CS 108 - maze game Project

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Abstract

A brief overview of my 1st game i created

Contents

1 modules

the modules i used to create my game is pygame,random,time modules.pygame modules is used for creating game screen and all sort of things related to game and to control frame rate i used time module and the main part maze is created using random module.

2 Directory structure

- **game.py file:** this is the code part of the game and this is used to run our code.
- **maze.png:** this is the background picture i have taken from internet.
- **upbutton.png:** this is the button picture which on click raise the level by 1.
- **downbutton.png:**this is the button picture which on click decrease the level by 1.

3 Running instructions:

below are the instructions to run the game properly.

1. **The opening screen:** when u start running the code a screen opens which is the min menu screen of the game.in this screen u have buttons right above and below of the level and by clicking the buttons with mouse changes the level accordingly.after selection of level then just press enter on the keyboard and game starts now.

2. **Game play:** As u can see there is a new screen opens and at top u have lives remaining and timer with a reverese counter and u can see at bottom a small red rectangle player which is controlled by you.u see the maze but not complete part of it.Your target is to reach the end point which is at right top just below to timer.u can control the player by using arrow keys and please make sure not to collide with the walls of the maze.but here is the offer i can give to u such u cn collide as many times u want in one second but it counts only as one collision and hence u have lives reduced by one.as u move along the maze the part of the maze u can see is only around it.So, to win the game u have to reach the end within time.

3. **Game over:** So, as the time progress whether u reach the end or not but at some point the game should be finished due to many reasons like u completed the game within time or u didn't complete or u have time but u don't have enough lives to play and so, the screen changes to the game over screen and shows wheather u win or lose the game.but even if u lose the game i gave u some score because i am kind towards you.and after that u want to repeat the game press space as mentioned there.if u want to go to main menu press m.that is all about my game and if u want to play again a different level go to main menu and follow as said earlier.

4 Basic completion:

this game has 3 levels and by increasing on each level the difficulty increases.because i increased the size of maze and the distance between walls decreased and so, it is some more difficult to travel compared to lower levels.

4.1 main menu

I add buttons in this screen to change levels accordingly.and so, acoordingly it takes us to the game screen we want after clicking enter and now we enters to our game screen.

4.2 play screen:

here, i created a maze using dfs algorithm and so, i want only some part of the mze to be visible so,i covered remaining part with retangles and i set a reverse timer and lives for the player and accordingly the game ends and screen changes to end screen and u can see ur score now!

4.3 Game over:

now u can see ur score and the result(whether u won or lost in game.).if u click space u can restart ur game with same level but this time it's a different maze but of same size. press m to go to main menu and again same thing.

5 My project journey:

i learned a lot through this project.this is my first time to ever create a game and i never thought that i am to do this in 1st year itself.i am feeling very proud of myself for creating a game even it is small game.it gave me a confidence that i can also do such things.

i do face many challenges during the project. at some point i even think about changing my project but i completed some how.
at,first i don't know nothing about pygame but i learned a lot through some you tube videos and pygame documentation and i used chat gpt a lot and lot to clear my doubts.that's it,anyway this is one of the best experiences in my life.

References

[1] Wikipedia contributors. *Depth-first search*. Wikipedia, The Free Encyclopedia, https://en.wikipedia.org/wiki/Depth-first_search, Accessed April 28, 2024.