

IB Computer Science IA Appendix

Battle Map Generator

Appendix A: Interview 1 Transcript

Developer: As members of the DND club, I'm sure we have faced trouble with providing easy and quick yet quality battle maps.

Client: Well not necessarily, since a Google search is always simple and easy, but their resolution is often low and those with quality are often locked behind paywalls.

Developer: There are plenty of tools online that can help you design a high-quality battlemap.

Client: I don't even bother using those tools, they overcomplicate things and when run on their end of server, it is often laggy. Regardless, it's hard to find a unique and fitting battle map during a session. And I don't want to use the same few grass maps for every wilderness encounter.

Developer: I get it, its hard to run a high-end scifi apocalyptic campaign when the dungeon you're using is the same as the one you used for the pirate cove's in another.

Client: Yeah it really breaks immersion. I'd love to be able to personalise some of those maps. Really brings a spark.

Developer: You're an art student, have you ever tried drawing or photo-shopping them?

Client: Of course, it is easily customizable, but it is too tedious and over-all not worth it for a session or two.

Developer: I know the feeling, I tried drawing them and copy and pasting each cell and... anyway, I was thinking, wouldn't it be cool to have a battle map automatically procedurally generate on its own, given a few parameters?

Client: Sorta like Minecraft! This could be your computer science IA.

Developer: Planning to be. In that case, when you talk about personalisation, maybe after it is automatically generated, they can be edited easily without manually moving each layer of cells.

Client: And just like minecraft, make it so you can easily change out or switch texture back when you render the map.

Developer: I'll base the coordinate system and object handling off of it as well. Anyhow, you'd be the perfect client for my computer science IA.

Client: You need a client? Sure thing. I'll give some art tips as well.

Developer: Ah, got to go. Let me sleep on it and let's talk more about it after I've come up with some screen mockups.

Appendix B: Interview 2 Transcript:

Developer: Right I haven't gotten any screen mockups yet, but I have a some ideas I wanna run you by, since you're a comsci student and all.

Client: And art student.

Developer: Anyhow, for the map generation, I want to base the map off of a series of points, lines and cells, where a line connects the dots to form a polygon and that polygon would be a map space, a cell that is. Those cells can easily connect and moved and manipulate to create any map shape, room shape and all!

Client: ...

Developer: What do you think?

Client: Why.

Developer: This way, it would not only be compatible with the standard hex grid and square grid, it can also be used with exotic grids to create any sort of room geometry, this includes penrose tessellation, Voronoi cells, which could also increase extendability.

Client: How will you render it with a given texture?

Developer: Well.

Client: Also this isn't quick nor easy to manipulate post to the average DnD laymen, and we both know how the average DnD laymen fare with their own character sheet alone.

Developer: Well but. I haven't figured out how it can procedurally generate maps yet, but it'd look so cool.

Client: Why not copy Minecraft or every artistic software that has existed? Adopt a 2D coordinate system and just place everything on the screen. They look cool as well.

Developer: Fine.

Client: I want to critique your screen mockups, not point out the critical mistake you are about to make.

Developer: [Shows the UML diagram of the aforementioned point, line and cell class]

Client: ...

Developer: Yup I'll do whatever you just told me to.

[awkward stare]

Developer: Also the procedural generation is going to work on the basis that structures are generated upon an empty map. That means

Client: And you wanted to do that on top of Voronoi cells?

Developer: I mean one could map vector areas on top of these cells and get- never mind you're right, I'm overcomplicating this.

Client: Minecraft has preset structures as well, stored localized files, like how the structure block works.

Developer: Sure I'll do that. By the way, would you mind drawing some textures for this project?

Client: Yeah sure! You don't mind them being hand-sketched styled do you? I've always loved those sorta maps, really gives a lot of personality.

Developer: Even better :D

Appendix C: Interview 3 Transcript:

Developer: So here are some screen mockups!

Client: They look alright, did you draw these icons yourself? I could've done it for you, though it'd be nice if the colour scheme could be adjusted.

Developer: Ah I assume you'd be busy with uni stuff. Oh, it can! Pysimplegui already offers this functionality with over 30 presets to choose from!

Client: Oh, that's alright then. Can you add the colour scheme change as part of the feature?

Developer: Noted! I'll just add a combo selection in the settings window.

Client: Anything else?

Developer: I mentioned last time, can you draw some custom textures for this application?

Client: Sure, now that IB is over, there's a lot less stress off my shoulder, so I am free to work on whatever. What sorta cell types do you need?

Developer: Main 3 I'm looking for is void, wall and path cells, and each of them have special interactions with each other, where when a cell is next to another, the base material would either seep into the other or create a sorta of hard border effect. I'll send you the table and all, do you think you can do that?

Client: No problem!

Developer: Oh yeah here are some success criteria I thought of, is this alright?

- A Home Screen
- A Settings Screen where the user can adjust map settings
- A New Map Screen where the user can create a new Map with specific parameters
- An Open File Screen where the user can open existing map files
- The Open File Screen allows map previews and exports without entering the map editor
- Flexible to allow for textural imports for modders
- Ensure the application can be installed in a Windows 10 system with ease

Client: That looks alright. Do you mind adding a feature that allows it to be saved as different file types and colour formats? Sometimes I like to print them out so CMYK would be useful.

Developer: CMYK?

Client: Cyan Manger yellow then something, the formats that printer inking uses.

Developer: Oh mmkay, thankss

Client: Also it'd help if I can add or delete structures and cells.

Developer: ok....

Appendix D: Interview 4 Transcript:

The original client ghosted the DnD campaign I was in, and hence me as well. In light of that, with not sufficient artistic skills or time, I wrote a tile set generator.

Client 2: So what do you need me for?

Developer: Download the folder and open up the terminal and download the list of libraries.
[send the client the list of libraries and pip install code]

Client2: Sure.

[spends 15 minutes looking up how to open up the command prompt and copy-pasting the pip install code]

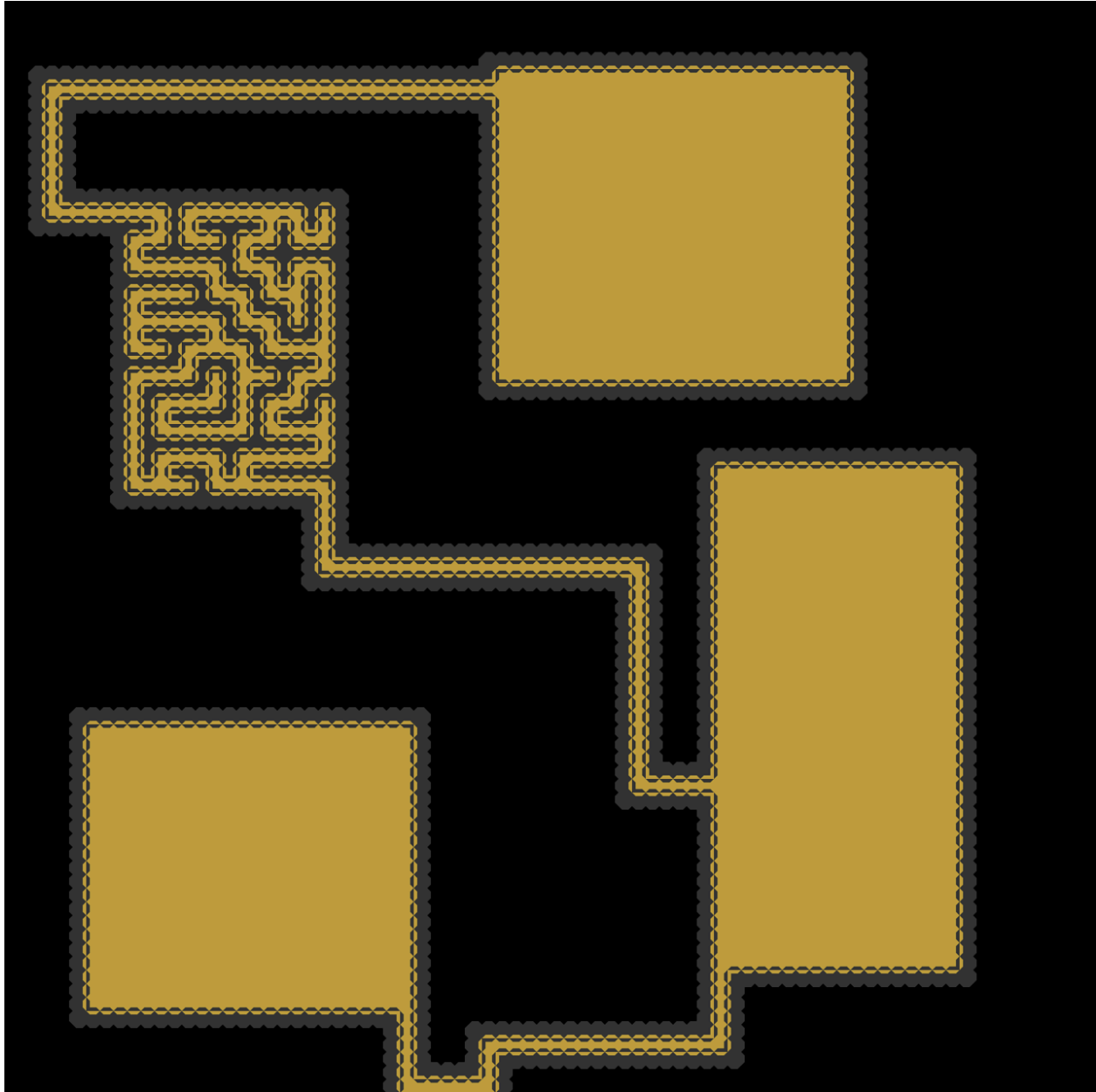
Developer: Is it working?

Client2: Yes.

Developer: Ok tell me how it goes!

[spends 10 minutes playing with the generator]

Client2: Here, the panels is self-explanatory, good job. I made a map, does this look alright?



Developer: Yeah but what do you think of it?

Client2: I don't like the colour, can you change it?

Developer: Yes of course! A modder can easily add in the texture required to make this look drastically different.

Client2: ok.

Developer: Anything else?

Client2: The path down there is clipping a be weirdly, at least it's easy to export, its funny.

Developer: It is supposed to be like that...

Client2: And it freezes for a while before the screen loads.

Developer: Ok I'll add it to my report then!

Client2: Also it is hard to add structures and cells using the side panels, it is sorta annoying.

Developer: Noted. Can't be help.

Client2: Alright then, anything else?

Developer: Do you think you'd use this for actual dnding?

Client2: no. google searching is much easier. I'd rather spend more time on inkarnate, even though its laggier, also the structure placement is a bit weird, doesnt make any sense to have rooms far apart, atleast they dont stick together.

Developer: ok, thanks for your help.

Client2: Also if i put anything in the drop-down, it just crashes so easily.

Developer: That is not how it is supposed to work....

Client2: Maybe there could be an window for adding structure and cells or sth

Developer: I don't have enough time to make this

Client2: fine, its pretty good. I'll use it for westmarches then cause they arent worth Inkarnate's time.

Developer: Aww thannks