

Overview of progress

- Week 1:
 -
- Week 2:
 - Meetings, planning, research.
- Week 3:
 - Meetings, planning, research.
- Week 4:
 - Meetings, planning, research.
 - Writing project plan.
 - Experimenting (Early coding, just trying out things to learn, no real plan yet)
- Week 5:
 - Meetings, planning, research.
 - Finishing project plan.
 - Experimenting (Early coding, just trying out things to learn, no real plan yet)
- Week 6:
 - Setting up the repo.
 - Coding (Still trying things out, getting closer to something we can start actually working from)
- Week 7: [Perlin happened before this week, maybe also the class-based generator model]
 - Meetings
 - Making modular map generators. (Unsure if this is the base-class model, or the step-generator model)
 - Diamond Square.
 - Moving to newer version of .NET and C#.
 - Initial version of grid encoding/decoding.
 - Stores in bitmap
 - Order and size are hardcoded
 - Stores biomes and altitude only
 - Upgraded to store biome relative altitude same week.
 - Biome color pallets.
 - CASmoothenerGenerator (Initial version)
 - Replaces tile with a neighbor if it has less than 2 neighbours of the same biome type.
 - EnvironmentalFactorGenerator (Early version. Spread humidity, apply random heat, modify heat by altitude and humidity)
 - Generator restructuring (Need to find out what this was)
- Week 8: [We had component based model at this stage]
 - Meetings.
 - OptimizedEnvironmentalFactorGenerator
 - Grouped the tiles into chunks for the humidity spread, then disperse a little at the end.

- Significantly faster on big maps with large humidity spread range.
 - Humidity spreads only if source is close to land. (Prevents deep ocean from spreading to more ocean and dwarfing land humidity, also slightly faster)
 - Modular biome maps (The 5x5x5 matrix of biomes we map factors to can be changed out)
 - Wind maps.
 - Starting on converting the project into a unity project.
- Week 9:
 - Meetings
 - Finishing migration to unity. (Had to rewrite a lot, different logging and different image handling)
 - Moved to png files for images.
 - OptimizedEnvironmentalFactorGenerator
 - Adding sunlight simulation
 - Altitude smoothening.
 - PDSAltitudeGenerator: Combining Perlin and Diamond Square.
- Week 10:
 - Meetings
 - Changed map saving
 - Tiles now store biome id instead of type.
 - Map state stores biomes by id.
 - Logger class.
 - AltitudeSmoothener:
 - Now can do multiple runs with different settings.
 - MapScalingFactor: Map parameter to tell all step generators to scale by a certain amount instead of tweaking each one when changing map size.
 - Making GeneratorBuilder serializable.
 - Creating a tool in the Unity inspector to customize a map generator at runtime.
- Week 11:
 - Meetings
 - Making it possible to store map generators in file and loading them in.
 - Wind generator.
 - Map saving:
 - Can now configure what information about a tile to store and how many bits to use on each, configured for each map.
 - Can now split data into multiple images if more than 32 bits is used pr. Tile.
 - Making early draft of project report.
- Week 12:
 - Little new added.
 - Mostly reading other project reports to get a better idea of how to structure it.
- Week 13:
 - Meetings.
 - MapAspects: Track what parts of a map each step generator needs and what parts it adds. This helps check if step generators are used in a bad order.

- New altitude smoothener that smoothen different parts of the map differently. (Creates more varied terrain)
 - Added Range and ToolTip attributes to step generator configurations. (Helps inform the user what each field means)
 - Primitive resource generator. (Initial work on adding resources into our design)
- Week 14:
 - Mostly just research.
 - Easter vacation.
- Week 15:
 - Meetings
 - Made it so generators can be used to modify an existing map.
 - This means users can generate maps, then inspect and maybe do manual changes, then use generators to improve the map further.
 - Map saving system:
 - Moved from image files for storing grid, to storing it in a binary file. (Avoids splitting into multiple files)
 - Added a separate thumbnail to show users what the map looks like.
 - Now creates a folder for the map and puts all files into that folder, instead of making different files with the name of the map and storing them in a shared folder for all maps.
 - ChainMapGenerator:
 - New map generator design.
 - Instead of taking generators for each step and doing them in a specific order, it takes a list of steps in whatever order the user prefers.
 - Checks that the order steps are provided in works before running any of them.
 - This allows users to repeat steps with different generators.
 - Ex.: Generate altitude -> smoothen altitude -> generate biomes -> smoothen altitude based on biomes
- Week 16:
 - Resource system:
 - Now allows tiles to hold multiple different resources at once.
 - Sub-classes for different biome types:
 - Allows biomes to store different information depending on their biome type.
 - Only used to store the surface altitude of lakes so far.
 - Updating some older code.
 - Removing deprecated code.
- Week 17:
 - Adding code for benchmarking. Makes it easier to measure performance of different generators.
 - Various small improvements: ShouldUseMapScaleFactor, dynamic biome cap.
 - Made Diamond Square more flexible. Can now generate maps of any size.
 - Old model required width and height to be equal and for it to be $2^n + 1$.
 - Testing and benchmarking.
- Week 18:

- Most development stopped, focus changed to report. (Can still do code clean ups and commenting)
 - Writing bachelor report.
- Week 19:
 - Thesis
- Week 20:
 - Thesis