

P.D.S PROJECT

TOPIC : Game Development

Motivation

- Among all fields in programming and computer science, game development has a very wide and entertaining scope.
- From games like – the snake game, minesweeper etc... to games like COD, and Fortnite, games have evolved a lot, all thanks to the contribution of coders and game developers. Our motivation to choose this topic is, to learn how basic games, were made, and how has the progress been made to bring transition in the gaming industry.

Important Highlights of the Project

- Total 4 games have been made using C language, and to bring all the games together in the same code, using switch operator we have made an interface that allows the user to select which game to play.
- Among the four games there are:
 - Snake Game
 - Minesweeper
 - Tic-Tac-Toe
 - Snake-Water-Gun

Learning Experience

- This exercise allowed us to use some new operators that we hadn't used in our previous assignments. Using functions like `kbhit()`, `system(cls)` etc.... Helped us develop our codes.
- Using different headers like `<conio.h>`, `<time.h>` etc... allowed us to use these different functions.
- Combining the codes, we wrote separately was a difficult task in the end.
- And finally, working in group was a great learning experience as well.

Areas of Improvement

- Areas of improvement in different games are :
 - Snake game : Size of the snake could have increased, and the speed of the snake could have been slower.
 - Tic-Tac-Toe : Using `rand()` function makes the game very easy sometimes as computer assigns 'O', at random locations which makes it easy for the user to win. Code could have been written so, such that the computer restricts certain spots for the making the game more challenging.

Areas of Improvement

- Snake-water-gun : It seemed to be a very small game. Although it was complete, graphics could have been added to make the game a bit more interesting.
- Minesweeper : The board seemed clumsy. Spacing could have been made better, and the symbols in the game could have been replaced by different characters using graphics .
- Overall : The output uses switch operator to choose the game, instead of which an interface page could have been made for the user to select the game using basic mouse clicks only.

Future Scope

The games made in our project are very basic in terms of design and working, but it definitely is a kickstart for us in the field of game development. Having gained the knowledge regarding various new functions, we are well equipped to start development of few heavy games as well.

Now we can develop some basic IQ based games for children to develop brainstorming skills. Such games don't require heavy graphic design and hence can be easily made using functions that we have learned in this project. Hence the concept of our project can be used by online education platforms as well to provide some basic and entertaining mental reasoning games.

Contribution

- There were five members in our group :
 - Rishvant Srisaran(23ME02007) : Tic-Tac-Toe , Interface
 - Kartik Reddy(23ME02008) : Snake-Water-Gun
 - Lokendra Singh Parihar(23ME02009) : Minesweeper
 - Aditya Kant(23ME02015) : Minesweeper
 - Keshav Thakur(23ME02020) : Snake game