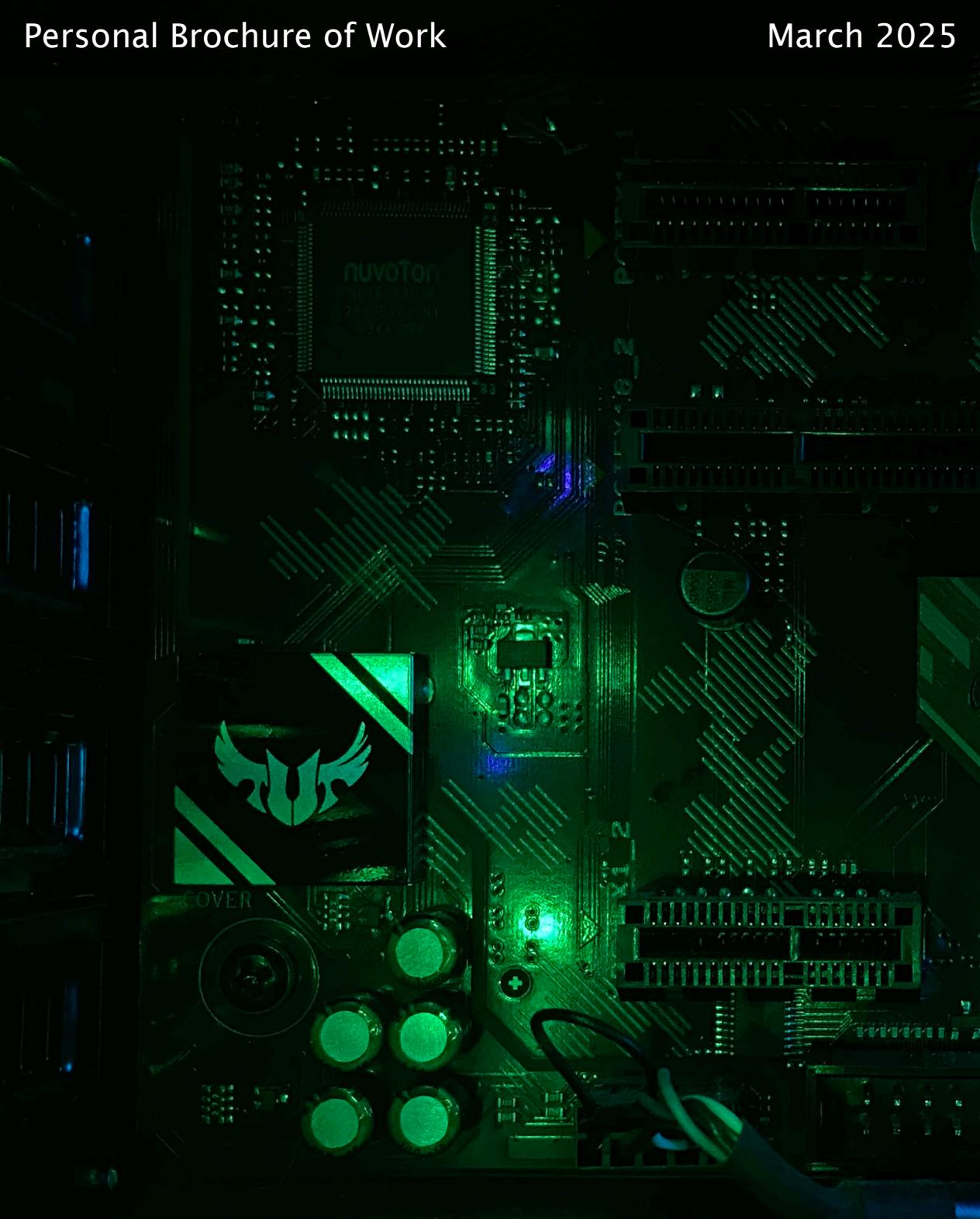


# TECHNICAL PORTFOLIO

Amélie McCarthy

A collection of technical projects  
I've made and experiences I've had.



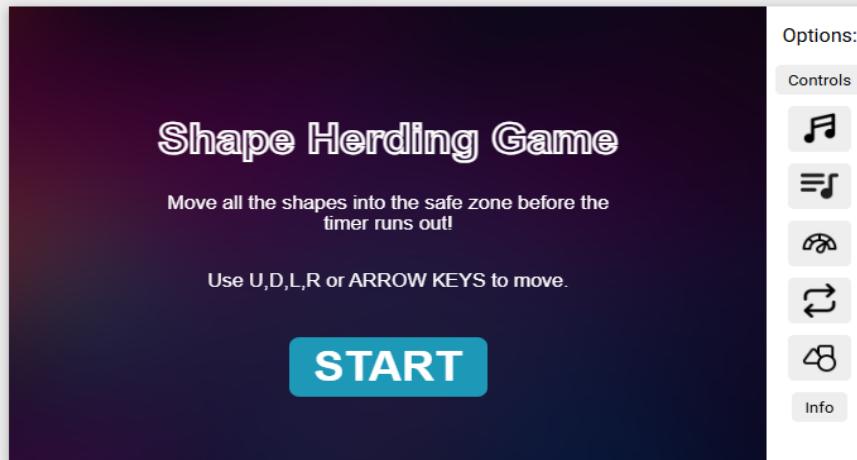
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# SHAPE HERDING GAME

HTML, CSS, JavaScript (P5js)

## Assignment 1



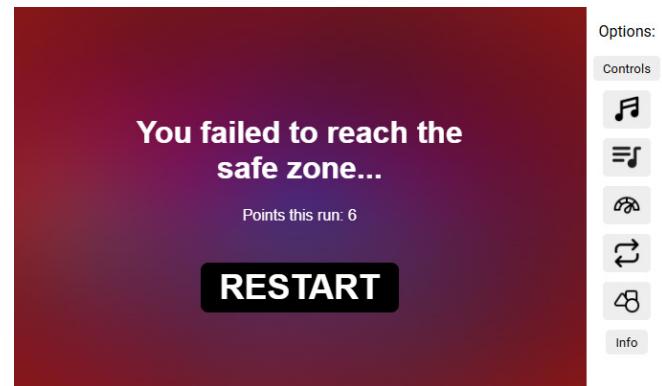
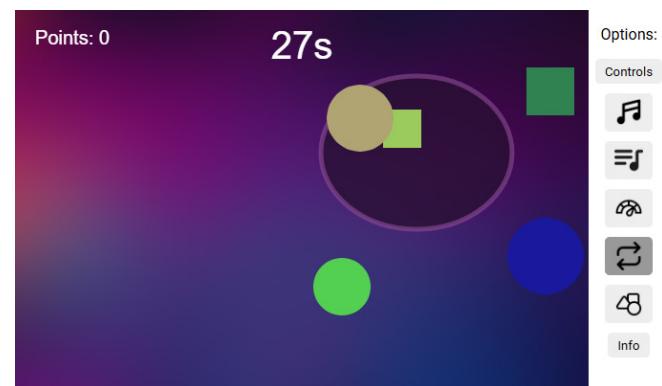
Graphics created using p5.js

This is a recent minigame I created in JavaScript using the P5js graphics library.

Originally inspired from a simple class assignment where I was instructed to make shapes that could be moved using the UDLR keys, I decided to make it into a cohesive gameplay experience where you must move all shapes into the safe zone before the timer expires.

## FEATURES

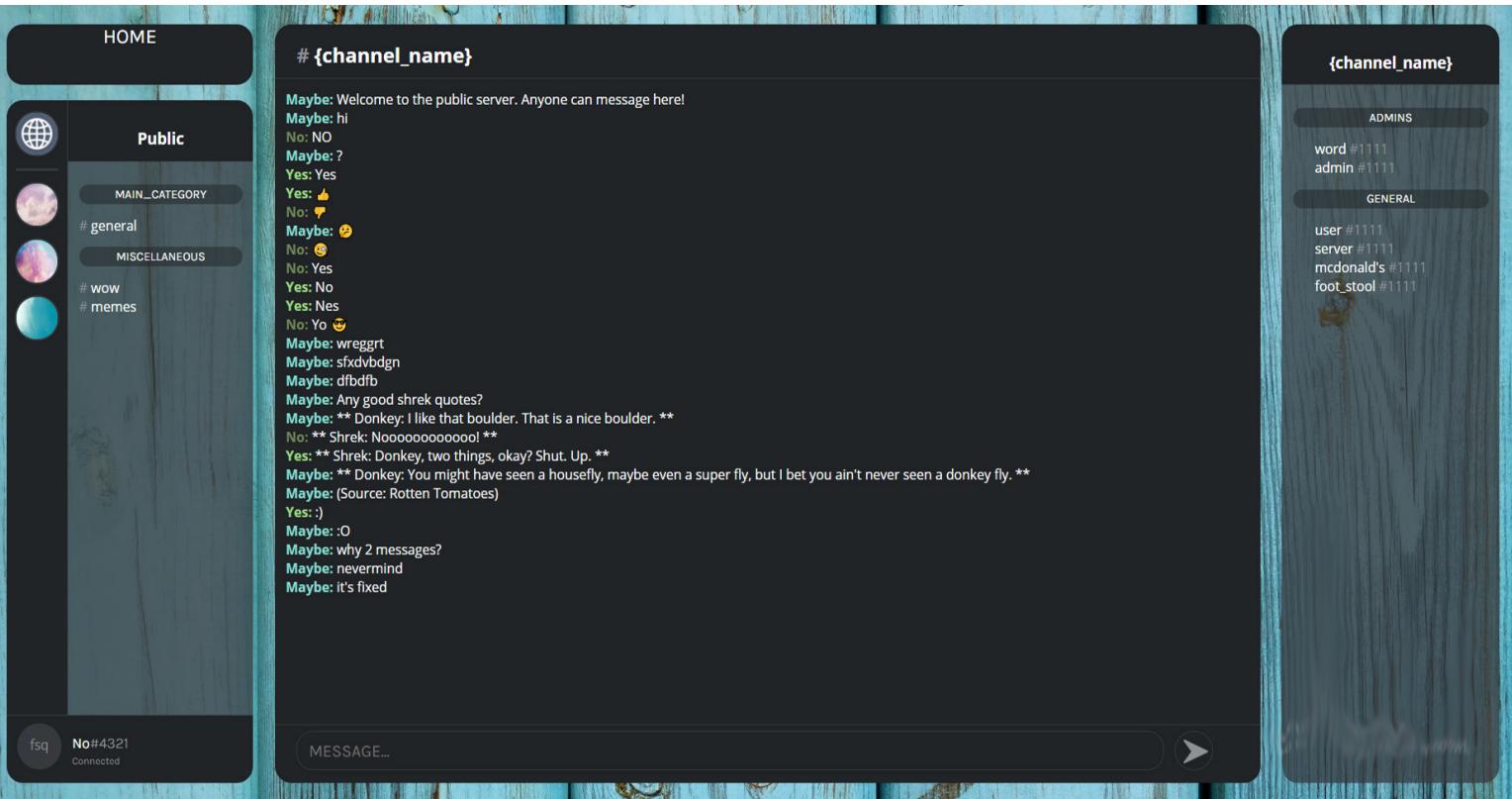
- Timer feature
- Controls (number of shapes, speed, regenerate, etc.)
- Built-in music functions
- Points counter
- Intuitive UI



<https://github.com/Amelithic/P5js-Fundamentals-2/tree/774df7c0c60ec-290850c0190686655819fcac261/Assignment%201>

# DISCORD INSPIRED CHAT APP

HTML, CSS, Python (Flask), MySQL



In 2022/2023, I worked on a Discord-inspired chat web app using Python Flask as the backend, and MySQL to store the chat data and login accounts.

This project was to help me understand how to make apps that could sync between clients and transfer data, and also apply the use of databases. I also enjoyed creating the UI using custom HTML and CSS. Most of the features work, however I could not get server switching, chat markdown, or the members online tabs to work.

## FEATURES

- Login feature with SHA256 encrypted passwords
- Ability to switch chat channels
- Custom username and name colours
- Chats sync live across clients, and stored in a MySQL database
- Interesting UI that is compatible with light/dark modes and can change out the background image.

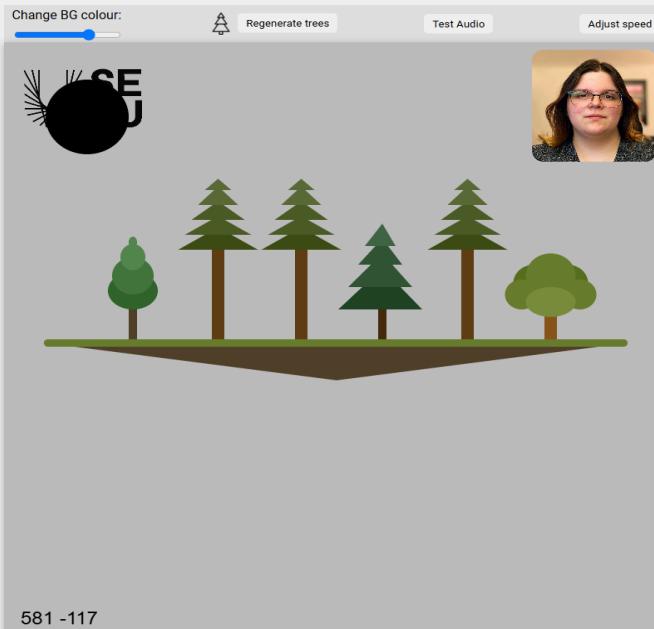
# RANDOM LANDSCAPE GENERATION

HTML, CSS, JavaScript (P5js)

(In Progress)

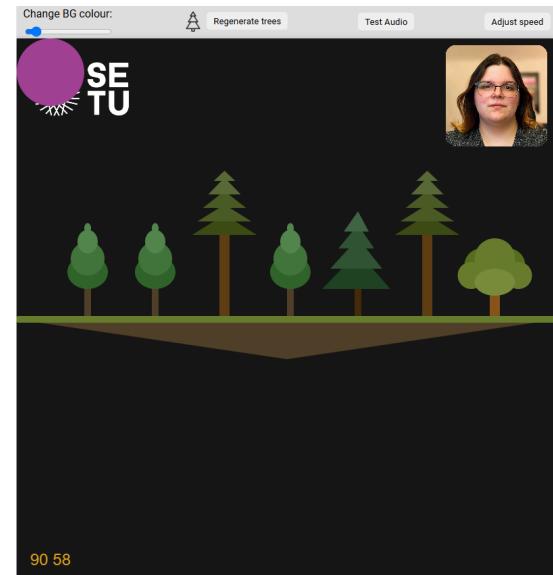
## Assignment 2

Amélie McCarthy



This was part of an assignment, where I was tasked to include an image of myself, a moving circle that changes colour on hover, and an SETU logo.

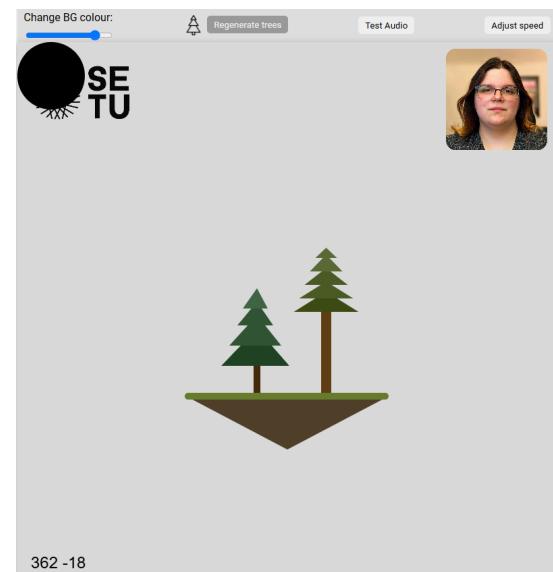
The rest was creative freedom, so using JavaScript objects and arrays, I randomly generated a new island with a random selection of trees each time the page loads. The trees are spaced evenly and pick from 4 varieties.



## FEATURES

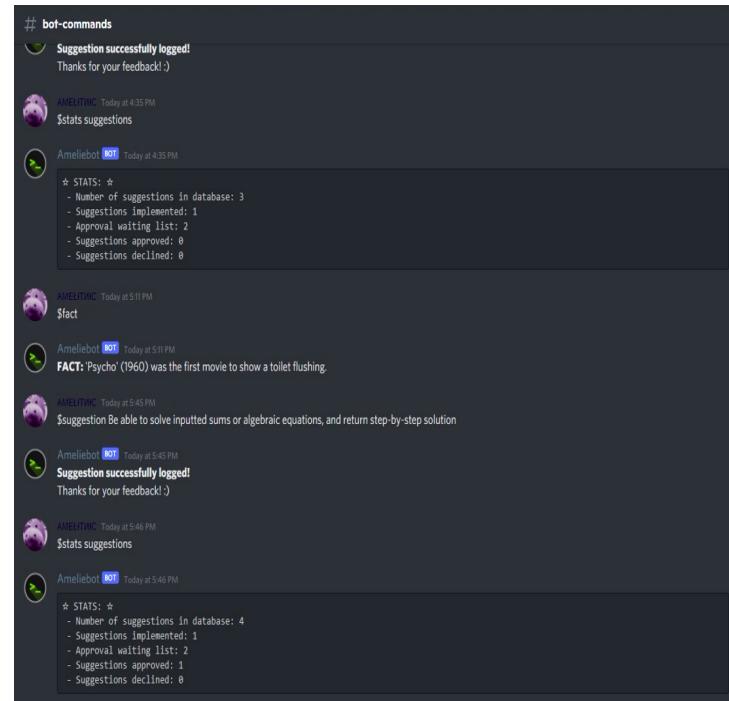
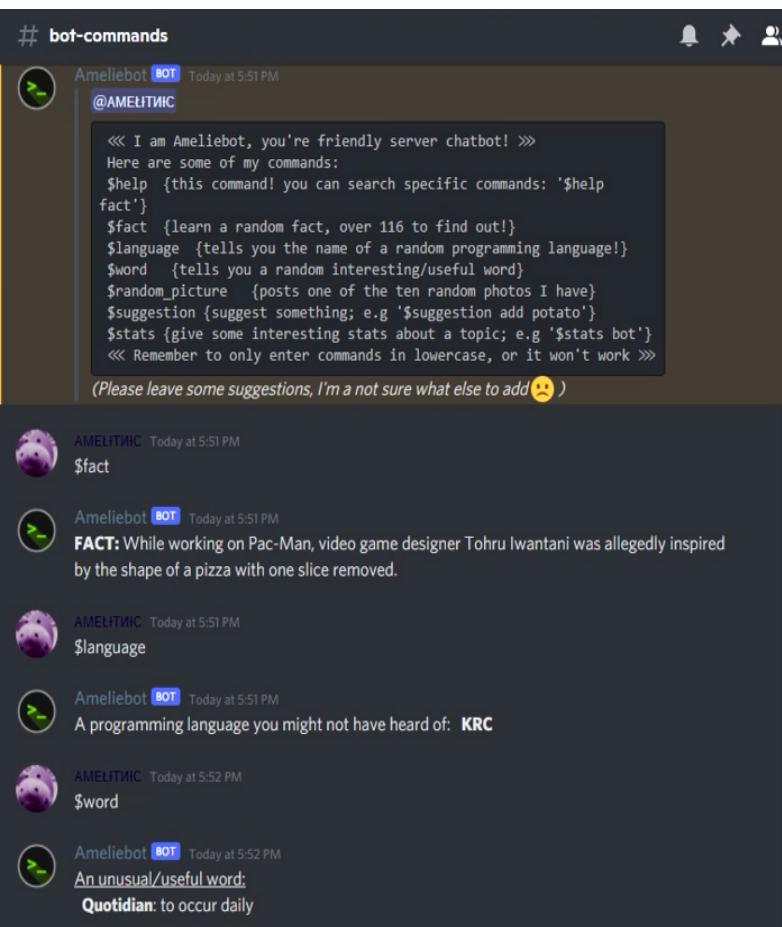
- Regenerate button
- Background that can change lightness value.
- Mouse co-ordinates shown
- Adjustable shape speed
- Playable audio button

[https://github.com/Amelithic/P5js-Fundamentals-1/  
tree/05dc62904c12f6aa697fde53698a0c9211c01621/  
Assignment%202](https://github.com/Amelithic/P5js-Fundamentals-1/tree/05dc62904c12f6aa697fde53698a0c9211c01621/Assignment%202)



# DISCORD BOT

Python (now NodeJS)



## Using the Discord API, I made a Discord bot for me and my friends' server.

I originally created this in Python, which are the screenshots shown. However, Discord dropped support for the Discord.py library so I recreated this bot using NodeJS, which supported the Discord API.

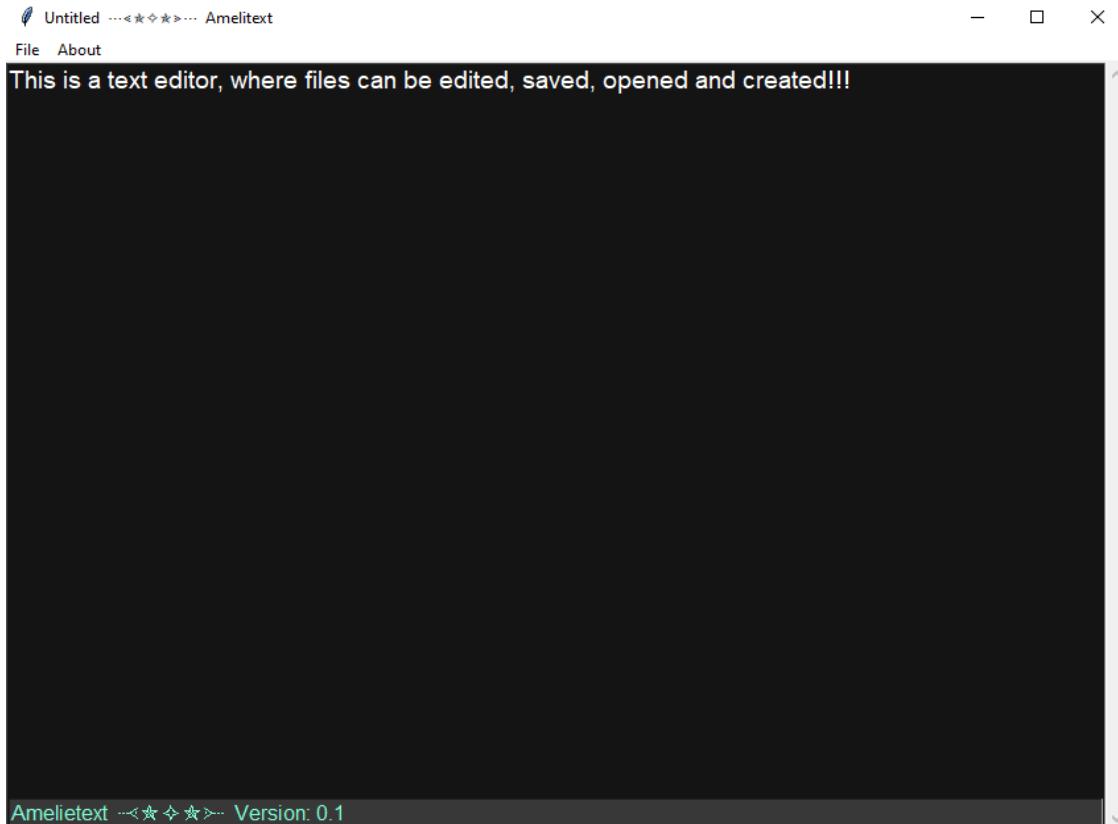
It has a separate JSON file with over 100 facts, programming languages and a few random funny images. I also coloured the console text using the 'colorama' Python library.

## FEATURES

- 6+ commands, some with parameters
- Suggestion command, which adds new suggested features to a text file
- Colour coded console
- Specific admin commands
- Stats command
- Can mention and DM specific users

# AMELITEXT - CUSTOM NOTEPAD APP

Python (Tkinter)



One of my most notable projects using the Tkinter library in Python is 'Amelitext', a custom notepad app.

This notepad allowed files to be read and wrote to, new files saved, and was built as an alternative to the Windows 10 notepad which did not have a dark mode. Shortcuts to save can be used, and there's a little info screen that displays the app version. It used to have custom fonts, but I do not have them installed currently.

## FEATURES

- Save and Save As functionality
- Dark mode UI
- Open and close file options
- Info section
- Custom fonts

<https://github.com/Amelithic/-AR-CHIVE-Python-Projects/tree/8241238ecf6f-de0297557ee1b1f61b82b278cd4c/>

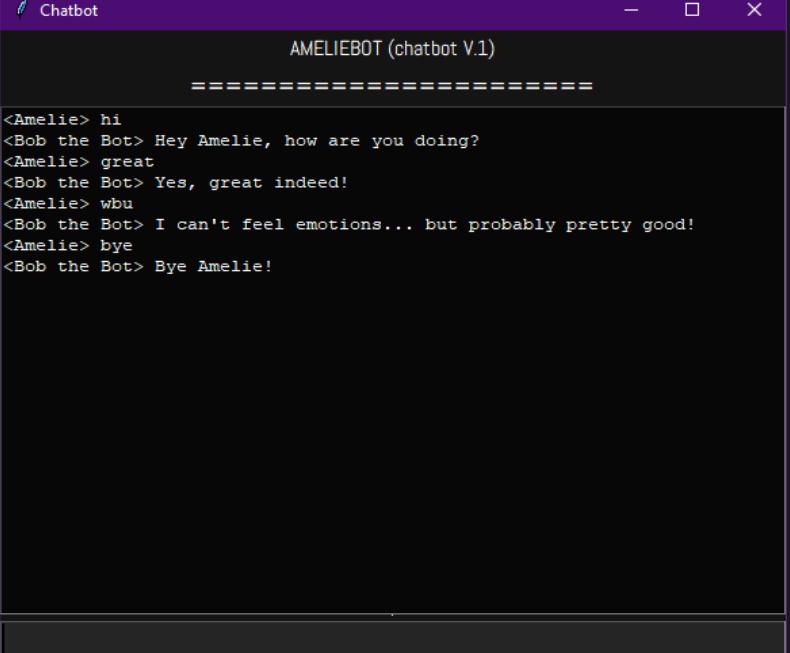
# OTHER PROJECTS

## CHAT BOT APP

Python (Tkinter)

A simple chat bot with pre-programmed responses created in Tkinter.

Username is prompted to be set on opening app. Chat history can be saved by pressing CTRL+S, and text box can be scrolled but not typed into (input field at bottom).



The screenshot shows a window titled "Chatbot" with a purple header bar. The main area is titled "AMELIEBOT (chatbot V.1)" with a separator line. Below this, a transcript of a conversation is displayed:

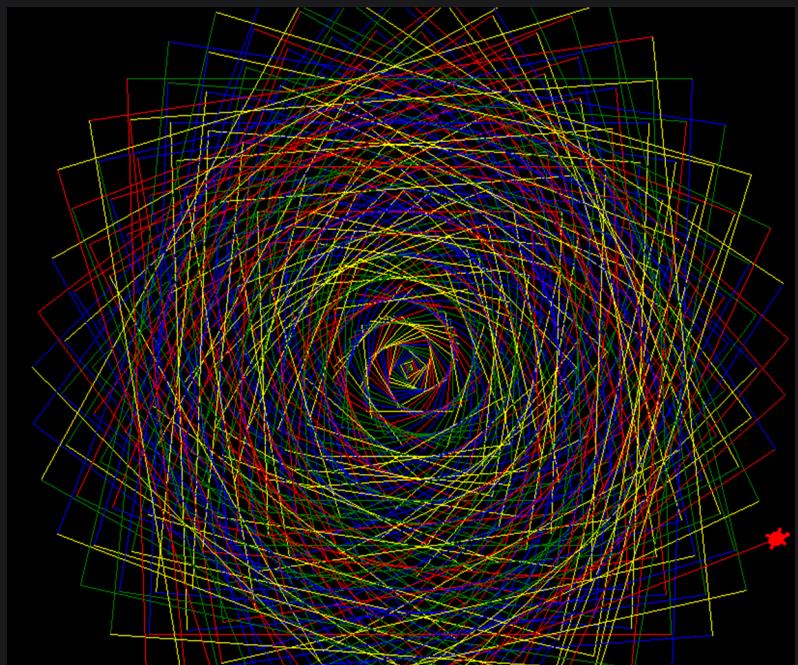
```
<Amelie> hi
<Bob the Bot> Hey Amelie, how are you doing?
<Amelie> great
<Bob the Bot> Yes, great indeed!
<Amelie> wbu
<Bob the Bot> I can't feel emotions... but probably pretty good!
<Amelie> bye
<Bob the Bot> Bye Amelie!
```

<https://github.com/Amelithic/-ARCHIVE-Python-Projects/tree/8241238ecf6fde0297557ee1b1f61b82b-278cd4c/Tkinter%20Projects>

## PYTHON TURTLE SPIRALS

Python (Turtle)

Using the Turtle library in Python, I created a bunch of different visual effects and spirals. Some examples had an option for user input to control the speed, size and length of lines drawn.



<https://github.com/Amelithic/-ARCHIVE-Python-Projects/tree/8241238ecf6fde0297557ee1b1f61b82b-278cd4c/Turtle%20Projects>

# OTHER PROJECTS

## TURTLE GRID GAME

Python (Tkinter, Turtle)

This is one of two small games I made using the Turtle graphics library and the Tkinter user interface library in Python.

This is a simple game of eating the fruit, which re-spawns once reached. Points are counted and there are secret messages at certain milestones.

I used the ‘colorama’ library to colour the console.

The screenshot shows a Python IDE interface with several tabs open. The active tab contains the following code:

```

211
212 screen = trtl.TurtleScreen(canvas)
213 screen.bgpic("game that's like snake, but worse")
214 screen.bgcolor("black")
215 screen.tracer(1)
216 screen.register_shape("star.gif")
217 timmy = turtle.Turtle()
218 timmy.shape("star.gif")
219 timmy.speed(0)
220 timmy.color("blue")
221 timmy.hideturtle()
222 prep_grid()
223 timmy.penup()
224 screen.listening()
225 screen.onkey(lambda: timmy.left(90), "Left")
226 screen.onkey(lambda: timmy.right(90), "Right")
227 screen.onkey(lambda: timmy.forward(10), "Up")
228 screen.onkey(lambda: timmy.back(10), "Down")
229 screen.onkey(lambda: timmy.left(90), "a")
230 screen.onkey(lambda: timmy.right(90), "d")
231 screen.onkey(lambda: timmy.forward(10), "w")
232 screen.onkey(lambda: timmy.back(10), "s")
233
234 timmy.setposition(-250, -250)
235 timmy.speed(10)
236 timmy.showturtle()
237
238 cherry = turtle.Turtle()
239 cherry.shape("circle")
240 cherry.speed(0)
241 cherry.resizemode("user")
242 screen.mainloop()

```

The terminal window shows the game's output:

```

Timmy is currently at: (-250.00,-250.00)
Timmy is currently at: (-250.00,-250.00)
It's been eaten 19 time(s)!
Timmy is currently at: (-175.00,-75.00)
Timmy is currently at: (-175.00,-125.00)
Timmy is currently at: (-175.00,-175.00)
It's been eaten 20 time(s)!
Timmy is currently at: (-175.00,-125.00)
Timmy is currently at: (-175.00,-75.00)
Timmy is currently at: (-175.00,-25.00)
Timmy is currently at: (-175.00,25.00)
Timmy is currently at: (-125.00,25.00)
Timmy is currently at: (-75.00,25.00)
Timmy is currently at: (-25.00,25.00)
Timmy is currently at: (-25.00,75.00)
Timmy is currently at: (-25.00,125.00)
Timmy is currently at: (-25.00,175.00)
It's been eaten 21 time(s)!
Timmy is currently at: (-25.00,125.00)
Timmy is currently at: (-25.00,75.00)
Timmy is currently at: (-25.00,25.00)
Timmy is currently at: (-225.00,25.00)
Timmy is currently at: (-275.00,25.00)
Ouch! I'm out of bounds!
Timmy is currently at: (175.00,25.00)

```

[https://github.com/Amelithic/-ARCHIVE-Python-Projects/  
tree/8241238ecf6fde0297557ee1b1f61b82b278cd4c/Turtle%20Projects](https://github.com/Amelithic/-ARCHIVE-Python-Projects/tree/8241238ecf6fde0297557ee1b1f61b82b278cd4c/Turtle%20Projects)

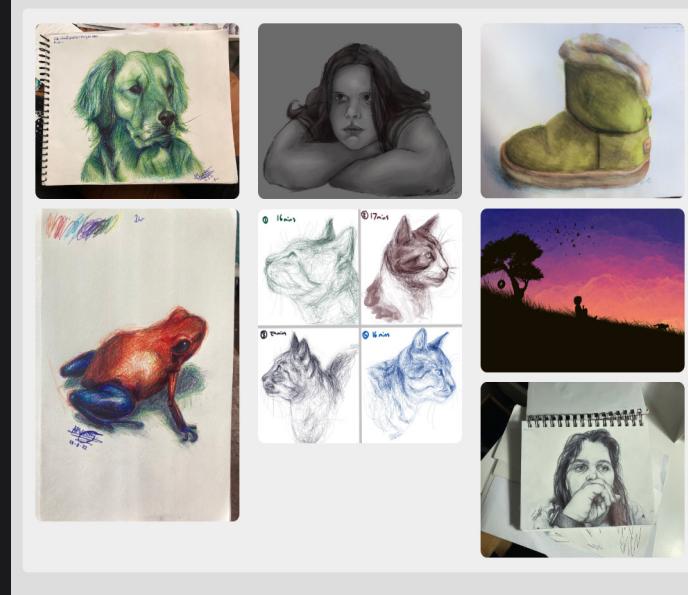
# OTHER PROJECTS

## RESPONSIVE GALLERY UI

HTML, CSS, JS

I created this gallery display using HTML and responsive CSS, which took its images from the Discord CDN, and adapts to screen size.

Images have an effect when hovered on, and this design was compatible with the light/dark mode switcher from another web design project I made.



[https://github.com/Amelithic/-ARCHIVE-Python-Projects/  
tree/8241238ecf6fde0297557ee1b1f61b82b278cd4c/Turtle%20Projects](https://github.com/Amelithic/-ARCHIVE-Python-Projects/tree/8241238ecf6fde0297557ee1b1f61b82b278cd4c/Turtle%20Projects)

# CLOSING NOTES

## I have other experience in:

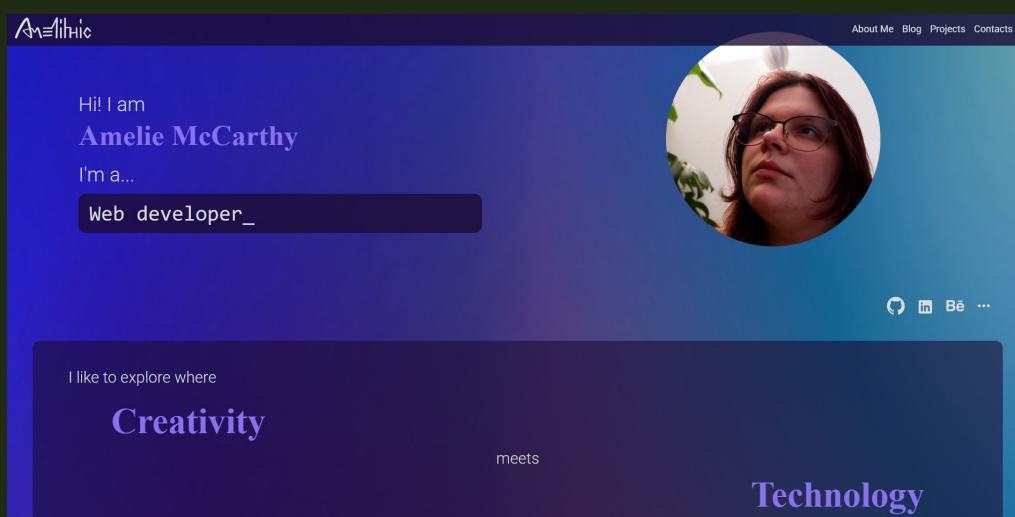
- Using Wireshark to identify specific device IPs
- Sending data using sockets in Python
- Repairing laptops
- DIY hardware projects, such as a monitor made from an old laptop screen
- Web-scraping using BeautifulSoup and Selenium
- Further web design using HTML & CSS

## FIND MORE PROJECTS ON MY GITHUB:

<https://github.com/Amelithic>

## Current Project:

Working on a portfolio website to showcase the above projects. Here is a sneak peak at the current design at [Amelithic.com](http://Amelithic.com)



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AMELITHIC@GMAIL.COM**