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# **Software Requirements Specification**

**for**

## **Burger Breakout**

**Version 1.0 approved**

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## Revision History

Name	Date	Reason For Changes	Version
David Sincyr/ Michael Rumohr	02/25/20	Initial Creation	1.0

# **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](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.

## **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).

## **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.

## **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.

# **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 user 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**

REQ-1: Playing as a burger character, I want to be able to throw food like cheese, tomatoes, or use French fries as a weapon to be able to defeat my enemies or use them to be able to run away

REQ-2: As a player I want to be able to shoot food so that I can defeat my enemies.

REQ-3: As a player, I should be able to move my character through the world so that I can progress through it and explore how I want to.

REQ-4: As a player I would like to start a new game so that I can begin the game.

### **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**

REQ-1: As a player who does not have a lot of time to play video games, I want to be able to save my current game state at any time so that I can resume later from when it was last saved

REQ-2: As a player I want there to be a button dedicated to pausing the game.

REQ-3: As a player who is frequently interrupted, I want to be able to pause the game, so that I do not get killed or lose points when I must focus on something other than the game for a short time.

REQ-4: As a player I want to be able to load my previously saved game so that I can continue where I left off.

### **4.3 Other Nonfunctional Requirements**

NFREQ-1: As someone who enjoys music, I would like for the game to have complete sound design, from sound effects that enhance realism to pleasant music, which keeps a game from feeling dull.

NFREQ-2: As a competitive player, I would like to save high-scores or achievements of some kind so that I and others may compete against those scores.

NFREQ-3: As a player of modern video games, I would like the gameplay to be visually appealing and unambiguous so that will make the game feel polished and complete

### **4.4 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

### **4.5 Safety Requirements**

Burger Breakout does not currently have requirements concerned with the possible loss, damage, or harm that could result from its use.

### **4.6 Security Requirements**

Burger Breakout does not use data from the user so there are not any requirements regarding security or privacy issues surrounding its use. However, since there could be children under the age of 13 could possibly download our game, COPPA will be followed.



## **4.7 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.

## **4.8 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.

# **5. 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

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)