Project Report

Surviving the Pandemic

Team: Enigma

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MECH 415

Fall 2021

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Game objective

The game "Surviving the Pandemic" is a 2D game that was inspired by the current ongoing events of pandemic and the safety procedures implemented in our daily life.

Gameplay

This game is set in a present day pandemic where a character needs to avoid the viruses around to keep himself safe and healthy. The character of the game is expected to avoid the viruses(obstacles) that are on the ground and the ones floating in the background and move forward to successfully complete the game. If the character collides with a virus the game will be over.

Controls

The character of the game can be controlled using a keyboard. Pressing the right arrow button will make the character move right and pressing the left arrow button will make the character move to the left. The Space button will make the character jump and the Ctrl button will make the character crouch.

Action	Keyboard
Move Right	Right arrow
Move Left	Left arrow
Jump	Space
Crouch	Ctrl

Contribution

Samira Khanam:
I have mainly worked on the source files drawable.cpp , drawable.h and virus.cpp and virus.h . The drawable.cpp and drawable.h uses the 2D graphics library and also the concepts learned in the course to create the classes' draw and background with various objects. The virus.cpp and virus.h uses the 2D graphics library and also the concepts learned in the course to create the classes' virus and with various simulation and draw functions. I also helped with stdafx.cpp which basically includes "Stdafx.h" , a precompiled header. I also contributed in timer.cpp and as well maingame.cpp

Mohd Arfan:
I have worked on the following source files simulatable.h, simulatable.cpp , character.h and character.cpp.The simulatable.cpp and simulatable.h have the class Simulatable which is to ensure that the vector simulations work fine. The character.h and character.cpp is where I use simulatable.h and drawable.h to build a class character with functions which control the movement , motion , the change in graphics as per the picture of the character to give an animation view. I also worked on combining my source files in the main game cpp as well as a little in timer.cpp

Conclusion

The aim of this project was to use C++ class, function, equations and the 2D graphics library to build a game. We have used the 2D graphics to illustrate the game on the DirectX windows. Several basic mathematical equations using basic Newtonian physics and logics were used to build the game. We believe we completed multiple components that are modelling (kinematics, dynamics) and Simulation as well 2D graphics , input keyboard controller, organizing classes and physical objects like Virus.