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APTECH

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# RGB Movie

## Design Document

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<b>Group No:</b>	05		
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We also thank our colleagues who have helped in successful completion of the project.

# **REVIEW1**

# 1. Overview

## 1.1 Project Information

- Project name: RGB Movie
- Group name: Group 05
- Software type: Web Application, Mobile Application

## 1.2 Product Background

Designing and developing a web and mobile application for cinema ticket booking involves several stages of production. Here's a brief overview of the production background:

**Requirement gathering:** This stage involves identifying the requirements of customer for the application. It is essential to gather feedback from users to determine the features and functionality that should be included in the application.

**Design:** Once the requirements are clear, the design phase begins. It includes creating the visual design of the application and defining the user interface and user experience. A prototype may be developed to get feedback from users.

**Development:** This phase involves the actual development of the application. The development team will use the appropriate technology stack to build the application, and the features identified in the design stage will be implemented.

**Testing:** Before the application is released, it must be thoroughly tested to ensure that it meets the requirements and functions as expected. Various types of testing, including functional, performance, and security testing, should be conducted.

**Deployment:** Once the application is tested and approved, it is deployed to the production environment. This involves setting up servers, configuring the database, and other technical tasks.

**Maintenance and support:** After the application is deployed, it is important to provide ongoing maintenance and support to ensure that it continues to function correctly. Bug fixes, updates, and improvements may be required over time.

To create a web project and mobile app for cinema ticket booking, it will need to consider the specific features and functionality that customer require. This can include booking movie tickets, keep up on now showing and coming soon movies, theaters, seats, view movies rating, post comments, ...

## 1.3 Existing Systems

There are several existing systems for a cinema ticket booking web and mobile application projects that we can consider when developing your own app. Here are a few examples:

Fandango: One of the best movie ticketing app with over 2 million 5-Star Reviews. Available for all mobile users, browse Rotten Tomatoes® scores, and find the best showtimes and seats for more than 31,000 screens nationwide.

BookMyShow: Known as India's No.1 all-in-one Entertainment portal, Over 60M+ Users have downloaded the BookMyShow app till Now. Through this app, you can book tickets for movies, sports, concerts and many other events happening in your city. You can also Check Movie Timings, Movie Reviews and Upcoming Movies.

Ticket New: Ticket New focuses on Booking Movie Tickets. The company has tie-up with Cinema Groups like Carnival, PVR, Movietime, Inox etc for booking tickets online. It is easy to use application and focus only on booking movie tickets which do not frustrate user with loads of other service popups.

CJ CGV: CJ CGV is the largest multiplex cinema chain in South Korea which also has branches in China, Indonesia, Myanmar, Turkey, Vietnam, and the United States. Their quality and diverse services, activities, events have become a bright model of the film industry.

Rotten Tomatoes®: Rotten Tomatoes and the Tomatometer score are the world's most trusted recommendation resources for quality entertainment. As the leading online aggregator of movie and TV show reviews from critics, they provide fans with a comprehensive guide to what's Fresh and what's Rotten in theaters and at home.

When developing our own web and mobile application project, we can take inspiration from these existing systems and incorporate features and functionalities that are relevant to your target audience. It's important to conduct thorough research and identify the unique needs and pain points of your users to ensure that your application is successful.

## 1.4 Business Opportunity

The cinema industry offers a variety of business opportunities. Here are some facts about business opportunities in the cinema industry:

Cinema ticket booking: Business cinema ticket booking can be very promising. You can build an online booking website, develop a mobile app or provide booking services for theaters.

Contests and Events: Organizing contest and recreational activities is an attractive business opportunity. You can create unique contests and activities, attracts sponsorship and building

an enhancing platform where talented filmmakers can be identified.

Movies review: You can rate, share your watching experience and feeling about movies that you have watched.

A cinema ticket booking website and mobile app can bring many advantages in terms of attractive features for users. Below are some key points:

- Easy to use
- Quickly search and book cinema tickets
- View available and future movies, theater and seat details
- Wide range and frequent activities
- Convenient QR checking
- Online payment

## 1.5 Project Scope & Limitations

A cinema ticket booking web project can require many complex elements and features to serve users in the best ways. However, here are some of the common limitations encountered in the project:

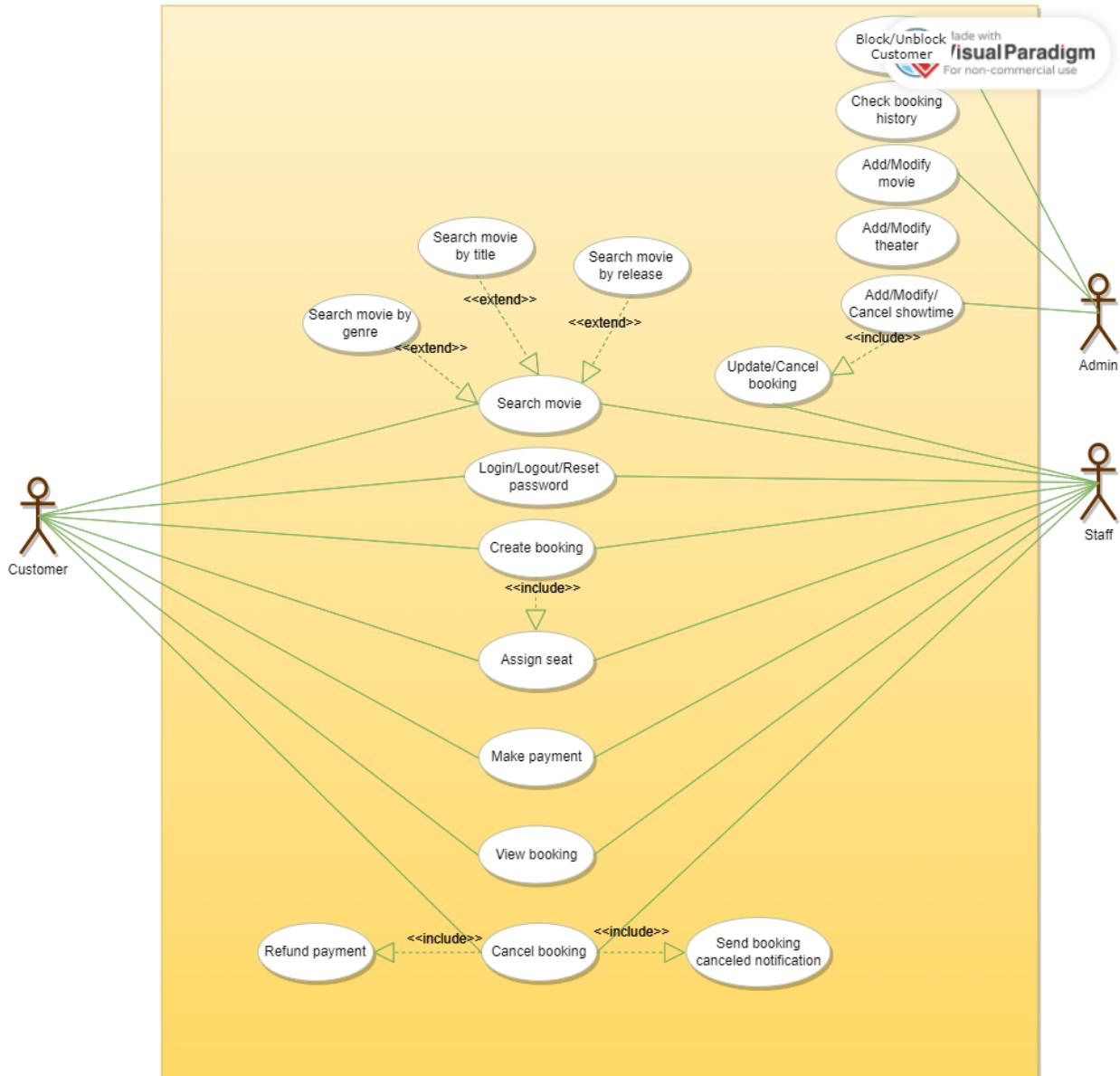
- Limited quality control: While a cinema ticket booking website may display reviews and comments from previous customers, it is difficult to control the actual quality of movies. This depends on the capabilities of the service and the individual customer experience.
- Theater or seat look and feel: Every theater may have different looks and designs. This may degrade the user experience or not satisfy some special requirements.
- Limited customer support: Some sites may not offer comprehensive customer support channels or slow response times.
- Payment feature limitations: A cinema ticket booking web project may struggle to integrate complex payment forms or support special payment processes.

## 2. User Requirements

## 2.1 Actor

#	Actor	Description
0	<b>Customer</b>	Normal users after successfully logging in can view movie, schedules, book and cancel booking.
1	<b>Admin</b>	The administrator have full control of the system. Responsible for adding and modify movies, theater, showtime, check booking history, block/unblock customer, etc.
2	<b>Staff</b>	Staff can login to the management console to check booking history and book/cancel booking.

## 2.2 High-level Use Case



## 2.3 Use Case List

#	Code	Name	Description
<b>All users</b>			
1	UC101	<b>Create account</b>	Create account with email and password or social identity provider (Google)
2	UC102	<b>Login</b>	Login with email and password or social identity provider (Google)
3	UC103	<b>Search And View All Theaters, Movies Details</b>	Search and view all available theaters, movies, upcoming movies information in details
<b>All logged in Users &amp; Customer</b>			
1	UC107	<b>Logout</b>	Logout from website or mobile app
3	UC109	<b>Forgot password</b>	Reset current password
4	UC110	<b>Book Movie Ticket</b>	Buy ticket for available movies
5	UC111	<b>View Self Booking History, Status</b>	View ticket booking history
6	UC112	<b>Edit, Cancel Self Booking</b>	Edit, Cancel booked ticket
<b>Admin</b>			
1	UC201	<b>CRUD All Theaters, Movies, Screeentime Details</b>	Can view/add/update/delete all Theaters, Movies and Showtime details
3	UC203	<b>Disable Account</b>	Block account
4	UC204	<b>View All Ticket Booking History, Status from Customer</b>	View all ticket booking history and status
5	UC205	<b>Deny Ticket Booking</b>	Deny all ticket booking
<b>Staff</b>			
1	UC401	<b>View Ticket Booking History, Status</b>	View his/her Theater ticket booking history and status
2	UC402	<b>Book/Cancel Booking</b>	Book and cancel booking

## 2.4 Use Case & Actor mapping

Actor		Admin	Staff	Customer
Use Case				
UC101	<b>Create account</b>	X	X	X
UC102	<b>Login</b>	X	X	X
UC103	<b>Search And View All Theaters, Movies Details</b>	X	X	X
UC106	<b>In-app Notification</b>	X	X	X
UC107	<b>Logout</b>	X	X	X
UC108	<b>Manage Self Profile</b>	X	X	X
UC109	<b>Forgot password</b>	X	X	X
UC110	<b>Book Movie Ticket</b>	X	X	X
UC111	<b>Online Payment</b>	X	X	X
UC112	<b>View Self Booking History, Status</b>	X	X	X
UC113	<b>Cancel Booking</b>	X	X	X
UC201	<b>Manage Theaters, Movies</b>	X		
UC203	<b>Block Account</b>	X		

UC204 UC304	<b>View Booking History, Status</b>	X	X	X	X
UC205 UC305	<b>Deny Ticket Booking</b>	X	X		
UC605	<b>Management System</b>	X			

### 3. Management Plan

The project started on 18 Oct and will be handed over on 22 Nov, so overall there will be **5 weeks** for planning, training, and implementation.

#### 3.1 Scope and Estimation

#	WBS Item	Due Date	Complexity	Est. Effor (days)
1	<b>Requirement and Planning</b>			12
1.1	Project Plan		Medium	0.5
1.2	Traning Plan		Medium	0.5
1.3	Review 1 - Introduction and Plan		Medium	1
1.4	Review 2 - System Design		Medium	1
1.5	Review 3 - Product Specification		Medium	2
1.6	Overall testing, system integration, documentations (user guide, installation guide)		Medium	6
1.7	Brief demo		Low	1
2	<b>Design</b>			3
2.1	Design User Interface (UI) prototypes		Medium	2
2.2	Overal System diagram		Low	0.2

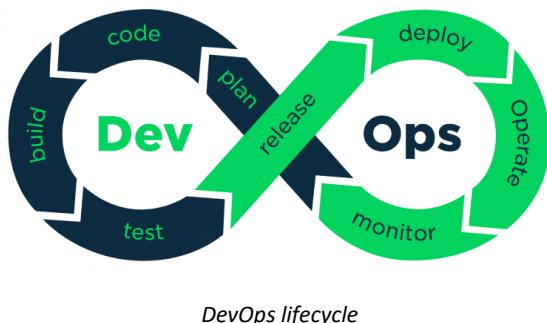
2.3	Write Use Case diagram		Medium	0.2
2.4	Draw Flow diagram		Medium	0.2
2.5	Entity Relation diagram (ERD)		Medium	0.2
2.6	Draw Class diagram		Medium	0.2
<b>3</b>	<b>Implementation</b>			
<b>3.1</b>	<b>Database</b>			<b>1</b>
3.1.1	Implement database from the document (write SQL)		Low	1
<b>3.2</b>	<b>Authorization and Authentication</b>			
3.2.1	Setup Authentication & Authorization for microservices (Auth0 integration)		High	1
3.2.2	Auth0 Login Page (for mobile app & web app)		High	
3.2.3	Logout		High	
3.2.4	Sign in/up hook		High	
<b>3.3</b>	<b>API Service</b>			
3.3.1	Setup monolith API repository		High	
3.3.2	Config maven build/test/deploy lifecycle		Low	
3.3.3	Setup Gitlab work		High	
3.3.4	Account API(s)		High	0.5
3.3.5	Booking API(s)		Medium	0.5
3.3.6	Static Data API(s)		High	0.5
3.3.7	Staff API(s)		High	0.5
3.3.8	Schedule API(s)		Medium	0.5
3.3.9	Payment API(s)		Medium	1
3.3.10	Super Admin API(s)		Medium	2

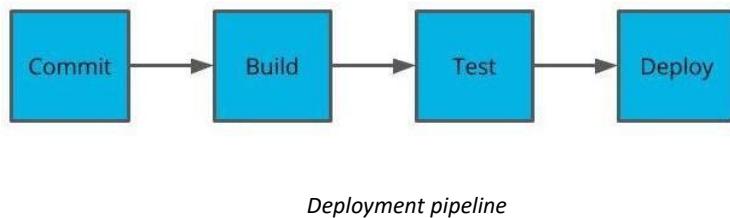
3.3.13	Email recover (using email provider like MailGun)		High	1
<b>3.4</b>	<b>Web App</b>			
3.4.1	Register		High	
3.4.2	Login		High	
3.4.3	Home		High	
3.4.4	Admin		High	
3.4.5	Booking		Medium	
3.4.6	Detail tour		Low	
3.4.7	Language		High	
<b>3.5</b>	<b>Mobile App</b>			
3.5.1	Splash		High	
3.5.2	Onboard-1		High	
3.5.3	Onboard-2		High	
3.5.4	Onboard-3		High	
3.5.5	Login		High	
3.5.6	Forgot Password		High	
3.5.7	Verify Password		High	
3.5.8	Register		High	
3.5.9	Terms of Service		High	
3.6.0	Account		High	
3.6.1	Home		High	

3.6.2	Not found		Low	
3.6.3	Filter		Low	
3.6.4	Explore		Low	
3.6.5	Destination		Low	
3.6.6	Policy		Low	
3.6.7	Review		Low	
3.6.8	Gallery		Low	
3.6.9	Video		Low	
3.7.0	Create Booking		Low	
3.7.1	Note		Low	
3.7.2	Payment		Low	
3.7.3	Susccess		Low	
3.7.4	Message		Low	
3.7.5	Profile		Low	
3.7.6	Edit		Low	
3.7.7	Account and Setting		Low	

## 3.2 Management Approach

Applying the DevOps model to management enables the SPD team to implement the product with effective coordination among development team members.





### 3.3 Training Plan

Training Area	Participants	When, Duration	Waiver Criteria
Api for Spring Boot	All members	Week 1, 3 days	Mandatory
Github	All members	Week 1, 1-day	Mandatory
DrawIO	All members	Week 1, 1-day	Mandatory
Thymeleaf	All members	Week 2, 3 days	Mandatory
Dart, Flutter	All members	Week 2, 3 days	Mandatory

## 4. System Requirements

### 4.1 Hardware Requirement

- AMD Opteron, AMD Athlon 64, Intel Xeon with Intel EM64T support, Intel Pentium IV with EM64T support or faster
- Processor Speed 2.0Ghz or faster
- 4G of RAM or higher. (8 GB recommended)
- Hard disk requirement: minimum 50GB
- Windows 10, or windows server 2016 or higher
- Snapdragon 2xx or higher
- Can connect to Internet

### 4.2 Software Requirements

- Postgres database
- IntelliJ Community 2023 / Apache Netbeans 13 or 17
- Maven 3 CLI
- Java Development Kit (JDK) 17 or higher
- No web server requirement (Spring built-in Tomcat server)

- Visual Studio Code (with Dart + Flutter extension)
- Flutter SDK (stable version 3.x.x)
- Android / IOS virtual devices
- Spring Boot (3.x.x)
- Google Chrome, Opera, OperaGX

## 4.3 Technology Summary

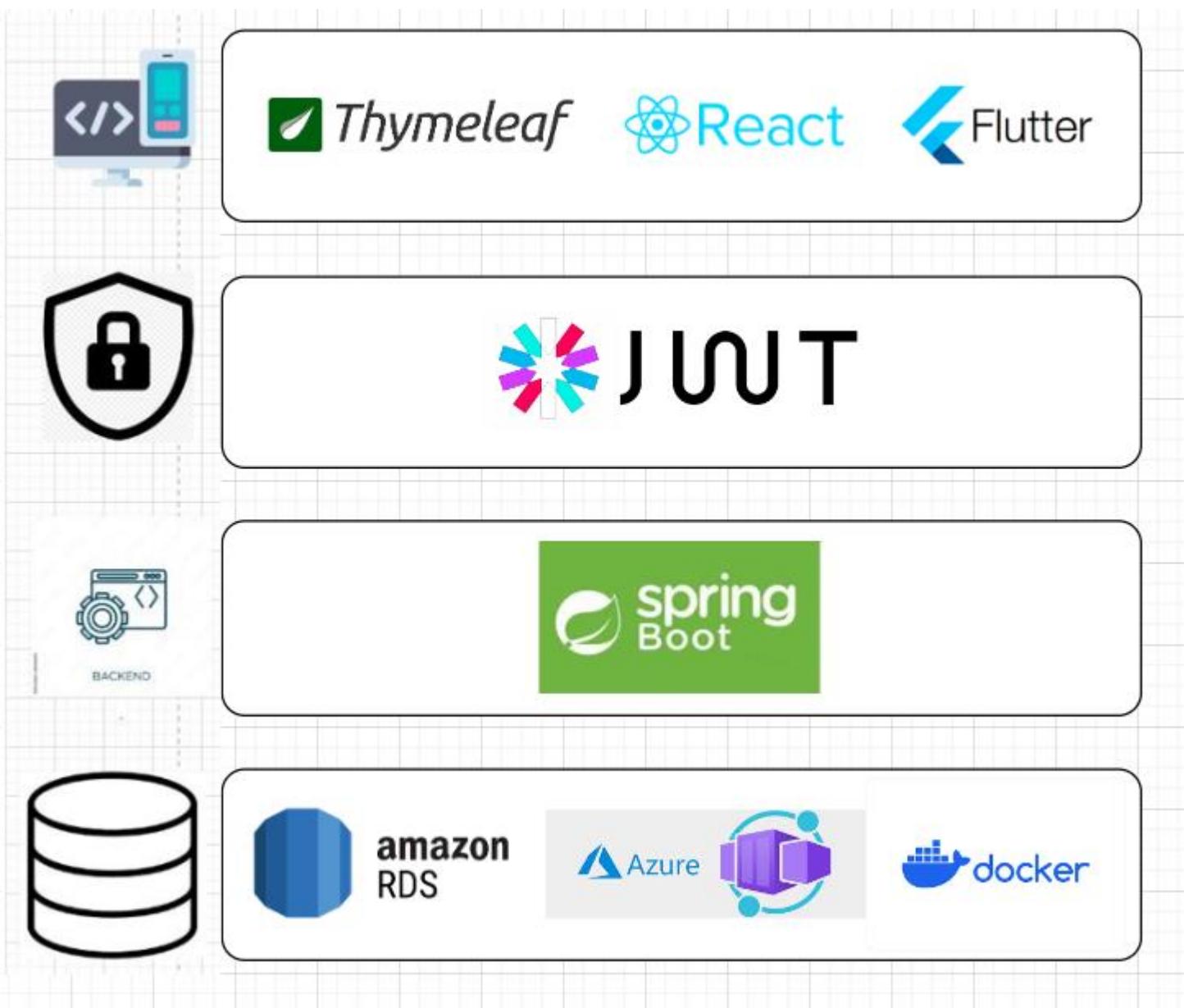
- Web Application: **React**
- Mobile Application: Flutter
- BackEnd APIs: Spring Boot
- Data Service: Amazon RDS MySql
- Deploy and Packaging: Docker, Azure Container

# Task Sheet 1

Members Group		Date Preparation of Activity Plan			
No	Name	Description Task	Start Date	End Date	Status
1	All members	High-level use case	18/10/2023	22/11/2023	complete
		User Case list	18/10/2023	22/11/2023	complete
		Management Plan	18/10/2023	22/11/2023	complete
2	All members	Use Case & Actor mapping	18/10/2023	22/11/2023	complete
3	Hua Le Quang	Product Overview	18/10/2023	22/11/2023	complete
	Nguyen Tuan Loc		18/10/2023	22/11/2023	complete
3	Nguyen Phat Tai	System Requirements	18/10/2023	22/11/2023	complete
Teacher			Team Leader		
Ngo Van Thuan			Nguyen Tuan Loc		

# **REVIEW 2**

# 1. Architecture Design

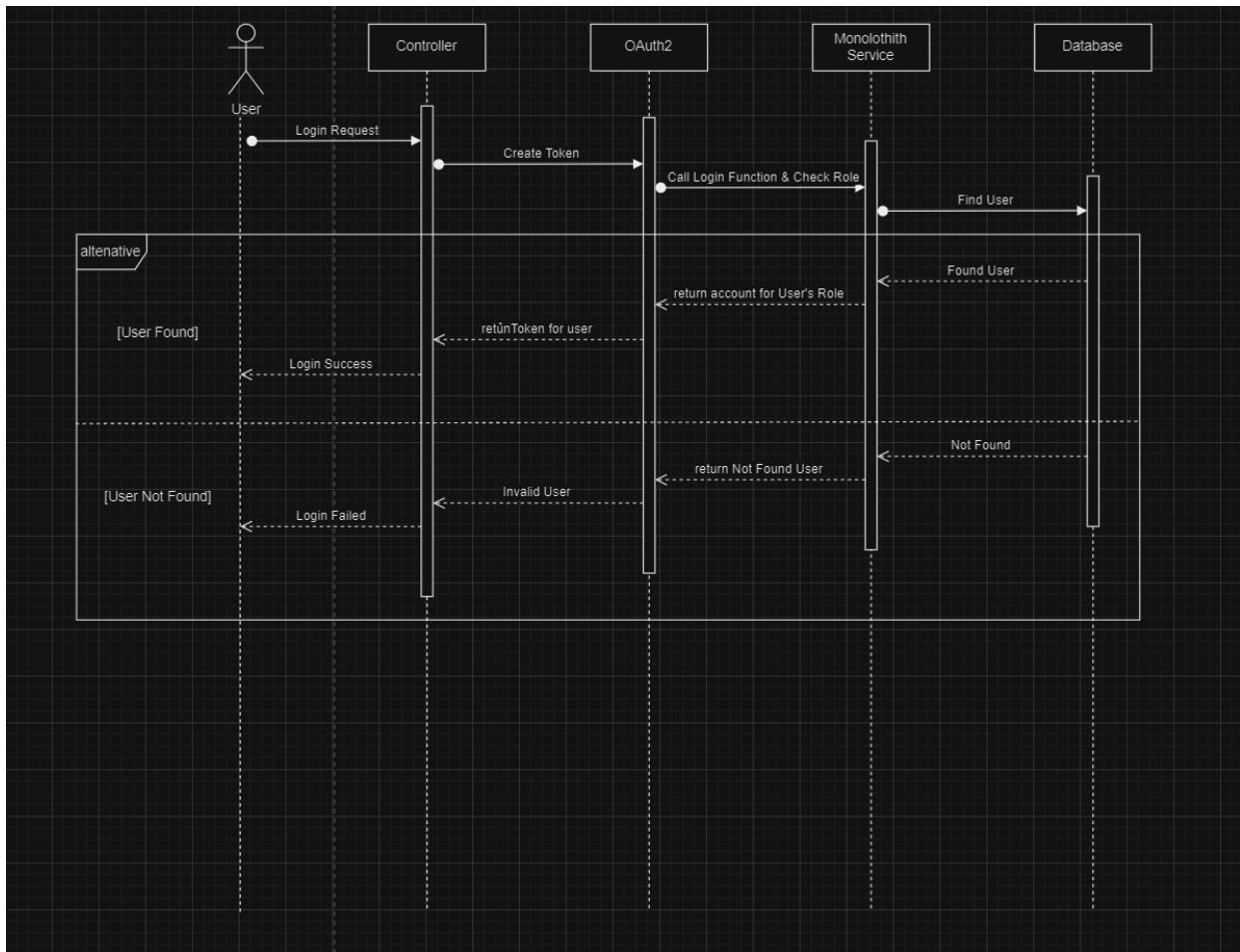


## 2. Use Case and Sequence Diagram

### 2.1 Login

ID and Name:	UC101 - Login		
Primary Actor:	Unauthorized user	Secondary Actor:	n/a
Description:	Anonymous user login into the system, and give access to specific features according to his/her role		

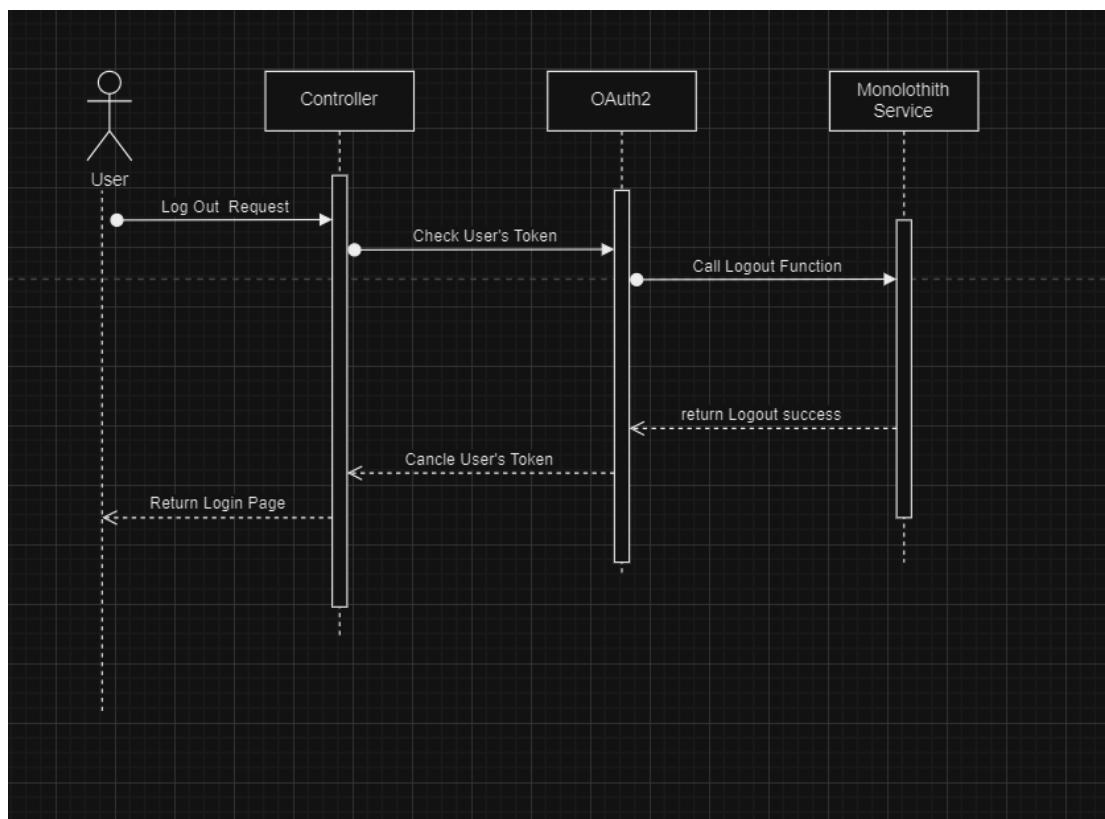
Pre-condition:	Anonymous user
Post-condition:	<p><b>Success:</b> claim access token and will be redirected to home          Unauthorized userpage  <b>Fail:</b> the system show error message</p>
Normal Flow:	<p><b>Web application:</b></p> <ol style="list-style-type: none"> <li>1. Anonymous user try to access restricted resource</li> <li>2. He/she will be redirected to Login Page</li> <li>3. User fill in the login form:           <ul style="list-style-type: none"> <li>○ Email: text input</li> <li>○ Password: password input</li> </ul> </li> <li>4. User clicks on “Login” button</li> <li>5. Authorization server validates given credentials and response access token</li> <li>6. The browser immediately redirects the user to Home Page</li> <li>7. Home Page shows up specific features based on the user’s role</li> </ol> <p><b>Mobile application:</b></p> <ol style="list-style-type: none"> <li>1. Anonymous user opens Pulse mobile application</li> <li>2. Login Screen will show up</li> <li>3. User fill in the login form:           <ul style="list-style-type: none"> <li>○ Email: text input</li> <li>○ Password: password input</li> </ul> </li> <li>4. User clicks on “Login” button</li> <li>5. Authorization server validates given credentials and response access token</li> <li>6. Mobile app redirects user to Home Screen</li> </ol>
Alternative Flow:	n/a
Exception Flow:	<p><b>Anonymous user fails to fill in all the required fields</b></p> <ul style="list-style-type: none"> <li>● Frontend shows messages MSG08</li> </ul> <p><b>Anonymous user provides incorrect credentials</b></p> <ul style="list-style-type: none"> <li>● Frontend shows message MSG04.</li> </ul> <p><b>Internet connection lost</b></p> <ul style="list-style-type: none"> <li>● Frontend forwards to Lost Internet page.</li> </ul>
Priority:	High
Frequency of Usage:	Sometimes



## 2.2 Logout

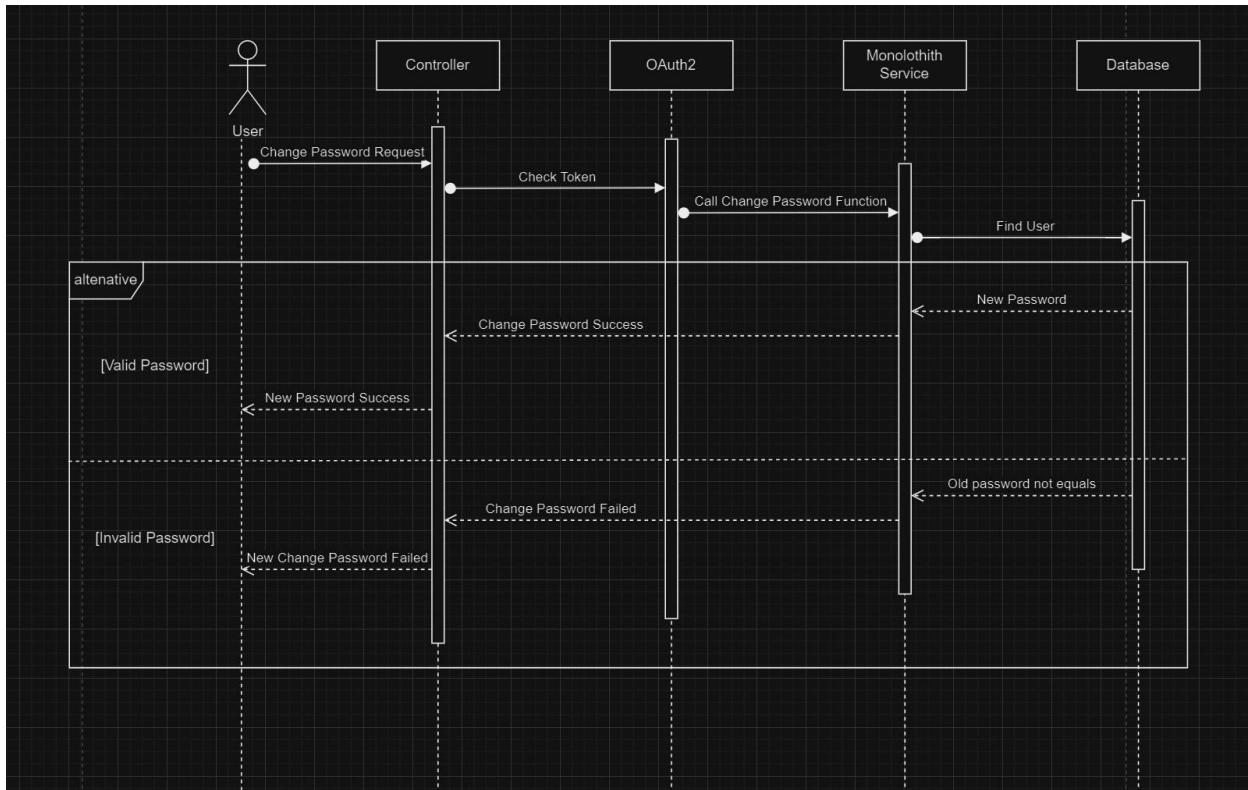
ID and Name:	UC102 - Logout		
Primary Actor:	Authenticated user	Secondary Actor:	n/a
Description:	User leaves the system and clears all access token in the browser. The system will require the user to log in again.		
Pre-condition:	User successfully logged in		
Post-condition:	User logged out, require to login again to access restricted resources		

Normal Flow:	<p><b>Web application:</b></p> <ol style="list-style-type: none"> <li>1. User click on “Logout” button on the menu-bar</li> <li>2. User will be redirect back to Login Page</li> </ol> <p><b>Mobile application:</b></p> <ol style="list-style-type: none"> <li>1. User taps on “Profile” icon at the bottom</li> <li>2. Sidebar shows up</li> <li>3. User taps on “Logout” button</li> <li>4. User will be redirect back to Login Screen</li> </ol>
Alternative Flow:	<i>n/a</i>
Exception Flow:	<i>n/a</i>
Priority:	High
Frequency of Usage:	sometimes



## 2.3 Change Password

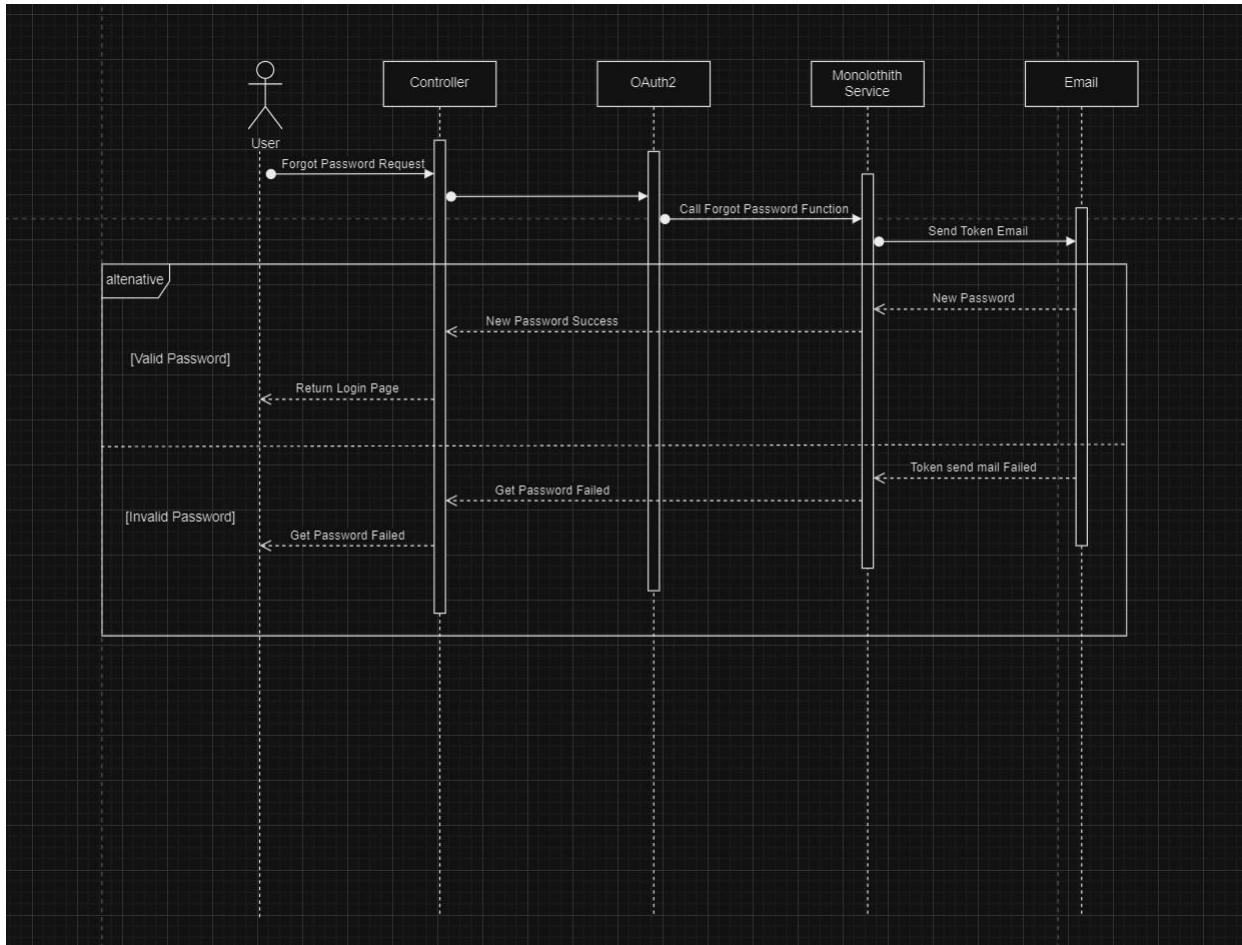
ID and Name:	UC103 - Change Password		
Primary Actor:	Authenticated user	Secondary Actor:	n/a
Description:	User retype the old password and provide a new password for future authentication.		
Pre-condition:	User successfully logged in		
Post-condition:	User must use the new password to log in		
Normal Flow:	<p><b>Web &amp; Mobile application:</b></p> <ol style="list-style-type: none"> <li>1. User goes to Profile Page/Screen</li> <li>2. User clicks/taps on “Change Password” button</li> <li>3. Change Password form will show up</li> <li>4. User fills in the form:           <ul style="list-style-type: none"> <li>○ New password: password input</li> <li>○ Confirm password: password input</li> </ul> </li> <li>5. User clicks/taps on “Submit” button</li> <li>6. Pulse system response with a success status code</li> <li>7. User will be navigated back to Profile Page/Screen</li> </ol>		
Alternative Flow:	n/a		
Exception Flow:	<p><b>User didn't provide enough required information</b></p> <ul style="list-style-type: none"> <li>● Frontend shows messages MSG08</li> </ul> <p><b>User provides an invalid confirm password</b></p> <ul style="list-style-type: none"> <li>● Frontend shows message MSG07.</li> </ul>		
Priority:	Medium		
Frequency of Usage:	sometimes		



## 2.4 Forgot Password

ID and Name:	UC104 - Forgot Password		
Primary Actor:	Anonymous user	Secondary Actor:	n/a
Description:	Anonymous user request for reset password, and follow a reset password URL to provide new password		
Pre-condition:	User is not logged in. User has an account in Pulse system. User is able to access the mailbox of the account's email address.		
Post-condition:	User must log in with the new password		
Normal Flow:	<b>Web &amp; Mobile application:</b> <ol style="list-style-type: none"> <li>1. Anonymous user goes to Login Page/Screen</li> <li>2. He/she clicks/taps on “Forgot Password” link</li> <li>3. Forgot Password Page shows up</li> <li>4. User fills in the form:             <ul style="list-style-type: none"> <li>○ Email: input text</li> </ul> </li> <li>5. User clicks/taps on “Send Reset Password Mail” button</li> <li>6. User receives a reset password mail in mailbox</li> <li>7. User clicks/taps on the link</li> <li>8. Reset Password Page shows up</li> </ol>		

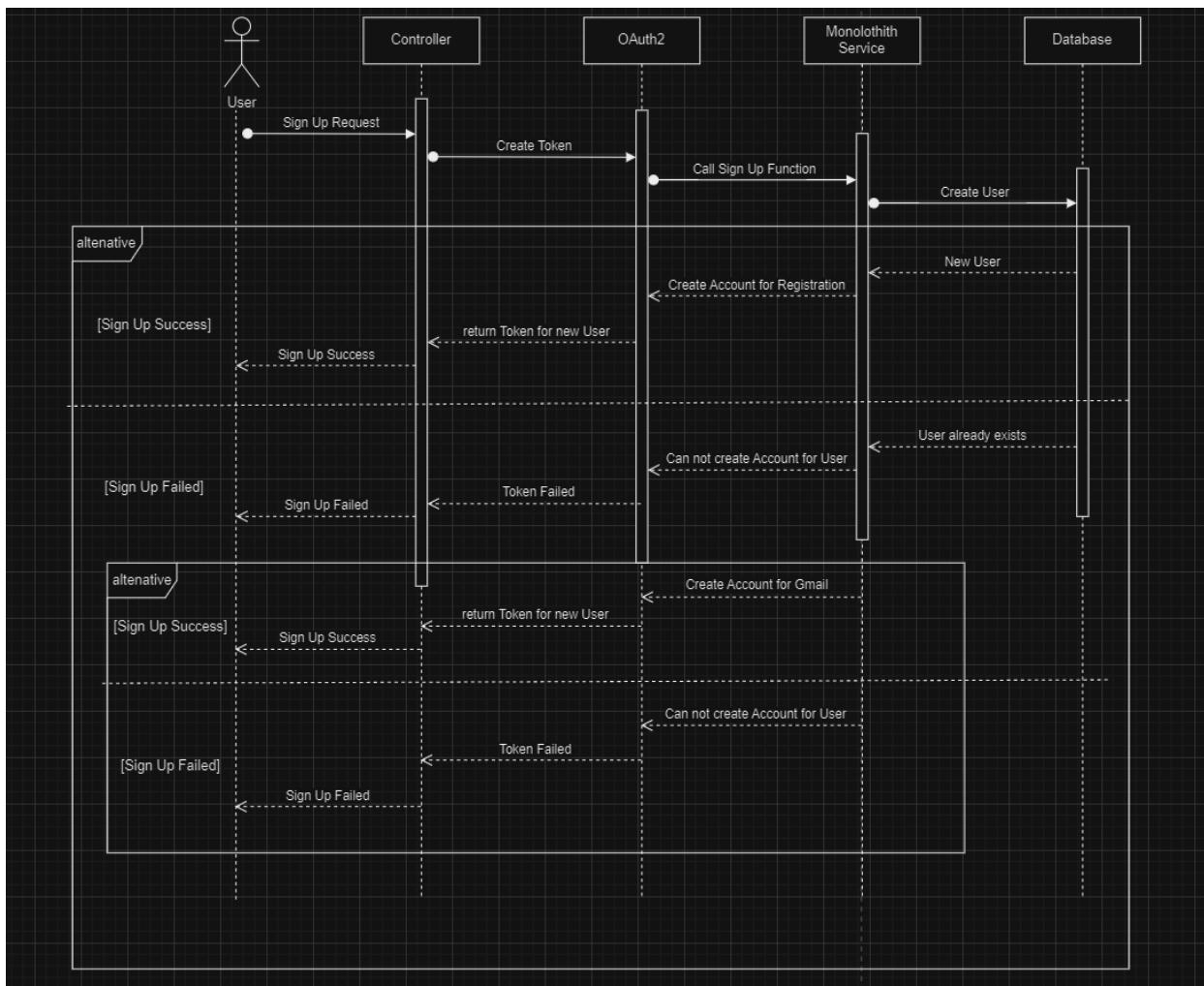
	<p>9. User fills in the form:</p> <ul style="list-style-type: none"> <li>○ New password: password input</li> <li>○ Confirm password: password input</li> </ul> <p>10. User clicks/tabs on “Submit” button</p> <p>11. User will be redirected to Login Page/Screen</p>
Alternative Flow:	<i>n/a</i>
Exception Flow:	<p><b>User didn't provide enough required information</b></p> <ul style="list-style-type: none"> <li>● Frontend shows messages MSG08</li> </ul> <p><b>User provides invalid confirm password</b></p> <ul style="list-style-type: none"> <li>● Frontend shows message MSG07.</li> </ul> <p><b>User clicks on expired reset password URL</b></p> <ul style="list-style-type: none"> <li>● Frontend shows message MSG05.</li> </ul>
Priority:	Medium
Frequency of Usage:	sometimes



## 2.5 Sign Up

ID and Name:	UC111 - Sign Up		
Primary Actor:	Anonymous user	Secondary Actor:	n/a
Description:	Anonymous user register new account		
Pre-condition:	User is not logged in. User has an account in system. User is able to access the mailbox of the account's email address.		
Post-condition:	User is able to login into mobile app		
Normal Flow:	<b>Mobile application:</b> 1. Anonymous user opens mobile application		

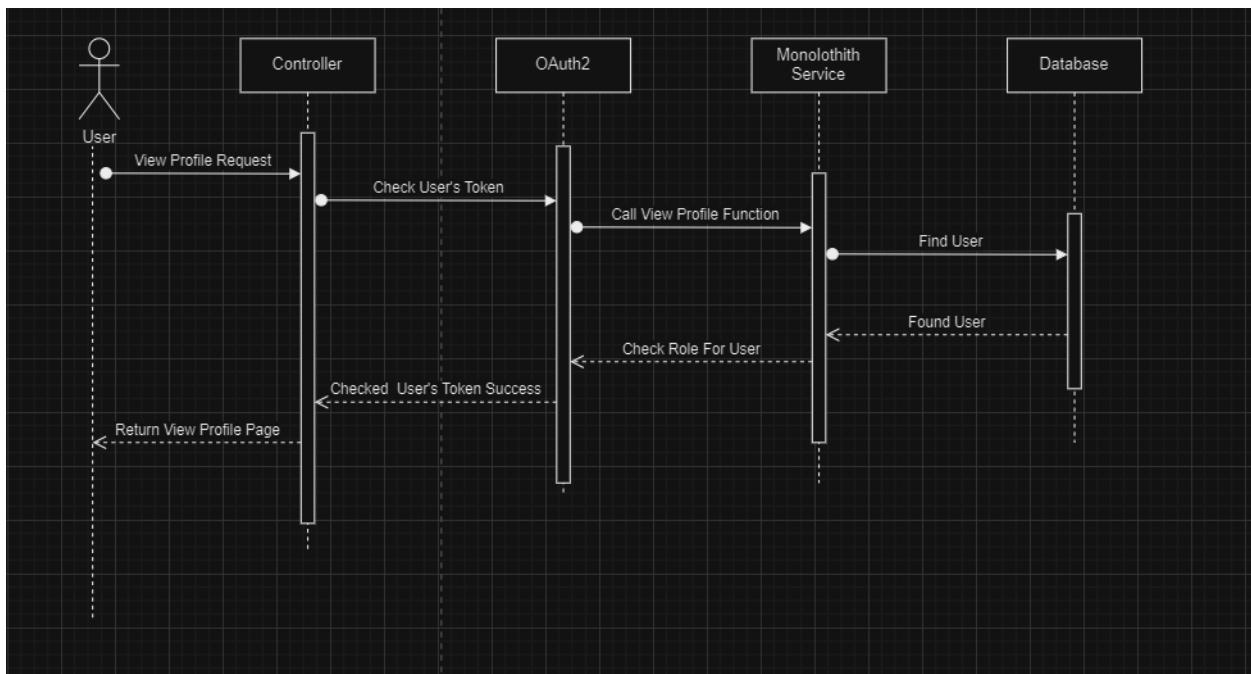
	<ol style="list-style-type: none"> <li>2. Login Screen will show up</li> <li>3. User tap on “Sign Up” button</li> <li>4. User fill in the registration form:           <ul style="list-style-type: none"> <li>○ Email: text input</li> <li>○ Password: password input</li> <li>○ Confirm Password: password input</li> </ul> </li> <li>5. User clicks on “Submit” button</li> <li>6. Authorization server validates given credentials and send welcome email</li> <li>7. Mobile app redirects user to Login Screen</li> </ol>
Alternative Flow:	n/a
Exception Flow:	<p><b>User didn't provide enough required information</b></p> <ul style="list-style-type: none"> <li>● Frontend shows messages MSG08</li> </ul> <p><b>User provides invalid information</b></p> <ul style="list-style-type: none"> <li>● Frontend shows message MSG07.</li> </ul>
Priority:	Medium
Frequency of Usage:	Sometime



## 2.6 View Profile

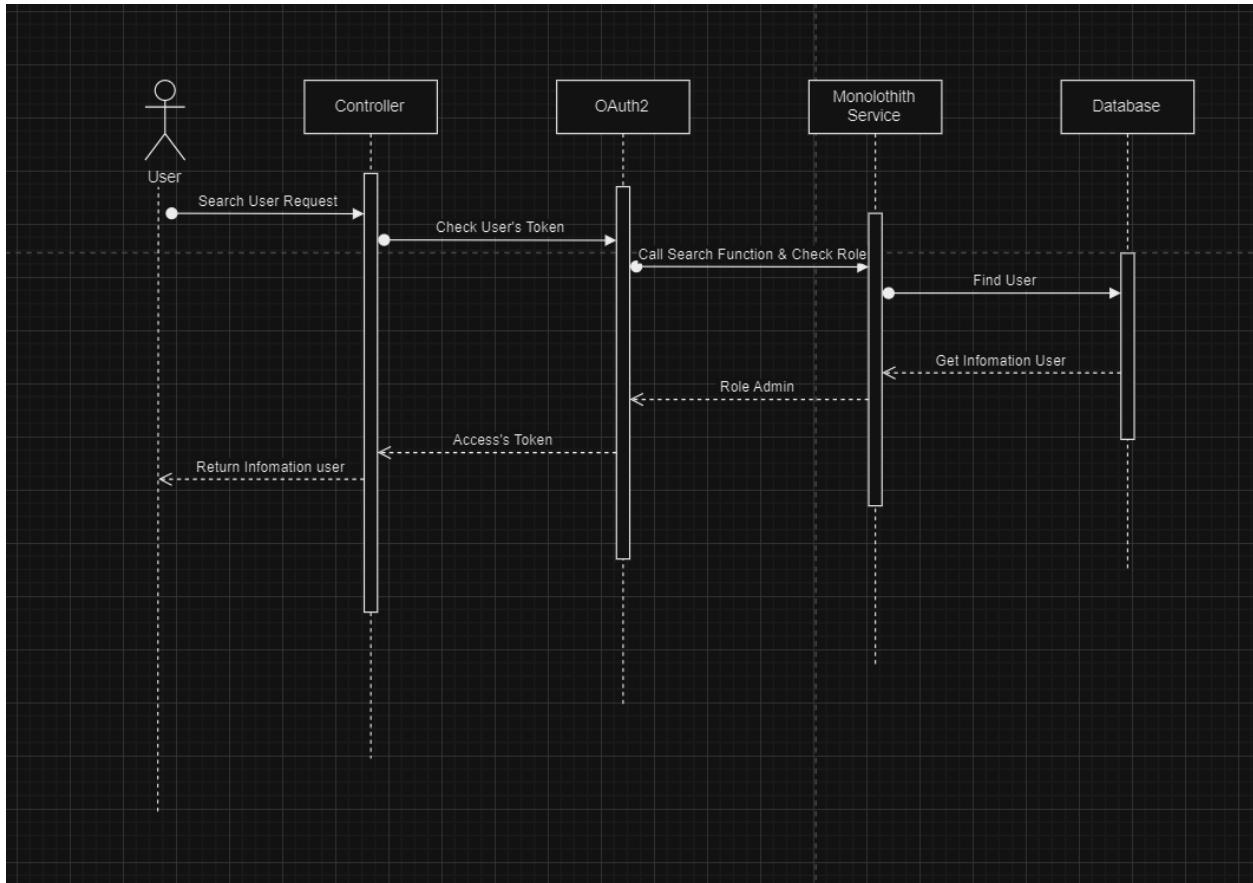
ID and Name:	UC107 - View Profile		
Primary Actor:	Authenticated User	Secondary Actor:	n/a
Description:	Patient (or normal user) view his/her basic information on mobile app		
Pre-condition:	User successfully logged in		
Post-condition:	Detail personal information will be displayed		
Normal Flow:	<b>Mobile application:</b> <ol style="list-style-type: none"> <li>User tap on “Profile” button on bottom right</li> </ol>		

	2. Display current personal information
Alternative Flow:	n/a
Exception Flow:	n/a
Priority:	Medium
Frequency of Usage:	Sometimes



## 2.7 List Customer

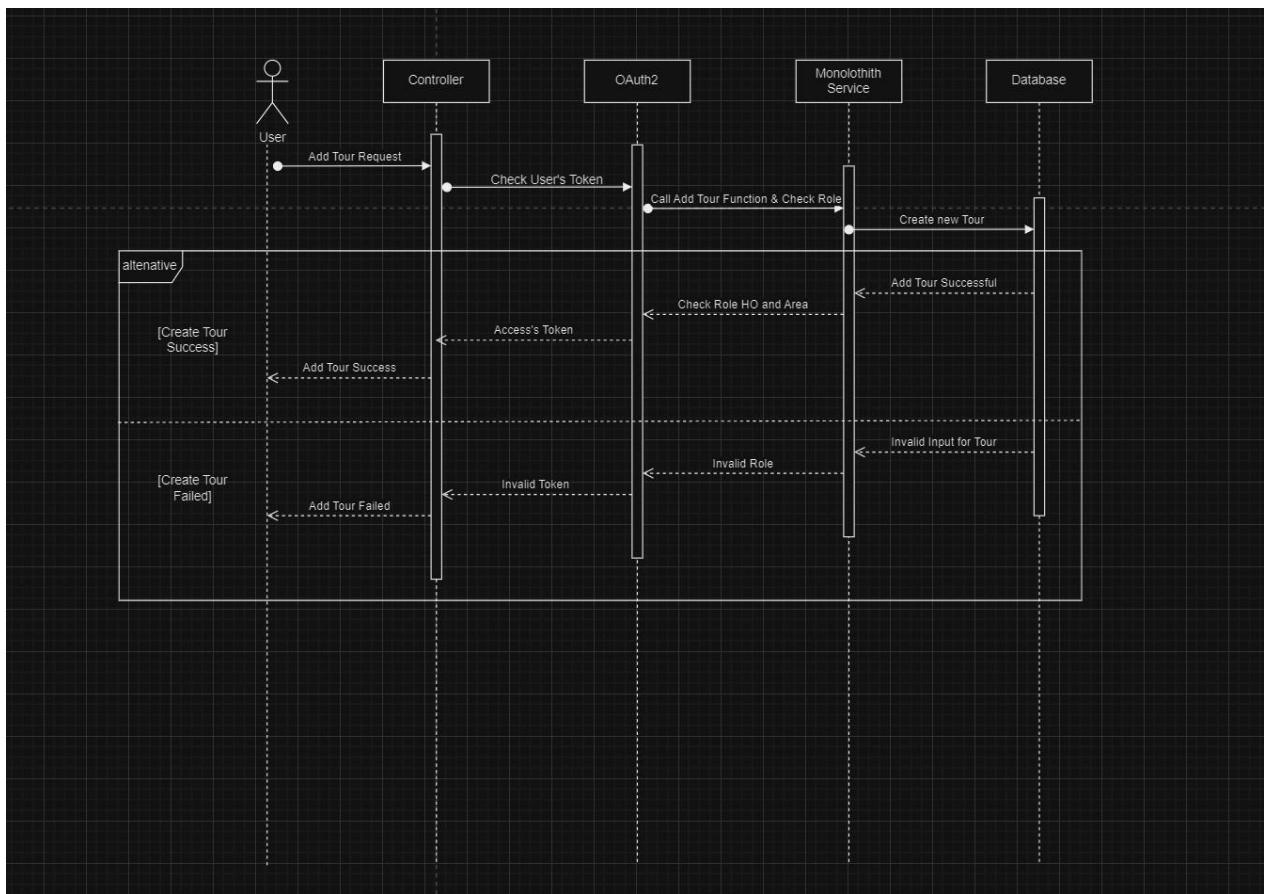
ID and Name:	UC601 - List Customer		
Primary Actor:	Authenticated user	Secondary Actor:	n/a
Description:	Admin/Staff views a list of Customer.		
Pre-condition:	Authenticated user with role Admin and Staff		
Post-condition:	<b>Success:</b> UI shows a list of Customer. <b>Fail:</b> UI popup an error message (e.g. access denied).		
Normal Flow:	<b>Web &amp; Mobile application:</b> <ol style="list-style-type: none"> <li>1. User clicks/taps “Customers” tab in left sidebar</li> <li>2. The Customer page shows up, and the browser requests to get the Customer list.</li> <li>3. Admin can active/inactive customer</li> <li>4. This page contains a table, information include:           <ul style="list-style-type: none"> <li>○ Name: text</li> <li>○ Email: text</li> </ul> </li> <li>5. User can click/tap on a row to see detail information (a row will expand)</li> </ol>		
Alternative Flow:	n/a		
Exception Flow:	<b>Internet connection lost</b> <ul style="list-style-type: none"> <li>● Frontend forwards to Lost Internet page.</li> </ul>		
Priority:	High		
Frequency of Usage:	Often		



## 2.7 Book Ticket

ID and Name:	UC501 - Booking		
Primary Actor:	Authenticated User	Secondary Actor:	n/a
Description:	Customer or Staff add new event		
Pre-condition:	Authenticated user with role Customer and Staff		
Post-condition:	New booking added		
Normal Flow:	<b>Web application:</b> 1. User clicks “Book” tab		

	<ol style="list-style-type: none"> <li>2. The movie page shows up.</li> <li>3. User choose date, theater, seat</li> <li>4. Payment</li> <li>5. New booking added</li> </ol>
Alternative Flow:	<i>n/a</i>
Exception Flow:	<p><b>Admin didn't provide enough required information</b></p> <ul style="list-style-type: none"> <li>● Frontend shows messages MSG08</li> </ul> <p><b>Admin provides invalid information (e.g. invalid format)</b></p> <ul style="list-style-type: none"> <li>● Frontend shows message MSG07.</li> </ul>
Priority:	High
Frequency of Usage:	Often



## 4. Table Definition

### 4.1 Auditorium

Key	Field Name	Data Type	Allow Null	Default Value	Reference Table	Description
PK	pk	Int	No	-	-	Auto_Increment
	au_name	String	No	-	-	
	au_rows	Int	No	-	-	
	au_columns	Int	No	-	-	
FK	theater	Int	No			

**Constraints:**

Name	Field Name	Type
FK_Auditorium_theater_Theater_pk	theater	Unique, Non-Clustered

## 4.2 Banking

Key	Field Name	Data Type	Allow Null	Default Value	Reference Table	Description
PK	pk	Int	No	-	-	
	time	Datetime	Yes	Current_timestamp	-	
FK	reservation_id	Int	Yes	-	-	
FK	user_id	Int	Yes	-	-	

**Constraints:**

Name	Field Name	Type
fk_banking_res	reservation_id	Unique, Non-Clustered
fk_banking_user	user_id	Unique, Non-Clustered

## 4.3 Cast

Key	Field Name	Data Type	Allow Null	Default Value	Reference Table	Description
PK	pk	Int	No	-	-	Auto_increment
	actor	String	Yes	-	-	
	eng_actor	String	Yes	-	-	
	profile_img	String	Yes	-	-	

## 4.4 Casting

Key	Field Name	Data Type	Allow Null	Default Value	Reference Table	Description
PK	pk	Int	No	-	-	Auto_increment
FK	movie	Int	Yes	-	-	
	actor	Int	Yes	-	-	
FK	cast	String	Yes	-	-	

Constraints:

Name	Field Name	Type
FK_Casting_actor_Cast_pk	cast	Unique, Non-Clustered
FK_Casting_movie_Movie_pk	movie	Unique, Non-Clustered

## 4.5 Directing

Key	Field Name	Data Type	Allow Null	Default Value	Reference Table	Description
PK	pk	Int	No	-	-	Auto_increment
FK	movie	Int	Yes	-	-	
FK	director	Int	Yes	-	-	

Constraints:

Name	Field Name	Type
FK_Directing_movie_Movie_pk	movie	Unique, Non-Clustered
FK_Directing_director_Director_pk	director	Unique, Non-Clustered

## 4.6 Director

Key	Field Name	Data Type	Allow Null	Default Value	Reference Table	Description
PK	pk	Int	No	-	-	Auto_increment
	director	String	Yes	-	-	
	eng_director	String	Yes	-	-	
	profile_img	String	Yes	-	-	

## 4.7 Eventcontainer

Key	Field Name	Data Type	Allow Null	Default Value	Reference Table	Description
PK	pk	Int	No	-	-	Auto_increment
	event_name	String	Yes	-	-	
	container_img	String	Yes	-	-	
	container_link	Text	No	-	-	
	is_active	Int	Yes	-	-	

## 4.8 Maincontainer

Key	Field Name	Data Type	Allow Null	Default Value	Reference Table	Description
PK	pk	Int	No	-	-	Auto_increment
	Event_name	String	Yes	-	-	
	Posting_start	Datetime	Yes	-	-	
	Posting_end	Datetime	Yes	-	-	
	Container_img	String	Yes	-	-	
	Container_link	Text	No	-	-	
	Is_active	Bit	Yes	-	-	

## 4.1 Screening

Key	Field Name	Data Type	Allow Null	Default Value	Reference Table	Description
PK	pk	Int	No	-	-	
Fk	Movie	Int	No	-	-	
Fk	Theater	Int	No	-	-	
Fk	Auditorium	Int	No	-	-	
	Time	Datetime	No	-	-	

Constraints:

Name	Field Name	Type
FK_Screening_movie_Movie_pk	movie	Unique, Non-Clustered
FK_Screening_theater_Theater_pk	theater	Unique, Non-Clustered
FK_Screening_auditorium_Auditorium_pk	auditorium	Unique, Non-Clustered

## 4.1 Seat

	<b>Field Name</b>	<b>Data Type</b>	<b>Allow Null</b>	<b>Default Value</b>	<b>Reference Table</b>	<b>Description</b>
PK	pk	Int	No	-	-	
Fk	Auditorium	Int	Yes	-	-	
	Seat_name	String	Yes	-	-	

**Constraints:**

<b>Name</b>	<b>Field Name</b>	<b>Type</b>
FK_Seat_auditorium_Auditorium_pk	auditorium	Unique, Non-Clustered

## 4.2 Payment

	<b>Field Name</b>	<b>Data Type</b>	<b>Allow Null</b>	<b>Default Value</b>	<b>Reference Table</b>	<b>Description</b>
PK	Pk	Int	No	-	-	
	Name	String	Yes	-	-	
	Card_number	Int	Yes	-	-	
	Date_expired	String	Yes	-	-	
	Cvv	String	Yes	-	-	
FK	User_id	int	Yes	-	-	

**Constraints:**

<b>Name</b>	<b>Field Name</b>	<b>Type</b>
fk_payment_user	User_id	Unique, Non-Clustered

## 6.1 Passwordresettoken

	<b>Field Name</b>	<b>Data Type</b>	<b>Allow Null</b>	<b>Default Value</b>	<b>Reference Table</b>	<b>Description</b>
PK	Pk	Int	No	-	-	
	token	String	NO	-	-	
	expiryDate	Datetime	No	-	-	
FK	User_id	int	No	-	-	

**Constraints:**

<b>Name</b>	<b>Field Name</b>	<b>Type</b>
pst_user	User_id	Unique, Non-Clustered

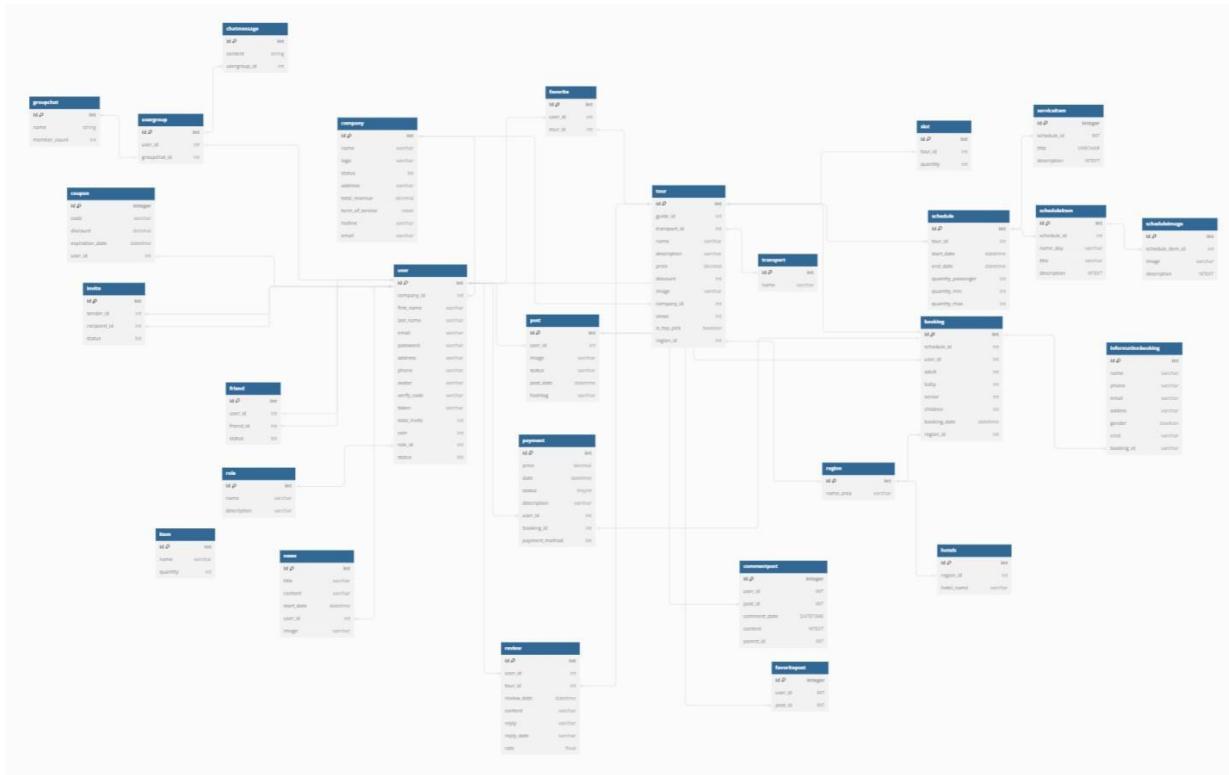
## 7.1 Theater

<b>Key</b>	<b>Field Name</b>	<b>Data Type</b>	<b>Allow Null</b>	<b>Default Value</b>	<b>Reference Table</b>	<b>Description</b>
PK	pk	Int	No	-	-	
	Location	String	Yes	-	-	
	Sub_location	String	Yes	-	-	
	Address	String	Yes	-	-	

## 7.2 User

Key	Field Name	Data Type	Allow Null	Default Value	Reference Table	Description
PK	Pk	Int	Yes	-	-	
	Username	String	No	-	-	
	Password	String	No	-	-	
	Last_name	String	No	-	-	
	First_name	String	No	-	-	
	Email	String	No	-	-	
	Phone_number	String	No	-	-	
	Images	String	Yes	-	-	
	Enable	Bit	No	-	-	

# 8. Relational Schema



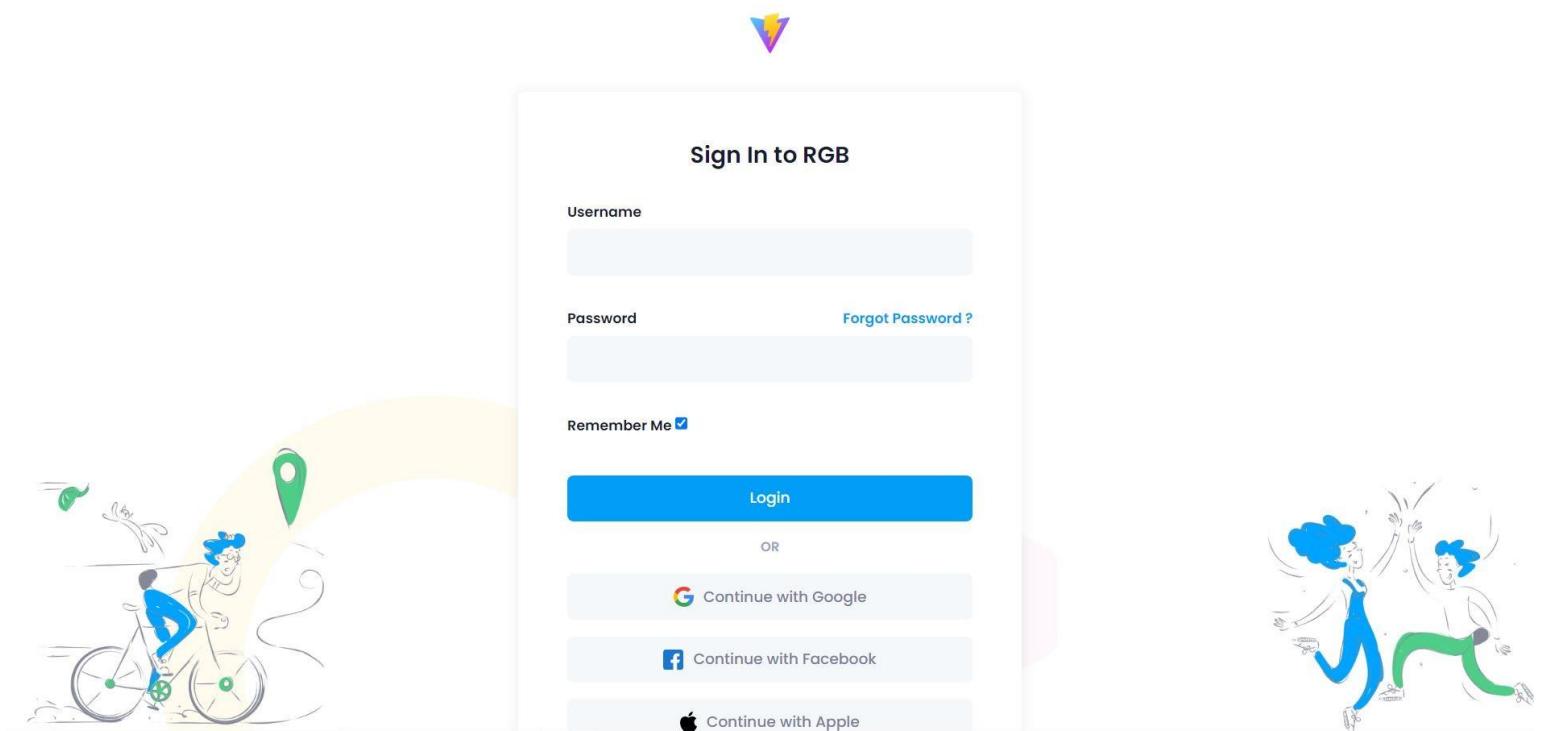
## Task Sheet 2

Members Group		Date Preparation of Activity Plan			
No	Name	Description Task	Start Date	End Date	Status
1	All Members	Architecture Design	18/10/2023	22/11/2023	completed
		Use Case & Sequence Diagram	18/10/2023	22/11/2023	completed
		Class Diagram	18/10/2023	22/11/2023	completed
		Table Definition	18/10/2023	22/11/2023	completed
2	Hua Le Quang	Use Case & Sequence Diagram	18/10/2023	22/11/2023	completed
3	Nguyen Phat Tai		18/10/2023	22/11/2023	completed
4	Nguyen Tuan Loc	Relational Schema	18/10/2023	22/11/2023	completed
Teacher			Team Leader		
Ngo Van Thuan			Nguyen Tuan Loc		

# **REVIEW 3**

# 1. Dashboard

## 1.1 Admin Login



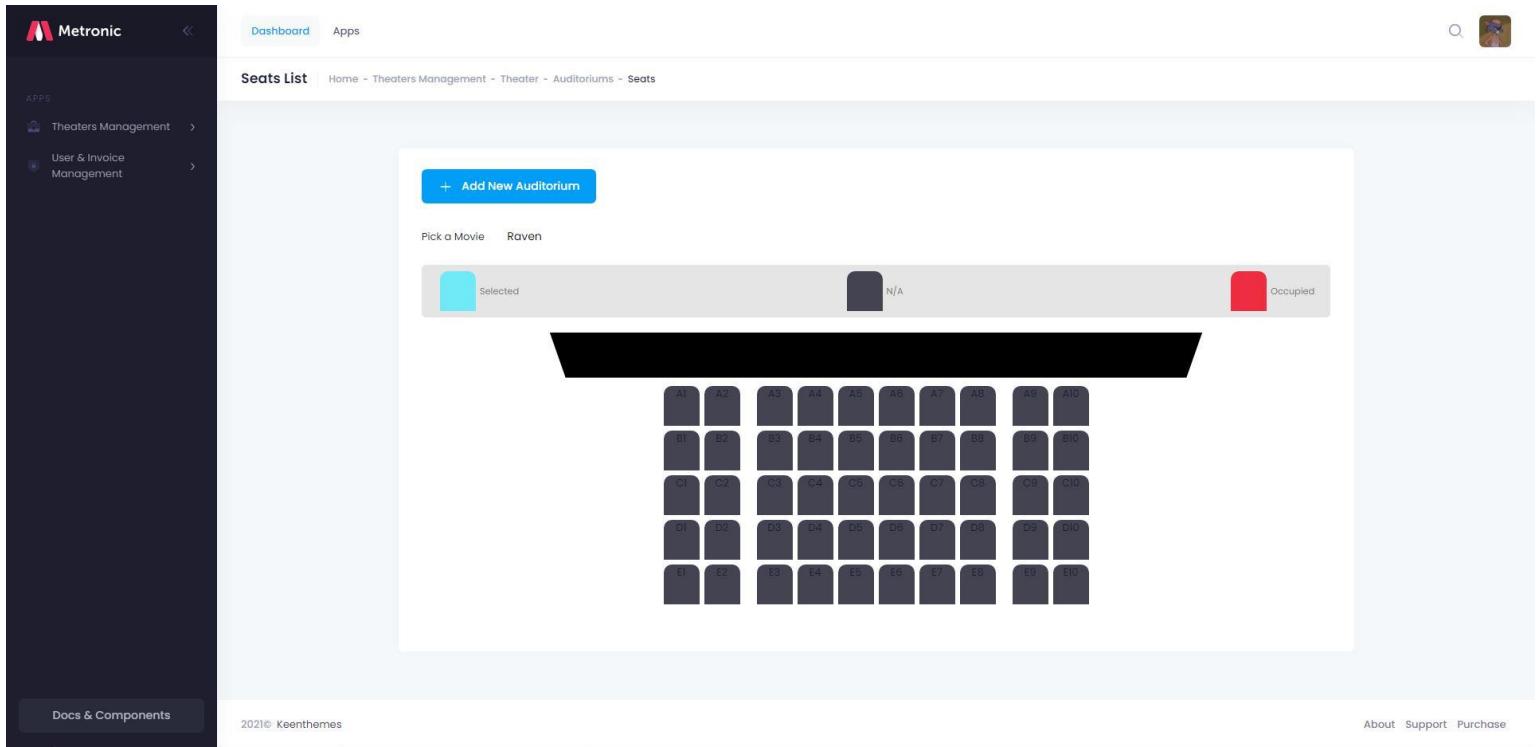
## 1.2 Auditorium

The image shows the 'Auditoriums List' page from the Metronic application. The left sidebar has a dark theme with the Metronic logo and navigation links for 'Dashboard', 'Apps', 'Theaters Management', and 'User & Invoice Management'. The main content area has a light gray background. At the top, there is a search bar labeled 'Search user' and a blue button labeled '+ Add New Auditorium'. Below this is a table with the following data:

NO.	NAME	SEATS	ACTIONS
23	A1_11	50	Actions
24	A2_11	50	Actions
25	A3_11	35	Actions

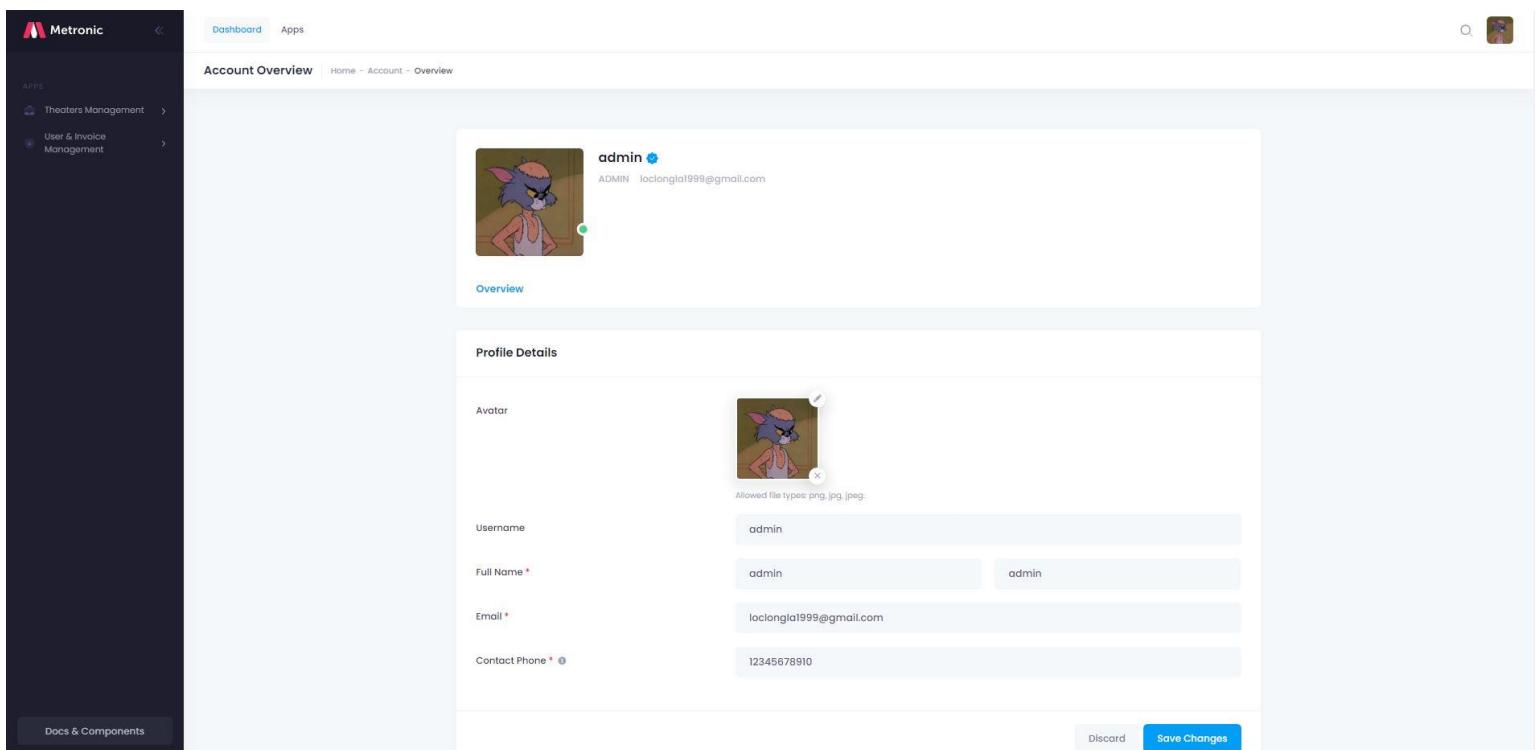
At the bottom of the page, there are footer links for 'Docs & Components', '2021 © Keenthemes', 'About', 'Support', and 'Purchase'.

## 1.1 Auditorium details



The screenshot shows the 'Seats List' section of the Metronic application. At the top, there is a breadcrumb navigation: Seats List > Home -> Theaters Management -> Auditoriums -> Seats. On the left sidebar, under the 'Theaters Management' section, 'Auditoriums' is selected. A large blue button at the top center says '+ Add New Auditorium'. Below it, a movie title 'Raven' is listed with a 'Selected' status indicator (blue icon). To the right of the movie title are three status icons: 'N/A' (grey), 'Occupied' (red), and 'Available' (green). The main area features a 5x10 grid of seat icons labeled A1 through E10. The first seat in each row (A1, B1, C1, D1, E1) is highlighted with a cyan background and labeled 'Selected'.

## 1.2 Admin details



The screenshot shows the 'Account Overview' section of the Metronic application. At the top, there is a breadcrumb navigation: Account Overview > Home -> Account -> Overview. On the left sidebar, under the 'User & Invoice Management' section, 'Accounts' is selected. The main area displays a user profile for 'admin'. The profile includes a placeholder image for the 'Avatar', the name 'admin', and the email 'loclongla1999@gmail.com'. Below the profile, there is a 'Profile Details' form with fields for 'Avatar' (with a file upload input), 'Username' (admin), 'Full Name \*' (admin), 'Email \*' (loclongla1999@gmail.com), and 'Contact Phone \*' (12345678910). At the bottom right of the form are two buttons: 'Discord' and 'Save Changes'.

## 1.3 Admin change password

The screenshot shows the Metronic Account Overview page. On the left, there's a sidebar with 'Dashboard' and 'Apps' buttons. The main content area has a header 'Account Overview' and a breadcrumb 'Home - Account - Overview'. Below this is a 'Sign-in Method' section with fields for 'Email Address' (support@keenthemes.com), 'Current Password', 'New Password', and 'Confirm New Password'. A note says 'Password must be at least 8 character and contain symbols'. Buttons for 'Update Password' and 'Cancel' are present. A 'Secure Your Account' section contains a checked checkbox for two-factor authentication and a link to 'Enable' it. Below this is a 'Deactivate Account' section with a yellow warning box stating 'You Are Deactivating Your Account' and a note about confirming email or phone number. It includes a checkbox for 'I confirm my account deactivation' and a red 'Deactivate Account' button.

## 1.1 Movie list

The screenshot shows the Metronic Movies List page. The sidebar includes 'Dashboard' and 'Apps' buttons. The main area has a header 'Movies List' and a breadcrumb 'Home - Theaters Management - Movie'. At the top is a blue button '+ Add New Movie'. Below is a table with columns: ID, IMAGE, TITLE, DURATION (MIN), AGE, OPENING DATE, GENRE, and ACTIONS. The table lists 7 movies:

ID	IMAGE	TITLE	DURATION (MIN)	AGE	OPENING DATE	GENRE	ACTIONS
12		Raven	125	r	2023-10-04	mystery	<button>Actions</button>
13		Animus	138	r	2023-10-05	mystery	<button>Actions</button>
14		Faith	126	pg-13	2023-10-03	action	<button>Actions</button>
15		Highway	137	g	2023-10-06	comedy	<button>Actions</button>
16		Monster	146	rc-17	2023-10-05	horror	<button>Actions</button>
17		Titan Fall		r		horror	<button>Actions</button>
18		Titan Fall 2		r		horror	<button>Actions</button>

## 1.2 Movie details

Metronic

Dashboard Apps

Movie details Home - Theater Management - Movie

Profile Details

Main Image

Allowed file types: png, jpg, jpeg.

Thumbnail Image

Title Raven

English Title Raven

Duration 125

Rated R

Opening date 04/10/2023

Genre Mystery

Description Lorem ipsum dolor sit amet consectetur adipisicing elit. Amet, deserunt! Consequatur architecto doloribus quibusdam accusantium. Lorem ipsum dolor sit amet consectetur adipisicing elit. Amet, deserunt! Consequatur architecto doloribus quibusdam accusantium.

Trailer URL \*

Docs & Components

## 1.1 Director list

Metronic

Dashboard Apps

Directors List Home - Theaters Management - Director

+ Add New Movie

NO.	IMAGE	NAME	MOVIE	ACTIONS
15		Jamie Bond A	Animus Monster Titan Fall	Actions ▾

First 1 Last

Docs & Components

2021 © Keenthemes

About Support Purchase

## 1.2 Director details

Metronic

Dashboard Apps

Movie details Home - Theater Management - Movie

Profile Details

Main Image

Allowed file types: png, jpg, jpeg.

Thumbnail Image

Title Raven

English Title Raven

Duration 125

Rated R

Opening date 04/10/2023

Genre Mystery

Description Lorem ipsum dolor sit amet consectetur adipisicing elit. Amet, deserunt! Consequatur architecto doloribus quibusdam accusantium. Lorem ipsum dolor sit amet consectetur adipisicing elit. Amet, deserunt! Consequatur architecto doloribus quibusdam accusantium.

Trailer URL \*

Docs & Components

## 1.1 Director list

Metronic

Dashboard Apps

Directors List Home - Theaters Management - Director

+ Add New Movie

NO.	IMAGE	NAME	MOVIE	ACTIONS
15		Jamie Bond A	Animus Monster Titan Fall	Actions ▾

First 1 Last

Docs & Components

2021 © Keenthemes

About Support Purchase

## 1.2 Director details

Metronic

Dashboard Apps

Movie details Home - Theater Management - Movie

Profile Details

Main Image 

Thumbnail Image

Title Raven

English Title \* Raven

Duration \* 125

Rated \* R

Opening date \* 04/10/2023

Genre \* Mystery

Description \* 

Lorem ipsum dolor sit amet consectetur adipisicing elit. Amet, deserunt! Consequatur architecto doloribus quibusdam accusantium.

Trailer URL \*

## 1.1 Director list

Metronic

Dashboard Apps

Directors List Home - Theaters Management - Director

NO.	IMAGE	NAME	MOVIE	ACTIONS
15		Jamie Bond A	Animus Monster Titan Fall	Actions ▾

First < 1 > Last

## 1.2 Director details

**Auditoriums List** | Home - Theaters Management - Theater - Screenings List

+ Add New Theater				
NO.	LOCATION	SUB LOCATION	ADDRESS	ACTIONS
1	locati0001	sub_locatio0001	address 0001	Actions ▾
2	locati0002	sub_locatio0002	address 0002	Actions ▾
3	locati0003	sub_locatio0003	address 0003	Actions ▾
4	locati0004	sub_locatio0004	address 0004	Actions ▾
5	locati0005	sub_locatio0005	address 0005	Actions ▾
6	locati0990	sub_locatio0990	address 0990	Actions ▾
7	locati0991	sub_locatio0991	address 0991	Actions ▾

## 1.1 Theater details

**Theater Detail** | Home - Theater Management - Theater

**Theater** locati0001

**Theater Details**

Address	address 0001
Location	locati0001
Sub Location	sub_locatio0001

**Discard** **Save Changes**

**Auditorium**  
Auditorium Management  
11-11-2023 Today

**Screening**  
Screening Management  
11-11-2023 Today

**Staff**  
Staff Management  
1 Employee Today

## 1.2 Screening details

The screenshot shows the Metronic application's 'Auditoriums List' screen. The sidebar on the left has sections for 'Theaters Management' and 'User & Invoice Management'. The main content area displays a table of screening data with columns: NO., AUDITORIUM, MOVIE, DATE, TIME, and ACTIONS. A blue button '+ Add New Screening' is located at the top left of the table. The table data is as follows:

NO.	AUDITORIUM	MOVIE	DATE	TIME	ACTIONS
12	A1_11	Raven	28-10-2023	20h40	Actions
12	A1_11	Raven	29-10-2023	09h00   11h20   13h40   16h00   18h20	Actions
12	A1_11	Raven	05-11-2023	09h00   11h20   13h40   16h00   18h20   20h40	Actions
15	A2_11	Highway	30-10-2023	09h00   11h30   14h00   16h30   19h00	Actions
19	A2_11	Escape From Tarkov	31-10-2023	09h00   11h30   14h00   16h30   19h00	Actions
13	A1_11	Animus	06-11-2023	09h00   11h30   14h00   16h30   19h00	Actions

At the bottom left is a footer with 'Docs & Components' and '2021 © Keenthemes'. At the bottom right are links for 'About', 'Support', and 'Purchase'.

## 1.1 Screening add

The screenshot shows the 'Add Screening' modal dialog. The dialog has a title 'Add Screening' and contains three input fields: 'Movie \*' (Raven), 'Time \*' (dd/mm/yyyy), and 'Auditorium \*' (A1\_11). At the bottom are 'Discard' and 'Submit' buttons. The background shows the same 'Auditoriums List' table as the previous screenshot.

## 1.2 Invoice list

The screenshot shows the Metronic User Management interface. On the left is a dark sidebar with the Metronic logo and navigation links for 'Theaters Management' and 'User & Invoice Management'. The main content area has a header with 'Dashboard' and 'Apps' tabs, and a search bar. Below the header is a breadcrumb trail: 'Users List' > 'Home - User Management - Users - Invoices List'. The main content is a table titled 'Invoices List' with the following columns: NO, ID, ACTIVE, PAYMENT, TOTAL COST, and ACTIONS. There are two rows of data:

NO	ID	ACTIVE	PAYMENT	TOTAL COST	ACTIONS
1	13	Cancel	Paid	36.0\$	<a href="#">Actions</a>
2	14	Cancel	Paid	72.0\$	<a href="#">Actions</a>

At the bottom of the page, there's a footer with 'Docs & Components', '2021 © Keenthemes', 'About', 'Support', and 'Purchase' links.

## 1.1 Invoice details

This screenshot shows the 'Invoices Detail' page for Invoice #34782. The top navigation is identical to the previous screenshot. The breadcrumb trail is 'Users List' > 'Home - User Management - Users - Invoices List - Invoices Detail'. The main content is divided into several sections:

- Invoice #34782**: Displays the invoice number and a small FCB logo.
- Screening Date:** 19:00 31-10-2023
- Auditorium:** A2\_11
- Issue For:** fuho@mail
- Loc:** locati0001
- Movie:** Escape From Tarkov
- Duration:** 145
- Seat Name**      **Price**

  - A1                  12.0\$
  - A2                  12.0\$
  - A3                  12.0\$

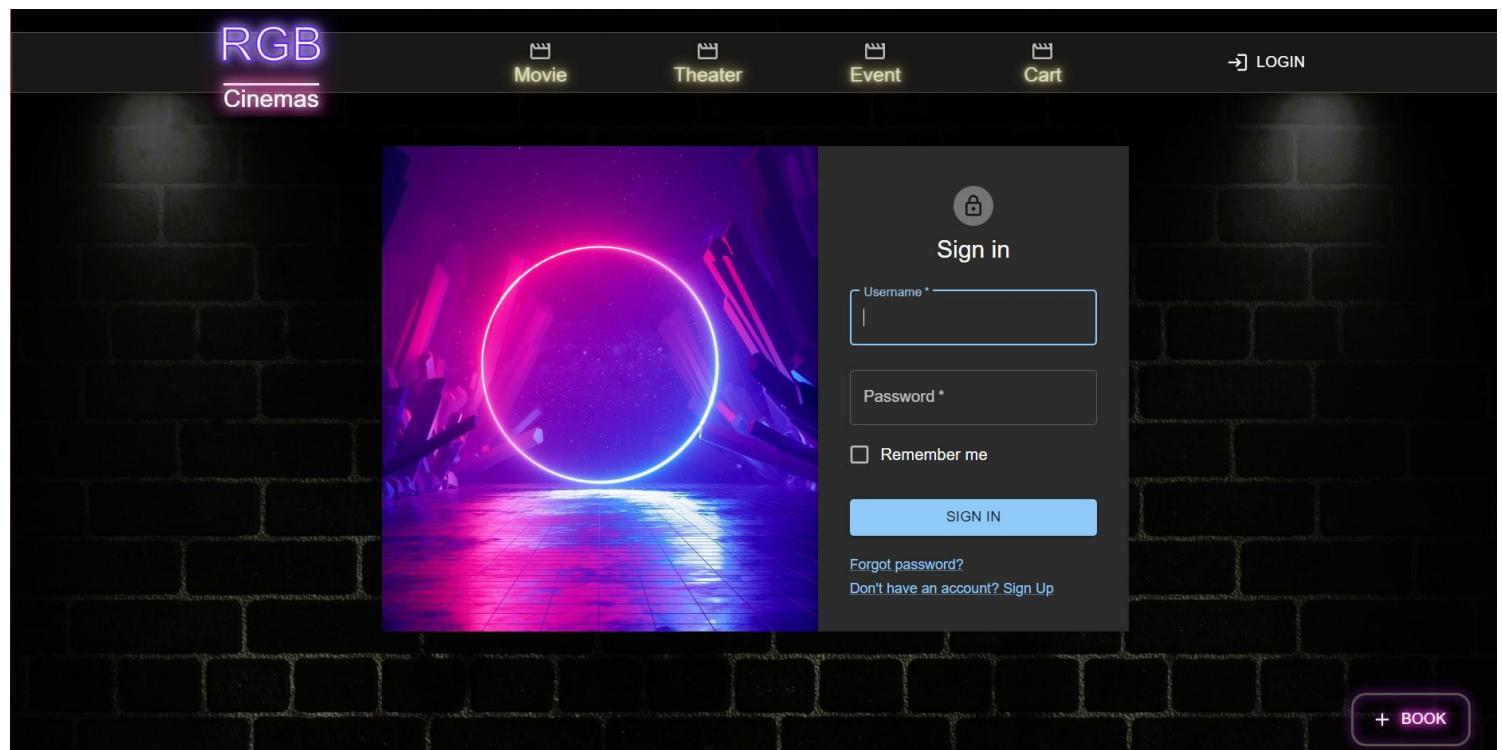
- PAYMENT DETAILS**: Shows 'Paid' and 'Paypal: codelabpay@codelab.co'
- Account:** NI24IBAN34553477847370033 AMB NLANBZTC
- Payment Term:** 14 days + Due in 7 days
- PROJECT OVERVIEW**: Shows 'Project Name: SaaS App Quickstarter' with a 'View Project' link, 'Completed By: Mr. Dewonte Paul', and 'Time Spent: 230 Hours + 35\$/h Rate'.

# 1. Web GUI Design

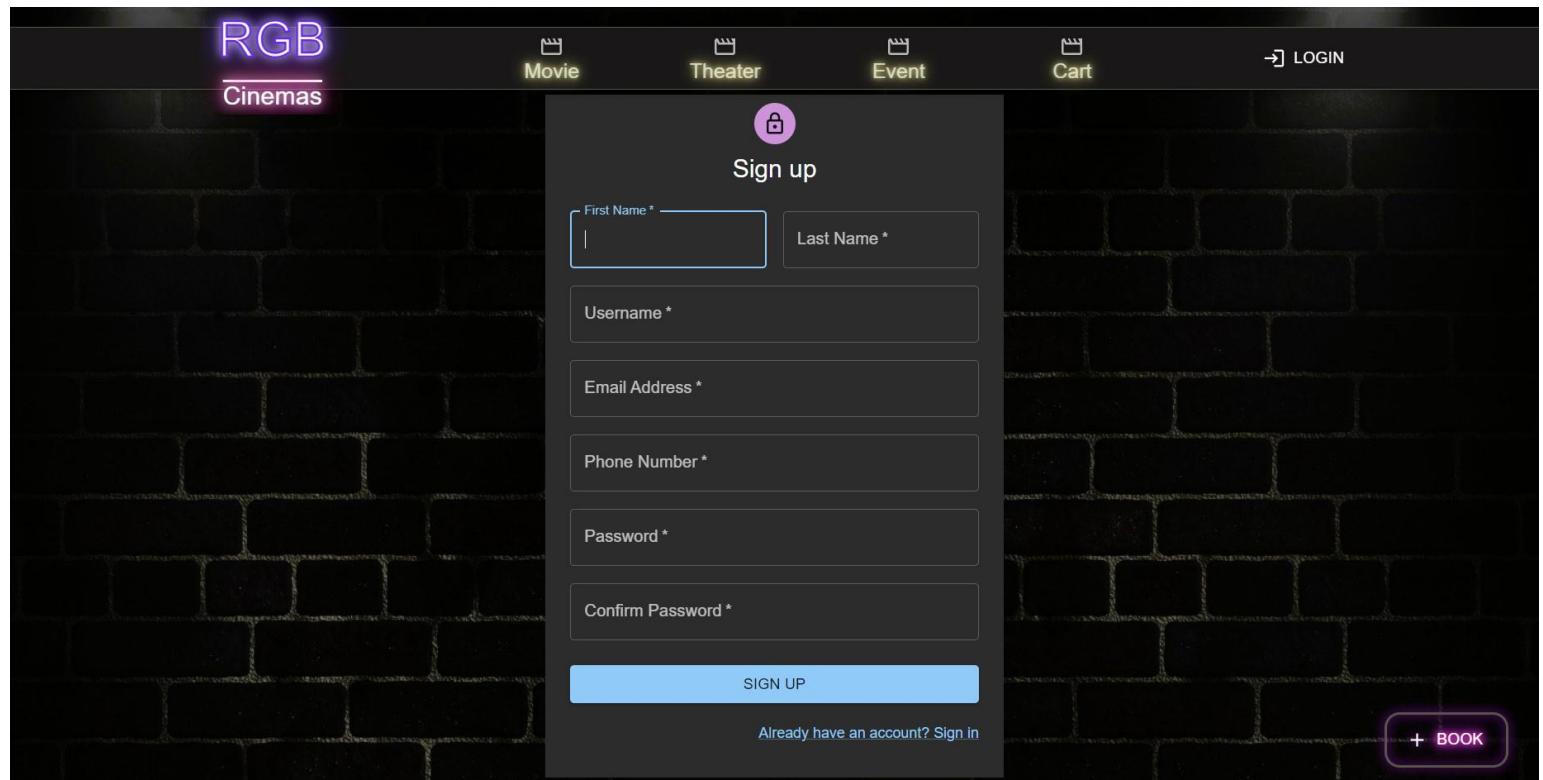
## 1.1 Home



## 1.2 Login



## 1.1 Register



## 1.2 Movie

# MOVIES SELECTION

Status  
Now Showing

Search movies



## 1.1 Edit Profile



Profile

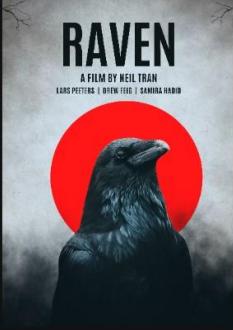
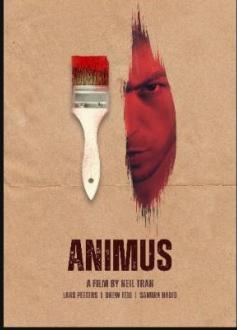
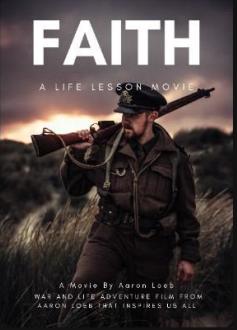
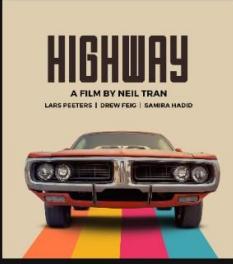
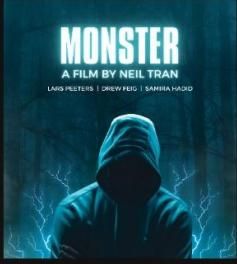
First Name *	Last Name *
Loc	Fu
Username *	
fuho	
Email Address *	
fuho@mail	
Phone Number *	
0897986	
Password *	
Confirm Password *	

SAVE

+ BOOK

## 1.2 Booking

RGB

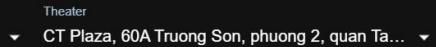

Name  
Running Time  
Theater  
Date & Time  
Room  
Seats  
Price  
Payment

**ADD TO CART**

**CANCEL**

**+ BOOK**

RGB

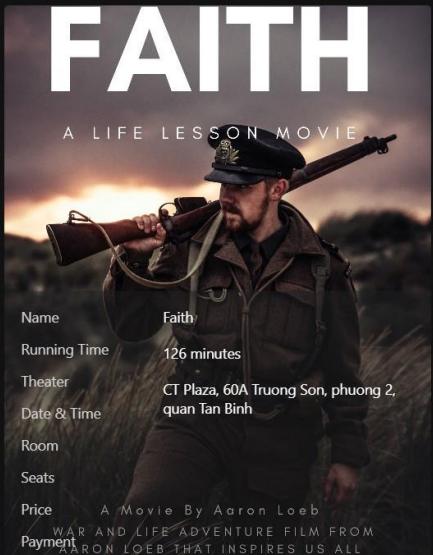
10  
SUN 12

16:00

18:20

20:40

**← BACK**



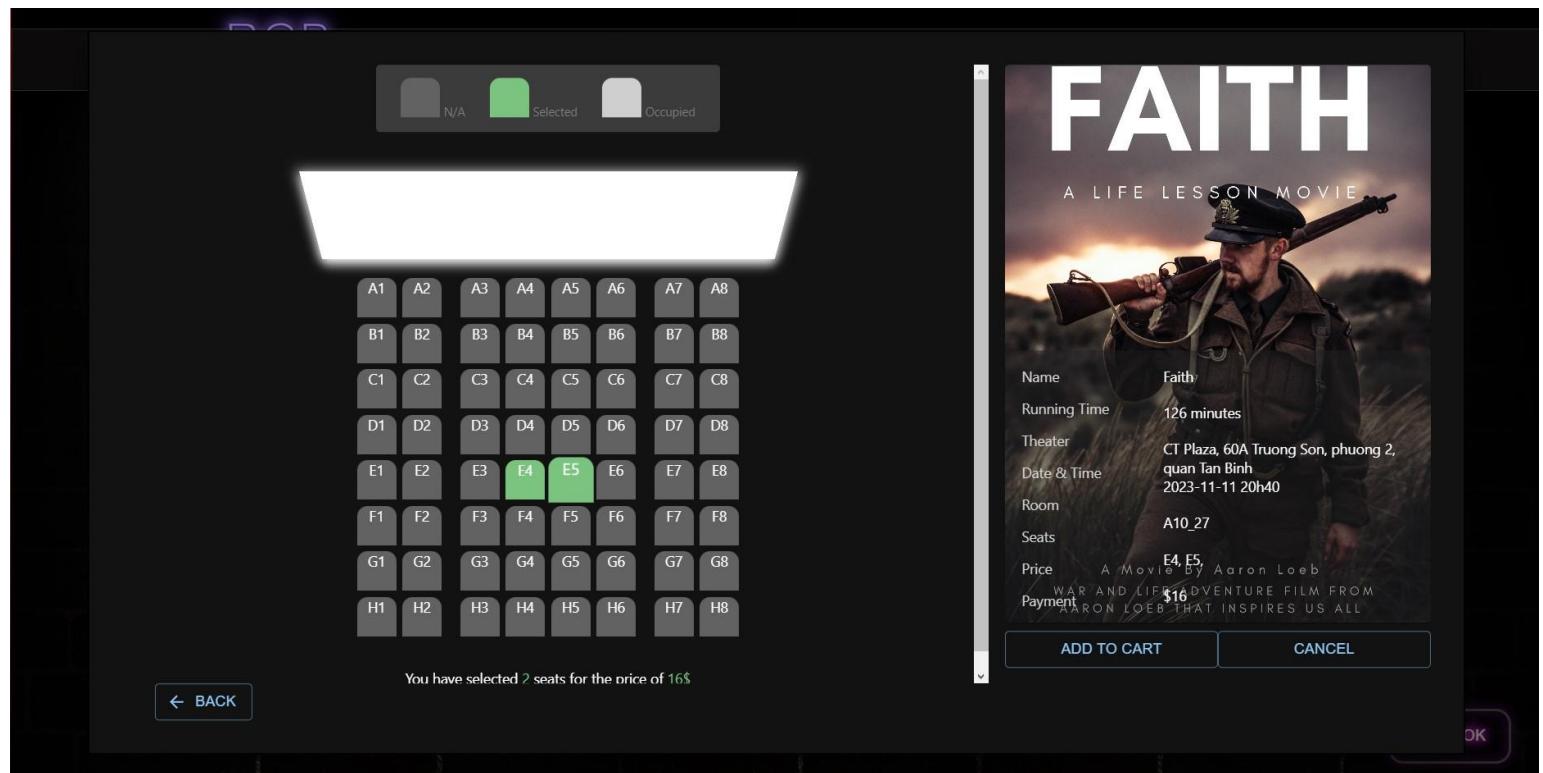
**FAITH**  
A LIFE LESSON MOVIE

Name: Faith  
Running Time: 126 minutes  
Theater: CT Plaza, 60A Truong Son, phuong 2, quan Tan Binh  
Date & Time: 10 SUN 12  
Room:  
Seats:  
Price: A Movie By Aaron Loeb  
Payment: WAR AND LIFE ADVENTURE FILM FROM AARON LOEB THAT INSPIRES US ALL

**ADD TO CART**

**CANCEL**

**+ BOOK**



## 1.1 Cart

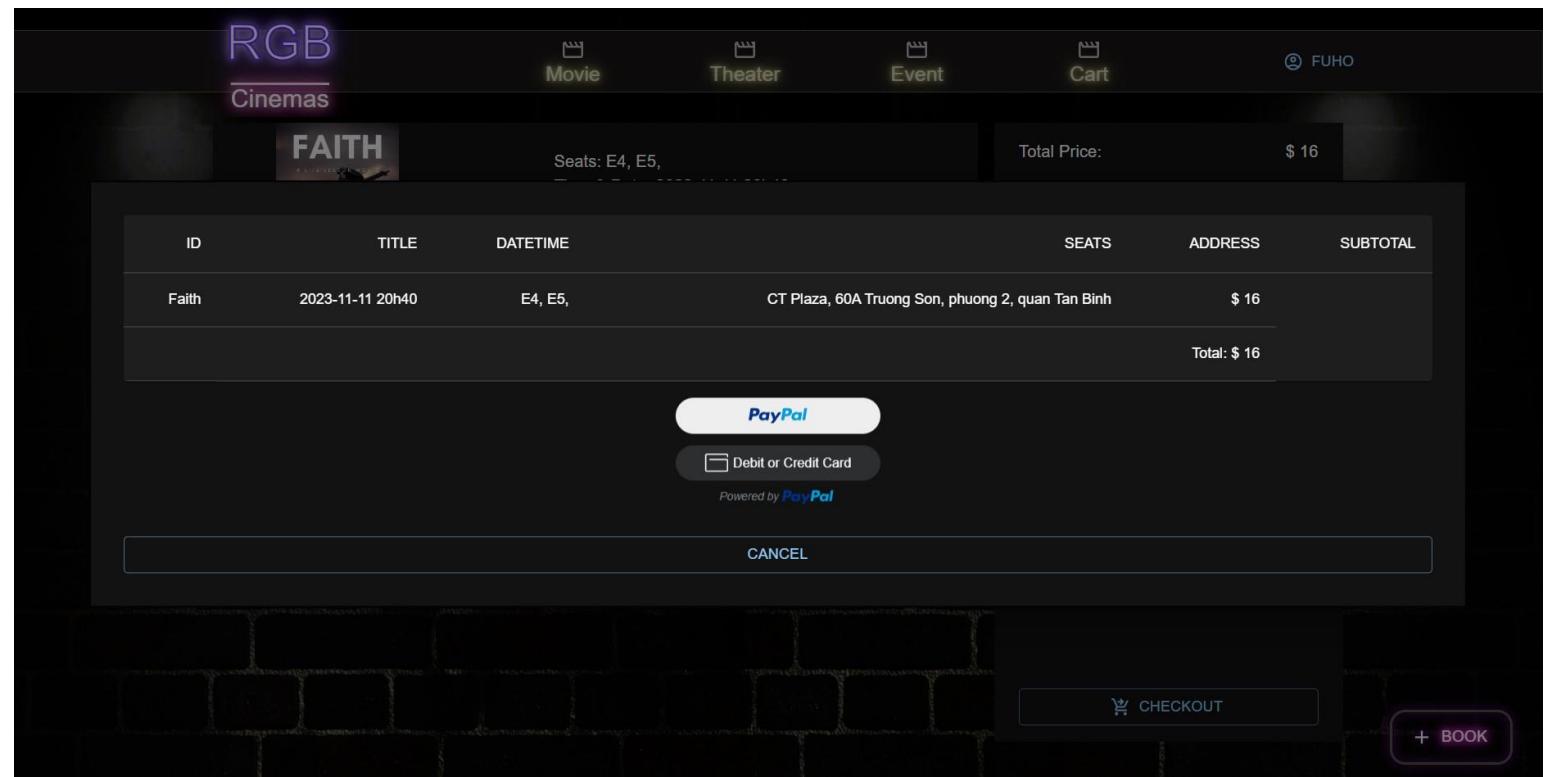
The image shows the 'Cart' section of the RGB Cinemas app. It lists two movie sessions:

- Faith** (Selected): Seats E4, E5, Time & Date: 2023-11-11 20h40, Subtotal: \$ 16, Theater: RBG - CT Plaza, 60A Truong Son, phuong 2, quan Tan Binh. Includes edit and delete icons.
- Faith** (Not Selected): Seats G5, G6, Time & Date: 2023-11-12 16h00, Subtotal: \$ 16, Theater: RBG - CT Plaza, 60A Truong Son, phuong 2, quan Tan Binh. Includes edit and delete icons.

Total Price: \$ 16

At the bottom are 'CHECKOUT' and '+ BOOK' buttons.

## 1.1 Checkout



## 2. Mobile GUI Design



Hello

Edit your account

Name

admin

First Name

loc

Last Name

nguyen

Phone

123456789

Email

loclongla1999@gmail.com

Edit Profile

## Sign in to your Account

Sign in to your Account

Email

Password



[Forgot Password?](#)

[Login](#)

Or login with

Google

Facebook

Don't have an account? [Register](#)



Hello, admin

Profile

Change Password

Order History

Logout

RAVE

## Register

Create your account

Name

First Name

Last Name

Phone

Email

Password



Confirm Password



Register

I have an account? [Login](#)

Movie Series TV Show



# COSMOPOLIS

Robert Pattinson, Sarah Gadon, Paul Giamatti, Kevin Durand, Abdul Ayoola



**Movie**   Series   TV Show



# VENOM

Tom Hardy, Michelle Williams, Riz Ahmed, Scott Haze, Reid Scott





# VENOM



A failed reporter is bonded to an alien entity, one of many symbiotes who have invaded Earth. But the being takes a liking to Earth and decides to protect it.

Type              Hour              Director

**Adventure**    **2 hour**    **Ruben Fleischer**

**Book Ticket**



1

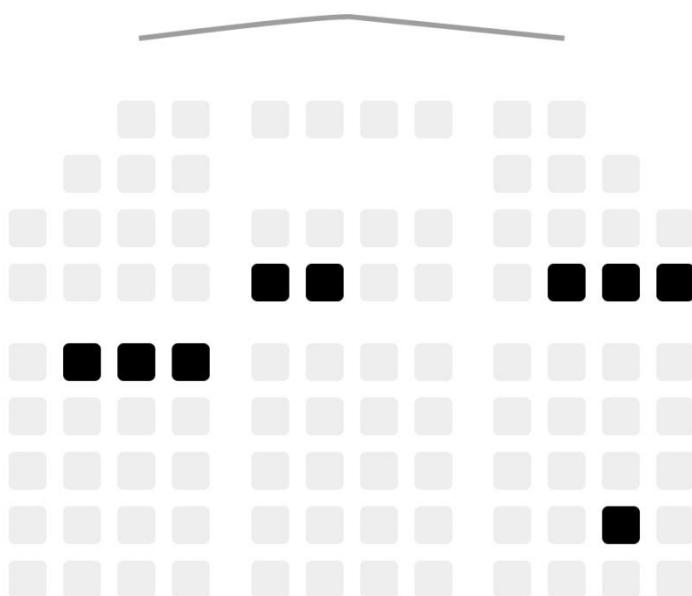
# Venom

11 OCT  
6:00PM

11 OCT  
8:00PM

11 OCT  
9:00PM

11 C  
10:0



● Available   ● Booked   ● Selection

## Buy Ticket





## Register

Create your account

Password

New Password

Confirm Password

Register

I have an account? [Login](#)

**Movie**   Series   TV Show



# BLACK WIDOW

Scarlett Johansson, Florence Pugh,  
Rachel Weisz, David Harbour, Ray  
Winstone



# Task Sheet 3

Members Group		Date Preparation of Activity Plan			
No	Name	Description Task	Start Date	End Date	Status
1	Hua Le Quang	Web UI Design	18/10/2023	22/11/2023	completed
2	Nguyen Tuan Loc	Flutter UI Design	18/10/2023	22/11/2023	completed
3	Nguyen Phat Tai	Admin UI Design	18/10/2023	22/11/2023	completed

Teacher	Team Leader
Ngo Van Thuan	Nguyen Tuan Loc