Don't Forget To Remember

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Group Number: 9-02

Introduction:

Our group has embarked on a project, titled Don't Forget to Remember. As the name suggests, we created an app merging both messaging and calendar functions, to give a more convenient experience through various features. The target audience is students of primary and secondary school level, and have clearly stated that they need an app that can allow them to communicate with their teachers and classmates regarding submission deadlines, as it is a common issue for students to forget homework. Hence, we have decided to create an app that targets the above issue. This is a truly useful and significant project as it improves the daily lives of students greatly. Users of this app will not forget to do their homework or miss out on their homework ever again.

Literature Review:

After conducting surveys and research online, we have gathered data from credible sources, and have found them to back our project well. According to a study conducted by edutopia.org, it is discovered that without any reinforcement of knowledge, information is quickly forgotten; roughly a shocking 56 percent in one hour after dissemination, 66 percent after a day, and 75 percent after six days. This shows that students are unable to remember the copious amounts of homework to complete without reinforcement of information such as reminders. Furthermore, students have a tiring day at school after having to attend to commitments such as tuition and Co-Curricular Activities, only reaching home in the evening. As such, students need something to constantly remind them to complete their work. According to another study conducted by lifeplanlabs.com, the research indicated that teachers find many students not completing homework a big issue, while 73% of students do not complete homework on time at least once a week because they genuinely forget about the homework as a result of exhaustion. Therefore, this study further emphasises the need to remind students of their work.

Study and Methodology:

We have conducted a study in a bid to understand the needs of our target group, and understand how to help them solve these everyday issues. The study was also designed to evaluate the purpose of our app, concluding if we will achieve our aim of helping the students complete and submit their homework on time.

The study was conducted via Google Form survey. Close to 75% of the respondents are students of Hwa Chong Institution, with the remaining respondents coming from students of

other schools and other educational levels, such as primary schools. Some parents also participated in the survey, as they could also help us understand their child's circumstance and needs better.
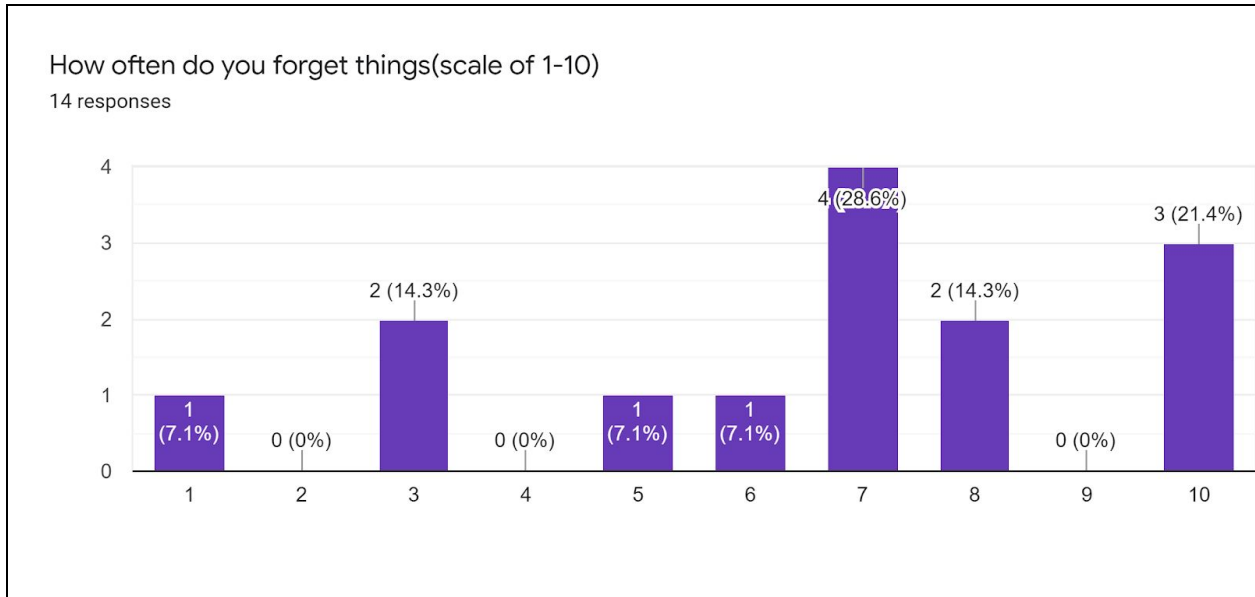

Figure 1: Survey Results

When respondents were asked how often they forget, 78.5% of them answered above 5 out of a scale of 1 to 10. This shows that many students need help in remembering things. Our app will be able to retain valuable information and make sure that our users do not miss out on important events and information.
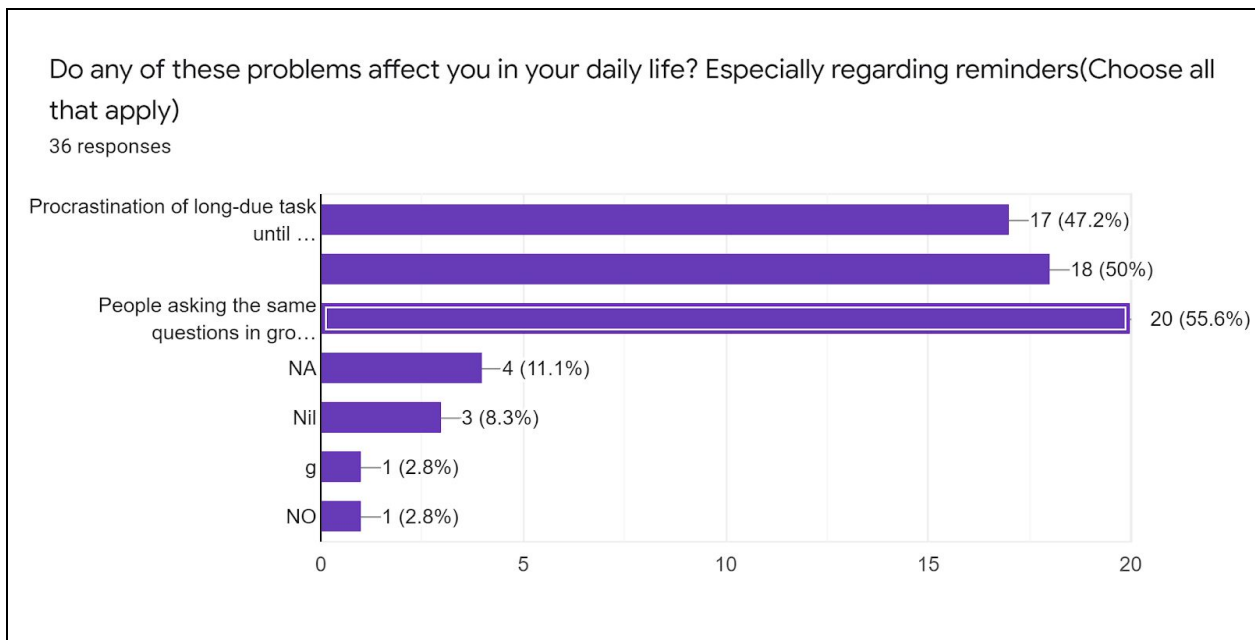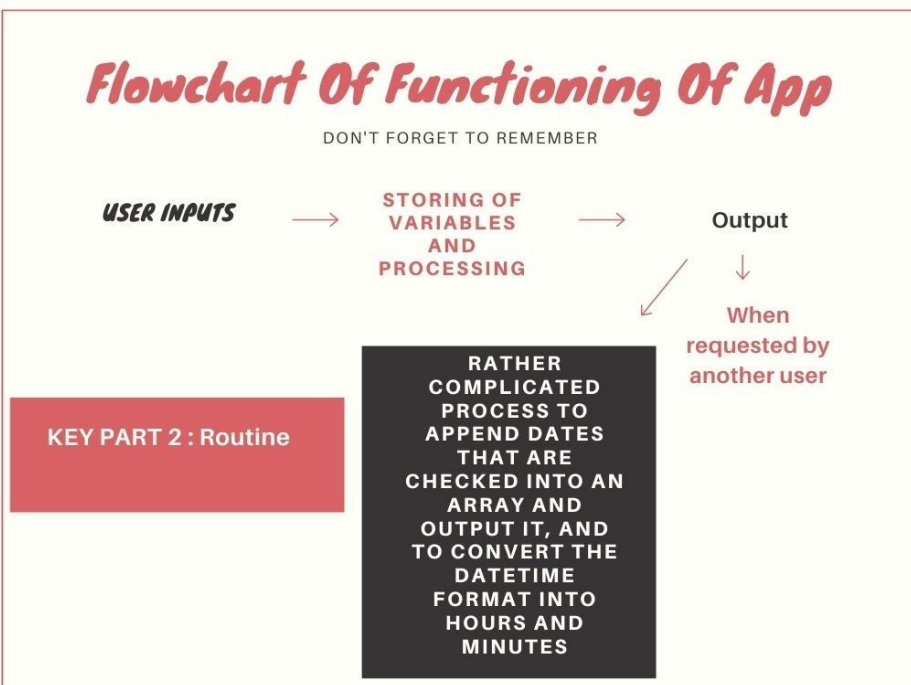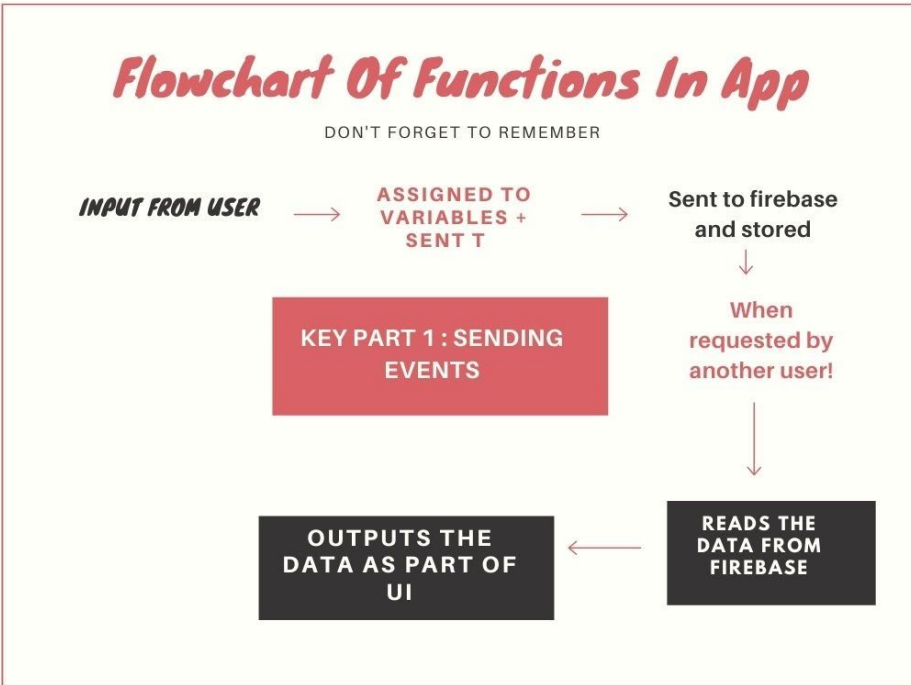

Figure 2: Survey Results

When respondents were asked about problems regarding homework affecting their daily lives in school, many of them clearly indicated that they procrastinate and forget long-term tasks. Many people also needed external reminders for tasks due to spam in messaging platforms, and were also irritated by classmates repeatedly asking the same questions. The perfect solution to these problems is our app. Our app is designed to target these issues, through its extensive and highly useful functions, which allow communication platforms of students to be spam-free and more conducive; without students constantly asking about the deadlines of homework.

After realising the need to create such an app, we then decided on the coding framework. After searching up reading some articles, we realised that the Ionic software would be the most suitable for us. According to Jeff Cross, the co-founder of Nrwl, he proclaimed that Ionic allows the building of "cross platform mobile enjoyable" apps, and provides a "seamless integration with Angular". This makes ionic the best choice for coding our app, as it incorporates elements of Angular, HTML and C++ in our coding, while adding beautiful visual styling without additional code.

We then assigned ourselves roles based on our talents to maximise work efficiency. Gao Shengwei, the group leader, and Kenshin are in charge of designing the user interface and have a minor role in creating the sides. Darren is in charge of writing the written report, creating the slides, and doing research. Aaron is in charge of back-end coding and brainstorming ideas.

The project spanned over several months, starting from January. The timeline of the project is as follows. In January, we formed our group, found our mentor and thought of the idea for our project. After suggestions by our mentor, we decided on the final plan, and chosen the coding software used. In February, we garnered peoples' support for our idea of the app and started coding the Calendar component. In March, we coded event creation prepared for proposal evaluation. In April, we completed leftover tasks from March and coded the routine function. In June, we made preparations for mid term evaluation and started linking the calendar and messaging. In July, we completed the routine function. We also started debugging the app while trying to convert it into an apk file. In August, we completed the administrative information for messaging using Firebase. Finally, we practiced our presentation for the Final Evaluation.

Outcomes , Analysis and Discussions:

Flowchart Of Functions In App

DON'T FORGET TO REMEMBER

INPUT FROM USER → ASSIGNED TO VARIABLES + SENT T → Sent to firebase and stored

↓

When requested by another user!

↓

KEY PART 1 : SENDING EVENTS

READS THE DATA FROM FIREBASE

← OUTPUTS THE DATA AS PART OF UI

Flowchart Of Functioning Of App

DON'T FORGET TO REMEMBER

USER INPUTS → STORING OF VARIABLES AND PROCESSING → Output

↓

When requested by another user

KEY PART 2 : Routine

RATHER COMPLICATED PROCESS TO APPEND DATES THAT ARE CHECKED INTO AN ARRAY AND OUTPUT IT, AND TO CONVERT THE DATETIME FORMAT INTO HOURS AND MINUTES

These two flowcharts are a concise representation of how our app functions.

We have designed an app that reminds students of homework and upcoming events automatically via notifications, which can also be viewed in the calendar section in the app.
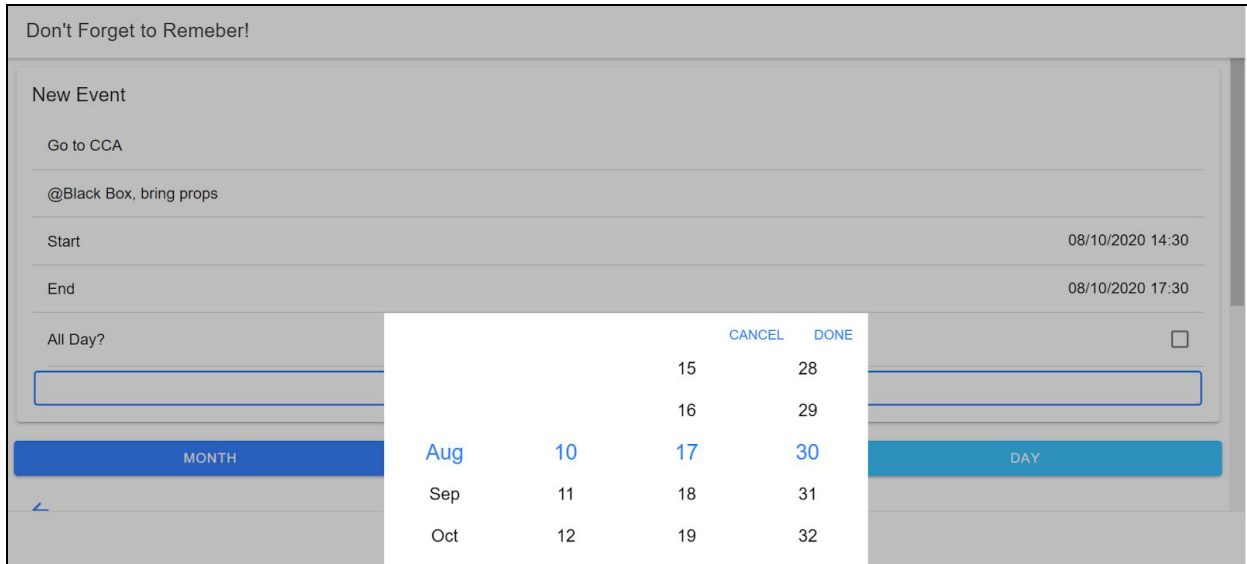

Figure 3: App Screenshot Demonstration

Our app is designed to accommodate the needs of students and teachers. This is the "Events" Function of our app. This function is especially useful and effective for recording events that are going to happen, such as remedial dates, CCA sessions, or even meetings with friends. Also, when reminders are set, the user can choose the month, date and time to make the reminder as accurate and as exact and clear as possible.
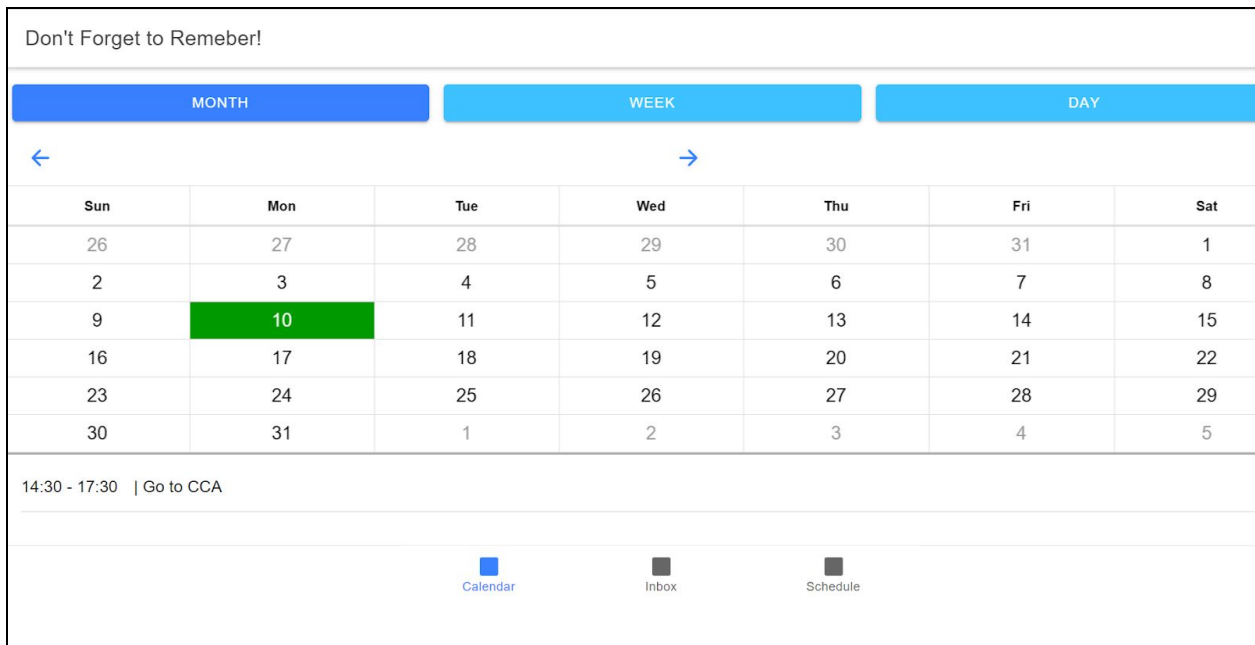

Figure 4: App Screenshot Demonstration

This is the "calendar" function, where all upcoming events, homework and routines can be conveniently viewed from.
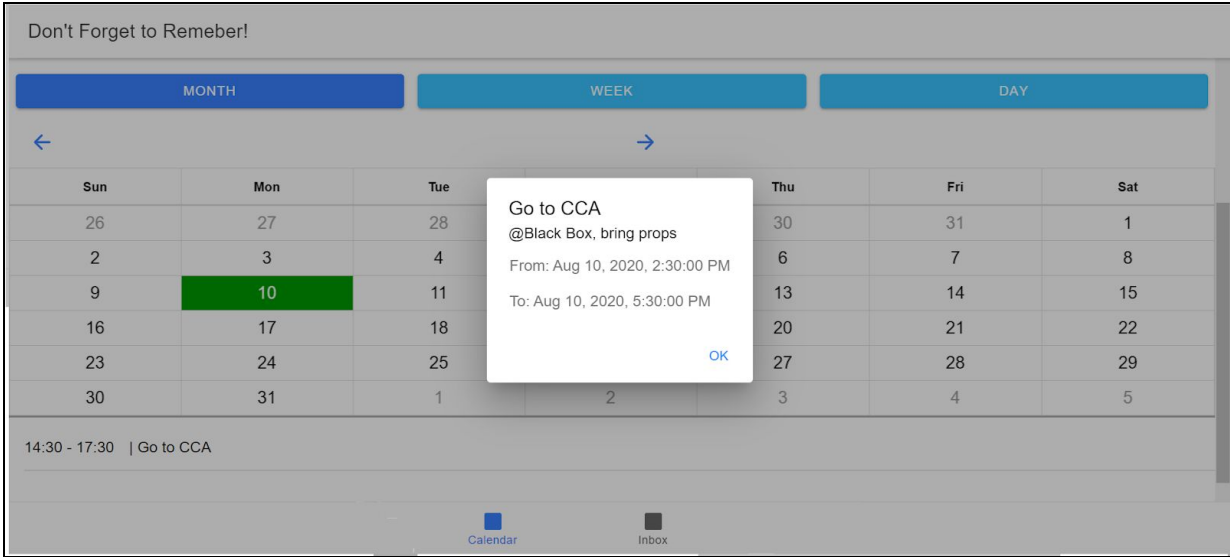

Figure 5: App Screenshot Demonstration

Moreover, when the user taps on an event, he can view the event details. After viewing the notification, he can press the 'ok' button to close it.
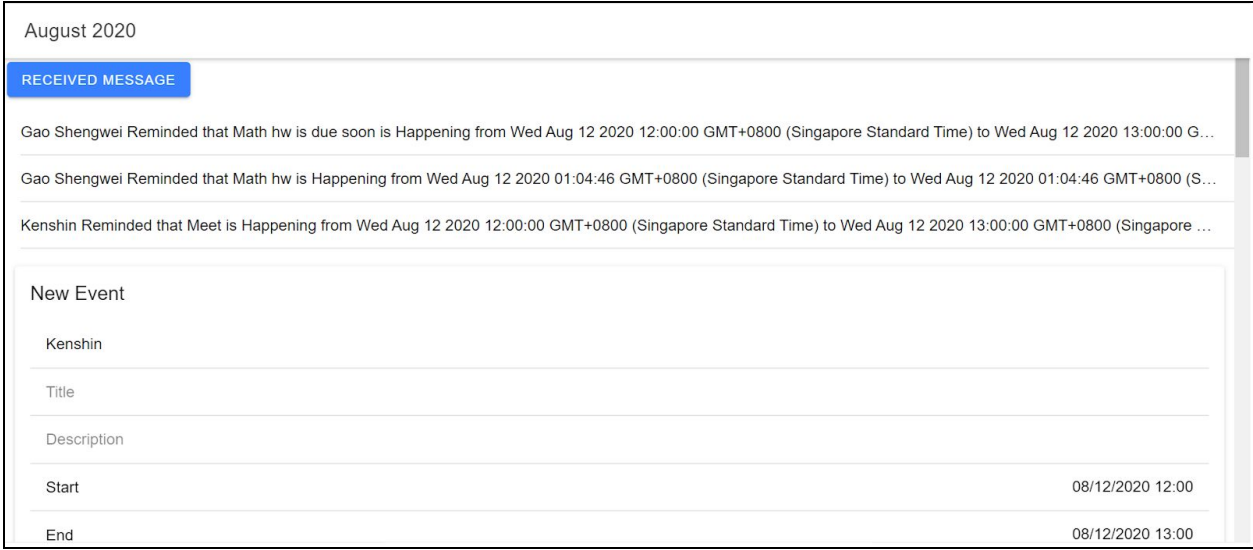

Figure 6: App Screenshot Demonstration

The 'Received Message' function displays events sent to you by other users. It is also formatted so that the parameters of the event such as the description and time are easily read.
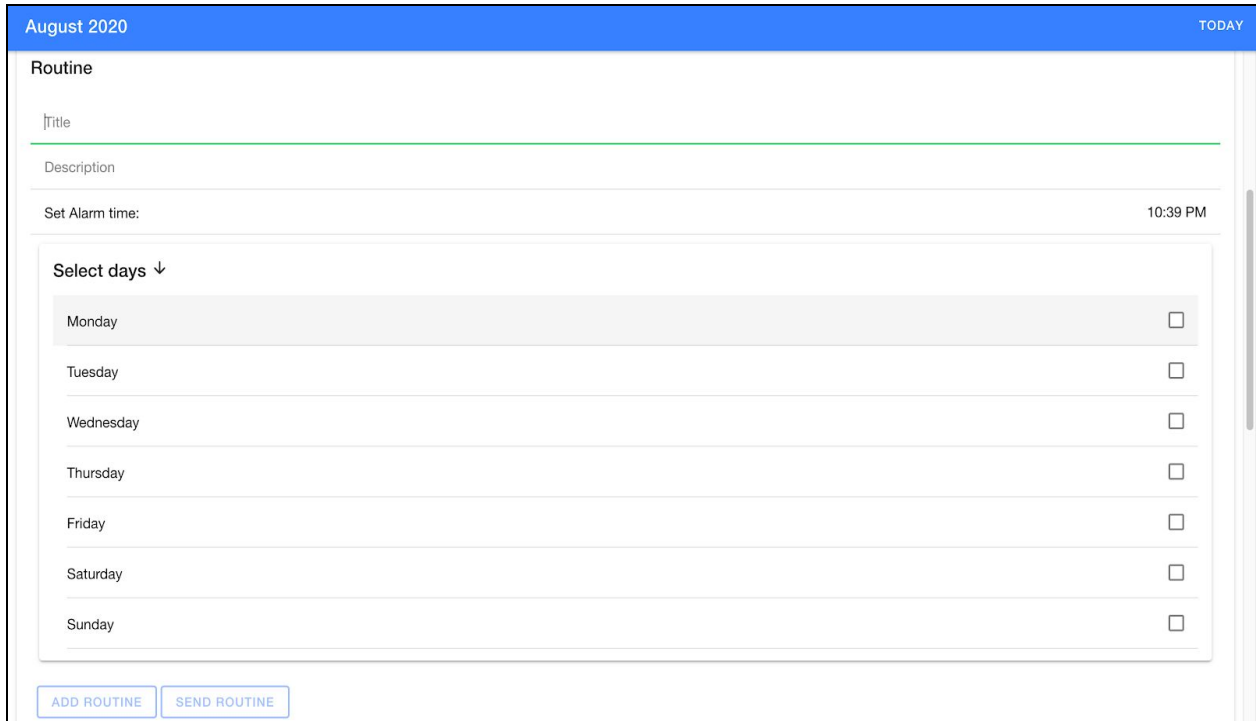
Figure 7: App Screenshot Demonstration

We have invented a new function, called the ''Routine' function, which sets our app even further apart from other calendar apps. This allows the user to indicate events that they constantly perform on a frequent basis. For example, if a student has to attend science remedial every Tuesday, he can indicate it under the Routine section, and add details such as the time, and day of the event. This Routine function is really helpful to the students as it can constantly remind them about the things that are happening on a frequent basis and thus the student would not forget about it. Most importantly, they would not have to constantly set new reminders for the same event over and over again, making it much more convenient for them.
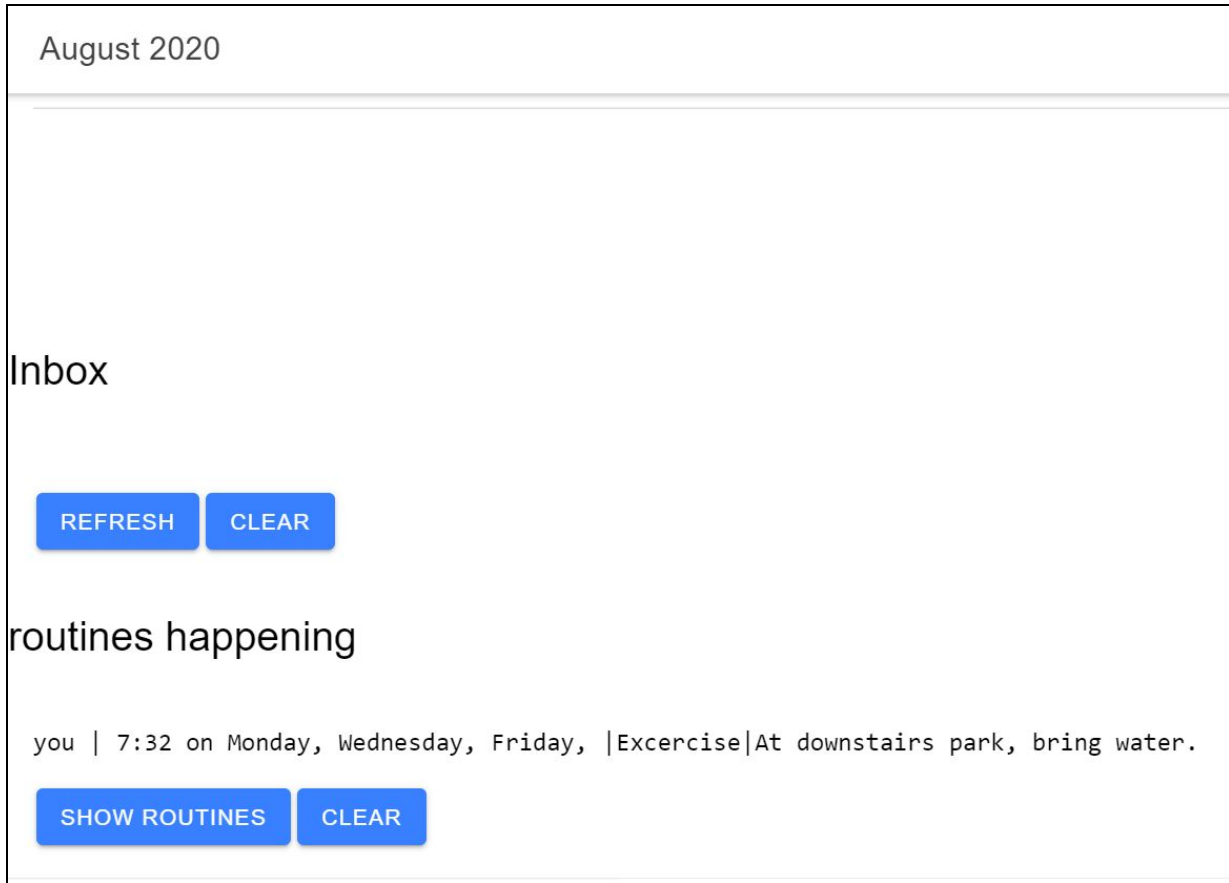
Figure 8: App Screenshot Demonstration

When you have added the routine, it will be displayed under the "routines happening" section. You can click on the "show routines" button and all the routines will be displayed. Also, if the routine is no longer existing, you can choose to delete it by tapping on the "clear" button. This makes the operation really easy and convenient for all users.
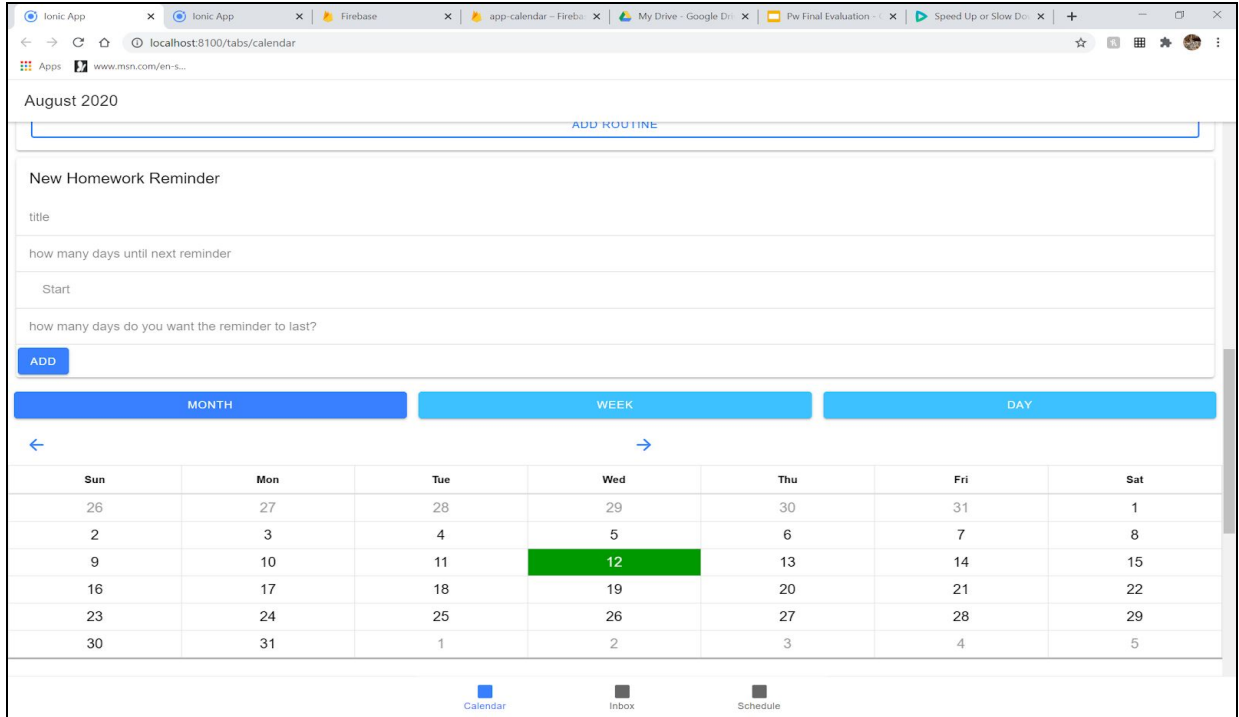
Figure 9: App Screenshot Demonstration

This is the " Homework" function in our app. It is similar to the "Events" function, but it is much more school-friendly, as it provides clearer details of the work, such as when you want the app to remind you about itxx. This function allows students to be reminded frequently to complete their work. You can choose the amount of days between each reminder. You can also choose when you want the app to stop reminding you of the homework, if you have completed the work. Therefore, this function is greatly useful to the students in remembering to do homework.
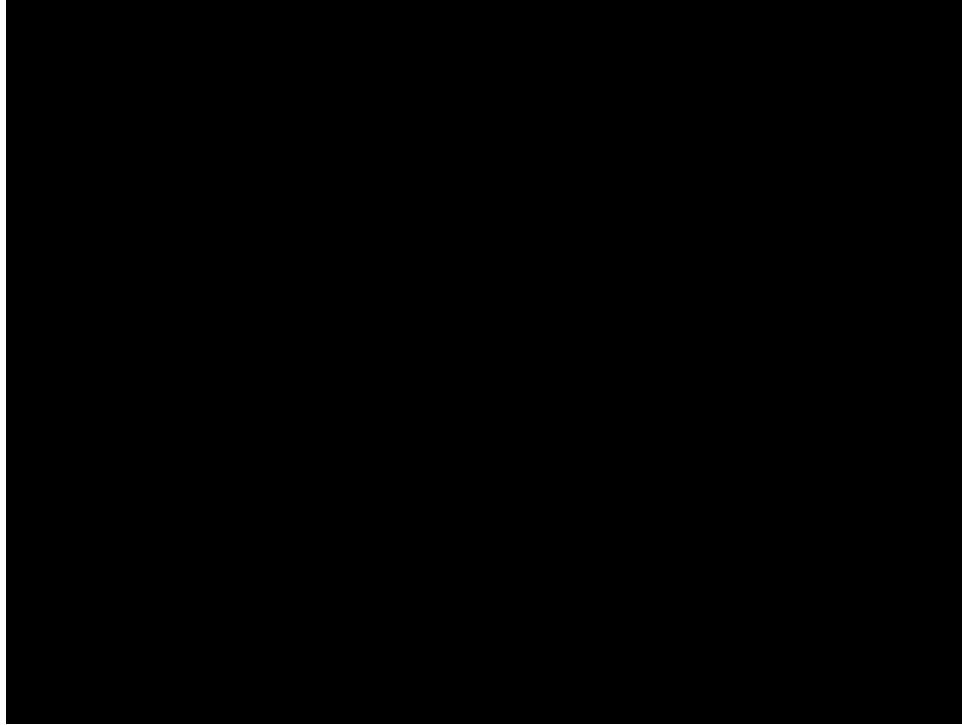
https://drive.google.com/file/d/1Z2GYeN3cMa0K8JhAMuKiUOOAVUbappHh/view?usp=drive sdk(link because the video does not work)

        This is the video demonstration of our app. We have placed it here for the convenience of the judges, so that they may view it again to affirm our app. As the video is embedded as a drawing, please kindly click on the video and click on the 'edit' button. After which, you will have to click on the video play button again and you will be able to view it.

Implications and Recommendations:

 Now, we will be elaborating on how we could have improved and what we could have further done to make our app and idea even better. Firstly, we could have instead tried to familiarise ourselves with the languages involved in Ionic, such as Typescript, as we ended up wasting quite some time understanding why some parts of the code were not working due to simple syntax errors. Secondly, we could have worked on the project on a weekly basis and not start to complete the project just a month away from the presentation date. We could have planned our ideas earlier, which could allow us to achieve better and more outstanding results. We will work on these areas where we could improve in, and learn from these valuable experiences. Thirdly, we could have added a login function where users would be able to keep their information more secure and also make the app able to send to specific people. This would better the quality of life for the people using the app. We could also have improved in the aspect of time management.

We should not have spent so much time going into detail of how our app would look like but instead should learn how to code first. Lastly, we could have done better styling with the UI as it was extremely messy.

Conclusion:

In nutshell, this app and project took us great effort to complete. It was a long, exhausting yet fulfilling journey. We have learnt many things from this experience. Firstly, we learnt the importance of time management within a project, especially in the context of this year's COVID-19 situation, as some parts of our app were quite rudimentary, like not having proper cancellation of sent events etc. Secondly, we learnt the importance of cooperation and communication between group members. A group that is unable to communicate will not be able to achieve outstanding results. At the start, we did not view the project too seriously, and lacked proper communication which resulted in a great delay. When the project presentation was nearning, only then did we know that we were behind time and had spontaneous communication and cooperated well. In the end, we managed to, with great effort put in, complete the project with high efficiency, as we were able to understand each other's needs and communicated well. This learning experience has taught us the importance of communication and cooperation amongst group members, and that is essential to achieve success. We learnt that coding is not as abstract as it used to seem, and a big problem can be broken down into many different subproblems doing them step by step, that can be planned out at the beginning of the project. We also learnt that teamwork is very important, and that communication between group members is vital, unlike our current strategy of 'every member for their own'. By working together and having good coordination, everyone can understand and be part of the same code, thus being able to add on to the code in a more systematic manner. Lastly, this project has allowed us to pick up a few new languages to learn such as type script and html, preventing ourselves from being one dimensional and only understanding one language. We were very glad that we chose this category as we have learnt many things from programming skills to social skills.

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