

## **EE/CprE/SE 491 WEEKLY REPORT 3**

**Feb 13th - 19th**

**Group number: sddec23-13**

**Project title: Casters and Coders**

**Client &/Advisor: Mat Wymore**

### **Team Members/Role:**

- Brennan Seymour
- Branden Butler
- Theng Wei Lwe
- Wenqin Wu (Cody)
- Edward Dao
- Max Bromet

(All the above information should be there in each weekly report. The format/color scheme etc need not be the same. However, please remove everything that is in a bracket from your final submission. These are just part of the template and need not be a part of the report.)

#### ○ **Weekly Summary**

*The team started discussing about potential game styles that the project can adapt to. We looked into a top-down, pixel-like game approach. We continued working with Unity tutorials and researched languages to embed into the game.*

- #### ○ **Past week accomplishments** *(Please describe/summarize as to what was done, by whom, when and, collectively as a group. This should be about a paragraph or two in length. Bulleted points are acceptable as well. Please keep only your technical details related to your project. Figures, schematics, flow diagrams, pseudocode, and project related results are acceptable, but please ensure that they are legible (clear enough to read) and to provide an explanation. If researching a topic, please add a few details about what was learned and how it is relevant to the project. If two or more people worked on a single task, be sure to distinguish how each member contributed to the task. Specific details relating to the assistance provided to other members may be included here. **Do not include classwork, such as individual reflection assignments, and group meetings as part of your duties.**)*

- Wenqin Wu: This week, I go asked another professor(Mattrew Tancreti) that if I can make an announcement in his class so that we can have a larger number of response for our survey. I am very appreciating professor Tancreti granted my permission to make the announcement. Some key informations are following:

1. Most of the people prefer C/C++, but like we mentioned in the meeting, this is very biased

- because survey taker neither taking c class right now or only have experience with c.
2. People are expecting our game is more like a strong story-motivated , we probably going to work on the story to achieve the expectation.
  3. Since we all programmers, we are not expecting any of us doing art/modeling on the project. However, in the survey someone is willing to do the art for us, that is really nice. Plus , Seymour has a friend who can also help us on the art side.

Beside the data study , I also did research on the techniques we talked about during the meeting.

- Theng Wei Lwe:

- Brennan Seymour:

- Tried doing some integrations with dotnet libraries. This is totally new to me so I didn't get much done, and decided to leave a lot of that to Branden. Nonetheless I was able to decisively rule out NTypeScript as an option - it didn't play nice with my sample Unity project at all.
- I was able to get Unity talking to my IDE: Rider. I also got debugging set up which took some elbow grease.
- Started drafting gameplay scenarios.

- Branden Butler: I completed experiments with IKVM and ClearScript. IKVM was the first failed experiment, I got as far as running a Kotlin hello world program within Unity but it took a lot of black magic sorcery to get even that, and it broke so badly Unity itself crashed as soon as I added parts necessary for scripting. On the opposite end of the spectrum, TypeScript within the ClearScript engine was the easiest language thus far to get working. One downside of ClearScript is it requires native libraries for each target OS/architecture couple, because it's mostly a wrapper around V8. Another downside is the cost to go between the script and the host is significant. TypeScript support was not available by default but I was able to get it working by evaluating the typescript compiler within ClearScript, giving me access to the compiler API. A full compiler pipeline is not implemented, rather only a simple call to the transpiler is made for now. This has the downside that the transpiled code is not automatically cached, but it should be easy to implement a cache.

- Max Bromet: I completed a unity tutorial. I also helped with planning more of how the game will be structured and played. We are planning on having a top down 2d game with pixel art. Time will move as the player moves. The game will be structured as a metroidvania, and players will use code to solve puzzles. At the moment, we aren't sure if we want the player to fight enemies or just solve puzzles, but the player will definitely be solving puzzles either way.

- Edward Dao: I did not achieve too much this week, just continued working on the unity tutorial. After our weekly meeting I got a better understanding of the project

- **Pending issues** *(If applicable: Were there any unexpected complications? Please elaborate.)*

- Wenqin Wu: I am currently working with a few other professors. I am thinking about maybe we can share our questionnaire and ask them to send it out to their students so that we can have a larger scale of response ?

- Team Member 2:

- Team Member 3:

- ...

- **Individual contributions** *(Creating this section is optional, but it is **Required to include the***

***“Hours Worked for the Week” and their “Total Cumulative Hours” for the project for each member somewhere relevant in your report. Your individual weekly hours should be at a minimum of 6-8 hours for this course. So please manage your time well. Also, ensure that individual contributions support your claim to the weekly hours. Be honest with the reports.)***

<b><u>NAME</u></b>	<b><u>Individual Contributions</u></b> <i>(Quick list of contributions. This should be short.)</i>	<b><u>Hours this week</u></b>	<b><u>HOURS cumulative</u></b>
Branden Butler	Experimented with IKVM and TypeScript w/ ClearScript	8	19
Wenqin Wu	Collecting and study data. Study unity and involved techniques.	4	10
Edward Dao	Continue Unity tutorials	2	9
Theng Wei Lwe	Learned C# and continued Unity tutorials	3	8
Max Bromet	Completed Unity tutorial and worked on the game’s design	3	8
Brennan Seymour	Experimented with NTypescript (did not work) and ClearScript. Got Unity talking to Rider debugger.	4	11

○ **Comments and extended discussion** *(Optional)*

*TypeScript & Python are looking like good options for language embedding*

○ **Plans for the upcoming week** *(Please describe duties for the upcoming week for each member. What is(are) the task(s)? Who will contribute to it? Be as concise as possible.)*

- Wenqin Wu: Draw design diagrams base on the project.
- Theng Wei Lwe: Generating game style ideas and potential storyboard. Get more comfortable with Unity.
- Brennan Seymour: I’m going experiment with Wasmtime, a library that will let us execute Webassembly scripts - drastically widening our choices of language.
- Branden Butler: Experiment with Lua, fix permissions issues on laptop
- Max Bromet: Start working on shared code in Unity, and continue fleshing out game concepts.
- Edward Dao: Continue learning about unity. Gonna do research on unity scenes and other aspects of making the project.

○ **Summary of weekly advisor meeting** *(If applicable/optional)*

*(Provide a concise summary on the contents and progress made during the advisor meeting.)*

Discuss the scope of the projects and ideas about settings, possible style of the game (combat/puzzles), and about aspects of unity we all should learn. No specific role is figured out yet, but will be decided next week. The focus at the moment is learning about the tools we will use and figuring out unity.

**Grading criteria**

Each weekly report is worth 10 points. Scores will be awarded as follows:

- **8 – 10:** Progress for your project seems to be suitable. Documentation and hours reported by team members are adequate.
- **6 – 8:** There is scope of improvement both in your report and your project progress. Can consult with instructor/TA after class for further inputs.
- **< 6:** Please talk to instructors/TA after class hours about any difficulties that you/your team is facing.

Each weekly report should be unique in that they have a unique set of supporting details for your contributions. So please do not just copy your reports from the previous week. In addition, please avoid any personal pronouns (he, she, I, you). Try to keep your reports as neat as possible.