Dynamic “Hello world”

Our Idea

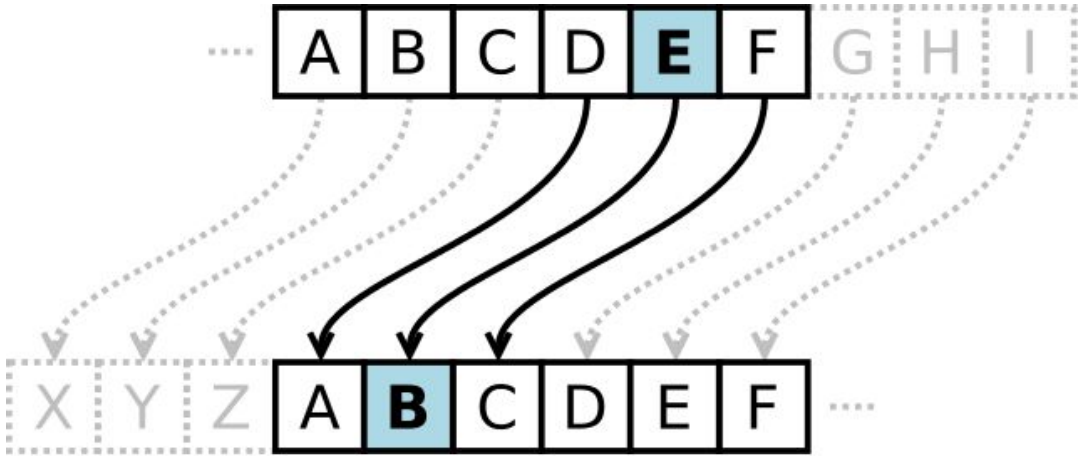
- Make printing hello world frustrating….
  - No, not really….maybe a little
- We based our idea on the game “Miegakure”
  - Miegakure is a 3D game that tries to mimic 4D, 4D meaning that the environment changes when you interact with it.
- We came up with many implementations.
  - Random subsets of the alphabet that people had to guess the letters of
  - Dynamic cipher that shifts with every letter that has been given
  - Genetic algorithm were the letters mean hyperparameter values, but the player doesn’t know them and has to learn them via experience. (Trial and Error…..blood sweat and tears)

How we did it

- Python and C++
- Python is used as our game hub and calls the games via subprocesses allowing each developer to write in their own preferred languages.
- 2 game modes were made out of our ideas (sadly no genetic algorithm)

Dynamic Cipher

- Without giving too much away this game mode is a Caesar cipher that rotates the alphabet by a certain amount based on the input the user gives.
  - To make it simpler (It's not) we made the rotation amount static to each character
    - I.e if you enter the letter "a" the alphabet will always be shifted by 1 amount.



Dynamic Cipher

- You win by spelling “helloworld”
  - You get a better score with the lowest sequence of characters to make helloworld
- Since the alphabet always shifts by a certain amount with each character that means your sequence could be something like..
  - hadakakanavanaqaka == “helloworld”
  - Above is just 1 way to get to helloworld. There are many, the best sequence is only 10 characters!!

Hangman Cipher

- In this game the objective is to find an 8 character sequence from the alphabet.
- So basically there is a random subset of the alphabet
  - [“b”,”v”,..., “f”]
- Then the player tries to input the letters in the sequence. When they get all of the letters they spell “Hello World” and they win!

That’s hard

- Yeah, it is hard.
- That is why the game also makes sure that you don’t put in the same character. Like hangman.