Project Backlog: Team 38

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**Project Name:** Digital Dungeon

**Problem Statement:** Students and visitors alike have many questions about the Computer Science Department’s many sections and features. The goal of this project is to incorporate information about the Computer Science department in an entertaining enough way that would encourage retainment of the information. A procedurally generated dungeon-crawling game will allow students/visitors to learn about the Computer Science department at Purdue, such as the Computer Science core classes and professors, in a fun way that will be memorable and have replay value.

**Background Information:**

Audience: Many visitors and more importantly, many current or prospective students can be confronted with the same problem: the computer science department at Purdue can be very difficult to learn about. It is very large, and the website can seem like a maze of unorganized pages, creating an issue: A need for a way to learn about the computer science department without feeling overwhelmed by its size. In order to solve this issue, our team intends to create a dungeon-crawling game that teaches coding fundamentals, CS tracks, important CS locations, and CS resources.

Similar Projects: There have been many games before that achieve similar levels of gameplay, and certain informative games usually fall short in forms of entertainment as the information comes first. In terms of gameplay there are famous titles such as Binding of Isaac or Diablo, while the learning has been done in forms such as CodeCombat and Screeps.

Limitations: Currently, the only way to learn about the CS department is to go to their website and scroll through it for information. One of the limitations for this are that scrolling through such a large site can become uninteresting or even difficult, and can easily lose a user’s focus. Our idea addresses this limitation by keeping the user involved while learning, making sure it keeps their attention.

**Requirements:**

**Functional:**

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 there to be a tutorial at the start of the game
5. As a user, I would like there to be an option to skip the tutorial
6. As a user, I would like to be able to obtain companions
7. As a user, I would like to be able to give my companions gear
8. As a user, I would like my companions to be able to level up/stats increase
9. As a user, I would like an area where I can switch between my different companions
10. As a user, I would like to be able to purchase the ability to have more companions at a time
11. As a user, I would like there to be different puzzles to solve to continue with the dungeon
12. 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
13. 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
14. As a user, I would like waves to get harder as the game progresses
15. As a user, I would like to be able to save my progress.
16. As a user, I would like to be able to create an account.
17. As a user, I would like to be able to create multiple accounts.
18. As a user, I would like to be able to log out of accounts.
19. As a user, I would like to be able to upgrade my gear.
20. As a user, I would like to be able to pick up items
21. As a user, I would like there to be a shop in every level
22. As a user, I would like to be able to sell items I pick up to the shop for gold
23. As a user, I would like to be able to purchase new abilities/items/gear from the shop
24. As a user, I would like the quality of items the shop sells to increase as my level increases
25. As a user, I would like to face bosses with special mechanics
26. As a user, I would like to get a large amount of gold or an item/gear for beating the different bosses
27. As a user, I would like different classes of enemies
28. As a user, I would like different enemies to use different moves
29. As a user, I would like to gain experience points upon defeating any enemies
30. As a user, I would like to gain a small amount of gold for defeating enemies
31. As a user, I would like to be able to block enemies’ attacks
32. As a user, I would like to be able to level up my character
33. As a user, I would like skill points every level up
34. As a user, I would like to invest skill points into my stats
35. As a user, I would like each room to be procedurally generated
36. As a user, I would like in-game buttons
37. As a user, I would like hotkeys
38. As a user, I would like to see my inventory
39. As a user, I would like to see my stats
40. As a user, I would like to have a wide variety of different items/gear
41. As a user, I would like there to be multiple characters to choose from (if time allows)
42. As a user, I would like to be able to customize the character I choose, such as clothing color
43. As a user, I would like there to be multiple abilities to choose from (if time allows)
44. As a user, I would like there to be different types of weapons
45. As a user, I would like different weapons to have their own strengths/weaknesses
46. As a user, I would like there to be a counter for each wave, specifying how many enemies are left in the wave
47. As a user, I would like to be able to have multiplayer (if time allows)
48. As a user, I would like there to be traps in the dungeons
49. As a user, I would like to be able to choose the difficulty of a dungeon
50. As a user, I’d like the difficulty to determine the amount of traps in a dungeon
51. As a user, I’d like the difficulty to determine the amount of damage an enemy does
52. As a user, I’d like to have a highscores to see how I compare against other players
53. As a user, I’d like to be able to see what fps the game is running at
54. As a user, I’d like an option to submit a review/feedback to the developers
55. As a developer, I would like to be able to easily edit levels to expand in the future
56. As a developer, I would like to be able to collect data/reviews from my users
57. As a developer, I would like to be able to use data/reviews to update/balance the game

**Non-Functional:**

1. As a user, I would like the game to run at at least 30fps so that the gameplay runs smoothly

2. As a user, I would like the accounts that I create to be secure and only I can access.

3. As a user, I would like to have key features represent people or places in the CS department so that I can better learn about them.

4. As a user, I would like this to run on a desktop application.

5. As a developer, I would like a server/database to hold all the data collected/reviews sent in from users

Security:

As far as accounts, we will likely only store the minimum viable amount of information in a backend database (relational, likely mysql or postgresql) such as usernames, auth information, and or any save-progress indicators to make playing from different machines and/ or switching possible. Unity Framework allows for exporting to most mainstream platforms, so while we are initially targeting the web for in-browser playing, as a stretch goal we would like to allow for mobile gaming.