**CSE 310 – Applied Programming**

**Module Plan**

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| **Date:** | 11/13/2023 |
| **Teacher:** | Brother Birch |
| **Module # (1-5):** | 5 |

1. Identify which module you have selected to work on. Place an “X” under the “Selected Module” column.

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| **Modules** | **Selected Module** |
| Cloud Databases |  |
| Data Analysis |  |
| Game Framework | X |
| GIS Mapping |  |
| Mobile App |  |
| Networking |  |
| SQL Relational Databases |  |
| Web Apps |  |
| Language – C++ |  |
| Language – Java |  |
| Language – Kotlin |  |
| Language – R |  |
| Language – Erlang |  |
| Language – JavaScript |  |
| Language – C# |  |
| Language - TypeScript |  |
| Language – Rust |  |
| Choose Your Own Adventure |  |

1. At a high level, describe the software you plan to create that will fulfill the requirements of this module. This may change as you learn more about the technology or language you are learning.

Taking inspiration from Daisuke Pixel’s 2003 freeware game Cavestory, I plan to use Python to create a short game with similar gameplay where the player has to avoid or destroy enemies while progressing through a story.

1. Create a detailed, 2-week schedule using the table below to complete your selected module during this Sprint. Include details such as what (task), when (time), where (location), and duration. You should also include time to work on your team project. You are expected to spend 16 hours every Sprint working on your individual module, team project, and other activities. Time spent on this individual module should be at least 10 hours.

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|  | **First Week of Sprint** | **Second Week of Sprint** |
| **Monday** | Outline game concept, identify key features and mechanics similar to Cavestory | Design basic enemy types and their behaviors |
| **Tuesday** | Set up a Python game development environment (e.g., Pygame) | Code enemy behaviors into the game |
| **Wednesday** | Program basic movement and actions (jump, move left/right) | Playtest the game, identify and fix bugs |
| **Thursday** | Start designing the first level or stage | Add any final details, improve user interface, prepare for presentation/demo |
| **Friday** | Collaborate on the team project | Further work and collaboration on the team project |
| **Saturday** | Expand on level design, adding obstacles/enemies | Final testing, documentation, and preparation for showcasing |

1. Identify at least two risks that you feel will make it difficult to succeed in this module. Identify an action plan to overcome each of these risks.
2. It is really difficult to get collisions and objects to behave properly. If I get stuck on a collision or object problem for more than an hour, I will have to either scrap that particular idea or adapt it to its limitations. This is so that I don’t run out of time getting stuck on small issues.
3. I can see there being issues with creating a moving camera loosely centered on the player. In the original Cavestory game, the camera moves slightly left or right depending on what direction you face (this is to show more of the map in that direction). Figuring out the logic behind that, while also figuring out how to make a camera that shows only part of a larger map, may prove difficult. If it takes longer than 2 days to figure out, I will have to scrap the idea and have no moving camera.