Suncharn Pipithkul
Manuelo Tanjay

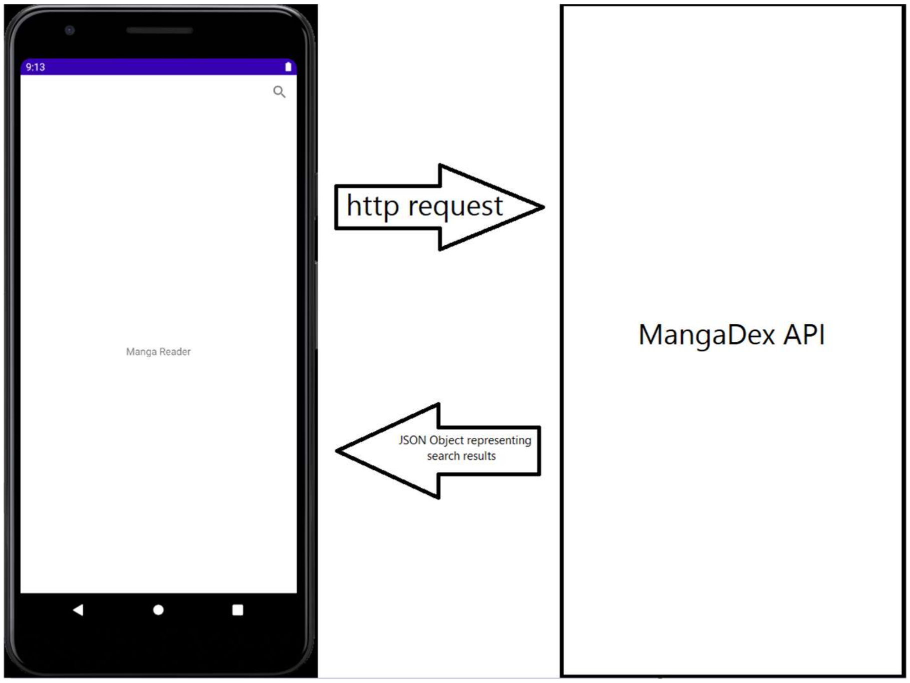
Manga Reader

Project Statement

Manga Reader is an android app that lets you read manga. What is manga? Manga is a style of Japanese comic books. The word manga comes from the Japanese words 漫 (man) meaning “whimsical” and 画 (ga) meaning pictures. Our app allows users to read manga from the comfort of their phones provided they have an internet connection. It uses the Mangadex API to search for and display over 10,000 different manga that is stored on their database. Mangadex currently does not have a front-end interface and our app gives users the ability to access the manga on their database. The app allows the users to search for their favorite manga from a search bar, select the manga they want to read, select the chapter of that manga, and scroll through pages of that chapter by swiping left or right. Traditionally, reading a manga online require the user to search it from their browser which have ads and/or pop ups. Our app makes reading manga online more streamline and hassle free without annoying ads! There is a similar application called “Tachiyomi”, but they source their manga from multiple websites which means that they have a bigger manga library than us, but this also means that they must make their app more generalize to multiple different manga API and cannot implement all of the features of the MangaDex API which we plan to do. To use our app, the user must have an internet connection on an android device version Android 6.0 or later (API 23 or later).

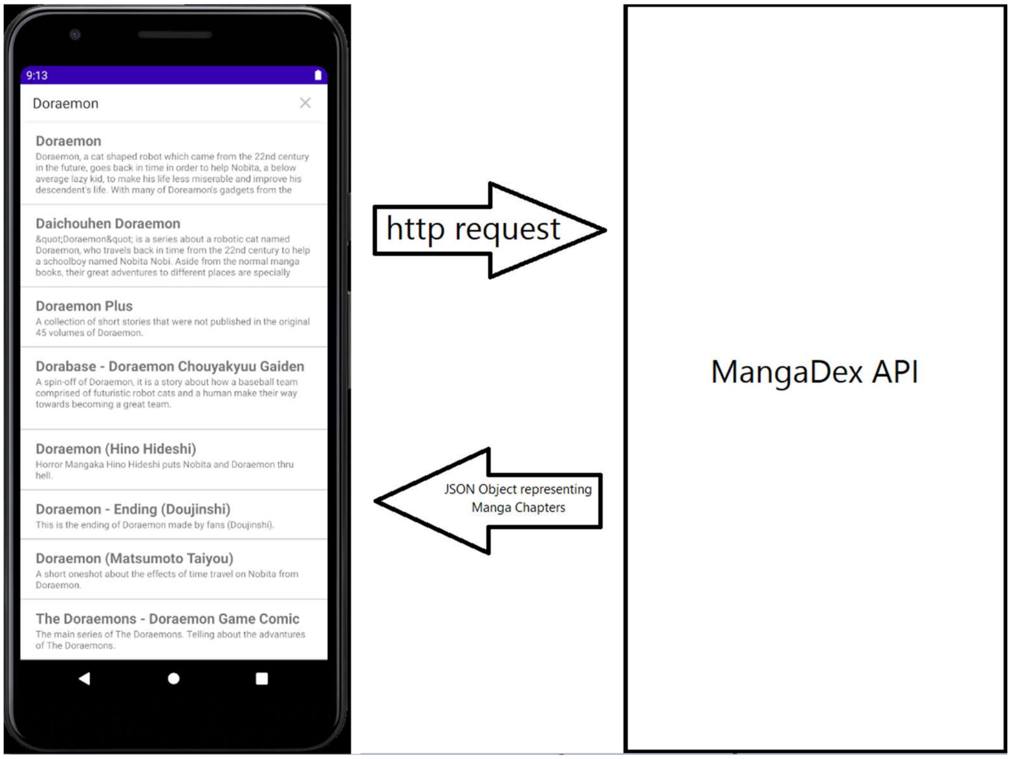
Application Design

Activity 1 – Homepage and Search



The first thing the user will see when they load up the app is the Homepage. It consists of a search bar and the app name. In the future we would like to add a logo to this page (among some other features that we will discuss below). The user can use the search bar to type in the name of any manga and this activity will send a request to the MangaDex API.

Search results



9:13

Doraemon

Doraemon
Doraemon, a cat shaped robot which came from the 22nd century in the future, goes back in time in order to help Nobita, a below average lazy kid, to make his life less miserable and improve his descendent's life. With many of Doreamon's gadgets from the

Daichouhen Doraemon
&quot;Doraemon&quot; is a series about a robotic cat named Doraemon, who travels back in time from the 22nd century to help a schoolboy named Nobita Nobi. Aside from the normal manga books, their great adventures to different places are specially

Doraemon Plus
A collection of short stories that were not published in the original 45 volumes of Doraemon.

Dorabase - Doraemon Chouyakyuu Gaiden
A spin-off of Doraemon, it is a story about how a baseball team comprised of futuristic robot cats and a human make their way towards becoming a great team.

Doraemon (Hino Hideshi)
Horror Mangaka Hino Hideshi puts Nobita and Doraemon thru hell.

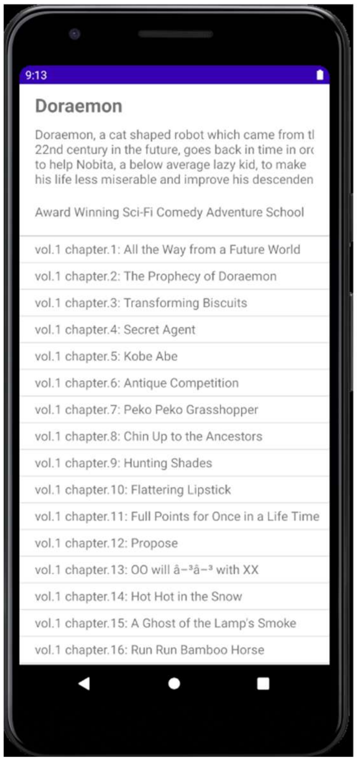
Doraemon - Ending (Doujinshi)
This is the ending of Doraemon made by fans (Doujinshi).

Doraemon (Matsumoto Taiyou)
A short oneshot about the effects of time travel on Nobita from Doraemon.

The Doraemons - Doraemon Game Comic
The main series of The Doraemons. Telling about the advantures of The Doraemons.

If there are any search results returned, they are then displayed to the user. The user can then scroll through the search results and select and item. Another request is sent to the API to get the chapters of the selected manga which are then displayed to the user along with some information about the manga like the title, description,

Activity 2 - Chapters



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Doraemon, a cat shaped robot which came from tl 22nd century in the future, goes back in time in orc to help Nobita, a below average lazy kid, to make his life less miserable and improve his descenden

Award Winning Sci-Fi Comedy Adventure School

vol.1 chapter.1: All the Way from a Future World

vol.1 chapter.2: The Prophecy of Doraemon

vol.1 chapter.3: Transforming Biscuits

vol.1 chapter.4: Secret Agent

vol.1 chapter.5: Kobe Abe

vol.1 chapter.6: Antique Competition

vol.1 chapter.7: Peko Peko Grasshopper

vol.1 chapter.8: Chin Up to the Ancestors

vol.1 chapter.9: Hunting Shades

vol.1 chapter.10: Flattering Lipstick

vol.1 chapter.11: Full Points for Once in a Life Time

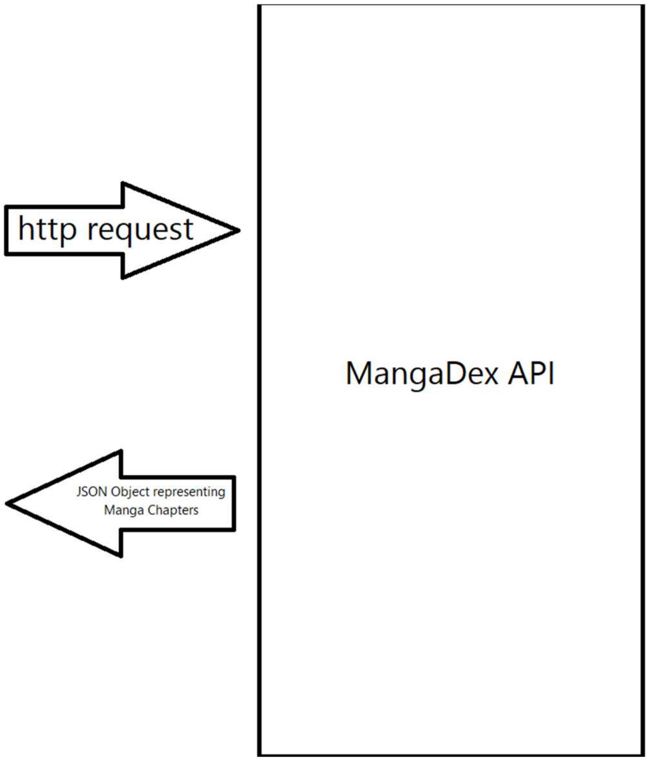
vol.1 chapter.12: Propose

vol.1 chapter.13: OO will â–³â–³ with XX

vol.1 chapter.14: Hot Hot in the Snow

vol.1 chapter.15: A Ghost of the Lamp's Smoke

vol.1 chapter.16: Run Run Bamboo Horse



After the user selects the manga, they want to read, they are brought to a new page that displays information on their selection. The paragraph under the title is the synopsis or plot description of the manga and can be scrolled down so that the user can get a short summery of what they are about to read if they do not know it yet.

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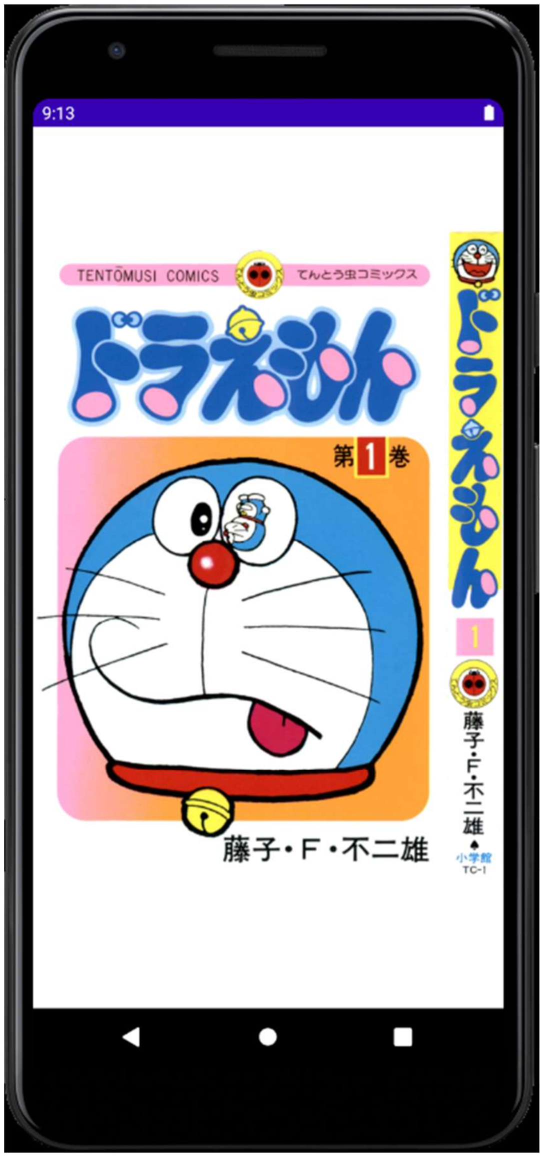
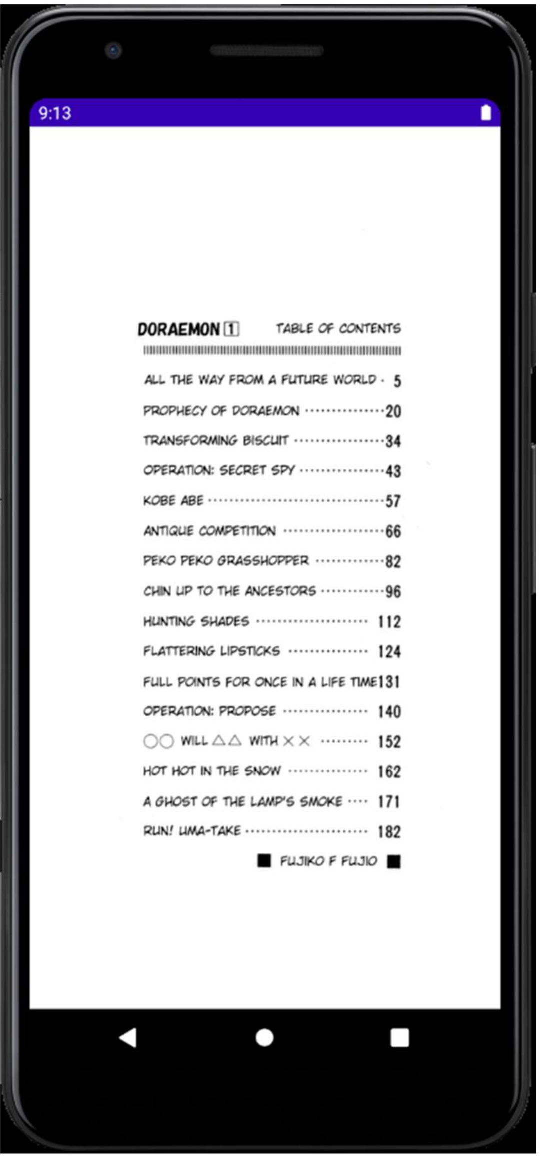
Activity 3 - Pages





DORAEMON 1 TABLE OF CONTENTS

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■ FUJIKO F FUJIO ■

Once the user selects a chapter, another http request is made to the MangaDex API. This time for the pages that are in the chapter the user selected. The user can finally get to the most important part of the app, the pages themselves. The user is brought to the first page of the chapter. They can swipe left or right to go to the next or previous page. Manga is read from left to right.

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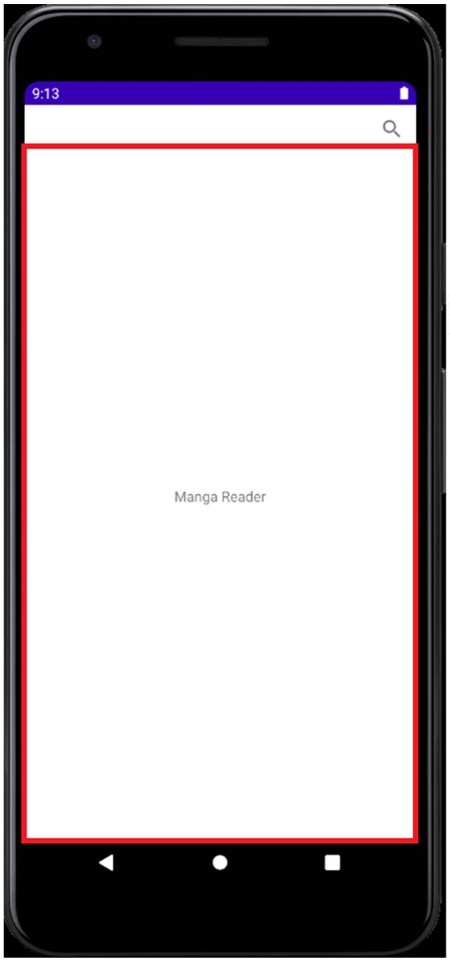
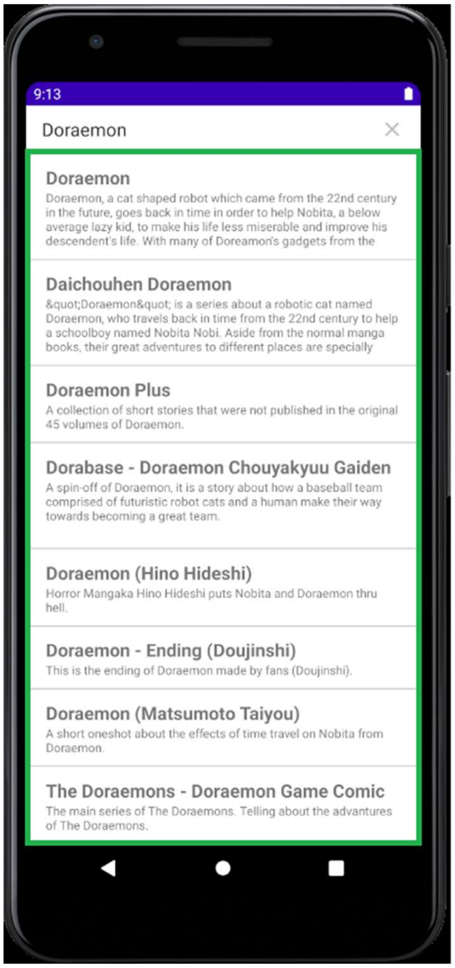
MainActivity



Homepage Fragment



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Homepage Fragment replaced by RecyclerView

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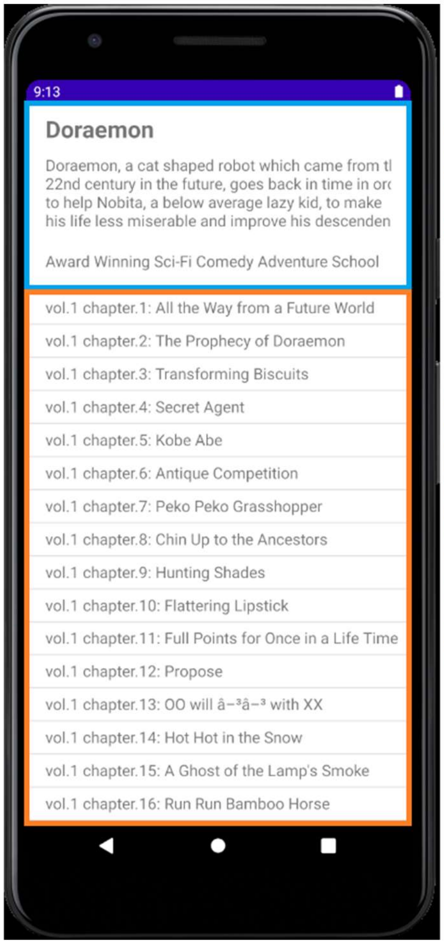
ChapterActivity



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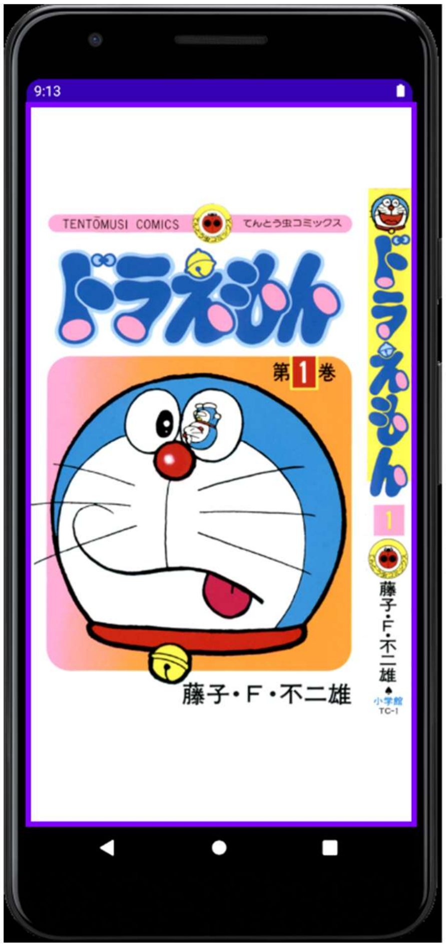
ConstraintView with a CardView to the chapter information. The description is scrollable

A RecyclerView containing the volume and chapter information. On clicking an item, the chapter id (which is used to get the pages) will be sent to the PageActivity

PageActivity



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PageActivity that uses a ViewPager that allows the user to scroll from image to image. This is also the Activity where the image urls are generated and then passed into the PagerAdapter.

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Application Implementation and Evaluation

Classes

- Manga.java - used to store information of the manga like id, chapters, volumes, genres, etc.
- Chapter.java - used to store information of the chapter like chapter id, hash, file names of pages.
- RecyclerViewAdapter – An adapter for the RecyclerView class that displays the search results
- RecyclerViewAdapterChapters – Another adapter for the RecyclerView class that displays chapters.
- PageMangaAdapter – An adapter for the ViewPager class that displays the images to the user.

Errors

- Running UI updates on separate threads (needs to be run on UI thread)

Our implementations are generally in 3 phases: 1) implementing UI for each activity using hardcoded data (strings and images), 2) implementing queries for each activity and displaying the response from the API on console, 3) displaying the queries result in the UI for each activity. To separate the work, we used GitHub as a version control system.

We tested the app by running it on a Pixel 3a XL API 30 android emulator. For the searching feature, we tried positive cases such as “Naruto”, “Doraemon”, and “dragon ball”. We tried negative cases such as “asdfasdf”, “1234”, and “naruyo”. The app displayed the correct search results for positive cases and displayed nothing for negative cases (as intended, we will implement appropriate response in the future). For user selecting manga and chapter, we tested it by clicking and see if the correct chapter and manga is selected using logcat. For page reading, we tried scrolling through the images in the chapter left and right and see that the images were in the correct order.

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References

RecyclerView - Android Studio Tutorial | Part 1 and Part 2 by Stevda-San

- **https://www.youtube.com/watch?v=18VcnYN5_LM**
- **https://www.youtube.com/watch?v=xgpLYwEmlO0**

Picasso by jrodbx

- **https://github.com/square/picasso**
- **https://square.github.io/picasso/**

Android Studio Image Slider Tutorial by CodingMark

- **https://www.youtube.com/watch?v=SDBEsw2WAQE**

MangaDex API by the team behind MangaDex

- **https://api.mangadex.org/docs.html**

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Experiences and Thoughts

This app was a very good project to work on, especially in a pair. I learned a lot on using version control especially on an app that I was not the only working on. Navigating the MangaDex API was challenging at first but quickly became fun as I started seeing the data I was querying for displayed on our app. I am satisfied with the end result as we did not encounter any major errors especially with the time I had to work on it given the other courses I was taking.

Features I would like to add:

- Logging into MangaDex account (the API supports this, but we did not have time to implement).
- Saving manga to read locally (need to learn databases on Android or local storage).
- Marking read chapters (Again wanted to implement this but did not have enough time).

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The app was fun to work on. I like that I can bounce my idea of my partner have laugh when something wrong happened to the app. GitHub was very frustrating to work with, especially when merge conflict deleted my progress, and I do not really know how to revert back to a previous commit.

Features I would like to add:

- View the page horizontally, and the ability to zoom in on the page.
- Save the manga locally on the device for offline uses and save mobile data.
- Improve the UI look and feel to be more modern.
- Search feature for a specific manga's chapter
- Go back to last read page or chapter.

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