Walls and Holes

Sprint 3 Plan

Product name: Walls and Holes
Team name: 3D Map Tool Team
[Planned] Release Date: 3/9/18
Version 0.2, revised 2/22/18

High Level Goals: Improve appearance of program. Make program setup and usage intuitive. Improve quality of mesh output. Make program convenient.

User Stories

1. As a level designer, I want the mesh and its materials to be exported.

Acceptance Criteria:

- There is a UI element to export the map mesh.
- Exporting the map mesh outputs a single .obj file and a single .mtl file.
- The .obj file and .mtl file must be openable in Blender and Unity and should look the same in those programs as in WAH.

Story Points: 8

2. As a user, I want there to be no redundancies in the mesh.

Acceptance Criteria:

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Story Points: 13

3. As a user, I need a user manual and examples so that I can quickly figure out the software.

Acceptance Criteria:

- There is a user manual on Github.
- The user manual has a section for installation.
- The user manual has a section for workflow that gives a general overview of how the program is to be used from start to finish, including...
  - … turning it on.
  - … loading previous work.

        - … starting new work.
        - … modifying the map.
        - … saving work.
        - … exporting a mesh.
        - … opening the exported mesh in Unity and in Blender.
    - The user manual has a section explaining every tool in detail.
    - The user manual has a section explaining how the mesh output is generated.

Story Points: 3

4. As a user, I should be able to install the program with an installer.

Acceptance Criteria:

- There exists a DMG installer for Mac.
- There exists an EXE installer for Windows.
- There exists a Bash script that uses Unix commands to automatically download and build the program. This script should output be robust: if a tool to do something is not available, the script should detect that and either install the tool or output an error message with instructions on how to handle it. The script should work on Mac, Windows and Linux (or there should exist at least one working script for each system).

Story Points: 8

5. As a user, I want my list of tile materials to be save-and-loadable.

Acceptance Criteria:

- There is a UI element for saving a particular tile material or saving a set of tile materials.
- There is a UI element for loading a particular tile material or loading a set of tile materials.
- When a saved map is loaded, the tile material sets that were used should also be opened automatically.

Story Points: 5

6. As a user, I want to be able to undo and redo actions.

Acceptance Criteria:

- Command-Z (on Mac) and Control-Z (on Windows) should undo the last action.
- Command-Shift-Z (on Mac) and Control-Y (on Windows) should redo the last action.

Story Points: 3

7. As a level designer, I want the mesh-generation process to connect diagonal lines.

Acceptance Criteria:

- When two tiles of the same tile template are touching at the corner, and if the tiles between them are empty (see diagram below), those tiles should connect diagonally.
    - X 0
    - 0 X

Story Points: 8

8. As a user, I want to be able to use hotkeys.

Acceptance Criteria:

- {Command|Control}-Shift-S should prompt the user for a new file in which to save the map, and then it should save the map in that file.
- {Command|Control}-S should save the map to the file it was last saved in (or loaded from) if such a file exists and otherwise should act like {Command|Control}-Shift-S.
- Each tool should have a hotkey that enables or toggles it.

Story Points: 3

9. As a user, I expect the toolbar to consist of icons instead of words.

Acceptance Criteria:

- Each tool should be represented by an icon.

Story Points: 3

10. As a level designer, I want to be able to assign a material to a tile's top and sides separately.

Acceptance Criteria:

- The user can select a tile template or tile and set the top and side materials separately.
- The map-to-mesh system uses the "top" material for the "top" of a tile's output, and the "side" material for the "sides" of a tile's output (in a reasonable manner in cases where top and sides aren't well-defined).
    - For blocky outputs, this should have the obvious behaviour. Smooth interpolation for materials does not need to be available.
    - For tiles of different thicknesses that are bridged together, the material on a part of the bridge should match the material of the grid square in which that part is located.
    - For tiles with slanted walls, the default should be that the slanted portions (near the grid lines) use the side material and the portions away from the grid lines use the top material.

Story Points: 5

11. As a user, I want to be able to select and modify many tiles at a time.

Acceptance Criteria:

- The selection tool should have a mode to add tiles to the selection and remove tiles from the selection.
- There should be a rectangular selection tool.
- When several tiles are selected, it should be possible to change one property for all of them at the same time.

Story Points: 5

12. As a user, I expect my program settings to persist between usages.

Acceptance Criteria:

- If the user saves or loads using a particular directory, the next time the user uses that same save/load dialog, it should start in that same directory.
    - Note: It is key here that we allow different parts of the program to use different default directories. The user likely wants to save/load maps in a different directory from where they export the mesh. However, the directories should be shared between the saving/loading processes of the same element (if I save a map to /mydir/, I probably want to load my maps from /mydir/).
- The positions and sizes of all views should persist when closing and reopening the program.
- If a view (like the materials view) was hidden or shown before the program was closed, it should be hidden or shown when it is open.

Story Points: 5