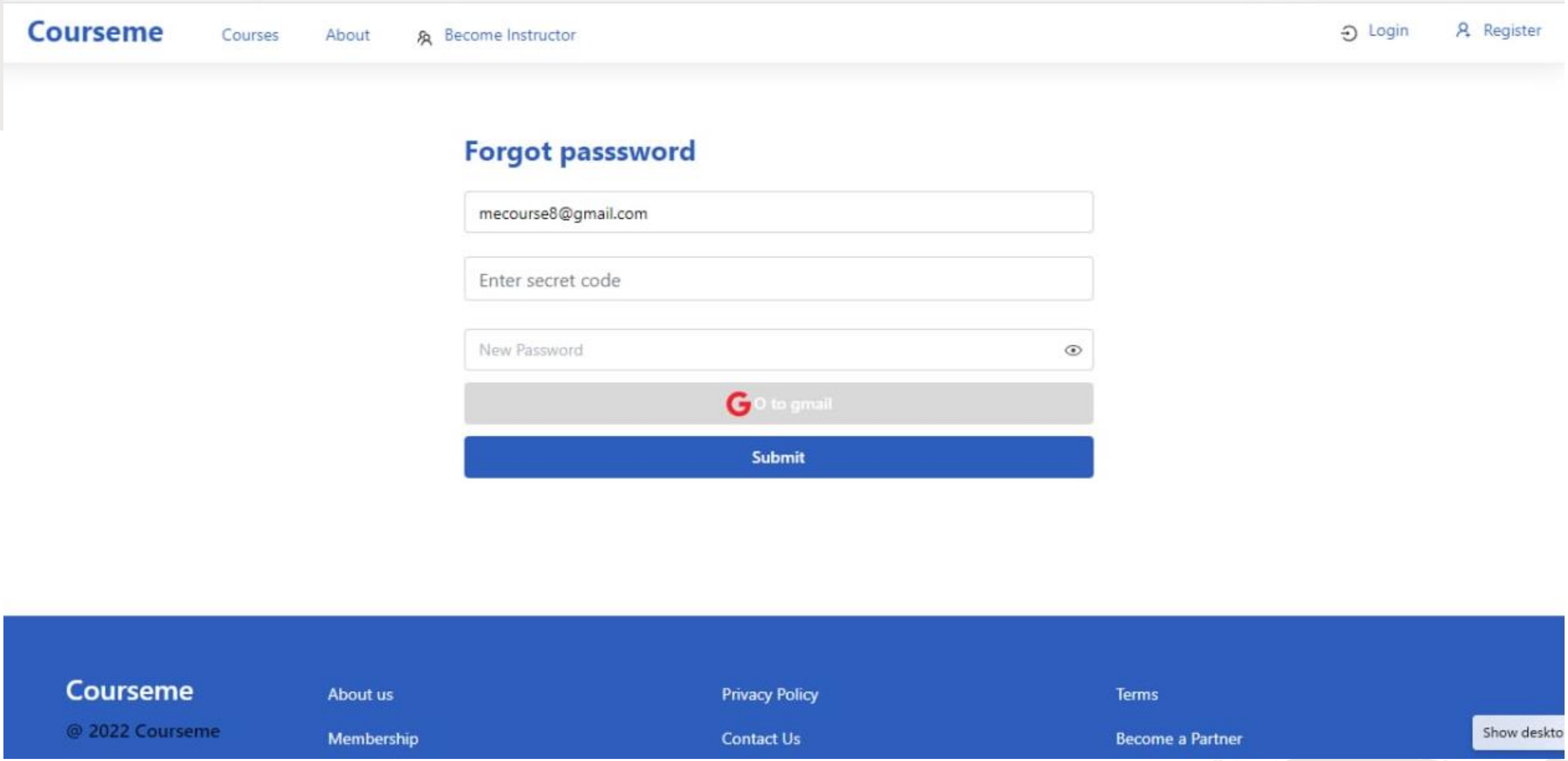

Forgot passsword

mecourse8@gmail.com

Courseme
Courses
About
Become Instructor
Login
Register
Enter secret code
New Password
GO to gmail
Submit
Courseme
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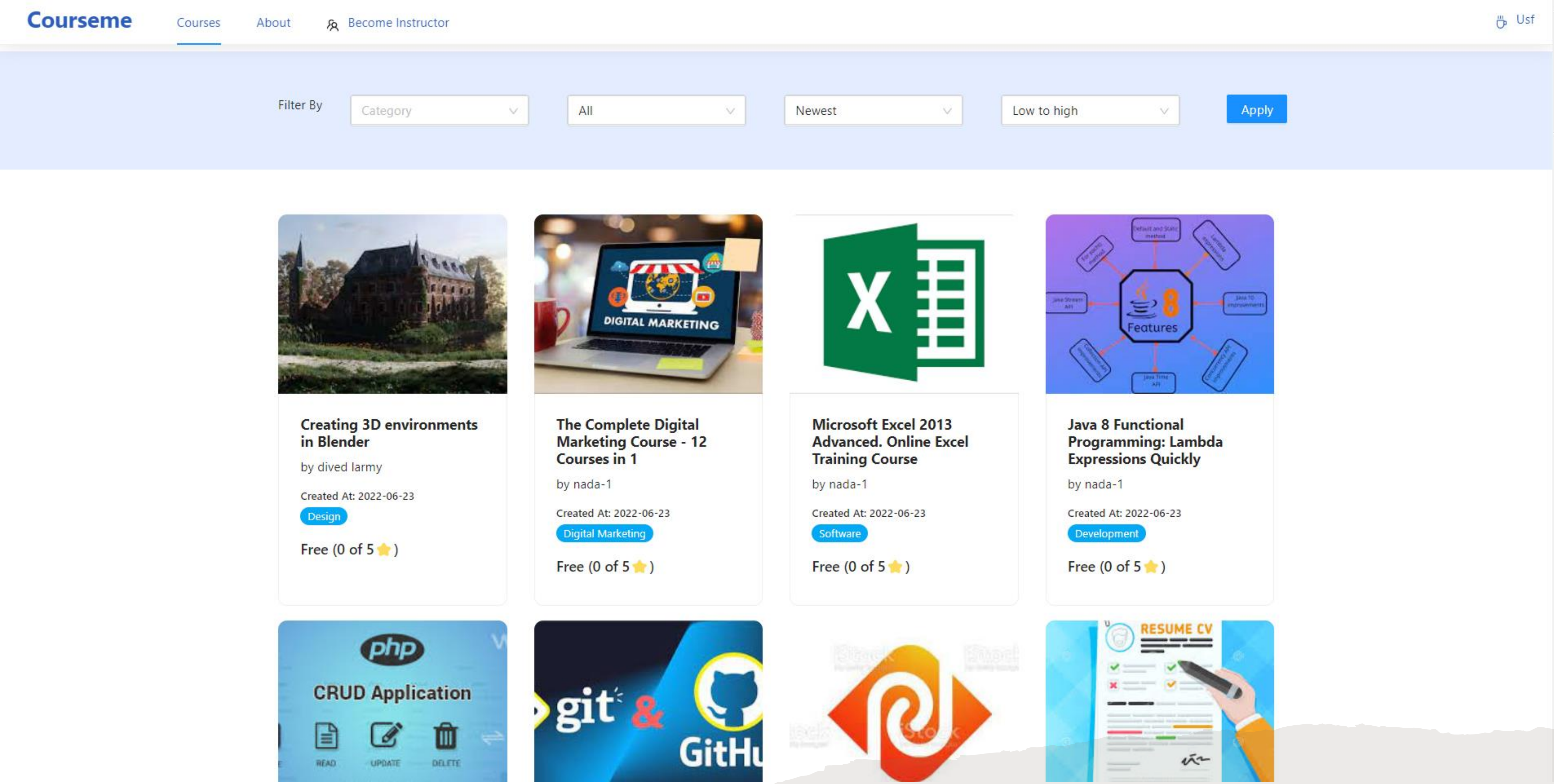
Show deskto

Courses Filter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Features
php
CRUD Application
READ
UPDATE
DELETE
git &
GitHu
RESUME CV

Filter By: Category | All | Newest | Low to high

Creating 3D environments in Blender
by dived larmy
Created At: 2022-06-23
Design
Free (0 of 5 ⭐)

The Complete Digital Marketing Course - 12 Courses in 1
by nada-1
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Software
Free (0 of 5 ⭐)

Java 8 Functional Programming: Lambda Expressions Quickly
by nada-1
Created At: 2022-06-23
Development
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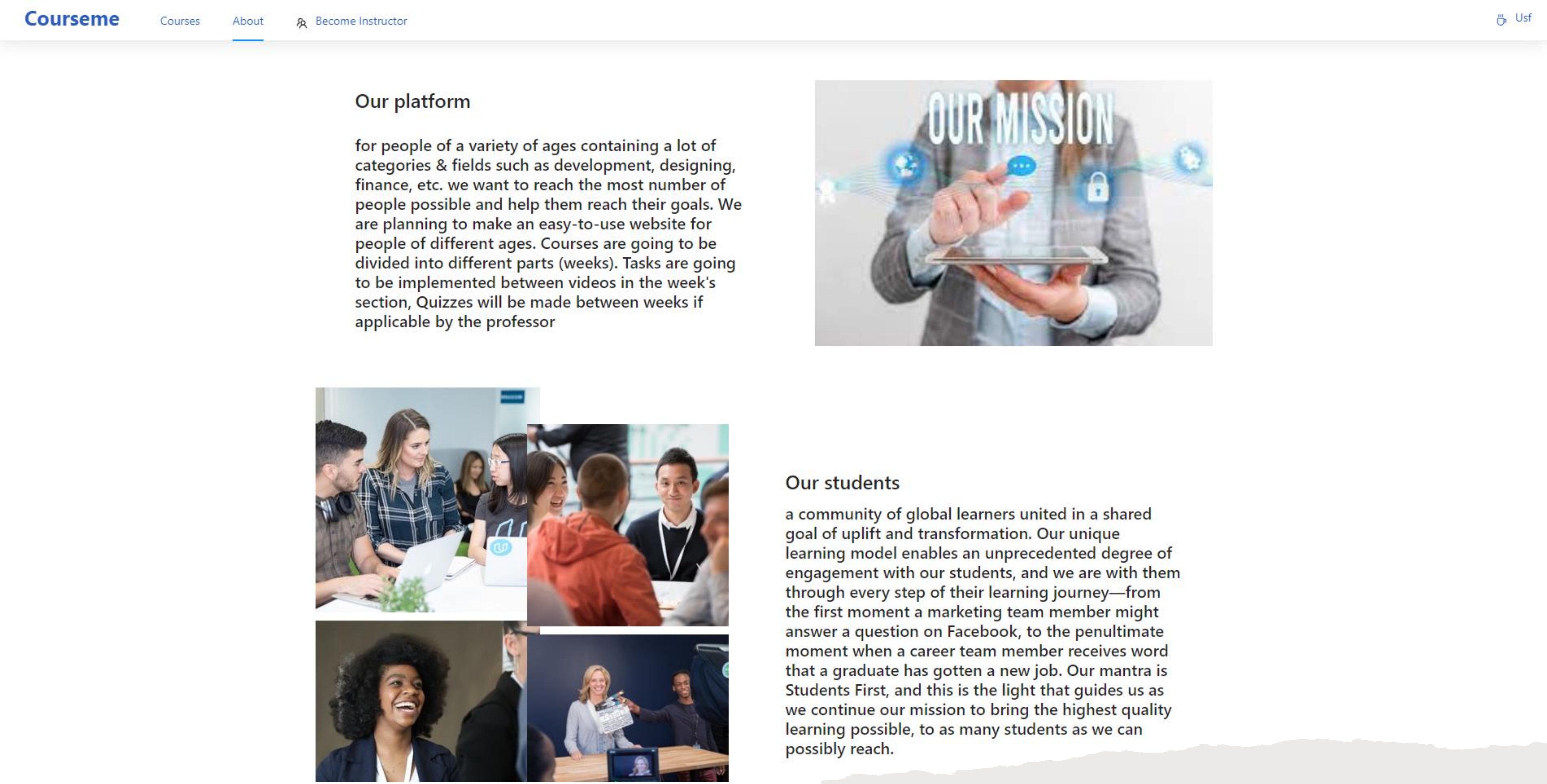
About page



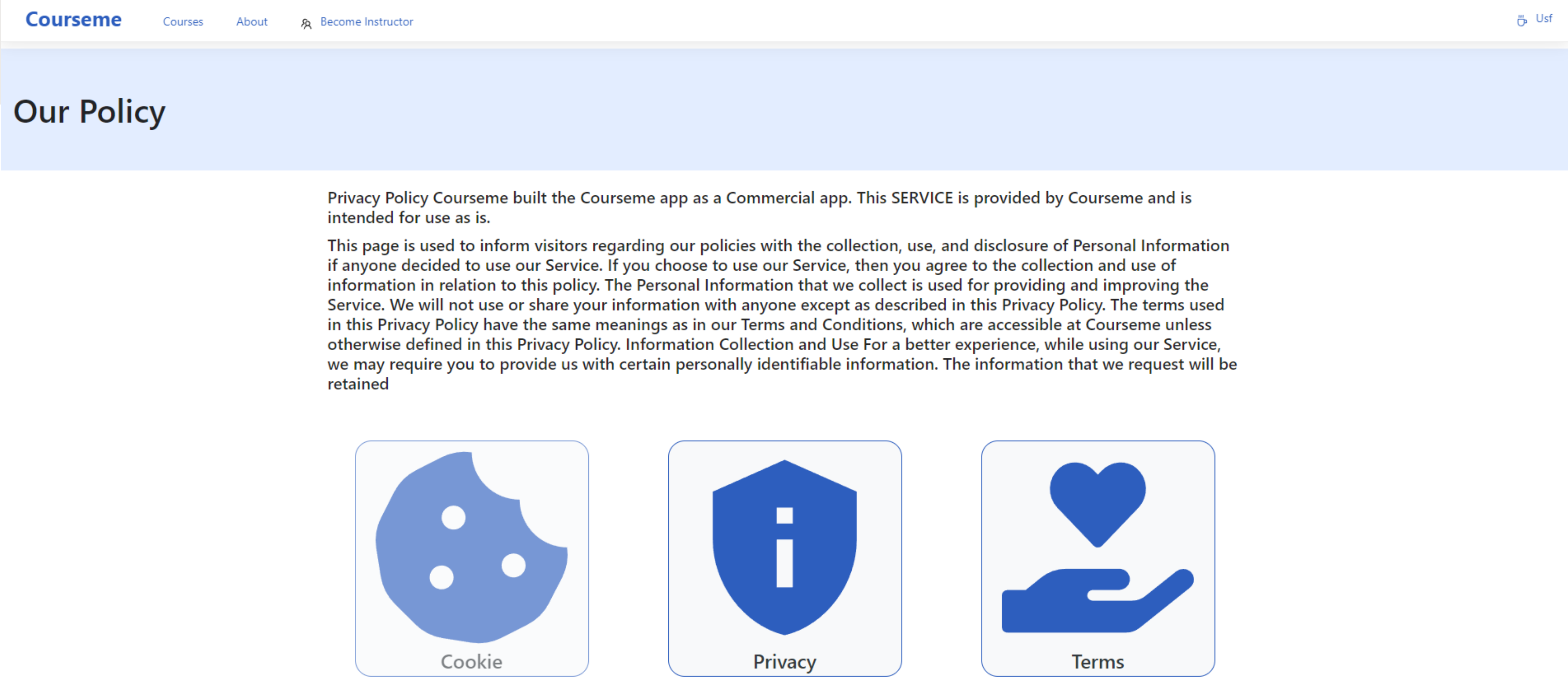
Our platform

for people of a variety of ages containing a lot of categories & fields such as development, designing, finance, etc. we want to reach the most number of people possible and help them reach their goals. We are planning to make an easy-to-use website for people of different ages. Courses are going to be divided into different parts (weeks). Tasks are going to be implemented between videos in the week's section, Quizzes will be made between weeks if applicable by the professor

Our students

a community of global learners united in a shared goal of uplift and transformation. Our unique learning model enables an unprecedented degree of engagement with our students, and we are with them through every step of their learning journey—from the first moment a marketing team member might answer a question on Facebook, to the penultimate moment when a career team member receives word that a graduate has gotten a new job. Our mantra is Students First, and this is the light that guides us as we continue our mission to bring the highest quality learning possible, to as many students as we can possibly reach.

Policy page



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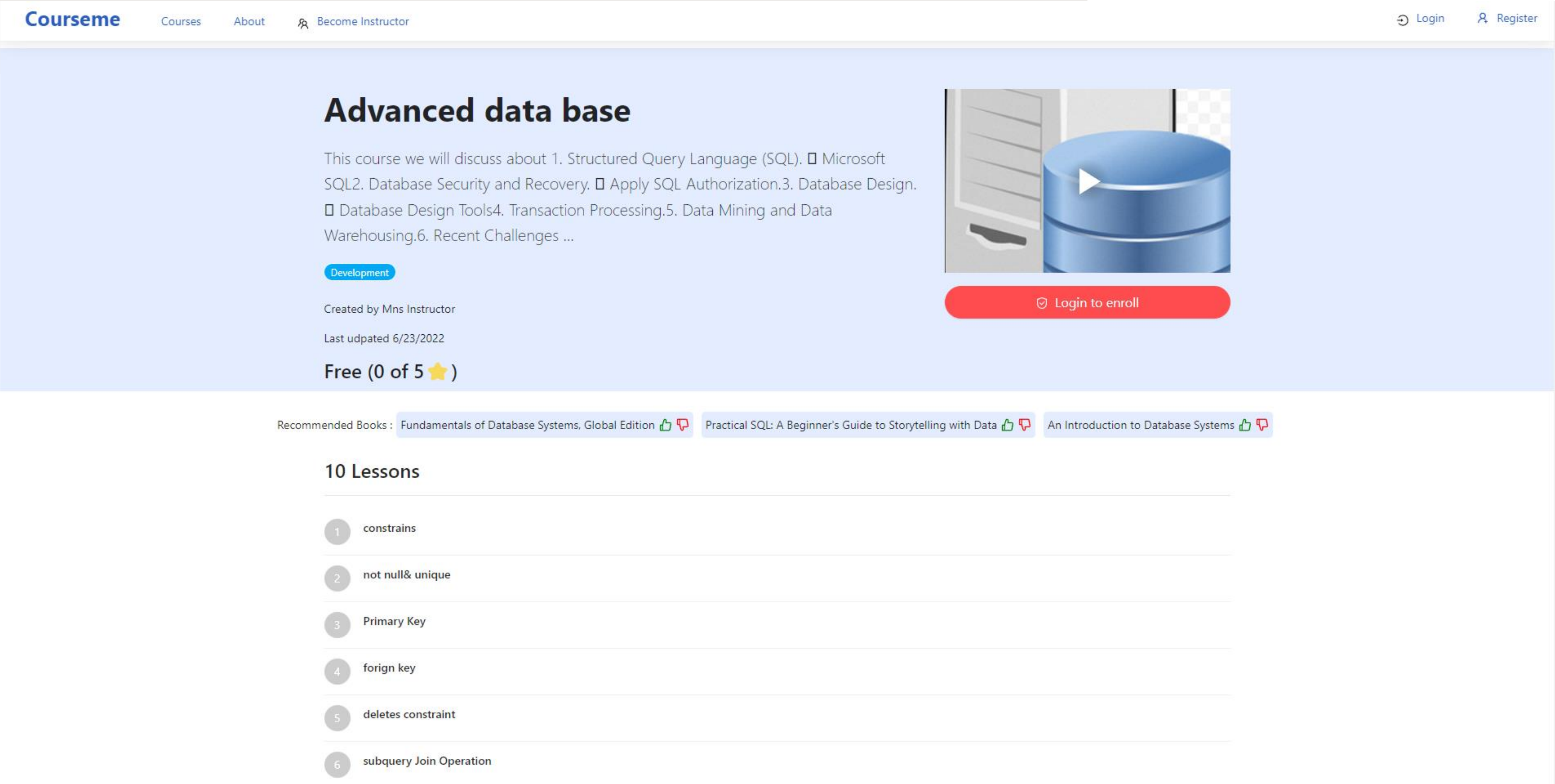

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Advanced data base

This course we will discuss about 1. Structured Query Language (SQL). □ Microsoft SQL2. Database Security and Recovery. □ Apply SQL Authorization.3. Database Design. □ Database Design Tools4. Transaction Processing.5. Data Mining and Data Warehousing.6. Recent Challenges ...

Development

Created by Mns Instructor

Last udpated 6/23/2022

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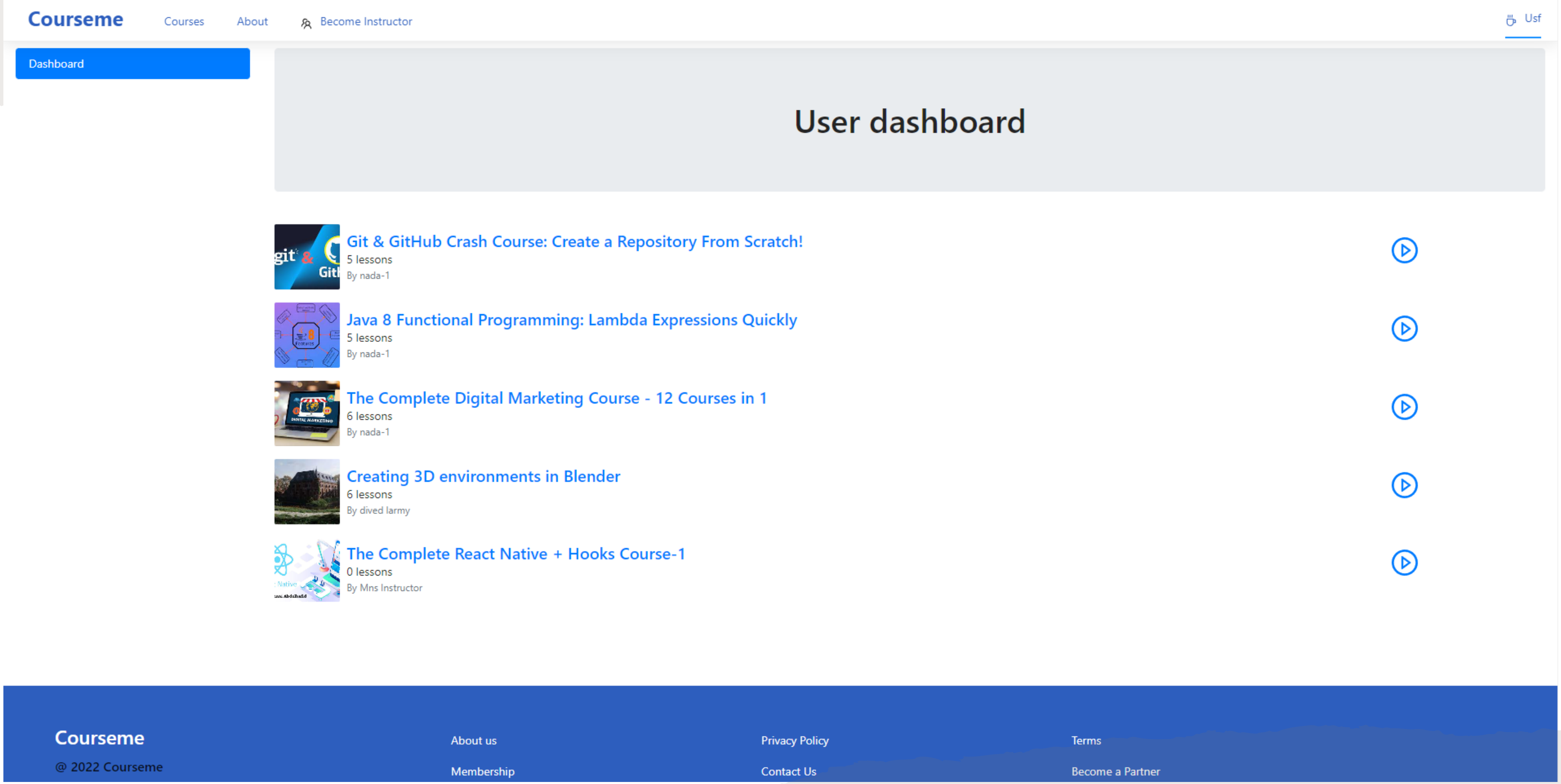
Recommended Books : Fundamentals of Database Systems, Global Edition | Practical SQL: A Beginner's Guide to Storytelling with Data | An Introduction to Database Systems

10 Lessons

1. constrains
2. not null& unique
3. Primary Key
4. forign key
5. deletes constraint
6. subquery Join Operation

User Dashboard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User dashboard

Git & GitHub Crash Course: Create a Repository From Scratch!
5 lessons
By nada-1

Java 8 Functional Programming: Lambda Expressions Quickly
5 lessons
By nada-1

The Complete Digital Marketing Course - 12 Courses in 1
6 lessons
By nada-1

Creating 3D environments in Blender
6 lessons
By dived larmy

The Complete React Native + Hooks Course-1
0 lessons
By Mns Instructor

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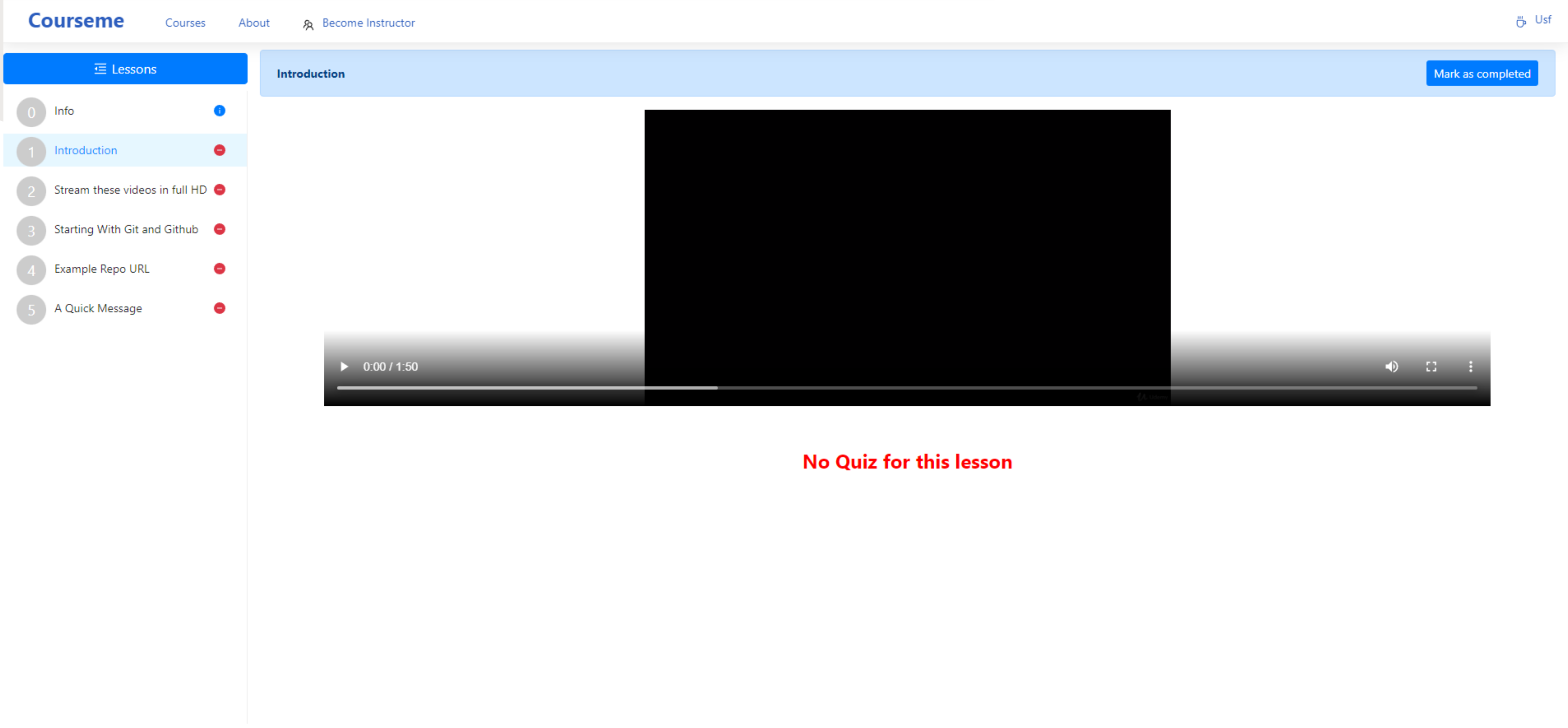
Lessons View



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Lessons

0 Info

1 Introduction

2 Stream these videos in full HD

3 Starting With Git and Github

4 Example Repo URL

5 A Quick Message

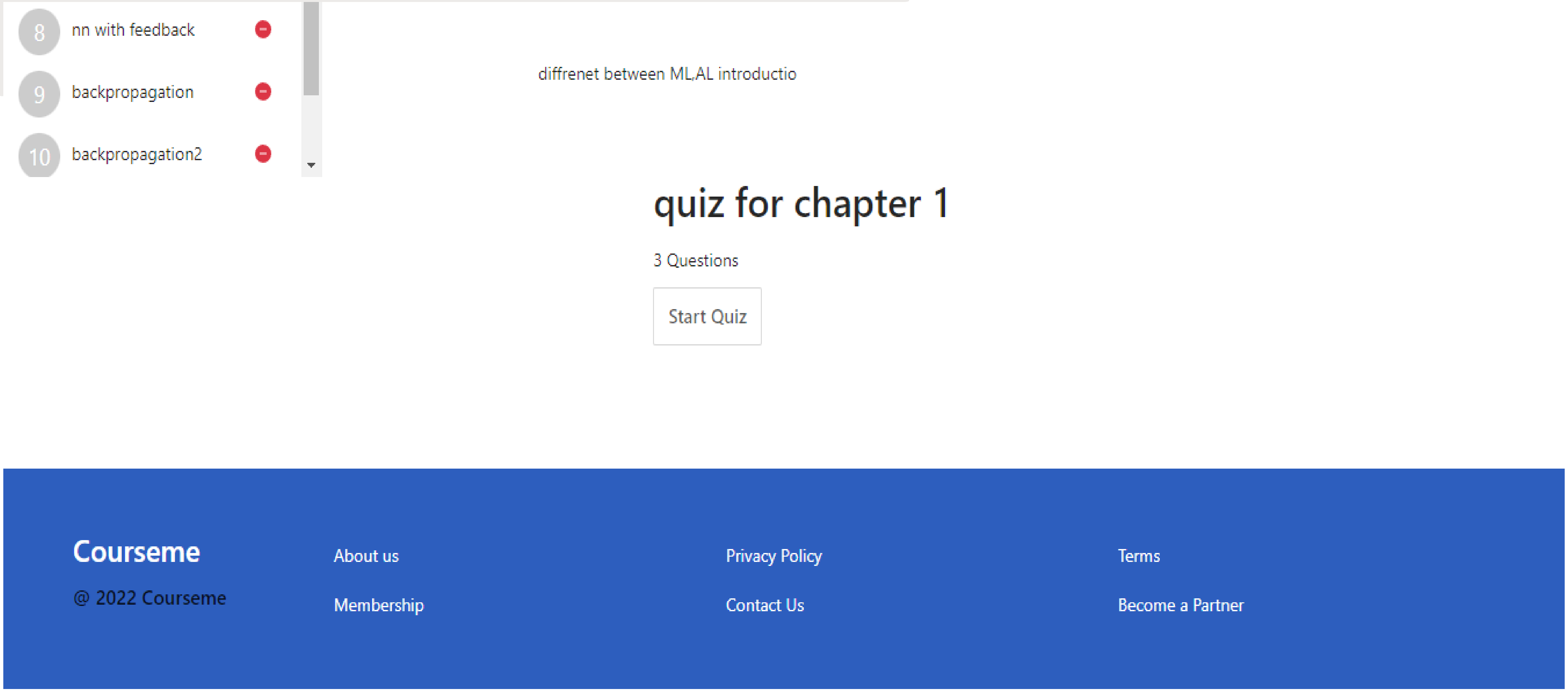
Introduction

Mark as completed

0:00 / 1:50

No Quiz for this lesson

Quiz section


8
nn with feedback
9
backpropagation
10
backpropagation2

diffrenet between ML,AL introductio

quiz for chapter 1

3 Questions

Start Quiz
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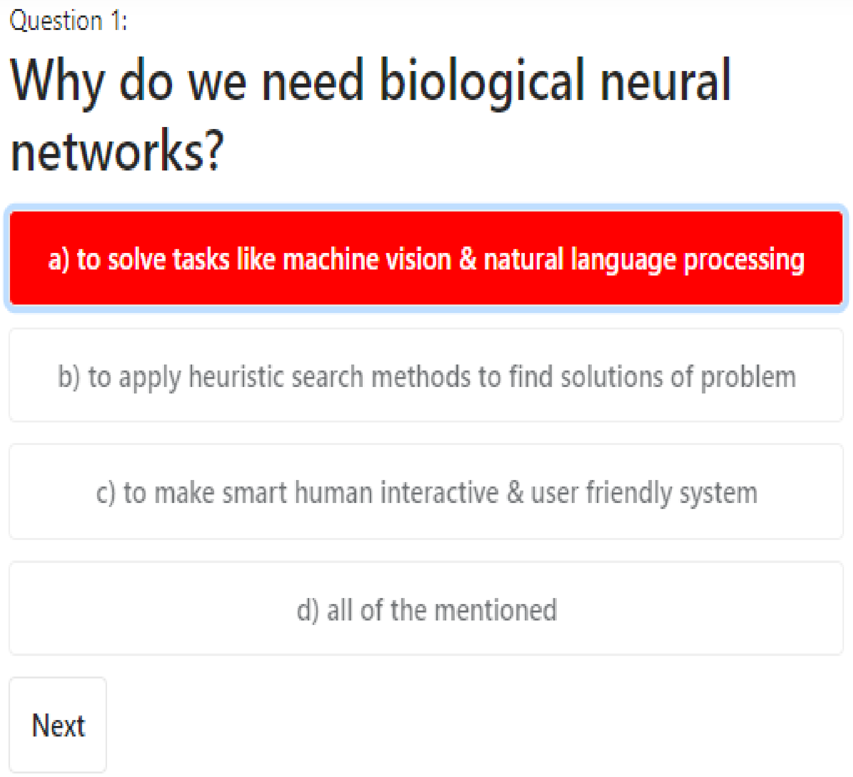
Answer Quiz



Question 1:

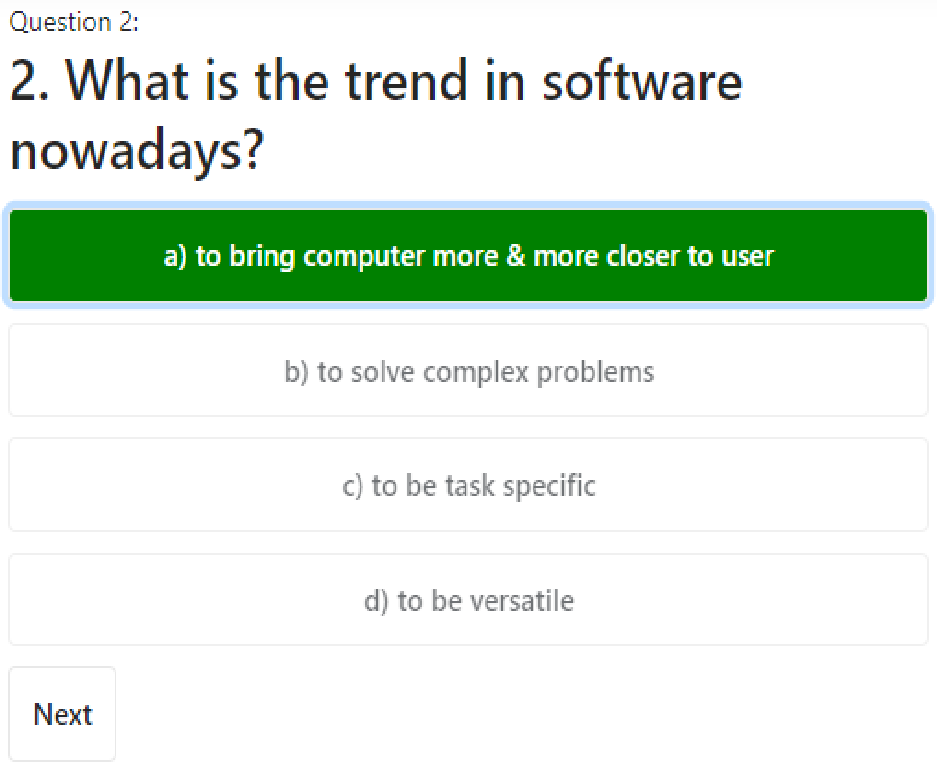
Why do we need biological neural networks?

a) to solve tasks like machine vision & natural language processing

b) to apply heuristic search methods to find solutions of problem

c) to make smart human interactive & user friendly system

d) all of the mentioned



Question 2:

2. What is the trend in software nowadays?

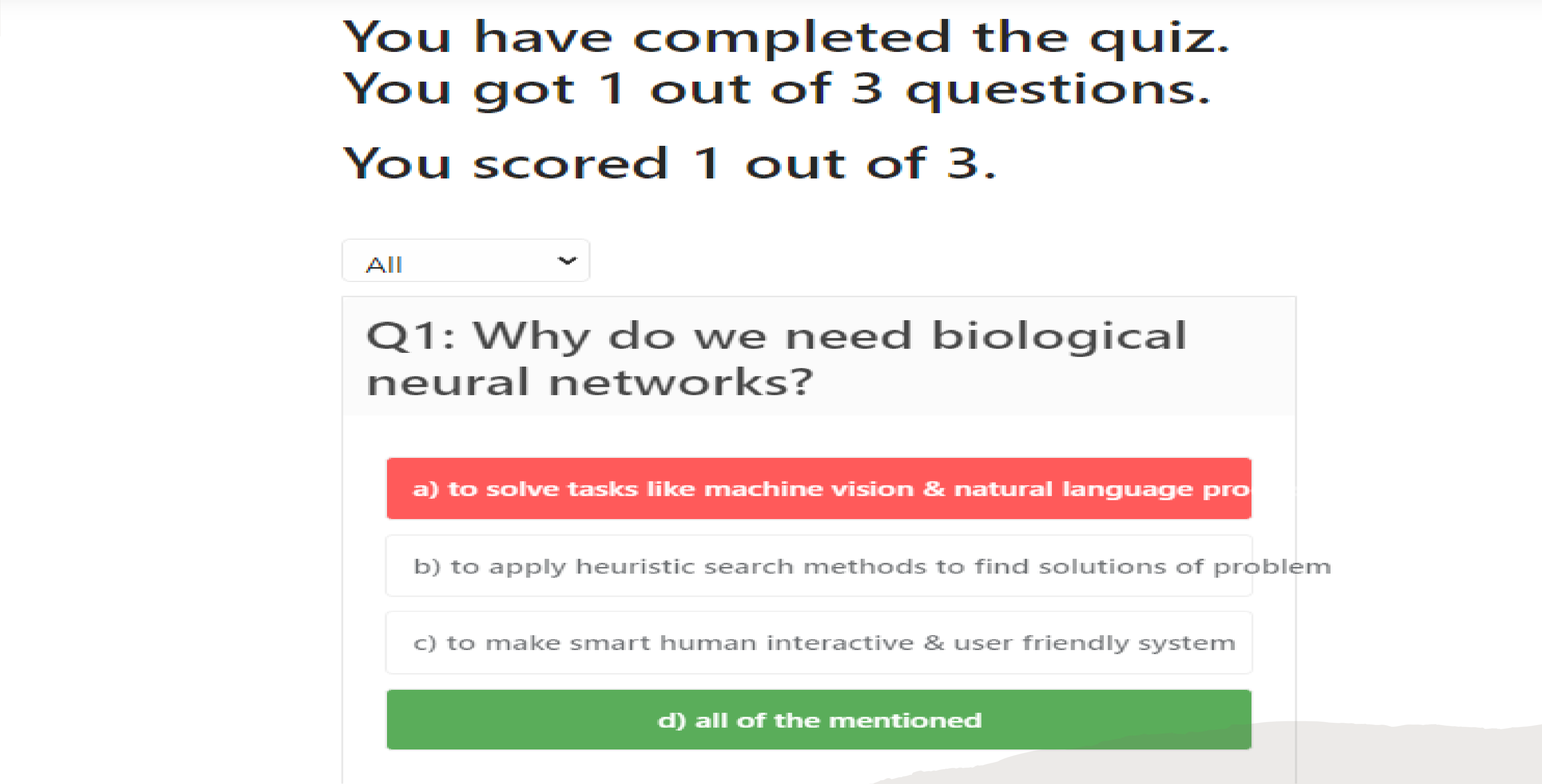
a) to bring computer more & more closer to user

b) to solve complex problems

c) to be task specific

d) to be versatile

Result



You have completed the quiz.
You got 1 out of 3 questions.

You scored 1 out of 3.

Q1: Why do we need biological neural networks?

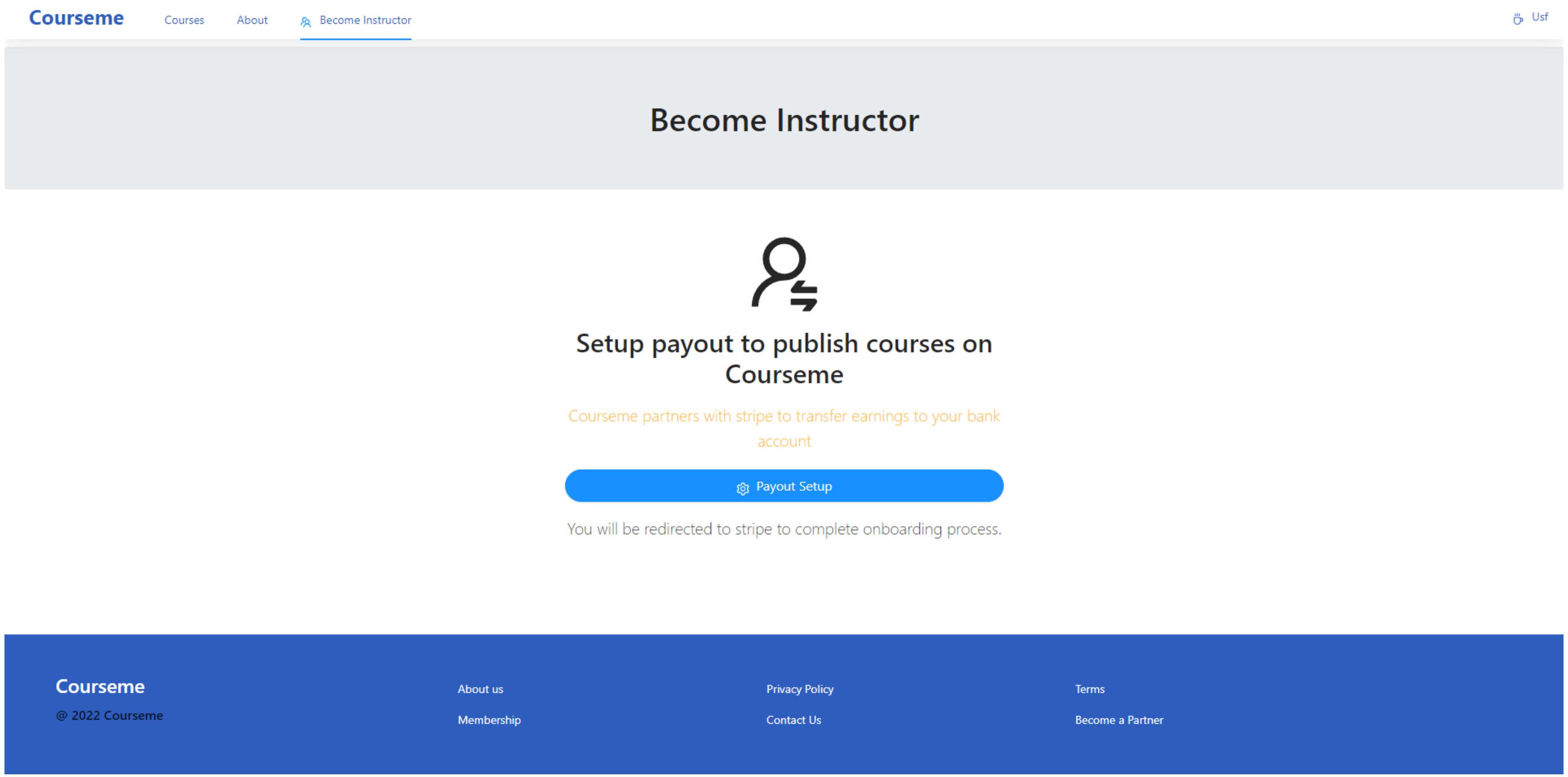
a) to solve tasks like machine vision & natural language pro

b) to apply heuristic search methods to find solutions of problem

c) to make smart human interactive & user friendly system

d) all of the mentioned

How to become instructor



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Become Instructor

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Payout Setup

You will be redirected to stripe to complete onboarding process.

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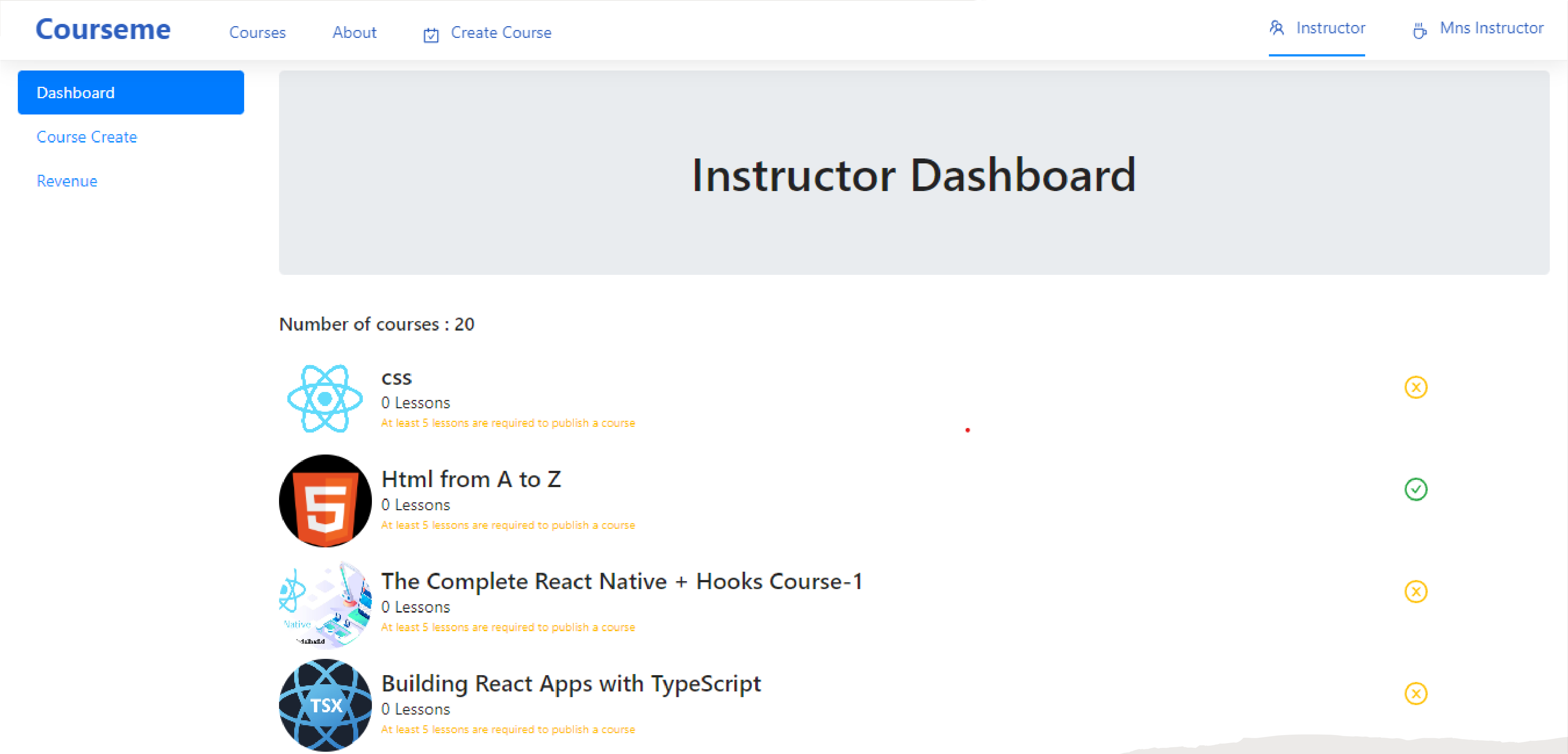

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0 Lessons
At least 5 lessons are required to publish a course

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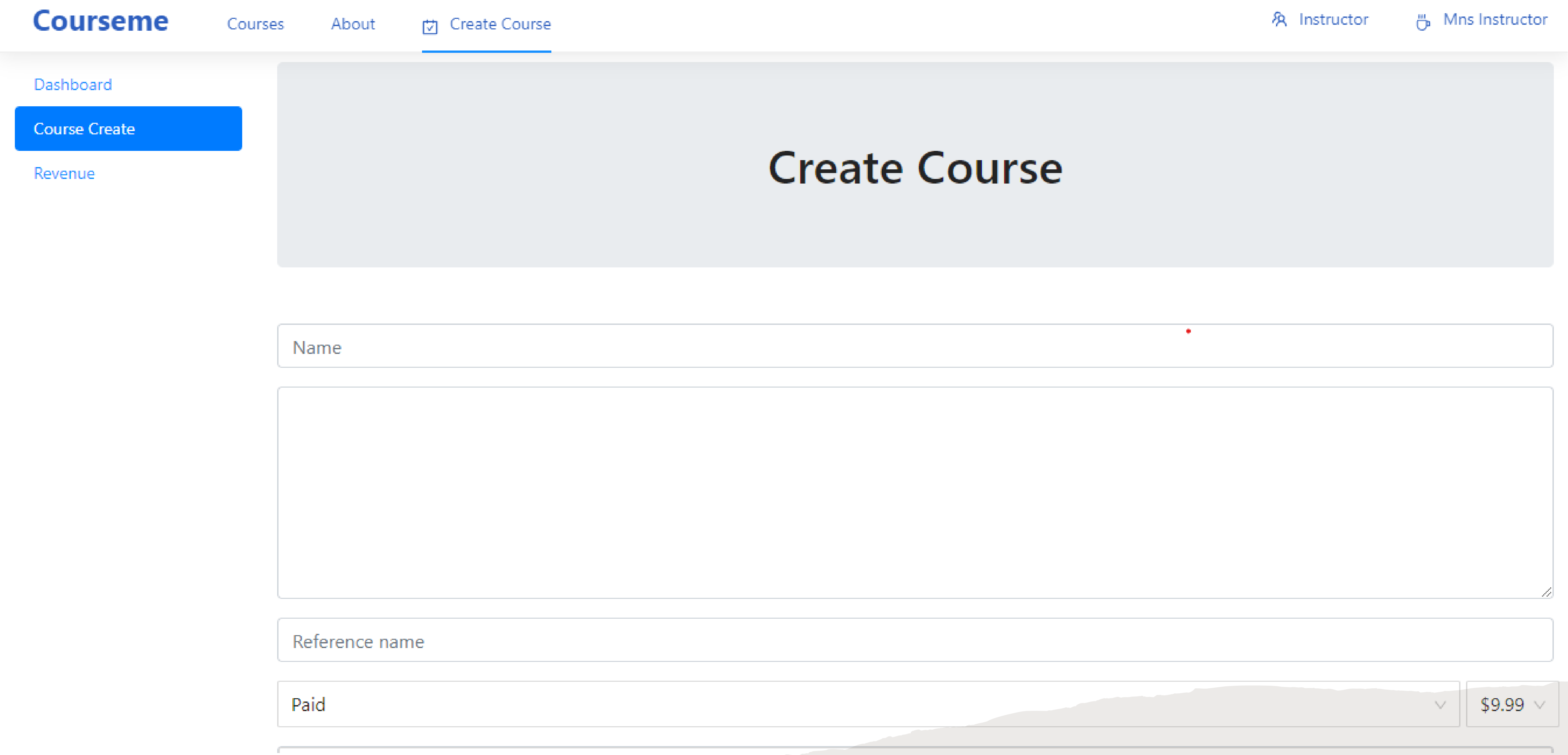

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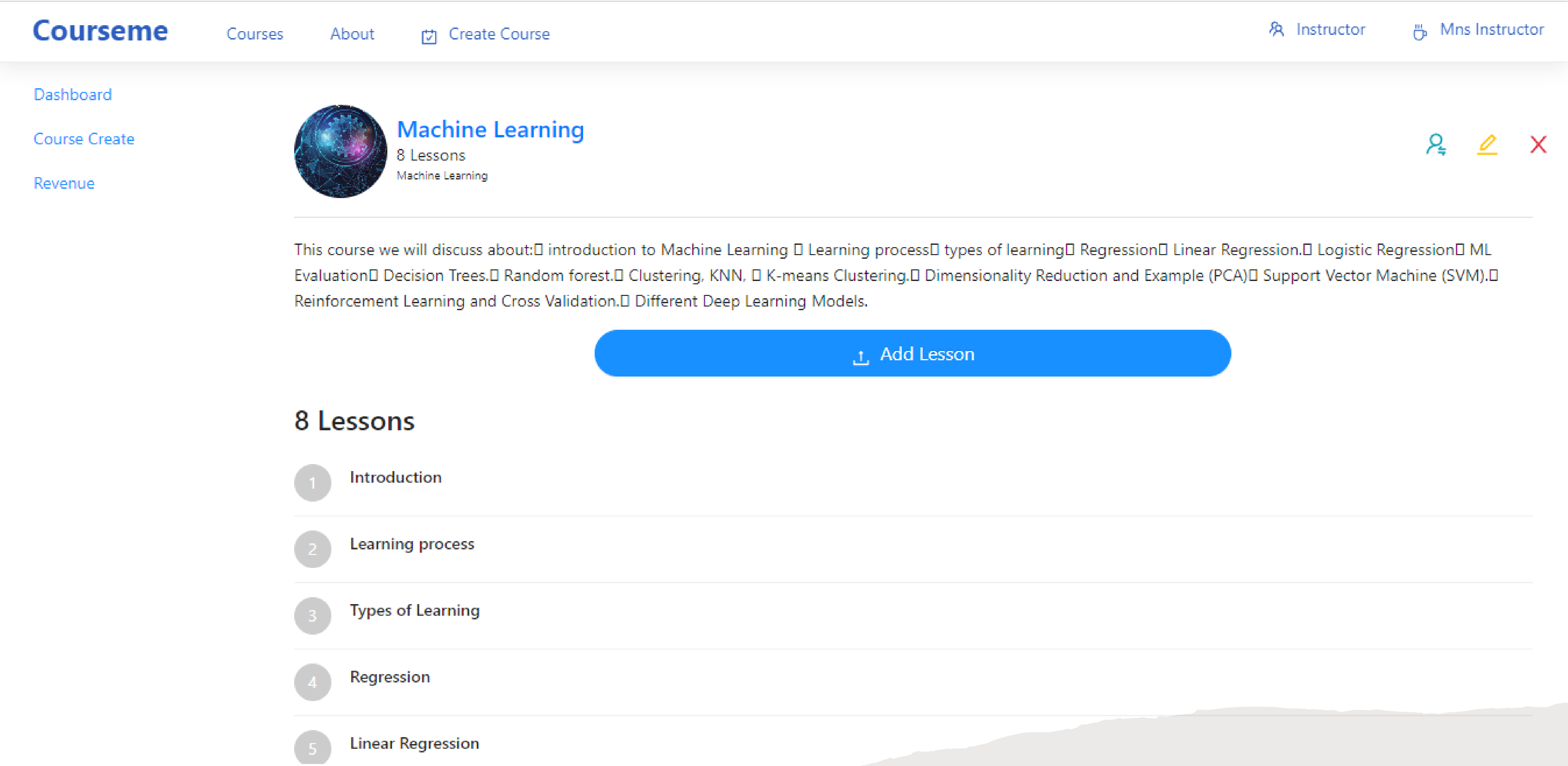
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Add Lesson

Machine Learning

8 Lessons

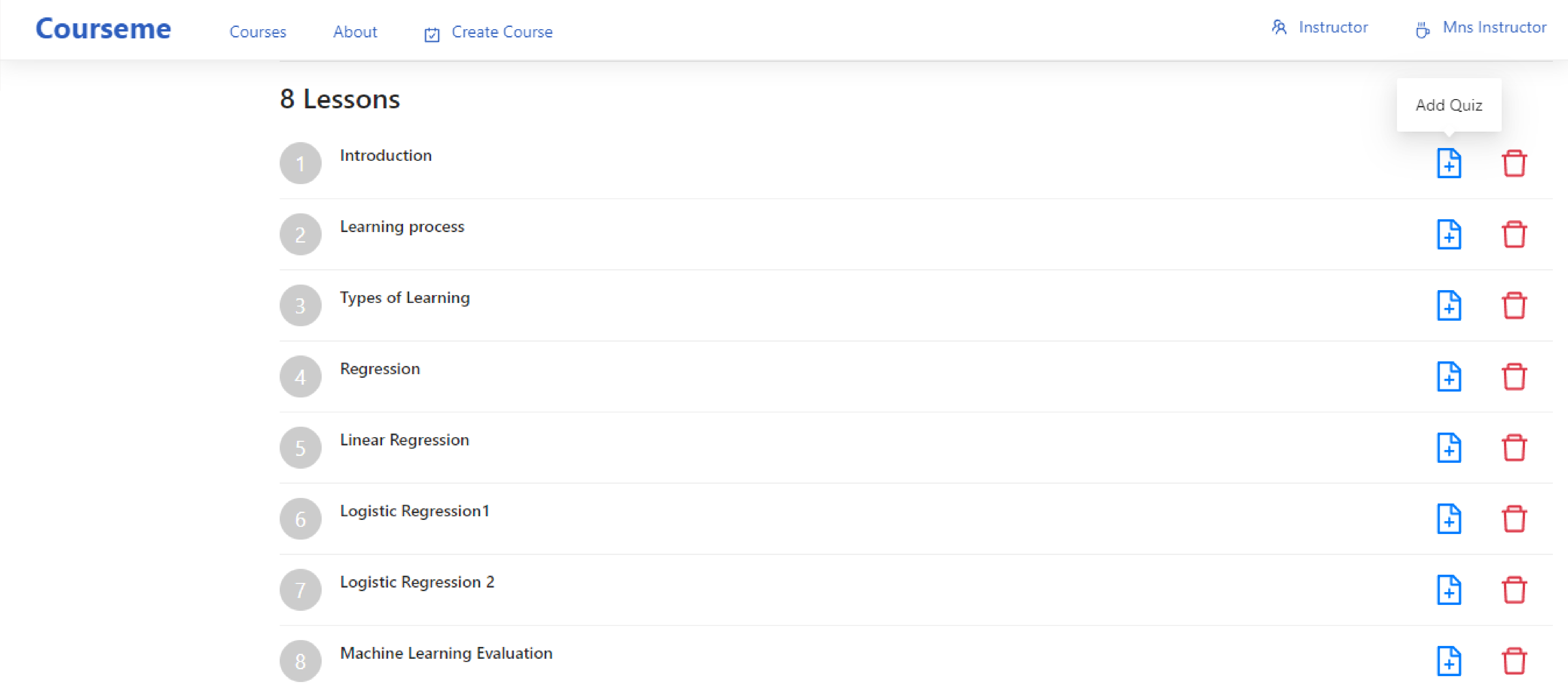
Machine Learning

This course we will discuss about:□ introduction to Machine Learning □ Learning process□ types of learning□ Regression□ Linear Regression.□ Logistic Regression□ ML Evaluation□ Decision Trees.□ Random forest.□ Clustering, KNN, □ K-means Clustering.□ Dimensionality Reduction and Example (PCA)□ Support Vector Machine (SVM).□ Reinforcement Learning and Cross Validation.□ Different Deep Learning Models.

8 Lessons

1 Introduction
2 Learning process
3 Types of Learning
4 Regression
5 Linear Regression

Create quiz



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1 Introduction

2 Learning process

3 Types of Learning

4 Regression

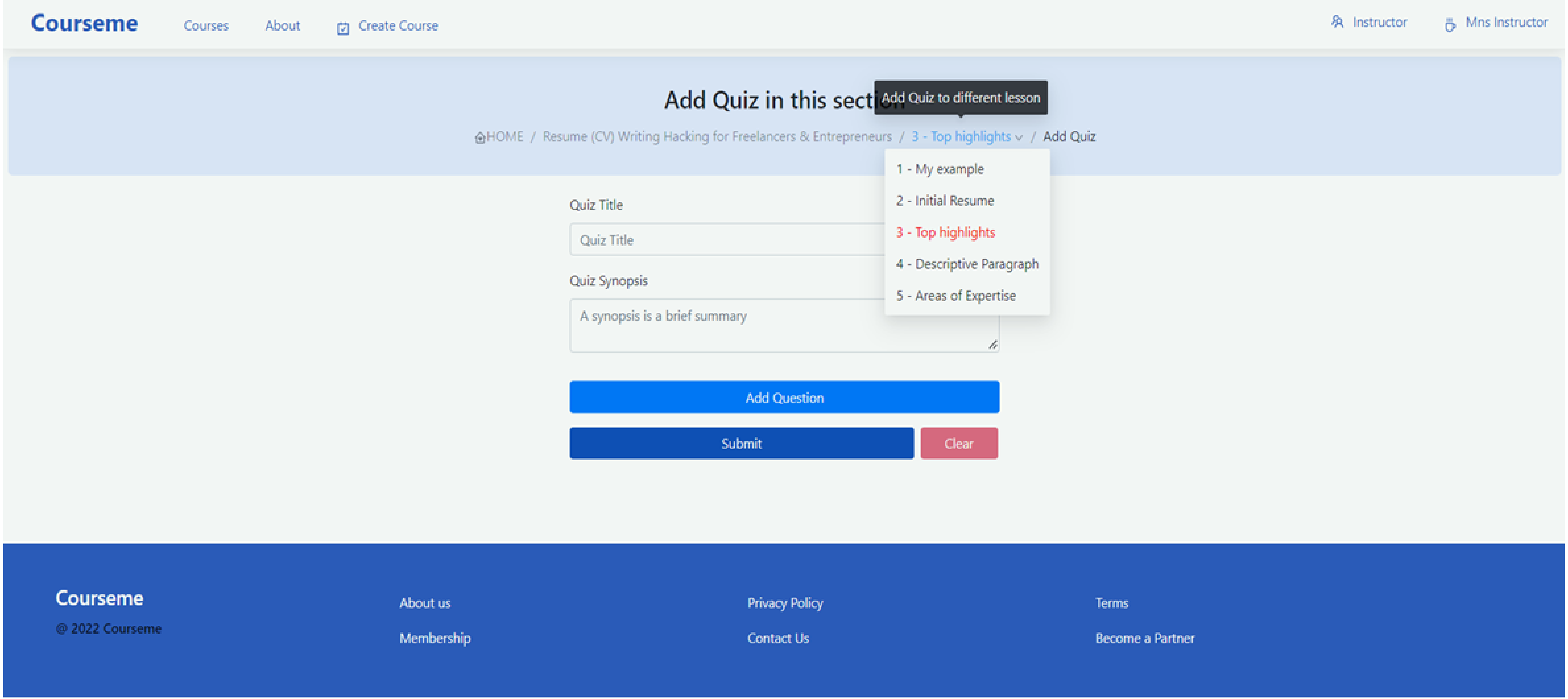
5 Linear Regression

6 Logistic Regression1

7 Logistic Regression 2

8 Machine Learning Evaluation

Create quiz



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Add Quiz in this section

Add Quiz to different lesson

HOME / Resume (CV) Writing Hacking for Freelancers & Entrepreneurs / 3 - Top highlights / Add Quiz

1 - My example
2 - Initial Resume
3 - Top highlights
4 - Descriptive Paragraph
5 - Areas of Expertise

Quiz Title

Quiz Title

Quiz Synopsis

A synopsis is a brief summary

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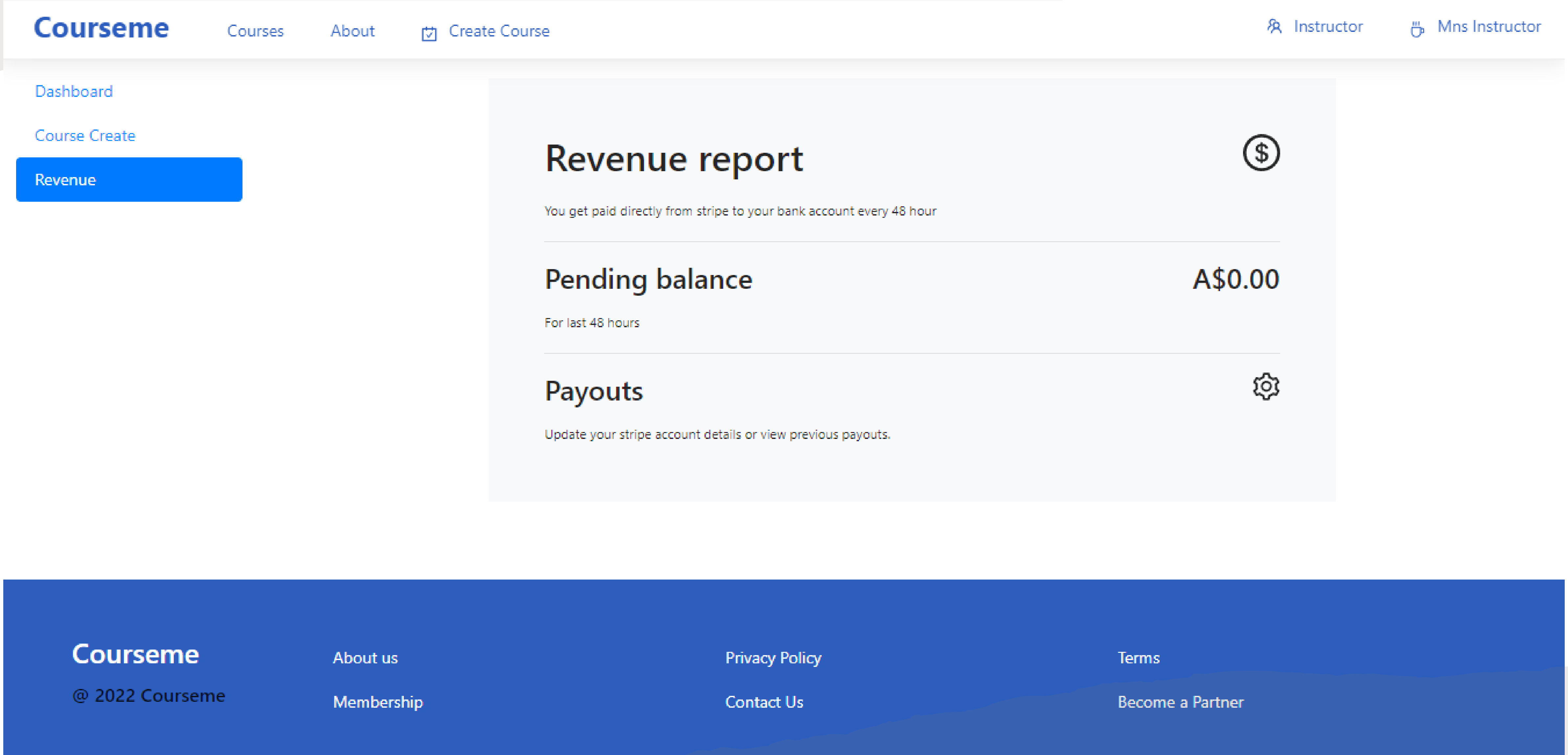
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You get paid directly from stripe to your bank account every 48 hour

Pending balance A$0.00

For last 48 hours

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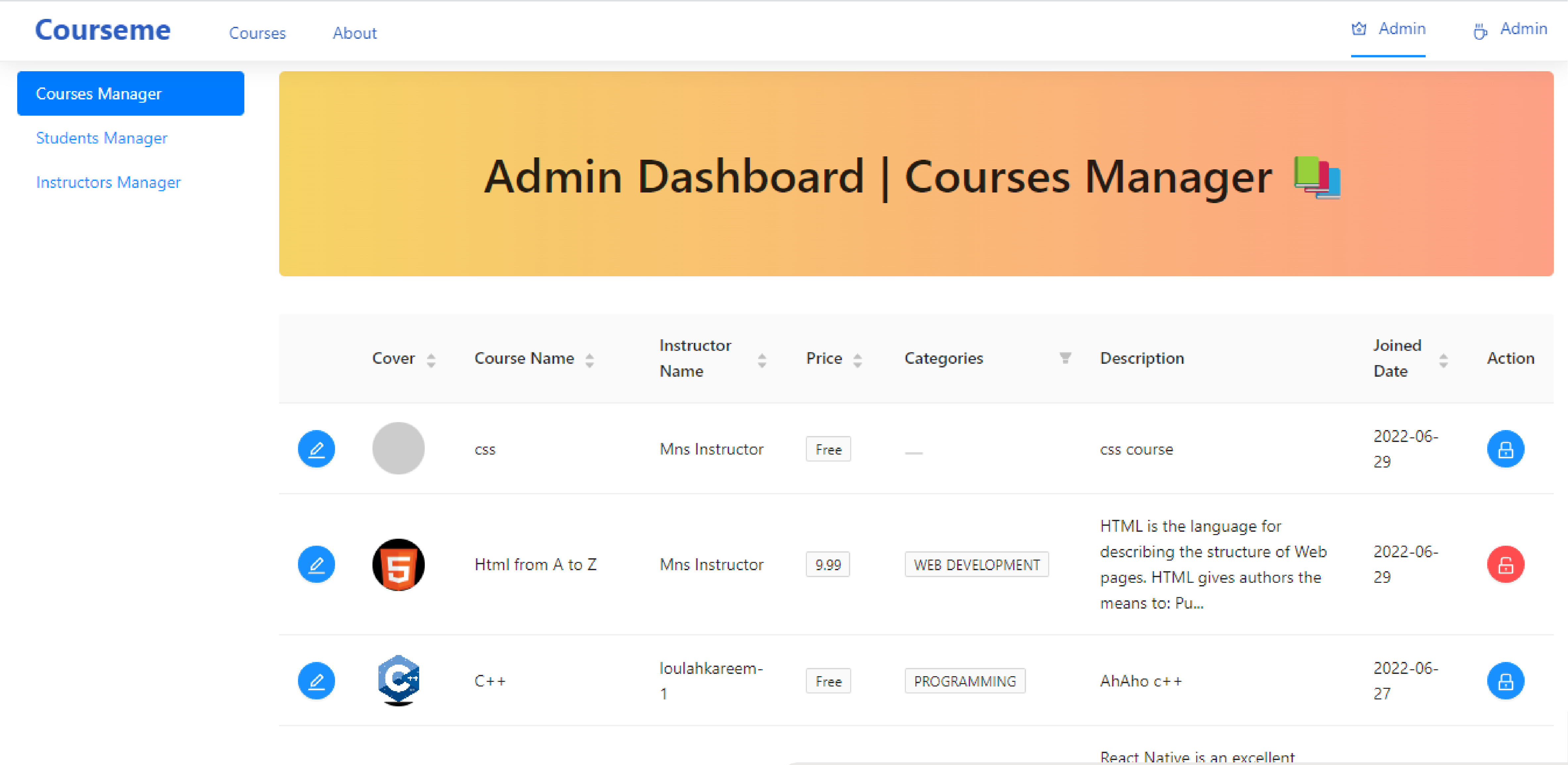
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✎		css	Mns Instructor	Free	—	css course	2022-06-29	🔒
✎		Html from A to Z	Mns Instructor	9.99	WEB DEVELOPMENT	HTML is the language for describing the structure of Web pages. HTML gives authors the means to: Pu...	2022-06-29	🔓
✎		C++	loulahkareem-1	Free	PROGRAMMING	AhAho c++	2022-06-27	🔒
						React Native is an excellent		

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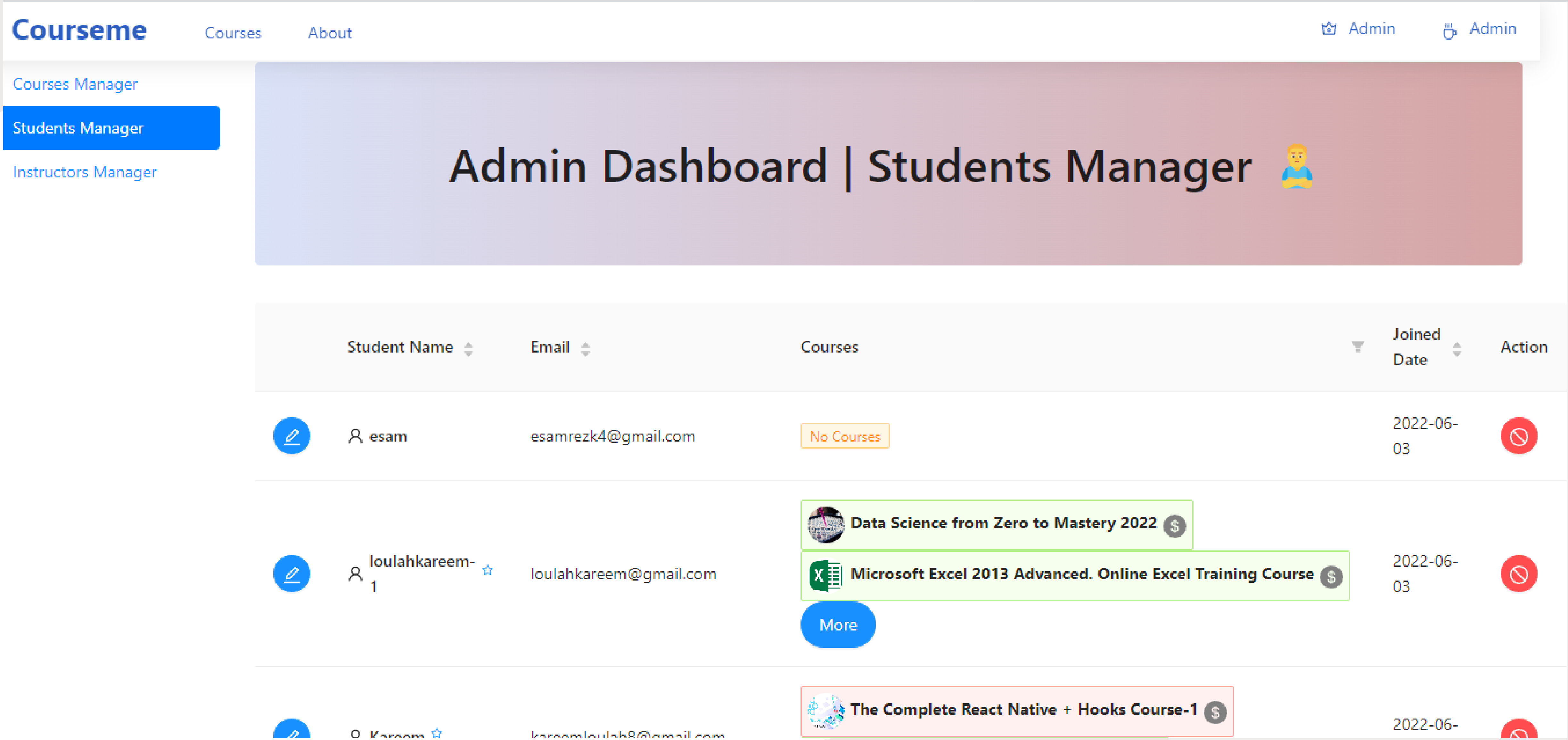

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	esam	esamrezk4@gmail.com	No Courses	2022-06-03	
	loulahkareem-1 ☆	loulahkareem@gmail.com	Data Science from Zero to Mastery 2022 $ Microsoft Excel 2013 Advanced. Online Excel Training Course $ More	2022-06-03	
	Kareem ☆	kareemloulah8@gmail.com	The Complete React Native + Hooks Course-1 $	2022-06-	

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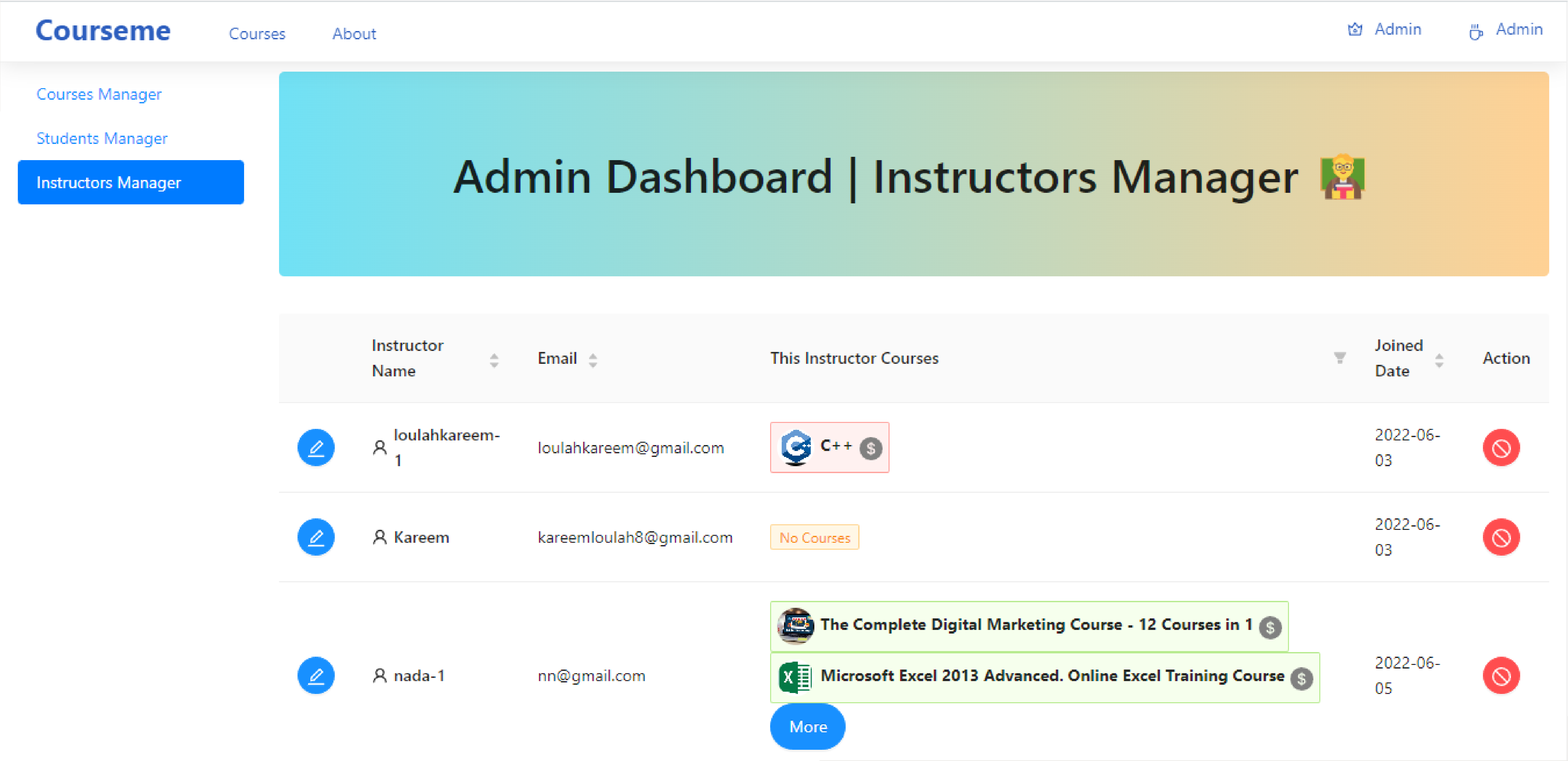

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	loulahkareem-1	loulahkareem@gmail.com	C++ $	2022-06-03	
	Kareem	kareemloulah8@gmail.com	No Courses	2022-06-03	
	nada-1	nn@gmail.com	The Complete Digital Marketing Course - 12 Courses in 1 $ Microsoft Excel 2013 Advanced. Online Excel Training Course $ More	2022-06-05	

Demo Video

Future Work

- Add live streaming
- Quizzes AI
- Recommendation by rating
- AI analysis for courses

References

https://reactjs.org/

https://nextjs.org/learn/foundations/about-nextjs/what-is-nextjs

https://ant.design/

https://getbootstrap.com/

https://nodejs.org/en/

https://en.wikipedia.org/wiki/MongoDB

https://stripe.com/

Thank you .. 🙏