

# AI for School Community Enhancement (Partial)

Students often struggle to effectively manage their time, this could possibly lead to increased stress levels and diminished academic performances. Thus, our project strives to develop an AI powered scheduling system that tackles time management issues by generating proposed personalised timetables for them. This AI system can generate customised agendas through students' inputs of their workload and deadlines for tasks each day. This promotes productivity and mitigates stress amongst students, improving their overall academic performances. The AI tool will also generate schedules that cater to the preferences of students, allowing them to have a more personalised experience.

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## Methodology

- 1) Identifying prevailing time-management challenges and devising strategies for a more tailored experience.
  - 2) Quantitative data collection:
    - Formulating a Google Form survey focused on time management for RGS students.
  - 3) Data analysis using Orange.
  - 4) Utilizing collected data to develop an AI tool addressing specific challenges and meeting identified studying needs or preferences.
- These steps enable effective data collection and facilitate the formation of targeted timetables.

## Survey Overview

The purpose of our survey is to gather data from students regarding their perceptions towards scheduling, their time management abilities and their studying or scheduling habits. This helps us to curate an AI powered scheduling system that can help tackle time management issues, and is also altered to cater to the preferences of students, which will be concluded based on the analysis of data collected from the survey.

## Problem Statement

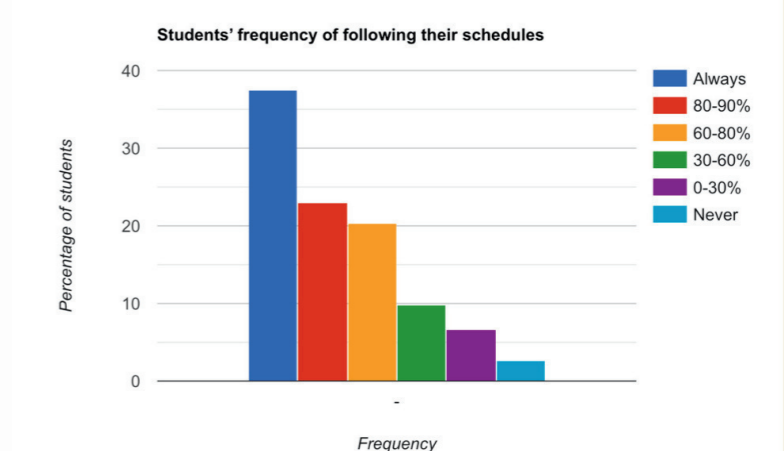
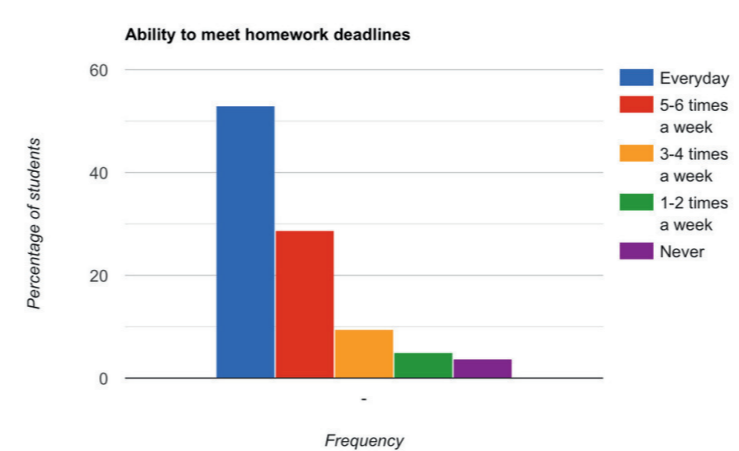
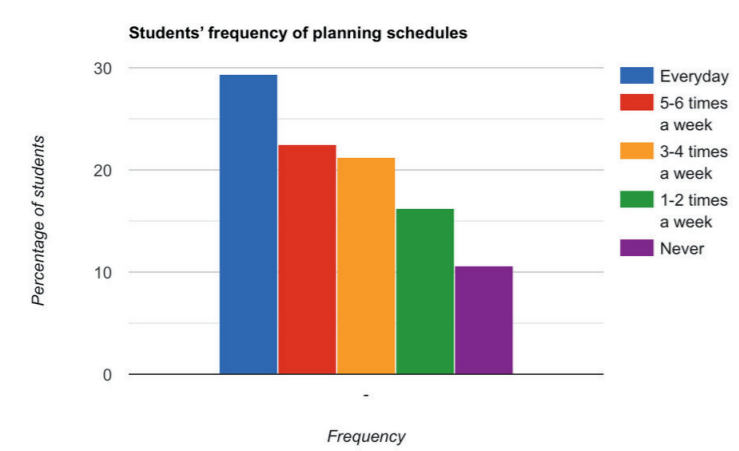
To curate an AI-powered scheduling system that helps collect data on students' workload and deadlines to generate personalised timetables. This can help to reduce stress and promote productivity, tackling the issue of inefficient time management among students.

## Analysis of Data Collected from Survey

A survey was conducted to collect data from 160 RGS students regarding their scheduling needs and preferences. The following is the analysis of the data.

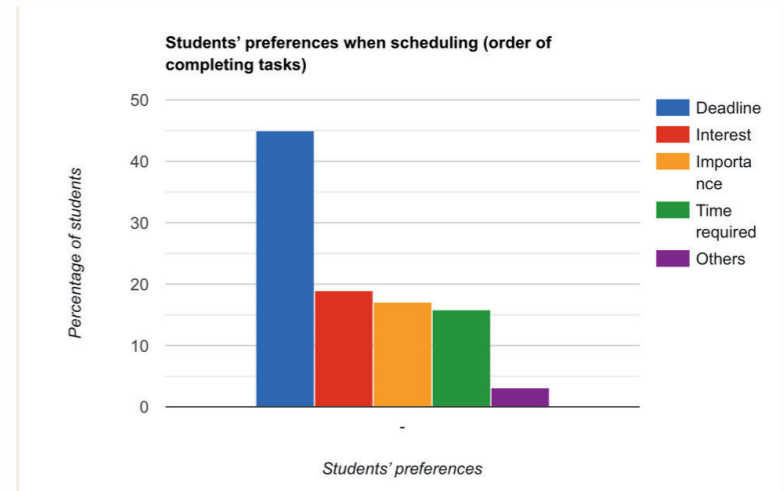
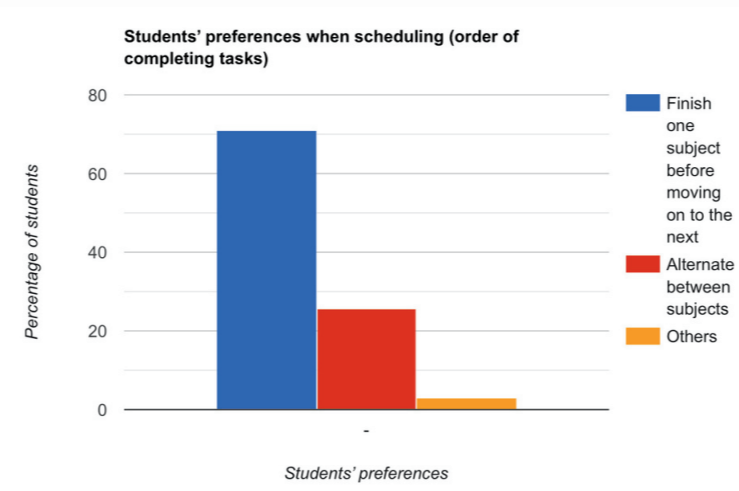
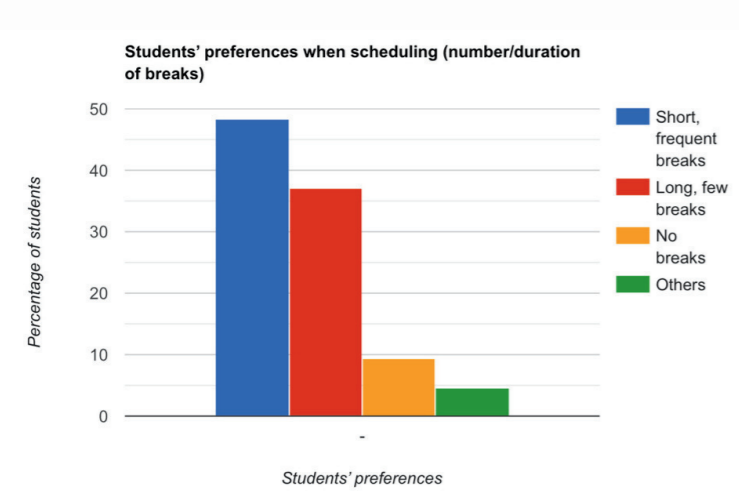
### Need of students for schedule planning

In our survey, 68.2% of the respondents agreed that they plan schedules. The frequency of students planning their schedules ranges from only once a week to everyday, perhaps based on their perceived need for a schedule on a particular day. The need for a schedule could be affected by multiple factors, including workload, time available, deadlines of work, etc. Most students are able to meet deadlines, but there is still a significant proportion that are unable to do so. Both groups will be able to benefit from our model, as 73.9% of them also agreed that planning schedules would help them meet deadlines, showing the benefits of schedules in the aspect of efficiency. Students who are currently able to meet deadlines will be able to continue doing so, or even improve further, while students who are currently unable to do so might become more efficient and be able to meet their deadlines, with the schedules provided by our model. Majority of students always follow their schedules, so our AI scheduling model will likely be put into use long-term. 77.7% of students were interested in an AI tool that could help them plan schedules, so as to save time and effort of students put into creating the schedule. Since most students see the need and benefits of planning schedules, and would also be keen to use an AI tool, we believe that our AI tool would be able to provide great assistance to these students by helping them to plan schedules to improve their efficiency and eventually achieve their goals of meeting deadlines.



### Preferences of students in schedule planning

Next, the studying habits of the respondents were studied so as to allow the AI tool to cater to the preferences of the students. We decided to choose the mode of the responses as summarising categorical variables and measuring central tendency. According to their responses, students prefer to take short, frequent breaks around 5-10 minutes per 45-60 minutes, which could be due to the need to relax after a certain amount of time study. As shown from the graphs, students also prefer to finish with one subject before moving on to the next, which could be because they want to maintain focus on the concepts of one subject before moving on to another. Our results also show that most students complete their work based on the deadlines of each task, which further emphasises the need of a scheduling tool, which can help them arrange work based on urgency, to aid them in meeting their deadlines. With these results, we will code the AI model so as to ensure that it meets the preferences mentioned above, to provide a more personally tailored scheduling tool for the RGS students, which can meet their preferences.



## Application of AI tools

We conducted an in-person survey within our school community to gather essential data for graphical representation. This approach ensured authenticity and tailored our product to the students of RGS specifically. We utilized AI tools, mentioned below, to aid in the inference of the collected data.

Orange : This AI tool helps analyse our data and presents it in graphical representation. This allows for clearer understanding of information.

ChatGPT : This AI tool allowed us during our ideation process in order to generate more creative ideas. We were also able to research more in depth into problems of academic workload faced by students such as time management issues

(In future): We will use an AI tool to curate an AI model to generate schedules, with functions that will plan the schedules according to the preferences of students and their main problems faced, as deduced from the survey.

## Conclusion

In conclusion, our AI-powered scheduling system would seek to address the needs of the students, by creating schedules with short frequent breaks and prioritising the completion of one subject before moving on to the next by default. However, since the percentages of some other factors such as taking long breaks lie close to the most popular factor, there would be a short questionnaire whenever a new user signs up for this AI tool.

With this AI-powered scheduling system, students' stress can be effectively relieved promoting a more conducive studying experience, and therefore enhancing the school community.

## Reflection

We had learned many things from this programme, which includes data collection, data analysis, inferential skills etc. This programme was very insightful as it helped us understand how to construct a math mode to analyse real-world problems. Overall, it had been an effective experience. However, there were some limitations to our project, one of which would be that this AI powered scheduling system can only cater to the majority of the people whose preferences were chosen for the construction of the AI tool, and not the minority. So, they might be left out because of this AI tool, and so it would not be effective for them when it comes to time management. We would strive to be more inclusive next time to prevent this issue. We would also strive to implement this model in the future.