**Software Requirements Specification**

**for**

**Clash of Clans Version 2.0**

**Prepared by**

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1. **INTRODUCTION**
   1. Purpose

The main objective of the project is to create and design an interactive game that applies data networking concepts so that the students will gain knowledge and experience about computer networks such as socket programming.

* 1. Document Conventions

In this document, the Clash of Clans will be referred to as COC, the Townhall will be termed as TH, the medium for transaction as LOOTS, and the clan castle as CC. All new terms that will be stated in this document will be in bold.

* 1. Intended Audience and Reading Suggestions

This document is intended for the project manager, developers, and testers who will use the system.

* 1. Product Scope

The project is intended to give the students an opportunity to learn and gain knowledge about data networking, and will be further used by the professor as a basis to determine if the objective of the course has been fulfilled.

* 1. References

Wiegers, K.E. (1999). Software Requirements Specification (SRS) Template.

1. **OVERALL DESCRIPTION**
   1. Product Perspective

The project will be a model of the already existing Clash of Clans mobile application. However, this does not intend to contain all of the functionalities and features of the said game, but will focus more on applying the computer networking concepts.

* 1. Product Functions

The characters that will be used in the game are summarized in the table below. The Preferred Target in the second column explains the priority target of each character type. If there is no preferred target indicated, the character will attack the enemy closest to him.

2.2.1 Character Details

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Preferred Target** | **Attack Type** | **Movement Speed** | **Attack Speed (s)** | **Qty** | **Range (tiles)** | **Damage per second** | **Hitpoints** |
| **Barbarian** | None | Melee | 16 | 1 | 20 | 0.4 | 23 | 95 |
| **Archer** | None | Ranged | 24 | 1 | 17 | 3.5 | 20 | 40 |
| **Goblin** | Resources (Damage x2) | Melee | 32 | 1 | 18 | 0.4 | 32 | 64 |

2.2.2 Building Details

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Quantity** | **Hitpoints** | **Damage per second** |
| **Town Hall** | 1 | 2,400 | 0 |
| **Barracks** | 6 | 420 | 0 |
| **Walls** | 80 | 1,400 | 0 |
| **Cannon** | 5 | 620 | 25 |

* 1. User Classes and Characteristics

The system has only one type of user – the players. These players will gain access to all functions and features of the model application. Nevertheless, they do not have access to the back-end of the program.

* 1. Operating Environment

The software is programmed to be a desktop application compatible with computers on any operating system.

* 1. Design and Implementation Constraints

The project will be programmed using Java for the front-end and C for the back-end.

* 1. User Documentation

This document along with an additional user manual will be delivered upon completion of the project in order to guide the users in using the software.

* 1. Assumptions and Dependencies

The program is assumed to be used only by the programmers within the laboratory and is not intended for outside deployment.

1. **EXTERNAL INTERFACE REQUIREMENTS**

3.1 Software Interfaces

The system uses the following software/libraries in its implementation and usage.

* Java
* C
* Eclipse IDE

3.2 Communications Interfaces

The system requires web protocols in order to transmit data from the client to the server. The server must be capable of transmitting data using the TCP/IP (Transmission Control Protocol/Internet Protocol) networking protocols, as well as an HTTP Server such as Apache in order to transmit information using the HTTP (Hypertext Transfer Protocol). The client on the other hand, must be able to parse the data and communicate with the server using TCP/IP as well and a Web Browser supporting the latest HTTP version.

1. **APPLICATION PROTOCOL AND GAME PLAY**

Initially, when a user connects to the server, he will be assigned a randomized base to be chosen from the four formats below. The dark green border serves as the walls of the base, the blue squares as the cannon, brown boxes are the barracks and the red box serves as the town hall. Furthermore, the player’s status as “connected” will also be returned to the server.

Server Parameters:

* Number of players
* Client IP Address
* Client ID
* Game State

Client Parameters:

* Server IP Address
* Server Port
* Current State (online/offline)
* Base/Village

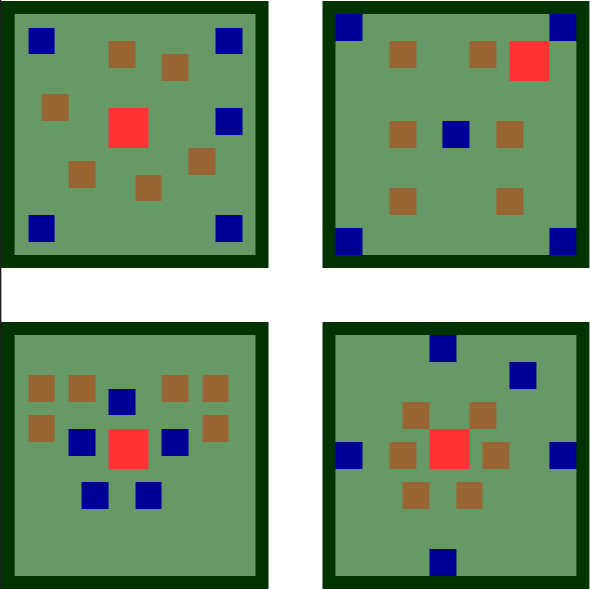


Figure 1 shows the layout of the 4 initial bases to be used in the COC model

The players will be given an option to attack other players in the game, whether or not they are connected. In addition, it is also possible that the players can have interaction with each other through a chat box. The chat box feature is only restricted to the players who are connected online.

1. **OTHER NON-FUNCTIONAL REQUIREMENTS**
   1. Safety Requirements

As a standard, players are discouraged to share their passwords among other players for it may result to account hacking.

* 1. Security Requirements

The system has no security requirements since anyone can make an account and gain access to the game.

* 1. Software Quality Attributes

The software is required to be able to connect at least three players at any given time provided that all players are logged in to their accounts.

**Appendix A: Glossary**

COC

an acronym for the Clash of Clans mobile application

TH

an acronym for the Townhall building in COC

LOOTS

term to be used as a medium for transaction while inside the game

CC

an acronym for the Clan Castle building in COC

Java

programming language to be used for the front-end of the system

C

programming language to be used for the back-end of the system

* archers will have their own defense, no need to use archer tower
* will reset the number of troops after war
* player can only attack an online player
* no level ups, no saving of previously played games