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OOP Project Fall 2021

Section L4
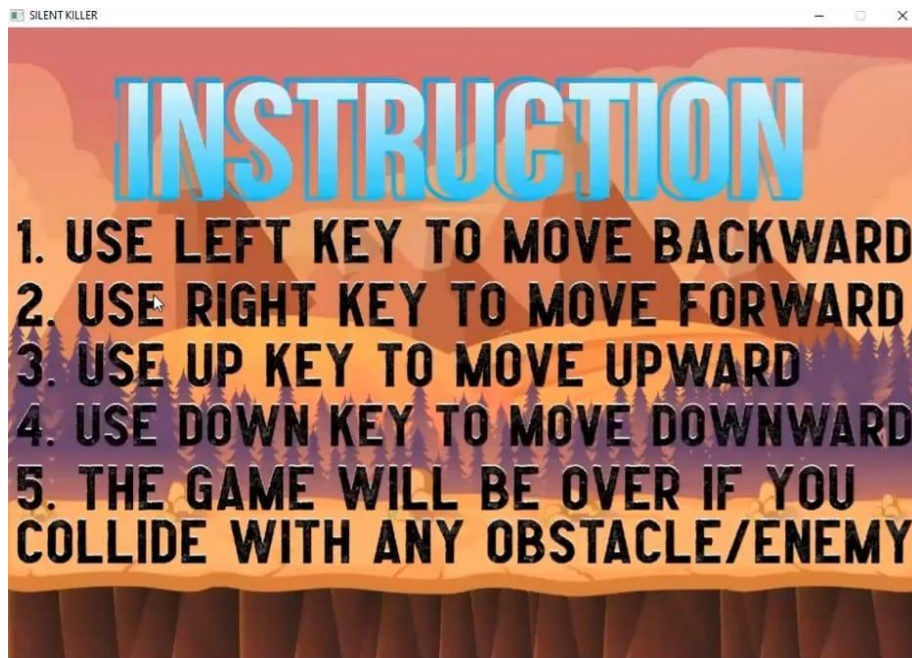
OOP Project UML and game graphics

Project Synopsis:

We are designing a game using C++ and an SDL library. Our game is called "Silent Killer". The game will feature a welcome screen with an instructions option along with a high score tab and a play button. Once you click on the play button, the game will start. Over a creepy backdrop, at the bottom of the screen, our player which is a zombie will be able to move left and right across the screen. The objective of the game is that the user has to move the player across the screen and dodge obstacles that will fall from the sky. Player health and score will be displayed on the top right and top left of the screen. There will be eight different obstacles that will either increase or decrease player health and the user has to dodge or absorb those obstacles respectively. The game will end if the Player runs out of all of its 10 lives or if it's unable to dodge the biggest obstacle, the silent killer, which will result in all player lives becoming zero and leading to the end of the game. Each time the game ends, the high score will be updated accordingly.
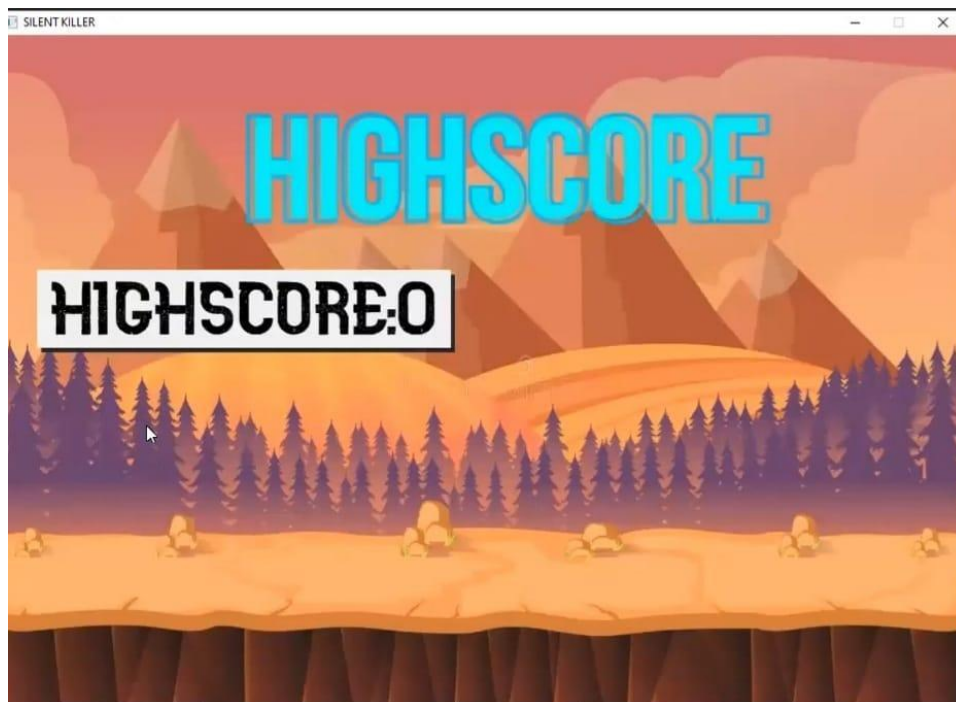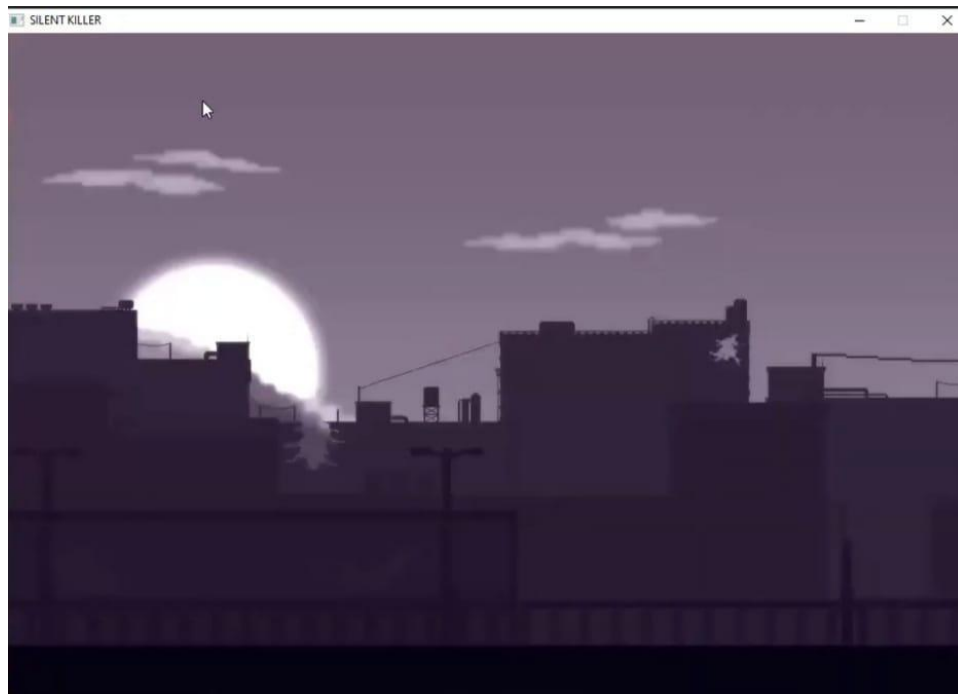
Welcome screen:
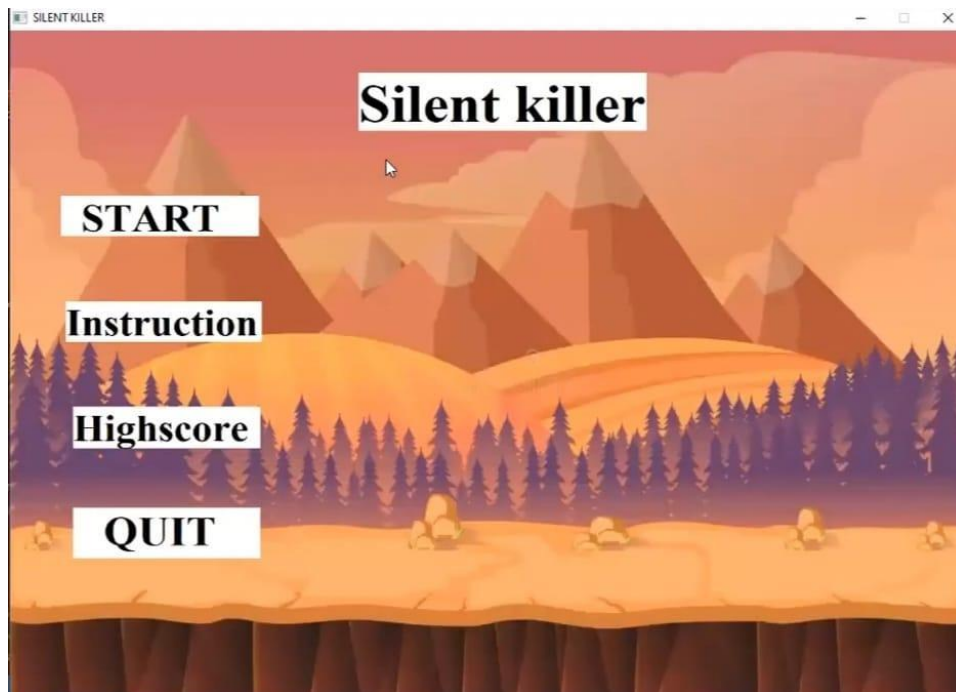
Instruction page:

High score page:

Start page/game bg:

Game characters that will be loaded onto the game bg:

Enemy

#srcRect : SDL_Rect
#moverRect : SDL_Rect

+draw() : void

1..*

Game

-bgSound : Music
-mouseclick : Music
-scoreup : Music
-*gWindow : SDL_Window
-*gRenderer : SDL_Renderer
-*gTexture : SDL_Texture
-*assets : SDL_Texture
-SCREEN_WIDTH : int
-SCREEN_HEIGHT : int

+init() : Boolean
+loadMedia() : Boolean
+writeText() : void
+close() : void
+*loadTexture() : SDL_Texture
+run() : void

Music

-*bgmusic : Mix_Music
-*chunk : Mix_Chunk
-srcRect_0 : SDL_Rect
+check : Boolean

+LoadingMusic() : void
+LoadingSoundEffect() : void
+PlayMusic() : void
+PauseMusic() : void
+PlaySoundEffect() : void

spider

-srcRect : SDL_Rect
-moverRect : SDL_Rect
-srcRect_0 : SDL_Rect
+check : Boolean

+drop() : void
+draw() : void
+find_pos() : SDL_Rect

0..*

Skrull

-srcRect : SDL_Rect
-moverRect : SDL_Rect
-srcRect_0 : SDL_Rect
+check : Boolean

+drop() : void
+draw() : void
+find_pos() : SDL_Rect

0..*

Fart

-srcRect : SDL_Rect
-moverRect : SDL_Rect
-srcRect_0 : SDL_Rect
+check : Boolean

+drop() : void
+draw() : void
+find_pos() : SDL_Rect

0..*

Axe

-srcRect: SDL_Rect
-moverRect : SDL_Rect
-srcRect_0 : SDL_Rect
+check : Boolean

+drop() : void
+draw() : void
+find_pos() : SDL_Rect

0..*

Wolf

-srcRect : SDL_Rect
-moverRect : SDL_Rect
-srcRect_0 : SDL_Rect
+check : Boolean

+drop() : void
+draw() : void
+find_pos() : SDL_Rect

0..*

Bat

-srcRect : SDL_Rect
-moverRect : SDL_Rect
-srcRect_0 : SDL_Rect
+check : Boolean

+drop() : void
+draw() : void
+find_pos() : SDL_Rect

0..*

text

-*_text_texture : SDL_Texture
-_text_rect : SDL_Rect

+display() : void
+*loadFont() : SDL_Texture

lifesaver

#srcRect : SDL_Rect
#moverRect : SDL_Rect

+draw() : void

0..*

silentKiller

-*gRenderer : SDL_Renderer
-*assets : SDL_Texture
-zombie : Zombie
+Slist : list
+skullist : list
+fartlist : list
+batlist : list
+wolflist : list
+brainlist : list
+Severedhandlist : list
+axelist : list
+heartlist : list
+bloodlist : list
+Lifeline : int
+Health : int

+moveZombie() : void
+createObject() : void
+drawObjects() : void

Zombie

-srcRect : SDL_Rect
-moverRect : SDL_Rect
-srcRect_0 : SDL_Rect

+move() : void
+draw() : void
+find_pos() : SDL_Rect

SeveredHand

-srcRect : SDL_Rect
-moverRect : SDL_Rect
-srcRect_0 : SDL_Rect
+check : Boolean

+draw() : void
+find_pos() : SDL_Rect

0..*

Blood

-srcRect : SDL_Rect
-moverRect : SDL_Rect
-srcRect_0 : SDL_Rect
+check : Boolean

+draw() : void
+find_pos() : SDL_Rect

0..*

Heart

-srcRect : SDL_Rect
-moverRect : SDL_Rect
-srcRect_0 : SDL_Rect
+check : Boolean

+draw() : void
+find_pos() : SDL_Rect

0..*

Brain

-srcRect : SDL_Rect
-moverRect : SDL_Rect
-srcRect_0 : SDL_Rect
+check : Boolean

+draw() : void
+find_pos() : SDL_Rect

0..*