CS 307: Group 18
Project Name: cliMate
Jason Shipp, Ben Denison, Alex Shelley, Nathan Raine, Rami Bitar

Product Backlog

Problem Statement
- When creating fictional worlds, putting biomes in realistic or believable places can be a lot of work. Many fictional worlds have deserts next to lakes, snowy mountains next to tropical rainforests, and other oddities. While those examples are obviously unrealistic, many inconsistencies are much more subtle.

Background Information
- There currently are world generators in existence such as World-Machine and Minecraft. For World-Machine, it can create terrain but not a biome (a large naturally occurring community of flora and fauna occupying a major habitat, e.g., forest or tundra.). Minecraft creates worlds with biomes but they are not realistic. Ours will be the only software that can create and an entire world with a realistic biome, essentially creating a real world. The main target of this software are worldbuilders, Dungeon & Dragons players, writers, and game developers. Fundamentally the limitation of the competing software is that they either fail to address our domain entirely, or they address it in a randomly generated manner and without the intention of customization. Our software offers users both a realistic and immersive world as well as the ability to supply the skeleton of the world for their own tinkering.

Requirements
- **Functional**
  - As a game developer, I want to import terrain that was previously created and have the program automatically assign biomes to different regions.
  - As a game dev, I want to be able to import a coastline only, and generate elevation for that.
  - As a user, I want to tweak parameters used for biome generation
  - As a game developer, I want to be able to use cliMate's biome data in a game engine.
  - As a game developer, I want to be able to hand-craft my own terrain within cliMate.
  - As a game developer, I want to be able to procedurally generate terrain as an alternative to importing or drawing one.
  - As a user, I want to tweak parameters used for terrain generation
  - As a user, I want to navigate and view the currently imported terrain
  - As a user, I would like an easy to use interface to be to quickly create my world
  - As a user, I want to have a saved copy of the completed map for use.
  - As a user, I want to undo my last action, preferably many times

- ○ As a user, I want to define my own custom rules for generating biome
- ○ As a user, I want to define my own custom biome types
- ○ As a user, I don't want to wait tremendous amounts of time for each generation
- ○ As a user, I want to have the ability to cancel the current biome generation while it is in the process itself
- ○ As a user, I want to tweak terrain after biome generation
- ○ As a customer, I want to have access to a trial version before I commit to buying this software
- ○ As a worldbuilder, I'd like to see wind patterns displayed on my map
- ○ As a worldbuilder, I'd like to see the temperature of each area displayed on my map
- ○ As a writer, I'd like to see how the seasons impact an area
- ○ As a writer, I want to add notes to my map
- ○ As a writer, I want to be able to edit the biomes after they're generated
- ○ As a user, I want to enable/disable the generation of certain biomes
- ○ As a user, I want to manually add *some* biomes as a starting point, and then let the algorithm fill in the rest.
- ○ As a user, I want a clean and open UI with proper focus and scope
- ○ As a user, I want to expect the same design of UI elements as found in other software applications
- ○ As a user, I want this software to be windowed with familiar close, minimize, and maximize buttons.
- ○ As a user, I want the software to remember my most recent file and let me load it without browsing for it.
- ○ As a user, I want to be able to browse through my computer to find the correct file and open it.
- ○ (if time allows) As a user, I want to be able to share my created world with other users
- ● **Non-Functional**
  - ○ There shouldn't be major security measures necessary as accounts won't be required to use the program.
  - ○ Must be able to work smoothly on a Desktop or Laptop
  - ○ The program must be easy enough to use without need of tutorial or guidance of any kind
  - ○ Must be able to read in maps from a file
  - ○ Must be able to save the completed world for future use
  - ○ Application should load and close as quickly as possible