**Sprint Planning Document: Team 38**

**Team Members:** Andrew Batdorf, Conner Isaacs, Dillon Davis, Vijay Viswan, Zachary Williams

**Project Name:** Digital Dungeon

**Sprint Overview:**

The goal of this sprint is to create a playable prototype of the dungeon-crawler game. In order to do this, multiple things will need to be implemented, such as the grid system, basic enemy AI, the UI, basic combat controls, and a testing level. It is preferable that we get sprites as well, but is not necessary for the game to be playable as we can create placeholders.

**Scrum Master:** Zachary Williams  
  
**Meeting Plan:** Tuesday 6:40-7:40PM, and Monday-Thursday 9:50-10:00PM online  
  
**Risks and Challenges:**   
The initial challenge will be setting up environments for all the developers to incorporate unity and git on their workspace. Another related challenge will be learning unity since most of the developers do not have prior experienced with the engine. Testing could pose a risk and a challenge as creating unit tests for a game is more difficult seeing as almost all interactions are done based on player decisions. A design challenge that will be more important later in development is that most of the developers are not artistically inclined, thus designing certain sprites visually could pose an issue. The major risk for this sprint is that if we cannot make a playable game here, then it would set us back massively for all of our plans going forward.

**Current Sprint Detail**

**User Story 1**  
As a user, I would like there to be a tutorial at the start of the game

|  |  |  |  |
| --- | --- | --- | --- |
| # | Description | Hours | Owner |
| 1 | Create tutorial level map | 5 | Andrew |
| 2 | Create dialogue boxes explaining controls and game mechanics | 3 | Vijay |
| 3 | Create tutorial event triggers (spawn enemy when showing combat, etc) | 2 | Andrew |
| 4 | Implement skip button for tutorial that skips the tutorial when pressed | 1 | Andrew |
| 5 | Design pathfinding tests for map holes | 2 | Dillon |

Acceptance Criteria for User Story 1:

* Given a generation of a new level, when the player starts a new game, then an option for a tutorial should be present
* Given the tutorial button is hit, when a new game is started, then the newly generated level should be the preset tutorial level
* Given the tutorial level has been generated, when a new game is started, then dialog boxes periodically show up to teach game mechanics

**User Story 2**  
As a user, I would like in-game buttons

|  |  |  |  |
| --- | --- | --- | --- |
| # | Description | Hours | Owner |
| 1 | Create button for each ability | 1 | Zach |
| 2 | Create button to access inventory | 1 | Conner |
| 3 | Create button to open menu | 1 | Zach |
| 4 | Perform manual testing for proper button interaction | 1 | Conner |

Acceptance Criteria for User Story 2:

* Given there are abilities buttons implemented, when an ability button is pressed, then the corresponding ability will activate.
* Given there are inventory buttons implemented, when the inventory button is pressed, then the inventory screen will be shown.
* Given there are menu buttons implemented, when the menu button is pressed, then the in-game menu will be displayed.

**User Story 3**  
As a user, I would like keyboard hotkeys

|  |  |  |  |
| --- | --- | --- | --- |
| # | Description | Hours | Owner |
| 1 | Create hotkey for each ability | 3 | Zach |
| 2 | Create hotkey to access inventory | 1 | Zach |
| 3 | Create hotkey to open menu | 1 | Zach |
| 4 | Create hotkey to open up ability options (to switch out abilities) | 1 | Zach |
| 5 | Perform manual testing for proper hotkey functionality | 1 | Zach |

Acceptance Criteria for User Story 3:

* Given the ability hotkeys are done, when the player presses the assigned hotkey, then the ability is cast.
* Given the inventory hotkey is implemented, when the assigned hotkey is pressed, then the player sees the inventory UI
* Given the menu UI has been created, when the player presses the assigned hotkey, then the player sees the menu UI

**User Story 4**  
As a user, I would like to see my inventory

|  |  |  |  |
| --- | --- | --- | --- |
| # | Description | Hours | Owner |
| 1 | Create Inventory UI | 5 | Conner |
| 2 | Display items equipped by player | 2 | Dillon |
| 3 | Display items acquired by player | 2 | Dillon |
| 4 | Perform manual tests to ensure proper inventory display of the player’s items | 2 | Conner |
| 5 | Design unit tests for inventory modifications | 2 | Dillon |

Acceptance Criteria for User Story 4:

* Given that an inventory button is implemented, when the button is pressed, then it will display the inventory menu
* Given the inventory UI has been created, when the inventory menu is opened, then it will display equipped items
* Given the inventory UI has been created, when the inventory menu is opened, then it will display all other acquired items

**User Story 5**  
As a user, I would like to see my stats

|  |  |  |  |
| --- | --- | --- | --- |
| # | Description | Hours | Owner |
| 1 | Design player stats UI | 4 | Vijay |
| 2 | Display player health | 2 | Vijay |
| 3 | Display player speed | 1 | Vijay |
| 4 | Display player Evasion Rate | 1 | Vijay |
| 5 | Show State (unalert, alert, engaged) | 2 | Vijay |
| 6 | Perform manual tests with different items to ensure accuracy | 2 | Vijay |
| 7 | Design unit tests for proper statistic modifications | 1 | Vijay |

Acceptance Criteria for User Story 5:

* Given the hotkeys and stats UI have been implemented, when the key is pressed, the player can see their stats
* Given the stats UI has been implemented, when the player sees the stats UI, then they can see their health
* Given the stats UI has been implemented, when the player sees the stats UI, then they can see their speed
* Given the stats UI has been implemented, when the player sees the stats UI, then they can see their evasion rate
* Given the stats UI has been implemented, when the player sees the stats UI, then they can see their status effects

**User Story 6**  
As a user, I would like there to be enemies to face

|  |  |  |  |
| --- | --- | --- | --- |
| # | Description | Hours | Owner |
| 1 | Create a general enemy AI that walks around grid | 4 | Dillon |
| 2 | Create combat system for attacking enemies | 3 | Andrew |
| 3 | Design enemy sprites and animations | 5 | Conner |
| 4 | Removal of enemy sprite from grid space when defeated | 1 | Andrew |
| 5 | Perform manual testing of enemy behavior in different situations | 2 | Andrew |
| 6 | Design unit testing for enemy pathfinding and combat | 2 | Andrew |

Acceptance Criteria for User Story 6:

* Given that enemies are implemented, when enemies spawn, then they will move in paths determined by AI
* Given that enemies are implemented, when a player interacts with an enemy, then they can damage them
* Given that enemies are implemented, when an enemy’s health reaches 0, then the enemy disappears

**User Story 7**  
As a user, I would like to be able to pick up/drop items

|  |  |  |  |
| --- | --- | --- | --- |
| # | Description | Hours | Owner |
| 1 | Item drop upon enemy defeat | 2 | Zach |
| 2 | Item placement in inventory upon player walking over its grid space | 2 | Zach |
| 3 | Create dialogue upon picking up an item | 1 | Zach |
| 4 | Design item sprites | 4 | Conner |
| 5 | Item sprite disappears from grid space when picked up | 1 | Zach |

Acceptance Criteria for User Story 7:

* Given that items are implemented, when an enemy is defeated, then there is a chance that an item will drop in that space
* Given that items are implemented, when a player walks over a grid space with an item on it, then the item will be placed in the player’s inventory and disappear from the grid space
* Given that items and inventory are implemented, when a player drags an item out of the inventory, then the item will appear on the player’s current gridspace

**User Story 8**  
As a user, I would like to have a wide variety of different items/gear

|  |  |  |  |
| --- | --- | --- | --- |
| # | Description | Hours | Owner |
| 1 | Create different gear types (chest, head, boots, legs) | 3 | Andrew |
| 2 | Create healing items | 2 | Andrew |
| 3 | Create ability books | 2 | Andrew |

Acceptance Criteria for User Story 8:

* Given that gear has been created, when the player defeats an enemy, then several types of gear could be dropped
* Given abilities have been implemented, when the player uses an ability book, then he/she can unlock several abilities
* Given that consumables have been implemented, when the player defeats an enemy, then an item that drops health can possibly be dropped

**User Story 9**  
As a user, I would like there to be multiple abilities to choose from

|  |  |  |  |
| --- | --- | --- | --- |
| # | Description | Hours | Owner |
| 1 | Create offensive class abilities | 7 | Dillon |
| 2 | Create buff abilities (such as speed or healing) | 3 | Zach |
| 3 | Create defensive class abilities | 4 | Zach |
| 4 | Create ability animations | 6 | Conner |
| 5 | Manually test implemented abilities | 3 | Vijay |
| 6 | Design unit tests for functionality of individual abilities | 4 | Dillon |

Acceptance Criteria for User Story 9:

* Given that abilities are implemented, when a player selects abilities, then there are multiple offensive abilities to choose from
* Given that abilities are implemented, when a player selects abilities, then there are multiple defensive abilities to choose from
* Given that abilities are implemented, when a player selects abilities, then there are multiple buff-based abilities to choose from

**User Story 10**  
As a user, I would like there to be different types of weapons

|  |  |  |  |
| --- | --- | --- | --- |
| # | Description | Hours | Owner |
| 1 | Create melee weapons, which have short range (1-2 grid spaces) | 2 | Vijay |
| 2 | Create range weapons, which have long range (7-8 grid spaces) | 2 | Vijay |
| 3 | Create unique weapons, which have unique effects | 3 | Vijay |
| 4 | Implement ammunition system for ranged weapons | 2 | Vijay |
| 6 | Create weapon sprites | 6 | Andrew |
| 7 | Create unique weapon animations | 6 | Conner |
| 8 | Design unit tests for the usage of each individual weapon | 3 | Dillon |

Acceptance Criteria for User Story 10:

* Given that weapons have been implemented, when a player picks up a weapon, then they can equip it
* Given that weapons have been implemented, when a player uses a weapon, then it will either be melee or ranged
* Given that ranged weapons have been implemented, when a player uses a ranged weapon, then it will deplete ammunition
* Given that unique weapons have been implemented, when a player uses a unique weapon, then it will activate a unique effect

**User Story 11**  
As a user, I would like there to be traps in the dungeons

|  |  |  |  |
| --- | --- | --- | --- |
| # | Description | Hours | Owner |
| 1 | Create one-time traps | 2 | Zach |
| 2 | Create continuous traps | 2 | Zach |
| 3 | Create traps that affect both players and enemies | 2 | Zach |
| 4 | Create trap sprites | 3 | Zach |
| 5 | Perform manual testing of traps for proper functionality | 1 | Zach |

Acceptance Criteria for User Story 11:

* Given that walking system has been created, when the player walks over a trap tile, then they have a chance for a one-time damage tick
* Given that walking system has been created, when the player walks over a trap tile, then they have a chance to take continuous damage over time
* Given that walking system has been created, when an enemy walks over a trap tile, then they take damage just like the player would

**User Story 12**  
As a developer, I would like to be able to use a developer console

|  |  |  |  |
| --- | --- | --- | --- |
| # | Description | Hours | Owner |
| 1 | Be able to spawn enemies for testing | 2 | Dillon |
| 2 | Be able to give player items | 2 | Dillon |
| 3 | Be able to edit stats of players/enemies | 2 | Dillon |

Acceptance Criteria for User Story 12:

* Given that a developer console is implemented, when a developer uses a specific console command, then they should be able to spawn enemies of their choice
* Given that a developer console is implemented, when a developer uses a specific console command, then they should be able to give the player items of their choice
* Given that a developer console is implemented, when a developer uses a specific console command, then they should be able to edit the stats of the player and enemies

**Backlog** *(User stories not planned for this sprint)*

1. As a user, I would like to be able to find out the differences between the different computer science tracks throughout the game

2. As a user, I would like notes on the ground to pick up that shows information about the different CS professors at Purdue

3. As a user, I would like to learn what the purpose of all the CS core classes are

4. As a user, I would like to be able to obtain companions

5. As a user, I would like to be able to give my companions gear

6. As a user, I would like my companions to be able to level up/stats increase

7. As a user, I would like an area where I can switch between my different companions

8. As a user, I would like to be able to purchase the ability to have more companions at a time

9. As a user, I would like there to be different puzzles to solve to continue with the dungeon

10. As a user, I would like there to be a locked door puzzle that can only be unlocked by answering a question about Purdue’s CS department

11. As a user, I would like there to be a locked door puzzle that can only be unlocked by answering a multiple choice question about programming

12. As a user, I would like waves to get harder as the game progresses

13. As a user, I would like to be able to save my progress.

14. As a user, I would like to be able to create an account.

15. As a user, I would like to be able to create multiple accounts.

16. As a user, I would like to be able to log out of accounts.

17. As a user, I would like to be able to block enemies’ attacks

18. As a user, I would like there to be multiple characters to choose from (if time allows)

19. As a user, I would like to be able to customize the character I choose, such as clothing color

20. As a user, I would like there to be a counter for each wave, specifying how many enemies are left in the wave

21. As a user, I would like to be able to have multiplayer (if time allows)

22. As a developer, I would like to be able to easily edit levels to expand in the future

23. As a user, I would like to be able to choose the difficulty of a dungeon

24. As a user, I’d like the difficulty to determine the amount of traps in a dungeon

25. As a user, I’d like the difficulty to determine the amount of damage an enemy does

26. As a user, I’d like to have a highscores to see how I compare against other players

27. As a user, I’d like to be able to see what fps the game is running at

28. As a user, I’d like an option to submit a review/feedback to the developers

29. As a developer, I would like to be able to collect data/reviews from my users

30. As a developer, I would like to be able to use data/reviews to update/balance the game

31. As a user, I would like each level to be procedurally generated

32. As a user, I would like there to be dialogue

33. As a user, I would like different classes of enemies

34. As a user, I would like skill points every level up

35. As a user, I would like to invest skill points into my stats

36. As a user, I would like different enemies to use different moves

37. As a user, I would like to gain experience points upon defeating any enemies

38. As a user, I would like to gain a small amount of gold for defeating enemies

39. As a user, I would like to be able to level up my character

40. As a user, I would like there to be a shop in every level

41. As a user, I would like to be able to sell items I pick up to the shop for gold

42. As a user, I would like to be able to purchase new abilities/items/gear from the shop

43. As a user, I would like the quality of items the shop sells to increase as my level increases

44. As a user, I would like to face bosses with special mechanics

45. As a user, I would like to get a large amount of gold or an item/gear for beating the different bosses

46. As a user, I would like to be able to upgrade my gear.