

Blaze Brigade

- Test Plan -

SFWR ENG 3XA3 - Section L02
007 (Group 7)

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1 Functional Requirements Evaluation

All functional requirements were met. They will be evaluated in detailed sections below:

1.1 GUI

The Graphical User Interface is fully functional and allows the user to navigate through and access all of the game's features using mouse input. A main menu appears upon launching the executable. From the main menu, users are able to select New Game, How-To-Play and Exit via mouse input. A player is also able to control a unit and select all of its possible actions from the drop down menu from mouse input. Therefore all GUI functional requirements successfully been met.

1.2 Game Structure

A trace of 2 players with player 1 controlling 1 warrior, and player 2 controlling 1 mage would be as follow.

Player 1 selects a unit with the mouse, and a drop down menu containing Attack, Move, Item, and Wait appears. The player then selects item from drop down menu. From the drop down menu in items, the player selects Iron Sword to equip it. The player then selects move and clicks on a tile within range. The unit moves to that location and the move button disappears. The player then selects attack from the drop down menu and selects a valid attack target, resulting in neither targets dying. The attack button then disappears from drop down menu, and the player selects wait. Player 1's turn then automatically ends and switches to player 2. Player selects their unit, and selects attack from drop down menu, then selects player 1's warrior. The attack kills the warrior and the game ends.

The above trace of the game shows that the game is turn based, and consists of 2 players alternating turns. It also demonstrates that a unit can select from 4 available actions, with the additional requirement that it can only move and attack once per turn, and wait ends all of the unit's available actions. Furthermore the trace shows that when a player has no controllable units left, the game ends. Therefore all Game Structure functional requirements have accurately been fulfilled.

Table 1: **Revision History**

Date	Version	Notes
December 1, 2016	1.0	Completed Test Report

1.3 Unit Movement

Players are able to select move from drop down menu after selecting a unit. All movable nodes calculated from BFS and accounting for obstacles are highlighted blue. The player is then able to select one of the blue highlighted nodes to move the unit to that location. Therefore all Unit Movement functional requirements are implemented.

1.4 Unit Attacking

A player can select attack from drop down menu after selecting a unit. All attackable nodes calculated from BFS and accounting for weapon attack range are highlighted red. The player is then able to select an enemy unit within a red highlighted node to attack. Upon successfully selecting an enemy unit, an attack confirmation button will appear along with all relevant attack information. Clicking attack will execute the action, and result in getting counter attacked (assuming the unit attacked initially survived). The damage displayed in attack info will then be subtracted from each unit's health, and units with less than 0 HP are removed from the game. The unit that just attacked will then only have the Wait option left to choose from. Therefore all Unit Attacking functional Requirements are met as intended.

1.5 Unit Structure

The game implements the stats Strength, intelligence, defense, resistance, skill, speed, health, and utilizes them for damage calculations. Strength and Defense are used in physical damage calculations, intelligence and resistance in magical damage calculations, speed determines if a unit performs a double attack, and skill affects crit and hit rate on a unit. The 3 required units are also implemented and follows the requirements of each unit's stat build as follow: Warriors have high Attack and Defense, Archers have a high Strength, Skill and Speed, and Mages have a high Magic and Resistance. Each unit also has their own HP bar that updates corresponding to their current HP vs max HP. Therefore all unit structure requirements are successfully fulfilled.

2 Nonfunctional Requirements Evaluation

2.1 Look and Feel

The Main Menu page background and music successfully conveys a melodic and soothing atmosphere. The rest of the game's visual assets and interface also conveys a nostalgic feel similar to classic pixelated tactical RPGs such as Fire Emblem. Therefore the Look and Feel requirement are adequately met.

2.2 Usability

All people asked to test the game with a Windows computer with a screen size greater than 960x640, and access to a desktop pointing device have successfully managed to play the game. Therefore the usability requirement of the game has been fulfilled.

2.3 Performance

All algorithms and structures used in the game are executed in near instant time thereby fulfilling speed and latency requirements. All event driven game aspect behave exactly as expected, supports exactly 2 players and no player input to game can cause it to crash. Therefore precision, robustness and capacity requirements are met.

2.4 Operational

Following the README on how to run the game, all testers on a windows PC were successful in finding the location of the game executable, and in running Blaze Brigade. Therefore operational requirements were fulfilled.

2.5 Maintainability

A player is able to access all of Blaze Brigade's intended features from the released executable, therefore not needing any further maintenance. This results in meeting the maintainability requirement.

2.6 Security

The game's code and structure are not able to be modified from any user input while playing the game, thereby fulfilling security requirement.

2.7 Cultural

The game does not contain any content that is found to be offensive to any religious or ethnic group, which results in completing the cultural requirement.

2.8 Legal

The game does not contain any content nor is distributed in any way that conflicts with any known law. Therefore it fulfils all legal requirements.

2.9 Health and Safety

The health and safety warning covers the most probable symptom (albeit unlikely) that could result from playing the game. Therefore health and safety requirements are met.

3 Comparison to Existing Implementation

This section will not be appropriate for every project.

4 Unit Testing

5 Changes Due to Testing

6 Automated Testing

7 Trace to Requirements

8 Trace to Modules

9 Code Coverage Metrics