# Test Document

## AI

## Test

AI – Creep attacking

## Summary

Test if the attacks dealt and handled properly

## Expected Result

If the attack hits the target opponent unit, the HP of that until should be reduced depending on the amount of attack dealt.

## Our Result

The HP of the target is reduced when it is hit by an AI creep.

----------------------------------------------------

## Test

AI – Creep pathing

## Summary

Test if the creep follows the right path while moving

## Expected Result

The creep follows its own path toward the opponent castle

## Our Result

-----------------------------------------------------

## Test

AI – Creeps dying

## Summary

Test the behaviors of the creep when the HP reaches zero

## Expected Result

When the HP of the creep reaches 0, it disappears from the field

## Our Result

-----------------------------------------------------

## Test

AI – Tower attacking

## Summary

AI tower attacks enemy units automatically

## Expected Result

AI tower attacks when an opponent unit comes within the detectable range

## Our Result

-----------------------------------------------------

## Test

AI – Tower dying

## Summary

Test the behavior of the AI tower when it gets destroyed.

## Expected Result

AI tower disappears from the field when its HP reaches zero.

## Our Result

-----------------------------------------------------

## Test

AI – Castle dying

## Summary

Test the behavior of the AI castle when it gets destroyed.

## Expected Result

AI castle disappears from the field when its HP reaches zero and the game ends.

## Our Result

-----------------------------------------------------

## Game logic

## Test

Unit killing

## Summary

Test the behavior of the unit after it gets killed.

## Expected Result

The HP reaches 0. The unit should disappear and then waits for respawn.

## Our Result

-----------------------------------------------------

## Test

Selling towers

## Summary

Test the behavior after selling a tower.

## Expected Result

The tower should disappear on the field, and the team should receive a correct amount of gold.

## Our Result

-----------------------------------------------------

## Test

Buying tower

## Summary

Test the behavior after purchasing a tower.

## Expected Result

The tower should appear on the field at the right position, and an amount of gold should be deducted from the team.

## Our Result

-----------------------------------------------------

## Test

Game lost

## Summary

Test the behavior of the game on the losing team when the game ends.

## Expected Result

A losing screen with a button for the user to go back to the main menu will be displayed

## Our Result

-----------------------------------------------------

## Test

Game won

## Summary

Test the behavior of the game on the winning team when the game ends

## Expected Result

A winning screen with a button for the user to go back to the main menu will be displayed

## Our Result

-----------------------------------------------------

## Test

Lobby – game logic test

## Summary

Different messages are sent back and forth between the server and the clients even in the lobby.

## Expected Result

Message is sent to the server whenever a client selects a position in a team to ensure that the selected position is available and a valid choice.

Messages are sent between the server and the clients before the game starts to ensure that each client in each team is in the “Ready” state.

## Our Result

All the necessary messages are sent and received on both the server and the clients.

-----------------------------------------------------

## Networking

## Test

The client application connects to the server

## Summary

After clicking on “Join”, the client should then be connected and brought to the lobby.

## Expected Result

The client should be able to connect to the server, given that all the correct settings are provided. The hostname and the player’s name should also be displayed on the server.

## Our Result

-----------------------------------------------------

## Test

The server and the client are in sync

## Summary

This test checks and ensures that the time and all the events on the server and each of the clients are in sync.

## Expected Result

Messages are sent back and forth between the server and the client every 1/30 second and whenever an event occurs to keep the server and the client up-to-date and in sync.

## Our Result

-----------------------------------------------------

## Test

Client disconnects from the server

## Summary

When the client quits and disconnects from the server, the server needs to perform some cleanup jobs.

## Expected Result

After a client disconnects, the server needs to remove that client’s hostname and player’s name from the list of the connected players. The position on the team also gets emptied such that other player can join the game.

## Our Result

-----------------------------------------------------

## Test

Lobby – networking test

## Summary

Different messages are sent back and forth between the server and the clients even in the lobby.

## Expected Result

Message is sent to the server whenever a new client comes in to the lobby.

Message is sent to the server whenever a client selects a position in a team for the first time.

Message is sent to the server whenever a client changes his/her position in the team.

Message is sent to the server whenever a client leaves the lobby.

Messages are sent from the server to each of the clients before the game starts

## Our Result

All the necessary messages are sent and received on both the server and the clients.

-----------------------------------------------------

## Graphics

-updates

-draws things

-health bars

-currency

## Control

-movement

-placing creeps

-placing towers

-menus

-lobby

test

steps

what expect

what it did