

Subject	Amount of hours	Date	Description	Bonus
Research into the assignment	2	29/12/2021	<p>Researching the algorithms and implementations used for maze generation, sources below:</p> <p>The Coding Train simple maze generation implementation tutorial : https://www.youtube.com/watch?v=HyK_Q5rrcr4</p> <p>Eller method, looked into how to make very big very fast mazes just in case: https://weblog.jamisbuck.org/2010/12/29/maze-generation-eller-s-algorithm</p> <p>javidx9 tutorial of the same algorithm, used the concept for generating pixel mazes: https://www.youtube.com/watch?v=Y37-gB83HKE</p>	
Implementing a basic version to expand upon	5	30/12/2021	<p>The tutorials used mostly unsustainable code for educational purposes, so I had to develop a better partitioning of the whole app architecture, keeping in mind that I would like to expand the app for bonus points.</p> <p>First thing I wanted to do was check whether or not I could manipulate individuals pixels on an image properly to serve as the basis for the rest of the project. This didnt take too long as I had to do similar tasks for school projects recently.</p> <p>After seeing that I could draw individual black and white pixels with point filtering to an image I went ahead and began implementing the maze generation algorithm.</p> <p>Since most tutorials used other languages than C# (or used pseudocode) I had to design the architecture of it myself, which was fairly easy, as the basic assignment only needed a couple of classes.</p> <p>I tried to make them as abstract and expandable as possible so I separated the generator class from the cell and made a separate visualizer (or the View if we are talking MVC) that could be used for the bonus points as well.</p> <p>The hardest part was working blindly for while until I added better visualizer code, and that gave me some ideas for the bonus section as well.</p> <p>There were some issues with setting the walls and some edge cases, and in the end I used the classic pen and paper and the step debugger and eventually it worked out.</p>	
Bonus feature	5	31/12/2021	<p>The bonus feature that I added was a 3D city visualizer to the maze generation.</p> <p>At first I thought about making an infinite procedural maze as that is one of the areas I have a lot of expertise in, but decided to go with a more visual approach to the procedural generation.</p> <p>The infinite maze will be something I would add in the future most likely as this was a very fun project.</p> <p>The city visualizer takes the path of the generated maze and uses marching square configurations to properly place the streets based on how many neighbors there are near the cell.</p> <p>Along with that it also adds some props to make the city more believable.</p> <p>Some more features that I would've loved to add would probably be agent based car driving, LOD and occlusion optimizations along with better lights and atmosphere with the HDRP pipeline, however I wanted to keep this a bit light on features because of some real life situations, I will probably add everything later in my free time.</p>	X
UI/UX redesign	3	31/12/2021	<p>After finishing up the features, I wanted to make a proper, more fitting design for the app, this also ties together with the responsive resolution user story I had to abide to.</p> <p>I tried to keep the design as simple and intuitive as possible, with simple sliders and drag controls and a pleasant color palette along with scene partitioning.</p> <p>There's a couple of tools I usually use for design, but I try to stick to the industry standard of Material/Bootstrap/Foundation UI elements and choices.</p> <p>Since this is a pretty minimalistic app there wasn't much to be added, but I do hope its overall an easy to use and compliant software with the company policies on UX.</p>	
Report	1	1/12/2022	<p>Pretty self explanatory, but sometimes hard to properly count.</p> <p>Whenever I have to use an hour sheet I try to keep it as precise as possible, this also being a task I was used to since my internship.</p> <p>However if I lose track of hours, I always have my git commits to help (https://github.com/Bugulet/maze-generator/commits/main), and that usually provides an accurate representation of how much was worked.</p> <p>Sidenote, had to remake the spreadsheet because it was somewhat corrupted on the office suite I used, hope that's okay.</p>	
Total	16			