Terrain Builder for Craft Game

CEG4110

Group 15

**Definitions**

1. Game: “Craft” game from Erik Buck’s GitHub.
   1. GitHub link: <https://github.com/erikbuck/Craft>
2. Row: One single line of blocks, height 1 x width 1 x size of chunk (32 blocks).
3. Inclement weather: Weather conditions including rain, snow, and fog.

**Requirements**

1. The game shall base its terrain generation seed on system time.
2. The game shall include at least four different biomes that can be generated.
3. The game shall have unique terrain for each biome.
4. The game shall have at least three unique plants for each biome.
5. The game shall generate biomes of at least twenty chunks.
6. The game shall have the same below-ground generation for all biomes.
7. The game shall have at least five unique textures for below-ground blocks.
8. The game shall have user adjustable terrain draw distance.
9. The game shall generate a different type of block when at least 20 of the same blocks have been generated in a single row.
10. The game shall reduce terrain draw distance to no more than 15 blocks in inclement weather conditions.
11. The game shall increase terrain draw distance as the user moves faster in the game.
12. The game shall decrease terrain draw distance as the user moves slower in the game.
13. The game shall generate a smaller step rate for hit testing.
14. The game shall enable users to walk at different speeds on blocks with different textures.
15. The game shall have specific plants growing on blocks with specific textures.
16. The game shall have random plant yield.
17. The game shall change from day to night based on the system time.
18. The game shall mark plants as an obstacle so that they cannot be passed through.