Ryerson University

Introduction to Software Engineering

(CCPS406 – Fall 2018)

Project Status Report#3

Project Business Case

Prepared for: Professor Nawar Hakeem

Prepared by: Fahad Jamil

Yashodhar Dave

Meet Pandya

Benjamin Travaglini

Contents

[I. Reasons and Motivation behind the proposed project: 3](#_Toc527736395)

[A. Value Added by this product 3](#_Toc527736396)

[B. Intended Audience 3](#_Toc527736397)

[C. Targeted Market 4](#_Toc527736398)

[D. Other features: we would add if we get any ideas 4](#_Toc527736399)

[II. Market Survey of competition for similar products 5](#_Toc527736400)

[A. Competitive Products Reviewed 6](#_Toc527736401)

[1. **Lego Pac-Man Snake Game :** http://www.gahe.com/s/Lego-Ninjago-Rise-Of-The-Snakes-games, http://www.gahe.com/Silly-Snakes 6](#_Toc527736402)

[ Pros/Features: Colorful 6](#_Toc527736403)

[ Cons/Issues: Initial access to the internet must be available 6](#_Toc527736404)

[ Popularity/Market Share: There is a Silly Snake 2.0 but does not seem appealing. There is an alternate version named Silly Snake.io 6](#_Toc527736405)

[2. **Google Snake Game:** https://elgoog.im/snake/ 6](#_Toc527736406)

[ Pros/Features: A decent game with time limit of each gaming session 6](#_Toc527736407)

[ Cons/Issues: Initial access to the internet must be available 6](#_Toc527736408)

[ Popularity/Market Share: Seems to have been left in the past as a historical landmark. 7](#_Toc527736409)

[3. **Slither.io** : http://slither.io/ 7](#_Toc527736410)

[ Cons/Issues: Initial access to the internet must be available 7](#_Toc527736411)

[ Popularity/Market Share: This game seems to be very popular as we could see many students playing this in the Learning Commons with full screen window. 7](#_Toc527736412)

[III. Project Success Criteria 8](#_Toc527736413)

[A. The product will work online as well as offline 8](#_Toc527736414)

[B. The product will exhibit one push notification 8](#_Toc527736415)

[C. The product will function for the basic movements, defined key operations, user exit detection for graceful shutdown. 8](#_Toc527736416)

[D. The product will make use of high resolution graphics with colors. 8](#_Toc527736417)

# Reasons and Motivation behind the proposed project:

We firmly believe that the snake movement simulation game that we plan to develop as part this project will provide following benefits to the gaming community and to the general audience:

## Value Added by this product

The ability to play a game while you are on a computer with the internet or while on a mobile phone without a data plan is the key advantage we want to offer this product. This type of product is relatively new in the market, because by choosing either one of the two alternatives makes the game development less complicated, but at the cost of limitation to the users. We would like to develop this game to present that it is possible to have a game that could do both.

The value added by the snake game project is purely entertainment based as it’s quick, easy, and accessible to anyone with an internet connection or without (Having visited the application once). Even if users don’t have a stable internet connection they can still receive entertainment from this platform-based game. Aside from it being accessible it’s user friendly and provides a classic game in a modern time, with enhancements done for the game to be able to survive and thrive in a modern environment.

## Intended Audience

By making the game available online as well as making it compact and auto deployable to the user’s workstation, we intend reach the online gaming users as well as the users at home who are restricted to the limited internet bandwidth. Even though the major internet service providers have started to provide internet speeds in the upwards of 25 Mbps – 50 Mbps, the same service providers have either started to restrict the amount of download a retail user could have. In many cases, the service providers which used to provide the large amount of download capability, have either increased the charges for the amount users could consume or have stopped allowing the large amounts of download altogether.

In the case of young gaming enthusiasts who are restricted from playing online games by means of limited or timebound internet access, the game that we are developing would provide these users one more alternative to play the game offline after the game is installed to their workstation initially. This will allow them to be entertained.

By making this game offline, the users who experience frequent internet service interruptions would also be at advantage.

## Targeted Market

Primarily the game will be hosted on a North American Web Hosting service, which will be accessible to all countries allowing access to the North American content.

The target market however could be remote areas of Asia and Africa where the internet access is still relatively expensive and prone to interruptions.

Alternative target market would also be the remote North American Cottages and Campgrounds where internet service is pay-per-use.

Lastly, for the gamers in the modern neighborhoods where the internet is available, this would still be applicable to allow them to be mobile by continuing the use of this game on their mobile device such as laptop, tablet and cell phone. They don’t need to be in the same wireless range anymore.

## Other features: we would add if we get any ideas

# Market Survey of competition for similar products

A simple google search for “snake game” will yield results about the products that currently exist in this market space. The market study will include our analysis of each top product with include strengths and weaknesses with a brief explanation in similarities and differences.

[patorjk.com/games/snake/](http://patorjk.com/games/snake/) -> Contains: rugged UI, Minimalistic graphics, No Progressive web(PWA) application support, Small web application that loads relatively fast. 0.9 KB. The strengths are that this game is very small in size, quick to load and get playing. The weaknesses are that this application is poorly built that showcases this application was not built with modern software engineering practices, it does not incorporate a PWA approach and does not implement high scores and different levels within the game. It is at best a showcase of how a game can be transmitted to the end user.

<https://playsnake.org/> -> Contains: Decent friendly UI, Decent graphics, No Progressive web application support(PWA), Double the download size of the first analyzed product. 1.8 KB. The strengths include a friendly UI, Decent graphics and relatively small download size. The weakness is that it does not incorporate a PWA approach and does not implement high scores and different levels within the game.

<https://www.coolmathgames.com/0-snake> -> Contains: Cluttered UI, Game is just one amongst hundreds, Decent graphics, No Progressive web application support(PWA), almost 25 times the size of the second analyzed product. 25 KB. The strengths include that this game can be played amongst hundred others. The weaknesses include the fact that there is no support for users with limited internet connection as the size of the download is large. It does not incorporate a PWA approach and does not implement high scores and different levels within the game. It is infested with advertisements that limit the end user from enjoying the game for what it’s built for.

These products are top 3 results that you receive for searching the above keyword. Now, we have analyzed their source code via the browser and the results are produced on the side of the hyperlink to each product. Looking at the result of these said products we can easily deduce that these products are similar in terms of what they provide for the end user; which is entertainment. But if you dive deeper on each product they are different in every way from their strengths and weaknesses described in the analysis.

What our product will achieve is the perfect balance between the strengths and no weaknesses from the analysis we conducted on other products in the market. We intend to include a friendly, uncluttered UI that goes well with decent graphics. Add progressive web application support for our end users to be able to retain the downloaded application and use it in times of no internet access. Implementation of high scores and different levels within the game. A small download size which will not exceed the current market expectations of about 2 KB and most importantly it will be built following modern software engineering practices. Analyzing the failure of each product how these products are positioned in this market we can easily be recognized as a superset of each top product available in the market and by that we mean, a “perfect” product.

## Competitive Products Reviewed

### **Lego Pac-Man Snake Game :** <http://www.gahe.com/s/Lego-Ninjago-Rise-Of-The-Snakes-games>, <http://www.gahe.com/Silly-Snakes>

Silly Snakes is a colorful game with selection for snake skin color. Defined window with other online players for interactive play.

### Pros/Features: Colorful

Online

Control for Left and Right edge boundaries with Lower and Upper Edge screen scrolling.

High Score board

A small window showing potentially lucrative area to find more fruits to gobble to score more.

### Cons/Issues: Initial access to the internet must be available

As soon as the game detects that the internet is not available for advertisement ingestion, the game exits.

Full of advertisements and distractions

### Popularity/Market Share: There is a Silly Snake 2.0 but does not seem appealing. There is an alternate version named Silly Snake.io

### **Google Snake Game:** <https://elgoog.im/snake/>

A decent game with time limit and various objects to consume. Also available offline but the initial access to internet must be available for the game to start. Not available offline. Only after the initial internet access, the game is accessible to be played while internet connection is not interrupted.

### Pros/Features: A decent game with time limit of each gaming session

Available offline after initial internet access

Background music with on/off toggle

Inspired by Chinese year 2013, the year of the snake.

Score for current play

### Cons/Issues: Initial access to the internet must be available

Fixed time limit for each game.

Fixed snake color.

Fixed background music which could get annoying after a few minutes.

No ability to collaborate with other gamers, only a single user play.

### Popularity/Market Share: Seems to have been left in the past as a historical landmark.

### **Slither.io** : <http://slither.io/>

A great game with colorful objects to consume. Not available offline.

Pros/Features: A decent game with time limit of each gaming session

Makes great use of colors

Known in the social media

Ability to name the snake and skin selection for paid members

High Score Leader board

Ability to play with other online gamers.

### Cons/Issues: Initial access to the internet must be available

Some advertisements.

No music!!!

Could cause addition

### Popularity/Market Share: This game seems to be very popular as we could see many students playing this in the Learning Commons with full screen window.

# Project Success Criteria

## The product will work online as well as offline

## The product will exhibit one push notification

## The product will function for the basic movements, defined key operations, user exit detection for graceful shutdown.

## The product will make use of high resolution graphics with colors.

-----\*\*\*-----