## Team Project Proposal CS320-102: Software Engineering, Spring Semester 2020 Due Date: Monday, 2-2-2020, by 7:00am

## Minotaur's Labyrinth

## **Team Members:**

- 1) Lucas Plaud Smith
- 2) Jack Anderson
- 3) Zachary Redcay

Summary: Summary of the project you are proposing – 1-2 paragraphs

An interactive Text-Based Adventure game with a minotaur's labyrinth fantasy theme. The player will enter basic commands from a list allowing them to interact with a game environment in specialized ways as they try to escape the labyrinth. This entails fighting enemies, finding loot and treasure, gaining xp as they go and leveling up while they explore. As they adventure they will be able to upgrade their loot and xp gains. Gaining abilities/spells as they go as well as filling out a randomly generated map. As the player moves through the map more and more of it will be revealed.

**Features:** List of major features – give single paragraph descriptions, including the user interactions with the feature/web-page.

Prioritize the features – indicate which ones are necessary for acceptable project functionality, and which ones are "nice-to-haves" or stretch goals. This will also play into your agile development process – which features you think will need to be accomplished first so that you can build a minimal working system, and then expand upon that system.

Map: A grid system where a player can be placed on, a simple thing of squares connected that we can relate to an array. The player will be able to move around this map and will than encounter different text-based events by corresponding certain blocks w/ certain events. Map[x][y], each part of the array is set to X, 1 or 0. 1 being a moveable area, 0

being a non-movable area, and X(a number per encounter) being a moveable area with an encounter (some sort of event).

Movement system: A grid system that tracks the player and allows the player to move from grid square to grid square. Player.location, player.locationy, if they move up check if map[player.location][[player.locationy + 1] =0 or 1 or X, than decide whether to update the player position values or not. The player will initially use keyboard inputs but will eventually integrate optionally javascript buttons for movement.

Enemies w/ Combat System: Enemy objects that hold individual \*stats\* (mentioned in next feature). These can drop either gold or XP, fight them by comparing stats and then as a baseline simply subtract enemy.atk from player.hp, player.attack from enemy.hp. User will choose his combat options by typing initially and then we will have clickable buttons with the available options. They will then grey if you cannot choose a particular option in an encounter. Small random elements such as critical hits and misses will be added later as a "nice to have".

Trackable stats: Values in a "player" object (player.def, player.atk, player.hp).Defeated foes give xp, at an increasing threshold, players can level up and increase their stats. (ex: player.xp+=enemy.xpVal, if player.xp>=15, player.lvl=2). User will be able to see their stats on a statsheet on the HUD.

Items: Obj's that hold stat values (ex: weaponitem.sword gives +1 atk, make a rule that player can only equip one weapon item object than relate this to some sort of ui interaction in a gear menu).

Interactive UI- Health bar, Mana

Nice to haves/Stretch goals:

Abilities/Spells/Classes: Special abilities the player would be able to use.

Random generation (or if that is a longshot, multiple maps)

Bosses: Multiple bosses.

Store/Gold System: can go to the shop and buy armor/weapons.

**Sketches:** Include sketches of your user interface – these can be hand-drawn, or graphically produced. There should be a sketch for each major page of your web-site.

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**Responsibilities:** If possible, propose an assignment of responsibility for the features/tasks to the members of your team.

Front End: Jack Anderson  $\frac{1}{3}$ , Lucas Plaud Smith  $\frac{1}{3}$ , and Zachary Redcay  $\frac{1}{3}$ .

Back End: Jack Anderson  $\frac{1}{3}$ , Lucas Plaud Smith  $\frac{1}{3}$ , and Zachart Redcay  $\frac{1}{3}$ .

**Challenges:** Describe the challenges you expect to face/overcome during development of the project. List any NUDs (new, unique, difficult) issues you perceive that the project contains. This is to get you to reflect on the challenges that lie ahead of you.

- Figuring out how to properly make interactions on the front-end cause responses from our backend.
- Figuring out how to work as a team, figuring out code conflicts.
- Avoiding getting stuck in the weeds of creating too many text options
- Trying to over implement features instead of getting the baseline features working properly
- Time management

**Development Environment:** Give the development environment you expect to work in, and technologies you expect to be working with – this would normally include Java, Eclipse, and the lecture topics/labs that are shown in the lecture and lab schedules. Also list anything else you think you might need to use outside of those areas. This is to get you to review the various pieces that will be involved in this project.

Java/Eclipse

HTML/CSS in Notepad++

Photoshop/Illustrator: Art Assets