
Software Requirements Specification

for

Burger Breakout

Version 1.0 approved

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Six Guys

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Revision History

Name	Date	Reason for Changes	Version
David Sincyr/ Michael Rumohr	02/25/20	Initial Creation	1.0
Michael Rumohr	03/08/20	Revisions from Initial Creation	1.1

1. Introduction

1.1 Purpose

The purpose of this Software Requirements Specification (SRS) document is to specify the software requirements of Burger Breakout version 1.0, a gaming application playable on a computer. Burger Breakout plans to allow users to play a fun burger-and-fries-themed gaming application on their personal computer and this is a standalone system described in this Software Requirements Specifications document.

1.2 Document Conventions

Bold text is representative of significant importance. Requirements are assumed to have their own priority unless specified otherwise.

1.3 Intended Audience and Reading Suggestions

This intended Audience is intended for marketing staff, investors, and Dr. Ghanavati of COS 420. The SRS is organized in compliance with IEEE Recommended Practice for Software Requirements Specifications with this introduction, descriptions and features, followed by interfaces and requirements, and appendices can be found at the end of this document. It is suggested to read through the first three sections which are most pertinent to marketing staff and investors.

1.4 Product Scope

Burger Breakout is a standalone gaming application on a personal computer designed for all. The aim of the project is to develop a gaming application for children but can be enjoyed by all ages that is centered around a Five Guys® theme. The 2-D levels would be designed around different environments of the restaurant, such as the tables where patrons eat and the kitchen where the food is prepared. The user will guide the playable character through various levels by running, jumping, fighting, and climbing. There will also be other non-playable characters that will act as allies or enemies towards the playable character. Some levels may culminate in a boss fight or even encounter mini-bosses' in the middle of them. These non-player characters will have increased stats as well as move sets that will add a challenge for the user.

1.5 References

- COPPA: <https://www.ftc.gov/enforcement/rules/rulemaking-regulatory-reform-proceedings/childrens-online-privacy-protection-rule>
- Unity Scripting API: <https://docs.unity3d.com/ScriptReference/>

- IEEE Recommended Practice for Software Requirements Specifications:
<https://standards.ieee.org/standard/830-1998.html>
- https://bb.courses.maine.edu/bbcswebdav/pid-6227278-dt-content-rid-17503191_2/courses/2020.UMS05-C.0017.1/IEEE%20Recommended%20Practice%20for%20Software%20Requirements%20Specifications.pdf

2. Overall Description

2.1 Product Perspective

Burger Breakout is a new, self-contained, standalone gaming application and is designed to run on personal computers. The only requirements for the user are to have a personal and functional keyboard.

2.2 Product Functions

- Burger Breakout shall be designed as a two-dimensional side scroller personal computer gaming application.
- Burger Breakout shall have the user navigate linearly through different levels of difficulty.
- Burger Breakout shall allow the user to guide the game character using the arrow keys or WASD keys.

2.3 User Classes and Characteristics

The class of users for Burger Breakout is children. This class of children has been divided into two subclasses of novice and frequent players. The novice players do not have little to no experience and will require more guidance than the frequent players with hints and suggestions. The frequent players will have more insight and experience into gameplay. It is important to satisfy the novice user class so that they are more likely to continue playing Burger Breakout if they get frustrated during a certain part of the game.

2.4 Operating Environment

The environment which the software will operate in is Windows OS. Specifically, the software will target Windows 10, but alternate versions and platforms will be researched.

2.5 Design and Implementation Constraints

There are currently no design or implementation restraints.

2.6 User Documentation

User documentation will include a help section for the user providing complete instructions of Burger Breakout gameplay and suggestions and hints for beating certain bosses at the end of levels.

2.7 Assumptions and Dependencies

Burger Breakout assumes and depends on the existence and reliability of a functioning Windows OS and functioning keyboard attached to that OS.

3. External Interface Requirements

3.1 User Interfaces

Burger Breakout will utilize Unity for the creation of user interface between the software product and user. See “Unity Scripting API” in the References section of the SRS for more details.

ID	UI – 01
Statement	The system shall create a new game
Notes	

ID	UI – 02
Statement	The system shall exit a game
Notes	

ID	UI – 03
Statement	The system shall save a game
Notes	

ID	UI – 04
Statement	The system shall load a game
Notes	

ID	UI – 05
Statement	The system shall pause a game
Notes	

ID	UI – 06
Statement	The system shall unpause a game
Notes	

ID	UI – 07
Statement	The system shall move a character
Notes	

ID	UI – 08
Statement	The system shall
Notes	

ID	UI – 09
Statement	The system shall
Notes	

ID	UI – 10
Statement	The system shall
Notes	

3.2 Hardware Interfaces

Burger Breakout is a computer-based gaming application and will run on any platform running Windows OS that has an attached functional keyboard (see section 2.4).

ID	HI – 01
Statement	The system shall
Notes	

3.3 Software Interfaces

Burger Breakout will be written with Unity 2018.4.16f1 software. Unity is a closed-source, cross-platform game development application. Users of Burger Breakout will not need to interface with Unity once it has been created.

ID	SI – 01
Statement	The system shall
Notes	

3.4 Communications Interfaces

Burger Breakout does not require any communication interface functions since it is a standalone product that does not communicate with any other systems.

ID	CI – 01
Statement	The system shall

Notes	
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4. System Features

4.1 Burger-themed gameplay

4.1.1 Description and Priority

Priority: High

Burger-themed gameplay is essential to Burger Breakout since it is based on Five Guys®. This feature is compiled from the characters, obstacles, weapons, and environments are created around the burger theme.

4.1.2 Stimulus/Response Sequences

For the user to experience a burger themed game, they will need only to log into the game. From here the user will navigate through system menus to start a new game or load a previously saved state. After the use selects an option, they will move their burger character through a kitchen environment such as tabletops, grills and floors. As the user moves through the environment, they will be able to pick up food themed items such as French fries or lettuce to combat their opponent.

4.1.3 Functional Requirements

F-REQ-01: The system shall allow the game character to use different items of food like cheese, tomatoes, French fries, and milkshakes as weapons against game enemies

F-REQ-02: The system shall allow the game character to move through different levels so that the user can explore as much as they would like.

F-REQ-03: The system shall provide different levels that are all burger-themed so that the user feels like they are in a diner.

4.2 Save/Load Feature

4.2.1 Description and Priority

Priority: High

Being able to save and load your game is an important part of Burger Breakout since we want users to have the ability to stop playing and resume later, without losing progress in the game.

4.2.2 Stimulus/Response Sequences

Whenever a user of Burger Breakout wants to save their progress because they cannot continue, the user needs only to click a button and select the save feature. They can now log out of the game. To continue a game the user needs only to start the game back up, select the menu option at the start menu to load previous saved state.

4.2.3 Functional Requirements

F-REQ-04: The system shall provide the user with an option to save their current game during any point so that they can continue playing later.

F-REQ-05: The system shall provide the user with an option to load their last saved game so that they can continue from their last saved point in the game.

5. Other Nonfunctional Requirements

NF-REQ-01: The system shall provide the user with music and sound effects so that the game has a more realistic feel and the user can hear when they jump or throw a food item.

NF-REQ-02: The system shall save the high scores and achievements of the user so that they can compete against those scores and add to their achievements.

NF-REQ-03: The system shall provide visually appealing and unambiguous gameplay so that the user will feel the game is polished and complete.

5.1 Performance Requirements

CPU: TBD

CPU Speed: TBD

RAM: TBD

OS: TBD

Video Card: TBD

Pixel Shader: TBD

Vertex Shader: TBD

Sound Card: TBD

Free Disk Space: TBD

Dedicated Video Ram: TBD

5.2 Safety Requirements

SA-REQ-01: The system shall ensure the game does not produce any output that will trigger a user into an epileptic episode so that they are safe during gameplay.

SA-REQ-02: The system shall obtain a rating of “Everyone” from the ESRB so that users of all ages can play the game.

SA-REQ-03: The system shall follow regulation from COPPA so that users of a younger age are able to play the game without harm.

5.3 Security Requirements

SE-REQ-01: The system shall not allow access to the user’s computer so that their information stored is safe from malicious attacks.

SE-REQ-02: The system shall monitor intrusion using a HIDS so that the user is safe from malicious attacks.

5.4 Software Quality Attributes

Burger Breakout shall be robust in the sense that the game will not need to be rebooted during gameplay. Burger Breakout shall be reusable, allowing a player to reset the game to the start to play again.

5.5 Business Rules

A user and developer may access and play Burger Breakout. A developer may access code and other files used to create Burger Breakout.

6. Other Requirements

Burger Breakout does not have any additional requirements and all requirements have been detailed in this SRS.

Appendix A: Glossary

COPPA – Children’s Online Privacy Protection Act

ESRB – Entertainment Software Rating Board

HIDS – Host-Based Intrusion Detection System

OS – Operating System

WASD – W, A, S, and D keys used to move up, left, down, and right respectively

Appendix C: To Be Determined List

1. Operating Environments (Section 2.4)
2. Performance Requirements (Section 4.4)