Requirements and Analysis Document for the Beat-to-the-Beat project (RAD)

Contents

Version: 2.0

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This version overrides all other versions.

https://github.com/HampusDahlin/Beat-to-the-Beat.git

1. Introduction

This section gives a brief overview of the project.

1.1 Purpose of application

This project aims to create a computer game where we will utilize music to give the player a dynamic experience. Our game is going to be a “Beat ’em up” game, so depending on the music’s beat you will have to time your punches in order to beat up the enemies. For definitions, terms and rules of the game see references.

1.2 General characteristics of application

The application will be a desktop, standalone (non-networked), single player application with a graphical user interface for the Windows/Mac/Linux platforms.

The application will feature dynamically real-time generated levels for every song being played. The playable character will not be able to move, instead enemies will be moving towards the player. When an enemy is getting close to the player s/he will have to hit the corresponding arrow-key to attack the incoming npc before taking damage himself. To complete a level one has to defeat all the enemies without dying. In order to die one has to fail several times at hitting the prompted buttons in time, causing the enemy to hit the player instead.

1.3 Scope of application

The application does not support multiplayer. The application will save score at the end of each song played, but is unable to save in the middle of one.

1.4 Objectives and success criteria of the project

1. It should be possible to play through a level killing all of the enemies to the beat of the music.
2. The player should be able to play the game using his or her own music.

1.5 Definition, acronyms and abbreviations

- GUI: Graphical User Interface
- Beat ’em up game: A game where the main focus is beating up enemies.
- NPC: Non Player Character. A character in the game controlled by the computer.
- Level: An area in a game which the player needs to complete in order to progress in the game.
- Java: platform independent programming language.
- JRE: Java Runtime Environment. Software needed to run as Java application.
- Host: a computer where the game will run.

2. Requirements

2.1 Functional requirements

The player should be able to:
1. Start a new song
2. Load a song into the game from a local library.
3. Play the game. During a playthrough the player should be able to:
    - Kill enemies by pressing the prompted button.
    - Win by killing all incoming enemies.
    - Take damage
    - Regain lost health between levels
4. Exit the application.

2.2 Non-functional requirements

2.2.1 Usability

Usability is a high priority. Normal users should be able to play the game within a very short time period. The game is simple enough that most players should be able to grasp the idea quickly.

2.2.2 Reliability

NA

2.2.3 Performance

The game has to be responsive to a player's interaction, after a player initiates an action the game must respond at worst in 0.60 sec.

2.2.4 Supportability

NA

2.2.5 Implementation

To achieve platform independence the application will use the Java environment. All hosts must have the JRE installed and configured. The application must be located on each seperate host that wishes to run it.

2.2.6 Packaging and installation

The program will not be installed, instead it will be a single file that the user runs to start the game.

2.2.7 Legal

The program will not be distributed with copyright marked music, instead it will come with a small selection of free music samples.

2.3 Application models

2.3.1 Use case model

See APPENDIX.

2.3.2 Use case priority

1. HitButton
2. Start next level
3. Finish level
4. Load song

2.3.3 Analysis model

See APPENDIX.

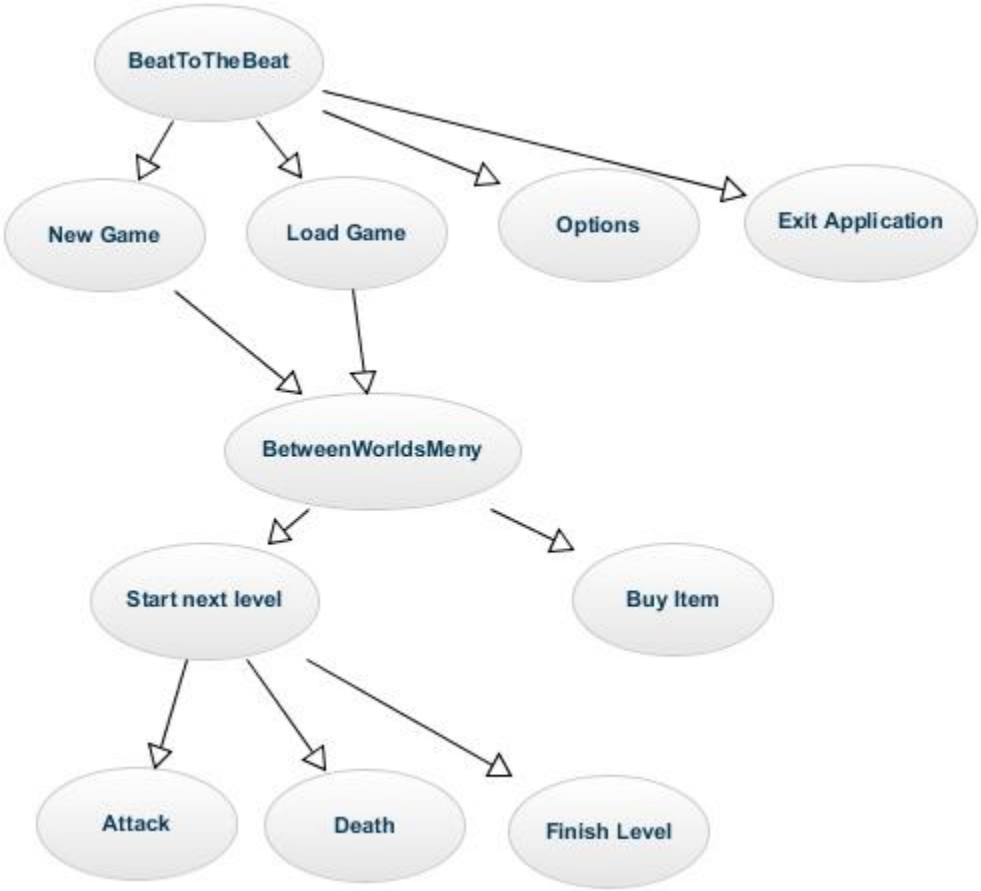
2.3.4 GUI

The application will use a GUI following standard conventions.
See APPENDIX for screens and navigational paths.

Appendix:

Usecases:

overview


BeatToTheBeat
New Game
Load Game
Options
Exit Application
BetweenWorldsMeny
Start next level
Buy Item
Attack
Death
Finish Level