

FIT5046 Mobile and distributed computing systems S1 2024

Assignment 3: Android App Development and Demo

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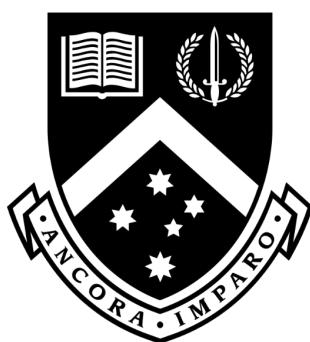
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Submission date: May 10, 2024

Due date: May 10, 2024



MONASH University

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1. Introduction

This report focuses on the features of the mobile app for booking tickets to cinema movies. It will mention which have been implemented and any additional changes from the initial design proposal.

1.1 Overview table of mobile app functionalities

Key Screens	Status
Login	Fully Implemented
Registration	Fully Implemented
Profile	Fully Implemented
Home/Contact Us	Fully Implemented
Map	Fully Implemented
Movies Coming Soon	Fully Implemented
Movie Now Showing	Fully Implemented
Session Tickets	Fully Implemented
Seat Selection	Partially Implemented
Booking Success	Fully Implemented

Key Functionality	Status
Navigation Bottom Bar	Fully Implemented
Room database	Fully Implemented
Lazy Column + Lazy Grid	Fully Implemented
Date Picker	Partially Implemented
Expanded Dropdown menu	Fully Implemented

Advanced Features	Status
Google Calendar	Fully Implemented
Google Authentication	Fully Implemented

Aside from these key screens, the application will also have:

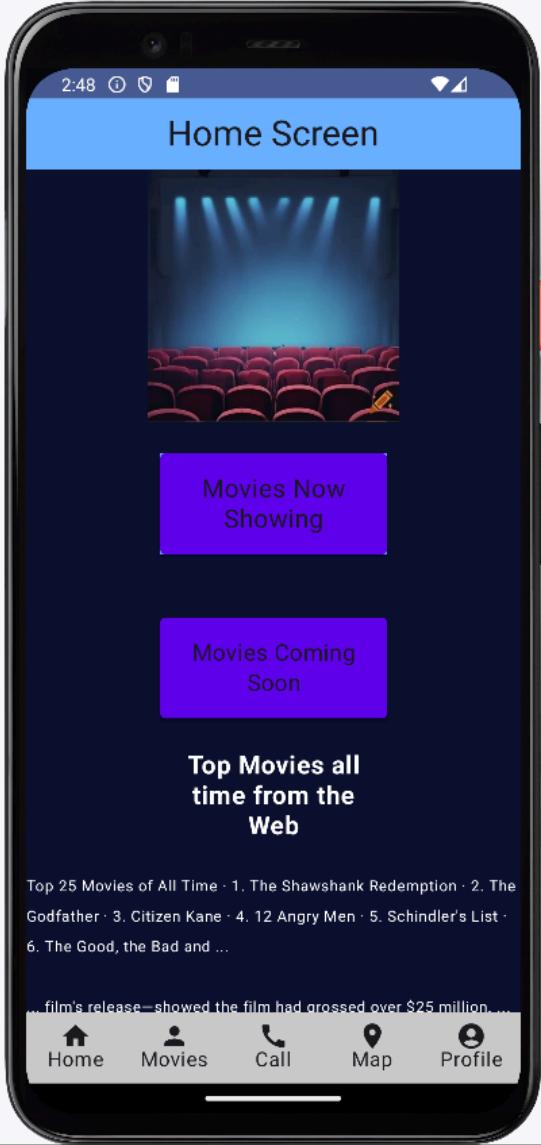
1. Navigation bottom bar, and between screens using buttons.
2. Room database to store user and movie information, pre-populated using a SQLite db in the Assets folder
3. Use of Lazy Column at Movie Sessions screens
4. Date Picker in sessions and booking screens
5. Expanded dropdown menu
6. Google Calendar Event creation with Retrofit
7. Showing tickets retrieved from the above calendar events
8. Register Success and join to Data room
9. Got the Room identity to the Email
10. The Map Box shows the recent Movie showing the location
11. Connect phone number and popup orchid
12. The QR Code Generated shows page in the profile < My Ticket>

New feature:

1. Scrollable in Home Page
 2. Retrofit public web API Google Search in Home Page
 3. QR Ticket Screen
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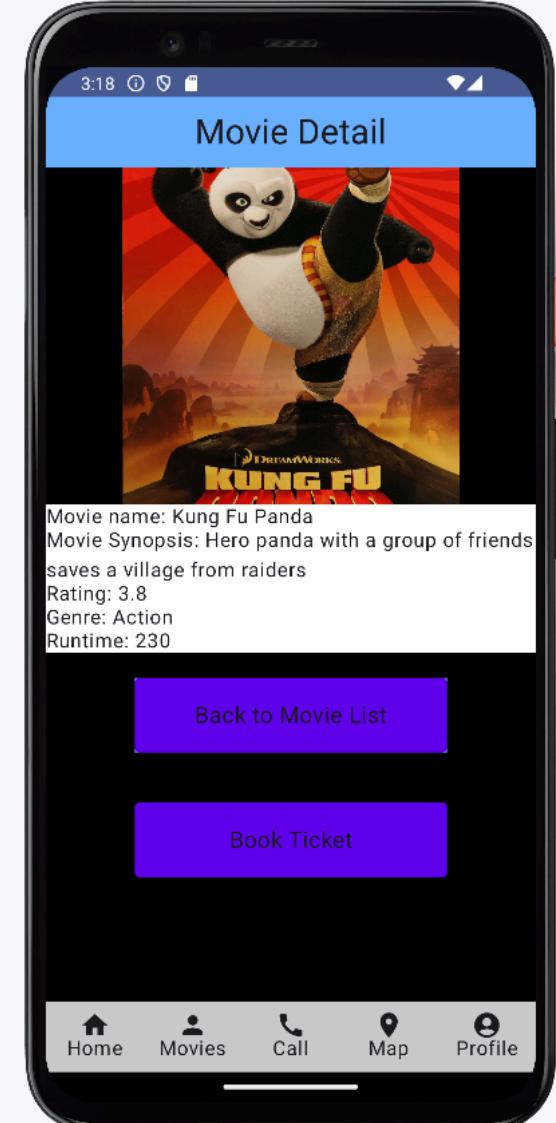
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2. Functionalities and Screens

Home Screen	
Screenshot	Features
	<ol style="list-style-type: none">1. Image of cinema2. Navigation<ul style="list-style-type: none">2.1 Buttons Movies Coming Soon, Movies now showing2.2 Bottom bar (leads to other screens Movie List, Accounts, Map)3. Retrofit Public web API Google search to get web result for Top Movies All Time4. Scrollable page, for user to view Google Search text results

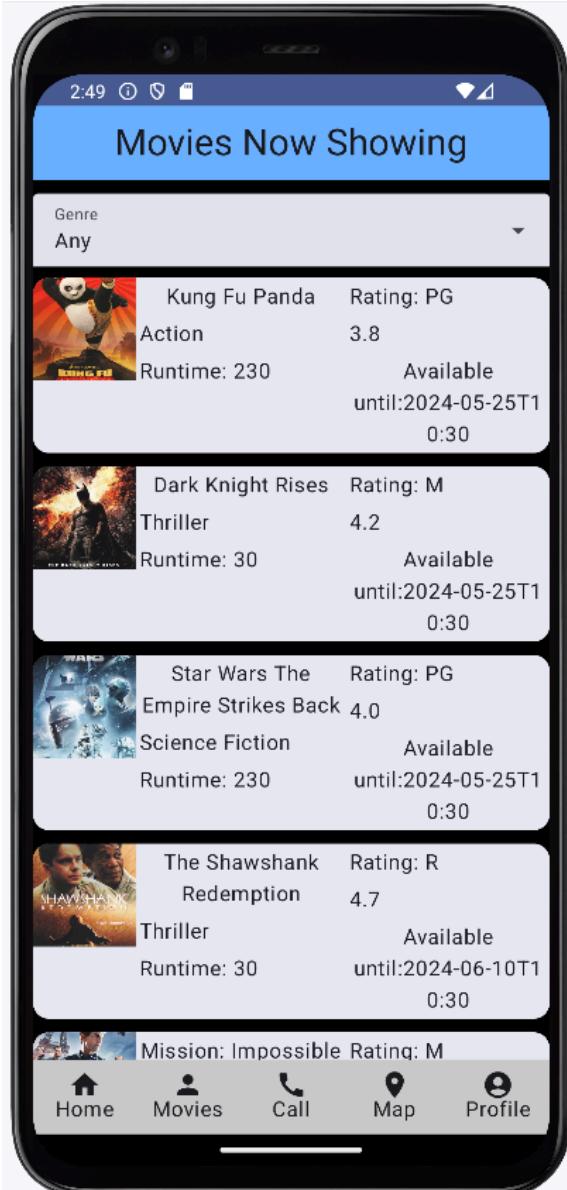
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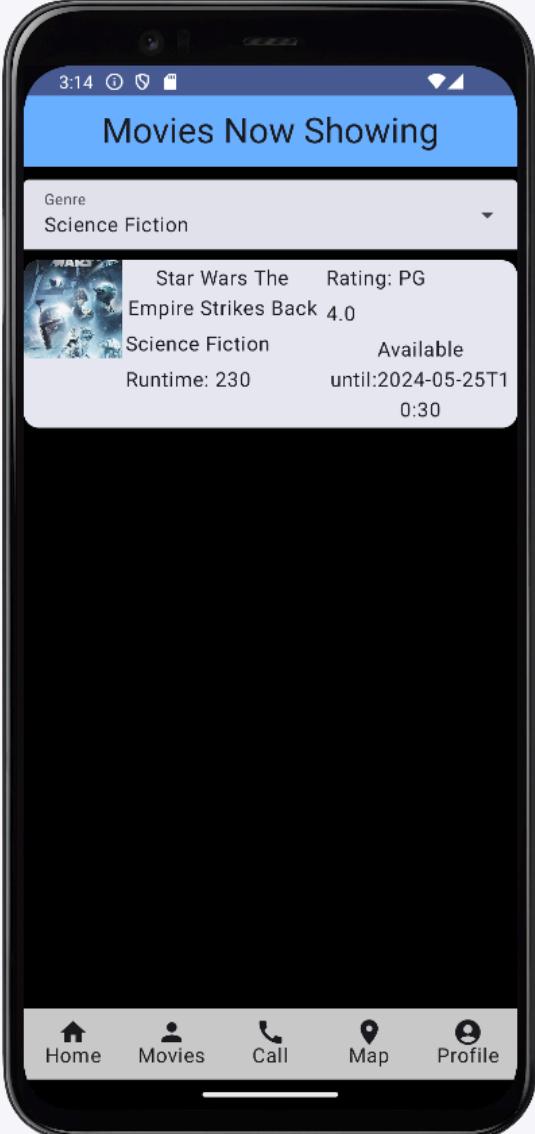
Movie Details Screen

Screenshot	Features
 A screenshot of a mobile application interface titled "Movie Detail". The main image is a large poster for "Kung Fu Panda" showing Po the panda in a dynamic pose. Below the poster, movie details are listed: <p>Movie name: Kung Fu Panda Movie Synopsis: Hero panda with a group of friends saves a village from raiders Rating: 3.8 Genre: Action Runtime: 230</p> At the bottom of the screen are two purple buttons labeled "Back to Movie List" and "Book Ticket". The navigation bar at the very bottom includes icons for Home, Movies, Call, Map, and Profile.	<ol style="list-style-type: none">1. Navigation<ul style="list-style-type: none">1.1 Back to Movie List1.2 Book Ticket2. Movie Details: Displays the item from Movie class stored in Room: Large display image, movie name, synopsis, rating, genre, and runtime.

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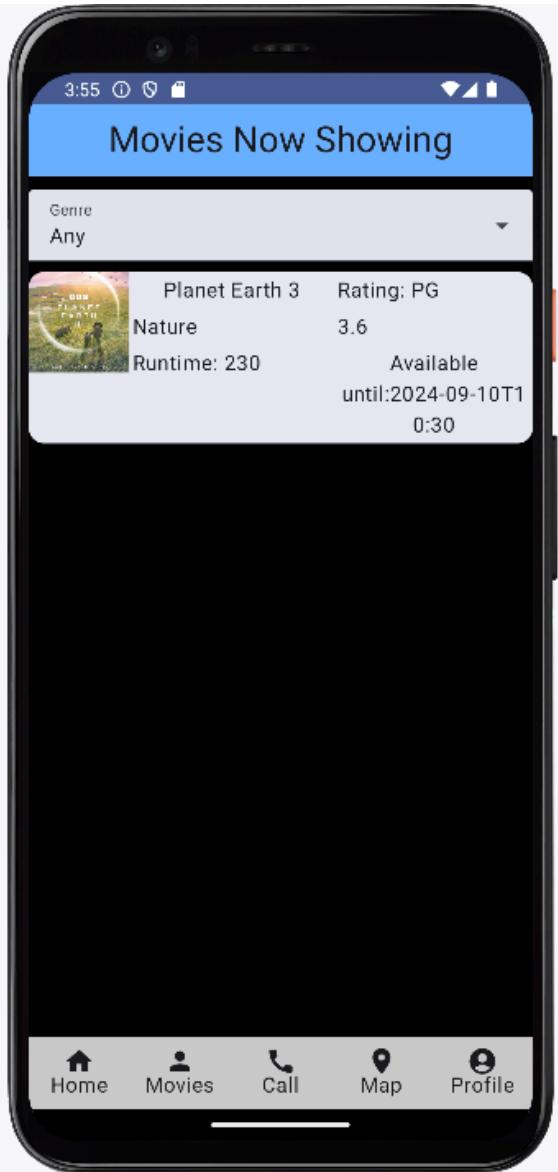
Movies Now Showing Screen

Screenshot	Features
	<p>Automatically displays different movies based on cinema's showing start and end dates.</p> <ol style="list-style-type: none">1. Genre sort list. By default it is 'Any'.2. Movie Items from LazyColumn list: Displays the movie object from Movie class: Small Image, Name, user rating, age rating, genre, runtime



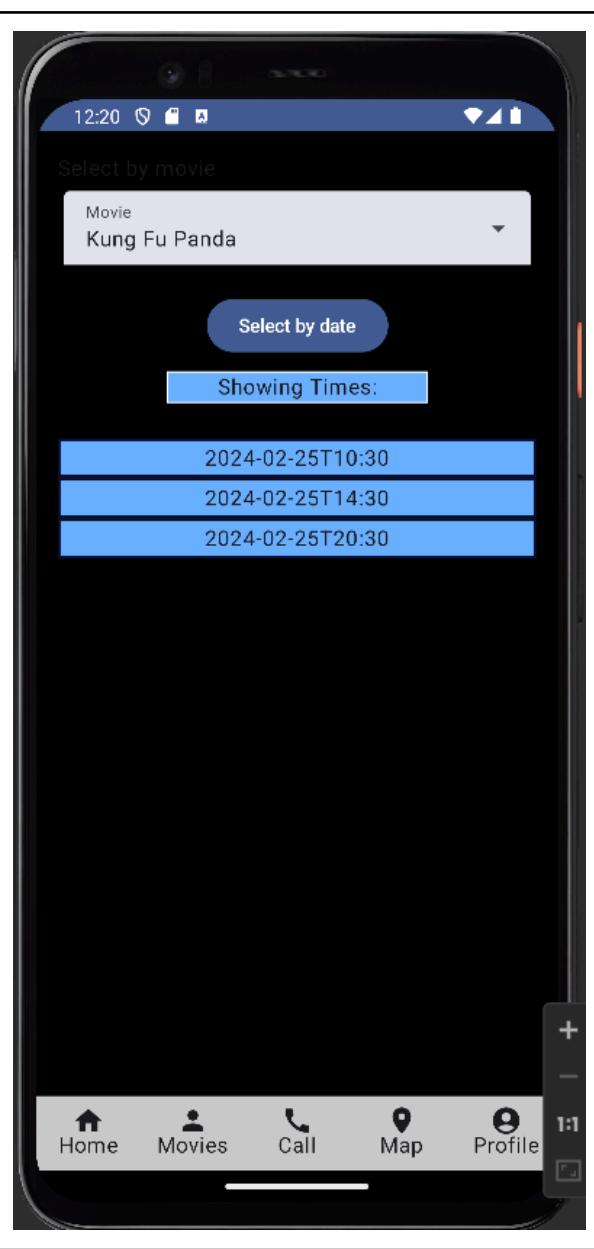
The screenshot shows a mobile application interface. At the top, a blue header bar displays the text "Movies Now Showing". Below this, a dropdown menu is open, showing the option "Science Fiction". The main content area displays a movie card for "Star Wars The Empire Strikes Back". The card includes a thumbnail image of the movie, the title, its rating (PG), and its runtime (4.0). Below the title, it says "Science Fiction" and "Available". It also shows the release date "until:2024-05-25T10:30". At the bottom of the screen, there is a navigation bar with five icons: Home, Movies, Call, Map, and Profile.

Clicking a genre in dropdown list changes the LazyColumn list items.



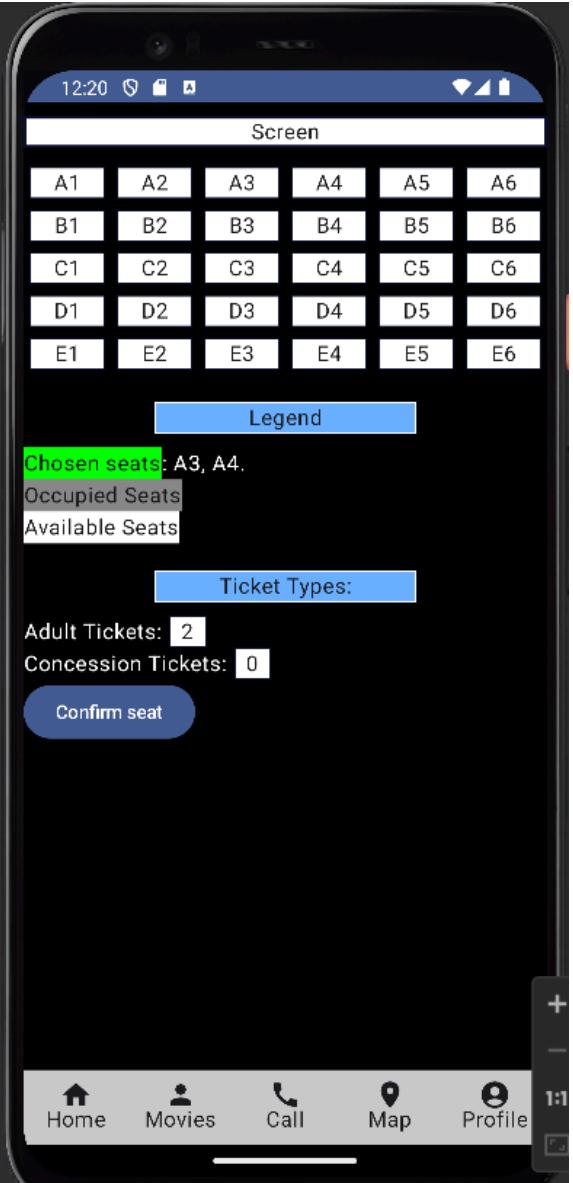
Movies Coming Soon uses datetime query to get movie items after June 2024

Sessions Screen

Screenshot	Features
 A screenshot of a mobile application interface titled "Sessions Screen". The top status bar shows the time as 12:20 and various connectivity icons. Below the status bar, a header reads "Select by movie" with a dropdown menu showing "Movie" and "Kung Fu Panda". A blue button labeled "Select by date" is visible. Below these buttons is a section titled "Showing Times:" containing three blue rectangular buttons with white text: "2024-02-25T10:30", "2024-02-25T14:30", and "2024-02-25T20:30". At the bottom of the screen is a navigation bar with five icons: Home, Movies, Call, Map, and Profile. To the right of the navigation bar is a small control panel with a "+" sign, a minus sign, and a 1:1 ratio icon.	<ol style="list-style-type: none">1. Navigation<ul style="list-style-type: none">1.1. Back arrow on the top1.2. Bottom Navigation Bar2. Movie selection<ul style="list-style-type: none">2.1. Drop down menu3. Select by date<ul style="list-style-type: none">3.1. Date Picker4. Showing Times:<ul style="list-style-type: none">4.1. List4.2. Updates according to the movie and date choices

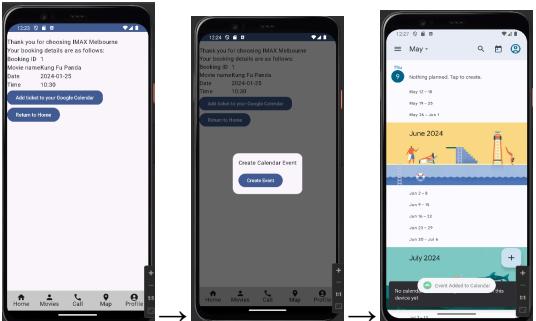
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Seat Selection Screen

Screenshot	Features
	<ol style="list-style-type: none">1. Navigation<ul style="list-style-type: none">1.1. Back arrow on the top1.2. Bottom Navigation Bar2. Seat selection<ul style="list-style-type: none">2.1. Lazy Grid, can change dimension by inputting different parameter3. Legend<ul style="list-style-type: none">3.1. Chosen seats are updated live on user interaction3.2. Available/Occupied seats are retrieved from the Room database upon reaching this screen4. Ticket types:<ul style="list-style-type: none">4.1. Text input4.2. Validation: number of chosen seats match the number of tickets5. Confirm seat button<ul style="list-style-type: none">5.1. Leads user to payment (will not implemented)5.2. Purchase success will show ticket details and button to add event to Google Calendar

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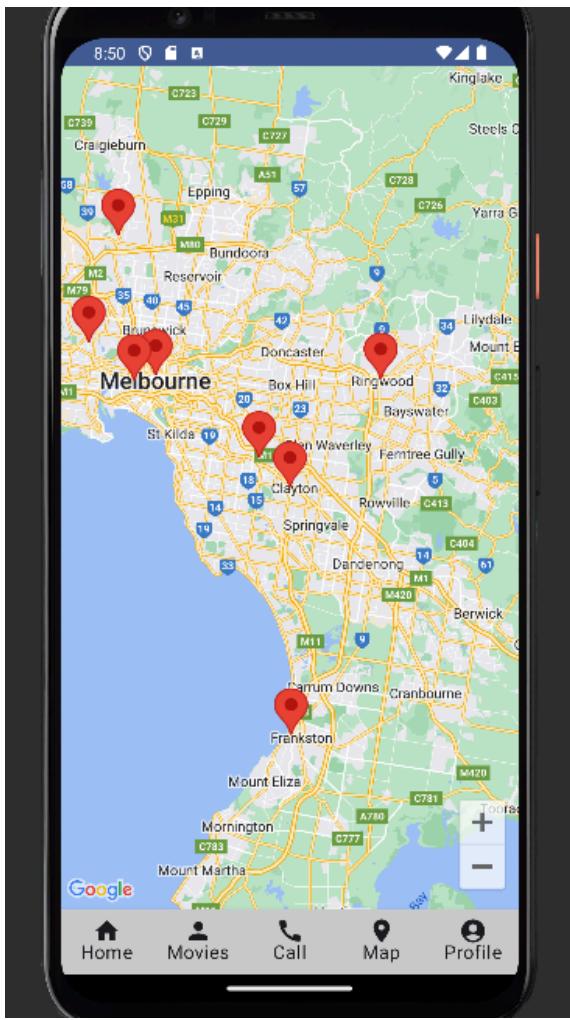
Booking Success Screen

Screenshot	Features
	<ol style="list-style-type: none"> Navigation <ol style="list-style-type: none"> Back arrow on the top Bottom Navigation Bar Seat selection <ol style="list-style-type: none"> Lazy Grid, can change dimension by inputting different parameter Legend <ol style="list-style-type: none"> Chosen seats are updated live on user interaction Available/OccUPIed seats are retrieved from the Room database upon reaching this screen Ticket types: <ol style="list-style-type: none"> Text input Validation: number of chosen seats match the number of tickets Confirm seat button <ol style="list-style-type: none"> Leads user to payment (will not implemented) Purchase success will show ticket details and button to add event to Google Calendar

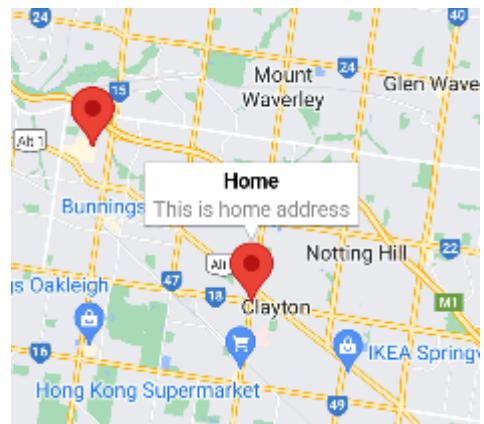
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Map Screen

Screenshot

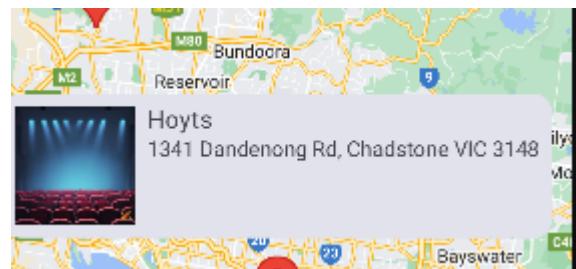


features

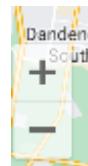


Home location

The detail of the cinema

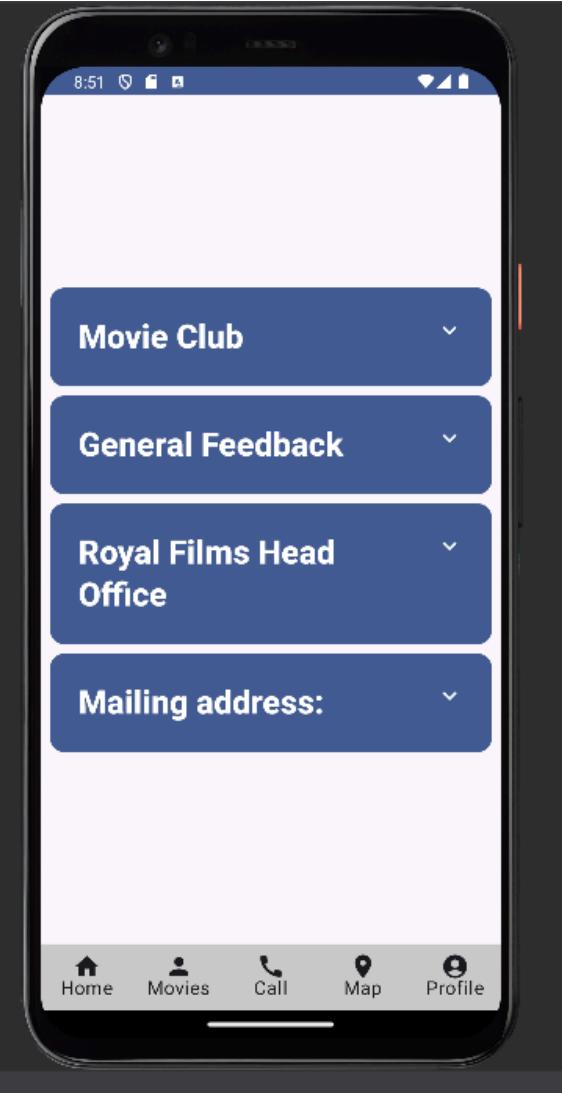


Zoom in and out function

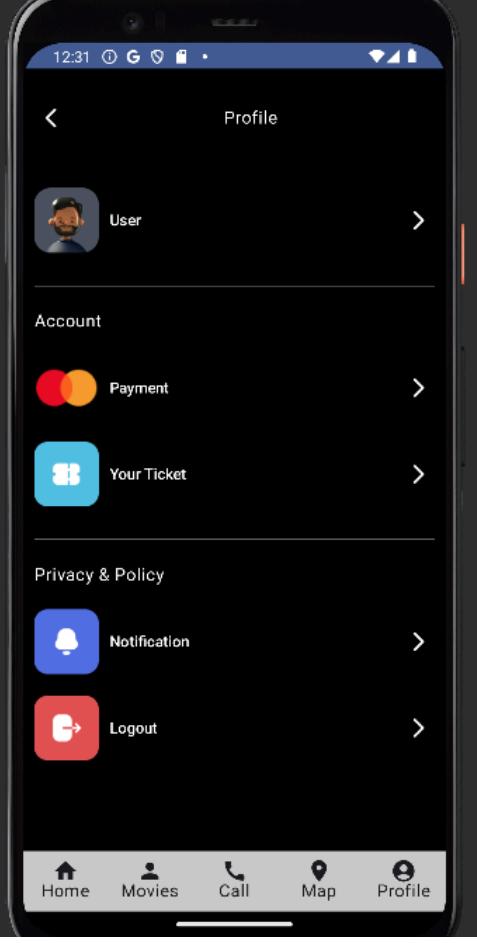
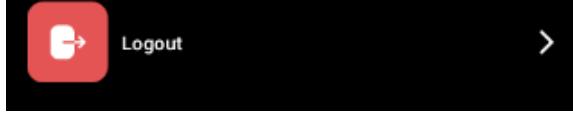
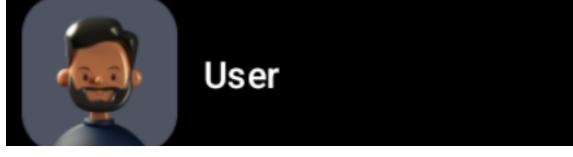
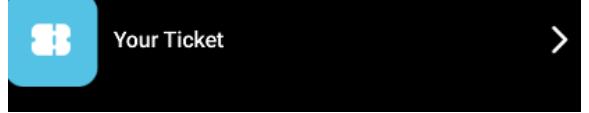
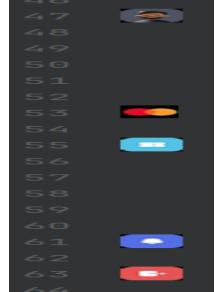


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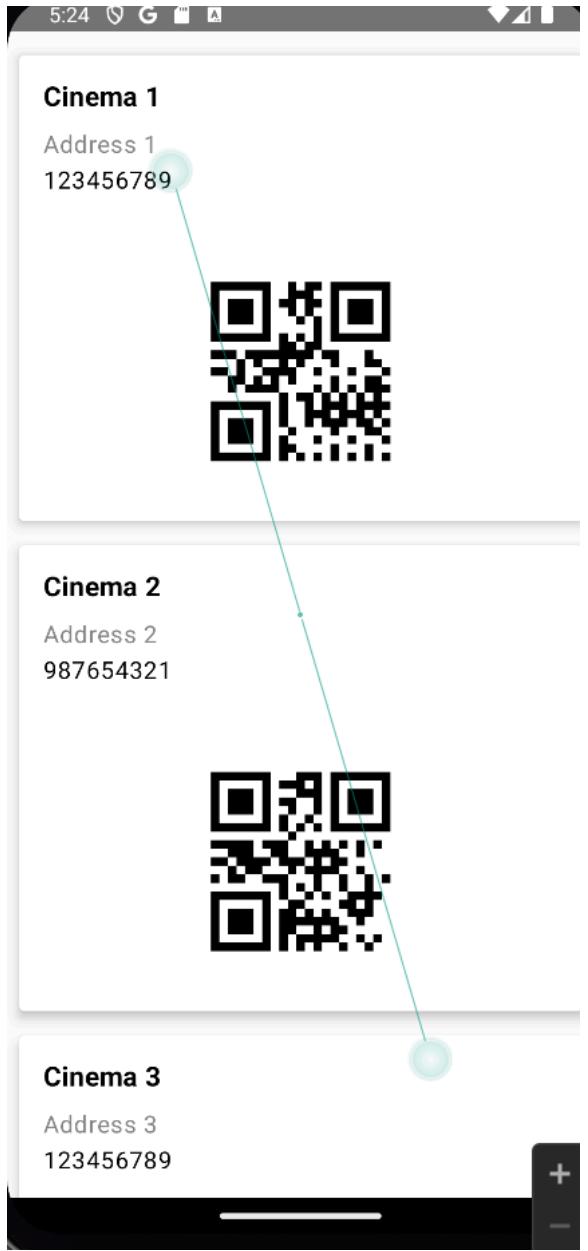
Contact Screen

Screenshot	Features
	<p>Show more information</p> <p>Movie Club movieclub@royalfilms.com</p> <p>General Feedback feedback@royalfilms.com</p> <p>Royal Films Head Office Phone: (03) 4567 8900</p> <p>Mailing address: PO Box 1234, East Park, VIC 3214</p>

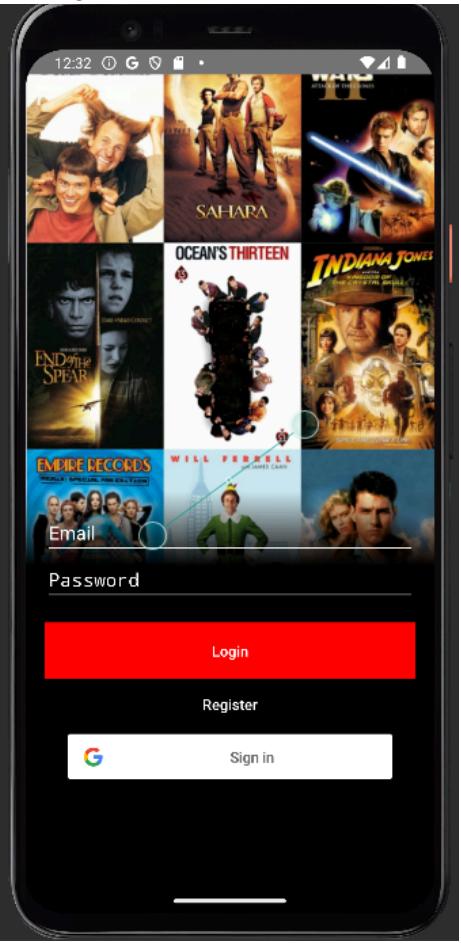
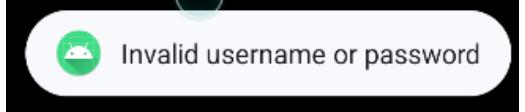
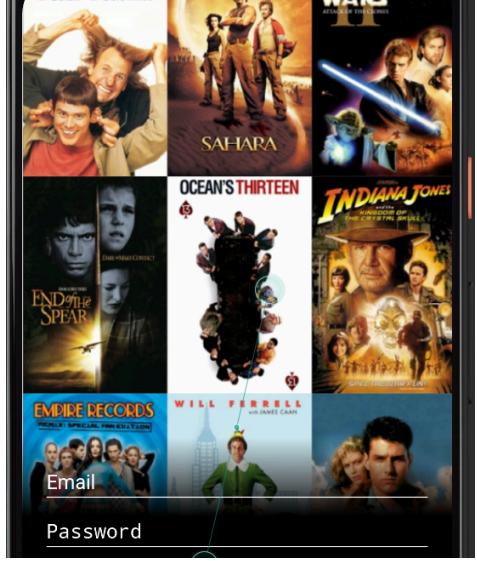
Profile Screen

Screenshot	Android key features
<p>1. Click button will return Login Screen 2. Personal state 3. jump intent Your Ticket 4. Picture input</p> 	<p>Feature1: NavController will jump to Login page</p> 
	<p>Feature2:NavController will jump to personal detail composable Route can set name in next time</p> 
	<p>Feature3:Your Ticket Click intent To new Pages</p> 
	<p>Feature4:R.Drawable. Input Drawable input picture then Column and word dp in one line</p> 

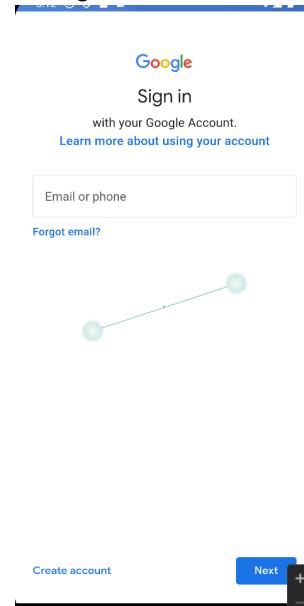
Your Ticket Screen

Screenshot	Android key features
<p>1. Generate the QR picture information to Ticket</p>  <p>The screenshot shows a mobile application interface with a header bar at the top displaying time (5:24), signal strength, battery level, and other icons. Below the header, there is a list of three cinema entries, each consisting of a title ('Cinema 1', 'Cinema 2', 'Cinema 3'), an address ('Address 1', 'Address 2', 'Address 3'), and a QR code. A scroll bar at the bottom right indicates that the list can be scrolled down. Three green circles with arrows point from the text 'Feature1' to the scroll bar, the address field of the first cinema entry, and the QR code of the first cinema entry respectively.</p>	<p>Feature1: The LazyColumn can Scroll down 20 picture</p> <p>Cinema 10 Address 10 987654321</p>  <p>Feature2: QRCodeWriter class from the ZXing library to create the QR code image</p> 

Login Screen

Screenshot	Android key features
<p>1.Guides Users to the login interface</p> <p>2.Login Button Error Handling:</p> <p>3.Login Screen background fills Max Size</p> <p>4.Login Screen Set gradient color</p> <p>5.Google Authentication</p> 	<p>1. Email/Username Password Field: Provide input fields for users to enter their email and password. Use appropriate input</p>  <p>hidden password Password Variation</p> <p>2. Toast Bar: Display clear error messages if the user enters incorrect credentials.Implement button states based on input</p>  <p>3.FillMaxSize: The Login screen background FillmaxSize</p>  <p>4background = GradientDrawable set gradient color</p> <pre>background = GradientDrawable(GradientDrawable.Orientation.BOTTOM_TOP, intArrayOf(Color.argb(alpha, 255, red, green, blue), Color.argb(alpha, 0, red, 255, green, 255)))</pre>

5. Click Google connection Authentication



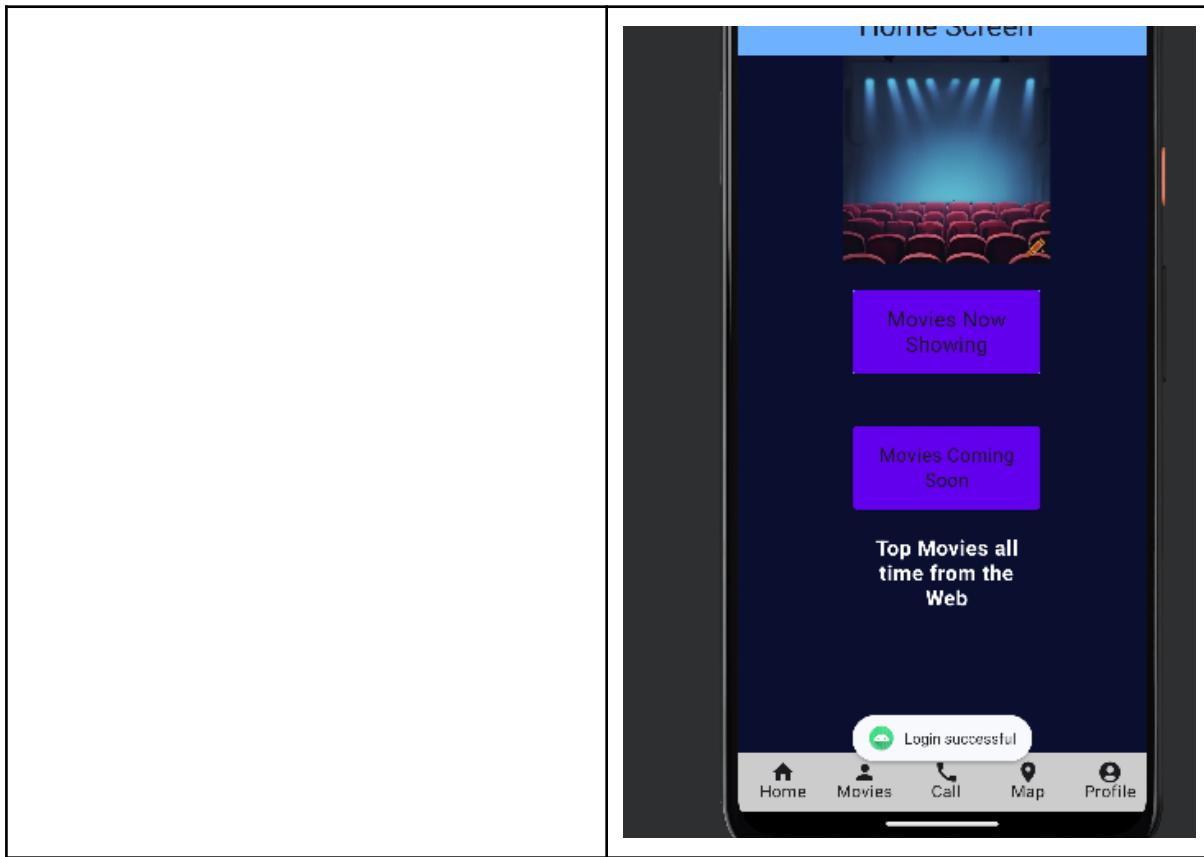
6 If Google Login Suceess The Page Will return the Data(Advance Feature)

A composite screenshot. On the left, a Java code editor shows a snippet of code related to Google sign-in and user data retrieval. On the right, a smartphone displays a mobile application's login screen with fields for "Email" and "Password".

7. The Login Page Safety save to room When Google Login

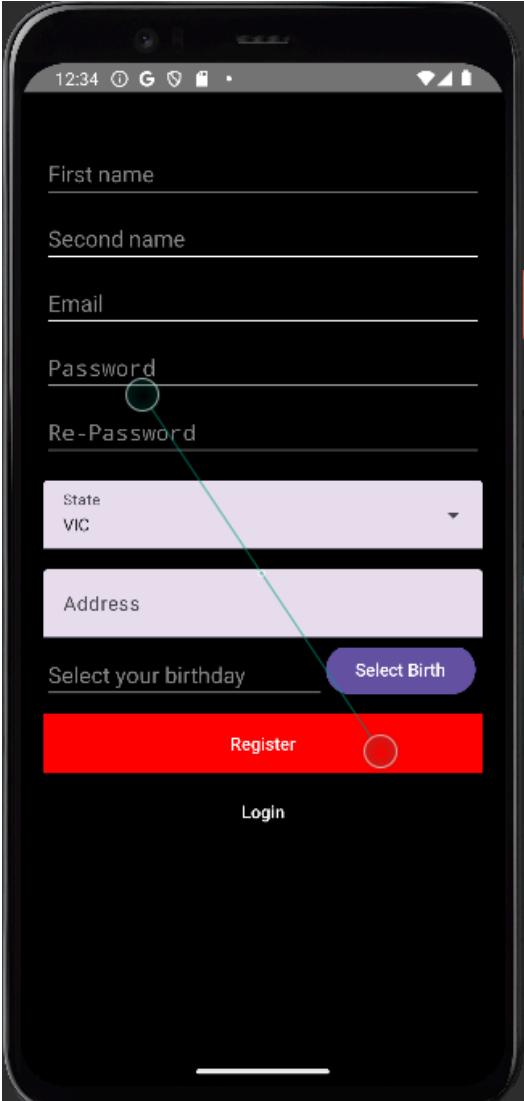
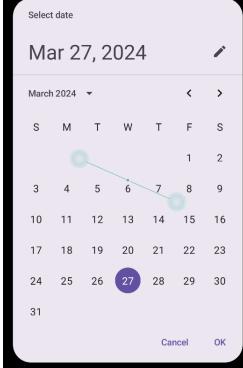
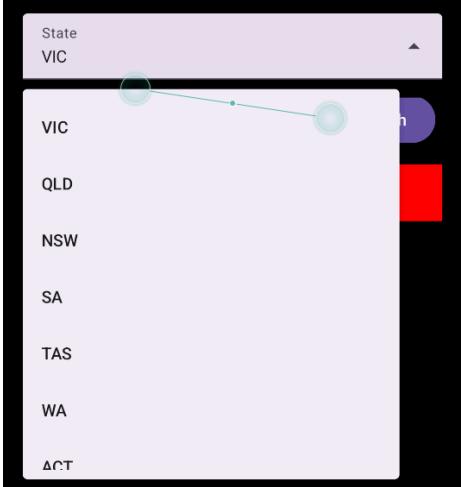
customer_id	first_name	last_name	password	email	date
1	John	Doe	password123	john.doe@gmail.com	1990-01-01 00:00:00
2	Wang	Zhang	password456	wang.zhang@gmail.com	2023-05-15 10:00:00

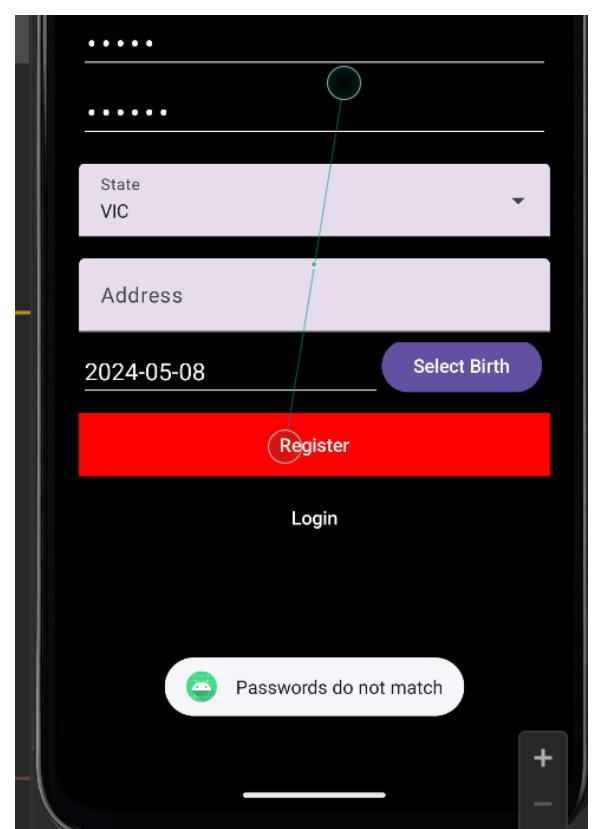
8 Use General Login not Google Login When connecting with room use by Viewmodel Tigger can also itent to Home



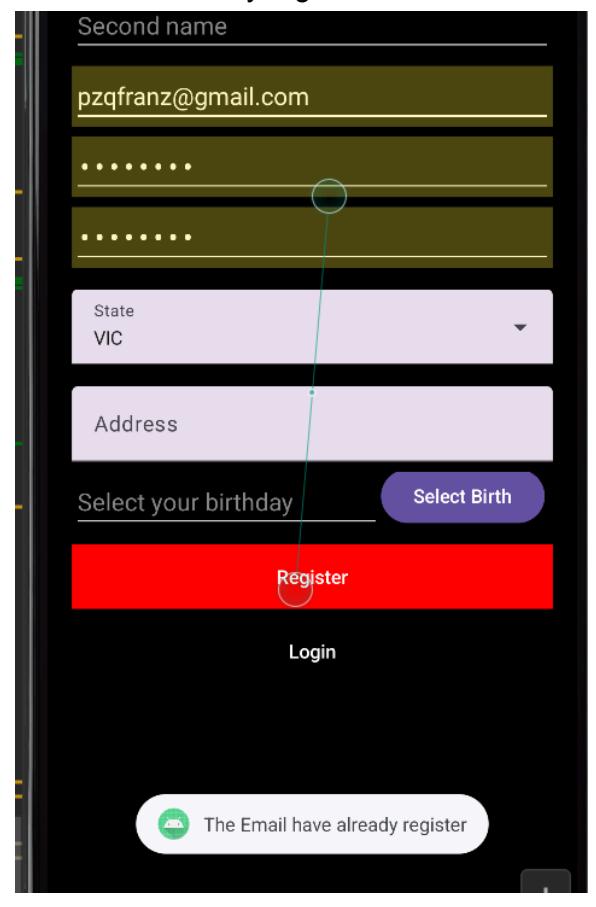
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Register Screen

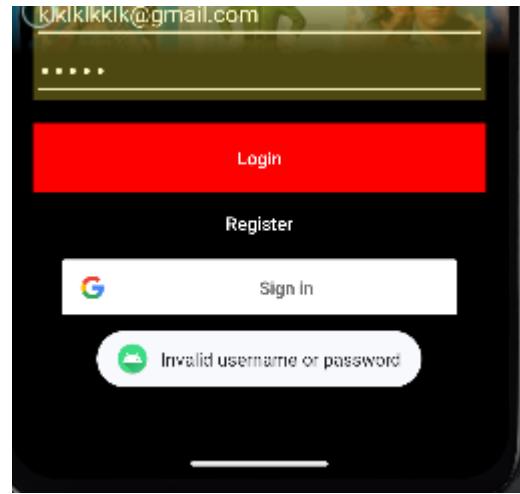
Screenshot	Android key features
<p>1.Selected Birth</p> <p>2 Detail return Birth</p> <p>3 Register Screen selected your birth</p> <p>4 Register Screen Column</p> 	<p>1.Date picker choice and set</p>  <p>2. Put a date return data</p>  <p>3. Lazy column to state choice</p>  <p>4. encapsulation use a Column Linear</p>  <p>5.Additional function When input number isn't have truly long ,it will show the toast</p>



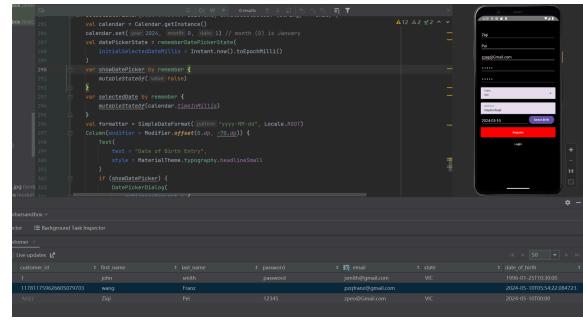
6 if already registered the toast bar connect the room and return the data show The Email have already register



7 If the password empty it will show Invalid username or password



7 the data is safely save dataroom by email



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3.FIT5046 Task Allocation Form

Please provide the name of tasks and the name of the group member(s) who did the task in the table below.

Task Name and Description	Team Members
Home Screen Now Showing / Coming Soon Screens Movie Details Screen	Aaron Chan Design and develop the main home screen layout Implement the movie details screen with LazyColumn/ LazyRow
Login Screen Register Screen Profile Screen (Advanced Feature: G Authentication)	Ziqi Pei Design and development for these screens Implement Google Authentication Implement registration form validation Store and retrieve credentials to Room DB Input validation and error messages
Movie Sessions Screen Seat Selection Screens Booking Success Screen (Advanced Feature: G Calendar)	Tsz Chung Wong (Leo) Design and development for these screens Implementation of Google Calendar at Booking Success Screen
Cinema Location Screen (Google Maps) Contact Us Screens	Jiabao Li Develop the cinema location screen with interactive maps Create the contact information screen for customer support
Bottom Navigation Bar	Aaron Chan Tsz Chung Wong (Leo) Ziqi Pei
Room Database	Aaron Chan Design database schema Create sample data, DAO methods Update DB according to design updates Bug fix Tsz Chung Wong (Leo) Design database schema Create Entities, DAOs, Repo, ViewModel and related code Ziqi Pei Customer relation with Email register and Login
Documentation and Presentation	All team members Add comment in code as required
GIT repo Link: GIT REPO LINK	Tsz Chung Wong (Leo) Create and manage GIT repo