

NOTED APP PROJECT REPORT



OVERVIEW OF PROJECT

Idea of app: Diary

Project idea

To help one become a better person, through systemic (using tags) recording down of one's responsibilities (using tasks) to manage one's life in a more orderly manner, as well as empower one to reflect upon their daily actions using the diary.

1. To-do list
 - a. Homework / tasks to be checked off when done
2. Tags / labels
 - a. Identify a task with 1 or more tags to quickly filter and sort through tasks due
 - b. Identify which groups of tasks have the most tasks
3. Diary
 - a. Set mood for the day (expressed as colors)
 - b. Record down experiences to reflect upon oneself
4. Integrated with Google Accounts
 - a. Allow users to access their list and diary across different devices
 - b. Requires Google Sign-in, not as easy for data to be hacked

Target audience

Anyone can find a use for this app, but students, working adults and the elderly would benefit the most from this.

For students, this can be organizing their homework and writing down their experiences for a good laugh when they mature and look back on their past selves

For adults this can help them organize their errands, events and meetings, as well as aid them to reflect upon their daily actions

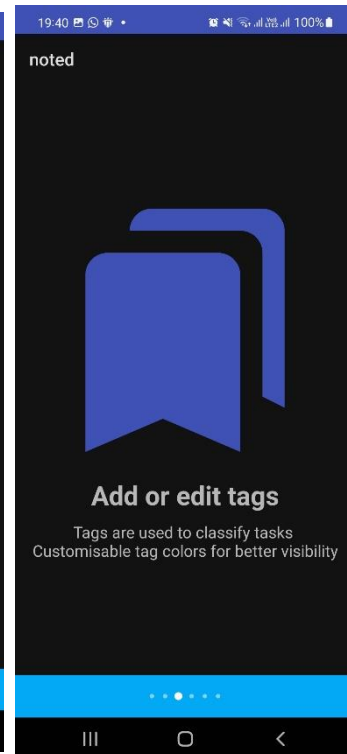
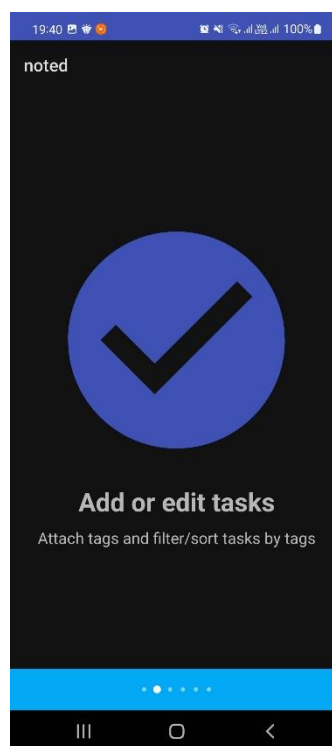
For the elderly it can serve as a repository in place of their memory, in the unfortunate scenario that their memory starts to get worse, they can write down what they need to do (take pills, meet with friends, etc) as tasks to help them remember what they need to do. The diary helps them remember their past, and allows for bonding between them and their descendants through their memories recorded in Noted.

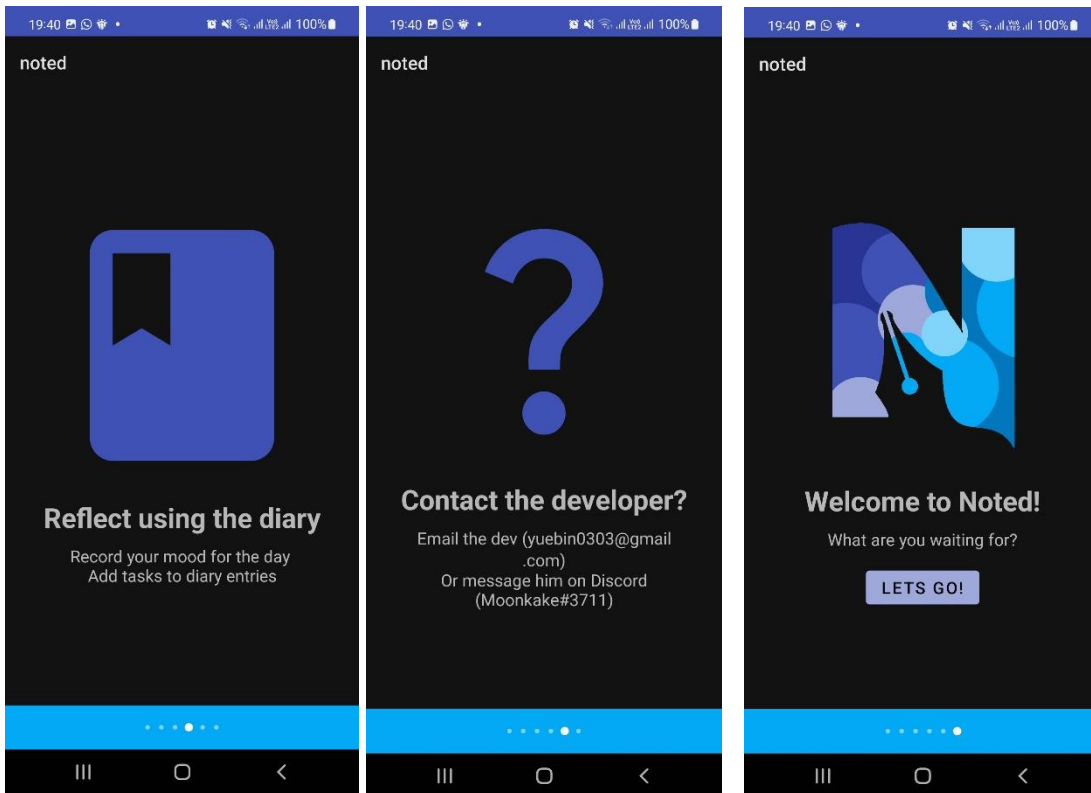
DOCUMENTATION OF APP

1. Splash screen. Has animation of logo coming down and the title going up to meet in the middle. Kept short for fast loading time.

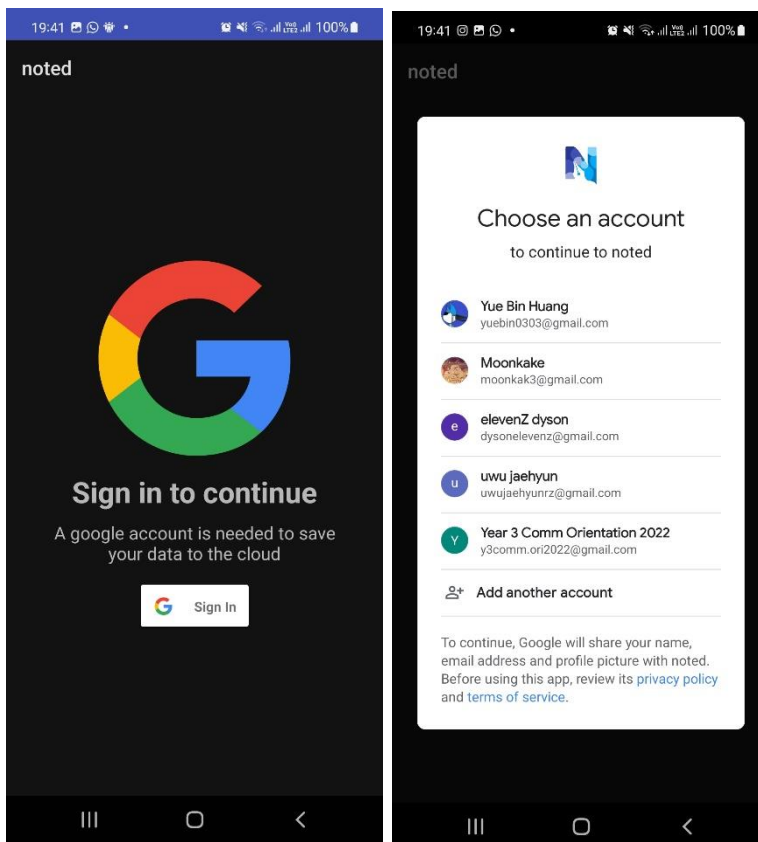


2. Onboarding, explains what each menu item does.

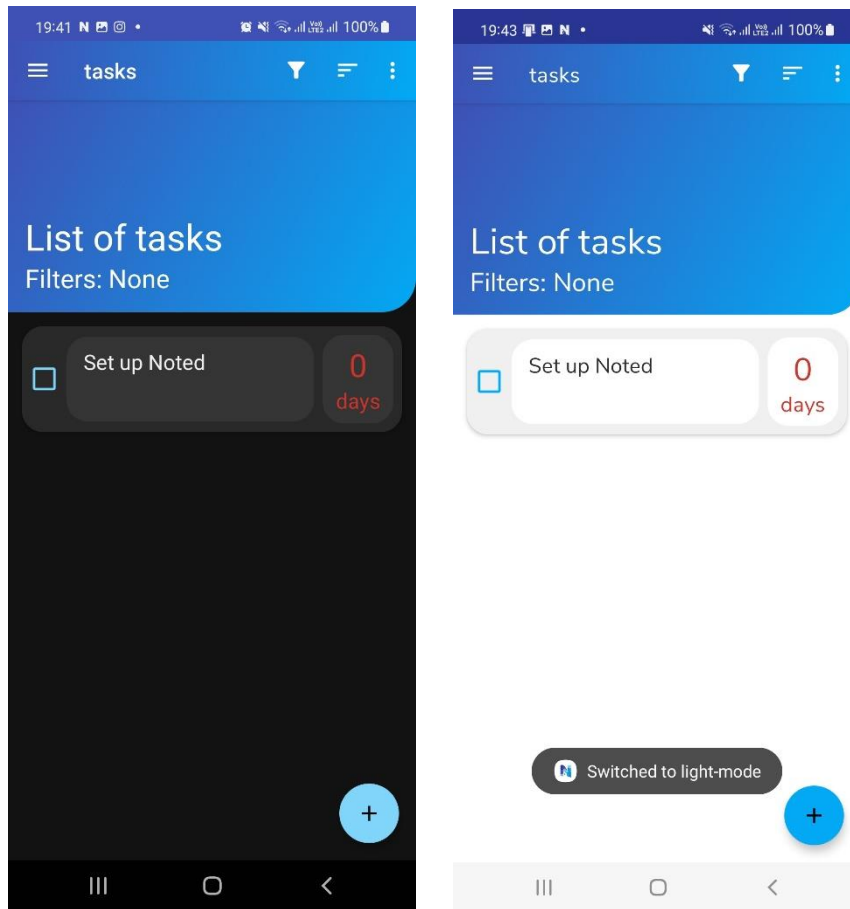




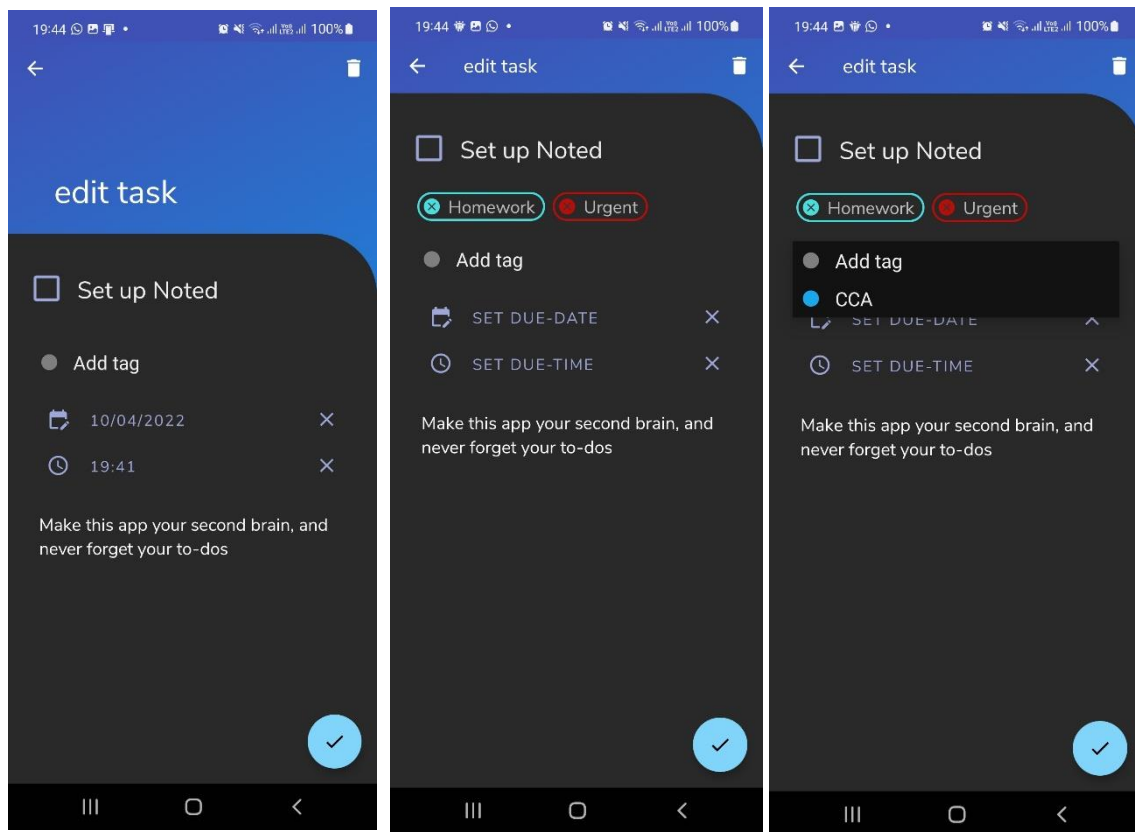
3. Google sign-in activity, choose account to sign in



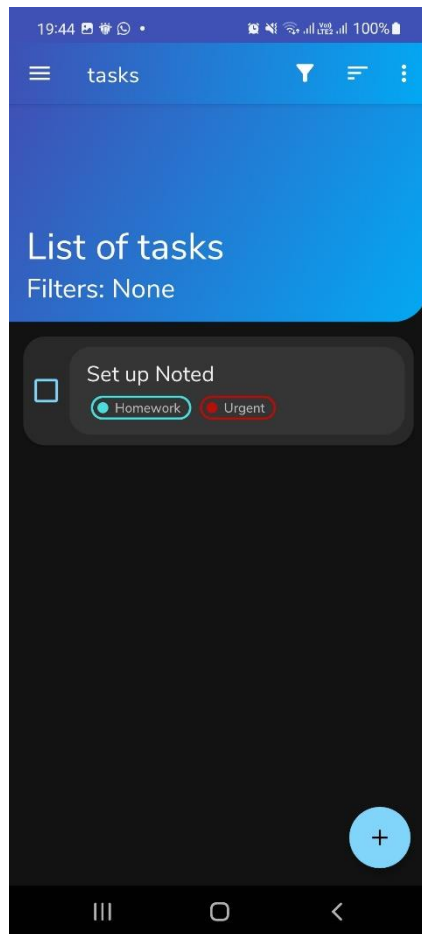
4. Tasks list (landing fragment). Dark Mode vs Light Mode (change in overflow menu)



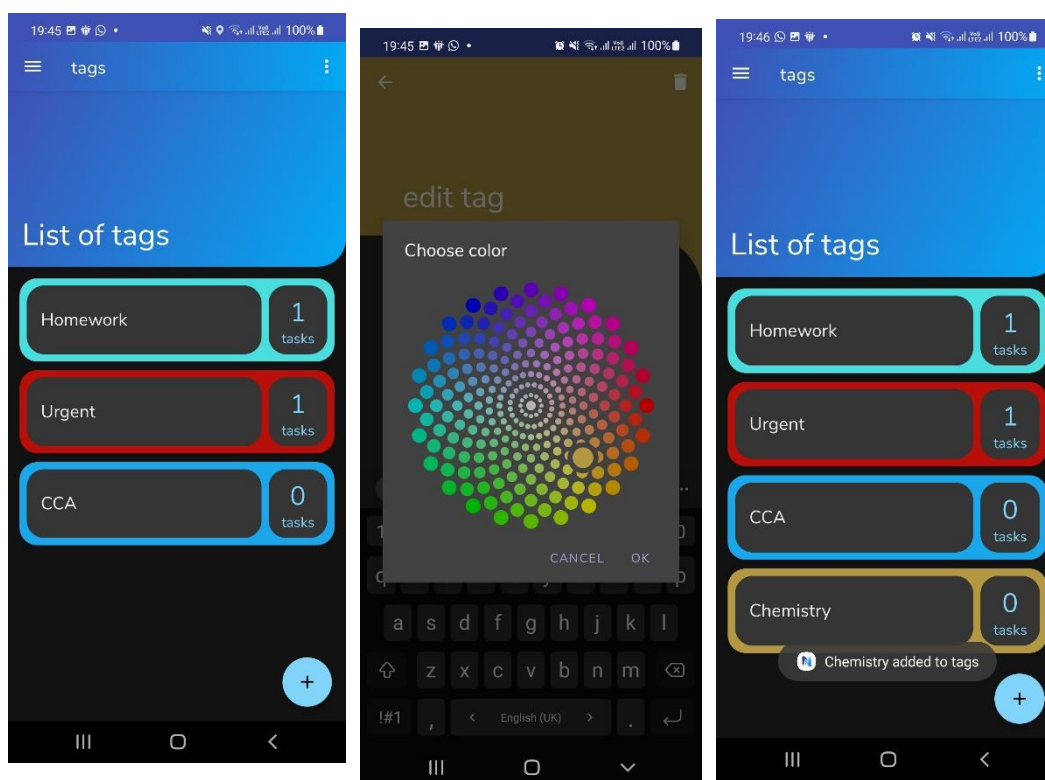
5. Edit/add a task. Tags can be added using the add tag spinner. Tags are added to the view using a recyclerview and a flexboxlayout, so it filled horizontally and then stacks vertically, to show all the tags applied to the current task. Due dates and times can be removed using the X button, as some tasks in life do not have a due date. Due time is automatically set to 12am if a due date is set, due date is automatically set to current date if time is set. Description allows you to add details to the task. The box on the left allows you to mark the task as completed. Trash icon on the top right deletes this task.



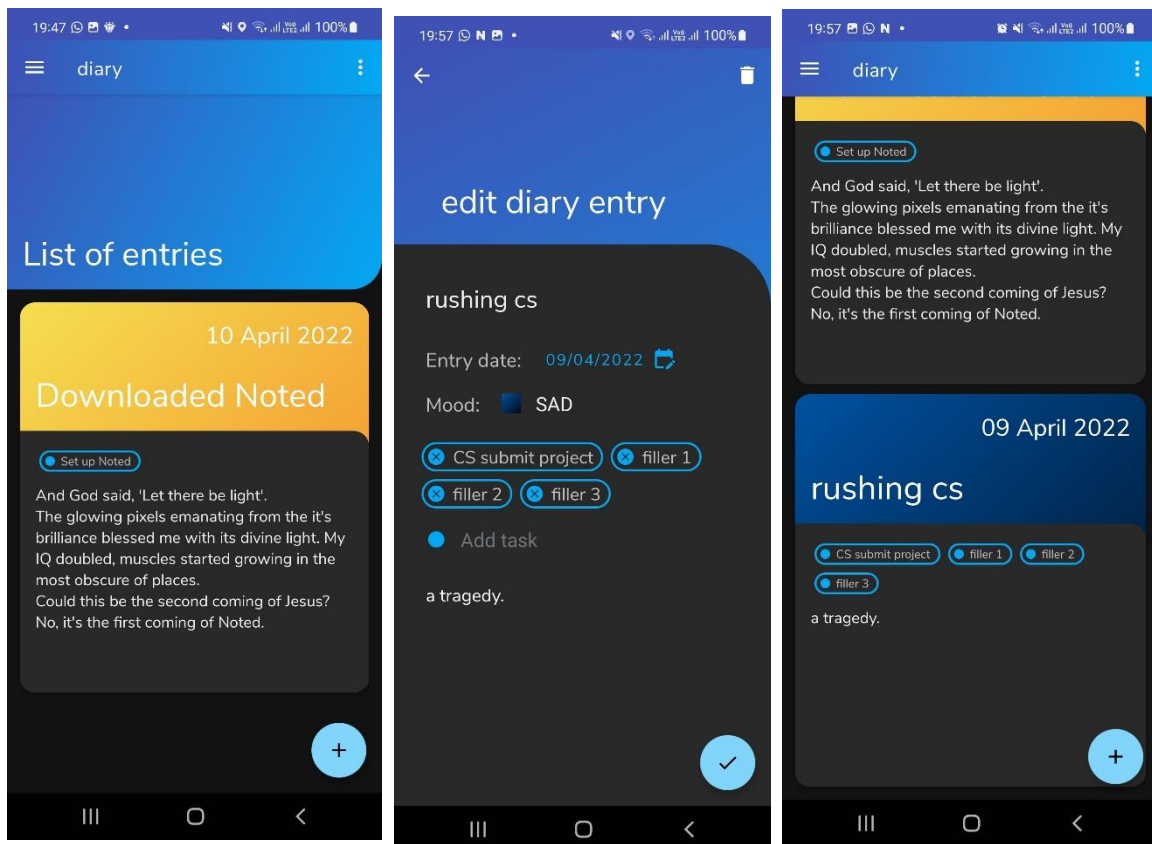
6. How it looks like after going back to tasks list. Plus icon FAB allows user to add a new task



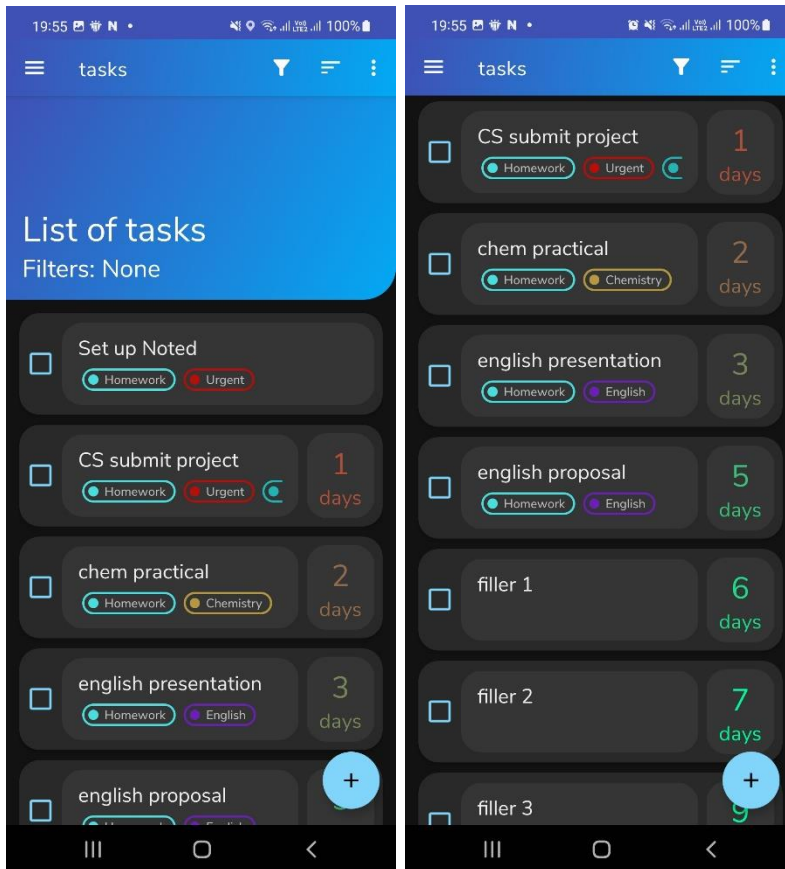
Tags list, with tags updated with the number of tasks that it has. Tags are color coded so that it is easier for the user to discern between tags. You can edit and add a tag similar to that of tasks, so that it is easy for the user to familiarize with the workings of Noted. You can choose a custom color from the dialog. These colors should all be fine and not cause unreadability as they are mostly vibrant and not too dark. Tags are ordered in descending order of number of tasks they are tagged to. Default tags are added (Homework, Urgent, CCA) as examples for the user to see what the tags look like and for them to use so that it is easier for them to get used to this app. Changing a tag here will reflect the same changes in the task list, such as changing the color of a tag or deleting a tag, the tasks in the task list will be updated with those changes.



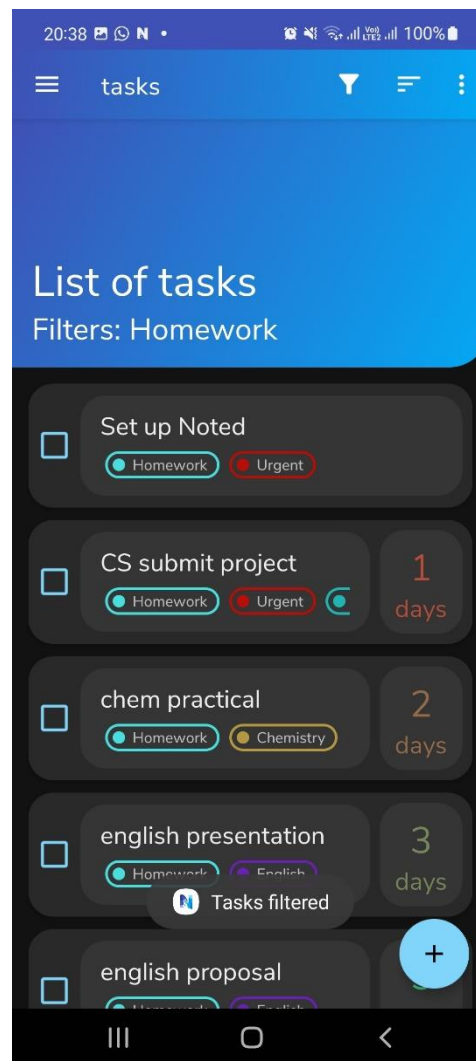
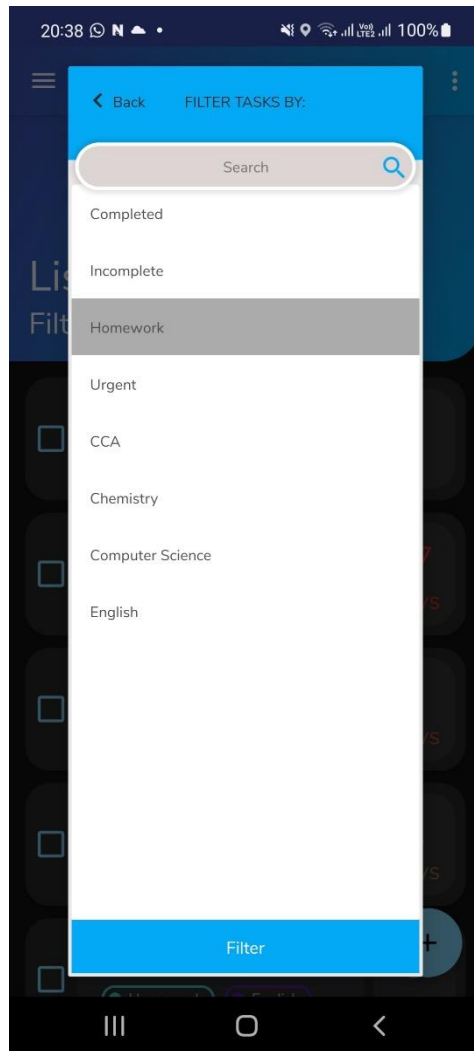
8. Diary entries, with large cardviews of each diary entry. The entries are color-coded according to the day's mood (yellow is for happy, red for angry, blue for sad, green for contented). This allows users to easily get a good grasp of how they have felt for the past few days by scrolling through and seeing the colors. Diary entries are sorted by the date of the entry, with the latest ones at the top, so that it is easier for the user to see what they have done recently without scrolling and searching through every entry. Like task cardviews, each diary entry cardview has a recyclerview of tasks attached to the day. This represents tasks that were related to that day, and can help the user in quickly browsing through entries to see on which day did they do which tasks. There is a default diary entry entered for the user ("Downloaded Noted") when they first use Noted, to help them see how the diary entries work and how it looks like.



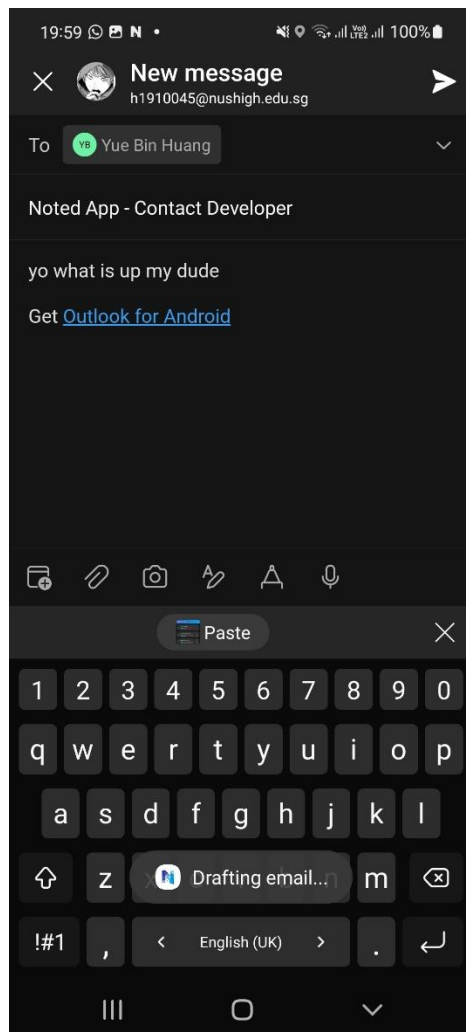
9. After populating the task list, this is what it would look like. As some tasks may have more than 2 tags and the tags overflow in the cardview, the user can scroll horizontally on the recyclerview in the task cardview to scroll through and see all the tags in the task. There is a color gradient of the due date, for the user to easily see which tasks are due earlier than others.



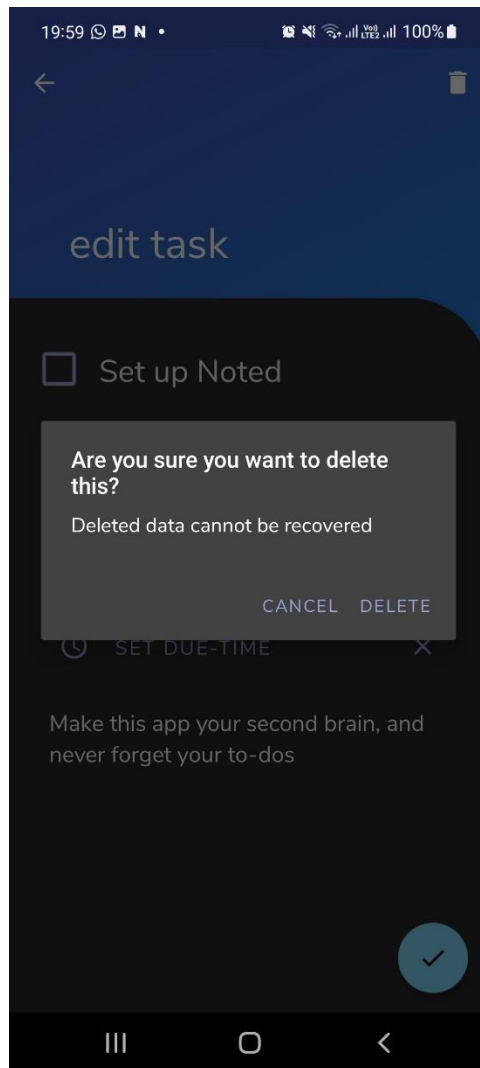
10. You can also filter the tasks by the tag, or by whether its completed. This preference is saved via shared preferences. To only show incomplete tasks, select incomplete as the filter so that when you complete a task and tick the box on the left of the cardview, the cardview is removed. The same can be done for sorting, but you can only select one sorting method. The default is sort by due date (closest day being on the top). To clear filters, just press filter without selecting any filters and every task will be shown.



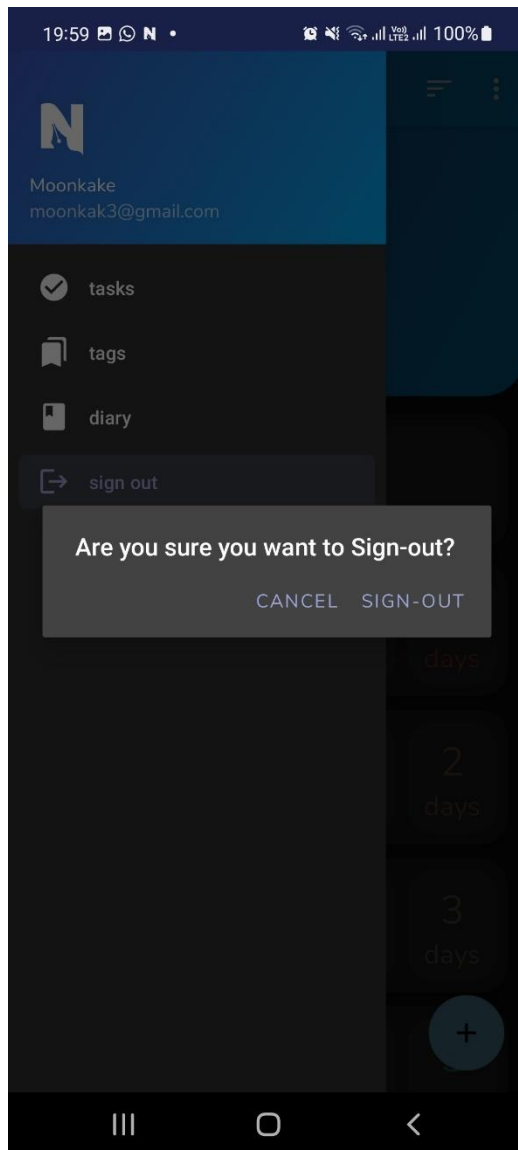
11. Implicit intent to send an email to me when you have queries.



12. Confirmation when deleting stuff to prevent misclicks.



13. Confirmation when signing out to prevent misclicks as well



USABILITY STUDY AND USER FEEDBACK

General usability study procedure

For users whom I cannot see in real life, I compiled an APK and sent it to them via whatsapp, without telling them what to do with the APK file.

I asked them for

1. What they like about the app
2. What they dislike about the app
3. Which icons or features or text were unclear
4. Any bugs?
5. What they would like to see implemented in the app

Feedback was recorded on whatsapp, or in the case of my parents I listen as best as I can and quickly type it out in English.

User feedbacks

It took a lot of brainpower to translate my parent's feedback from Chinese into English.

1. Yi Aiqin (Mother, 46)
 - a. Liked the part where you can order tasks by date due, date created to see urgency of tasks. Liked the color-coding, especially the diary mood setting colors.
 - b. Made me realise it would be cool if I incorporated multiple languages as a setting to be inclusive of all languages.
2. Huang Jianghua (Father, 53)
 - a. Tags should not be grouped with Diary and Tasks in the navigation bar, as they are not the same type of thing. Tag is a tool while Tasks and Diary entries are actual stuff.
 - b. For the days due counter on the right, if the task has a due time set, it should switch from showing days until the due date into hours/minutes until due time if the task is due on the day itself.
 - c. For the task recycler cardview, the entire area should be clickable as right now the part of the cardview with the tags recyclerview is used for dragging to see all tags, and does not open the cardview if you click it (even though it is part of the cardview).
 - d. Drag task card to select it or delete it in bulk.
 - e. Allow tags to be added in edit tasks activity on the go without having to navigate back to tags fragment and then edit tags activity.
3. Greene (Friend, 16)
 - a. Helped to find a lot of bugs, told me that the back button on the filter dialog should actually go back.
4. Yawen (Friend, 15)
 - a. Liked the color scheme of the design
5. Javier (Friend, 15)

- a. Told me that the text was not visible on the spinners because of some weird applicationContext thing, making the spinner item layouts being not responsive to text color being dependent on the theme being day or night.
- 6. Timothy (Friend, 16)
 - a. Add the app as a widget on the home screen so that there is no need to open the app to see the tasks.
 - b. Add an alarm for when a task is due (like the alarm in the phone clock)

REFLECTIONS

Outside of the syllabus I learnt firebase and google cloud API, web client keys and secrets. I also learnt how to use callbacks, as when retrieving data from the firebase database it is not instantaneous and it takes a while to actually get the data, so I have to account for that and apply a textview saying "Loading XXX..." to tell the user what the app is doing right now.

The difficulties I faced all revolved around firebase and how to I need to change my mindset of programming to fit how the data cannot be immediately retrieved. Multiple times I had to restructure my code because there was a mistime between when I get the data and when I am loading the data. Initially I also used a .get() function which is a one time listener because I was used to doing that to lists of data, and it was only when I was in too deep that I switched to onDataChange to make everything more responsive.

If more time was given, I would spend more time to polish the current activities as mentioned in the user feedback. I would also like to implement a timetable and a calender view of the tasks and diary entries so that the user can have multiple ways to view their data in their preferred ways.

Unrelated to android development, I also want to expand this project into a computer program, that is synced with the same data. This allows me to use the app on both my laptop and phone so its very convenient.