**INTI International College Penang School of Engineering and Technology 3+0 Bachelor of Science (Hons) in Computer Science, in collaboration with Coventry University, UK 3+0 Bachelor of Science (Hons) in Computing, in collaboration with Coventry University, UK**

**Coursework cover sheet**

**Section A - To be completed by the student**

|  |  |  |  |  |  |
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| Semester | | : | April 2023 | | |
| Lecturer | | : | Mdm. Koo Lee Chun | | |
| Module Code and Title | | : | 6002CEM – Mobile App Development | | |
| Assignment No. / Title: Coursework  CW2 – Project | | | | % of Module Mark : | 75% |
| Hand out date: | 2 May 2023 | | | Due date: | 18 June 2023 |
| Penalties: No late work will be accepted. If you are unable to submit coursework on time due to extenuating circumstances you may be eligible for an extension. Please consult the lecturer. | | | | | |
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# Introduction

Nowadays, as the digital landscape is continuing to evolve, there is a rise in the use of mobile devices as one of the platforms to access to the media. In response to this trend, NovelComix is a useful mobile application that provides the convenience of accessing a wide range of stories. Users may access any of the stories on their mobile devices whenever and wherever they decide on. The story line could be either in the form of comics or novels.

NovelComix is a mobile application that aims to provide users with a unique and engaging storytelling experience by combining comics and novels in one application. Comics and novels have been popular mediums for storytelling for decades, with each offering its unique advantages and drawbacks. Comic could help in increasing engagement as readers may find comics more interesting and have more fun compared to novel only story.

The motivation for developing NovelComix application is to give users a flexible and inclusive reading experience that meets their requirements and preferences. As a result, NovelComix combines comic books and novels into a single application that gives users the option to read the visual comic or novel version, depending on their preferences. Additionally, NovelComix ensures that users are able to explore and find new stories by providing stories in different genres, such as romance, fantasy, adventure, and others.

# Diagrams

## Use Case Diagram



Figure 2.1 Use Case Diagram

## Prototype

# Detail Explanation for Each Module

Label clearly each module name and student name who work on that module

* **User management (Ying Jie)**
  + Enables users to create accounts, log in securely, and manage their profiles. It ensures personalized experiences, saved preferences, and access to user-specific features.
* **Content Management**
  + Allows administrators to manage and organize the collection of comics and novels available on NovelComix. It includes features such as adding new content, categorizing them by genres or authors, and updating existing content.
* **Search and Discovery**
  + Enables users to search for specific comics or novels based on titles, authors, genres, or keywords. It also includes personalized recommendations, trending content, and filters to help users discover new reading materials.
* **Bookmark**
  + Allows users to create personalized bookshelves to organize their favourite comics and novels. It also keeps track of their reading history, allowing them to resume from where they left off and track their progress.

## Authentication Module (Ooi Ying Jie)

In this module, it consists of two sections for authentication which are sign up and login. First, users are required to register accounts to use the application. Moreover, users need to login their accounts with registered email and password in order to accessing the features and content in the application. This is because the login authentication method is using email and password in Firebase.

## User Profile Module (Ooi Ying Jie)

Users are able to accounts to access the application and personalize their details such as information and preferences. Also, admin have the access to the user accounts management to ensure they would avoid spam accounts or user who abuse the application.

## Home Page Module (Damien Tan Lek Khee)

Users will be exposed to the ongoing comics and novels, which acts as recommendations to new comics and novels for the users. When clicked, users will be directed to the detail page of the comic or novel, which they could start reading.

## Comic and Novel Catalogue Module (Lim Pau Thing)

Users can switch between comic and novel versions, with options for page-by-page or continuous scrolling reading mode. During comic version, user will see the stories with visual like images and bubble with speech while arranging in sequence by sequence. Alternately, during novel version with text arranged in paragraph and chapters, user could focus more into the story in a more literary manner. In different reading mode, reader could choose either turning page or one continuous stream scrolling down to read.

## Comic and Novel Details Module (Lim Pau Thing)

In this module, the detailed information of the comics or novels such as cover image, title, author, description and chapters are provided in the detail page for each comic and novel. Therefore, users are able to view the detailed information about a selected comic or novel once any of them is selected.

## Bookmarks and Favourites Module (Lim Pau Thing & Ooi Ying Jie)

Users can bookmark their favourite comics and novels, save them to their favourites, and resume reading from where they left off. From this, user would not require to search again they have read last time.

# Strengths of the Application

* **Simple UI**

The app features simple yet beautifully designed user interface. The theme of the UI is set to be soothing yet bright colors, thus maroon and white. This allows the images and text to stand out from the background and interface of the app. The layout of the UI is simple which improves the user experience and promotes ease of use.

* **Navigation bar**

The app's navigation bar allows for easy and intuitive navigation between different sections and features of the app, enhancing the user experience and overall usability. This is because the design of the navigation bar is simple and straightforward with clear text and icons.

* **Comic and novel catalogue**

The catalogue module effectively organizes and presents the available comics and novels, making it convenient for users to browse and explore the collection. The comics and novels are categorized with the genre which significantly improves the user experience.

* **Bookmarks**

The bookmark feature enables users to save their progress or mark favourite comics and novels, providing a convenient way to resume reading from where they left off.

# Weaknesses of the Application

**Lack of user reviews or ratings**

The absence of user-generated reviews or ratings for comics and novels could make it challenging for users to gauge the quality or popularity of a particular title.

**Absence of social sharing features**

If the app does not include social sharing options, users may miss out on the opportunity to share their favorite comics or novels with friends or on social media platforms, limiting the app's potential for user engagement and word-of-mouth promotion.

**Ability to Remember Login Details**

The feature of auto login and password remembrance is not implemented into the app. Users are required to re-enter login details whenever they start the app.

# Future Enhancements

* + - **Social Features**

NovelComix may offers a social feature that encourages users to interact and engage. Through this feature, users can recommend stories to friends and followers. It could allow readers to follow other readers making group connections effortless. Users could have the ability to leave comments and reviews fostering a lively atmosphere. NovelComix could also enable users to provide suggestions for storylines or improvements directly to administrators or authors.

* + - **Multi-language Support**

NovelComix could provide a multilingual support feature as it might be used by global audience. If having this feature, users can select their desired language from various options available, which enables them to enjoy reading comics in their native language or explore stories in different languages. This feature will enhance user accessibility and offer a personalized experience to the users.

* + - **In-app Purchases**

In-app purchase system may include in the NovelComix application, allowing users to access premium content or subscribe to exclusive features. Through in-app purchases, users are able to unlock bonus content that is interesting. This could provide chances to support users’ favourite authors by subscribing to their works. By doing this, readers may directly express their appreciation and support for the excellent authors while also supporting the app's revenues.

* + - **Publisher Feature**

Users may be able to register as publisher, which allows them to publish comics or novels created by them. However, the comic or novel must go through a verification phase to ensure that the contents provided to the users are appropriate. With this feature implemented into the app, it could potentially increase the user base as publishers could be involved in the app’s community.

* + - **Login Details Remembrance**

By implementing the feature where users could select remember password and auto-login, would significantly improve the user experience. This is because users are not required to re-enter their login details whenever they start the app.

# Reflection from Each Member

## Damien Tan Lek Khee

In this project, I’ve contributed to the homepage of the app and parts of the report. For the development of homepage, I was required to display the comics and novels that are ongoing in the homepage. I’ve encountered some challenges while contributing to this project.

Issues with time management had a major impact on my contributions to this project. There were a handful of projects to be completed within the submission date. The submission dates are quite close, hence I had to work on multiple projects at the same time. Luckily, my part was not that complicated as I am only required to develop homepage and complete the report. However, I still faced some issues with directing the user to the comic/novel detail page when they click on the images shown in the homepage. Still, I managed to solve the issue and move on with completing the report.

In conclusion, I learnt to improve my skills on Dart and Flutter. It had a major impact as my final year project is related to the same programming language and development tools. I also believe that I learnt to improve my time management skills so that I wouldn’t have to rush any projects or placing too much stress on myself.

## Lim Pau Thing

I contributed on multiple parts of this project, including the comic and novel catalogues, the comic and novel details, and the bookmarks. Ying Jie and I worked to create bookmark page and tried to retrieve user information from databases. However, I experienced numerous difficulties in this project.

My first challenge was time management. I realized that there was insufficient time for coding, which had an impact on my progress. This experience taught me the importance of setting certain time for programming tasks and being more disciplined with my schedule. Besides that, I faced some difficulties when trying to retrieve data from the Firestore database. It took me longer time to understand and implement the necessary code.

Overall, understanding the Dart language and Flutter framework is one of the lessons I have learnt. I had to increase my expertise to successfully contribute to the project since I am a beginner to the Flutter framework and the Dart language. The ability to solve problems is another lesson I learned from this project. Whenever I encountered code errors or faced challenges, I turned to ChatGPT for assistance and utilized online resources like YouTube videos. I became better at analysing and debugging code because of this practise.

## Ooi Ying Jie

In this project, I have contributed on various modules such as authentication module, user profile and the bookmarks. Pau Thing and I work together to create bookmark page and retrieve user data from database. However, there are some challenges faced in this project.

The first challenge I faced in this project was the unfamiliarity with the programming language and framework. As Dart language and Flutter framework were new to me, I need to explore and understand their functionalities. However, I was able to understand these tools contribute effectively to the project. Another challenge I faced was working with the database. As I had limited experience in using Firebase, I frequently got code errors and struggled to retrieve data. I have tried to solve the issues by watching YouTube videos.

For the lesson learned, I learned the importance of time management. I need to discuss with my team members about setting deadlines for coding tasks which will allow us to allocate sufficient time for the project. Furthermore, I gained practical experience in implementing Firebase as the database for data storage and retrieval. Through solving the second challenge which is retrieve user data from Firebase, I improved my skills in utilizing this powerful tool.