**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

* **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. 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.

## 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 can browse and search for comics and novels by title, genre, author, or keyword. By filtering any keywords, user could find the stories they wanted or by genres to explore new stories.

## 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)

Users can download comics and novels to read offline, making it easy to access content on the go. For example, the user would have to go to some places where without any Wi-Fi or mobile data, they still could access the comic or novel of the NovelComix that they have downloaded prior to their travel or trip.

## 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

**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.

**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.

**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.

# 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.

# Reflection from Each Member

## Damien Tan Lek Khee

## 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.