EC327 Fall 2019 Project Information Form

I. Team Name:

??? → Profit!

II. Team Members:

Devin Bidstrup, Eric Rivera, Sam Krasnoff, Allen Zou, George Sorescu

III. (Potential) Team Mentor(s):

Ben Laskaris (2D gaming and Unity), Stephen Tucker (Qt for making GUIs/Desktop Apps), Douglas Densmore (general R&D understanding)

IV. Project General Description:

Our project revisits the Oregon Trail style game where users enter commands and actions that mimic reality and, in tandem, teach concepts throughout the medium of a game. The focus of our project is to follow a path from the inception of an innovative idea, to the creation of a widely successful company (*or to its demise*). The game will progress along a user's path from the idea, to the commencement of company (with its respective co-founder[s]), to all the different challenges that will emerge -- all to resist the becoming of the leading company within an industry! There are unequivocally many routes that can bootstrap a company to success, and our game will try to capture as many possible combinations. We hope to show how the effect of decisions propagate among time in an entrepreneurial environment, and also teach the player some basic business principles (funding, resource allocation, R&D, market forces, etc.). Player decisions might range from effectuations within the company culture, what R&D investments to pursue, business deals, etc. We will explore the different ways to run a company, *honestly or corruptly,* and how they can lead to different outcomes. In the end, to win the game, you have to become a leading competitor within the particular industry (which will be tech-based).

V. Project Technical Description:

At the start of the game the user will face a common interface which will ask him whether to start a business or learn about the road to success. If he chooses the latter option it will give a short description of the game. The former option will proceed to the game itself.

The game works on a turn basis where you are given a set of choices and much like a choose your own adventure book, the user selects a choice by entering a number key.

- Initially there is a phase where you select your social standing (college grad, drop-out, non-attendee, etc), what the founder(s) names of the startup are, what kind of novel product/service you are offering (depending on chosen technical skills), and the conditions/competitiveness of the sector you will be operating within. The user will attempt to acquire capital from a bank, but will be rejected as loans are hard to come by for infant organizations. Instead, a savvy venture capitalist will allot you with an initial *small equity investment of one million dollars* and the game will commence!
- Most of the game is the startup progressing about once per second, with each second representing a day of work done by your company (and a day in reality). Occasionally, you come upon major deadlines, scientific breakthroughs, or funding opportunities, which serve to progress or slow down getting your product to market -- all of which affect valuation and recruiting ability.
- You have to properly manage a variety of variables such as the companies budget, mental health of workers, product development (R&D), and public sentiment (inextricably tied to adoption by a consumer or not). A balance of business and engineering proclivities should be implemented so that the company does not neglect any one side of the equation.
- Each day, if the user selects: **(1) Progress as normal,** there is a chance that a random, pernicious event happens to your company or one a critical employee X is stolen by a rivaling company, critical employee X quits the company, one of the major manufacturing plants is temporarily shut down, or press releases surrounding ethics or your technology, attempt to auger the company into the ground.
- Each day, if the user selects: **(2) Go to Conference / Network**, this will increase your public sentiment, decrease your budget, and cost a day of work which your office could have done. It also has a chance of generating an offer from another company or product to help out. These encounters will vary depending on where the company finds itself. For example, if the company has gone public, then the meeting would be that of the board of directors and shareholders. If the enterprise is young, the "networking" event might be an appearance on a notifiable technology column.
- Each day, if the user selects: **(3) Adjust working hours,** they will be presented with a 40 hour work week, a 55 hour work week, or an 80 hour work week for his employees. Choosing a higher amount of work will increase productivity for your company, but decrease your employees' mental health -- incessant overworking might lead to exhaustion and underperformance for your company in the long term.
- Each day, if the user selects: **(4) Take Holiday,** this will increase your workers mental health, but you will lose a day relative to your deadlines. Overworking or holiday choices will affect employee retention (if they stay or leave the company) as well as recruitment ease.

- Each day, if the user selects: **(5) Apply for Grant** a minigame (similar to hunting in the original Oregon Trail) will begin. In this you will fill out paperwork and depending on how well you fill it out in a time frame you will gain a certain amount of money. In essence this increases the companies budget at the cost of a day of work.
- Each day, if the user selects: **(6) Look at Market Share,** he will be presented with a chart of the company he is running vs other companies to understand how the company is progressing relative to others. This option will not cost a day.
- There may be other options depending on how we code the program, but the above five are a good starting point for the program.
- To win the game, the user has to complete a series of tasks to establish them as a leading company in the respective industry. This will be likely be measured by market share as well as the competitive advantage held (in terms of innovativeness). Certain milestones in the game will allow the user to beat out competition and expand their influence. All decisions will have an impact on the fictional stock market, and competing companies will be displayed among ours for relative comparisons! If one of their four main stats falls to exceedingly low values, such as running out of budget, then your company will flop. Good Luck!

VI. Project Technology (Languages, Libraries, Etc.):

The project will be built either upon the Unity engine, using the primary 2D development environment. The majority of the programming will be done in C#, the language used in Unity for all behaviors in a game. Or, the project will be built in GameMaker, where prototyping is simpler and where the 2D tools are better than unity (primarily 3D based with 2D tacked on) -- we are going to decide upon difficulty/time constraints. We will likely source API data for values such as average salary depending on job/field/etc, correlation of hours worked to mental health, basic probabilities (marked by random discrete/continuous variables) that either bludgeon a company to its demise, or slingshot it to success.

The process of following the way a series of events unravels is not difficult to implement, in fact, these games are easily developed by containing the ancillary functions in separate scripts for easier debugging/refactoring, etc. We will also likely be utilizing *GMLscripts* for point-to-distance scripts to trigger certain events along a journey. The main objective is performative event-triggering, along with persistent control objects -- that, if an event/data occurs, the game will remember the events as it progresses.

VII. GitHub Repository Link:

https://github.com/ericgabrielrivera557/GroupProjectFall19.git *(private at the moment)*