

SDL2: BULLET HELL –

GROUP 4 / BLINKER2XYX / MAN-CHUN FU

CLASS I CREATED: ENGINE PART

	Header File	C++ File	Function and Purpose for the game
1	Window.h	Window.cpp	Create SDL Window and initialize SDL_Render.
2	Canvas.h	Canvas.cpp	A panel to place Button, Image and Text for Game Menu, etc.
3	Button.h	Button.cpp	Create Button for mouse click function.
4	Image.h	Image.cpp	Create/Load Image for background image.
5	Text.h	Text.cpp	Create Text for placing on the scene or button.
6	GameElement.h		A base element for connecting Button, Image, Text to Canvas.
7	IClikable.h		Connect Button and mouse event for related functions.
8	Vector2D.h		2D position for all the game objects.
9	Animation.h	Animation.cpp	Read/Display Animation
10	Animatior.h	Animator.cpp	Save/Trigger/Play/Stop/Transition animations.

CLASS I HELPED DEVELOP: ENGINE PART

	Header File	C++ File	Function and Purpose for the game
1	InputManager.h	InputManager.cpp	Implement mouse events that link to buttons ONLY.
2	TextManager.h	TextManager.cpp	Helped to create load texture and draw texture.

CLASS I CREATED: GAME PART

	Header File	C++ File	Function and Purpose for the game
1	AI.h	Ai.cpp	Random movement, Check distance and Pathfinding.
2	Node.h	Node.cpp	For creating each step of path.
3	NodeList.h	NodeList.cpp	For saving all the steps of the path.
4	Pathfinding.h	Pathfinding.cpp	Find the player position and chase after.
5	Enemy.h	Enemy.cpp	Enemy's behavior: Walk randomly when the player isn't in the spotting area. Chase after player and attack once the player steps into the alerting area.
6	Wizard.h	Wizard.cpp	Wizard behavior: Walk randomly when the player isn't in the spotting area. Attack once the player steps into the alerting area.
7	MainMenu.h	MainMenu.cpp	Main Menu for play, exit and check record.
8	ScoreBoard.h	ScoreBoard.cpp	Print top 10 scores and update the current if it's inside top 10.
9	ScoreRecord.h	ScoreRecord.cpp	Score and Date elements.
10	ScoreRecorder.h	ScoreRecorder.cpp	Write/Read/Sort score records.

CLASS I HELPED DEVELOP: GAME PART

	Header File	C++ File	Function and Purpose for the game
1	Player.h	Player.cpp	Implement all the animations regarding the different motions.

Strengths / Weaknesses of my code/system And Improvement:

For the pathfinding, it is heavy load when many enemies apply this function at the same time. It causes the lag motion, but Max helped me to solve this lagged problem by increasing 3 steps instead of moving 1 step when expanding potential nodes. It is not the best solution because enemy can jump 3 steps forward even there's an obstacle in the middle, but it is what solution we had today. I would like to create a thread system so pathfinding can work properly in another thread without affecting all the game.

The strength of my code is readable and systems I created work good.

Teamwork:

Teamwork was good. I got a lot of help from Max. Max was like a "solutioner" to Uhuru and me. We had good discussion and we all focused on heading toward to the goal all the way. To create this game is full of challenges: SDL and C++ combination for a coding newbie like me was a hard lesson, but it was quite a lot of fun to create Engine. With Unity as my example, I created Animation and Canvas systems. Since our game is an RPG game, the animation is very essential. I was really happy after I applied around 20 animations in the game and they all work as it should.