

Computer Games Development SE607

Technical Design Document

Year IV

Izabela Zelek

C00247865

[Date of Submission]

[Declaration form to be attached]

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# Project Overview

As the only farmer in this peaceful village, the player will plant crops and sell them to the population, while also engaging in a variety of activities. The player has the freedom to customize their environment using the Level Editor, located inside their house. This Level Editor allows the player to select and place objects, move and rotate existing objects, summon new NPCs, and create custom NPC paths.

# **Programming languages**

* C#

# Tools

* XR Toolkit (Unity free package)

# Feature List

|  |  |
| --- | --- |
| Day/Night Cycle | Shopkeeper NPC schedules |
| NPC schedules | Sleeping mechanic |
| Vehicles | Inventory System |
| Level Editor- Object Placing | Level Editor- Object Rearranging |
| Level Editor – NPC Spawning | Level Editor – Custom NPC paths |
| Seed Planting | Plant Watering |
| Plant Harvesting | Buy/Sell Mechanic |
| Tree Chopping | Grass Collecting |
| Animal Care and Item Collection | |

# CRC Cards

|  |  |
| --- | --- |
| Game Manager | |
| Responsibilities | Collaborators |
| Keep track of player money  Add gained money when the player is asleep  Controls random spawning of grass | CapsuleController |

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| Hoe Script | |
| Responsibilities | Collaborators |
| Spawns planting fields |  |

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| Inventory | |
| Responsibilities | Collaborators |
| Spawns inventory in front of player |  |

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| --- | --- |
| Slot | |
| Responsibilities | Collaborators |
| Checks for collisions  Adds/Removes item to/from inventory | Item |

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| --- | --- |
| Item | |
| Responsibilities | Collaborators |
| Keeps track of the inventory slot it is in |  |

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| --- | --- |
| FarmScript | |
| Responsibilities | Collaborators |
| Changes plant growth stage | TimeController  CapsuleController |

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| SeedBagController | |
| Responsibilities | Collaborators |
| Checks that bag is above planting field  Spawns seeds falling down into field | PlantController  FarmScript |

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| SeedScript | |
| Responsibilities | Collaborators |
| Destroys seed when it hits the field |  |

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| TimeController | |
| Responsibilities | Collaborators |
| Keeps track of current time and day  Progresses time  Increases day number  Changes to day or night cycle |  |

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| RainController | |
| Responsibilities | Collaborators |
| Spawns water particle system from watering can |  |

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| CanController | |
| Responsibilities | Collaborators |
| Calls RainController to spawn water  Tells Farm field that its being watered | RainController  FarmScript |

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| PlantController | |
| Responsibilities | Collaborators |
| Holds all prefabs of plant types and their growth stages |  |

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| ButtonVR | |
| Responsibilities | Collaborators |
| Checks for collision with player hand  Spawns chosen seedbag when pressed  Decreases money | GameManager |

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| FruitBundleController | |
| Responsibilities | Collaborators |
| Destroys bundle when not in use anymore |  |

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| FruitController | |
| Responsibilities | Collaborators |
| Destroys stem when all fruit/veg have been picked  Unfreezes object to allow player pick up | MultiFruitStemController |

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| MultiFruitStemController | |
| Responsibilities | Collaborators |
| Keeps track of all the fruit attached  Decreases count when a fruit is picked up |  |

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| CapsuleController | |
| Responsibilities | Collaborators |
| Checks for collision with player  Updates time and day when collided with | TimeController |

|  |  |
| --- | --- |
| SellController | |
| Responsibilities | Collaborators |
| Destroys object when sold  Tells GameManager to increase money | FruitController  GameManager |