

Clash of Clans

Game Design Document

*in partial fulfillment of the requirements in
CMSC 137 - Networking*

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Table of Contents

- 1. Index**
- 2. Game Design**
 - a. Summary
 - b. Gameplay
 - c. Mindset
- 3. Technical**
 - a. Screens
 - b. Controls
 - c. Mechanics
 - d. Other Features
- 4. Level Design**
 - a. Game Flow
- 5. Development**
 - a. Abstract Classes
 - b. Derived Classes
- 6. Graphics**
 - a. Style Attributes

Game Design

Summary

The game is all about building and strengthening your army and engaging other players in battle. There will be different kinds of warriors for each player. The goal is to win with your army as the last one standing. The users may also battle as a group forming a clan. They will have to battle other clans and earn clan points in the process.

Gameplay

The main goal of the game is with the theme “The Last Person Standing.” The game is like a survival game, wherein each clan or group will keep on attacking and destroying each other. Players that belong to the same level are the only ones who can compete with each other. The level of the player will be increased every after 10 wins. For example, Player 1 who have 6 accumulated wins will be considered as a level-one player. After garnering 8 more wins which adds up to a total of 14, he will be considered a level-two player.

Gems can be used by the players to get advanced ability to defeat the other troops. At the very start of the game, a specific amount of gems will be given in advance to the player. The player will get the chance to gain more gems in each game played. For an instance, if the player wins the game, a certain amount of gems will be given to him depending on the how well his performance is throughout the game.

The clan that remains until the end of the game with its troops and tower still standing will be declared as the winner.

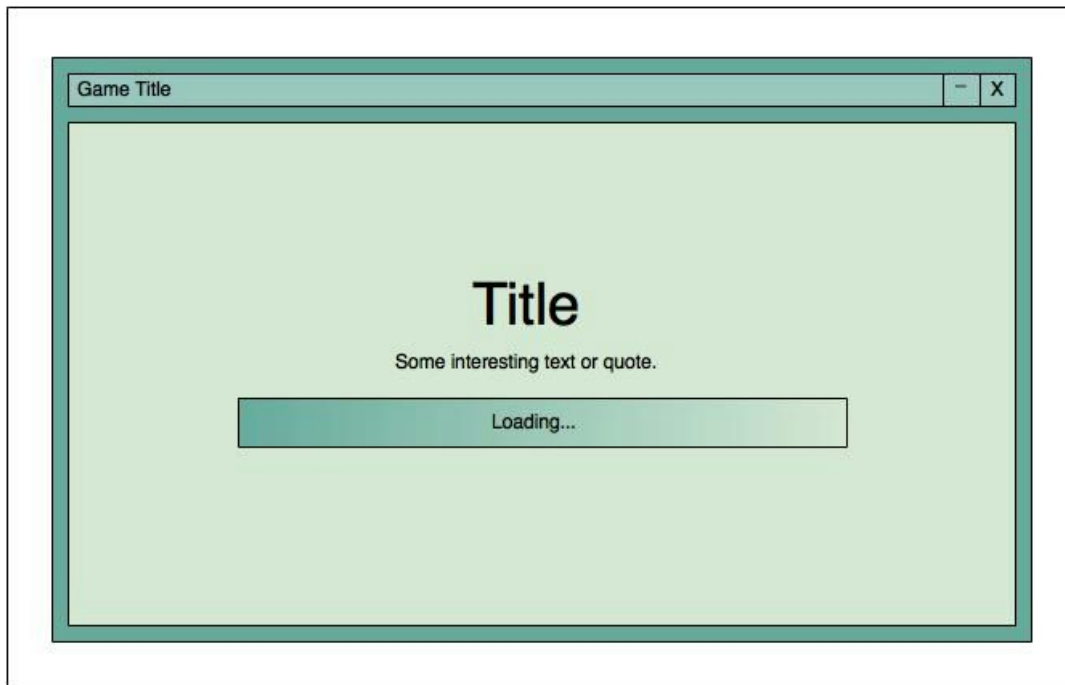
Mindset

A player should be aggressive yet intelligent when engaging in battle. He should consider strategies that he and his opponents uses to emerge victorious in the battle. Placement of troops, considering each troop’s attributes and abilities, and anticipating opponents’ attacks should be the main focus of a player’s mindset because these constitute the entirety of the game.

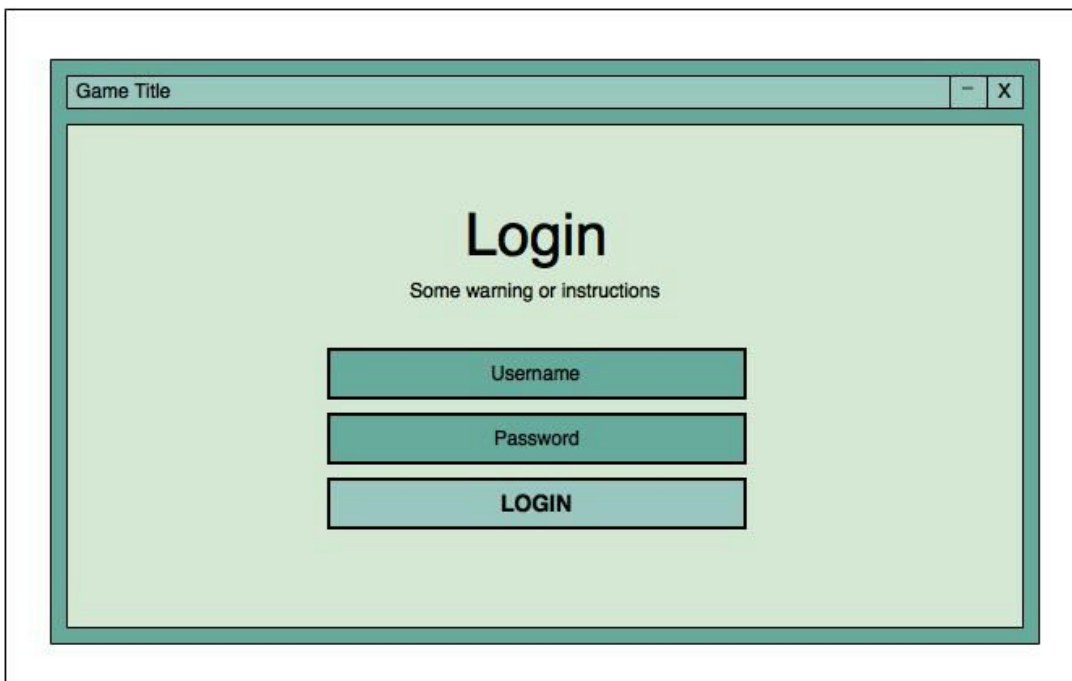
Technical

Screens

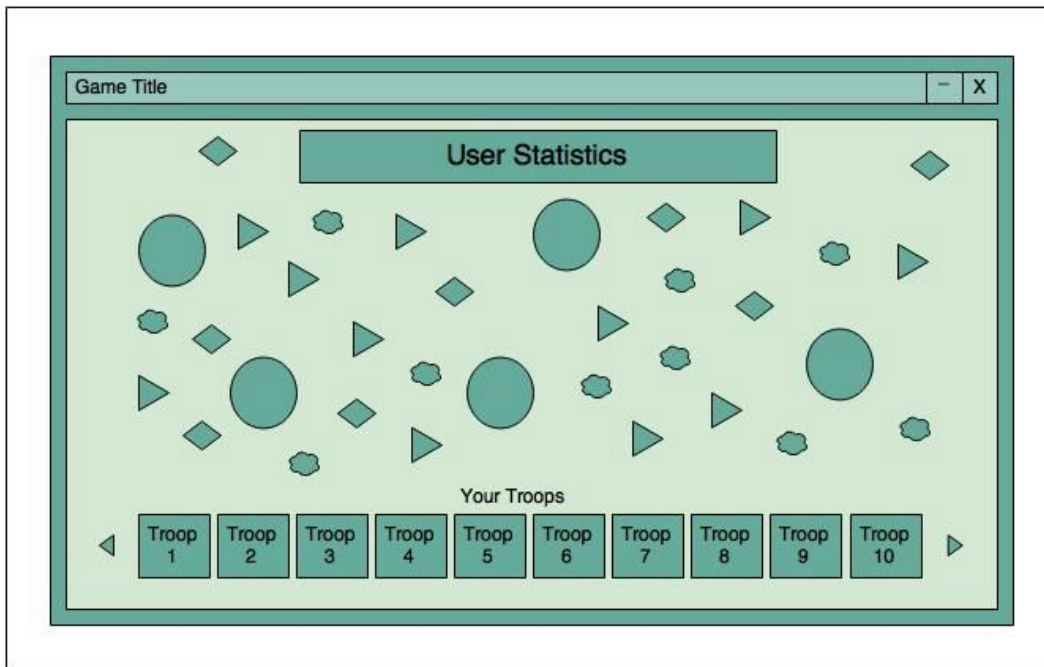
1. **Title Screen** - This will show the title of the game.



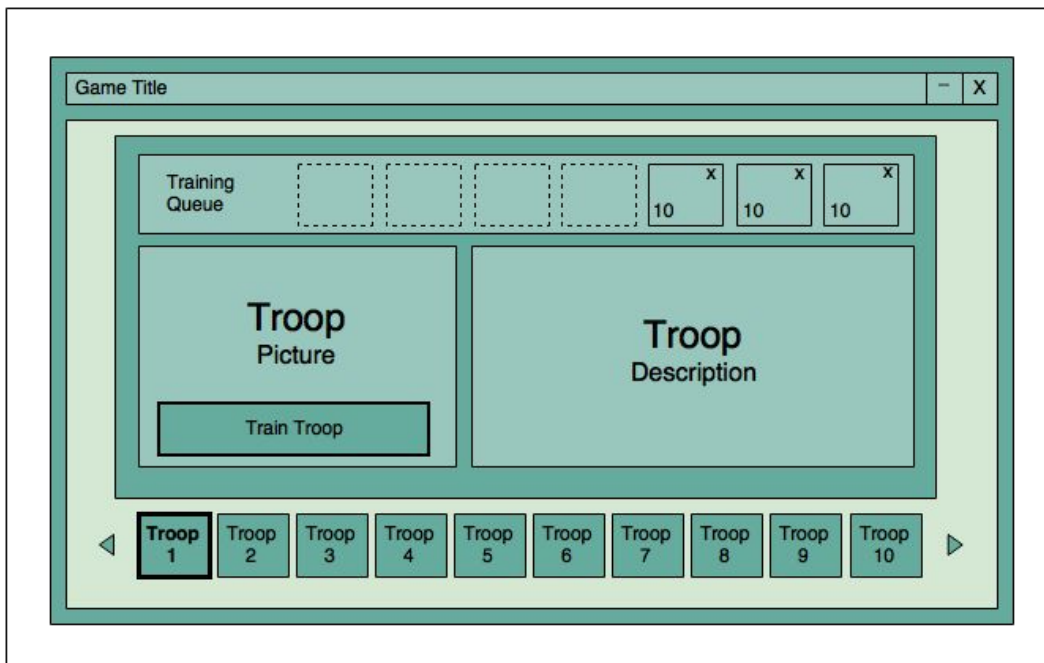
2. **Log-in screen** - This will show a screen wherein a user can log-in using his or her credentials.



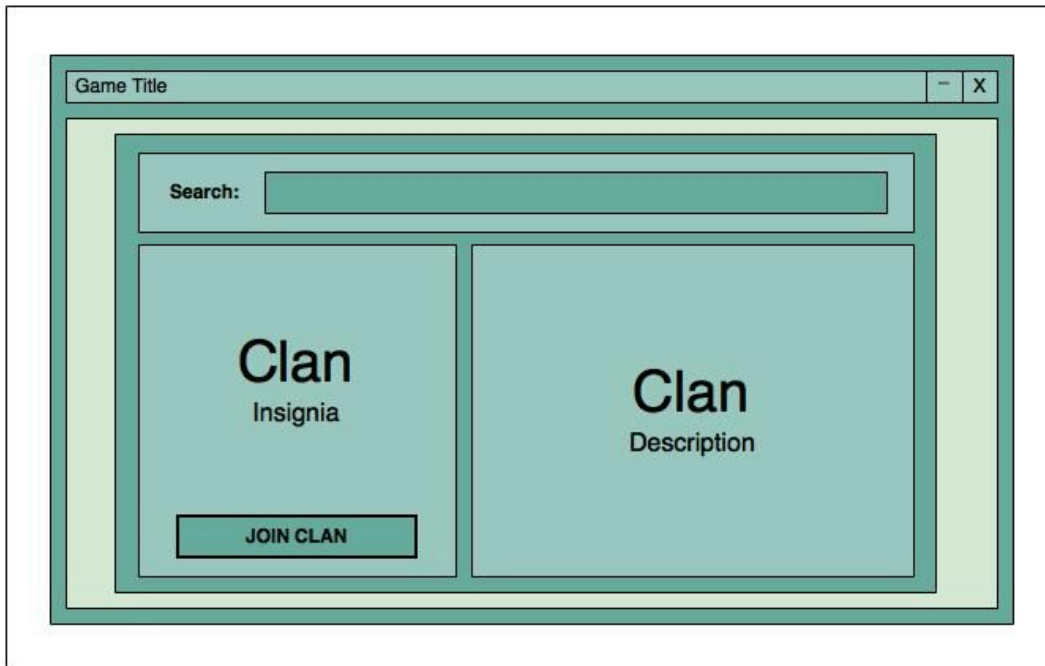
3. **Troops** - This will show the troops of the current user who is logged in.



4. **Train** - This will show a screen wherein a user can train more warriors that he or she can use during a battle



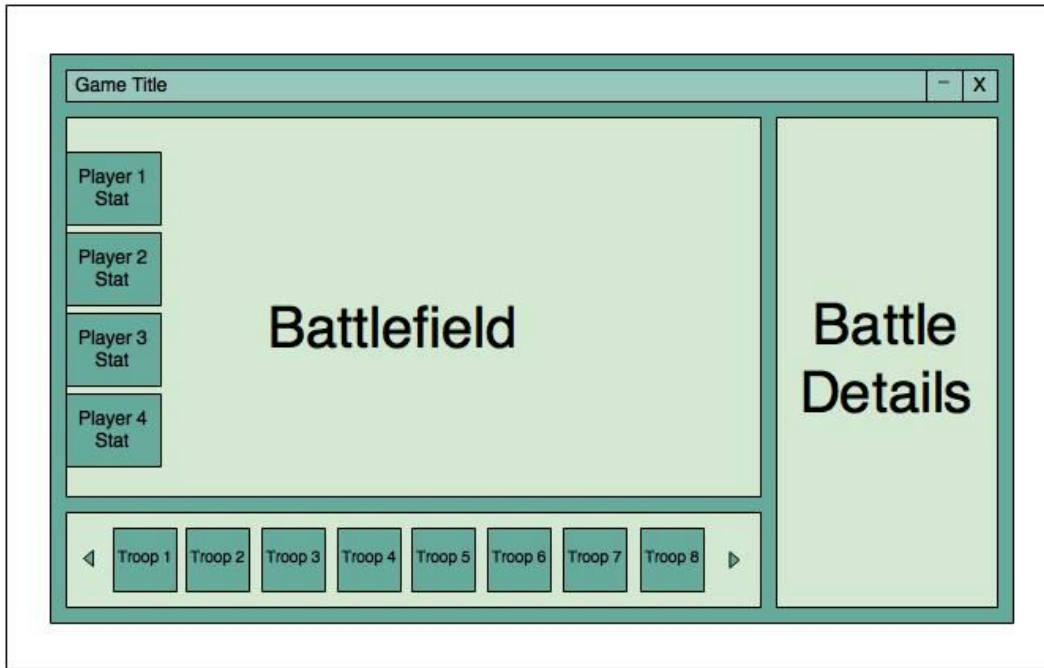
5. **Find Clan or Team** - This will show a screen containing a search bar wherein the user can search a team or a clan to join.



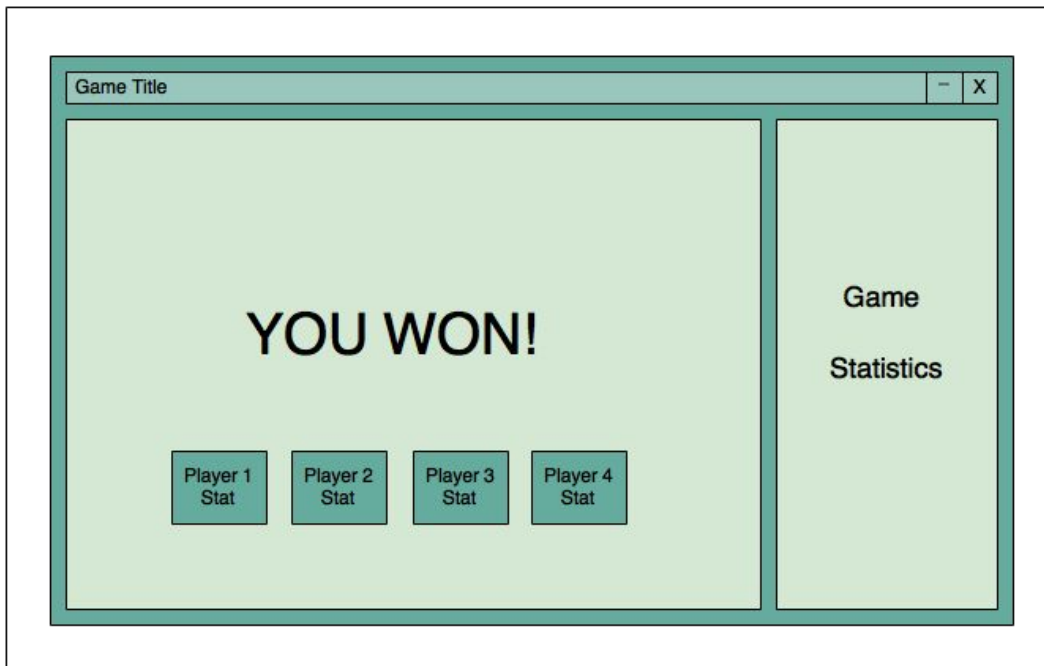
6. **Game** - This will show a prompt screen if the user really wants to start the game and if he or she does, he or she will then be prompted to a waiting screen while waiting for other users to connect.



7. **Battle** - This will show a battle screen wherein the users can start to battle each other.



8. **End Credits** - This will show the result of the current battle.



Controls

Only the mouse control keys will be used for this game. Mainly, only the left click will be used to manipulate and control any elements of the game.

Mechanics

1. Each multiplayer round of the game will be considered as a 'battle'. Each battle will be composed of at least two (2) and a maximum of four (4) players.
2. In every battle, the player can choose which among his troops will be used.
3. 10 battle wins will make a player's game level increase.
4. Only players coming from the same level can battle with each other.
5. Five (5) consecutive losses will decrease a player's level.
6. If a player decides to stop in the middle of a battle, all events made by that player from that game will not be recorded. In a two-player battle, once Player 1 surrenders, Player 2 will be the winner. Player 1 will be deducted by some points and/or gems. While on a multiplayer game (3 or 4 players), if a player decides to surrender, the game will continue with the remaining players in the game battling with each other.
7. A player can also train his troops when he is not involved in any battle. Through this training, the troops can also gain more ability and eventually increase the level of the player.

Other Features

1. **Add Friend** - Users may add each other as friends.
2. **Chat** - Users may contact other players through the use of the chat feature.
 - a. Users may chat with each other as long as they are friends or clanmates within the game.
 - b. Users engaging in battle may also chat with each other.

Level Design

Game Flow

1. The user will be first prompted in a login screen. If the user is not registered, he or she must first register in the game. If he or she has successfully logged in, he or she will then be prompted to a screen wherein he or she can view his or her warriors or army.
2. He or she can either train more warriors or engage in battle.
3. If the user wants to train warriors, he will then be prompted to the train warriors screen. He or she can train different kinds of warriors. Each warrior has a corresponding food consumption. The user must not exceed his or her allowed food consumption cap.
4. If engage in battle, he will have to wait for players to connect to him before engaging in battle.
5. If battle is ready, he can first click a warrior to deploy on the selection box. Then, he or she can click anywhere on the interface to deploy this selected warriors.
6. If all warriors are deployed, he can then wait for the result of the battle.
7. The player with the last warrior standing will be the winner.

Development

Abstract Classes / Components

1. BasePlayer
2. BaseTroop

Derived Classes / Component Compositions

1. BasePlayer
 - a. PlayerMain
 - b. PlayerUnlockable
2. BaseTroop
 - a. TroopFighter
 - b. TroopArcher
 - c. TroopGiant
 - d. TroopGoblin

Graphics

Style Attributes

The game will utilize raster graphics which uses chunky pixels in 8-bit/16-bit color, making its graphics design similar to a “retro” game. Standard color conventions for interacting elements’ attributes would be used (e.g. HP Bar = green, low HP = red) for the game. Each player in a multiplayer battle will be assigned different colors for their flag. Game objects such as menu options would have a change in color during mouse hover. Colors for single player interface (troops, structures) would be mostly static.

Application Protocol

Chat Feature

CLIENT(sender, receiver, message, timestamp)

SERVER (sender, receiver, message, timestamp)

Login

CLIENT (request: username, password)

SERVER (response: successful or unsuccessful)

Gameplay

PLAYER (troop_type, coordinates)

