Please fill this in then print it and give it to the marker when you have CW3 marked.

Name: Daniel Musselwhite Student id: psydm7 / 14321887

C++ Programming, Coursework 3 mark sheet

|  |  |  |
| --- | --- | --- |
| Mark | Requirement | What you did (short explanation) |
|  | **1) Create an appropriate sub-class of BaseEngine with an appropriate background which is different from the demos** | Met Criteria for CW3:  -Fill background with dark brown ‘sky’  -Generate stars (circles) of random sizes between a specified min and max and of a randomised colour to fill the sky. |
|  | **2) Show your ability to use the drawing functions** | Met Criteria for CW3:  -Fill background with dark brown ‘sky’  -Generate stars of random sizes between a specified min and max and of a randomised colour to fill the sky.  -Also using draw image on each tile map  - Draw mappable image for the gun which points towards the mouse  -Draw rectangle to represent player and enemy as placeholder until I find suitable free use animated images for them  -Draw foreground text for score  -Draw background text for title  Will extend for CW4 by:  -Making animation for players and enemies |
|  | **3) Provide a user controlled moving object which is a sub-class of DisplayableObject and different to the demos** | Met Criteria for CW3:  Top down player character (similar to binding of Isaac) |
|  | **4) Ensure that both keyboard and mouse input are handled in some way and do something** | Met Criteria for CW3:  Arrow keys and WASD = move in respective direction  Shift = run  Control = crawl  L\_Mouse = shoot gun  Will extend for CW4 by:  P = Pause |
|  | **5) Provide an automated moving object which is a sub-class of DisplayableObject and different from the one in requirement 3** | Met Criteria for CW3:  -Basic enemy which moves towards the player constantly  -Basic bullet which moves constantly towards the angle it was shot from until it collides with something  Will extend for CW4 by:  -Creating multiple different unique enemies with different behaviours  -Adding smart pathfinding (probably A\*) to the base enemy instead of just constantly moving towards the player  -Adding multiple different types of bullets for their corresponding guns which will behave differently  -ie a shotgun, flamethrower, etc |
|  | **6) Draw some text on the background** | Met Criteria for CW3:  Top left corner:  “CW3 Coursework Daniel Musselwhite” |
|  | **7) Have some changing text, refreshing/redrawing appropriately which is drawn to the foreground (not background), in front of moving objects** | Met Criteria for CW3:  Score – increased when killing enemies by the points value of that enemy  Will extend for CW4 by:  In front of all living objects (enemies and player) have their health drawn in the format ‘[currentHealth]/[maxHealth]’ |
|  | **8) Create your own subclass of TileManager** | Met Criteria for CW3:  TileManager is what the player exists within, it generates the dungeon.  Draws an image for each tile in the dungeon depending on the value it is set to.  Done using an array of macros which correspond to int values which are used in a switch case in the tile manager for setting up the tiles.  Allows for easily customisable levels. |
|  | **9) Have at least one moving object interact correctly with the tile manager, changing a tile** | Met Criteria for CW3:  - Player can break tiles with crates on them which will turn it into a normal floor  - When a bullet collides with a tile with a value which is within the partition assigned for destroyable objects, it turns into a floor tile    - TileManager used for detecting collisions. The world (dungeon) is defined by the tile manager and the player can only walk on tiles with a value of between 0 and 50 (as this the partition set aside for floor tiles [no collisions]) |
|  | **10) Have at least two moving objects interact with each other** | Met Criteria for CW3:  - Interaction between objects of CW3\_BaseBullet and CW3\_BaseEnemy  - After bullet has moved it checks if it is intersecting with any of the enemies in the game.  - If it is, it damages the enemy it has hit and then destroys itself  - If enemies health has decreased to less than or equal to 0, the enemy will die  Will extend for CW4 by:  -Having more types of corresponding bullets and guns which can be shot by the player  -Give enemies ability to attack and damage the player  -Create multiple enemies with different unique attack patterns |
|  | Your program crashes on exit or has a clear memory leak. (Lose 10% of your mark.) | |
|  | Your program crashes at least once during its operation. (Lose 20% of your mark.) | |
|  | Your program crashes multiple times. (Lose 30% of your mark.) | |
|  | Your program crashes frequently. (Lose 40% of your mark.) | |
|  | Your program has some odd/unexpected behaviour/errors. (Lose 10% of your mark.) | |
|  | Your program has a lot of unexpected behaviour/errors. (Lose 20% of your mark.) | |