TETRIS

MADE BY:

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Submission report

Motivation:

Being a group of game enthusiasts, we were fascinated by how games worked. So we decided to get into the rabbit hole of game development and build a game ourselves. We chose Tetris because it is a game with relatively simple mechanics but can be challenging to implement.

Highlights of the project:

- Classical mechanics of the Tetris game using arrow keys and spacebar as input.
- Scoring system that tracks the current score and the highest score in your current game.
- It has animations and audio clips that emulate the original Tetris game.
- As the level increases, the Tetrino dropping speed increases.
- The game also has a pause and play feature.
- This project also has a ghost block function which shows where the block might fall in its current trajectory.

Learnings from this project:

- We learnt how to import & implement 3rd party libraries in C and using it for 2-D animation.
- We learnt to implement different GUI functions available in the SDL library like renderer, TTF_font, mixer, etc.
- We learnt how to take keys as inputs while dynamically updating the program.
- Uses of structs, nested structs, Enums.

Areas of improvement:

- Updating the GUI with a better background and Start Menu
- Improving the line clear animation
- Attaching a file that stores the names and high scores of the players.
- Taking input across different platforms (like consoles to control the movement of the blocks).

Future Scopes:

Now we are equipped with how to build fundamental logics in game development, also we now have a better grasp over the various concepts used in C programming that can be applicable over a wide variety of fields in the future.

Contributions:

1)**Aneesh**: Implementation of graphics and sound, Logic for rotation of a Tetrino piece, Logic for Soft drop function, getting / setting Tetrino data & matrix data , Connecting all the functions for game_phase function.

2)**Divyansh**: Added the pause feature, logic for updating the board after functions like clear_line , Logic to check if a piece is valid and then update the board ,logic to check if a row is filled in the board, implementing SDL functions.

3)**Rhythm**: Spawning tetrinos ,updating the points and level after clearing lines , logic for a function that checks for all the filled lines in the board updates the count of filled lines, Graphics : Implementation of graphics & Sound

4)**Siddarth**: Logic for checking if a piece will be valid after an input is

given, Updating the board after tetrino movements while checking the piece’s validity also(update_game_play function),Taking inputs at the start menu from the user,