Mastermind

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Description:

A program that remakes the classic board game Mastermind in Python. The computer will act as the code maker, filling four slots with any combination of six colors, the user will be the code breaker and make guesses trying to figure out what the solution is. The computer provides feedback on the correctness of each guess that the user must use along with logic to crack the code.

Vision Statement:

A remake for PC of a classic logic based board game.

Motivation:

We want to further our skills in Python and explore using different libraries we haven't used before, such as the graphics libraries. It will be interesting to see if we can implement the game with the computer just giving feedback until the correct answer is guessed, but we could also take it further and explore the logic behind making a strategic guess by making the computer the code breaker and the user the code maker. Implementing the logic for that would help us grow as programmers as well as get a glimpse into the concept of what makes a computer truly intelligent.

Risks:

- Members are unfamiliar with python graphics libraries.
- Some members Python skills are rusty.
- Implementing the logic behind making an intelligent guess would be extremely difficult.

Mitigation Strategy:

- Members can tutor others who are unfamiliar with certain aspects of the project.
- The internet is a valuable resource for research and other trouble shooting.
- Using genetic algorithms could make guessing the correct answer easier.

VCS:

GitHub: https://github.com/Arcohe/3308Mastermind

Requirements:

ID	Description	Agile Sizing	Priority
US-01	As a user, I want a graphical user interface that displays the game board and updates with every move.	13	High
US-02	As a user, I want to be able to see the statistics on my past games.	8	High
US-03	As a user, I want to be able to make the color selection and have the computer guess against me.	13	Medium

ID	Description	Agile Sizing	Priority
FUNC-01	Display the board and pieces	5	High
FUNC-02	Display the statistics of the user	3	Medium
FUNC-03	Be able to give proper feedback to the player based on their guess	5	High

ID	Description	Agile Sizing	Priority
NONF-01	The GUI should be visually appealing and straightforward	2	Low
NONF-02	Should run on PC		
NONF-03	The rules of the game should be apparent and accessible	2	Low

Methodology:

Agile

Project Tracking Software:

Trello: https://trello.com/mastermind46