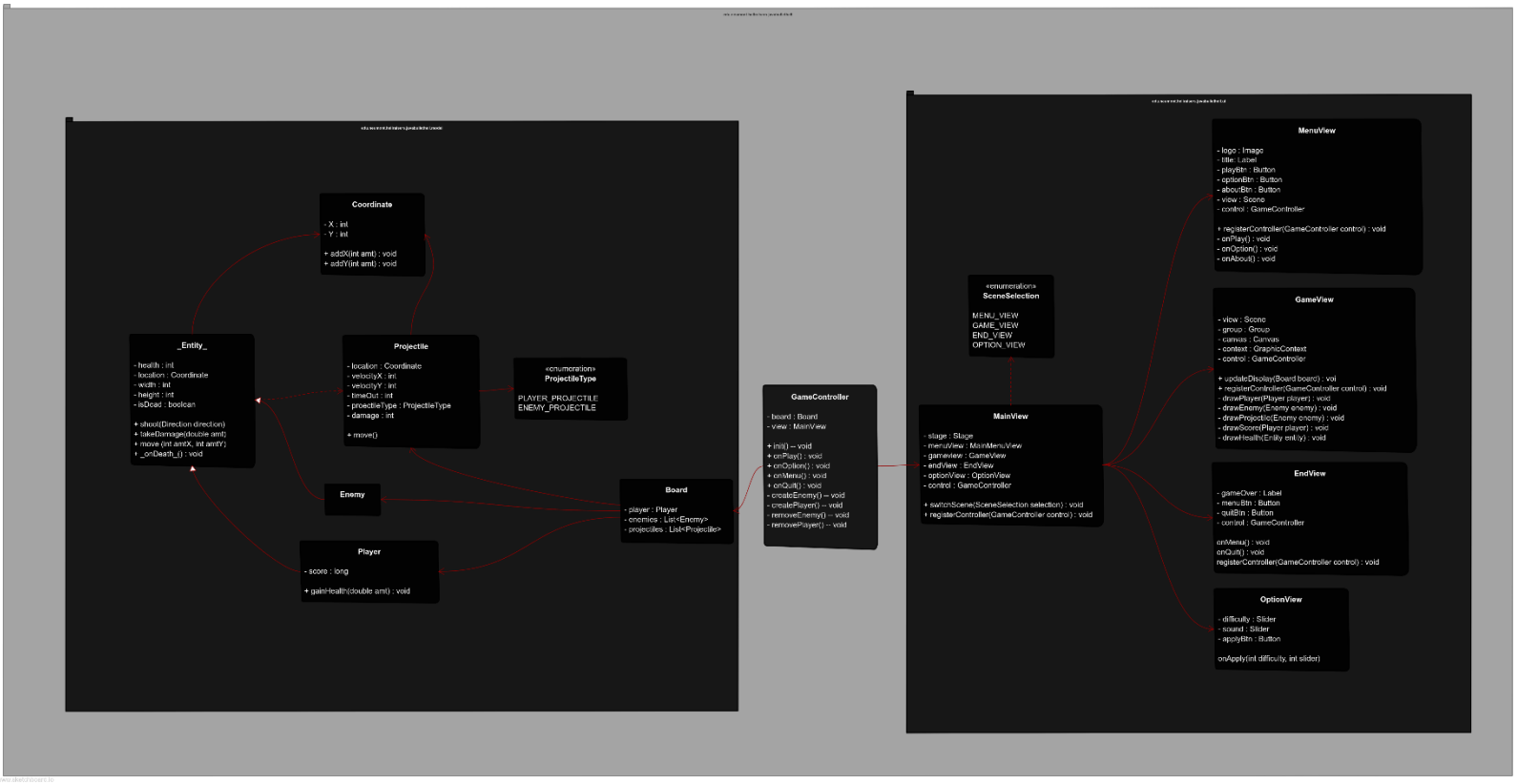
Java Bullet Hell

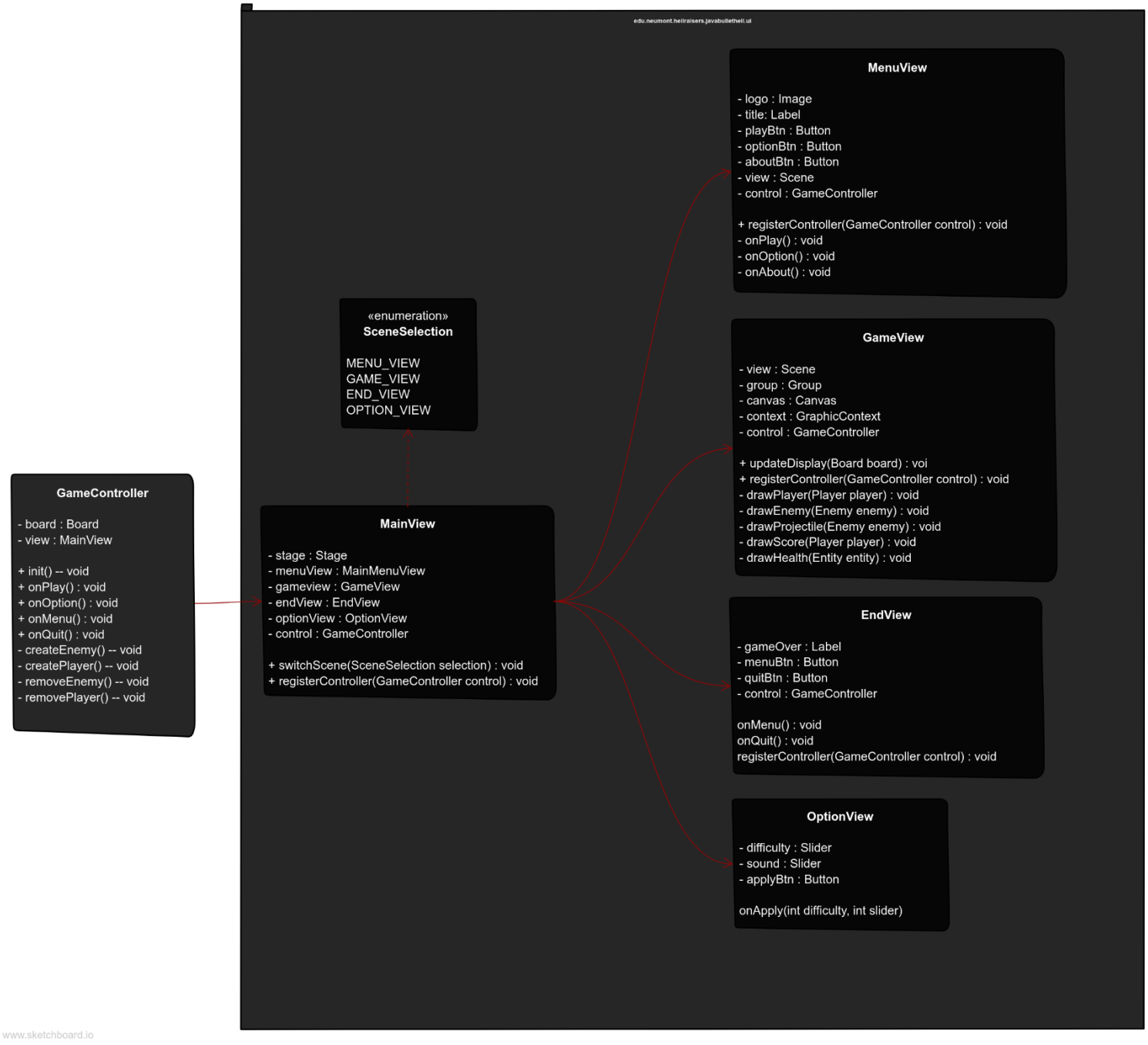
Requirements Map

1) The user should be able initiate the game by selecting start
2) The user should be able to control the characters movement and look direction
3) The user should be able to shoot in the direction in which they are looking
4) The user should be able to play as long as they want, so long as they don't die
5) The user should be able to quit/restart as often as wanted.

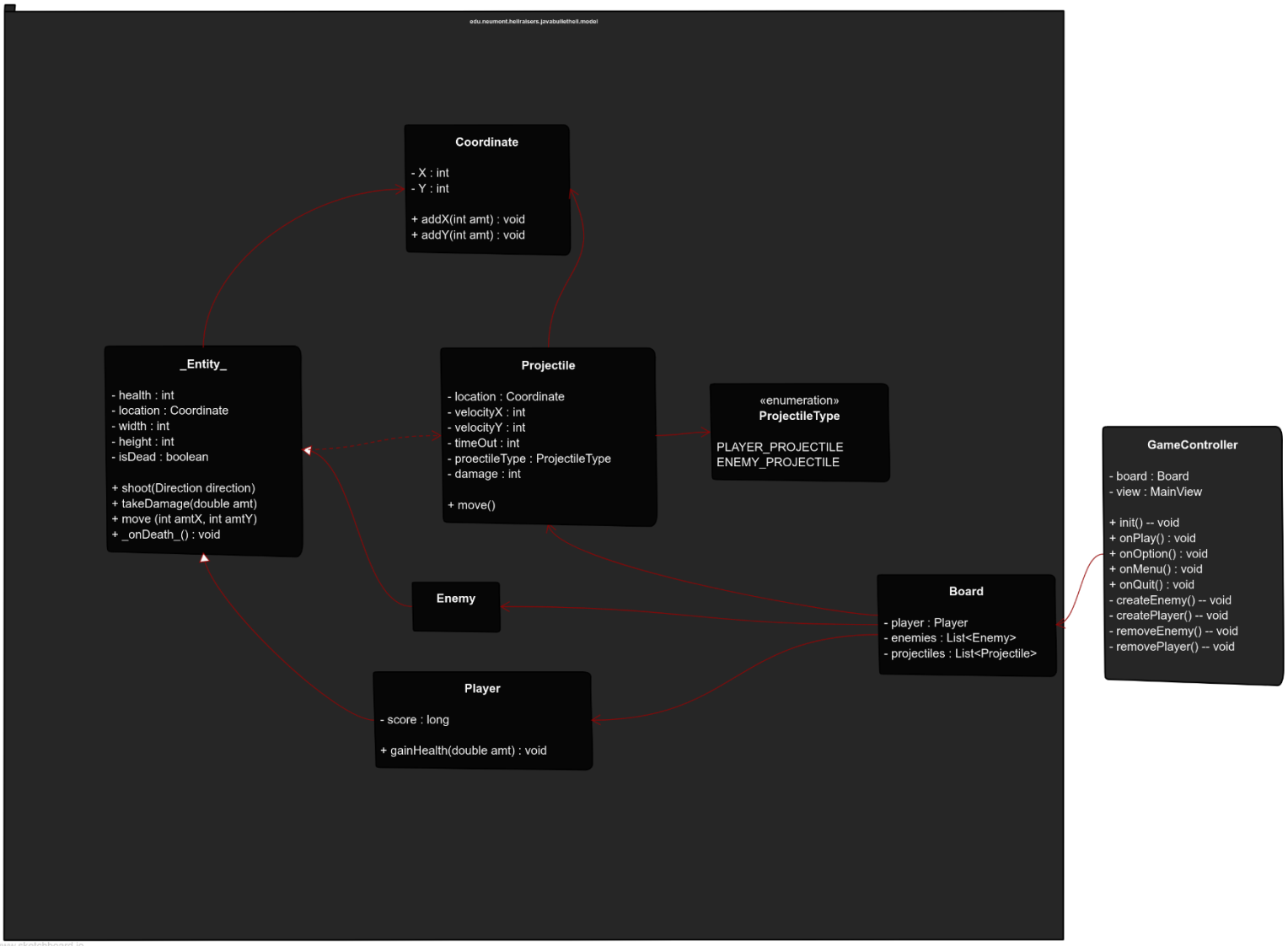
UML



Zoomed out view of the UML


edu.neumont.hellraisers.javabullethell.ui
MenuView
- logo : Image
- title: Label
- playBtn : Button
- optionBtn : Button
- aboutBtn : Button
- view : Scene
- control : GameController
+ registerController(GameController control) : void
- onPlay() : void
- onOption() : void
- onAbout() : void
«enumeration»
SceneSelection
MENU_VIEW
GAME_VIEW
END_VIEW
OPTION_VIEW
GameView
- view : Scene
- group : Group
- canvas : Canvas
- context : GraphicContext
- control : GameController
+ updateDisplay(Board board) : voi
+ registerController(GameController control) : void
- drawPlayer(Player player) : void
- drawEnemy(Enemy enemy) : void
- drawProjectile(Enemy enemy) : void
- drawScore(Player player) : void
- drawHealth(Entity entity) : void
GameController
- board : Board
- view : MainView
+ init() -- void
+ onPlay() : void
+ onOption() : void
+ onMenu() : void
+ onQuit() : void
- createEnemy() -- void
- createPlayer() -- void
- removeEnemy() -- void
- removePlayer() -- void
MainView
- stage : Stage
- menuView : MainMenuView
- gameview : GameView
- endView : EndView
- optionView : OptionView
- control : GameController
+ switchScene(SceneSelection selection) : void
+ registerController(GameController control) : void
EndView
- gameOver : Label
- menuBtn : Button
- quitBtn : Button
- control : GameController
onMenu() : void
onQuit() : void
registerController(GameController control) : void
OptionView
- difficulty : Slider
- sound : Slider
- applyBtn : Button
onApply(int difficulty, int slider)
www.sketchboard.io

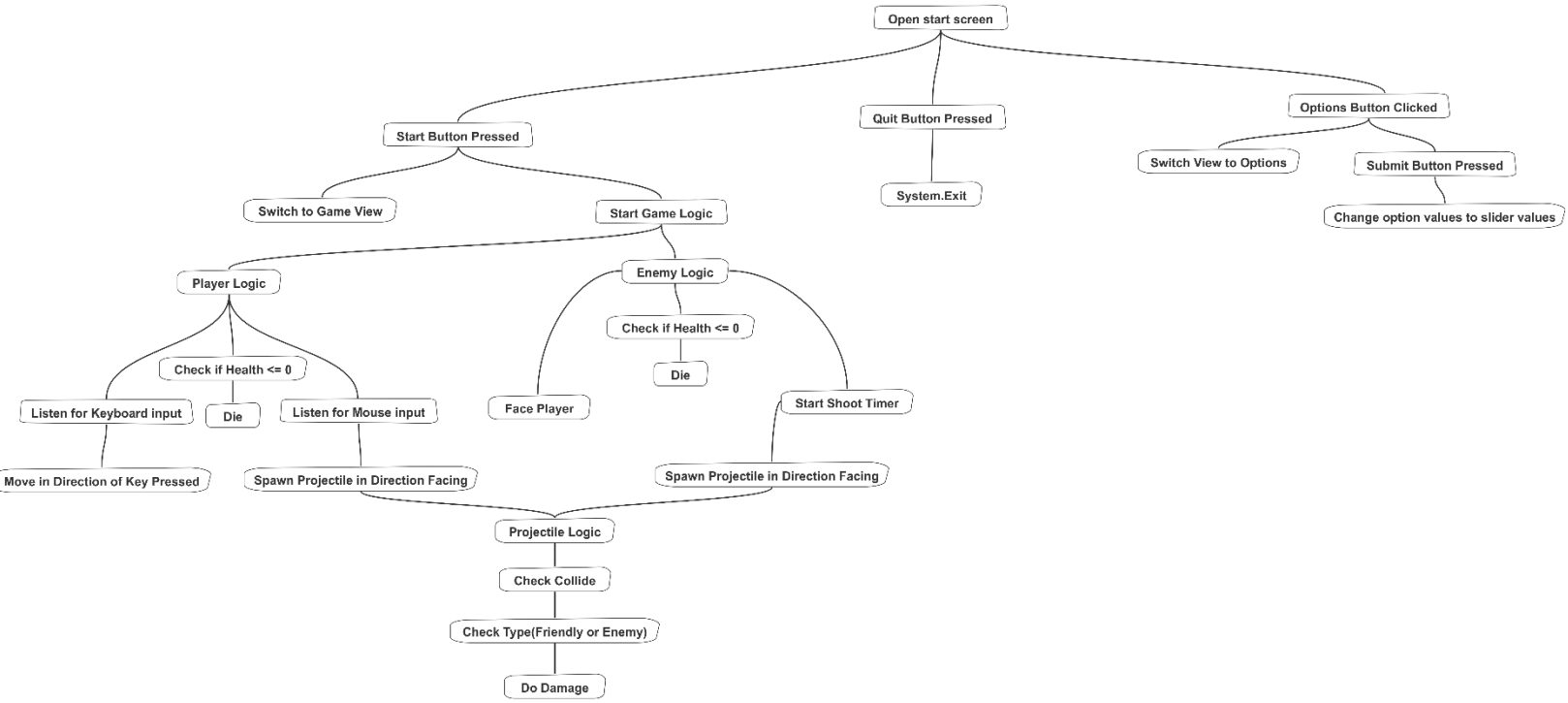
View UML

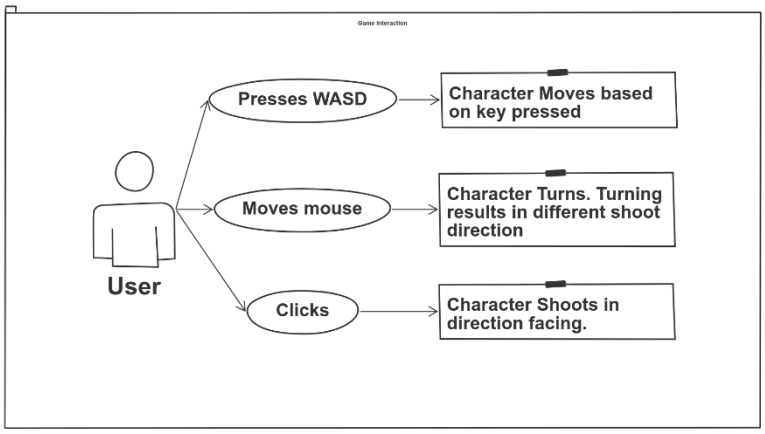


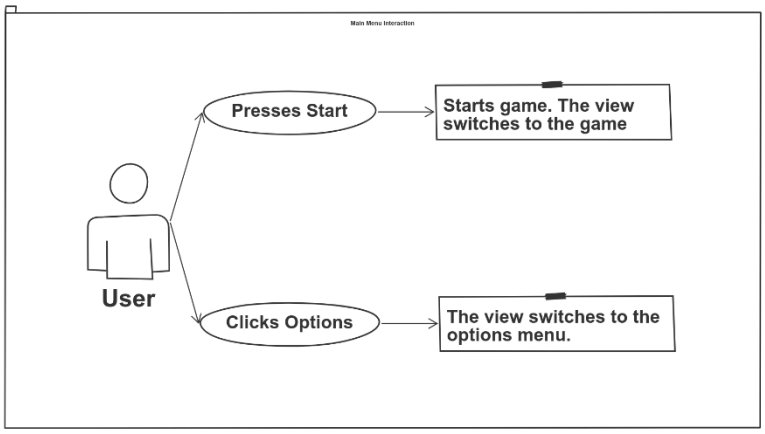
Model UML

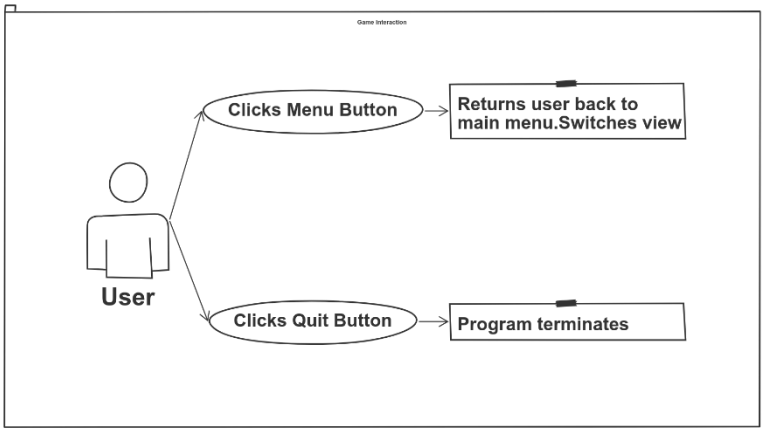
Link to the UML: https://sketchboard.me/ZBsI2u46MMuy#/

Process Flows




Game Interaction
Presses WASD
Character Moves based on key pressed
Moves mouse
Character Turns. Turning results in different shoot direction
Clicks
Character Shoots in direction facing.
User


Main Menu Interaction
Presses Start
Starts game. The view switches to the game
Clicks Options
The view switches to the options menu.
User


Game Interaction
Clicks Menu Button
Returns user back to main menu.Switches view
Clicks Quit Button
Program terminates
User
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Test Cases

Starting the game

1) Open the program
2) Left-Click the Start button on the home screen

Result: Program starts game, and switches the view to the game

Playing the game

1) Press WASD for movement
    a) W – Up
    b) A – Left
    c) S – Down
    d) D – Right
2) Move the mouse to adjust character facing
    a) Up – Up
    b) Left – Left
    c) Down – Down
    d) Right – Right
3) Left-Click to Shoot

Result: Player is successfully playing the game

Adjusting Options

1) Open the program
2) Left-Click the Options button on the home screen
3) Adjust Sliders by Left-Clicking and dragging to desired values
    a) Left – Lower
    b) Right – Higher
4) Left-Click the submit button to save option values

Result: Player has successfully adjusted the option values. Option values have been changed.