

AN-NAJAH NATIONAL UNIVERSITY



s

FACULTY OF ENGINEERING AND INFORMATION TECHNOLOGY COMPUTER
ENGINEERING DEPARTMENT

Graduation Project I

ProgZone

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Disclaimer Statement

This study was written by Ala'a Salah Abu Ghdaib and Eyad Amjad Alhasan, students in the Computer Engineering Department at An-Najah National University. It is important to note that there may be grammatical or informational errors within the study. The views expressed in this study do not represent those of An-Najah National University, and the university is not liable for any misuse of this study outside its intended purpose.

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Disclaimer Statement

1 Abstract

Welcome to ProgZone, a vibrant and interactive platform designed to ignite your passion for programming. Our mission is to provide an engaging and flexible learning environment where users can enhance their coding skills and explore new programming languages.

At ProgZone, we recognize the growing demand for accessible and high-quality programming education. Our platform offers a comprehensive range of courses tailored to various proficiency levels and interests, from web development to data science and game development. Each course is meticulously crafted with detailed descriptions, captivating images, and clear pricing, ensuring users can find the perfect fit for their learning needs.

ProgZone is more than just a course catalog; it's a community. We cater to three types of users: administrators, instructors, and learners, each with unique privileges and functionalities. Whether you're managing the platform, teaching, or learning, ProgZone provides the tools you need to succeed. One of our standout features is the ability to request private tutoring. Users can schedule one-on-one sessions with experienced instructors, specifying their preferred date and time, to receive personalized guidance and support. This feature ensures that learners get the attention they need to overcome challenges and achieve their goals.

Our platform also includes a built-in compiler, allowing users to practice coding in various languages directly on the site. Instant feedback and results help reinforce learning and provide a hands-on experience that is crucial for mastering programming concepts.

Communication is key to a supportive learning environment, and our chat feature facilitates interaction between users. Whether you're seeking advice, collaboration, or simply sharing ideas, ProgZone's chat functionality fosters a sense of community and collaboration.

To celebrate learners' achievements, ProgZone offers certificates upon course completion. After successfully passing a quiz, students receive a certificate recognizing their hard work and dedication, which they can proudly showcase to potential employers and peers.

ProgZone represents the culmination of our academic journey, utilizing a robust tech stack that includes React Native for the frontend, and Django with the Rest framework for the backend. This powerful combination ensures a seamless, responsive, and dynamic user experience.

Join us at ProgZone and take the first step towards unlocking your full potential in the world of programming. Your journey to becoming a proficient coder starts here.

2 Introduction

2.1 Motivation

The inception of the "ProgZone" project was driven by a profound recognition of the growing need for accessible and high-quality programming education in our digital age. With technology advancing rapidly, the demand for proficient programmers has surged, making it essential for individuals to have access to effective and flexible learning resources. Factors such as geographical limitations, high costs, and rigid schedules often hinder individuals from pursuing traditional in-person courses. The motivation behind developing the "ProgZone" platform was to overcome these barriers and provide a user-friendly, digital space where aspiring programmers can learn and grow at their own pace. Our commitment is to enhance programming education by leveraging technology to create an engaging, interactive, and supportive learning environment. ProgZone aims to provide a comprehensive range of courses for various programming languages and proficiency levels, catering to the diverse needs of our users. The platform is designed to foster a community of learners, instructors, and administrators, each with specific roles and functionalities to ensure a seamless experience. With features like private tutoring, a built-in compiler, and interactive chat capabilities, ProgZone offers a holistic approach to learning that transcends traditional boundaries. Furthermore, to acknowledge and celebrate the achievements of our learners, ProgZone provides certificates upon successful completion of courses and quizzes. This not only validates their skills but also enhances their employability in the competitive job market. Ultimately, ProgZone is driven by a dedication to making programming education more accessible, inclusive, and impactful. Our goal is to empower individuals to acquire the skills they need to succeed in the ever-evolving tech landscape and to contribute positively to the global programming community.

2.2 Project objectives

The objective of ProgZone is to build a seamless platform connecting aspiring programmers with high-quality programming education effortlessly. It encompasses interfaces for administrators, instructors, and learners, enabling flexible course selections and personalized tutoring requests. The platform also integrates innovative features like a built-in compiler and interactive chat, streamlining administrative tasks and enhancing the learning experience. ProgZone prioritizes user-friendliness, accessibility, and security, aiming to revolutionize programming education and empower individuals to excel in the tech industry.

2.3 Scope of the work

The scope of ProgZone extends to providing a flexible and user-centric platform for aspiring programmers. It aims to empower users to explore various programming languages and courses, enabling them to make informed decisions based on their interests and skill levels. The project encompasses the development of a comprehensive online environment through both website and mobile application interfaces, ensuring accessibility and choice in accessing personalized programming education services.

2.4 Organization

This report has organized as follows:

- **Chapter one:** Overview about objectives and importance of this project.
- **Chapter two:** the description for constraints, standards
- **Chapter three:** Literature Review.
- **Chapter four:** Followed methodology for the implementation of the project.
- **Chapter five:** Result and Discussion.
- **Chapter six:** summarize the report, and provide information about future work.

3 Constraints, Standards and Earlier Course- work

3.1 Constraints Limitations

- ProgZone encountered time constraints, leading us to prioritize essential features to meet project deadlines effectively. Integrating the React web frontend, React Native mobile frontend, and Django backend with the same database posed challenges that we diligently worked through.

3.2 Standards

- Frontend: Web Interface: React, Mobile Interface: React Native
- Backend: Django

3.3 Earlier coursework

We have acquired our knowledge of programming languages through various courses we have taken at the university, including web development and database courses, as well as online courses. Additionally, we have learned proper coding practices.

4 Literature Review

In the evolving realm of programming education, the intersection of technology and learning platforms has significantly influenced the landscape, placing a strong emphasis on online platforms and mobile applications. The integration of web-based services and mobile interfaces within the programming education domain has emerged as a potent strategy, promising enhanced accessibility and increased user engagement. Extensive research into online learning has highlighted its effectiveness, establishing it as a compelling alternative to traditional classroom settings, particularly for individuals facing barriers to in-person education. Concurrently, the proliferation of educational apps has enriched the field with a variety of tools and resources, though it has also encountered challenges related to user engagement. Amidst this dynamic environment, the ProgZone project takes center stage, ambitiously aiming to seamlessly connect learners with high-quality programming education through a unified web and mobile interface. This innovative endeavor not only leverages the documented benefits of online learning but also harnesses the convenience and ubiquity inherent in mobile applications. By adeptly combining these aspects, the project endeavors to provide users with a comprehensive and easily accessible programming education platform. As online learning continues to evolve, ProgZone represents a significant contribution, offering a holistic approach that emphasizes the synergy between online learning and mobile applications for the advancement of programming education services.

Consideration of ethical and privacy concerns remains crucial in this digital education landscape, necessitating a thorough understanding of user data protection and informed consent. ProgZone is committed to addressing these considerations, ensuring the project adapts to users' evolving needs while upholding ethical standards and data security.

5 Methodology

5.1 Tools, Methods and programming Languages

5.1.1 programming language

- A. React was employed for the frontend, ensuring a responsive and dynamic user interface. React Native powered the mobile frontend, providing a native experience across different devices.
- B. Django served as the backend framework, facilitating robust server-side operations and data management.

This combination of React, React Native, and Django allowed us to create a versatile and efficient system that delivers a seamless experience for users across web and mobile platforms.

5.1.2 Tools

- i. React
- ii. React Native
- iii. Visual Studio Code
- iv. SQLite

To test the functionality of our ProgZone project, we utilized an emulator designed to simulate a REST API environment. A REST API, structured on the principles of the REST architecture, facilitates communication through HTTP requests, enabling essential CRUD operations like creating, reading, updating, and deleting data. Leveraging a REST API allowed seamless access to our SQLite database, enabling efficient interaction with necessary data. This approach provided us with a flexible and effective method for testing and validating the functionalities of our project.

5.1.3 Database

In developing ProgZone, we chose to utilize a SQLite database, which is a lightweight, SQL-based database. While SQLite supports SQL operations and relational data, it is flexible and can be used in various applications without the complexity of a traditional client-server database.

- **Custom User:** Each user has their unique account in the database.

	<code>id</code> INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT	<code>password</code> varchar(128) NOT NULL	<code>username</code> varchar(150) NOT NULL UNIQUE	<code>email</code> varchar(254) NOT NULL	<code>city</code> varchar(30)	<code>country</code> varchar(30)	<code>street</code> varchar(30)	<code>gender</code> varchar(10)	<code>phone_number</code> varchar(30)	+
17	71	pbkdf2_sha256\$60000...	LaylaAhmed	layla.ahmed@example...	Dubai	UAE	Sheikh Zayed Road	Female	+971 50 123 4567	
18	72	pbkdf2_sha256\$72000...	JamilahQamar	jamilah.qamar@examp...	Abu Dhabi	UAE	Crescent Avenue	Female	+971 50 123 4567	
19	73	pbkdf2_sha256\$60000...	RiyadSuhayl	riyad.suhayl@examp...	Jeddah	Saudi Arabia	Roman Road	Male	+966 50 987 6543	
20	74	pbkdf2_sha256\$72000...	JawahirQais	jawahir.qais@examp...	Sharjah	UAE	Pearl Boulevard	Female	+971 50 123 4567	
21	75	pbkdf2_sha256\$72000...	IlyasRahma	ilyas.rahma@example...	Alexandria	Egypt	Pharos Street	Male	+20 12 3456 7890	
22	76	pbkdf2_sha256\$72000...	LinaSaqr	lina.saqr@example.c...	Aqaba	Jordan	Coral Street	Female	+962 7 8765 4321	
23	77	pbkdf2_sha256\$72000...	FarahZuhair	farah.zuhair@examp...	Nizwa	Oman	Date Palm Lane	Female	+968 92 345 678	
24	78	pbkdf2_sha256\$60000...	BilalSana	bilal.sana@example...	Mosul	Iraq	Tigris River Street	Male	+964 790 876 5432	
25	79	pbkdf2_sha256\$72000...	NouraAsim	noura.asim@example...	Manama	Bahrain	Financial Harbour A...	Female	+973 39 876 543	
26	80	pbkdf2_sha256\$72000...	AminahQasim	aminah.qasim@examp...	Fujairah	UAE	Coral Coast Road	Female	+971 50 123 4567	
27	81	pbkdf2_sha256\$60000...	NadiaTariq	nadia.tariq@examp...	Tabuk	Saudi Arabia	Mountain View Drive	Female	+966 50 987 6543	
28	82	pbkdf2_sha256\$60000...	YusufJalil	yusuf.jalil@examp...	Ramallah	Palestine	Al-Irsal street	Male	+972 59 345 678	
29	83	pbkdf2_sha256\$60000...	AmiraKhaled	amira.khaled@examp...	Jounieh	Lebanon	Bayview Avenue	Female	+961 3 987 654	

Figure 1: CustomUserDB

- **Student:** Students are provided with their individual accounts.

	<code>id</code> INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT	<code>user_id</code> bigint NOT NULL UNIQUE REFERENCES <code>User_customuser</code> (<code>id</code>)	+
1	29	45 password...	
2	30	46 password...	
3	31	47 password...	
4	36	71 password...	
5	37	72 password...	
6	38	73 password...	
7	39	74 password...	
8	40	75 password...	
9	41	76 password...	
10	42	77 password...	
11	43	78 password...	
12	44	79 password...	
13	45	80 password...	
14	46	81 password...	
15	47	82 password...	
16	48	83 password...	
			+

Figure 2: StudentDB

- **Instructor:** Every Instructor has his own account.

	id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT	bio TEXT	user_id bigint NOT NULL UNIQUE REFERENCES User_customuser(id)	category_id bigint REFERENCES Category_category(id) idx	+
1	4		49 password: 'pbkdf...	1 name: 'Web Development'	
2	5		50 password: 'pbkdf...	2 name: 'Mobile Development'	
3	13	Ahmad Masri is a hi...	63 password: '12345...	2 name: 'Mobile Development'	
4	14	Maha Kilani is a se...	64 password: '12345...	5 name: 'Programming Languages'	
5	15	Amr Shahin is an ex...	65 password: '12345...	6 name: 'Database Design & Development'	
6	16	Ibrahim Hussien is ...	66 password: '12345...	8 name: 'Software Development Tools'	
7	17	Amal Hijawi is a di...	67 password: '12345...	3 name: 'Game Development'	
8	18	Lana Takrouiri, born...	68 password: '12345...	4 name: 'Data Science'	
9	19	Yaqeen Tubasi is a ...	69 password: '12345...	7 name: 'Software Testing'	
10	20	Mohammad Baqa is a ...	70 password: '12345...	1 name: 'Web Development'	
+					

Figure 3: InstructorDB

- **Course:** Any Student can buy any course needed.

	id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT	title varchar(200) NOT NULL	description TEXT NOT NULL	created_by_id bigint REFERENCES Employee_employee(id) idx	price decimal NOT NULL ↑	imageURL varchar(100)	videoFile varchar(100)	category_id bigint REFERENCES Category_category(id) idx	demo varchar(100)	average_rank REAL	+
1	11	Gitbub	Gitbub is a web-bas...	16 bio: 'Ibrahim Hu...	10	Course/course...	Course/course-video...	8 name: 'Software D...	Course/course-video...	4.9	
2	14	SQL	SQL (Structured Que...	15 bio: 'Amr Shahin...	15	Course/course...	Course/course-video...	6 name: 'Database D...	Course/course-video...	4.7	
3	10	Java	Java is a popular...	14 bio: 'Maha Kilan...	20	Course/course...	Course/course-video...	5 name: 'Programming...	Course/course-video...	4.1	
4	12	Software-Testing	Software testing is...	19 bio: 'Yaqeen Tub...	20	Course/course...	Course/course-video...	7 name: 'Software T...	Course/course-video...	3.8	
5	13	PostgreSQL	PostgreSQL, often r...	15 bio: 'Amr Shahin...	20	Course/course...	Course/course-video...	6 name: 'Database D...	Course/course-video...	4.5	
6	7	Python	Python is a high-le...	14 bio: 'Maha Kilan...	30	Course/course...	Course/course-video...	5 name: 'Programming...	Course/course-video...	3.9	
7	4	Introduction to Flu...	Flutter is an open...	13 bio: 'Ahmad Masr...	35	Course/course...	Course/course-video...	2 name: 'Mobile Dev...	Course/course-video...	4.8	
8	9	Machine-Learning	A machine learning ...	18 bio: 'Lana Takro...	35	Course/course...	Course/course-video...	4 name: 'Data Scien...	Course/course-video...	4.3	
9	15	kotlin	Kotlin, a modern pr...	17 bio: 'Amal Hijaw...	35	Course/course...	Course/course-video...	3 name: 'Game Devel...	Course/course-video...	0.0	
10	5	React-Native	React Native is an ...	5 bio: '' user_id:4...	41	Course/course...	Course/course-video...	2 name: 'Mobile Dev...	Course/course-video...	4.0	
11	25	Html & Css & JS	Dive into the world...	20 bio: 'Mohammad B...	50	Course/course...	Course/course-video...	1 name: 'Web Develo...	Course/course-video...	4.7	
12	8	React	React is an open-so...	4 bio: '' user_id:4...	55	Course/course...	Course/course-video...	1 name: 'Web Develo...	Course/course-video...	4.0	
13	24	Angular	Unlock the full pot...	4 bio: '' user_id:4...	70	Course/course...	Course/course-video...	1 name: 'Web Develo...	Course/course-video...	4.1	
+											

Figure 4: CourseDB

- **Meeting:** any student can schedule a meeting with the instructors.

	id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT	date_time datetime NOT NULL	message TEXT NOT NULL	student_id bigint NOT NULL REFERENCES Student_stude nt(id) idx ¹	is_readed bool NOT NULL	accepted bool NOT NULL	created_on datetime	+
1	69	2024-05-05 09:00:00	bussy	29 Level:...	1	0	2024-05-07 16:52:00...	
2	70	2024-05-06 09:00:00	ok	29 Level:...	1	1	2024-05-07 16:52:46...	
3	71	2024-05-11 09:00:00		29 Level:...	1	1	2024-05-07 18:18:32...	
4	72	2024-05-11 09:00:00		29 Level:...	1	0	2024-05-07 18:28:34...	
5	73	2024-05-10 09:00:00		29 Level:...	1	1	2024-05-07 18:31:37...	
6	74	2024-05-10 09:00:00		29 Level:...	1	0	2024-05-07 18:31:39...	
7	75	2024-05-09 09:00:00		29 Level:...	1	1	2024-05-07 18:32:13...	
8	76	2024-05-08 09:00:00	i'm free	29 Level:...	1	1	2024-05-07 18:47:45...	
9	77	2024-05-19 09:00:00	BUSSY	29 Level:...	1	0	2024-05-19 11:17:03...	
10	78	2024-05-19 09:00:00	BUSSY	29 Level:...	1	0	2024-05-19 11:17:03...	
11	79	2024-06-23 21:45:00	I'm free at this ti...	48 Level:...	1	1	2024-06-22 23:32:09...	
+								

Figure 5: MeetingDB

- **Comment:** Each Student can add comment.

	id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT	text TEXT NOT NULL	created_at datetime NOT NULL	course_id bigint NOT NULL REFERENCES Course_course(id) idx ²	user_id bigint NOT NULL REFERENCES User_customuser(id) idx ¹	+
1	1	nice course	2024-04-08 18:16:43...	4 title: 'Introduct...	1 password: 'pbkdf2...	
2	2	awesome course	2024-04-09 02:15:08...	4 title: 'Introduct...	45 password: 'pbkdf...	
3	3	i liked this course	2024-04-09 02:16:40...	4 title: 'Introduct...	46 password: 'pbkdf...	
4	8	nice	2024-05-01 14:06:34...	9 title: 'Machine-...	45 password: 'pbkdf...	
5	9	nice course	2024-05-13 23:21:56...	5 title: 'React-Na...	45 password: 'pbkdf...	
6	12	Nice Course !	2024-06-18 17:06:36...	4 title: 'Introduct...	1 password: 'pbkdf2...	
7	13	Good !	2024-06-18 17:08:21...	4 title: 'Introduct...	46 password: 'pbkdf...	
8	16	Nice Course !	2024-06-18 17:10:55...	24 title: 'Angular' ...	1 password: 'pbkdf2...	
9	17	Nice Course !	2024-06-18 17:11:28...	25 title: 'Html & C...	1 password: 'pbkdf2...	
10	18	Nice Course	2024-06-18 17:12:14...	15 title: 'kotlin' ...	1 password: 'pbkdf2...	
11	19	Nice Course !	2024-06-18 17:12:49...	10 title: 'Java' de...	1 password: 'pbkdf2...	
12	20	Nice Course !	2024-06-18 17:13:13...	7 title: 'Python' d...	1 password: 'pbkdf2...	
13	21	Nice Course !	2024-06-18 17:13:33...	13 title: 'PostgreS...	1 password: 'pbkdf2...	
14	22	Nice !	2024-06-18 17:13:51...	14 title: 'SQL' des...	1 password: 'pbkdf2...	
15	23	Nice ! i like it	2024-06-18 17:14:15...	12 title: 'Software...	1 password: 'pbkdf2...	
16	24	Good !	2024-06-18 17:14:36...	11 title: 'Github' ...	1 password: 'pbkdf2...	
17	25	Nice course, I'm no...	2024-06-22 21:18:11...	5 title: 'React-Na...	73 password: 'pbkdf...	
18	26	Awesome course.	2024-06-22 23:08:43...	8 title: 'React' de...	83 password: 'pbkdf...	
+						

Figure 6: CommentDB

	<code>id</code> INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT	<code>name</code> varchar(100) NOT NULL	+
1	1	Web Development	
2	2	Mobile Development	
3	3	Game Development	
4	4	Data Science	
5	5	Programing Languages	
6	6	Database Design & Development	
7	7	Software Testing	
8	8	Software Development Tools	
+			

Figure 7: CategoryDB

	<code>id</code> INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT	<code>message</code> TEXT	<code>created_at</code> datetime NOT NULL	<code>user_id</code> bigint NOT NULL REFER...	<code>is_read</code> bool NOT NULL	<code>accepted</code> bool NOT NULL	+
3	3	Your course React3 ...	2024-06-23 00:19:14...	50...	0	0	
+							

Figure 7: NotificationDB for Instructor

	<code>id</code> INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT	<code>title</code> varchar(200) NOT NULL	<code>description</code> TEXT NOT NULL	<code>course_id</code> bigint NOT NULL REFER...	+
1	42	React-Native	Welcome to the Reac...	5...	
2	43	React Quiz	This quiz is design...	8...	
3	44	Angular Quiz	This quiz is design...	24...	
+					

Figure 8: QuizDB

	<code>id</code> INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT	<code>date_time</code> datetime NOT NULL	<code>message</code> TEXT NOT NULL	<code>employee_id</code> bigint NOT NULL REFERENCES	<code>student_id</code> bigint NOT NULL REFERENCES	<code>is_readed</code> bool NOT NULL	<code>accepted</code> bool NOT NULL	<code>created_on</code> datetime	
1	69	2024-05-05 09:00:00	bussy	5...	29...	1	0	2024-05-07 16:52:00...	
2	70	2024-05-06 09:00:00	ok	5...	29...	1	1	2024-05-07 16:52:46...	
3	71	2024-05-11 09:00:00		5...	29...	1	1	2024-05-07 18:18:32...	
4	72	2024-05-11 09:00:00		5...	29...	1	0	2024-05-07 18:28:34...	
5	73	2024-05-10 09:00:00		5...	29...	1	1	2024-05-07 18:31:37...	
6	74	2024-05-10 09:00:00		5...	29...	1	0	2024-05-07 18:31:39...	

Figure 9: NotificationDB for Student

	<code>id</code> INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT	<code>text</code> TEXT NOT NULL	<code>type</code> varchar(2) NOT NULL	<code>quiz_id</code> bigint NOT NULL REFERENCES Quiz_quiz(id) idx	
7	44	How can you handle ...	MC	42 title: 'React-Na...	
8	45	How can you run a R...	MC	42 title: 'React-Na...	
9	46	What is the purpose...	MC	42 title: 'React-Na...	
10	47	Which command is us...	MC	42 title: 'React-Na...	
11	48	What does the key p...	MC	43 title: 'React Qu...	
12	49	What is the purpose...	MC	43 title: 'React Qu...	
13	50	Which of the follow...	MC	43 title: 'React Qu...	
14	51	How do you pass dat...	MC	43 title: 'React Qu...	
15	52	What is JSX?	MC	43 title: 'React Qu...	
16	53	Which method is use...	MC	43 title: 'React Qu...	

Figure 10: QuestionDB

	<code>id</code> INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT	<code>text</code> varchar(200) NOT NULL	<code>is_correct</code> bool NOT NULL	<code>question_id</code> bigint NOT NULL REFERENCES Quiz_question(id) idx	
7	82	B) react-native ini...	0	47 text: 'Which com...	
8	83	A) To manage global...	0	38 text: 'What is t...	
9	84	B) To handle side e...	0	38 text: 'What is t...	
10	85	C) To add state to ...	1	38 text: 'What is t...	
11	86	C) npx react-native...	1	47 text: 'Which com...	
12	87	A) Flatlist	1	42 text: 'Which com...	
13	88	D) react-native bui...	0	45 text: 'How can y...	
14	89	C) ListView	0	42 text: 'Which com...	
15	90	C) react-native sta...	0	45 text: 'How can y...	
16	91	D) Table	0	42 text: 'Which com...	

Figure 11: ChoiseDB

Student's Pages:

Sign up & sign in & Forgot password:

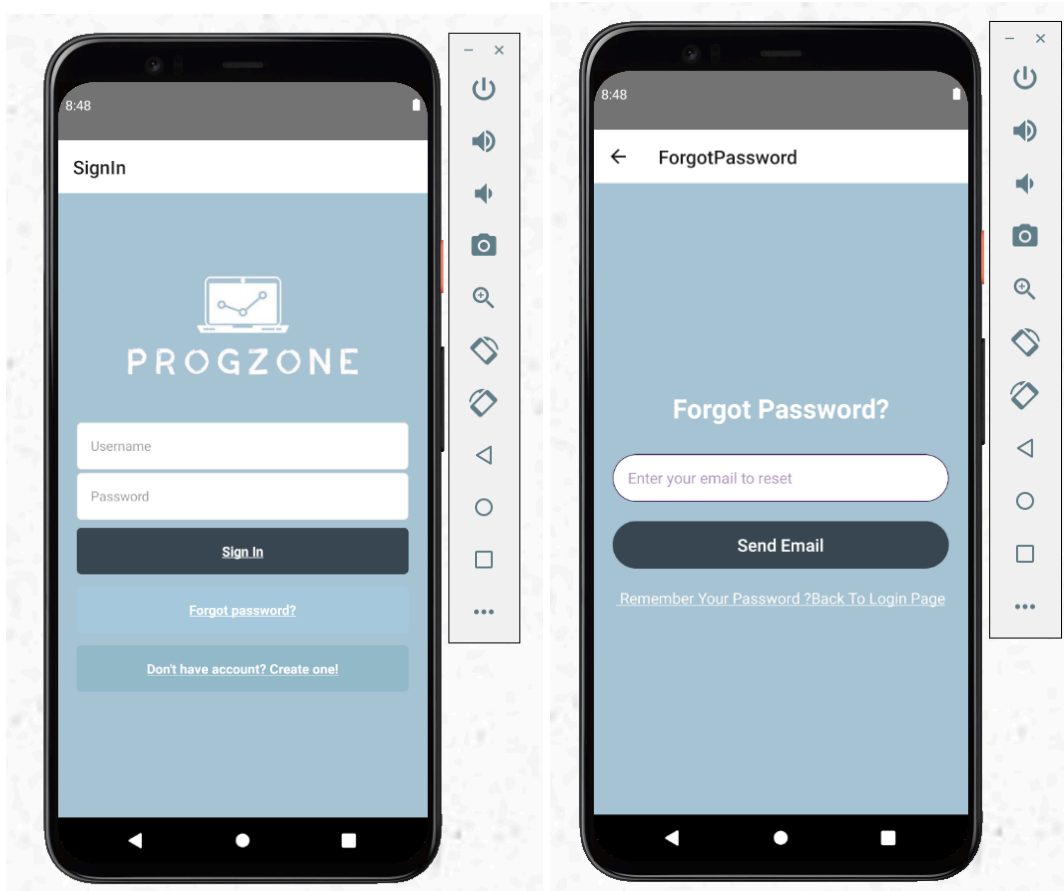


Figure 12 Sign in & Forgot password

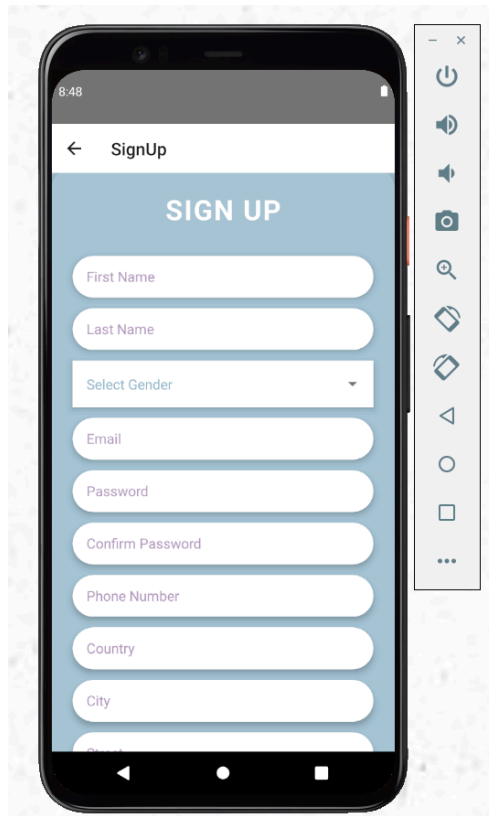


Figure 13: Sign up

Home Page:

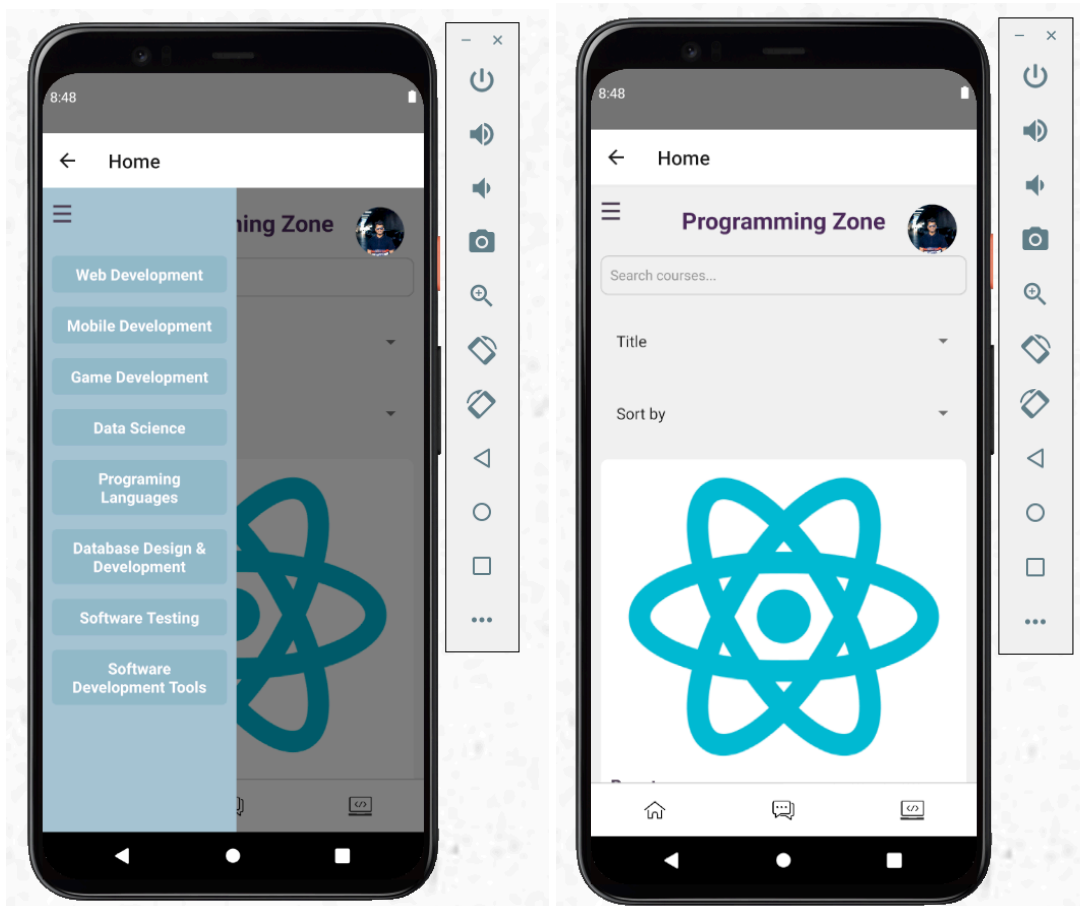


Figure 14: Home page

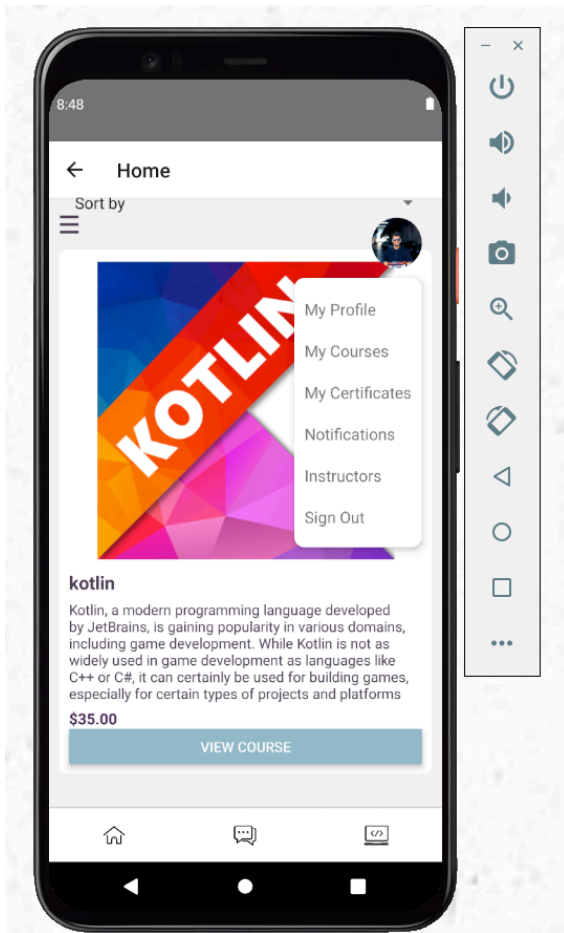
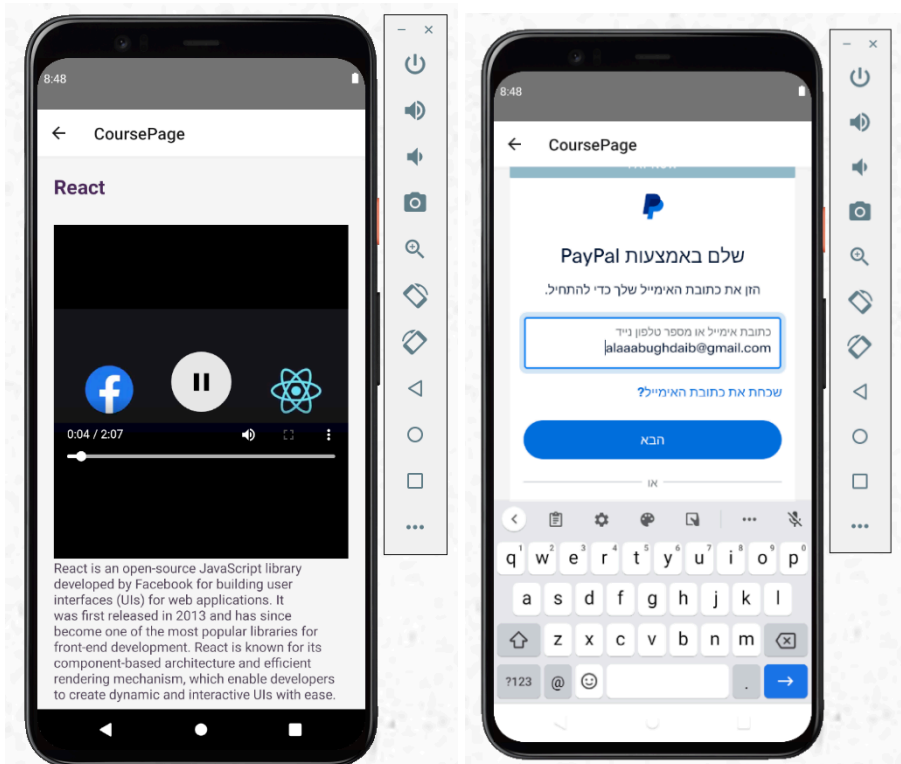


Figure 15: Course Details.

Pay a Course:



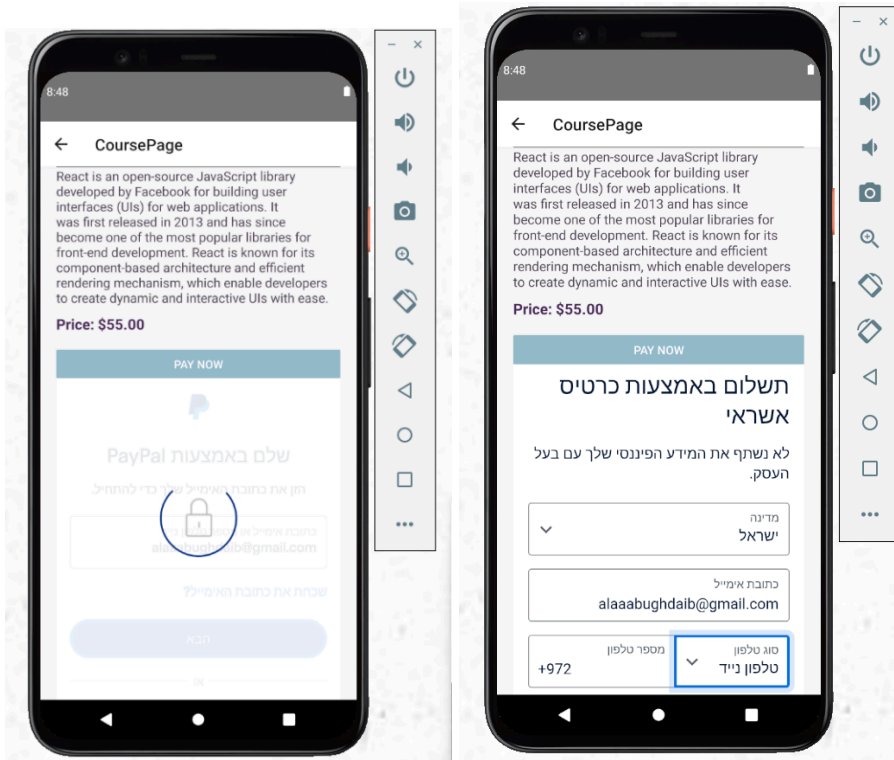


Figure 16: Payment

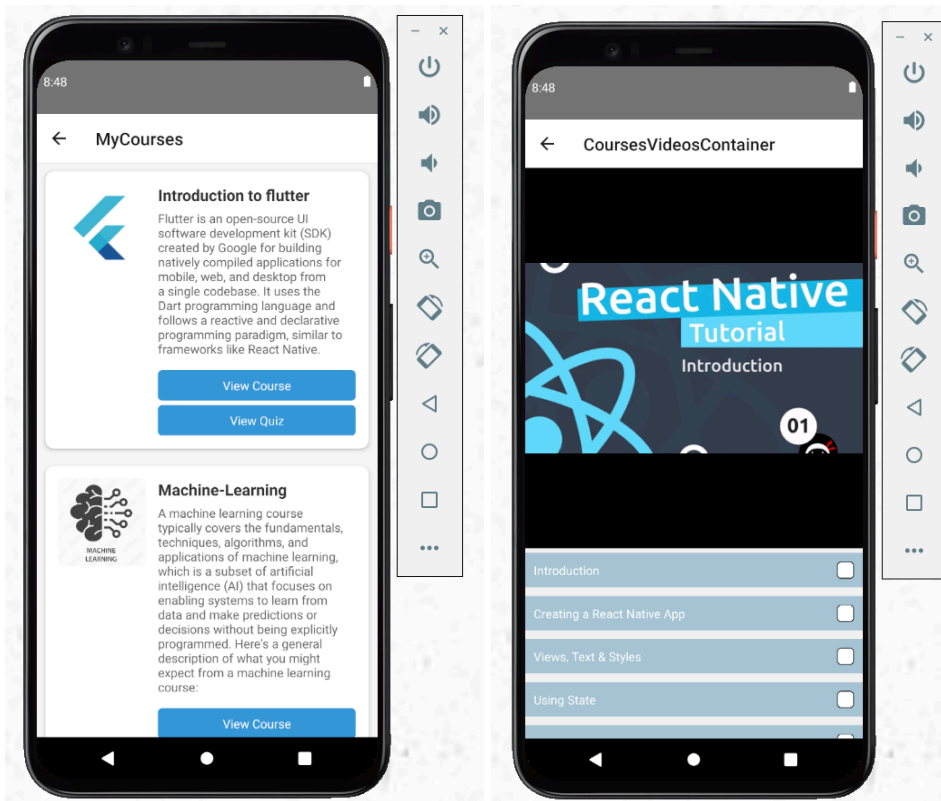


Figure 17: my courses(student)

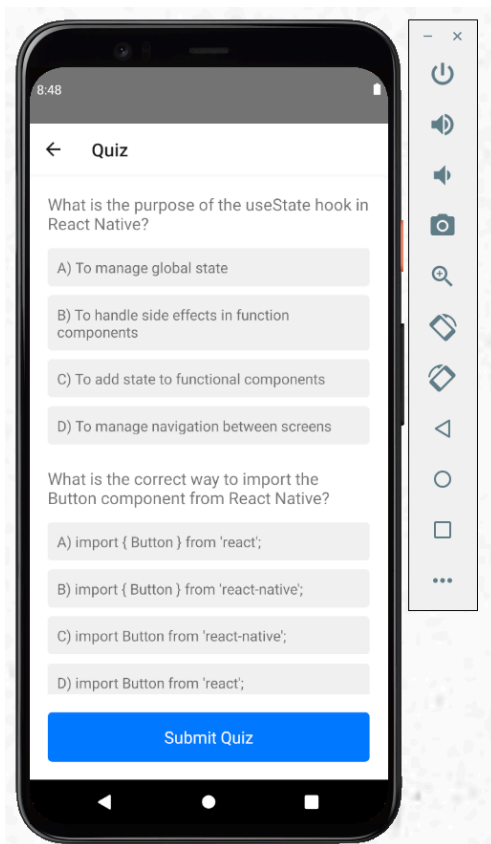


Figure 18: Quiz

Student Certificates:

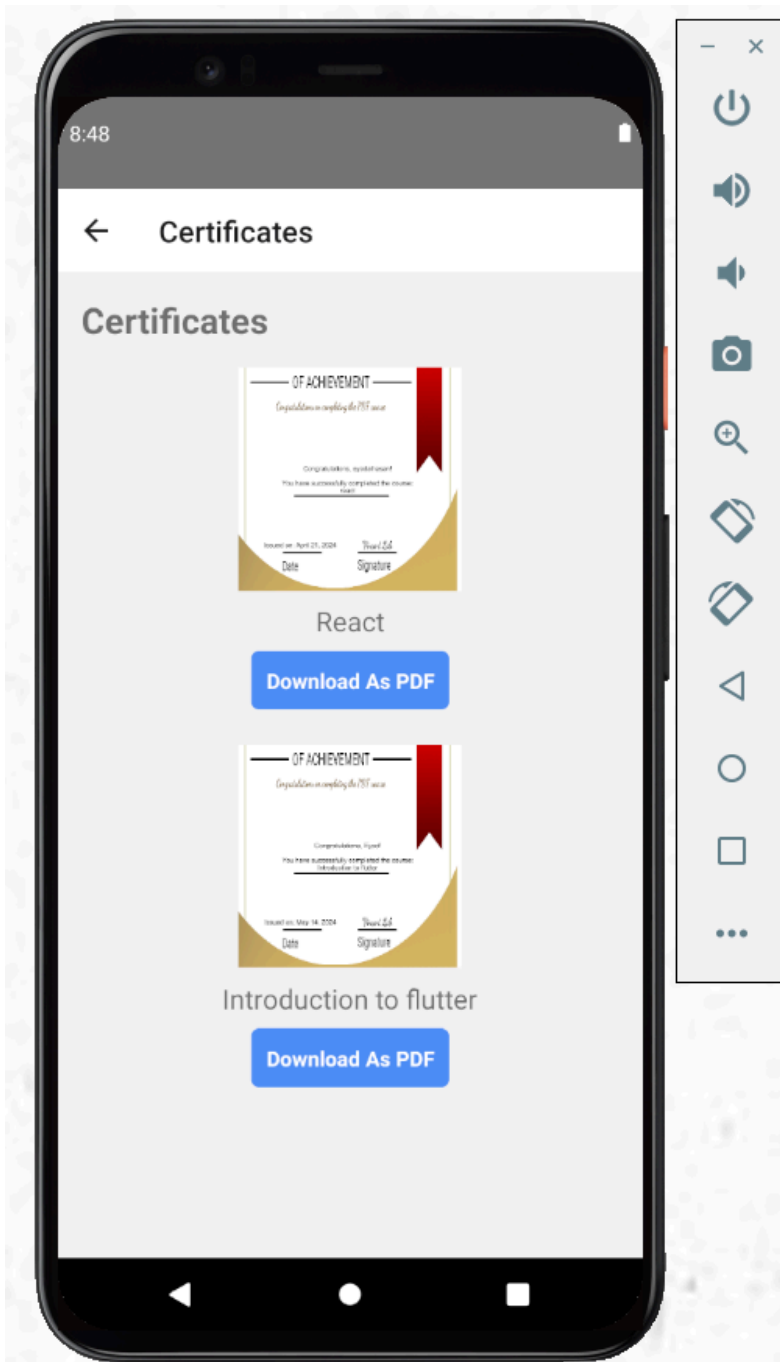


Figure 19: Certification

Notifications:

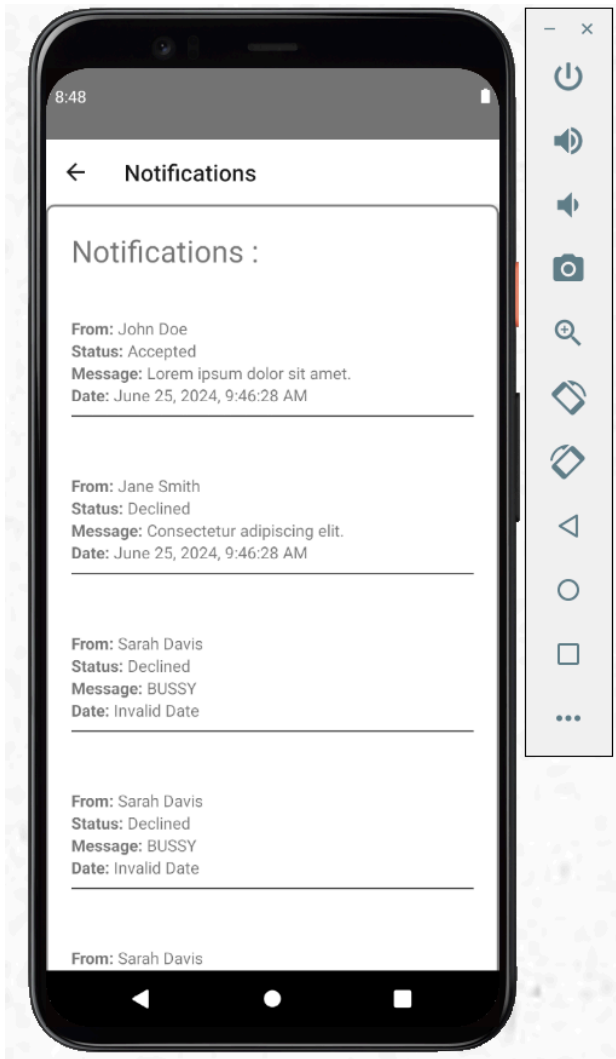


Figure 20: Notifications

Instructors:

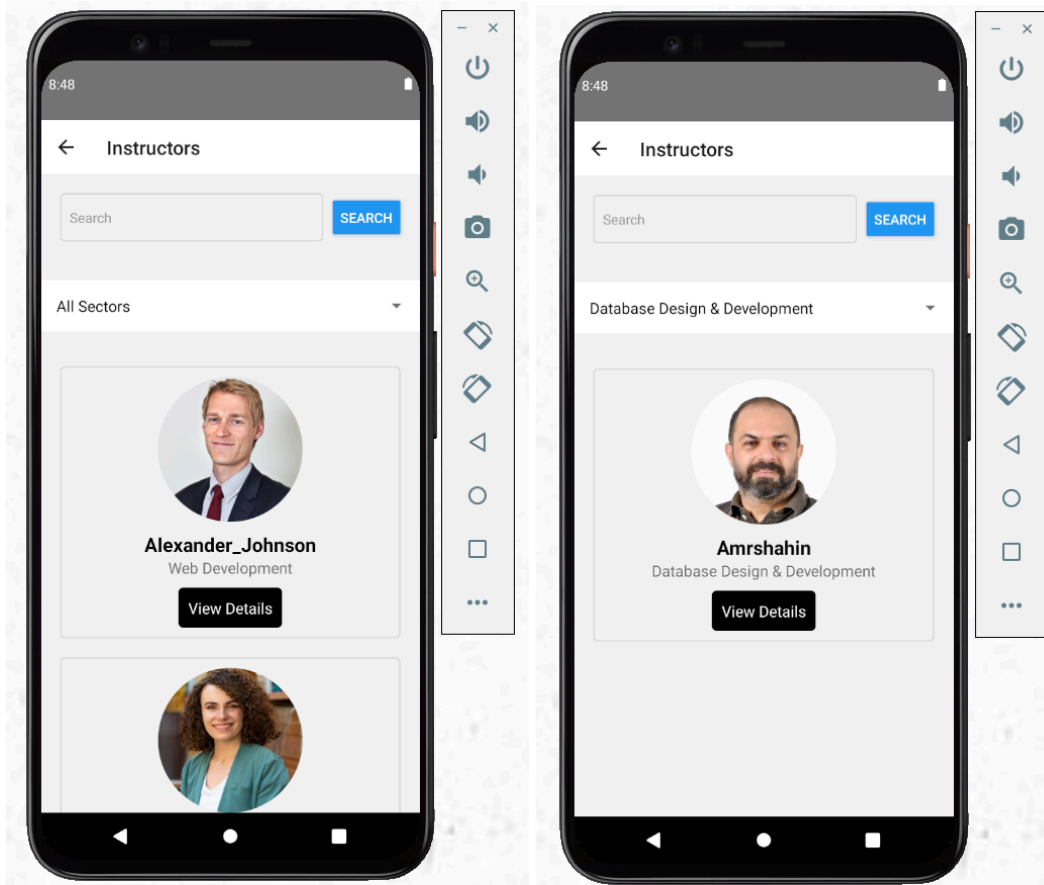


Figure 21: Instructors

Instructor Details:

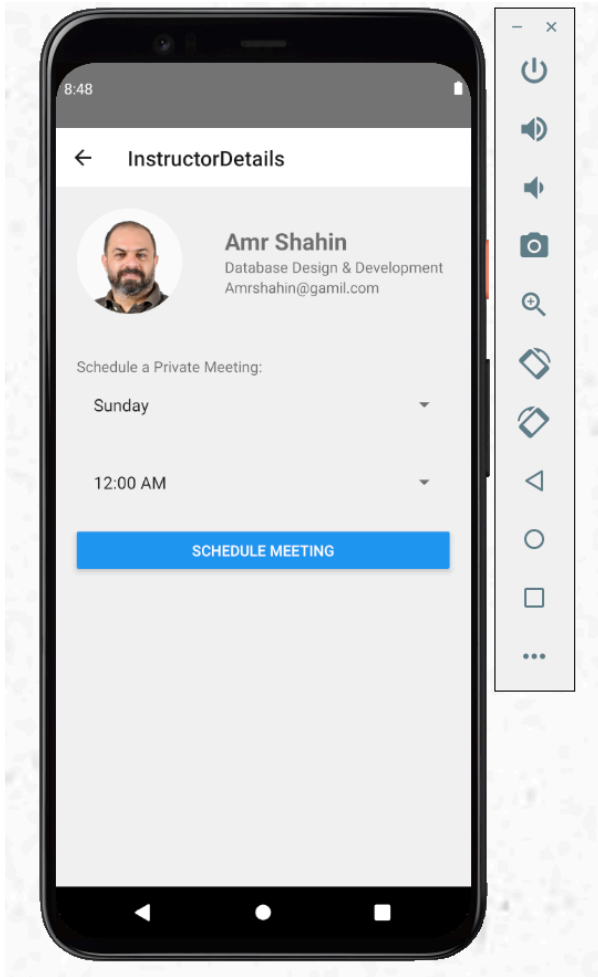
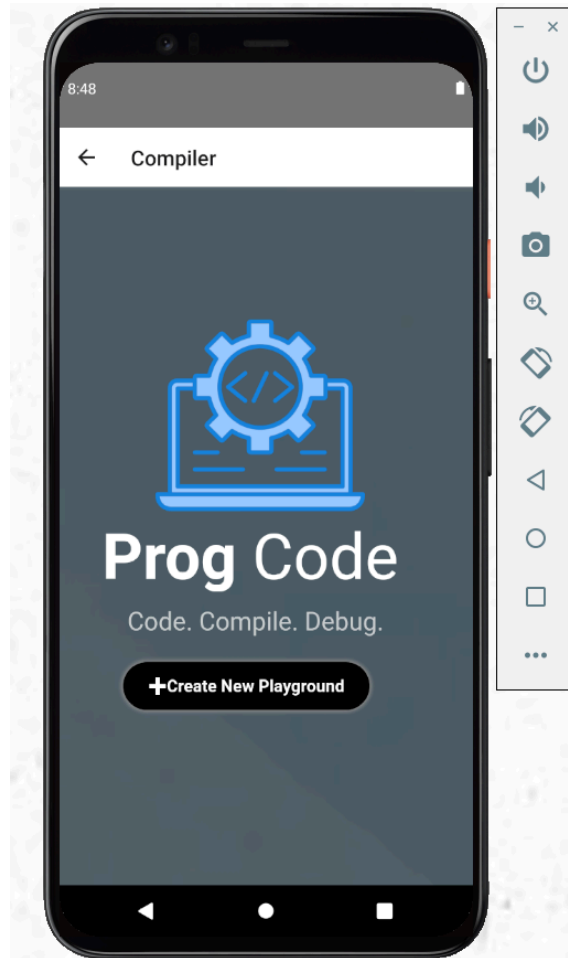
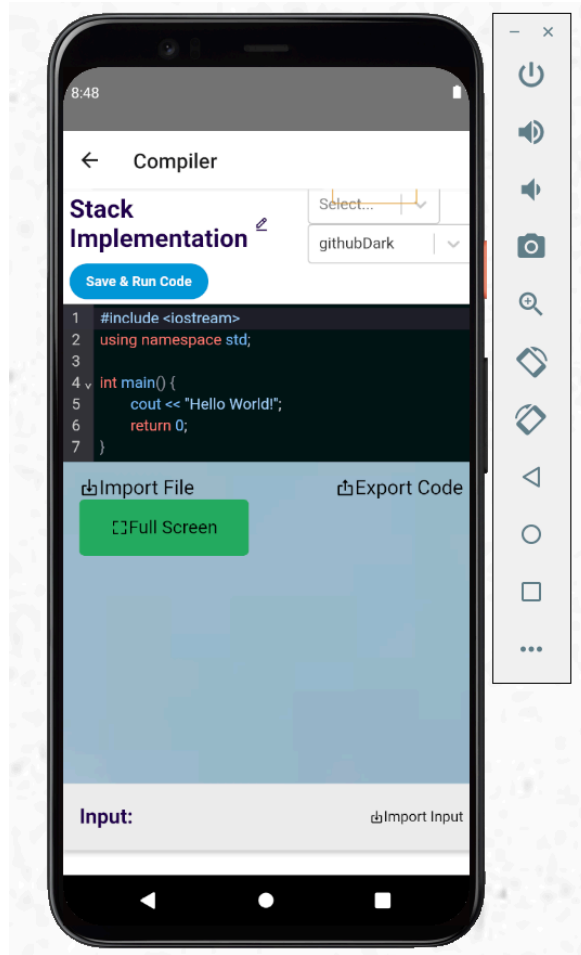


Figure 22: Instructor Details

Compiler:





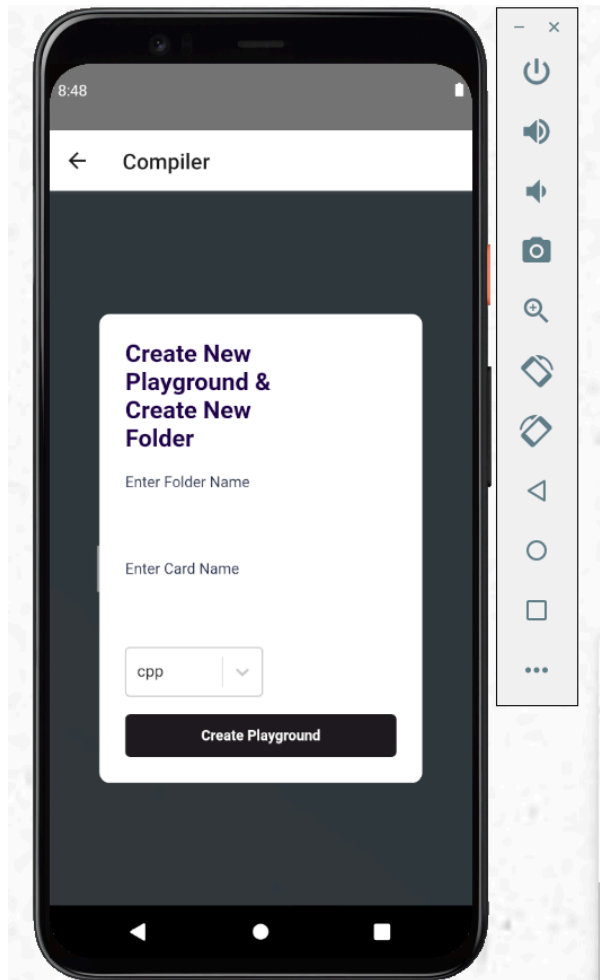


Figure 23:Compiler

Chat:

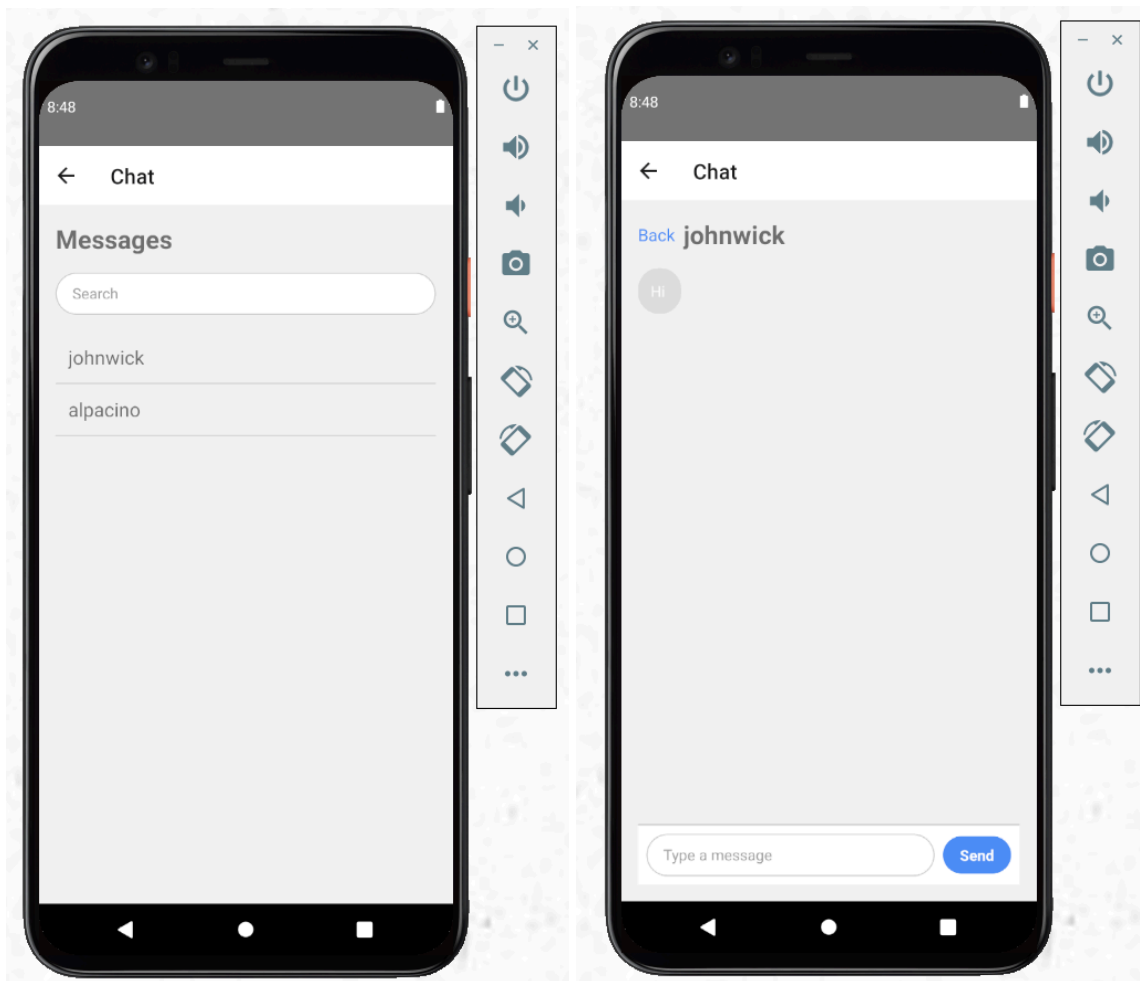


Figure 24:Chat

Instructor's Pages:

Dashboard:

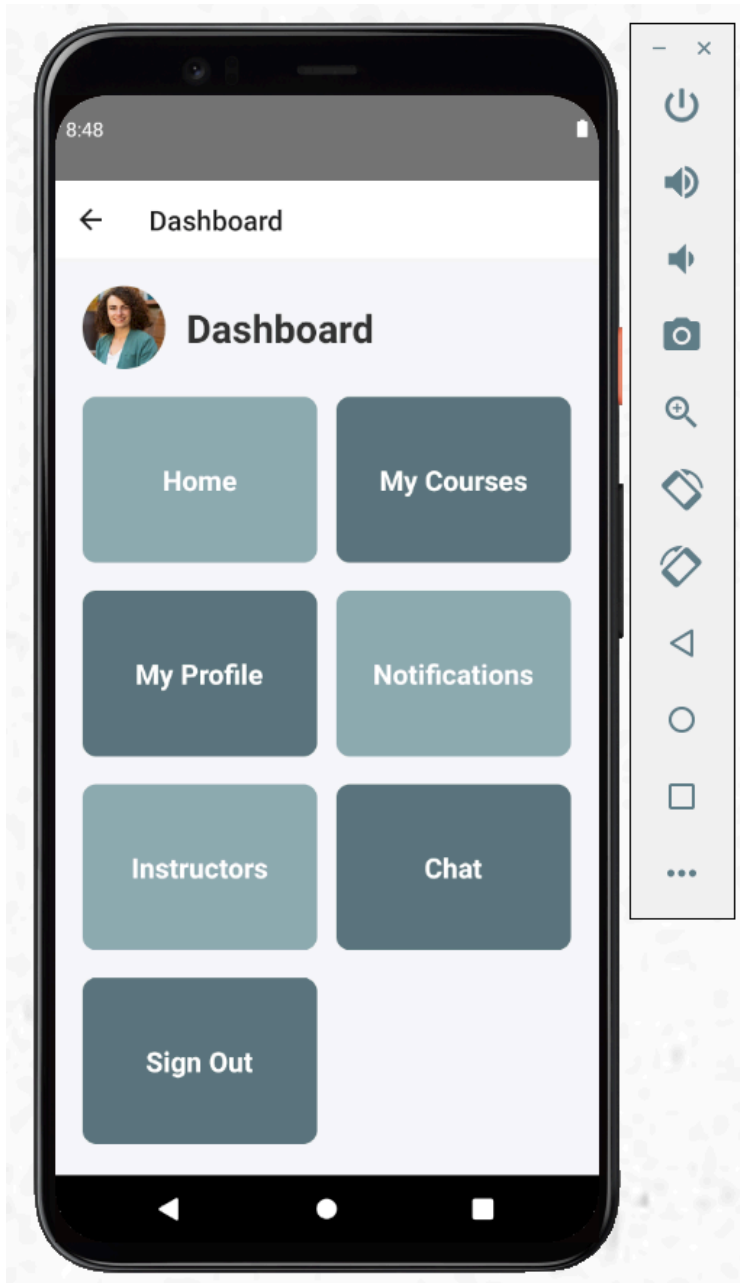


Figure 25 :Dashboard

Instructor's courses:

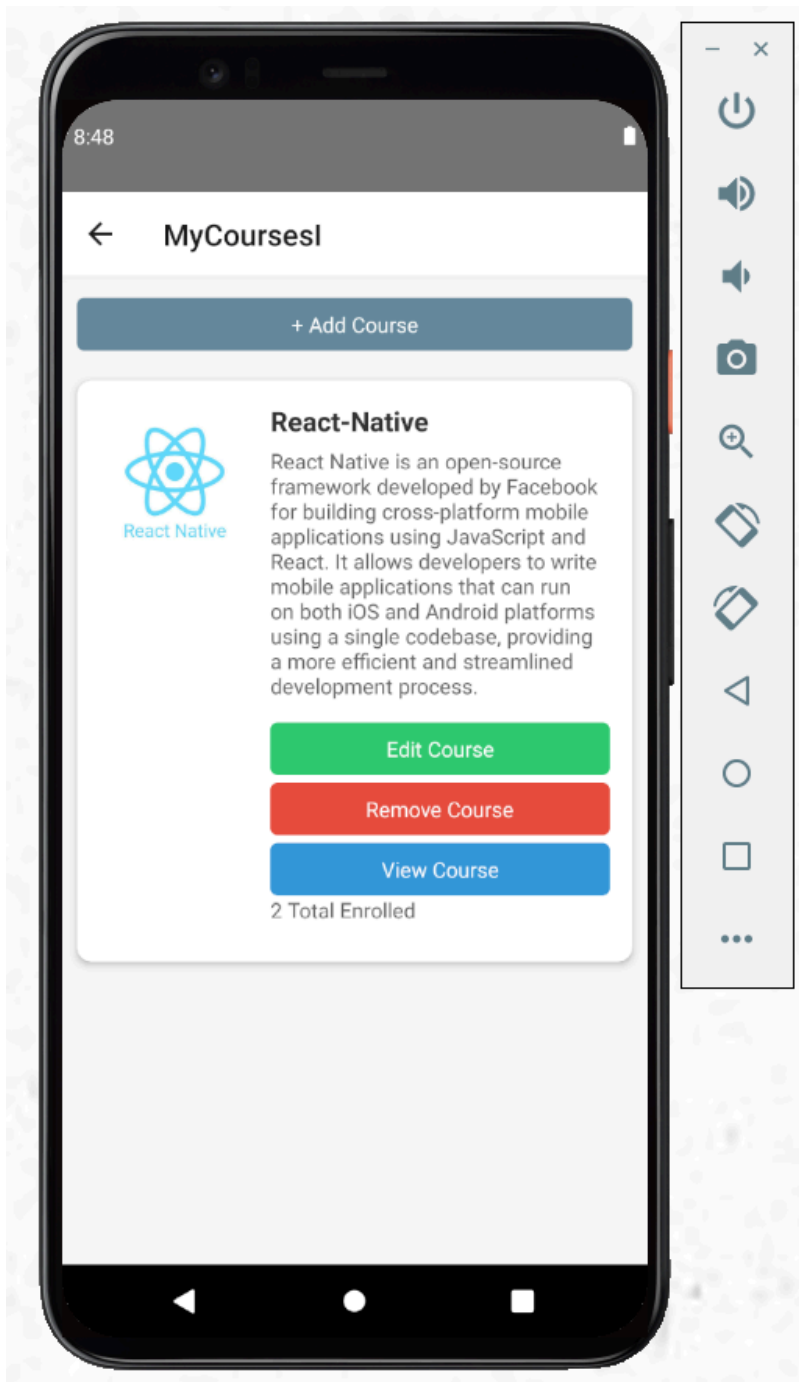


Figure 26 :Instructor's courses

Edit Course:

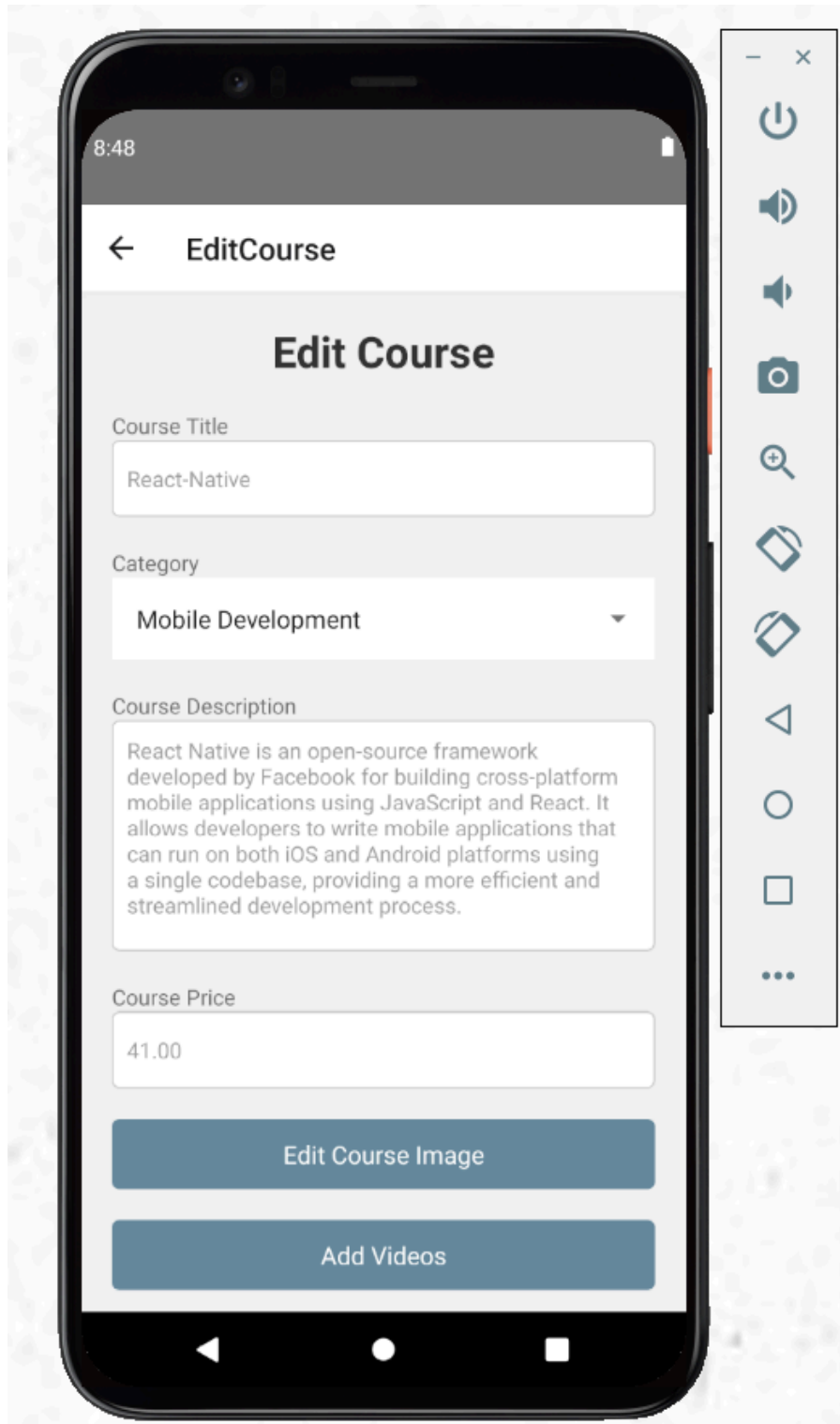


Figure 27 :Edit Course

Add Course:

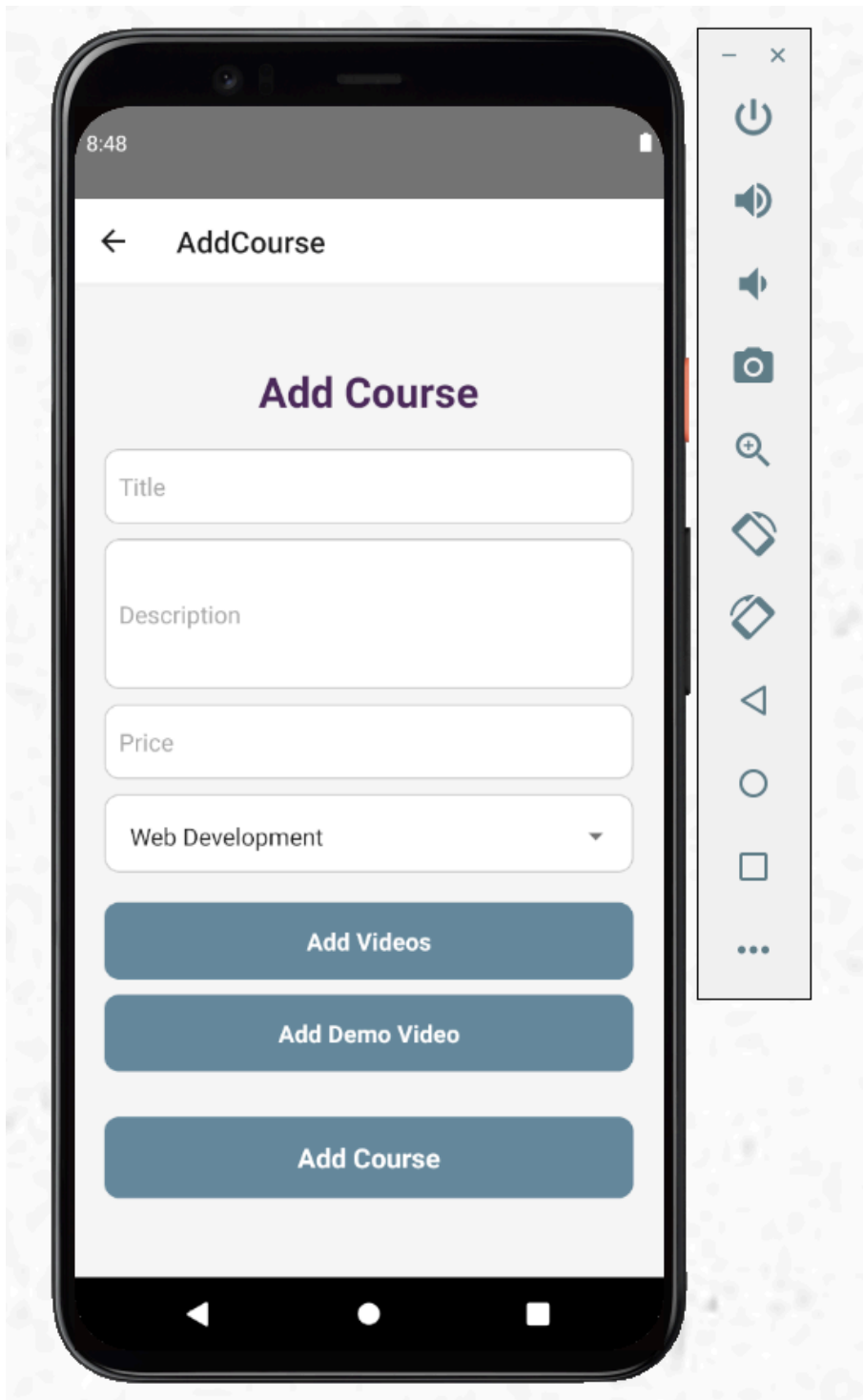


Figure 28 :Add Course

Add Quiz:

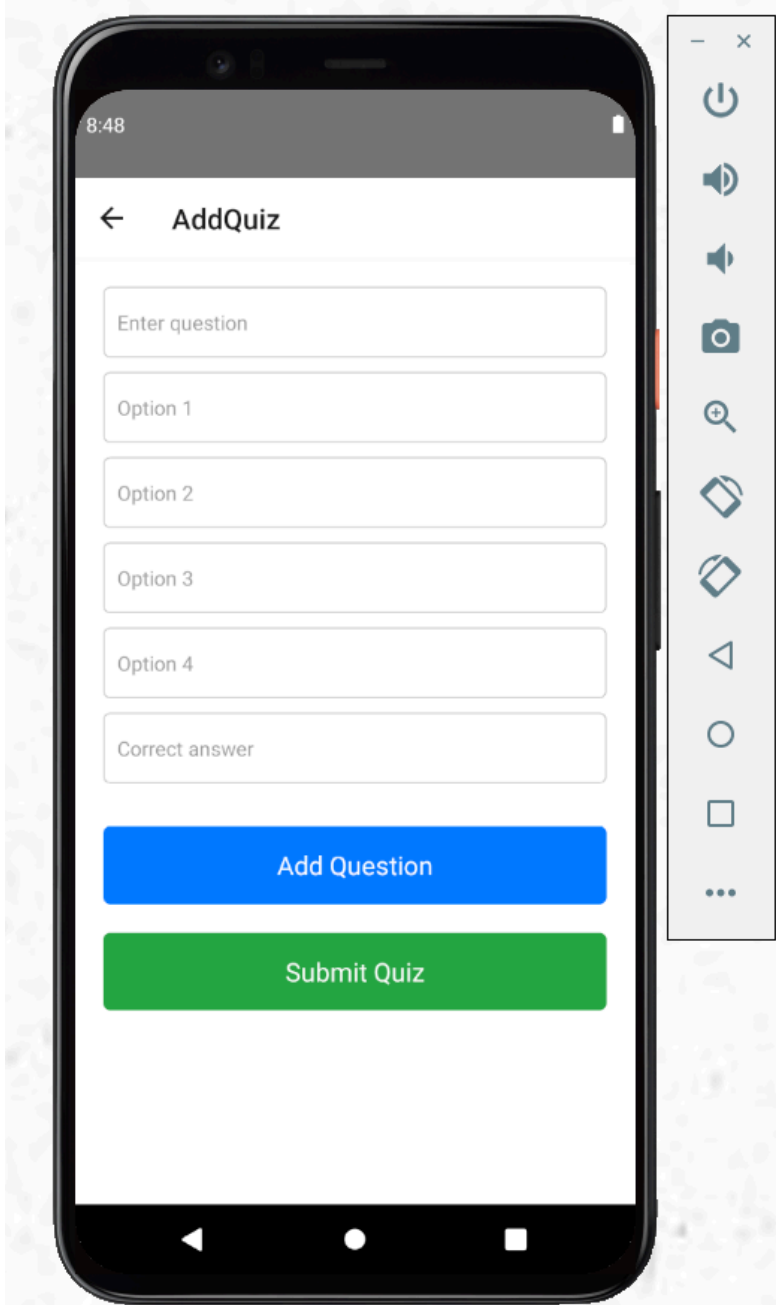


Figure 29 :Add Quiz

Edit profile:

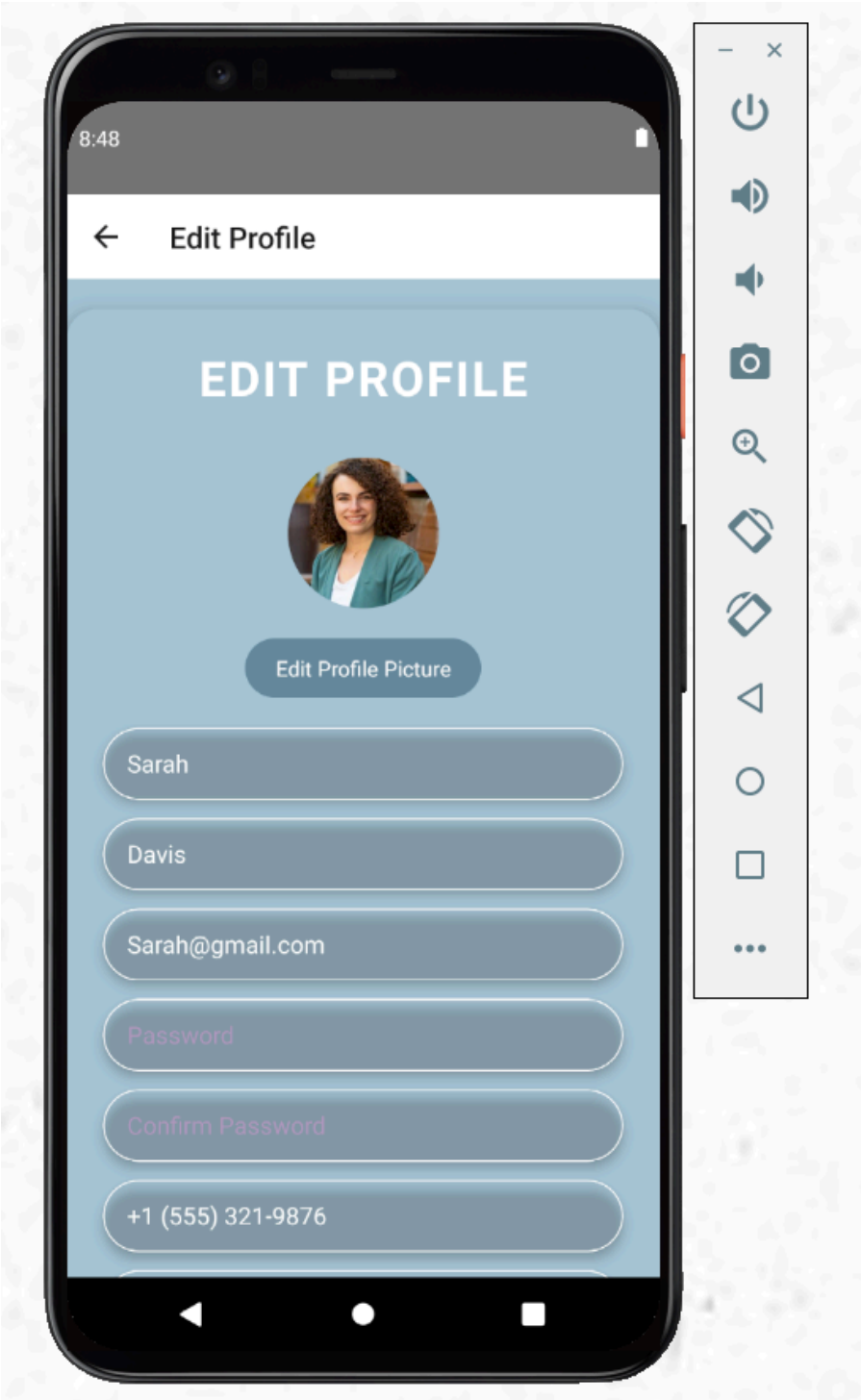


Figure 30 :Edit Profile

Requests:

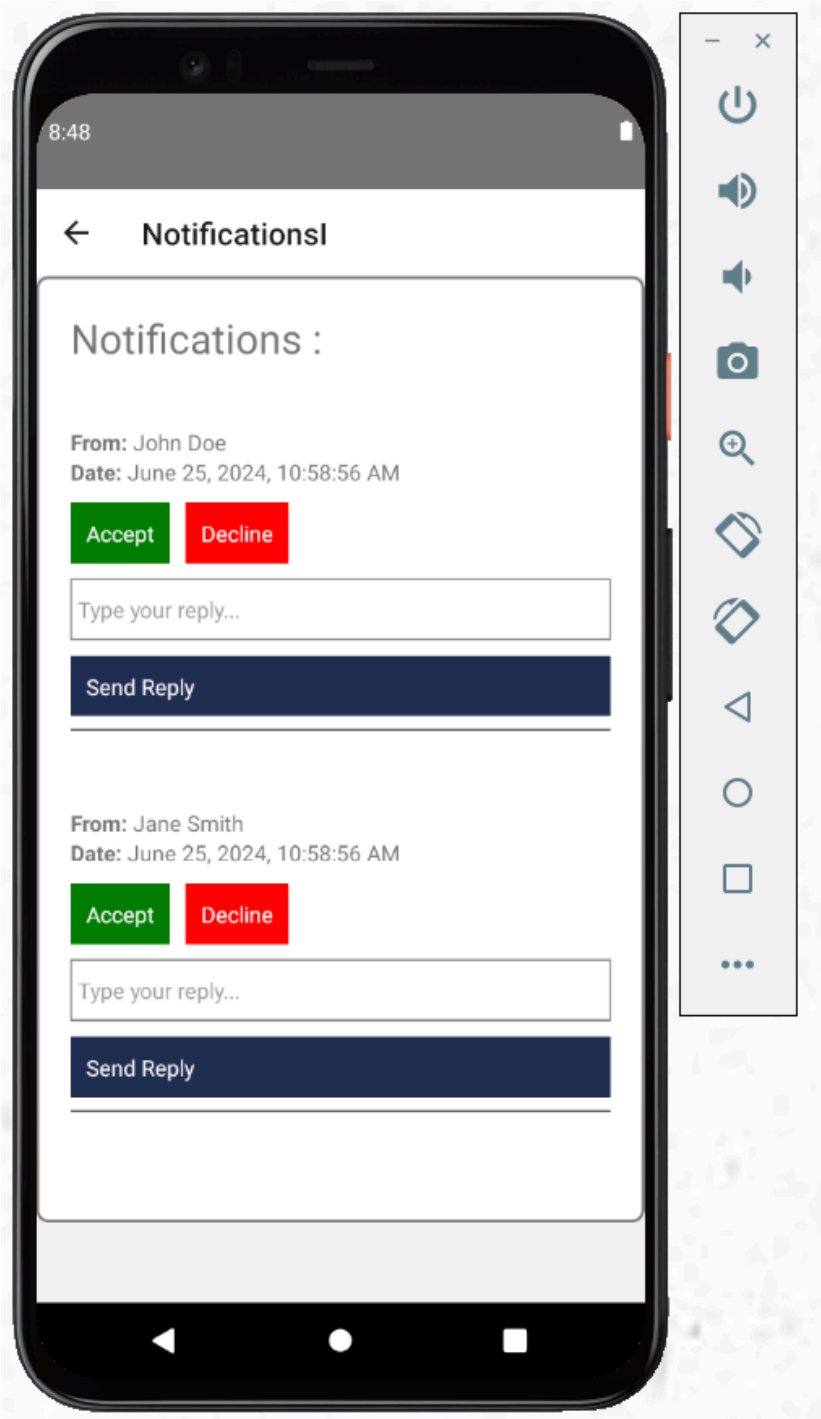


Figure 31 :Requests

5.3 System Features Implementation (website): Home Page, Login, Sign Up, and Forgot Password:

Home page:

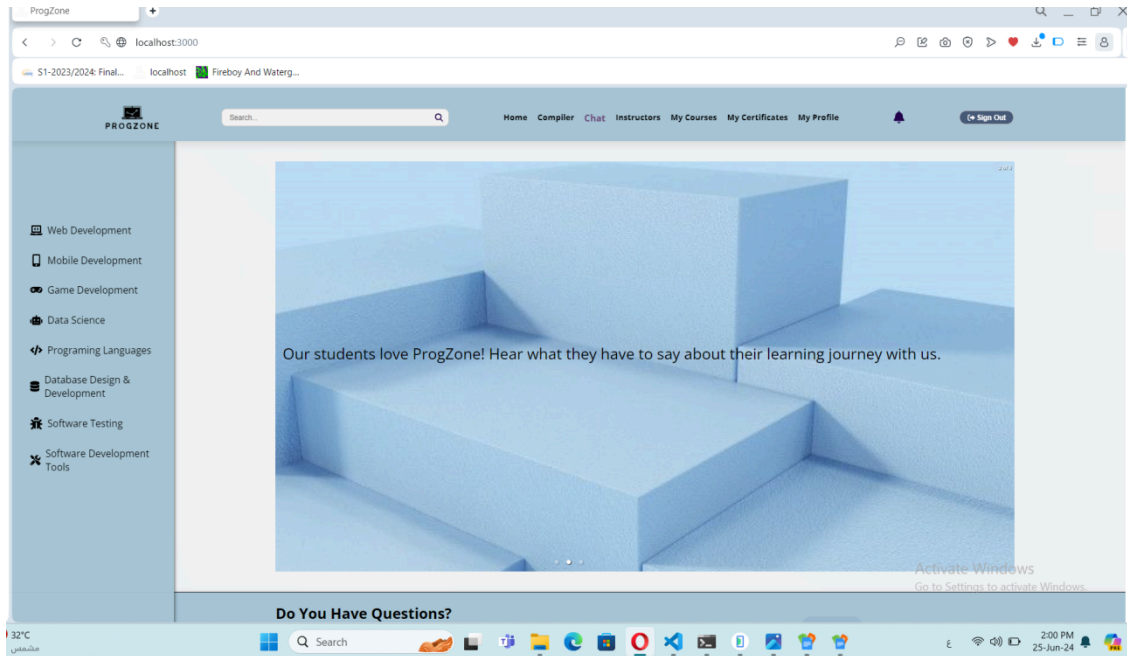


Figure 32 :Home page

Sign in

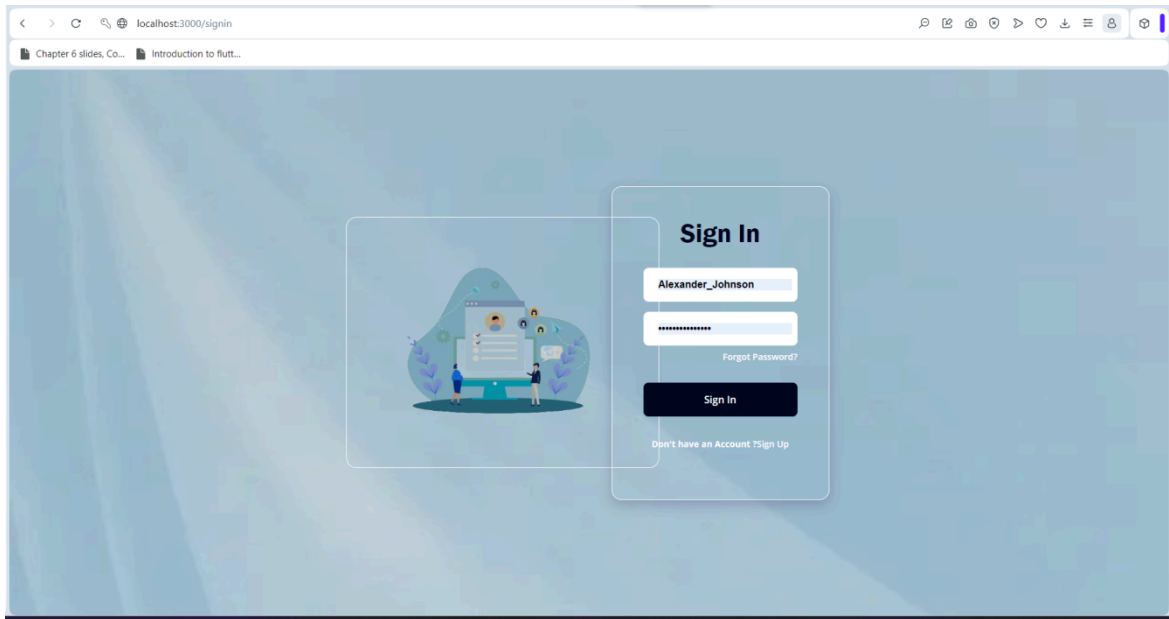


Figure 33 :Sign in

Sign up

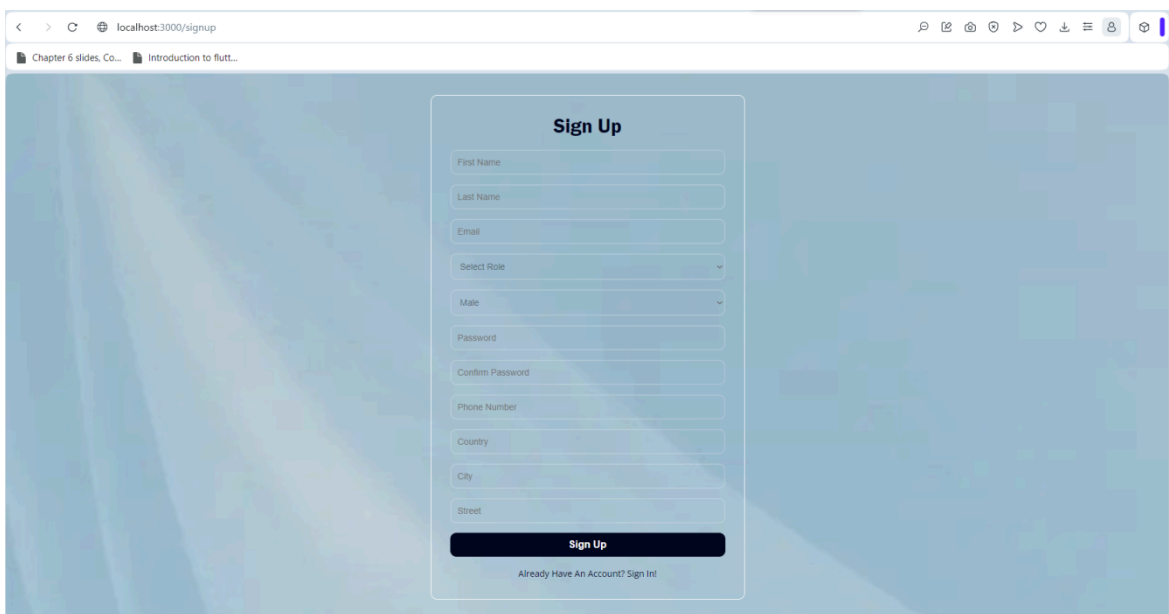


Figure 34 :Sign up

Forgot password email:

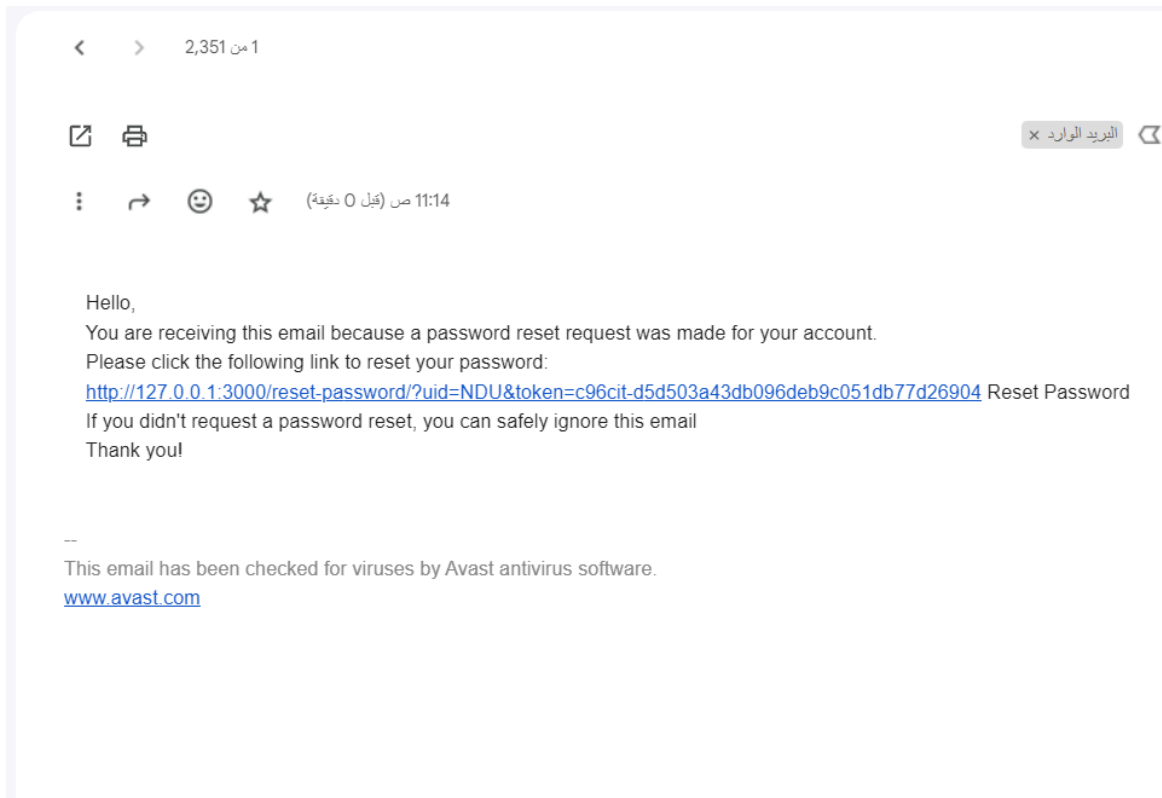


Figure 35 :Forgot password email

Reset password:

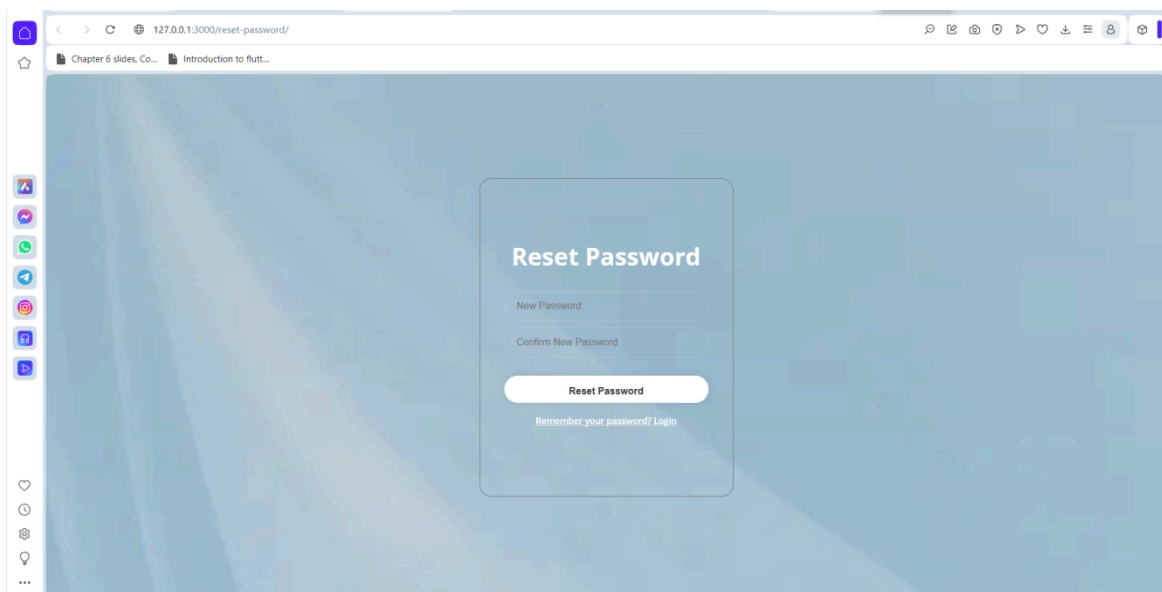


Figure 36 :Reset password

Student & Instructors Pages:

Home page:

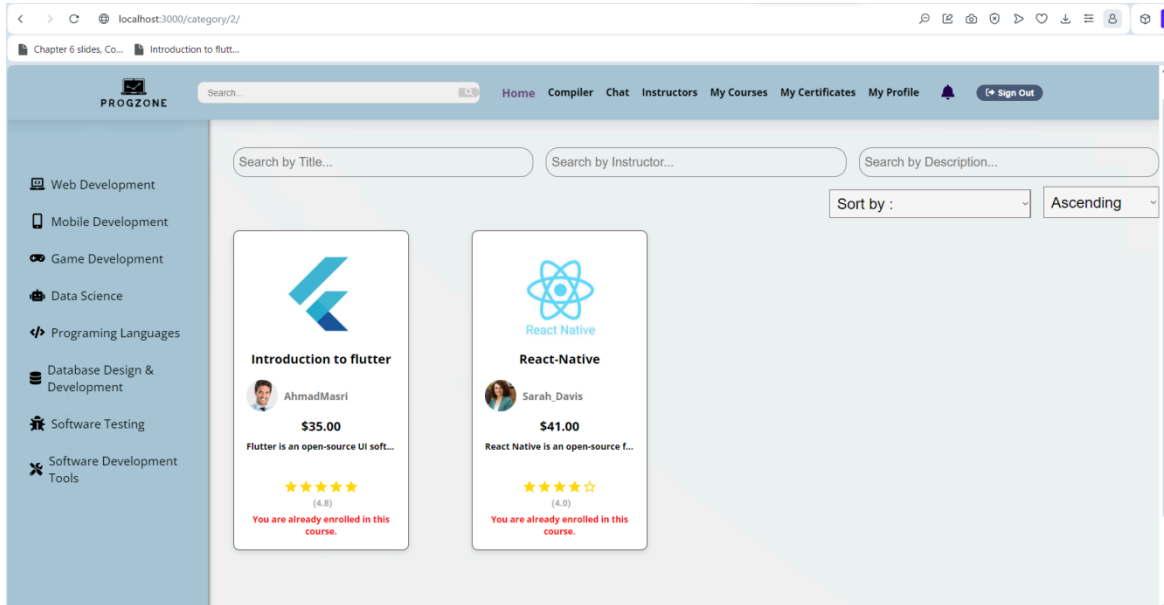


Figure 37 :Home page (Instructor)

View a course:

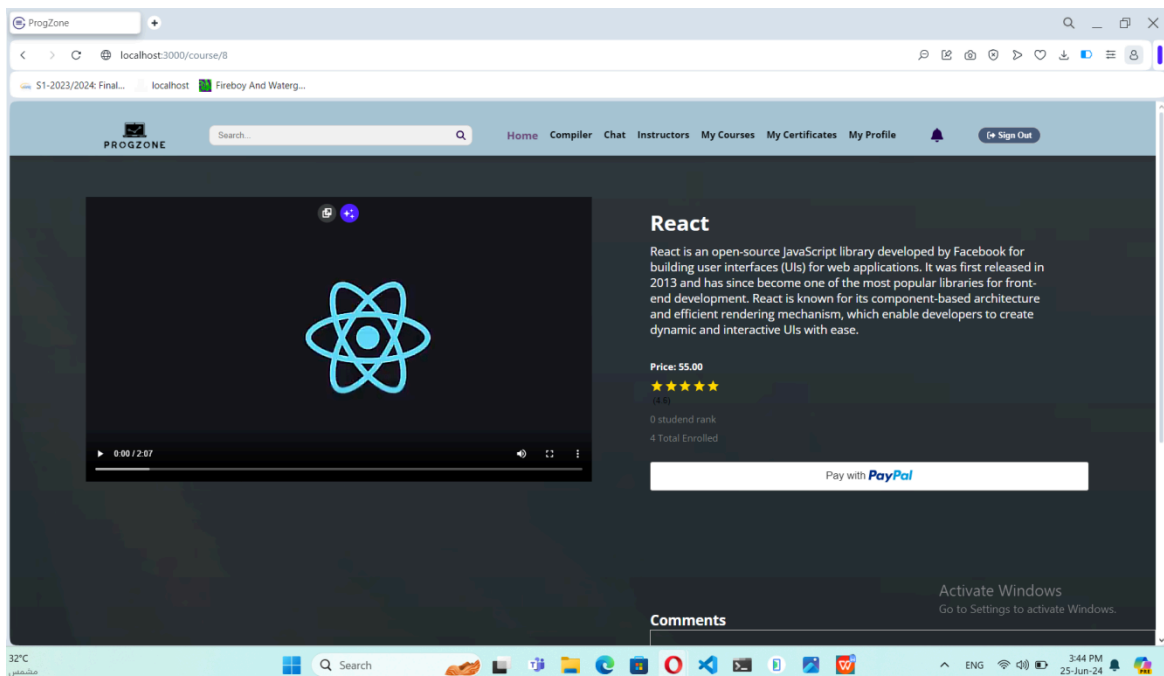


Figure 38 : View a course

Payment for a course:

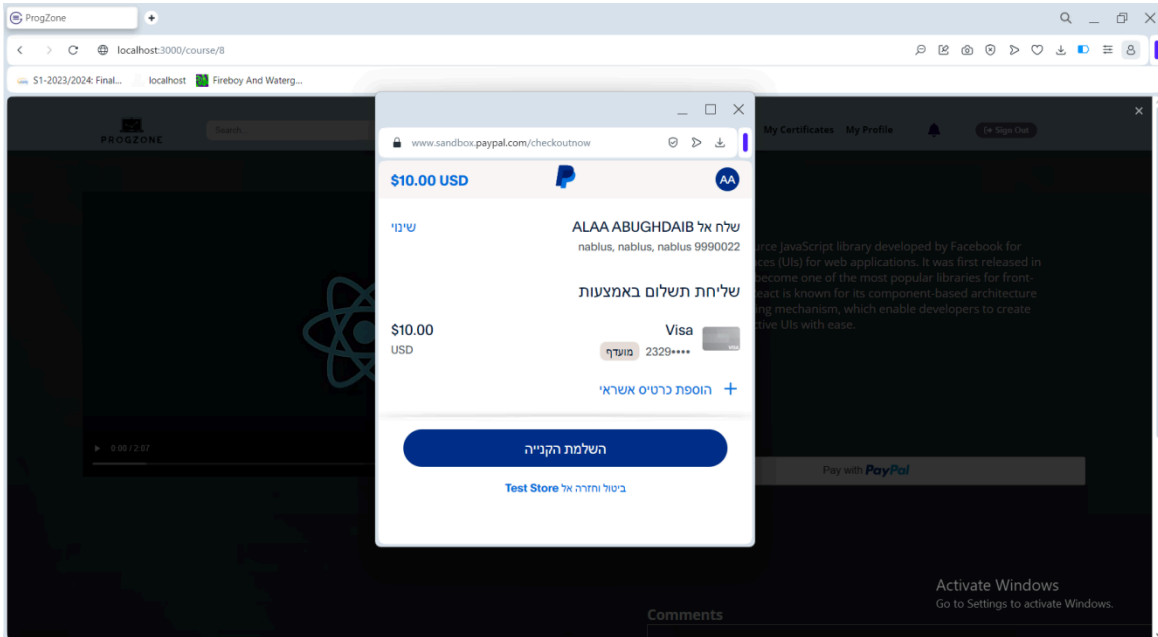


Figure 39 : Payment for a course

Videos for a course:



Figure 40 :Course's Videos

My courses:

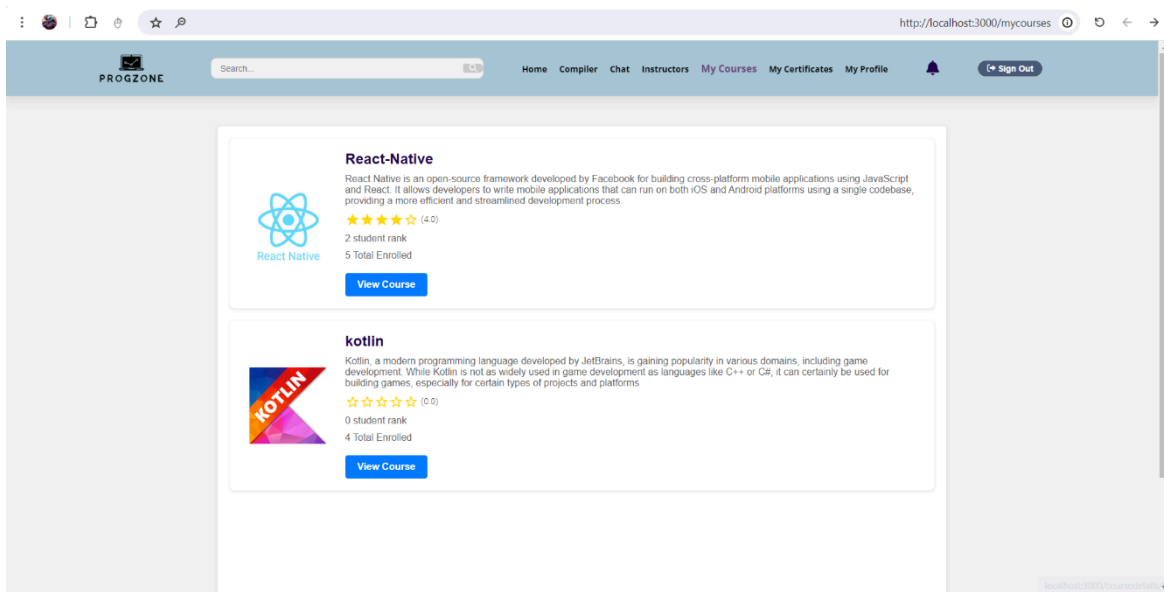


Figure 41 : My courses

Finish Videos for a course:



Figure 42 : Finish Videos for a course

My courses after finishing a course:

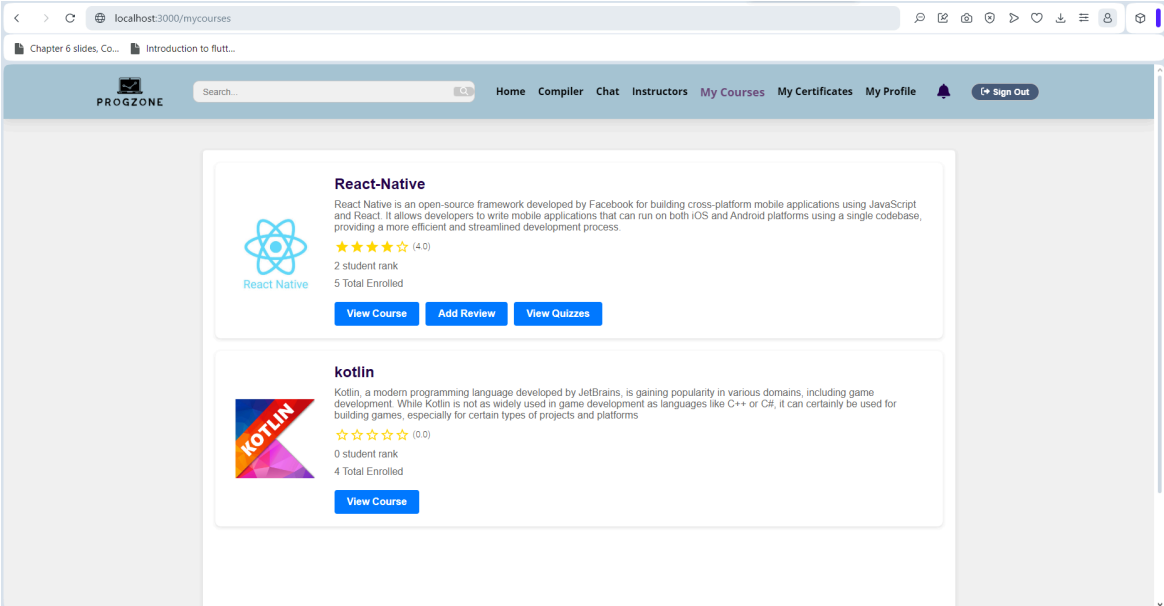


Figure 43 :My courses after finishing a course:

Review:

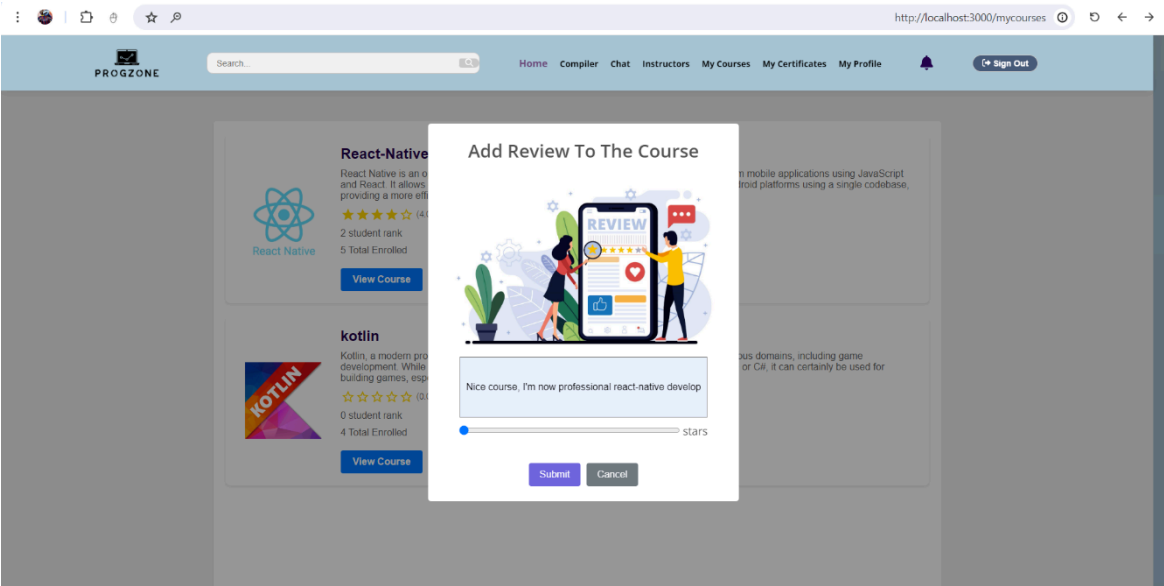


Figure 44 :Review

Quizzes:

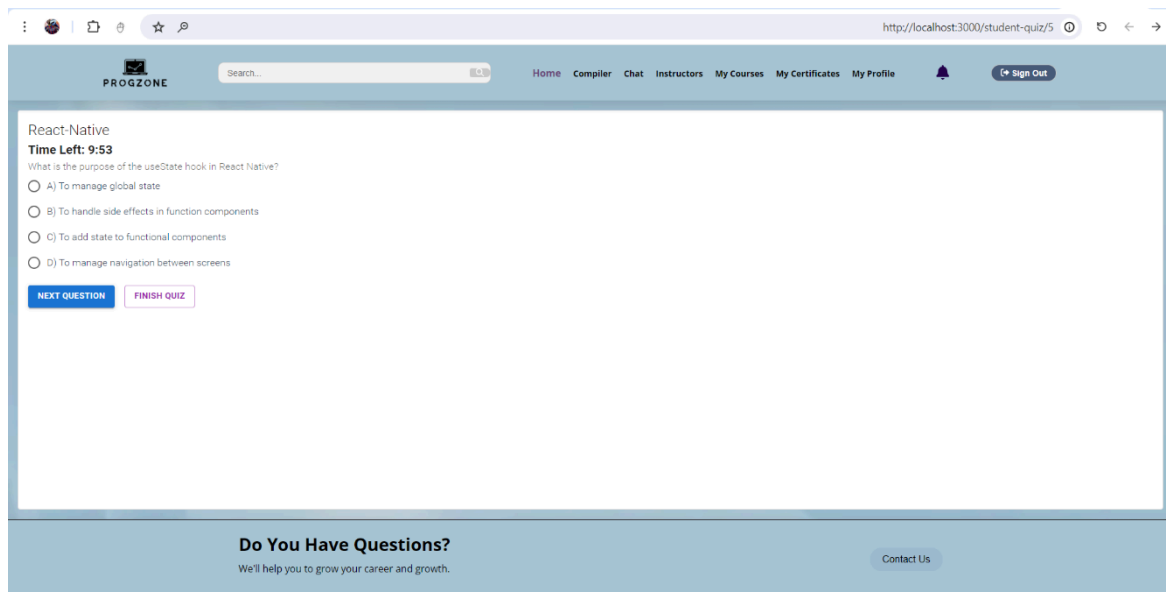


Figure 45 :Quiz

Fail a quiz:

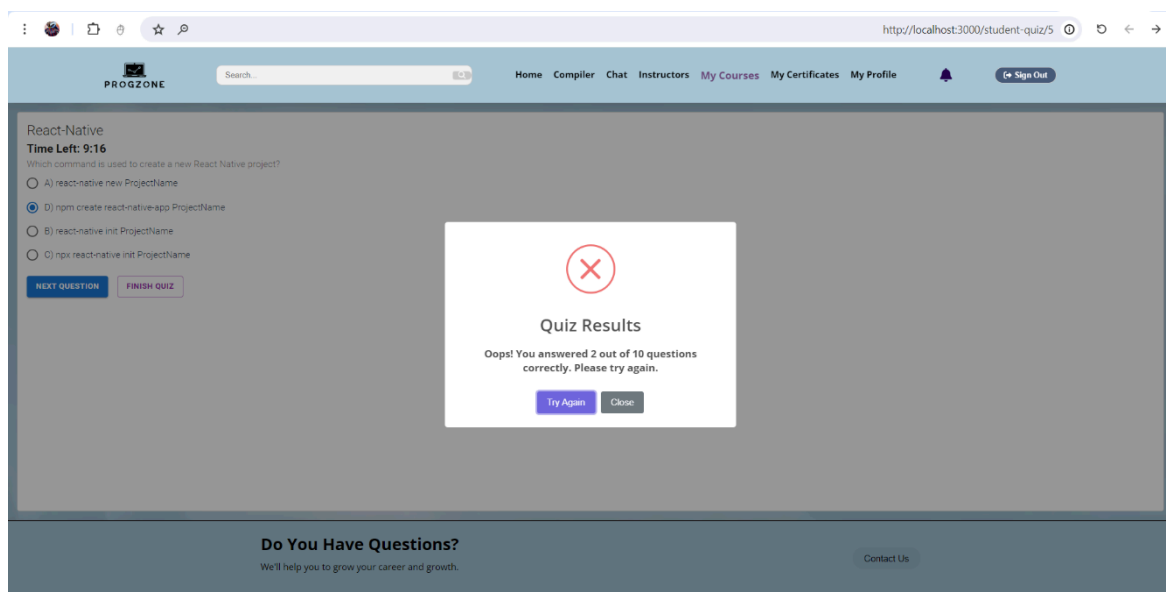


Figure 46 :Fail a quiz

Pass a quiz:

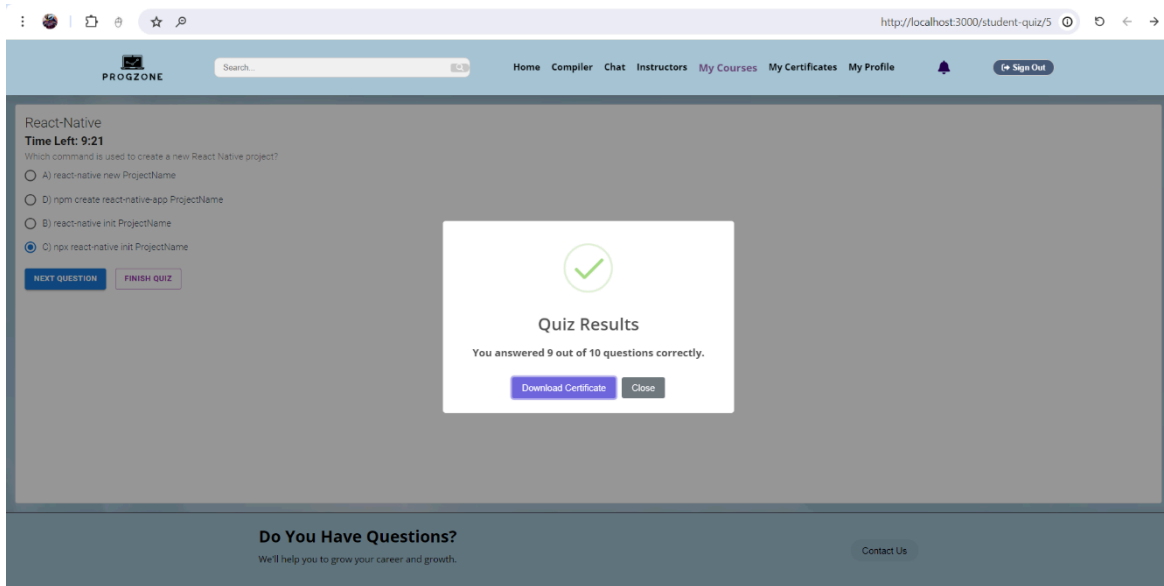


Figure 47 :Pass a quiz

Compiler:

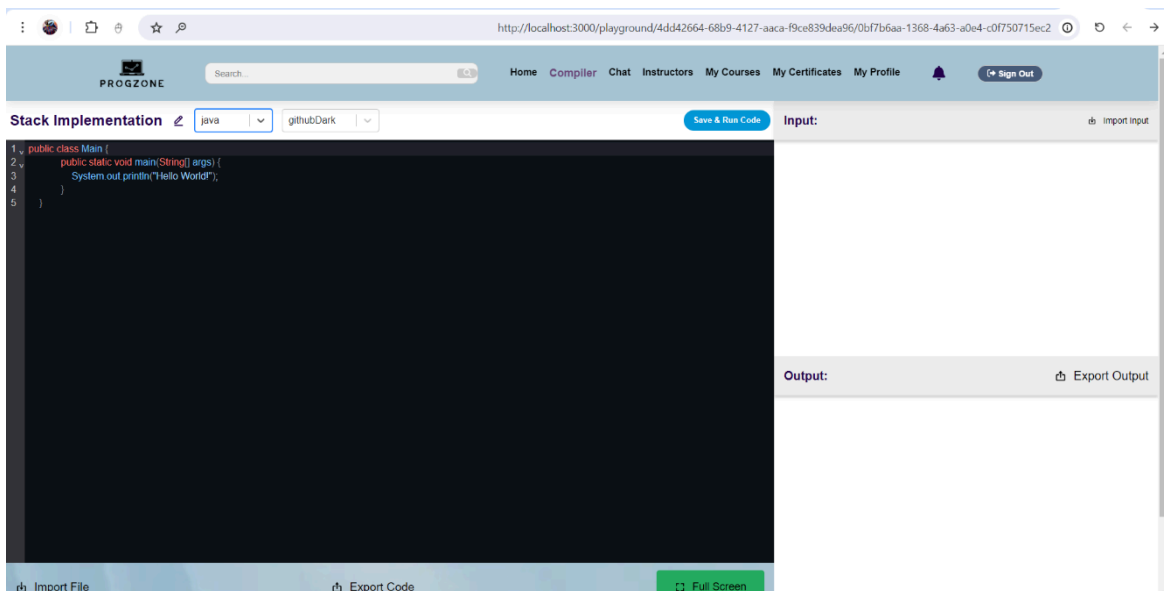


Figure 48 :Compiler

Perform a code in the compiler :

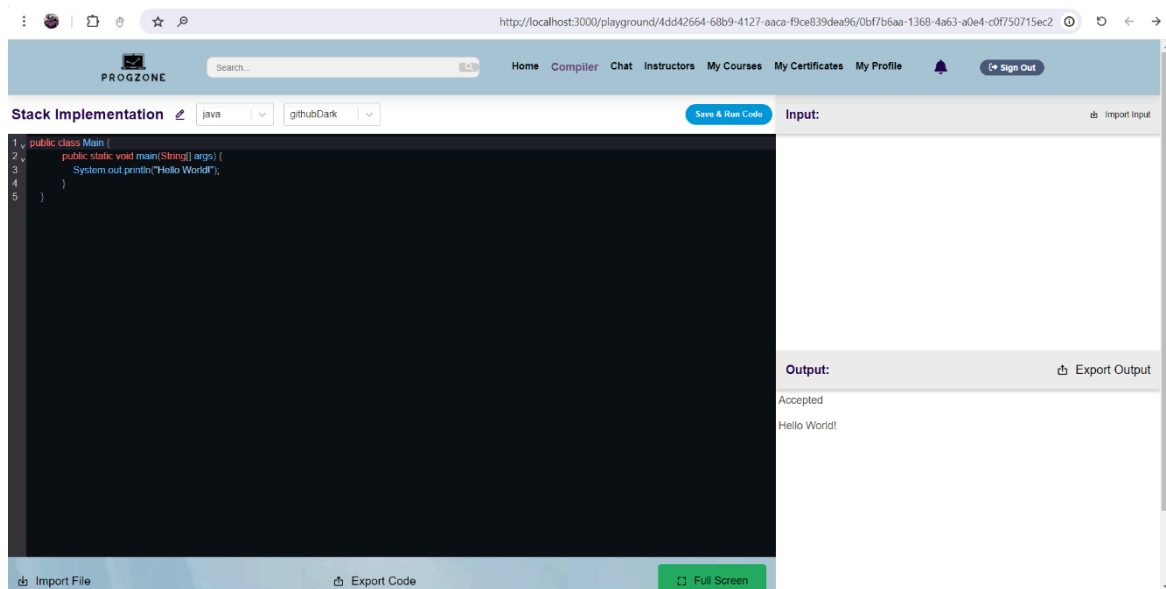


Figure 49 :Perform a code in the compiler

Certification:

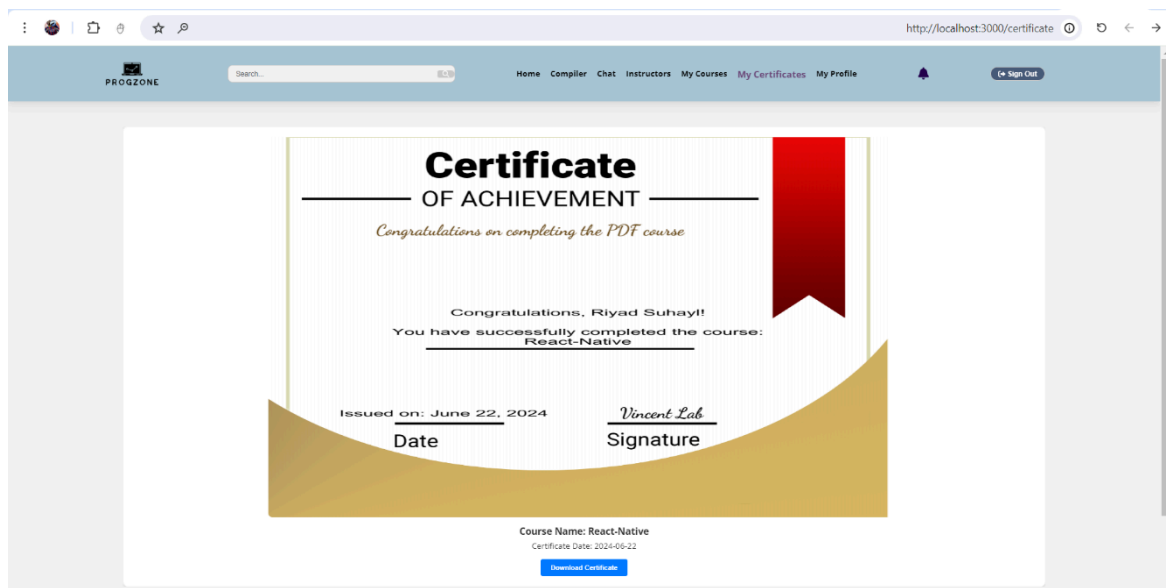


Figure 50 :Certification

My Profile:

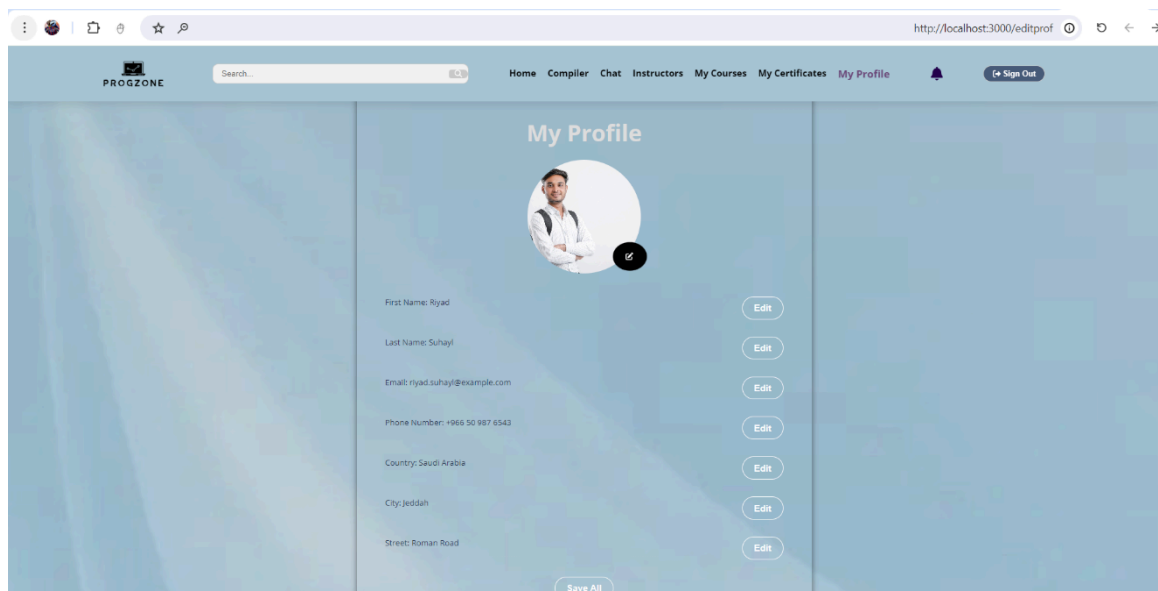
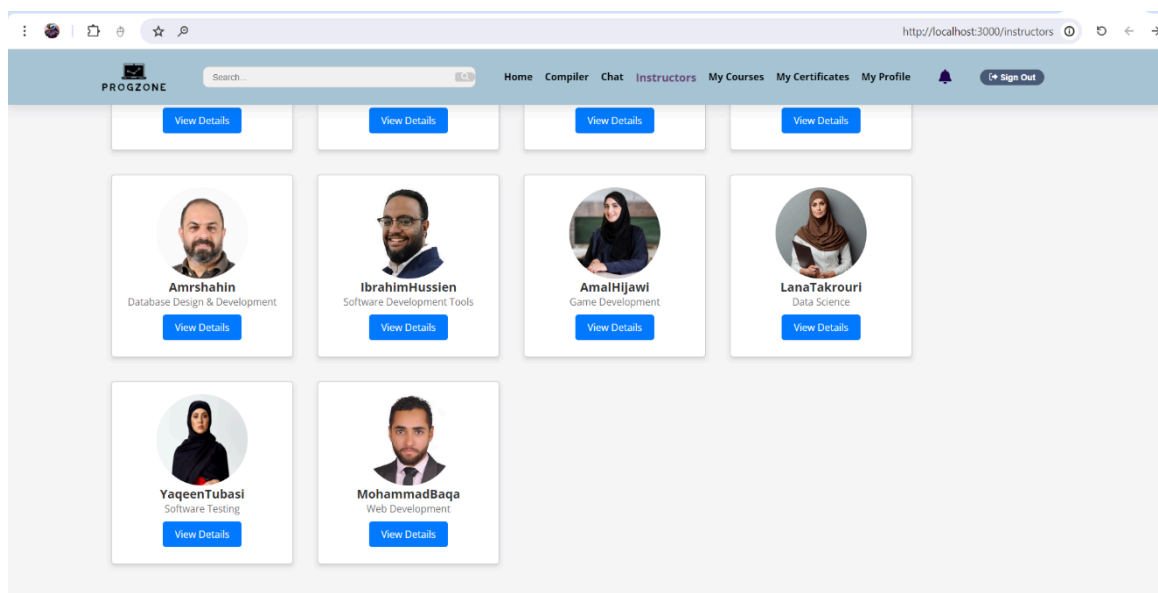


Figure 51 :My Profile

Instructors:



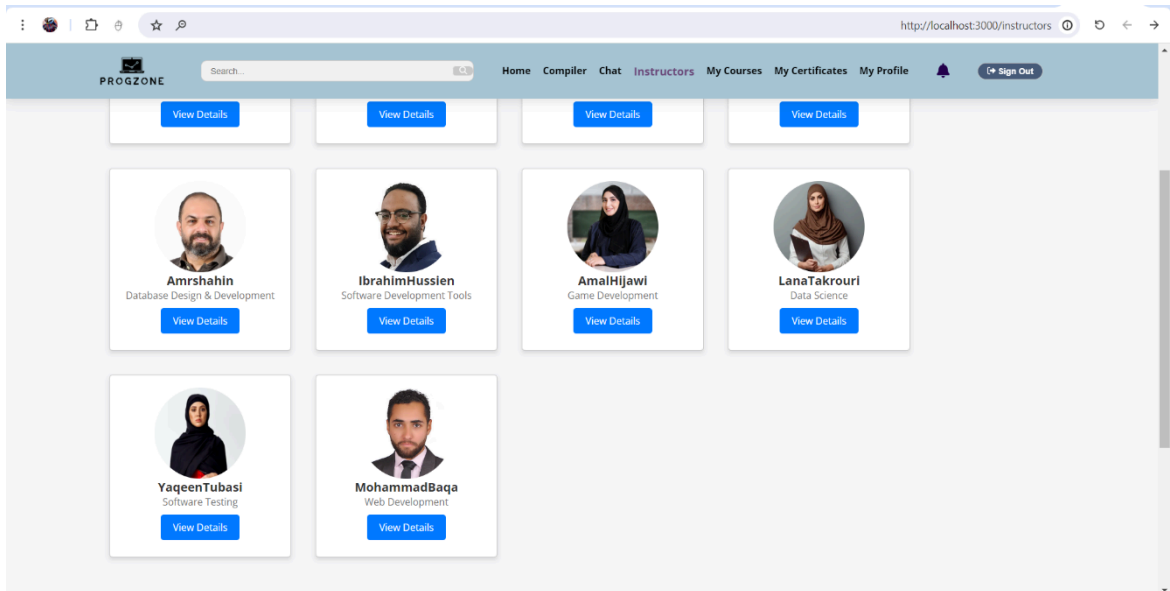
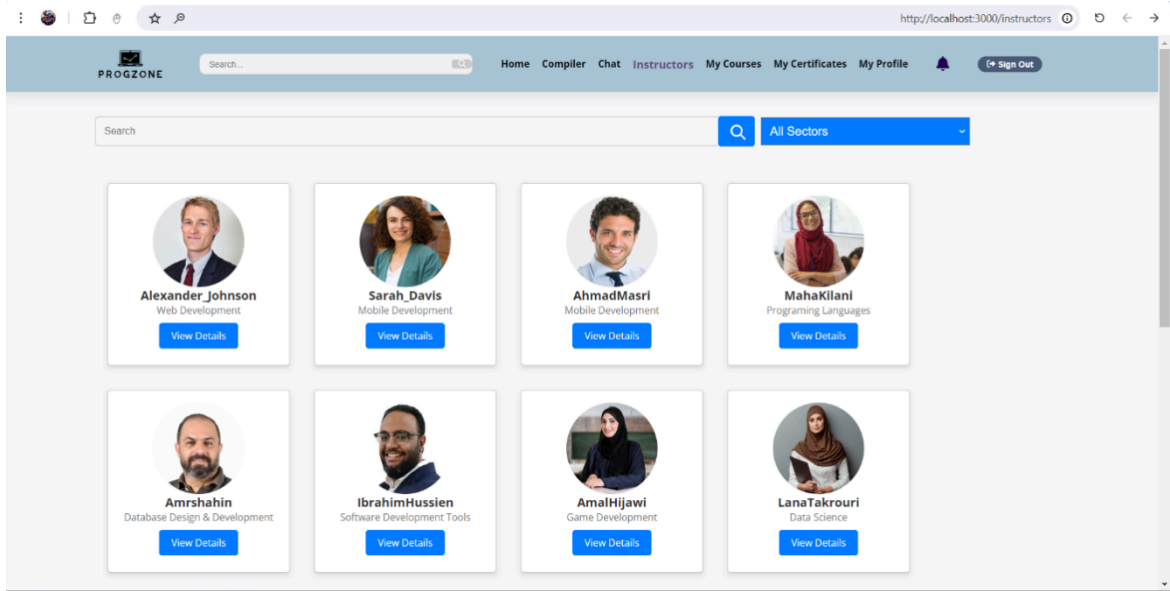


Figure 52: Instructors

Instructors Details:

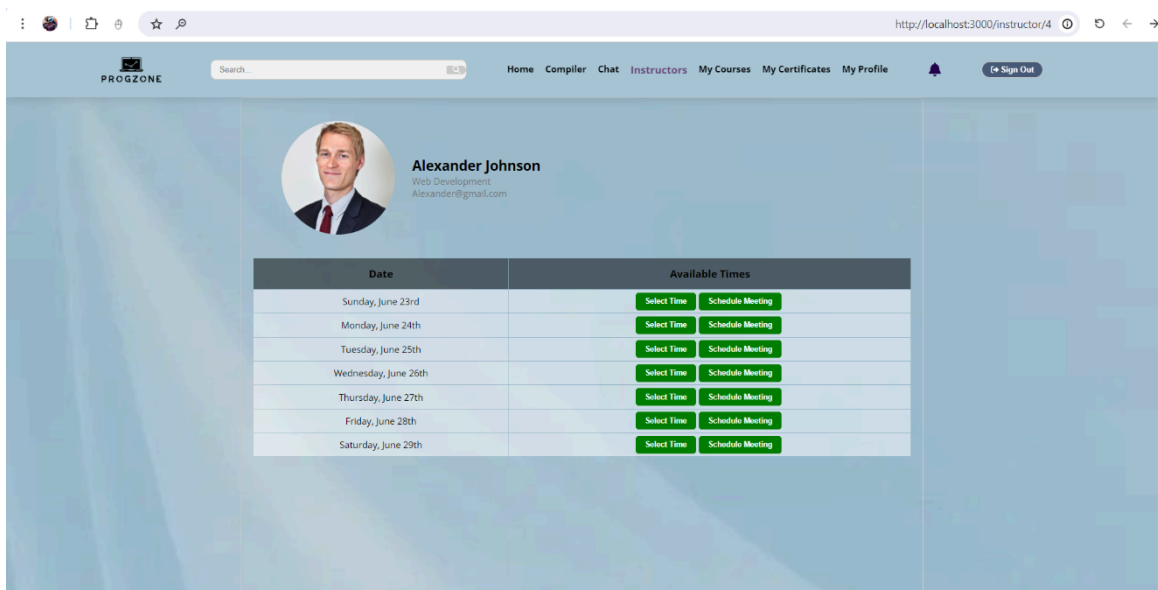


Figure 53: Instructor Details

Request in home page:

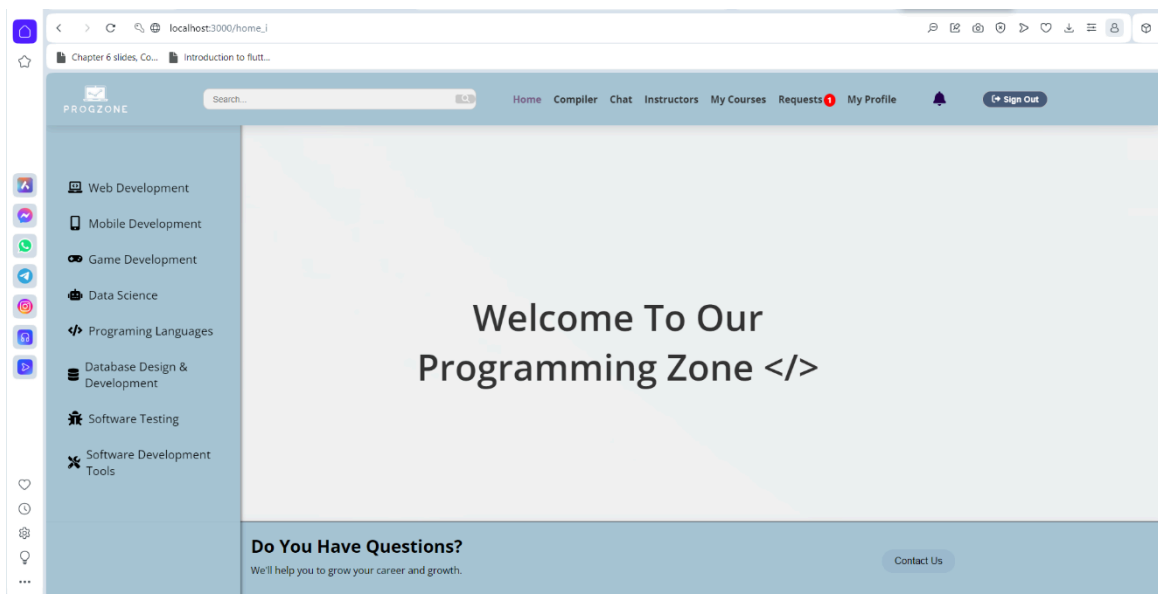


Figure 54: Requests in home page

Request Page:

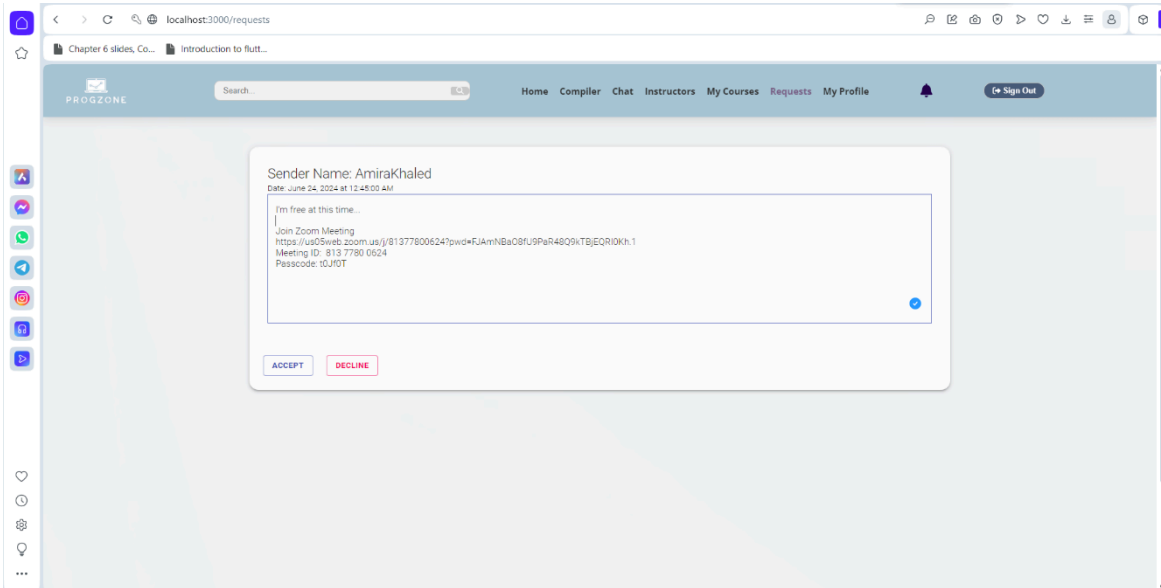


Figure 55: Requests Page

Notification for instructor:

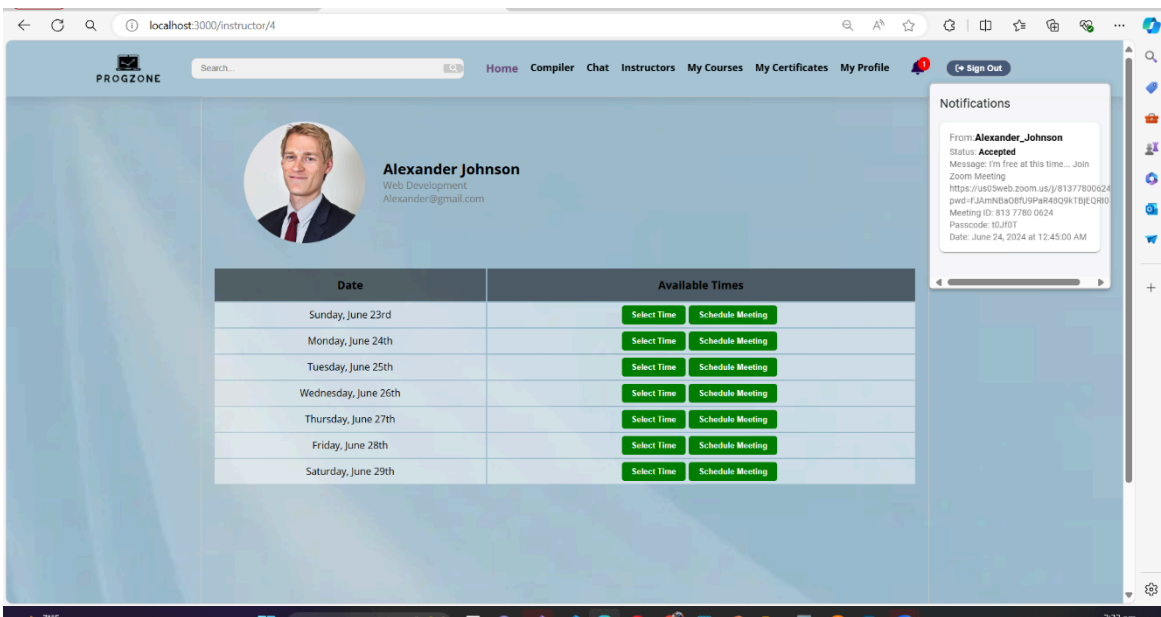


Figure 56: Notification for instructor

Meetings:

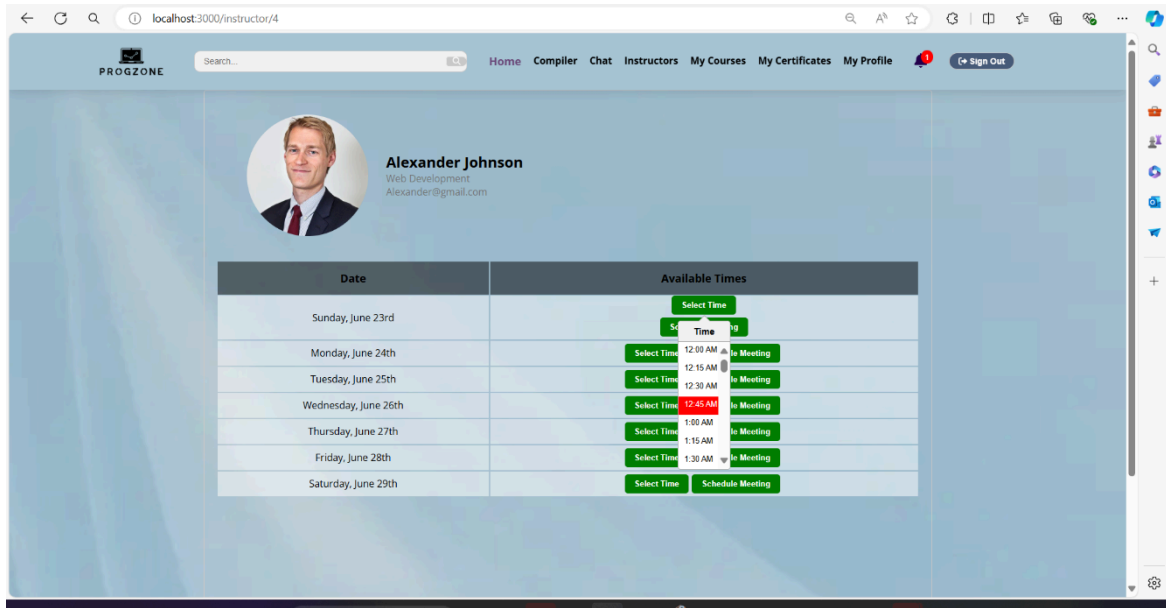


Figure 57: Meetings

Courses page (instructor):

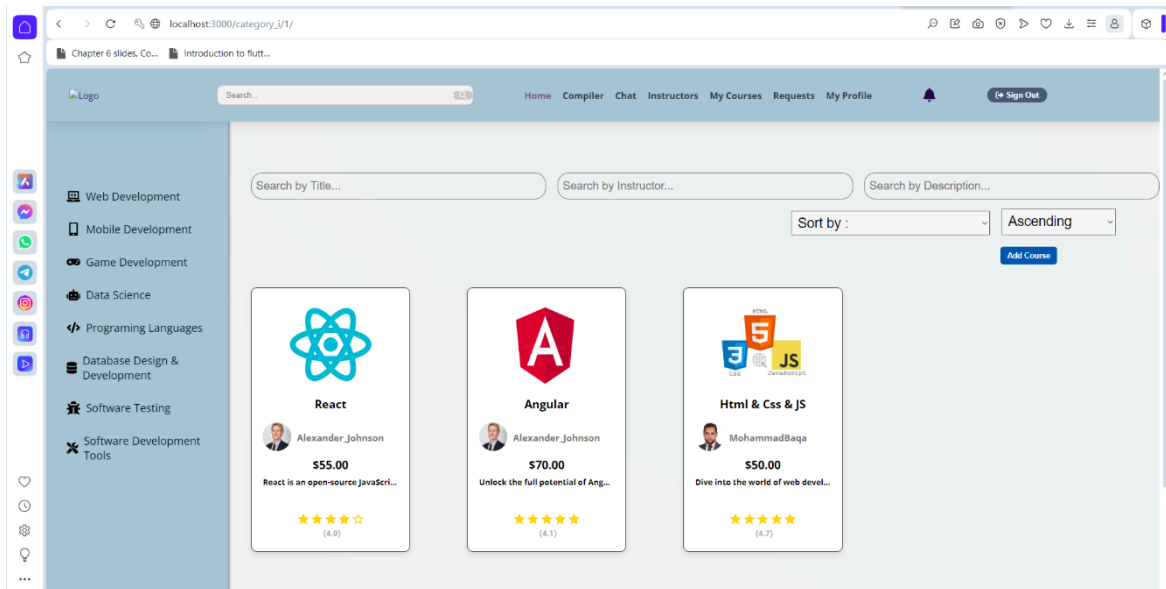


Figure 58: Courses page (instructor)

Add course:

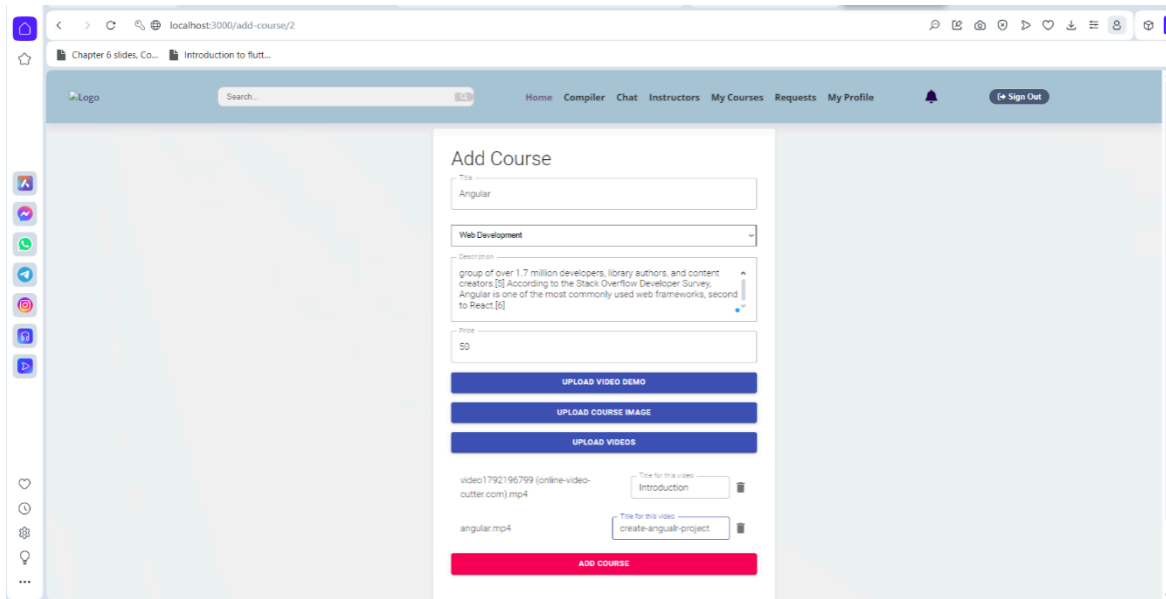


Figure 59: Add course

My courses (instructor):

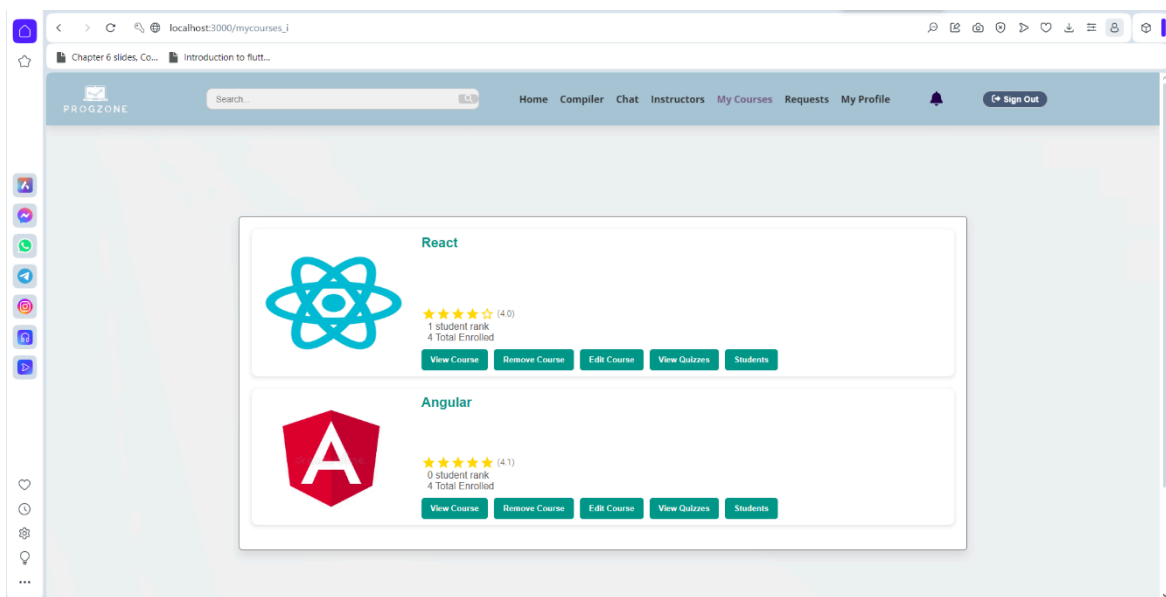


Figure 60 :My courses (instructor)

Remove course (instructor):

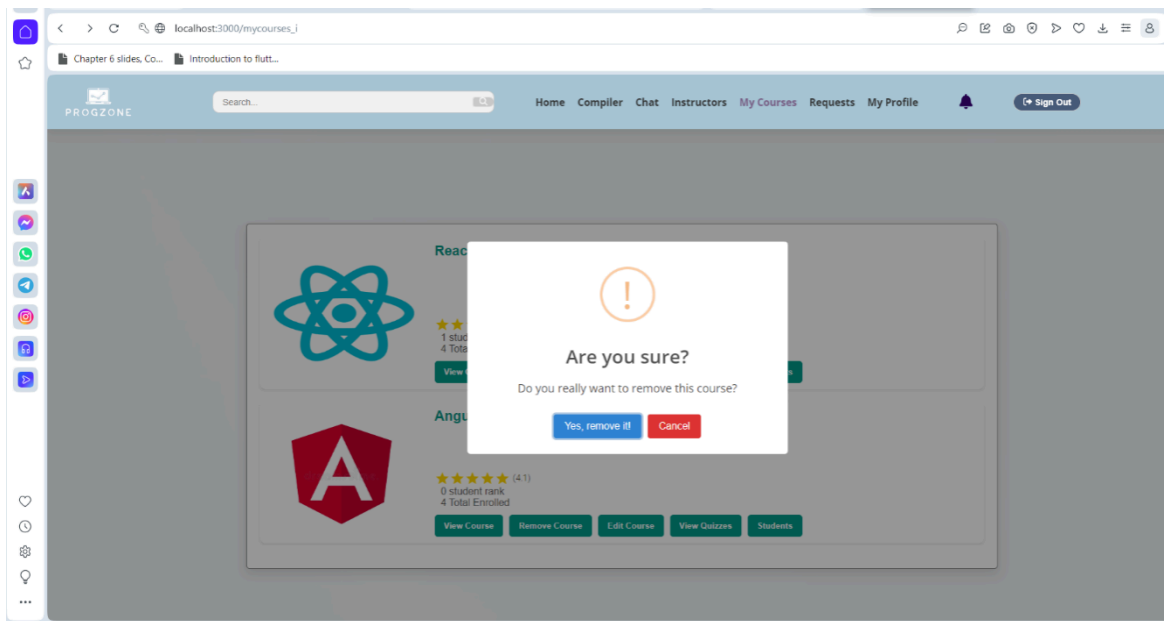


Figure 61 :Remove course(instructor)

Edit course (instructor):

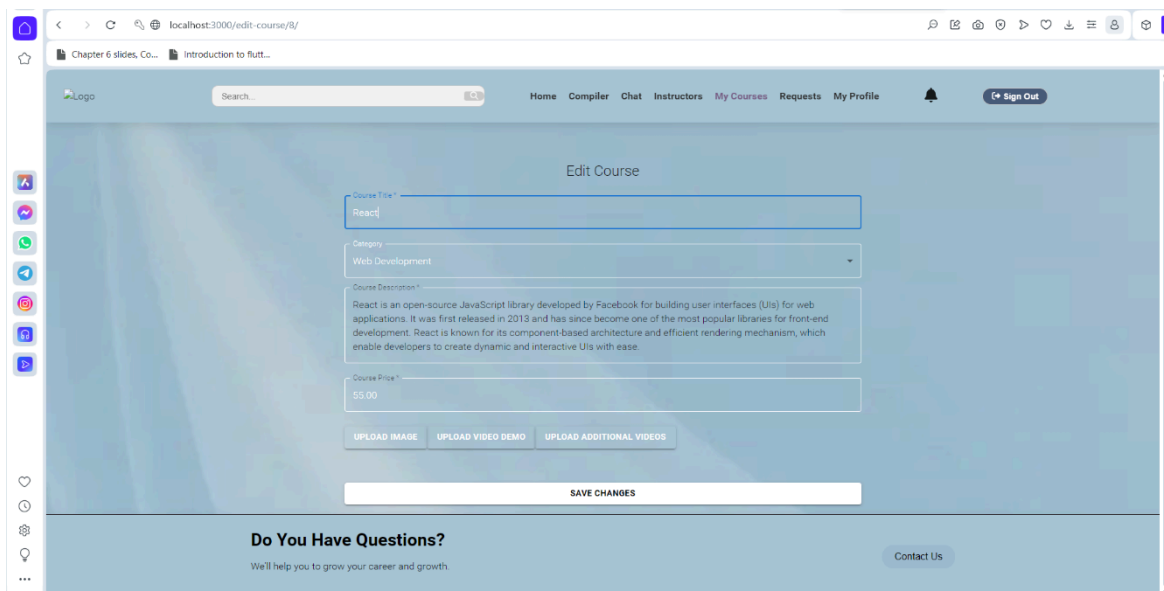


Figure 62 :Edit course(instructor)

Quizzes :

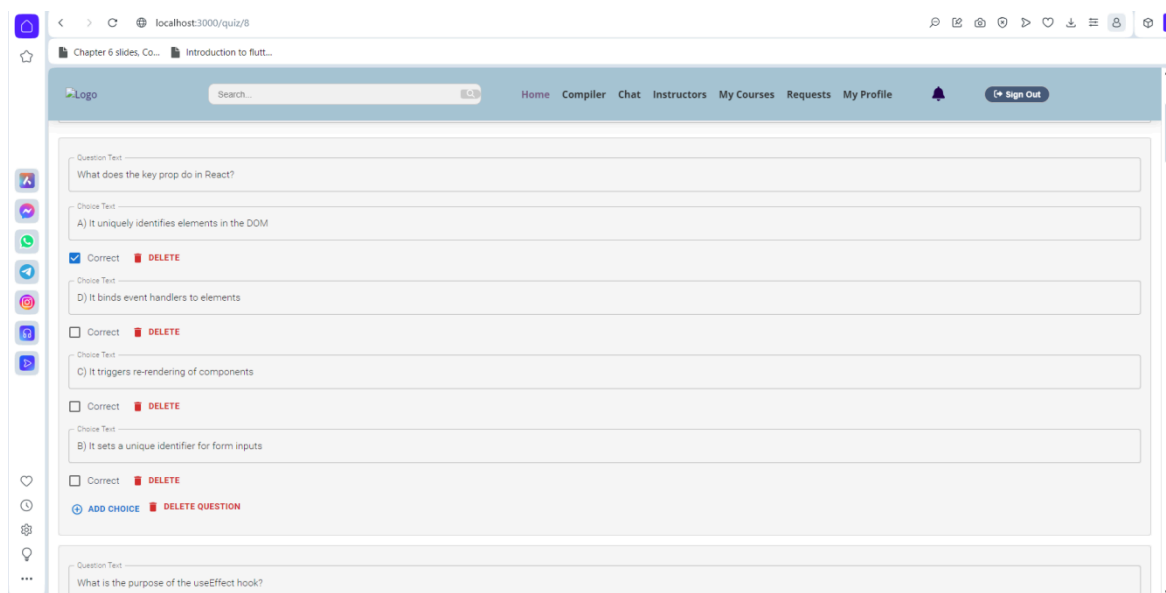
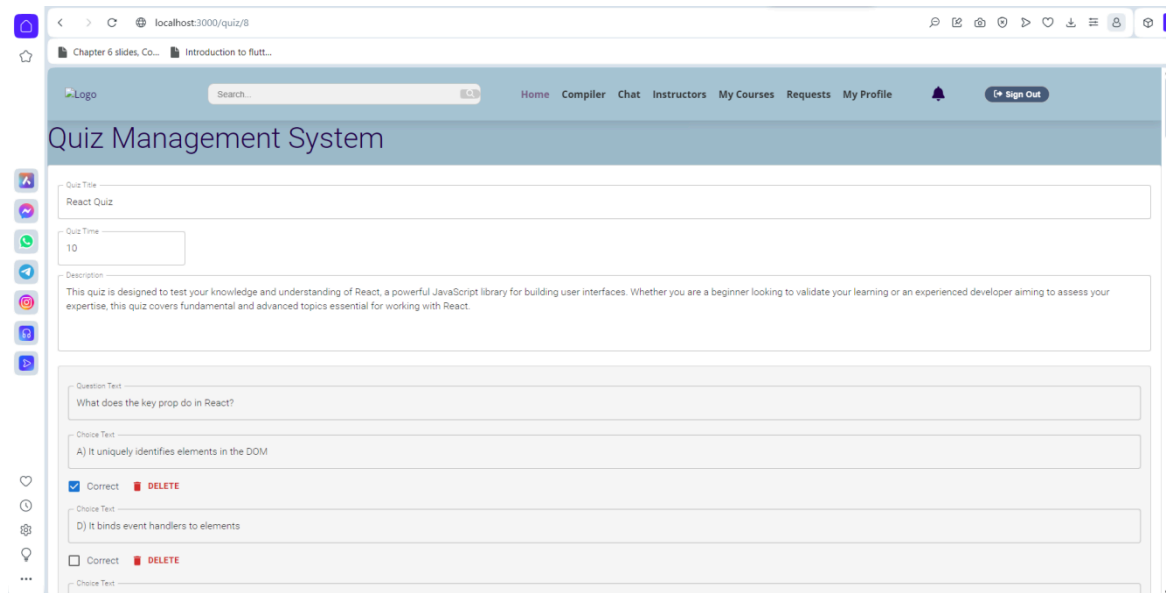


Figure 63 :Quizzes(instructor)

View Students :

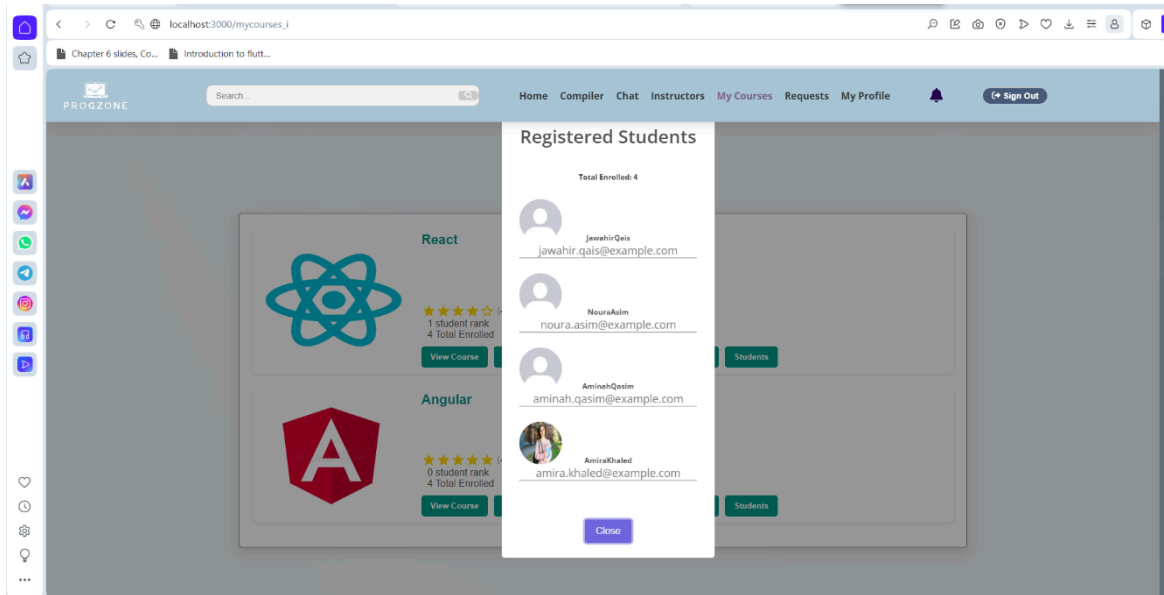


Figure 64 :View Students(instructor)

Admin Pages:

Dashboard (Admin) :

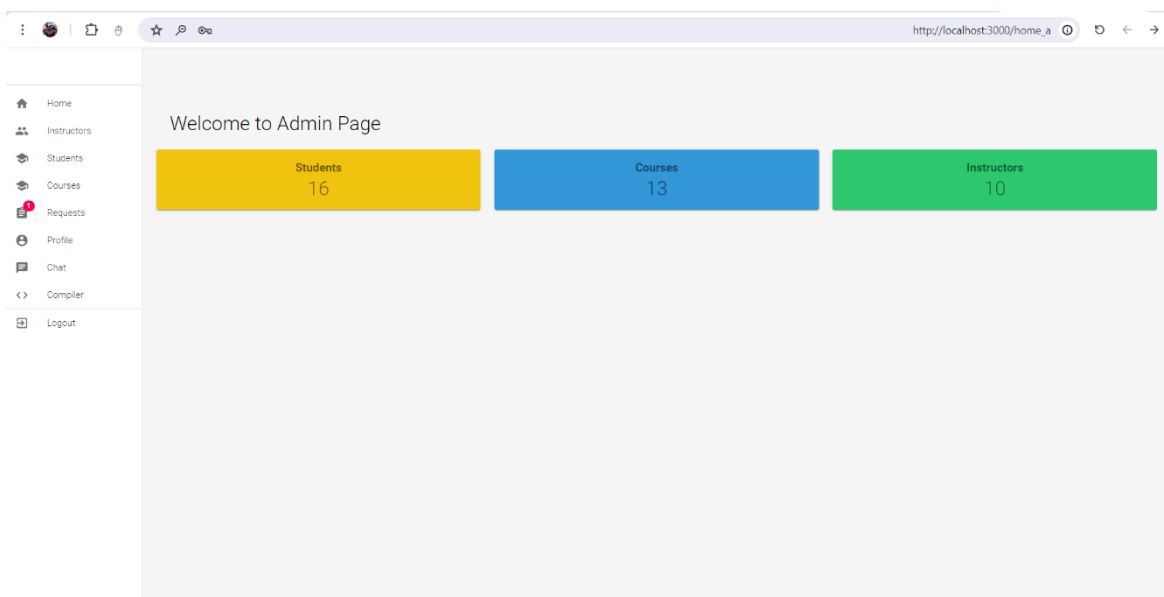


Figure 65 : Dashboard (Admin)

Instructors(Admin):

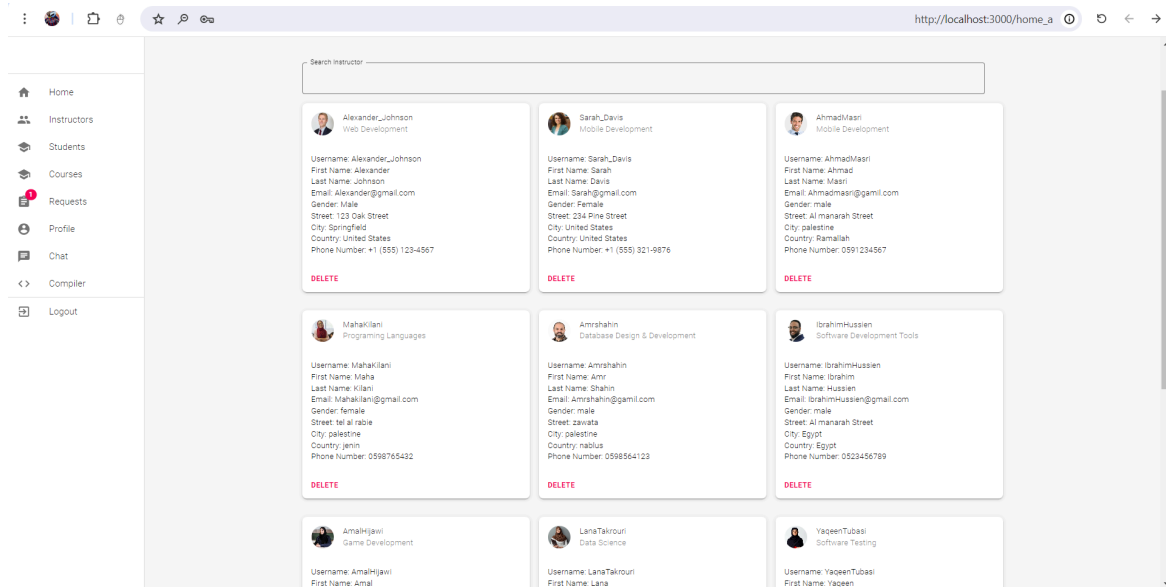
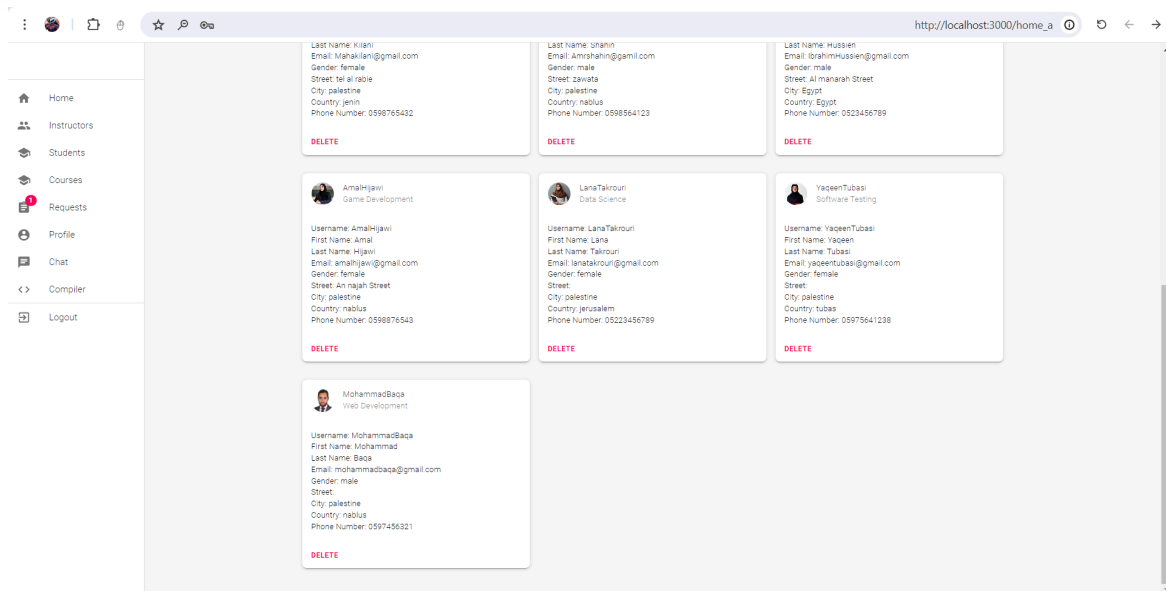


Figure 66 : Instructors(Admin)



Students(Admin):

The screenshot shows a web application interface for managing students. On the left is a sidebar with navigation options: Home, Instructors, Students, Courses, Requests, Profile, Chat, Compiler, and Logout. The main content area features a search bar labeled "Search Student". Below it, there are six student profile cards arranged in a 2x3 grid. Each card displays a profile picture, a username, and a list of personal details including first and last names, email, gender, street, city, country, and phone number. A red "DELETE" button is located at the bottom of each card.

Username	First Name	Last Name	Gender	City	Country	Phone Number
eyadhasan	Eyad	Hasan	Male	nablus	Palestine	592152262
johnwick	John	Wick	Male	Texas	USA	592152262
alpacino	Al	Pacino	Male	Crosby Street	USA	592152262
LaylaAhmed	Layla	Ahmed	Female	Dubai	UAE	+971 50 123 4567
JamilahQamar	Jamilah	Qamar	Female	Abu Dhabi	UAE	+971 50 123 4567
RiyadSuhayl	Riyad	Suhayl	Male	Jeddah	Saudi Arabia	+966 50 987 6543

This screenshot shows the same web application interface as above, but with a different set of student profiles. The sidebar and search bar remain the same. The main content area displays six student profile cards in a 2x3 grid, each with a "DELETE" button.

Username	First Name	Last Name	Gender	City	Country	Phone Number
Country: Oman					Oman	+968 92 345 678
Country: Iraq					Iraq	+964 790 876 5432
Country: Bahrain					Bahrain	+973 39 876 543
AminahQasim	Aminah	Qasim	Female	Fujairah	UAE	+971 50 123 4567
NadiaTariq	Nadia	Tariq	Female	Tabuk	Saudi Arabia	+966 50 987 6543
YusufJalil	Yusuf	Jalil	Male	Ramallah	Palestine	+972 59 345 678
AmirahKhaled	Amira	Khaled	Female	Jounieh	Lebanon	+961 3 987 654

Figure 67 : Students(Admin)

Courses(Admin):

This screenshot shows the 'Courses' page in an admin interface. The page features a search bar at the top with three input fields: 'Search Course', 'Search by Category', and 'Search by Instructor'. Below the search bar are sorting options: 'Search by Price', 'Sort by' (set to 'Title'), and 'Order' (set to 'Ascending'). The main content area displays a grid of four course cards:

- Angular**: Web Development. Price: \$70.00. Rating: 4.1 stars (4 reviews).
- GitHub**: Software Development Tools. Price: \$10.00. Rating: 4.9 stars (4 reviews).
- Html & Css & JS**: Web Development. Price: \$50.00. Rating: 4.7 stars (4 reviews).
- Introduction to flutter**: Mobile Development. Price: \$35.00. Rating: 4.8 stars (4 reviews).

Each card includes a 'VIEW DEMO' and 'DELETE COURSE' button.

This screenshot shows the 'Courses' page in an admin interface, displaying a grid of eight course cards:

- Java**: Programming Languages. Price: \$20.00. Rating: 4.1 stars (4 reviews).
- Machine-Learning**: Data Science. Price: \$35.00. Rating: 4.3 stars (4 reviews).
- PostgreSQL**: Database Design & Development. Price: \$20.00. Rating: 4.5 stars (4 reviews).
- Python**: Programming Languages. Price: \$30.00. Rating: 3.9 stars (3 reviews).
- React**: Web Development.
- React-Native**: Mobile Development.
- SQL**: Database Design & Development.
- Software-Testing**: Software Testing.

Each card includes a 'VIEW DEMO' and 'DELETE COURSE' button.

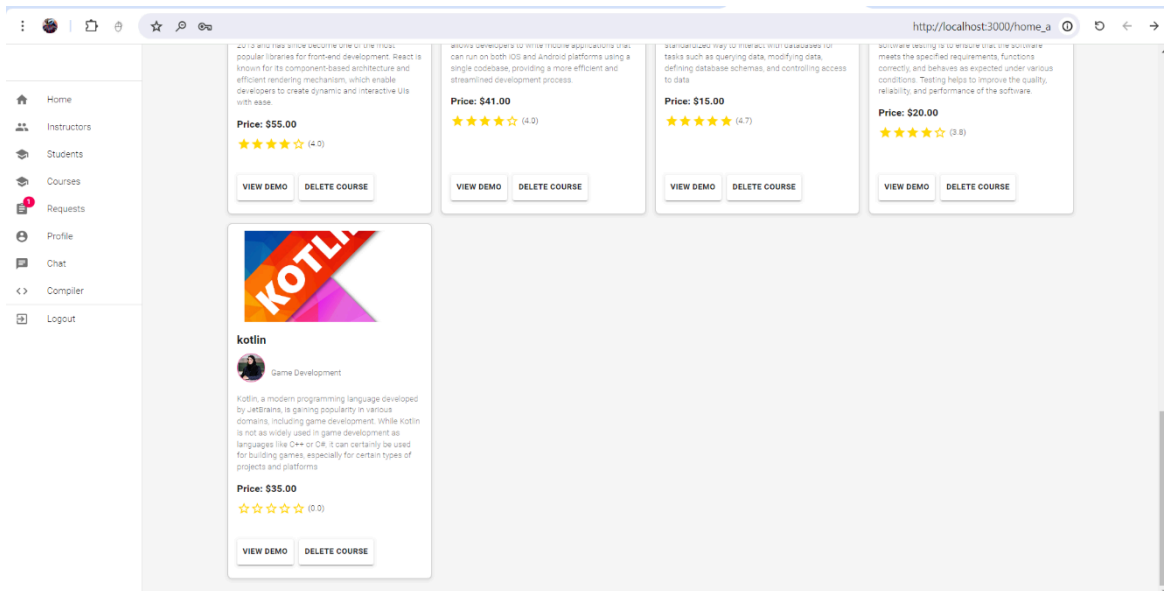
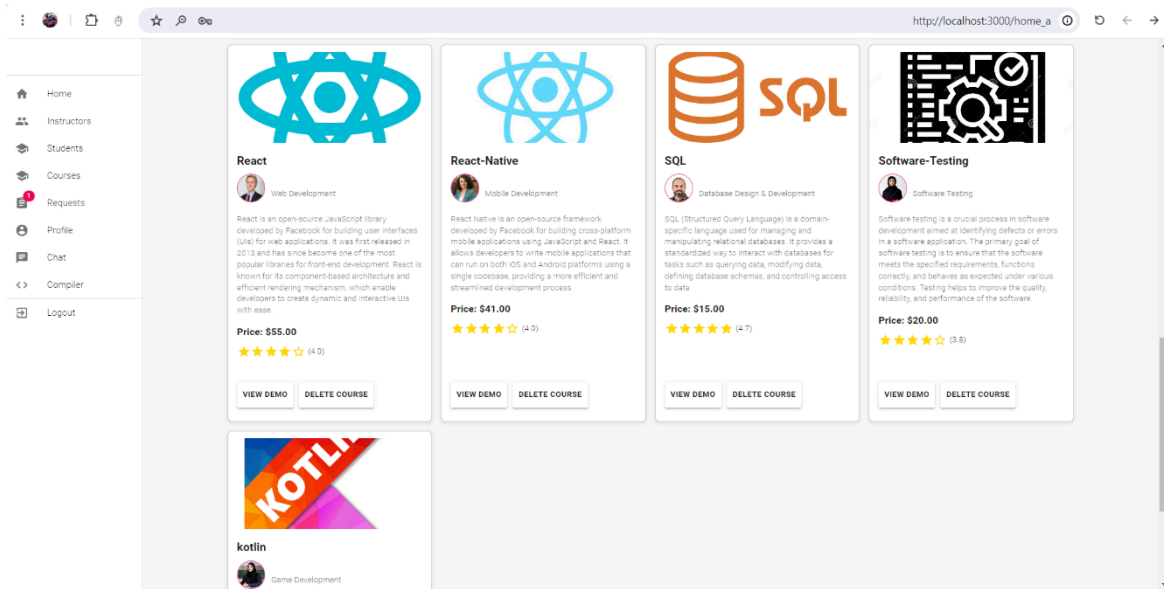


Figure 68 : Courses(Admin)

Requests(Admin):

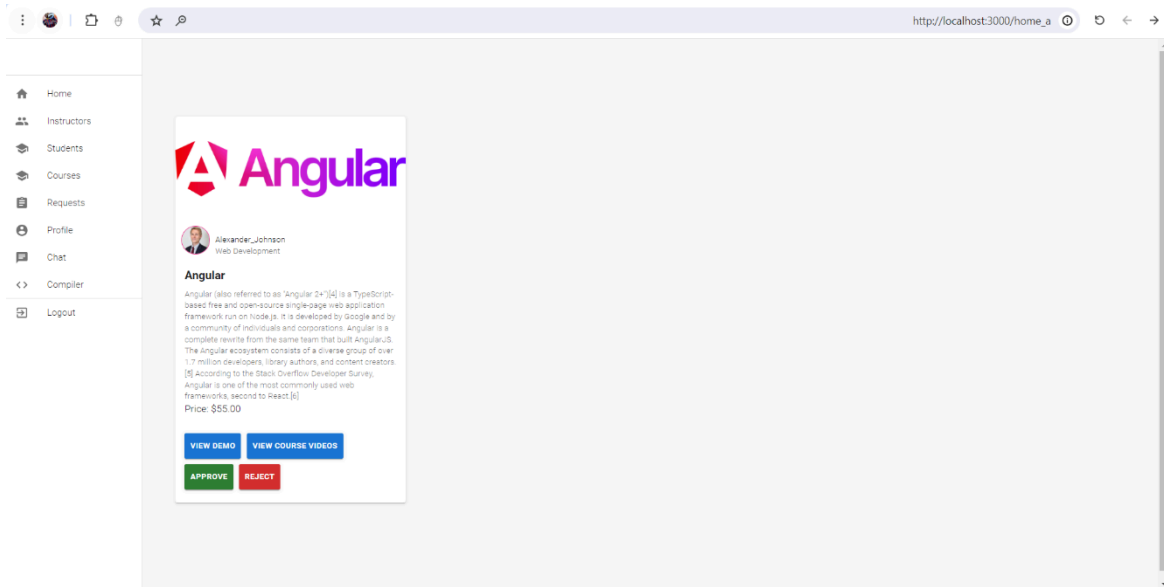


Figure 69 : Requests(Admin)

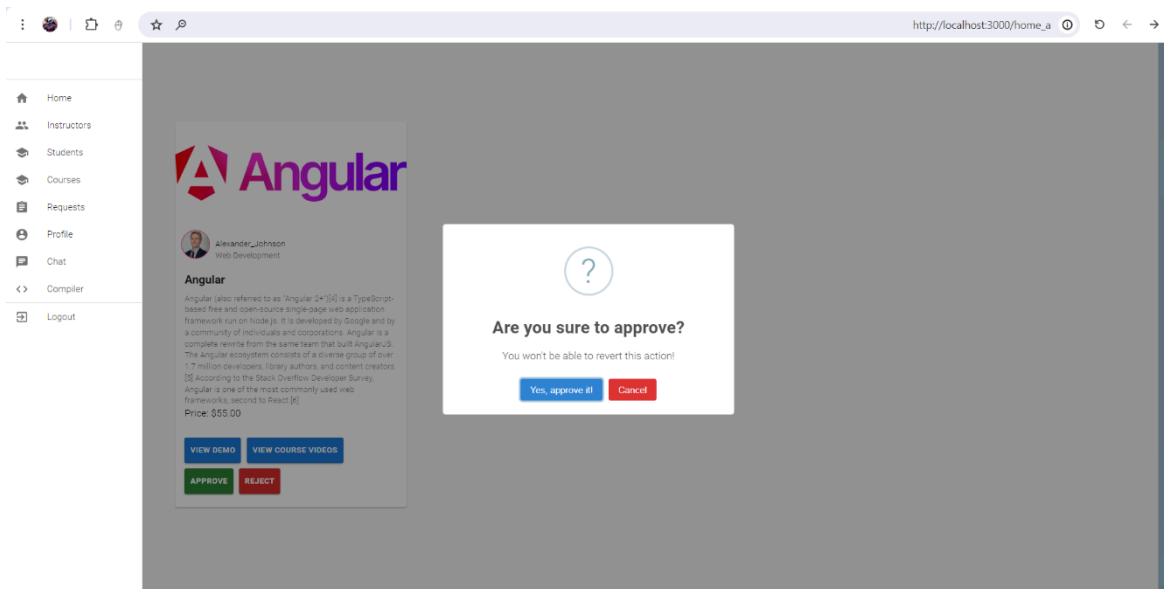


Figure 70: Approve a request(Admin)

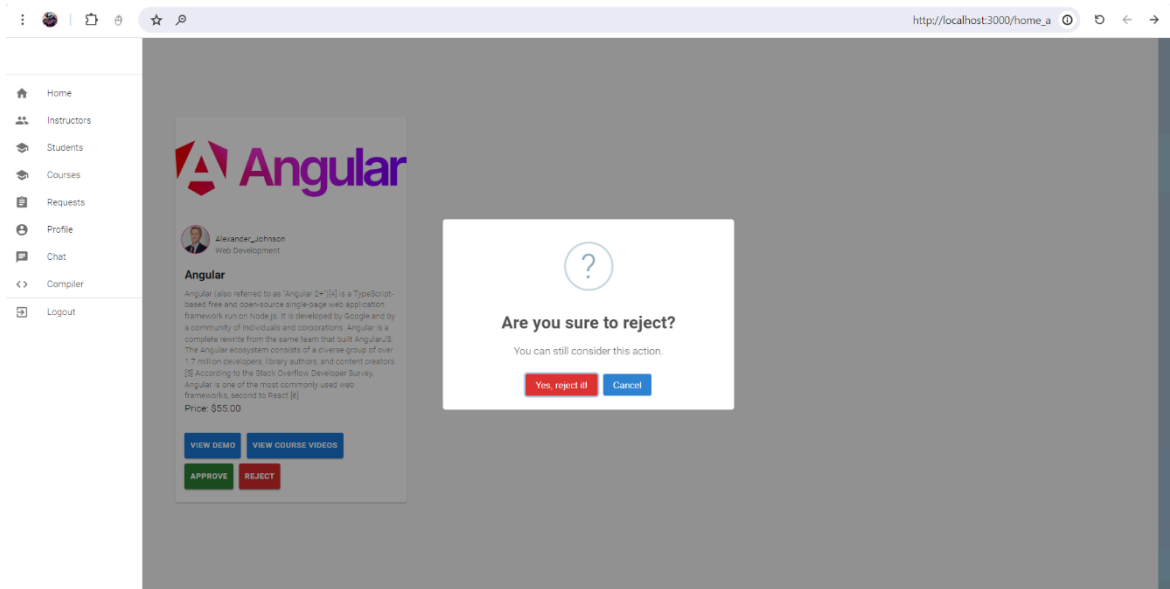
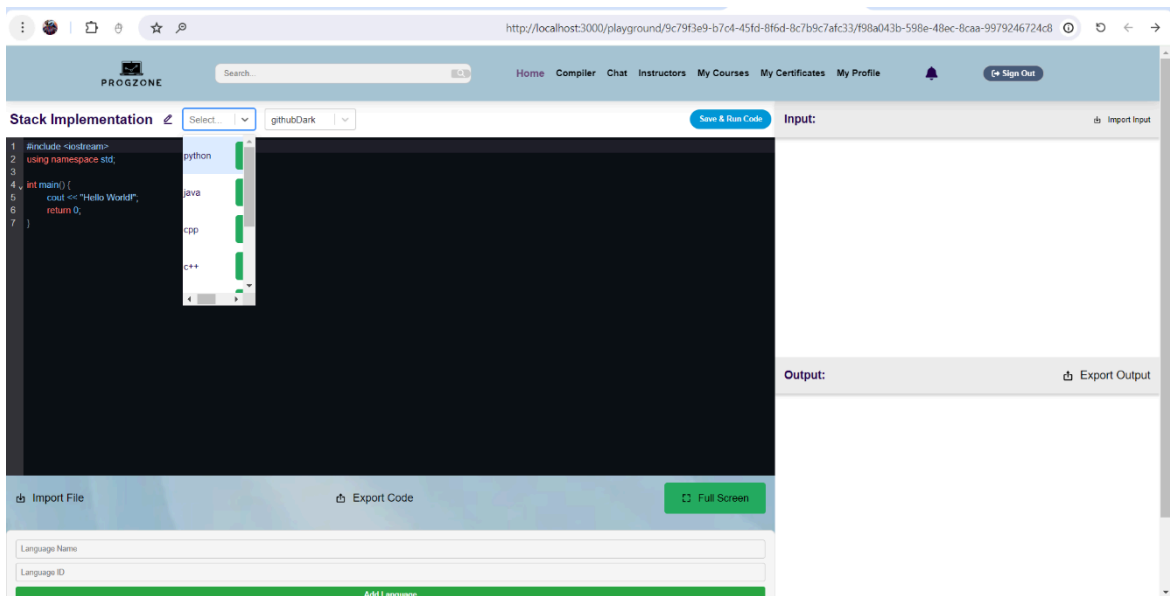


Figure 71: Reject a request(Admin)



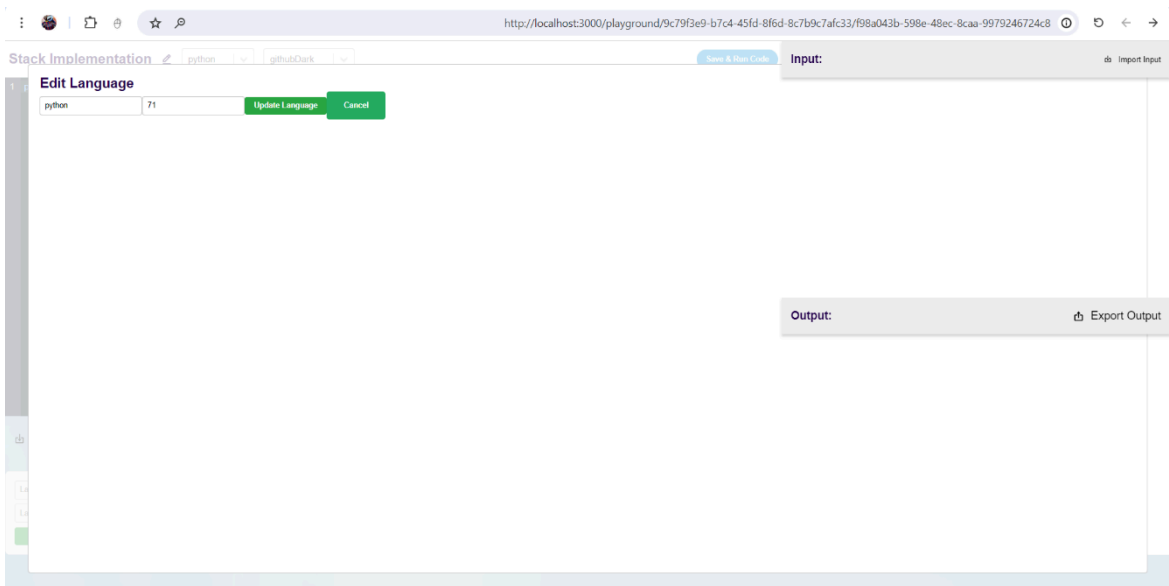
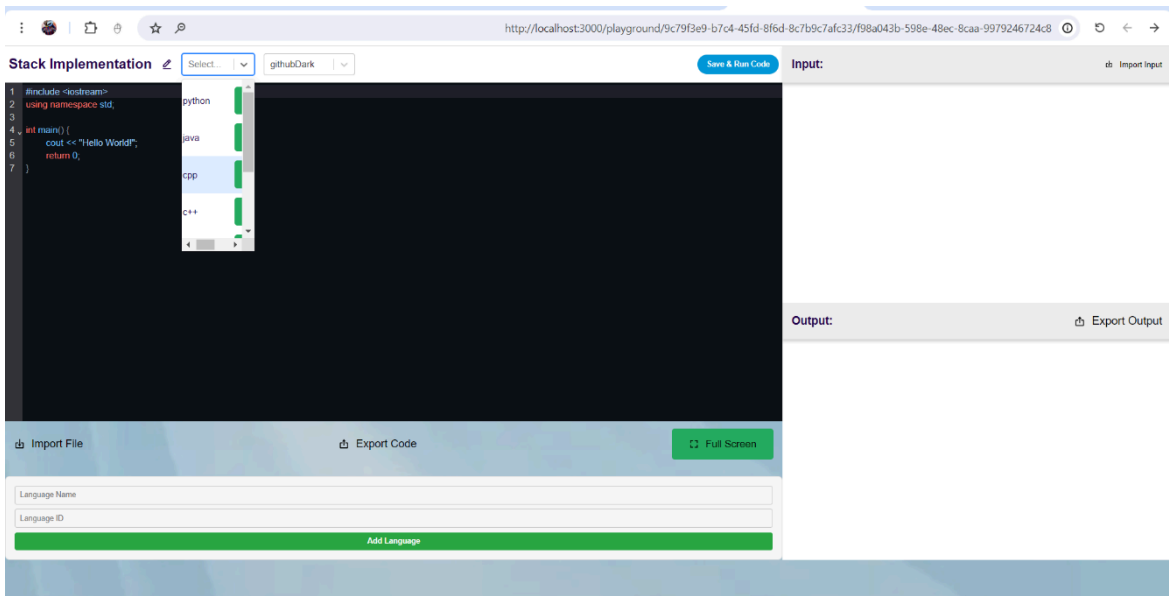
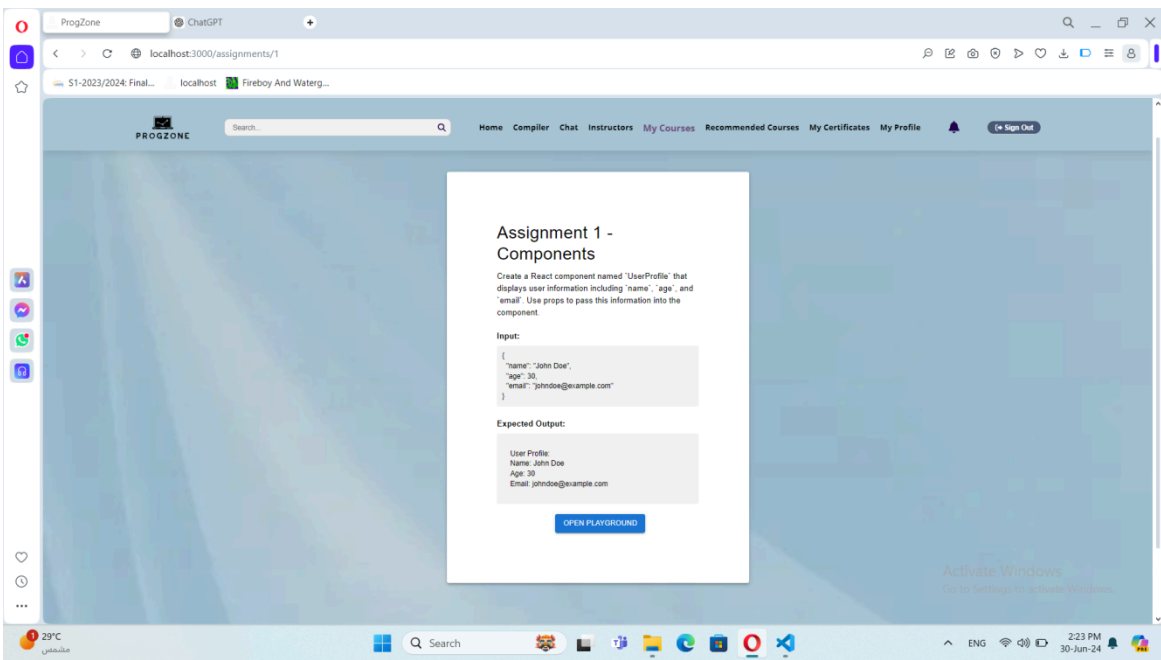
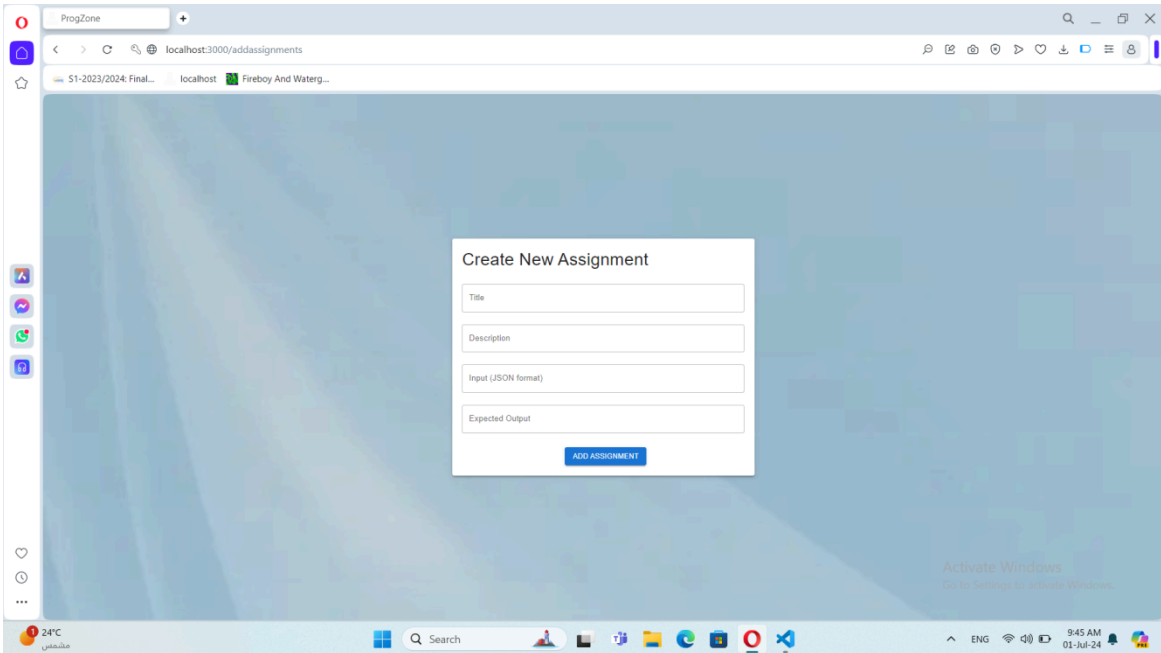
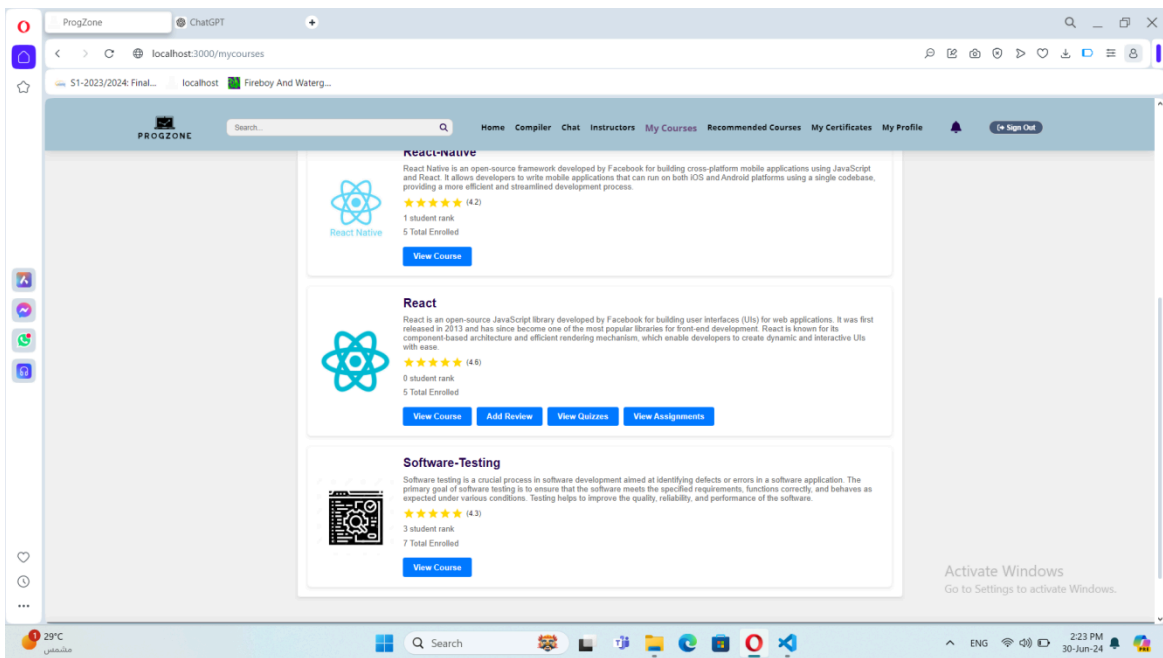
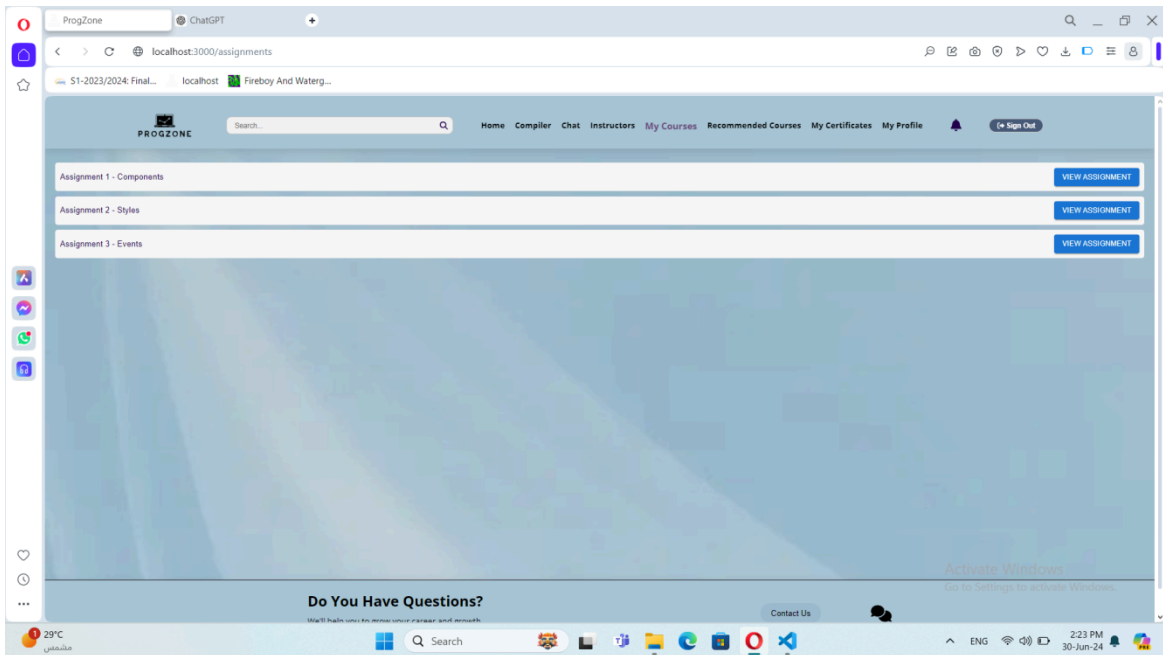


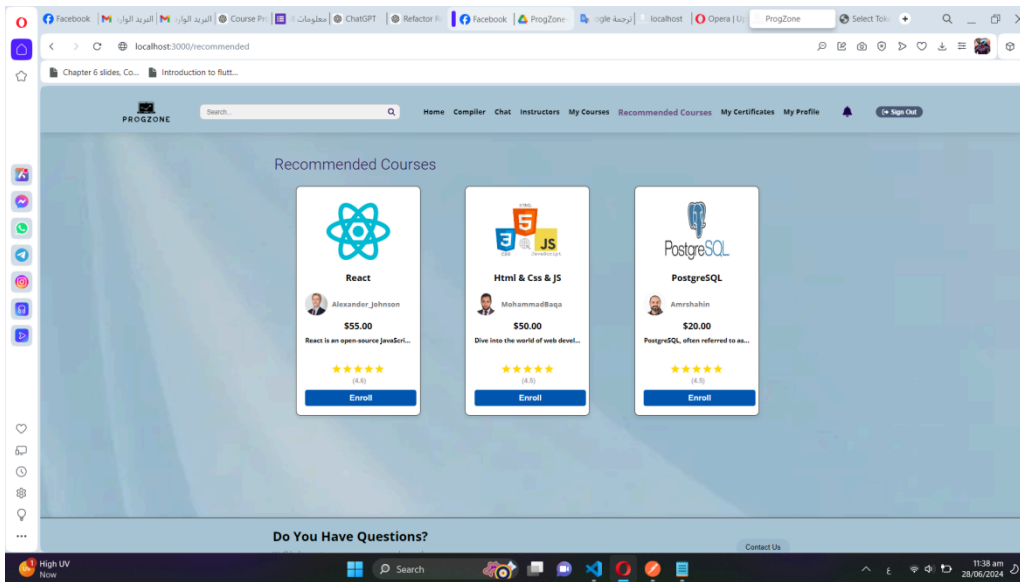
Figure 72:Compiler(Admin)

Assignments :

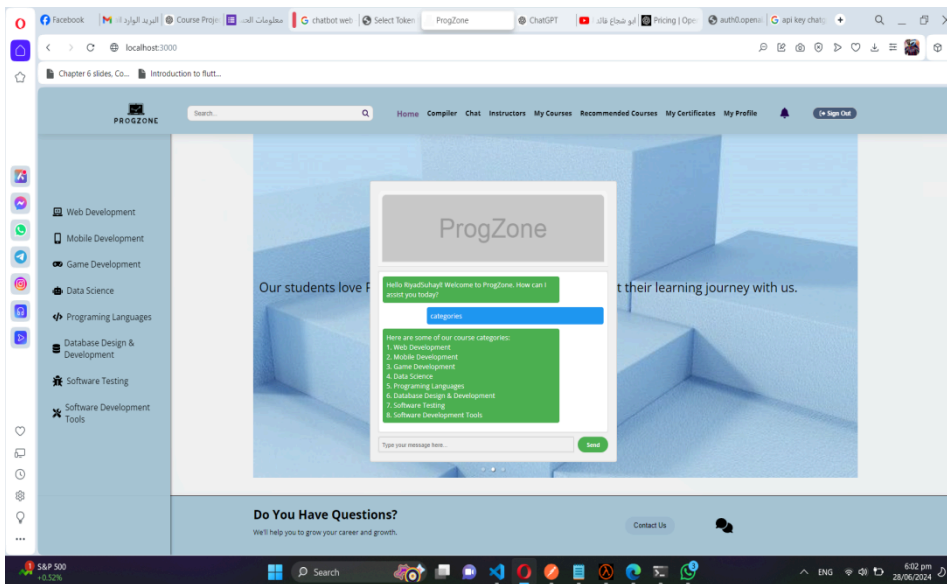




Recommendation System :



Chatbot :



6 Results and Discussion

The ProgZone project has delivered significant outcomes, seamlessly connecting users with high-quality programming education through integrated web and mobile components. The user registration and course enrollment processes showcased high efficiency, complemented by the robustness of the Django backend. The React and React Native frameworks contributed to cohesive and engaging user interfaces, enhancing overall user satisfaction. The SQLite database effectively managed user data, ensuring secure information storage and retrieval. Interactive features, such as direct messaging and course navigation, received positive feedback, empowering users to engage actively with the platform and fostering motivation. Challenges, including learning curve adjustments, were strategically addressed during development. Overall, ProgZone demonstrates its potential as a successful digital platform, poised to elevate accessibility and user experience in programming education, with ongoing considerations for user feedback integration and security enhancements.

7 Conclusion

In conclusion, the ProgZone project has achieved successful implementation and received positive feedback from users, establishing itself as a robust digital platform for connecting learners with high-quality programming education. The seamless integration of technologies and intuitive interfaces contributes significantly to its potential impact on enhancing accessibility and user experience in the field of programming education.

Future iterations of ProgZone may involve further refinements based on user feedback, ongoing security enhancements, and potential expansion of features to enrich the overall user-learning experience and interaction with instructors.

7.1 Summary

ProgZone's primary objective is to empower individuals in navigating the challenges of programming

education by connecting them with appropriate resources and enhancing their learning experience. We focused on key features throughout the project:

1. Course Catalog: Users can explore and enroll in a variety of programming courses, categorized for easy navigation.
2. User Profiles: Each user has a personalized profile to track progress, access course materials, and manage subscriptions.
3. Interactive Learning: Our platform includes features like quizzes, coding challenges, and discussion forums to facilitate active learning and engagement.
4. Admin Dashboard: Administrators have access to tools for managing courses, user data, and platform settings.
5. Payment Integration: Users can securely make payments for course subscriptions and additional services through integrated payment gateways like PayPal .

By incorporating these features and prioritizing usability and functionality, ProgZone aims to streamline the learning process, foster a sense of community among learners, and provide a comprehensive platform for programming education.

7.2 Future Work

Our vision for the future of ProgZone includes expanding our platform to accommodate group sessions, allowing multiple users to participate simultaneously. For instance, teams or study groups can collaborate in a shared workspace, fostering interactive learning and collaboration. Additionally, we plan to integrate features that enable users to track and cultivate healthy habits in their lives, such as fitness goals, mindfulness practices, and nutrition tracking. Another area of development is creating a music playlist feature designed to promote relaxation and aid in managing anxiety. Furthermore, we aim to implement a community forum within the system, providing users with a platform to exchange ideas, seek support, and engage in discussions related to programming education and mental well-being. These enhancements will further enrich the ProgZone experience, fostering a holistic approach to learning and personal growth.

7.3 References

- [Coursera React Course. Retrieved from Coursera platform.](#)
- [Django Documentation. Retrieved from Django website.](#)