

# TASKADE REPORT

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ICS4U1 - 03

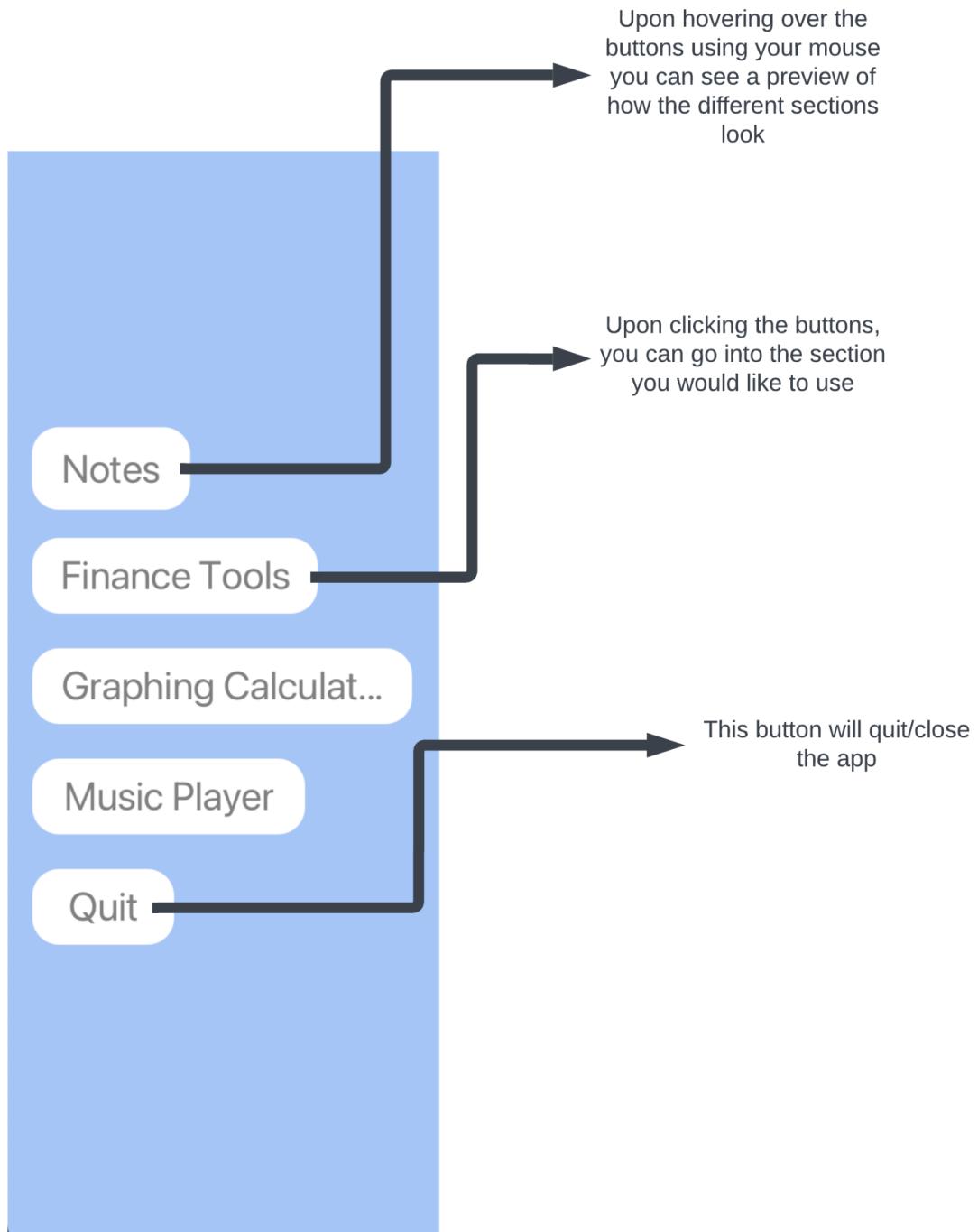
Jun 17, 2023

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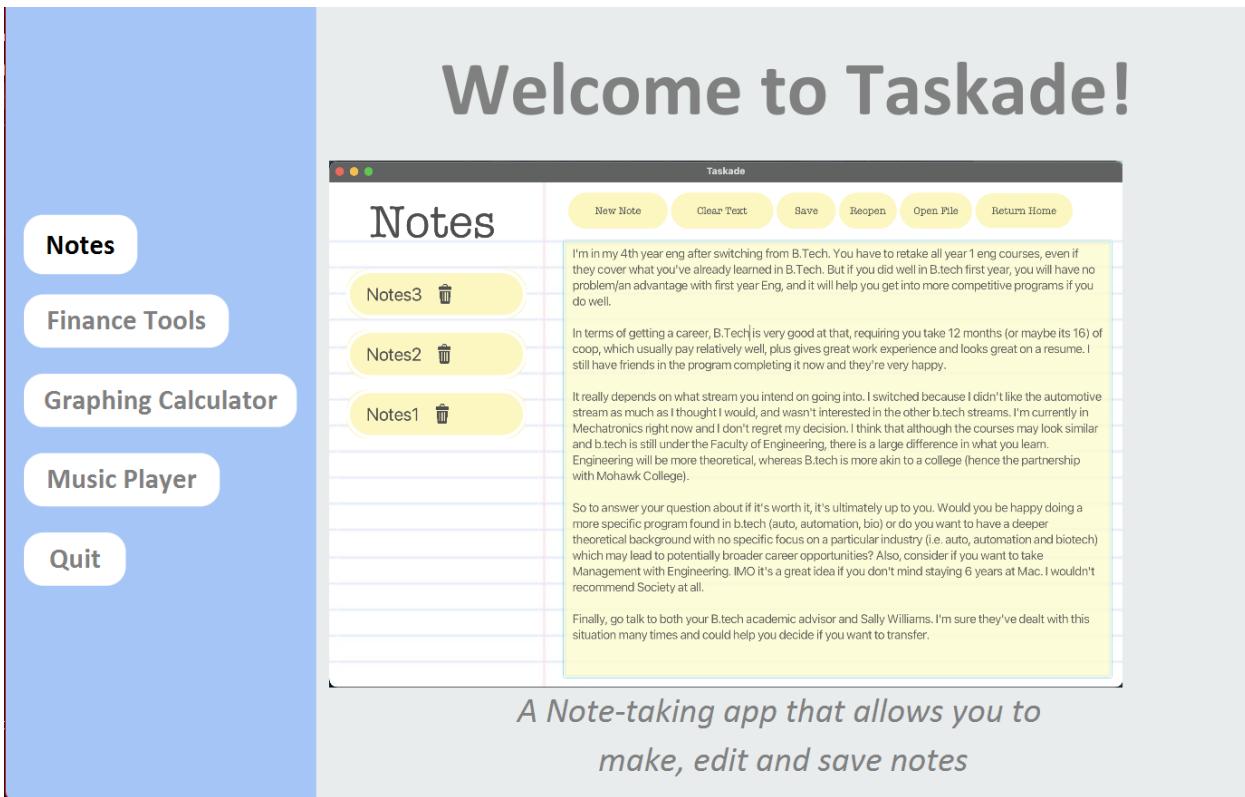
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## Home Screen

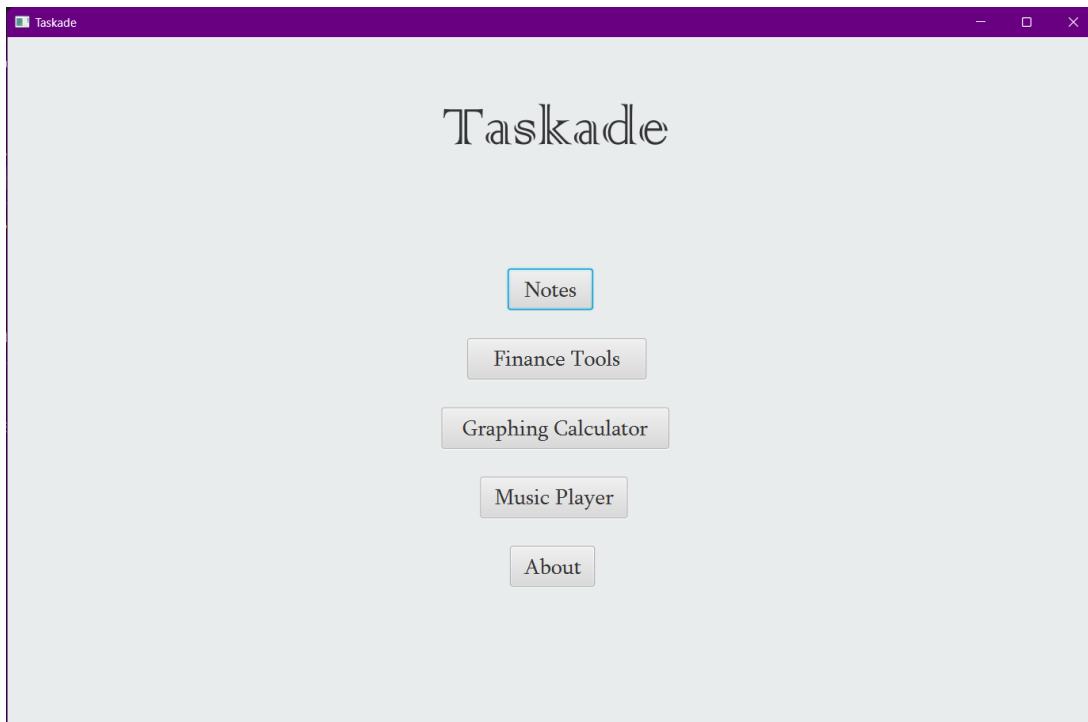
### Layout



For example, when the mouse is hovering on the “Notes” button, the screen looks like this:



## Testing & Improvements



Reviewers were given a [google form](#) with the picture above (the initial appearance of the home screen) and were asked to suggest improvements. Their responses include:

Name	Joaquin Horvath
Email	1horvathjoa@hdsb.ca
Suggestions for improvement	<ul style="list-style-type: none"><li>- Add some color</li><li>- Make a sidebar which is around 1/5th of the screen</li><li>- Make the buttons take 90 percent of the sidebar and let the text be centered</li><li>- Increase the roundness of the textbuttons</li><li>- Add shadows to the sidebar and buttons</li><li>- Make it so that when the user hovers on a button, a preview appears</li></ul>

Clearly, many of these improvements were eventually implemented and the end result is the current state of the home screen.

# Finance

05.15.2023 - 06.09.2023

As students in highschool and university transition from childhood to independence, managing finances is a common struggle. When students start making their own money, it can be easy to fall into unhealthy spending habits and a short term outlook on wealth. The objective of the finance section is to help students manage their capital effectively and easily.

## Personal Data Screen

The personal data screen consists of the user's information when they sign up. The purpose being, to have the account personalized for the student and to be distinguishable for data saving. In this screen, the user can input their personal information in the text fields present. Each text field is labeled with a description. Once a user is happy with their input, they can save it to a file by clicking the save button.

This screen also shows the User Interface design for the finance section where there is a navigation bar on the left side to traverse the various finance screens and return home. There is also an accurate date in the top right corner which updates for every day, as financial management such as debt, stock market days, and accounts receivable, are very time sensitive.

Personal Data

Full Name: George Lukas

Email: George.Lucksy@gmail.com

phone: 905-111-1111

Start Capital: 10 000

Capital Goal: 100000

Plan of Action: Aggressive - (80% stocks 20% crypto)

Save

## Budget Screen

Budgeting is a great practice for anyone to utilize. It helps people visualize and keep alert of the money coming in and out of their wallets. The ultimate role being to keep people on track with reaching their financial goals by not overspending. The budgeting section of the finance interface gives users useful statistics to look at their capital trends and analyze their savings performance over five months.

The user must input their income and expenses for each month and then click calculate. This will make the program output how much money was saved, by what percentage the “saved” value changed from the previous month, and the ratio between income and expenses. This data can help the user identify their progress over the months (months update based on the clock so that the 5 months are in alignment with the current month).

Once the data is in, the user can save it to a file for the next time they open the application by clicking the save button near the bottom left of the chart. If the data is invalid and the user would like a clean sheet, the reset button empties out the whole table.

The screenshot shows the 'My Finance' application's budget screen. The sidebar on the left has buttons for 'Personal Data', 'Budget' (which is selected), 'Stock Search', 'Watchlist', and 'Back to Home'. The main area is titled 'Budget' and contains a table for the months February through June. The table columns are 'Income (\$)', 'Expenses (\$)', 'Saved (\$)', 'Monthly Savings Change %', and 'Income : Expense ratio'. The data is as follows:

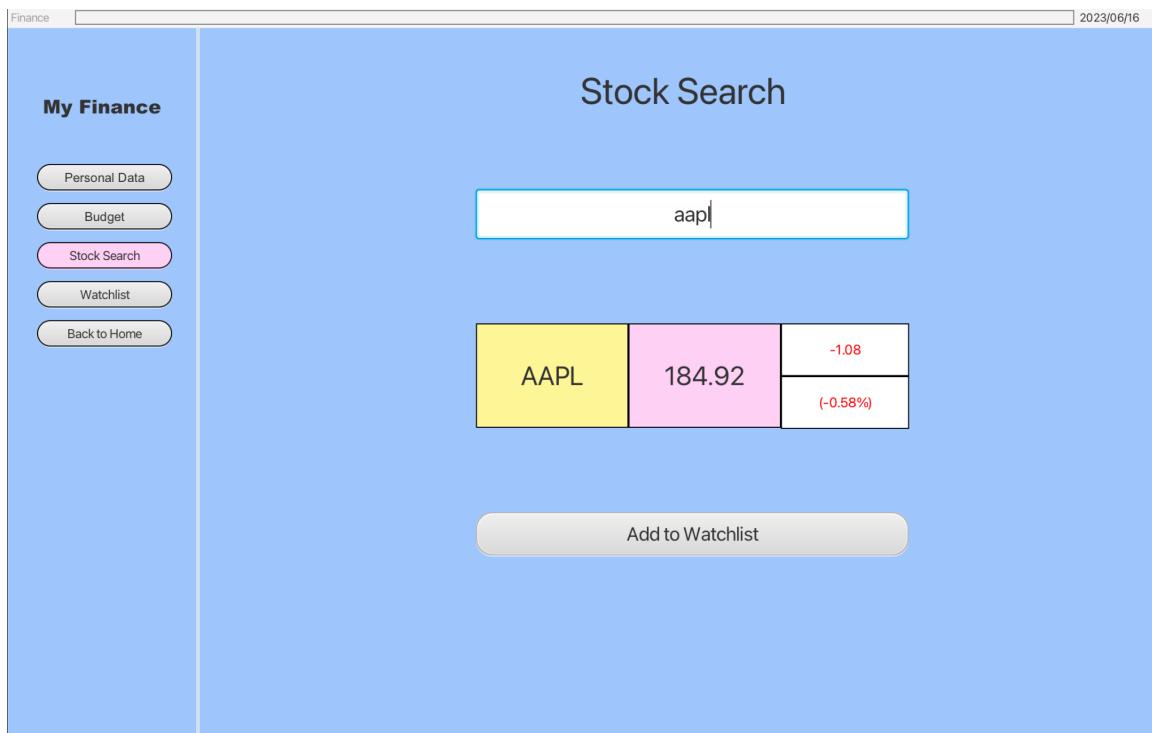
	Income (\$)	Expenses (\$)	Saved (\$)	Monthly Savings Change %	Income : Expense ratio
February	1200	300	900	-	4 : 1
March	1300	250	1050	<b>16.666668</b>	5 : 1
April	800	450	350	<b>-66.66667</b>	2 : 1
May	1600	485	1115	<b>218.57143</b>	3 : 1
June	1400	900	500	<b>-55.15695</b>	2 : 1

At the bottom are buttons for 'Save', 'Calculate' (highlighted in pink), and 'Reset'.

## Stock Search Screen

Saving by itself does not build wealth nearly as fast as investing in the stock market. As measured by the S&P 500, the stock market rises about 10% on average every single year. This is significantly more than any bank savings or checking account, let alone just saving with no interest. Where the magic comes into play is in the long run, when people experience drastic growth thanks to the compounding effect. For this reason, having stocks implemented into the app helps introduce the financial market to teenagers and young adults at an early age, to yield the compounding effects earlier.

In the stock search screen, users can search any stock in the search bar and click enter to receive the real time statistics. The search bar can take any letter whether it is lowercase or uppercase but it does not allow spaces. The stock ticker, price, price change of the day, and percentage change for the day show up in the fields below. Then if the user wishes, they can add the stock to their watchlist to have easy access to viewing it whenever.



## Watchlist Screen

Saved stocks from the stock search screen show up in the watchlist screen. This table allows the user to have all their stocks in one place which is easy to look at. Users can change the order of the list by clicking on the arrows which pop up when you hover over the headers.

The screenshot shows a mobile application interface titled "My Finance". On the left, there is a sidebar with buttons for "Personal Data", "Budget", "Stock Search", "Watchlist" (which is highlighted in pink), and "Back to Home". The main area is titled "Watchlist" and contains a table of stock information. The table has columns for Ticker, Price, \$ Change Today, and % Change Today. The data includes:

Ticker	Price	\$ Change Today	% Change Today
KO	61.03	+0.62	(1.04%)
AAPL	185.52	+1.57	(0.85%)
TOU	60.92	+1.34	(2.26%)
NKE	113.59	+1.17	(1.04%)
CNQ	72.56	-0.95	(-1.30%)
SGML	38.73	-0.90	(-2.27%)
ETSY	94.6,	-1.37	(-1.42%)
MTY	58.5,	+0.15	(0.25%)
VUG	279.9,	-1.77	(-0.62%)
QQQ	367.93	-2.33	(-0.62%)
SHOP	64.71	-1.38	(-2.10%)
FL	27.21	-0.57	(-2.05%)
PINS	25.36	+0.40	(1.60%)
NEE	75.59	+1.22	(1.65%)

## Testing

To test the finance interface, students from other classes (programmers and non-programmers) tested the application and shared their thoughts. These inquiries helped the team identify bugs and get other perspectives for improving the interface. For the finance component, there was a lot of positive feedback about the budgeting section and the ability to search any stock to get real time data. However, users did suggest some improvements/found bugs to fix. In the early stages of the project and throughout, the big thing that caught people's attention was the outdated look. While a big part of this was scene builder/javafx preset containers and controls, there were some things the group could do to make it more modern. With this in mind the group implemented a modern and appealing pastel color combination which gives the application some spark. The

buttons as well were modified to having rounded corners rather than being very rectangular. Overall these changes to the appearance along with some other smaller ones made the application look much better, but there can always still be improvements. One of the bugs which was discovered in testing was in the stock search data output. At first, the index locations of the different statistics were set by a definitive number. However, when one of the testers tried searching multiple stocks, there were some which had a bunch of random characters rather than numbers. This was because the line containing all the statistics varied in length due to differing decimal places in the data. Once the root of the problem was understood, a new implementation was created to accurately distinguish where the new number begins and its decimal index. This fix checks for the coma index which separates the statistics to identify where the new number begins and then gets the decimal location. One of the testers also mentioned that it would be nice to have a screen where you can see the stocks you are following. This further influenced the creation and simplicity of the watchlist controller.

## Reflection & Improvements

Overall, the finance section was a success. All the major screens were implemented and they work well. In the process of making all the screens and functionality many concepts were learned such as, reading html files, reading and writing to files and using TableView. The user has a simple minimalistic interface with simple navigation from one tool to another.

For the improvements/features that would be nice to have (would have done with more time):

1. Make the watchlist update the statistics every time it is initialized or every minute when the market is open.
2. Add a login upon entering the finance section to protect data and make use of the personal information screen
3. Add more stock statistics such as p/e ratio, yield, price graph
4. Get the lowest common ratio in the budget section rather than defaulting expenses to 1
5. Using indicators give users information about which stocks are risky, buy's, sells, etc
6. Keep making the interface look more modern
7. Fix camelcase errors on some javafx variables
8. Make classes which handle reused code to not repeat methods in each class

# Graphing Calculator

05.17.2023 - 06.09.2023

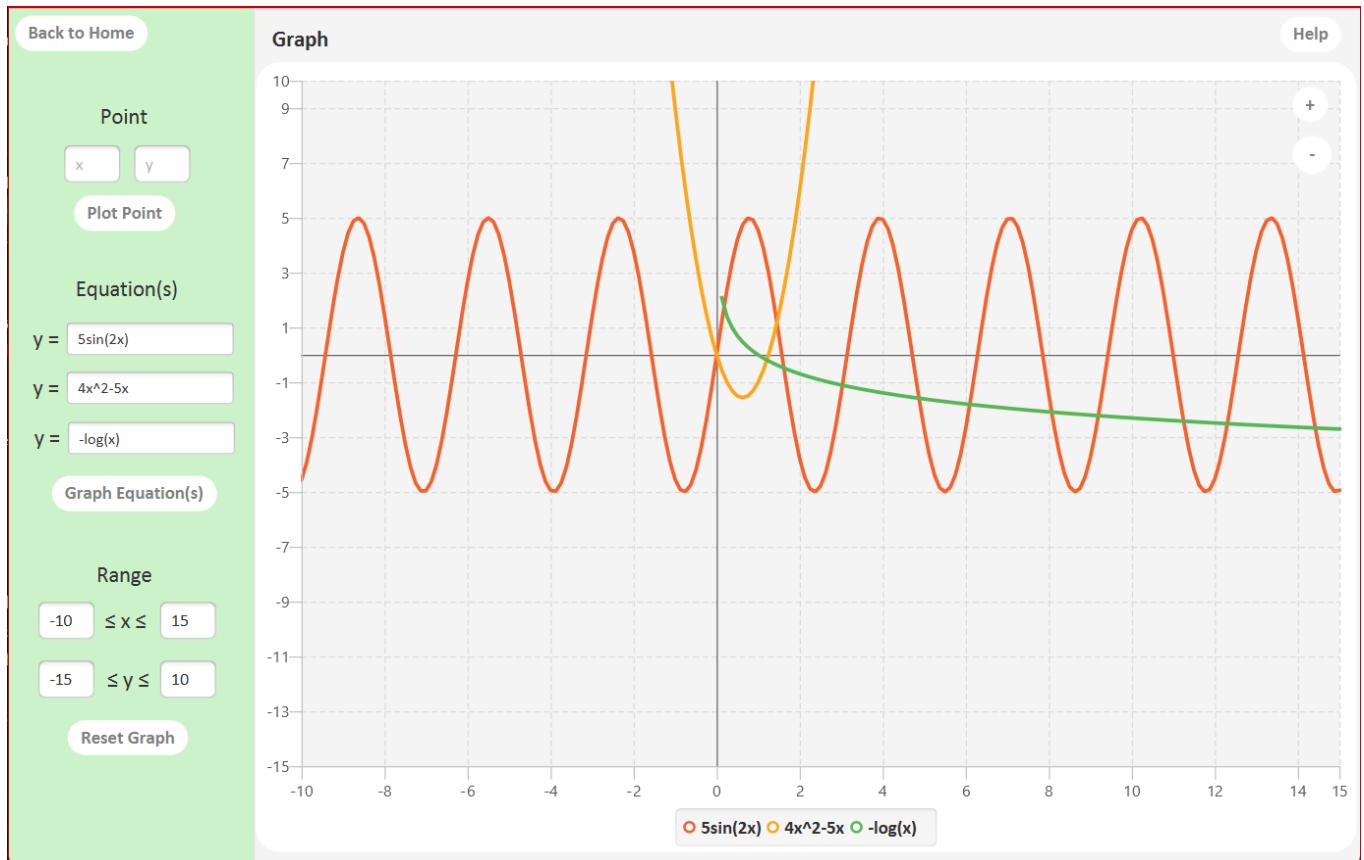
Welcome to the Graphing Calculator! This section contains various mathematics-related features like graphing a mathematical equation, plotting a certain point on the cartesian plane, etc.

Using the graphing calculator, you can:

- Plot a singular point on a cartesian plane
- Graph multiple mathematical equations on a cartesian plane
- Zoom in and out of the graph
- Manually adjust the viewing range of the graph

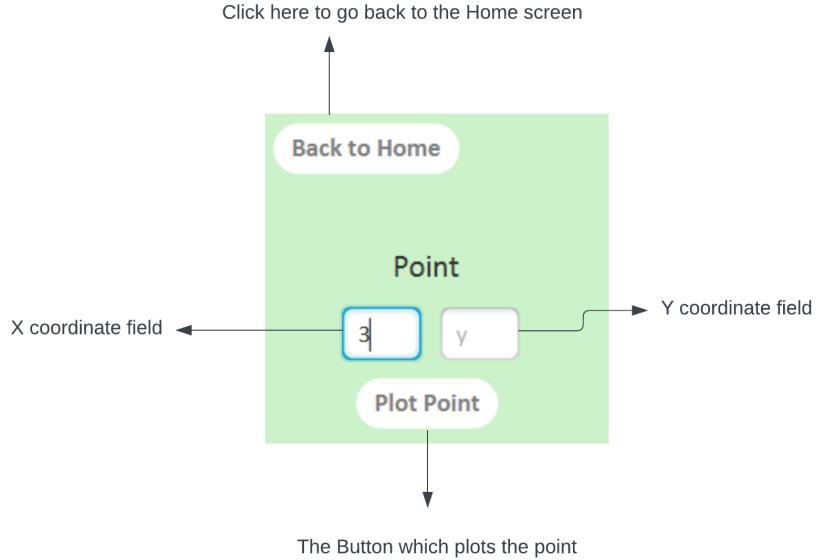
## Layout

The Graphing Calculator contains numerous buttons, text fields, and other components that play an integral role in every feature available. A glimpse of its layout and structure is as follows:

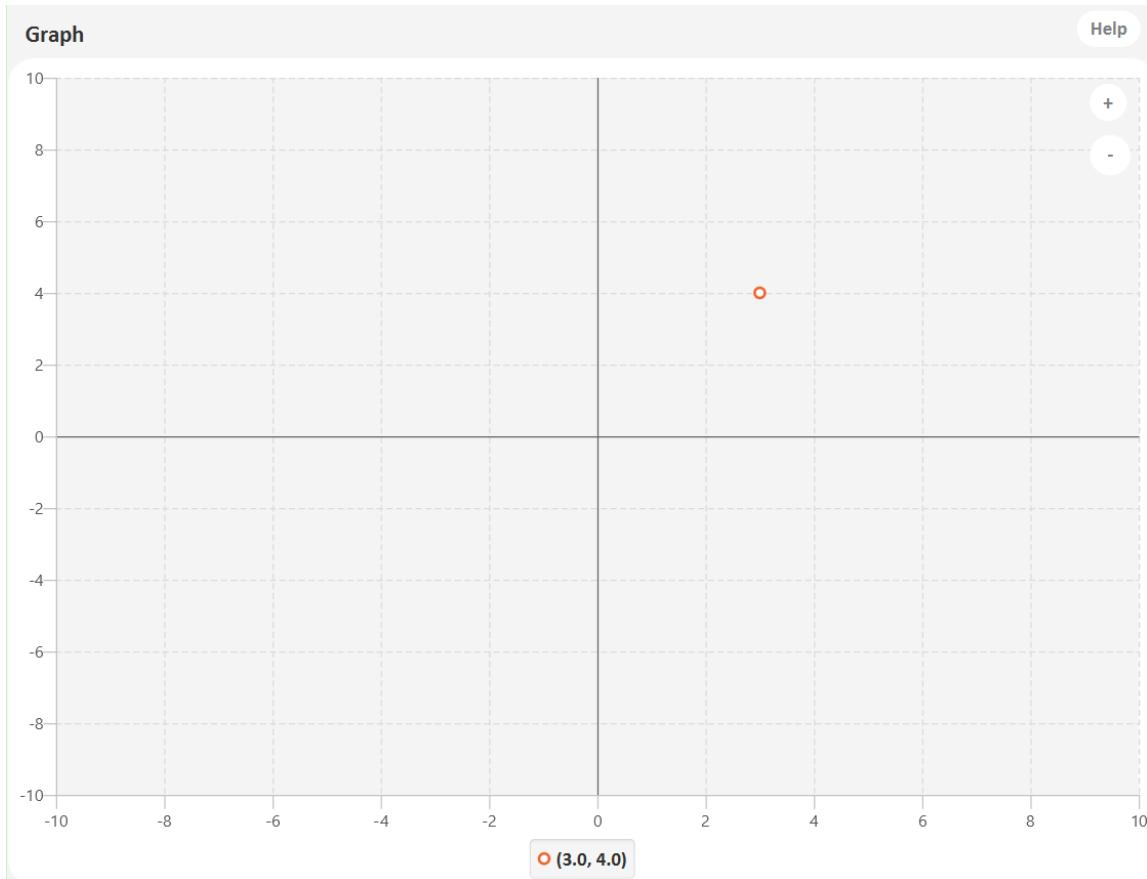


## Plotting a Point

To plot a point, type its X-coordinate and the Y-coordinate in the “x” and “y” fields, and click the “Plot Point” button.

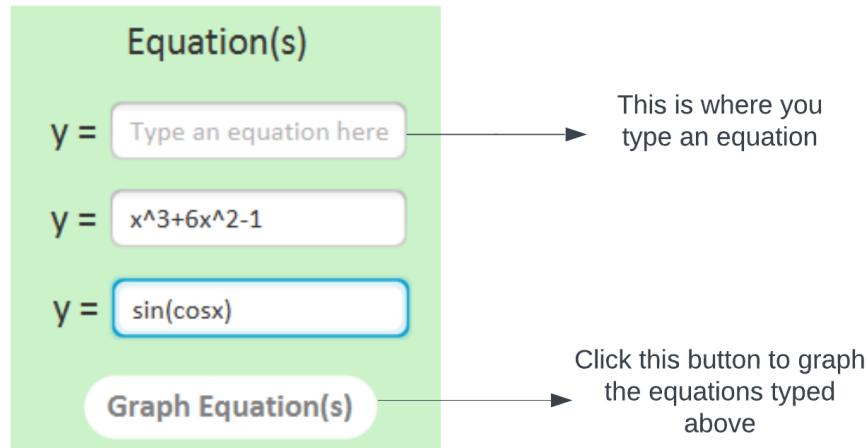


For example, if 3 is typed in the “x” field and 4 in the “y” field, the point  $(3.0, 4.0)$  is plotted on the graph, and it looks like this:

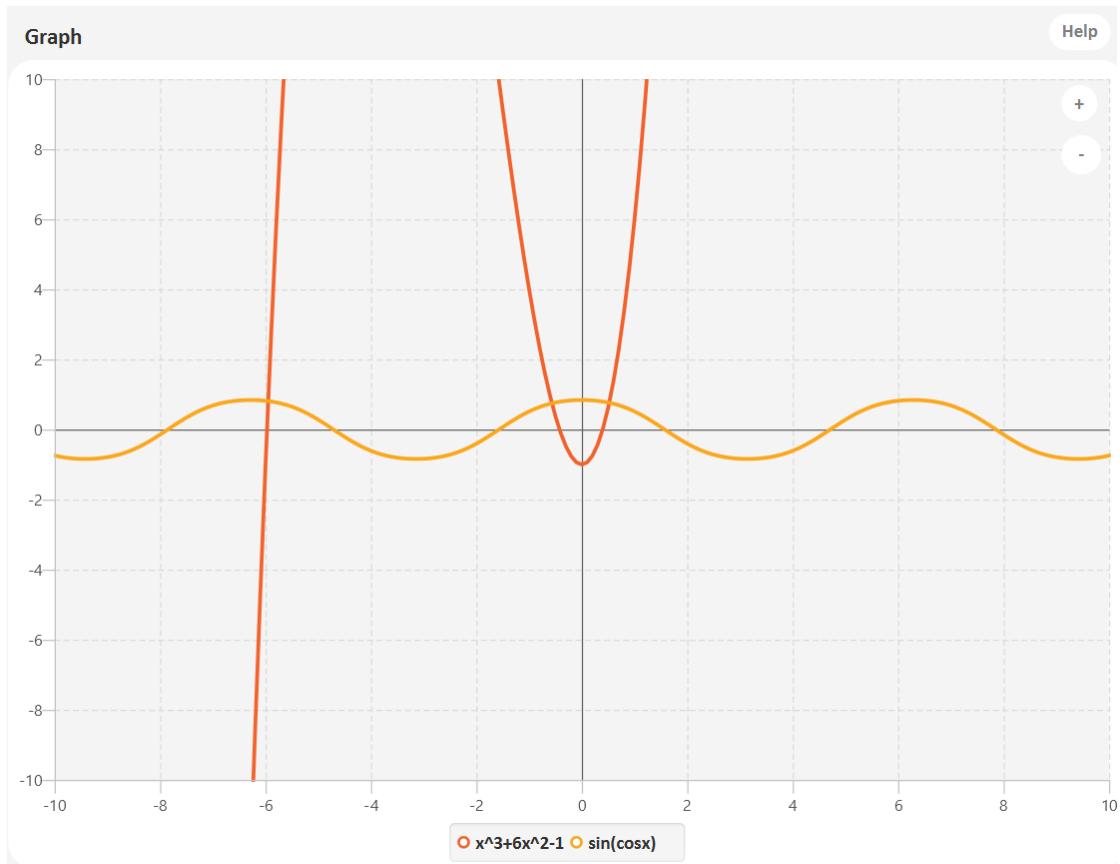


## Graphing an Equation

To graph a mathematical equation, type the equation in any of the fields saying “Type your equation here”, and click the “Graph Equation(s)” button.

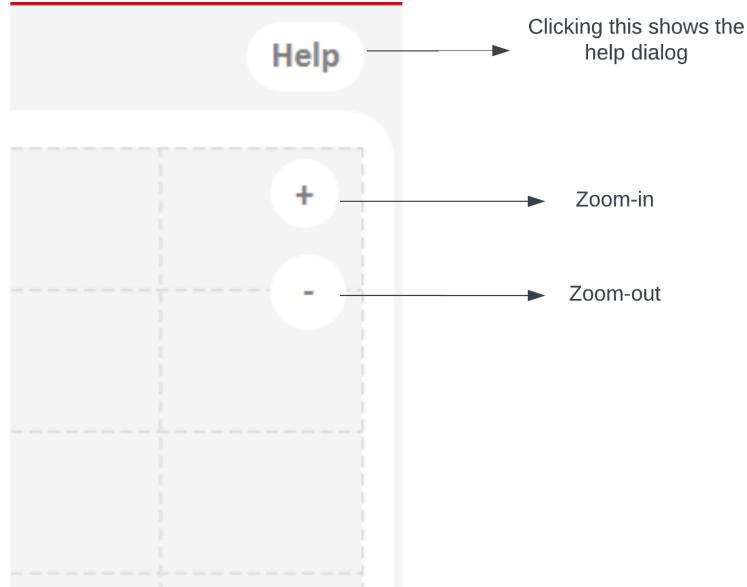


Upon clicking the button, the equations typed above will be plotted on the graph like this:

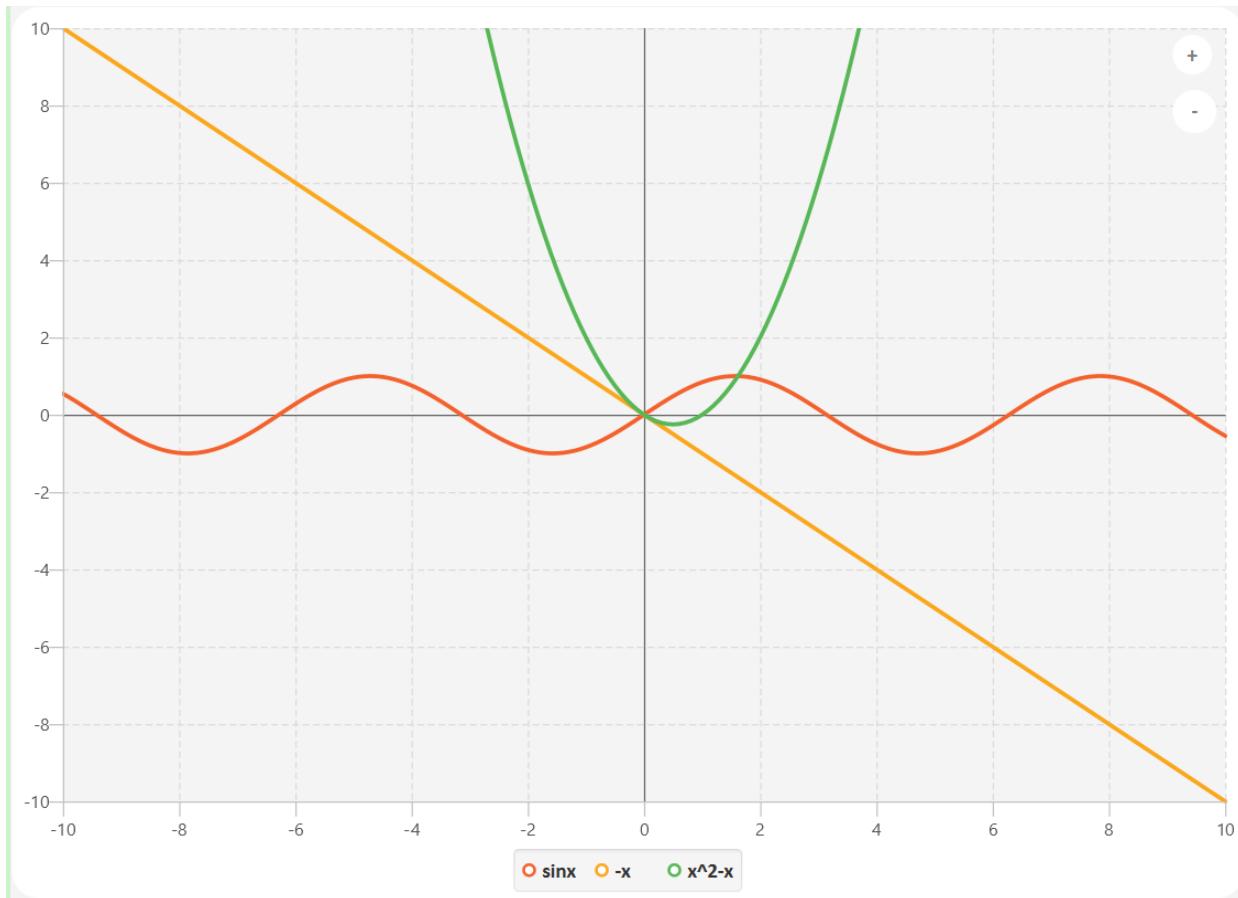


## Zooming in/out

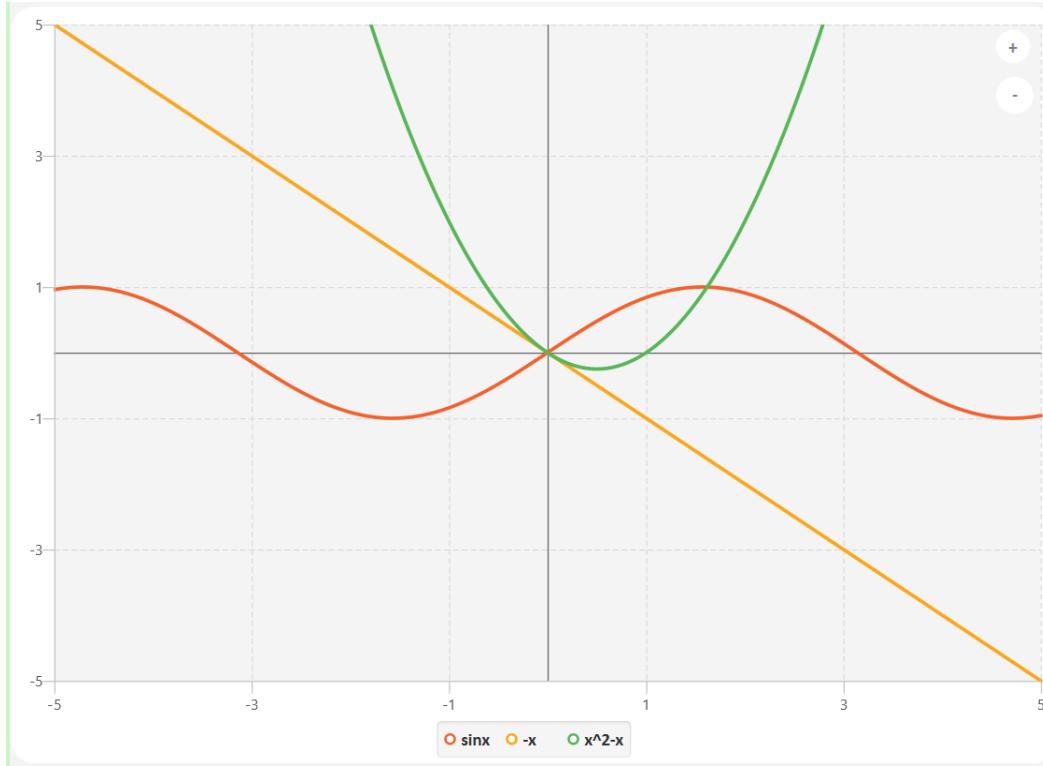
By clicking the circular “+” and “-” buttons on the top-right corner of the screen, you can zoom in and out of the graph for a better view.



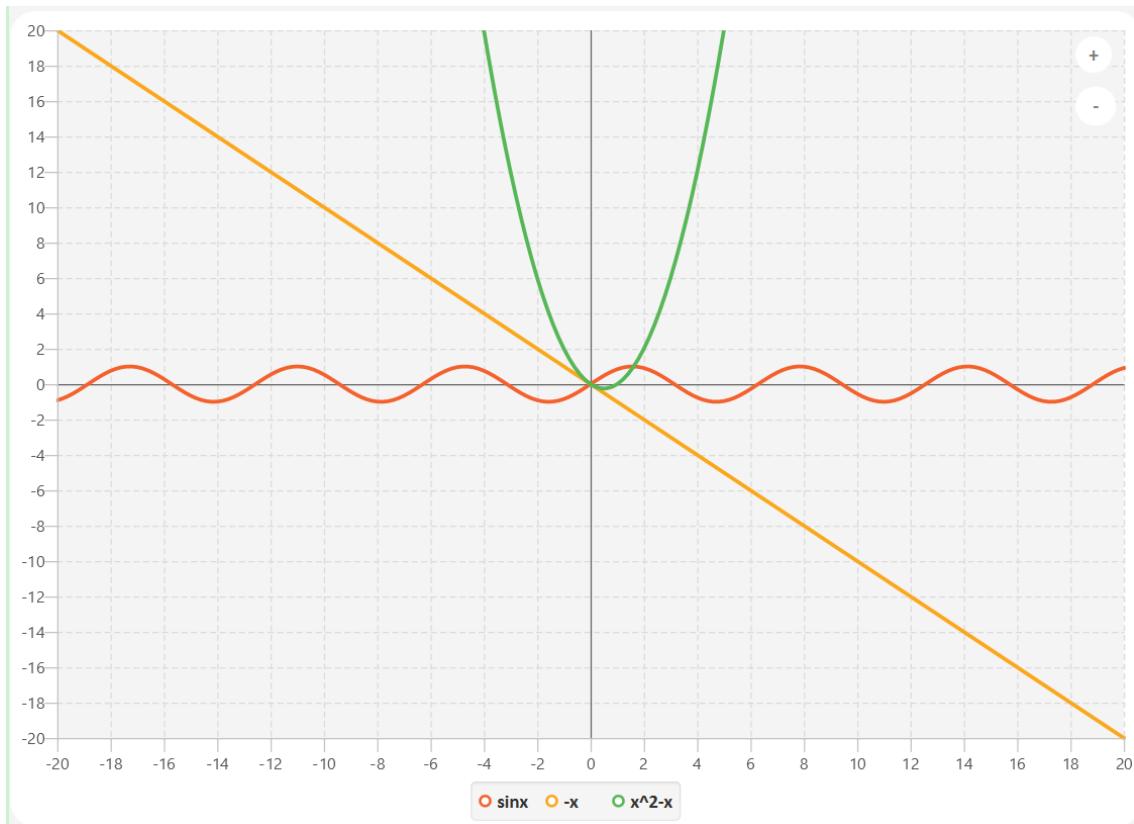
For example, in the graph below, three equations are graphed. The graph's range is currently from -10 to 10 on both axes.



After clicking the “+” button on the top-left corner, the range of the graph has halved on both axes i.e. both axes now have a range of -5 to 5, thus giving a closer view.

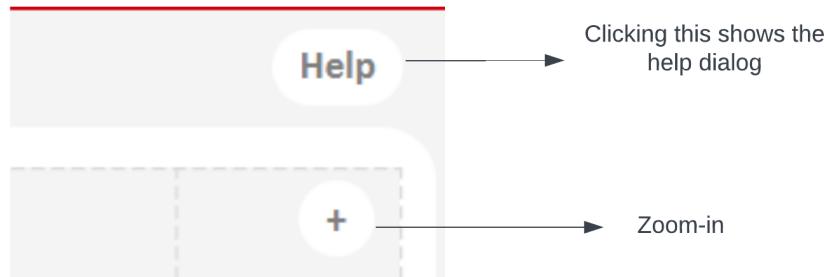


If the “-” button was clicked instead, the range of the graph would have doubled, effectively zooming out.

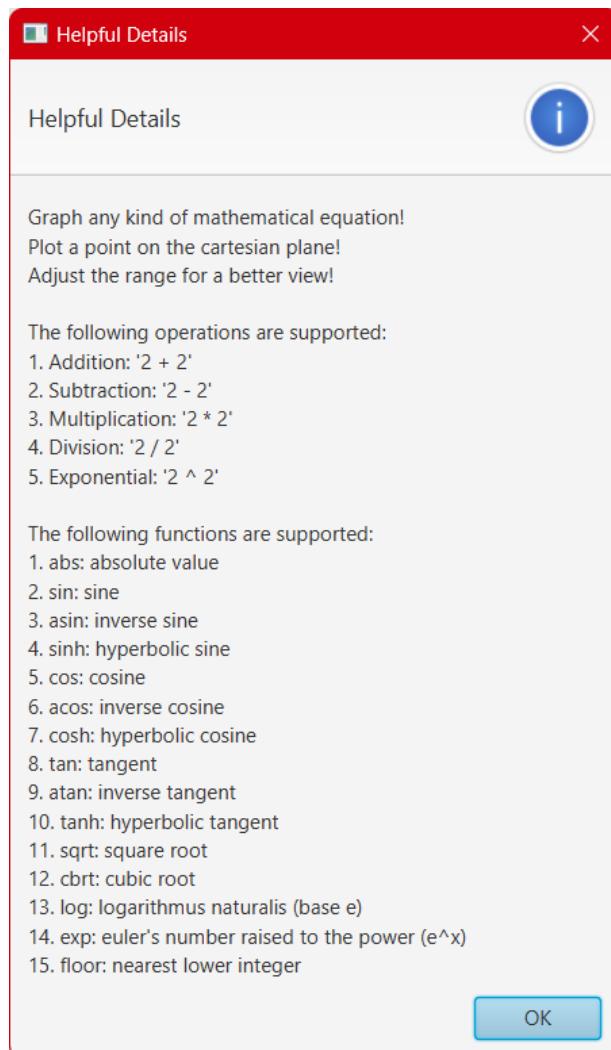


## Help Dialog

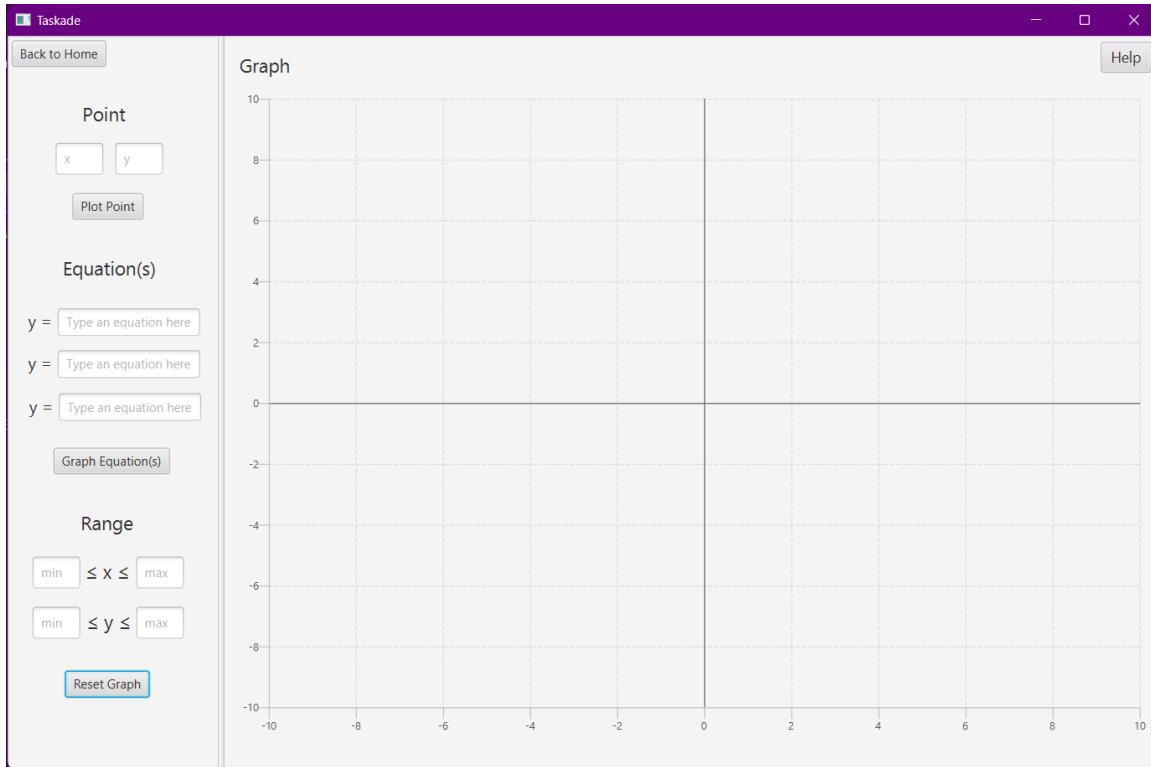
For a better understanding of the extent of the graphing calculator's features and its limitations, click the "Help" button in the top-right corner.



Upon doing so, a dialog box containing helpful information will pop up.



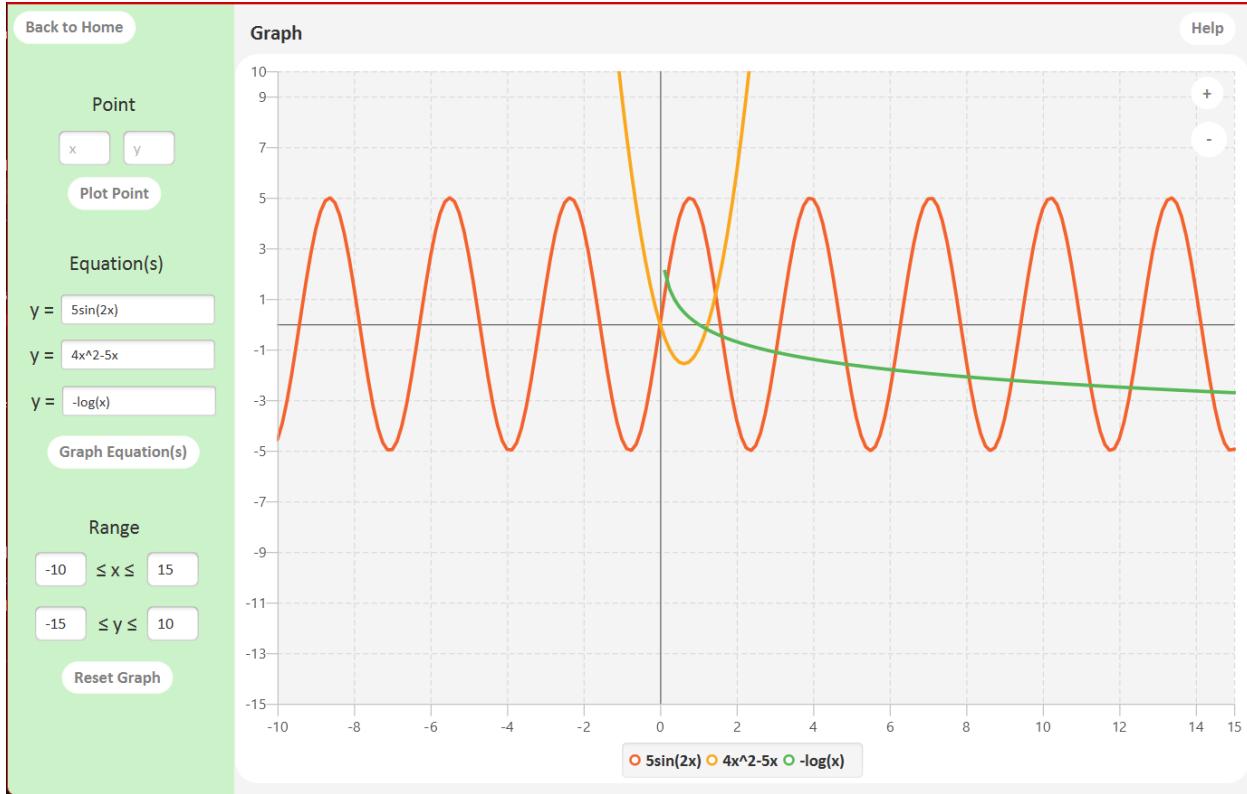
## Testing & Improvements



Reviewers were sent a [google form](#) with the picture above (the initial appearance of the application), and were asked to suggest improvements. Their responses include:

<b>Name</b>	Rhea Kaushal
<b>Email</b>	1kaushalrhe@hdsb.ca
<b>Suggestions for improvement</b>	<ul style="list-style-type: none"> <li>-Add dark mode</li> <li>-Make the text boxes more rounded</li> <li>-Change the reset graph button to a more clean button</li> <li>-Add shadows</li> <li>-Zoom</li> </ul>

Following some of these suggestions, the application's appearance has been transformed to what it is currently.



## Known issues

1. While the application graphs various kinds of mathematical equations, any equation resulting in a value of **83895.31857** when the x-value is **1022309.23502**, will not be graphed. For example, when the equation “**83895.31857x / 1022309.23502**” is typed, it is considered invalid input.

### Equation(s)

$y =$  83895.31857x / 1022309.23502

$y =$  Type an equation here

$y =$  Type an equation here

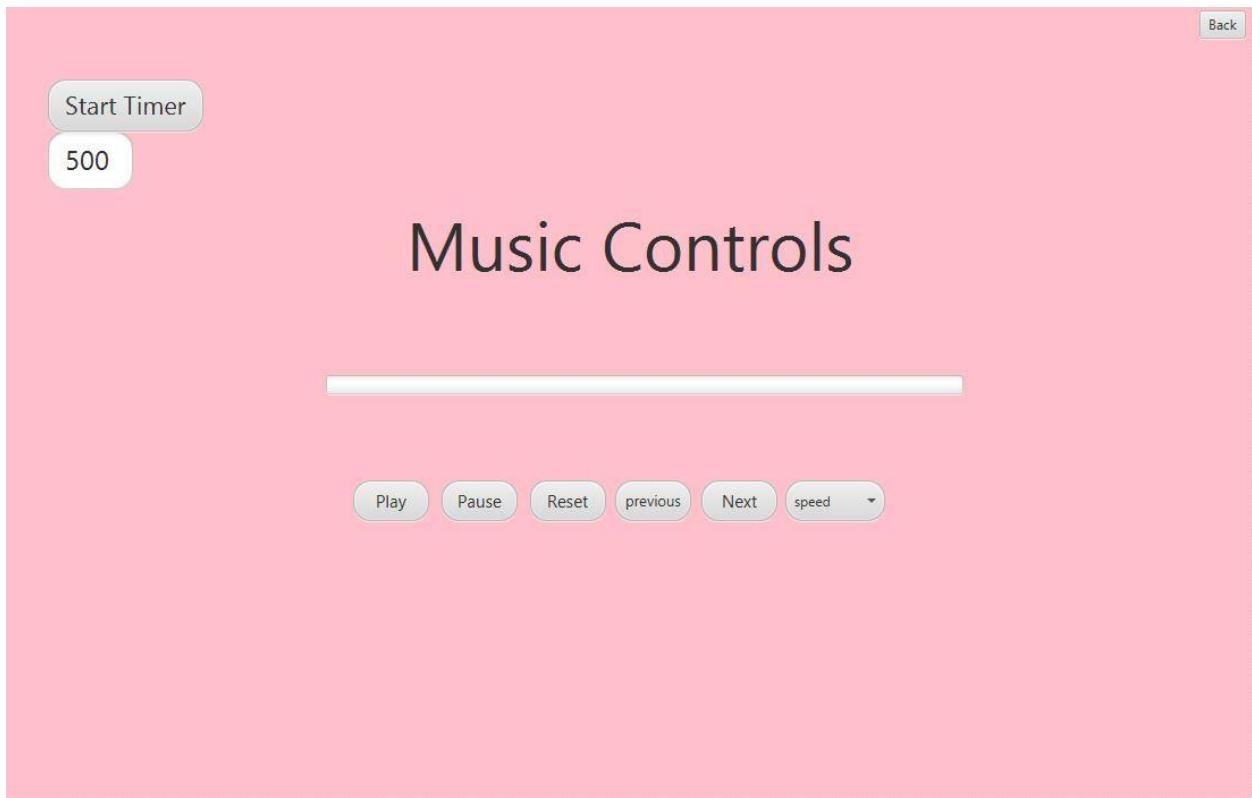
**Graph Equation(s)**

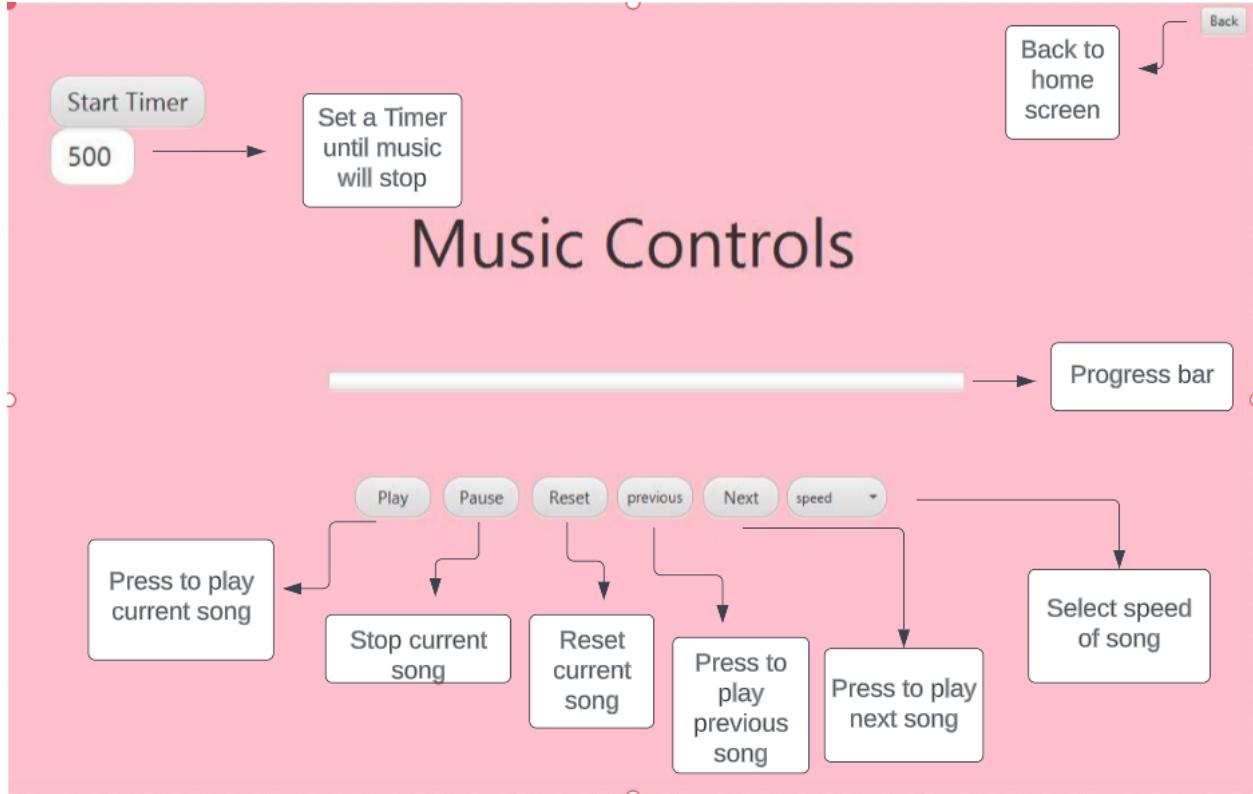
# Music Player

## Purpose

The purpose of this application is to play some music while working on other tabs. Once your personal timer runs out, the music will stop and your study session will be over.

## Layout





## How to use

- Play button
  - Press Play button to start current song
- Pause button
  - Press Pause button to stop current song
- Reset button
  - Press Reset button to stop current song
- Previous button
  - Press Previous button to play previous song to current song
- Next button
  - Press Next to play the next song to the current song

- Speed Button
  - Select speed that you want the songs to play at, if you choose 200, then it will be 2x faster
- Start Timer
  - Delete the numbers and add the amount of seconds you would want the timer to count until music will stop.
- Back Button
  - Press back to go on main screen

## Bugs

A person will have to do all modifications to the music player during the first instance of them entering the Music Player tab.

Once they click back and then try to go back to the page, they will still have their current song playing, although: the controllers will act as if that is the first time you are entering that tab.

If you have a song playing and you click back on the tab and click play again, then the song that is playing will play concurrently with the one currently playing.

This applies to all other features, the buttons will not work with the current song that would be playing after coming back into the tab.

## Testing

After getting some students to fill out this testing form:

<https://docs.google.com/forms/d/10GK93bk3t0xHTTvVAeclfFR8OLPArampJPGJG2LE4qDU>

And having some of my non-coding friends play with the music application, basic reviews came. The music player outline is very simple and doesn't have too many things to interact with making it easy to follow whatever you are doing.

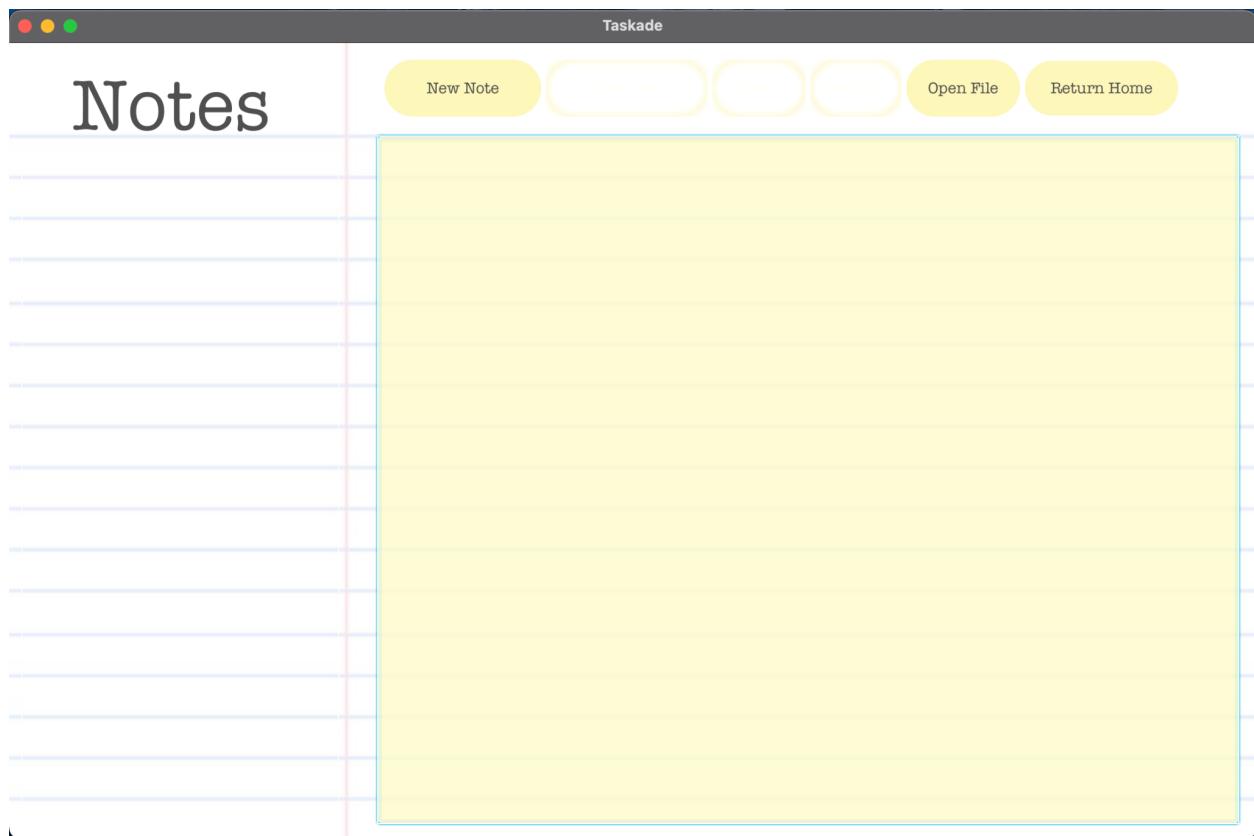
Although an improvement would be to fix the music controller bug where if you go out of the tab and back in, it will not work. This makes it annoying to have to close the program and relaunch it to adjust the songs.

# Note Taker

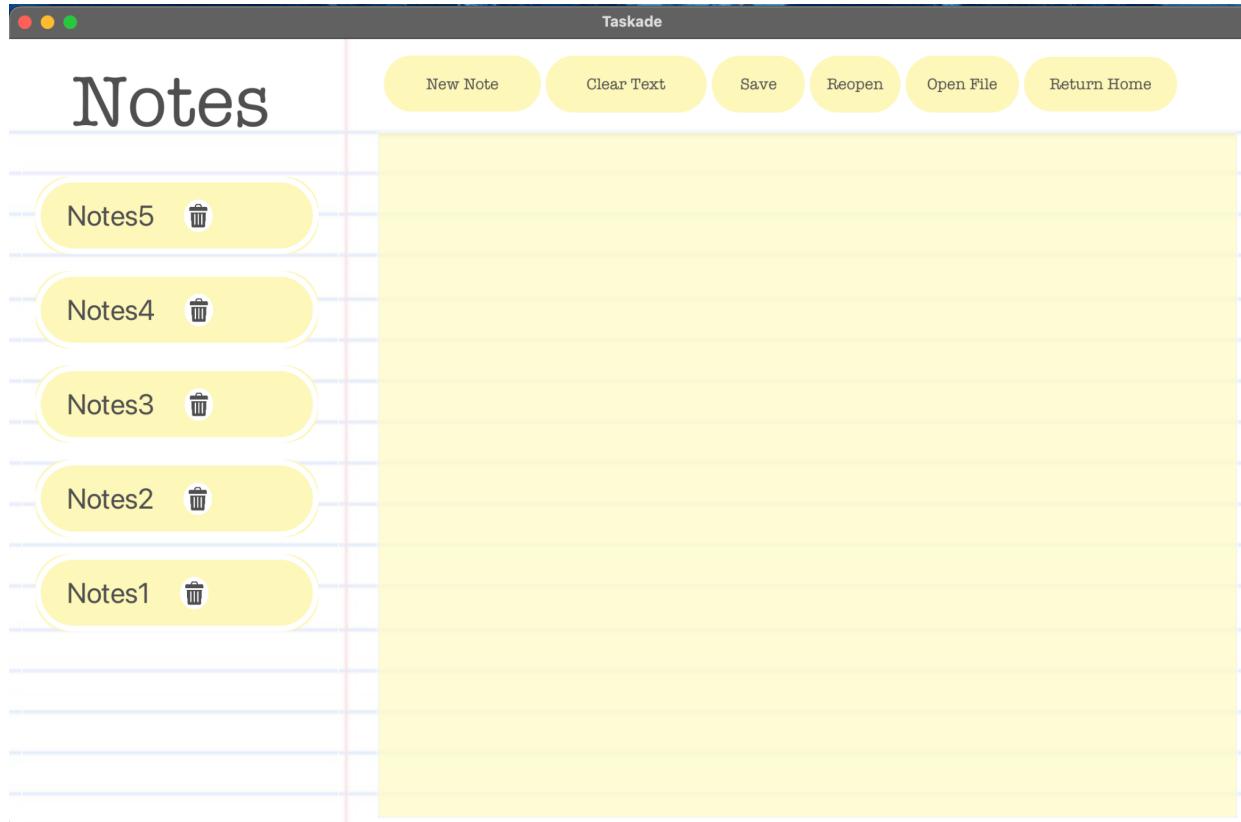
05.15.2023 - 06.09.2023

Welcome to the Notes Taker Section! This section allows the user to edit, delete and make new notes. This section provides a variety of features, which includes saving your notes so you never lose track of your studies!

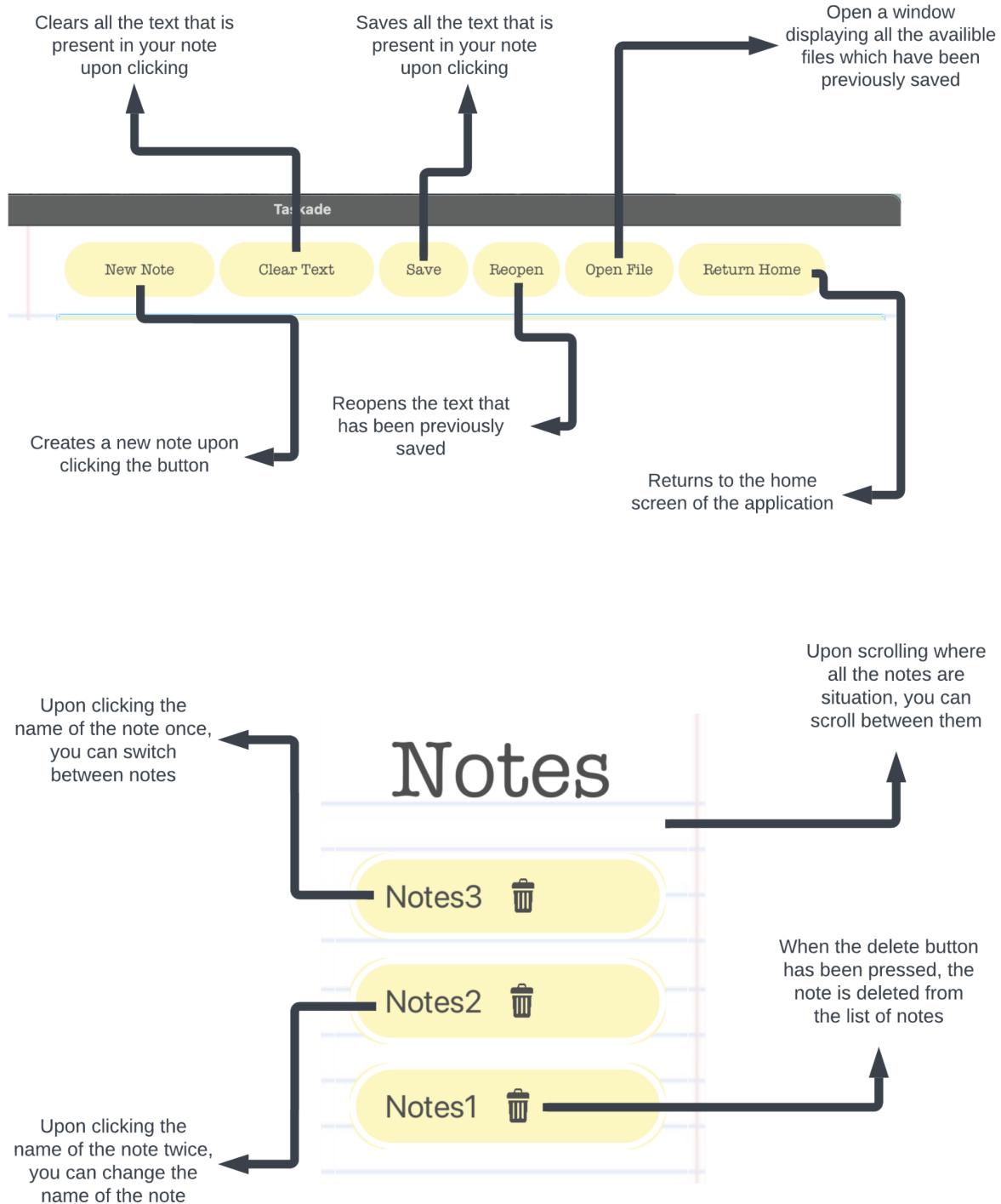
## Initial Layout



## After Making a New Note



## User Manual



The following area is provided for the user to write notes and list stuff if they want



I'm in my 4th year eng after switching from B.Tech. You have to retake all year 1 eng courses, even if they cover what you've already learned in B.Tech. But if you did well in B.tech first year, you will have no problem/an advantage with first year Eng, and it will help you get into more competitive programs if you do well.

In terms of getting a career, B.Tech is very good at that, requiring you take 12 months (or maybe its 16) of coop, which usually pay relatively well, plus gives great work experience and looks great on a resume. I still have friends in the program completing it now and they're very happy.

It really depends on what stream you intend on going into. I switched because I didn't like the automotive stream as much as I thought I would, and wasn't interested in the other b.tech streams. I'm currently in Mechatronics right now and I don't regret my decision. I think that although the courses may look similar and b.tech is still under the Faculty of Engineering, there is a large difference in what you learn. Engineering will be more theoretical, whereas B.tech is more akin to a college (hence the partnership with Mohawk College).

So to answer your question about if it's worth it, it's ultimately up to you. Would you be happy doing a more specific program found in b.tech (auto, automation, bio) or do you want to have a deeper theoretical background with no specific focus on a particular industry (i.e. auto, automation and biotech) which may lead to potentially broader career opportunities? Also, consider if you want to take Management with Engineering. IMO it's a great idea if you don't mind staying 6 years at Mac. I wouldn't recommend Society at all.

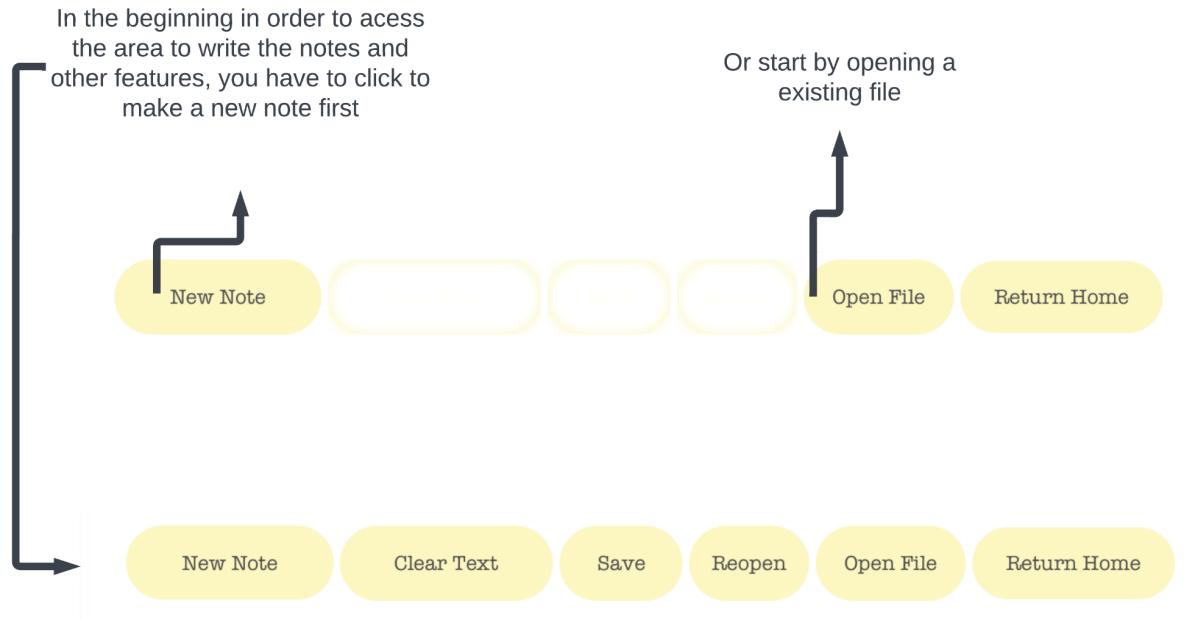
Finally, go talk to both your B.tech academic advisor and Sally Williams. I'm sure they've dealt with this situation many times and could help you decide if you want to transfer.

To write notes, you simply just start writing!



For writing in a list form, the user simply has to write a dash sign and start writing again!





## Bugs

1. Files might not save in the exactly same file after you delete a file once
2. Sometimes a different file might get renamed instead of the current one
3. Opening files doesn't work

## Testing

Link to testing - [Feedback for Notes Taking Section](#)

Name

1 response

Rayan Kaissi

Email

1 response

1elkaissiray@hdsb.ca

How user friendly is the interface?

1 response

Copy

Response	Percentage
1	0 (0%)
2	0 (0%)
3	0 (0%)
4	1 (100%)
5	0 (0%)

### What are some improvements you would like to see?

1 response

- When in the notes, it should display the name of the note you're editing by either highlighting the button or by displaying the name on top
- When a note is deleted in the app, the file should also be deleted
- It's not very clear that you can rename a note; add an indicator or help menu instructions
- if you're placing bullet points or -, it should automatically place one on the next line when pressing enter
- feature idea: allow user to drag mouse to scroll around on graphing calculator
- allow user to add custom music files
- There should be an explanation or description for the timer in the music section and allow the user to pause it
- feature idea: display the list of music tracks below or beside the player
- You can update the text buttons in the music player to image buttons (play, pause, etc)
- feature idea: allow the user to navigate the track using the progress bar (make it a slider)
- remove .mp3 from the track name
- change speed values to either percent (50% instead of 50) or decimal (0.5x instead of 50)

### Were there any problems you encountered?

1 response

- if you add and delete a note, you can still type in the space
- if you type something in a note and save, it'll display the same thing in the other notes
- I was confused about the personal data section of the finance window (no explanation)
- I was confused by the bar at the top of the window in the finance tab (beside the date)
- graphing calculator help button gives an error