**Computer Games Development CW208**

**Technical Design Document**

**Year IV**

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**[03/05/20]**

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CRC Cards

**Features**

**Feature 1: Level Loading**

Task 1: Create Tile object

* Create the tile object

Task 2: Read tile map into array.

Task 3: initialise tile depending on array value

* if(array[i] == 1){ //create tile }

**Feature 2: Tile Collision**

**Feature 3: Player Movement and Jumping**

**Feature 4: Lives**

Task 1: initialise player with 3 lives

Task 2: if player has 0 lives go to game over

Task 3 render count to window

**Feature 5: Coins**

Task 1: Render coin to window

Task 2: if player intersects coin add coin

* if(shape.getGlobalBounds.Intersects(c->getGlobalBounds))

Task 3: if player has collected 50 coins gain a life

**Feature 6: Score**

Task 1: render score to screen

Task 2: if player kills enemy, collects coin or finishes level add score

**Feature 7: Time**

Task 1: Decrement Time

* Decrement time every 0.4 seconds (Mario time).

Task 2: Lose if out of time

* If time is less than or equal to zero, restart level and lose a life

**Feature 8: Enemies**

Task 1: initialise enemy

* Spawn enemy with position, and points to move to.

Task 2: render enemy

* Render enemy to window

Task 3: Make vector of enemies and add enemies

Task 4: Update vector of enemies

* For (auto e : enemies)  
  { e->update()}

**Feature 9: Bonus Levels**

Task 1: unload level

Task 2: Load random bonus level file

**Feature 10: Animation**

**Feature 11: Sound Effects**

Task 1: Load Sound

* Load file from assets

Task 2: Triggers

* Play sound when triggered.

Task 3: Loop

* Loop Background Music

**CRC Cards**

|  |  |
| --- | --- |
| **Class Name:** Game | |
| **Responsibilities** | **Collaborators** |
| Main loop | Coin |
|  | enemy |
|  | platform |
|  | player |

|  |  |
| --- | --- |
| **Class Name:** Player | |
| **Responsibilities** | **Collaborators** |
| Move | Coin |
| Jump | enemy |
|  | platform |

|  |  |
| --- | --- |
| **Class Name:** Enemy | |
| **Responsibilities** | **Collaborators** |
| Move | Player |

|  |  |
| --- | --- |
| **Class Name:** Coin | |
| **Responsibilities** | **Collaborators** |
| Animate | player |

|  |  |
| --- | --- |
| **Class Name:** Goal | |
| **Responsibilities** | **Collaborators** |
| Unload Level | player |
| Load Next Level |  |