Rachid’s Ying Yang Snake Project README

**About**

This project was a personal project that I developed due to one of two ideas for another snake game that I had after my Escaped Snakes Project that I submitted for the mini jam on itch.io. To learn more about the mini jam, please visit <https://itch.io/jam/mini-jam>. I tried the first idea which would involve two snakes moving in opposite directions in order to touch two pickups at the same time. However, after trying to implement it, I found it to be impossible to work due to the points appearing at random spots across the screen and the snakes only being able to move in only four directions: left, right, up, and down (If one can implement it that would be really cool!). Thus, I abandoned that idea and implemented the second idea which is what this game is.

**Details**

Like my Escaped Snakes Project, this game is another twist on the classic snake game. Like the classic snake game, one of the goals is to collect pickups. However, unlike the classic snake game, the player’s snake, the Ying Snake, can cross its body and even tackle the corners of the screen. Another difference is that you will be competing against the AI’s snake, the Yang Snake, for the pickups. Like the Ying Snake, the Yang Snake can also cross its body and tackle the corners of the screen. For balancing the game, The Ying Snake has been made to be faster but less accurate while the Yang Snake has been made to be slower but very accurate.

The pickups are Ying Yang Pickups and they can either be separated or together. When the pickups are together, they act as one and whichever snake gets to the pickups first adds a block to their body and the other snake loses a block from their body. When the pickups are separated, the ideal goal would be to pick up both pickups before the other snake does. If a snake picks up a pickup that has its same color, the snake adds a block to their body while the other snake experiences no change. If a snake picks up a pickup that has a different color than its body’s color, the snake that did not pick up the pickup will lose a block to their body while the snake that picked up the pickup will experience no change. Whether the pickups are separated or not, and the snakes approach the pickup at the same time, both snakes will experience no change.

Whichever snake has no blocks to their body loses and the remaining snake wins. An alternative way a snake can win is if its body has a total of 103 blocks before the other snake does. The reason for the number of 103 is because each snake will start with three blocks and ideally would only need to collect 100 pickups that will increase their blocks, provided that no blocks are lost from the snake during gameplay. In addition, the maximum number of blocks a snake can have at a time is 103 blocks. Overall, the length of a snake is an indicator of how many “lives” it has. After a snake wins, the screen will flash its respective color, yellow if the Ying Snake wins, blue if the Yang Snake wins.

**Controls**

To start the game, after opening the executable, the player simply has to move their snake, the Ying Snake, and the competition between the player and the AI will begin. The AI, the Yang Snake, will not start until the player starts. This was done to make the game fair. If need be one can pause or even reset the game mid game. These features were added for the convenience of the player. Summaries of the controls will be outline below:

Player – Ying Snake (Yellow Snake)

* Move Left – A key on keyboard or left arrow key on keyboard
* Move Right – D key on keyboard or right arrow key on keyboard
* Move Up – W key on keyboard or up arrow key on keyboard
* Move Down – S key on keyboard or down arrow key on keyboard

AI – Yang Snake (Blue Snake)

* Controlled by AI
* Only starts moving after player starts moving either when the player first opens up the game, resets the game mid game, or restarts the game after the current session is over, i.e. when either the Ying or Yang Snake wins, the screen background will turn yellow or blue respectively

General

* Pause – Space bar on keyboard or when screen loses focus such as switching to another app, only works if in midgame, the screen background will turn red
* Reset – Ctrl key on keyboard + Space bar on keyboard, only works if in mid game
* Restart – Space bar on keyboard, only works after the current session ends, i.e. when either the Ying or Yang Snake wins, the screen background will turn yellow or blue respectively
* Close App – Escape key on keyboard or close button, the X button, on top right corner of the screen

**Executable File Use**

I have put the executable file and all other necessary files into a zip file for convenience. However, due to GitHub’s size constraints, I have uploaded the zip file to google drive. The link to the zip file is <https://drive.google.com/drive/folders/1-yRPKIUlU7QZ7OxWhBcXb5ag7YXshtky?ogsrc=32>. To run the game, open the executable file. There will be a Media folder which contains files like Icon data, etc. which the program needs. If any of the files in the folder are misplaced, one can simply download them in the corresponding repository at my GitHub page at <https://github.com/Rachid-Telfort/Rachid-s-Ying-Yang-Snake-Project> or one can simply download the game at the game’s page on itch.io page at <https://rachidtelfort.itch.io/ying-yang-snake>.

**Copyright Notices**

I just want to make clear that I do not own the SFML third party API associated with making this project.

**Helpful Links**

Here are some links that I have found to be very useful when I was implementing the project. They cover many things from installing SFML, to how to use the API properly, and documentation on several C++ libraries and functions that I found useful for this project.

* <https://www.sfml-dev.org/index.php>
* <https://en.cppreference.com/w/>
* http://www.edparrish.net/common/sfmlcb.html

**Source Code Use**

The source code and other resources associated with this project is free for anyone to use. If one has found any bugs or has any suggestions and/or questions relating to the source code or the game, please comment on the project page on GitHub, the game page on itch.io, and/or email me at [rachidtelfort@gmail.com](mailto:rachidtelfort@gmail.com).

**Final Notes**

I hope that my fellow coders and gamers will find the source code helpful, the game fun, as well as gain valuable insight from it. I also would like to thank the SFML creators for creating a cool multimedia library. If you have read this, thank you for looking at my GitHub page and/or itch.io page, it is much appreciated.