

Table 1: Revision History

Date	Developer(s)	Change
09/22/16	Or Almog	Made & compiled .tex
09/22/16	Mikhail Andrenkov	Edited and Proofread Content
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SE 3XA3: Problem Statement

Rogue Reborn

Group #6, Team Rogue++

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From the humble beginnings of *Pong* and *Pacman*, the video game industry has evolved to define modern entertainment by constantly pushing the limits of hardware and software. The technology behind contemporary video games encompasses a large variety of academic subjects and can be as sophisticated and rigorous as any other traditional software project. Although it is easy to forget that modern developers stand on the shoulders of giants, it is important to remember that even classic video games were considered immense feats of technical accomplishment in their time. As such, the Rogue Reborn project aims to re-create the legendary *Rogue* (1980): an iconic video game best known for pioneering the “roguelike” game genre.

In short, the problem to be solved by the Rogue++ team is the issue of boredom. In a society where information and amusement is omnipresent, it is no secret that people generally have less energy to expend on duller subjects that are ultimately more important than their more lively rivals. To lighten the mood during the more boring times, a simple, well-designed video game can serve to help people relax, engage, and enjoy themselves. This form of entertainment can also increase future productivity and creativity by stimulating the brain during originitive problem-solving tasks. By designing a modern port of the original *Rogue*, people today can have access to a timeless and invaluable entertainment piece that will run on almost any modern operating system.

The need for a *Rogue* re-make is also characterized by the legacy software design techniques that were used in the original release; these practices made the original source difficult to read, compile, understand, and modify. The aim of this project is to rewrite *Rogue* in a modern programming language (C++) with newer paradigms such as OOP, and provide a full set of test cases and documentation to accompany the deliverable. The new product will be func-

tionally equivalent to the original, although the new version may contain several improvements to the non-functional qualities of the game.

Environment-wise, the software will be developed for a personal-use Linux desktop. As the rewrite will use ASCII art graphics like the original, the environment will not exclude older or slower hardware. The library in use (libtcod) also has support for a Windows environment, so a hypothetical port to the Windows OS would involve minimal changes. Unlike the original, the rewrite will use a graphical (emulated) console: this enhances portability, eases development, and allows for greater accessibility.

One of the primary stakeholders of the Rogue Reborn project is everyone who will be playing the game (most likely players who are familiar with the original *Rogue* game or its successors) for the rest and relaxation reasons mentioned above. Given that *Rogue* is the origin for the roguelike genre, it also offers historical and nostalgic value for some of the more veteran stakeholders. Another group of interested stakeholders includes game developers, since it is common for programmers to look at successful past products for insights while developing their own projects. A modern, well-documented version of *Rogue* can prove to be quite valuable for aspiring game developers. Finally, Professor Smith, the 3XA3 TAs, and the project playtesters are an additional group of stakeholders, as they are responsible for evaluating the project and have a significant impact on the final deliverable. On the whole, the Rogue Reborn project should allow interested stakeholders to clearly examine the inner workings of the game, enable easy modification and extension of the game, and provide direct entertainment value much like the original game.