

The game will have multiple user interfaces including the main menu, the stage, the “stage clear” interface, and the “game over” interface. Each round of the game will have a stage with different objects generated. The size of the stage will be set as 20 x 20 blocks. The player starts at an entrance block. When the player reaches the exit block, the game ends and the player wins the game. A scoreboard will appear which shows the points and time. When the player makes contact with a moving enemy the game ends and the player loses. The enemies are movable and always choose the shortest path toward the player using the breadth first search algorithm. If the player touches a trap, he/she loses some points immediately. If the player stays on the trap, he/she loses points per second. If the player’s points drop below 0, he/she loses the game. The goal of this game is for the player to survive from enemies and traps, and reach the exit block. The game will have a main menu as the main user interface. In the main menu, the user may choose to start the game, learn how to play, change settings or to exit the game. In the settings window, the player can choose to play as different playable characters, change the enemy and change the map. The player can also change the difficulty of the game by changing the speed of the character, number of enemies or changing the number of rewards needed to collect. The user could also access a tutorial to this game from the main menu by choosing how to play. A video tutorial from youtube will play in a newly created window.

The game is tick-based. Each tick occupies between 0 to 1000 milliseconds, depending on the player’s choice. All moveable objects could move once each tick, including the player. The player may choose to not make any move in a tick, which will cause the player to remain in the same block occupied by the last tick. If the player would like to win the game, he/she must collect all regular rewards and go to the exit. When the player loses the game, the existing game will forfeit and a new interface will show on top of the forfeited game, a dialogue box will show asking the player to either restart the game or to go back to the main menu.

The player and enemy move 1 block at every tick of the game. The enemy will move whether the player moves or not. Both the player and the enemy can move to 4 directions, up, down, left, right if the spot is clear. Both the player and the enemy will not be able to move when the block in the intended direction is occupied by a wall. The exit, traps and rewards will not be able to spawn on top of a wall. The stage is inclusively surrounded by walls, which means the wall will occupy the peripherals of the stage. When each stage is set, 4 regular rewards will be generated. Players must reach and collect all the rewards before reaching the exit. Nothing will happen if the player reaches the exit without having collected all regular rewards. When the player collects all regular rewards, the exit will change color, signalling that the player can enter the exit to win the game. Every few seconds, a special reward will spawn which gives the player bonus points but is not mandatory to win the game. The reward will disappear after a few seconds. When a reward is collected, it disappears from the stage, the points of the reward will be added to the player’s total score and the reward will no longer occupy a block.