

# **Rocket Factory Tycoon- Project Proposal**

## **Web-Application**

### **EXECUTIVE SUMMARY:**

Our clicker idle game web application, named “Rocket Factory”, will be a GUI-based game application that aims to entertain players and provide a sense of fun and accomplishment as they progress through the game. It will also allow the user to choose between an active or passive playstyle; If they choose an active playstyle, they will choose upgrades that lead to more progression while actively playing (i.e. clicking and/or completing tasks). On the other hand, if they choose a passive playstyle, they will earn progression slower but will earn constant progression even while idle. The passive style will focus on automated production. The objective of the application is to act as an entertaining pass-time, giving users something to do while trying to kill time such as while commuting or breaks.

### **PROJECT BACKGROUND:**

The previous section has briefly described our project application, here we will provide a more extensive explanation about the project application functionality. Please note that the specific features will be further explained in the next section

Clicker games have gained a vast popularity due to their simple yet remarkably engaging mechanics. Many players enjoy the experience of improvement and victory these games provide. However, most clicker games generally follow the same patterns of incremental without offering much diversity in approach. Rocket Factory intends to present a more depth to the classic clicker model by allowing players to choose their approach, whether through active play or tactical passive management.

When the user first accesses the GUI, they are presented with the tutorial, explaining hands-on through multiple steps the goal of the game and the various features. This ensures that even people with minimal experience in gaming or computer operations can easily get started. They will also have access to a menu which has settings for sound / graphics and number notation.

1. A main page with two side sections and a main section
2. A page for changing settings

3. Changing number display format based on setting.
4. Achievements page for players to view their achievements for completing a threshold or (unlocking certain upgrades).
5. The stats page gives information on the number of points earned per click and the generated points over time.

## **SOLUTION AND APPROACH:**

This section will explain more details about the specific features that we are going to implement in our project application. We tried to use as many tools as possible from the ones we have learned during the past semesters.

Our goal is to develop a game that combines simplicity and strategic complexity accessible for all types of players. The features include:

### **Main Page**

The main page will have a rocket centered in the middle with a button in front of it. Clicking the button will play a launch animation and give you points based on the upgrades you have. Centered at the top of the page will be a display which tracks the number of points that you have. There will be various upgrade paths for game progress. There are categories like “Rocket Enhancement”, “Factory Improvements”, “Power Ups”, and “Special Items. On the right-hand side of the screen there will be a section to purchase helpers which produce passive points and on the left-hand side there will be upgrades that you can purchase. There will be a gear icon in the top left corner to access settings.

### **Settings Page**

The settings page will have buttons with their labels, which will do things such as mute or unmute music or sound effects, and change number display, etc. There will also be a button in the settings to access achievements and to access stats such as total points earned, time played, times the button has been clicked, etc.

There will be different options available for number display

- A) Decimal form; This will be the default option, replacing digits with names as your points get larger (i.e. 5105987 would display 5.10 million, 6947385764 would display 6.94 billion etc.)
- B) Scientific Notation; Shows numbers in scientific form (i.e. 5105987 would display  $5.10e6$ , 6947385764 would display  $6.94e9$  etc.). This is good for those who don't know the names of higher numbers.
- C) Engineering Notation; Like scientific form but only raises exponents up to a multiple of 3 (i.e. 12345678 would display  $12.34e6$ , 123456789 would display  $123.45e6$  and 1234567890 would display  $1.23e9$  etc.). This is good for those who struggle to understand scientific form, as it only switches exponents every 1000x.

### **Achievement Page**

This page is linked with the settings page, which will have a scrollable list of achievement names that are either colored green or grey based on what has been completed. There will be some sort of indicator of their progress, and more information will be shown upon being clicked.

### **Stats Page**

This page is also linked with settings. It shows details on the number of points multipliers produced by each click on the rocket. The points earned by seconds include when the user is idle, and the time spent playing.

### **Potential Risks and Solutions**

To balance upgrades, we need to ensure that the progression is not too fast or too slow, making it feel rewarding for the users. Also, play tests should be done to adjust point generation rates. For maintaining users to engage over time, implementing achievements and new updates is a solution.

## **WHO WILL TAKE OWNERSHIP OF THE APPLICATION?**

This application is designed to be used by anyone who enjoys games or who wants a simple entry into the gaming world. In other words, the application is built in a very user-friendly fashion, allowing most people to use it, even if they have very basic knowledge about the computer operation. The tutorial within the game is very straightforward and can teach even the most technologically inept individuals to play. We believe everyone should have an equal opportunity to use this application at their own convenience, and we aim to connect with a larger group of people, no matter what their social or educational background is.

### **ADDITIONAL DOCUMENTS:**

Sounds and Images (<https://opengameart.org/>)

### **TEAM MEMBERS:**

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