Software Requirements Specification

for

Music Machine

Version 1.0 approved

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1. Introduction

1.1 Purpose

The purpose of this document is to outline the system requirements – Functional and Non Functional of the Project – Music Machine along with defining the hardware as well as software specifications for the same.

1.2 Intended Audience and Reading Suggestions

The target audience for the project is any user or organization interested in keeping their records as well as their music mix in systematic form of a GUI (Graphical User Interface).

1.3 Product Scope

Music Machine is a test project on determining whether Music Records and Tunes can be handled using GUI as well as a server where the above can be stored safely, Hence Music Machine will be a standalone project.

2. Overall Description

2.1 Product Perspective

Music Machine is a test project involving preparation of music mixes, beats, setting their tempo and doing all sorts of tweaks to the beats to fit your needs. Music Machine is a Real-Time Server Application meaning multiple clients can at the same time interact and work on music at the same as well as collaborate to create music in groups.

2.2 Product Functions

Primary Functions include creating Music Beats by selecting from a list of beats available, Changing tempo according to your desire, Real-Time Group Chat Client.

2.3 User Classes

The Main User Classes would be -
1) Music Artists
2) Acoustic Engineers
3) Anyone wanting to experiment with Beats and Sound.

2.4 Operating Environment

The System should have Java Runtime Environment installed, accompanied with Java 8 Standard Edition available.
64 bit Operating System is preferred.

2.5 Design and Implementation Constraints

The Design of the Music Machine Interface is constrained to what GUI can be created using java's SWING API.

The List of available beats with which one can experiment is restricted to the java Sound API and how many beats it supports.

2.6 User Documentation

A Wiki will be created and will be available on – https://github.com/yashTEF/Music-Machine/wiki

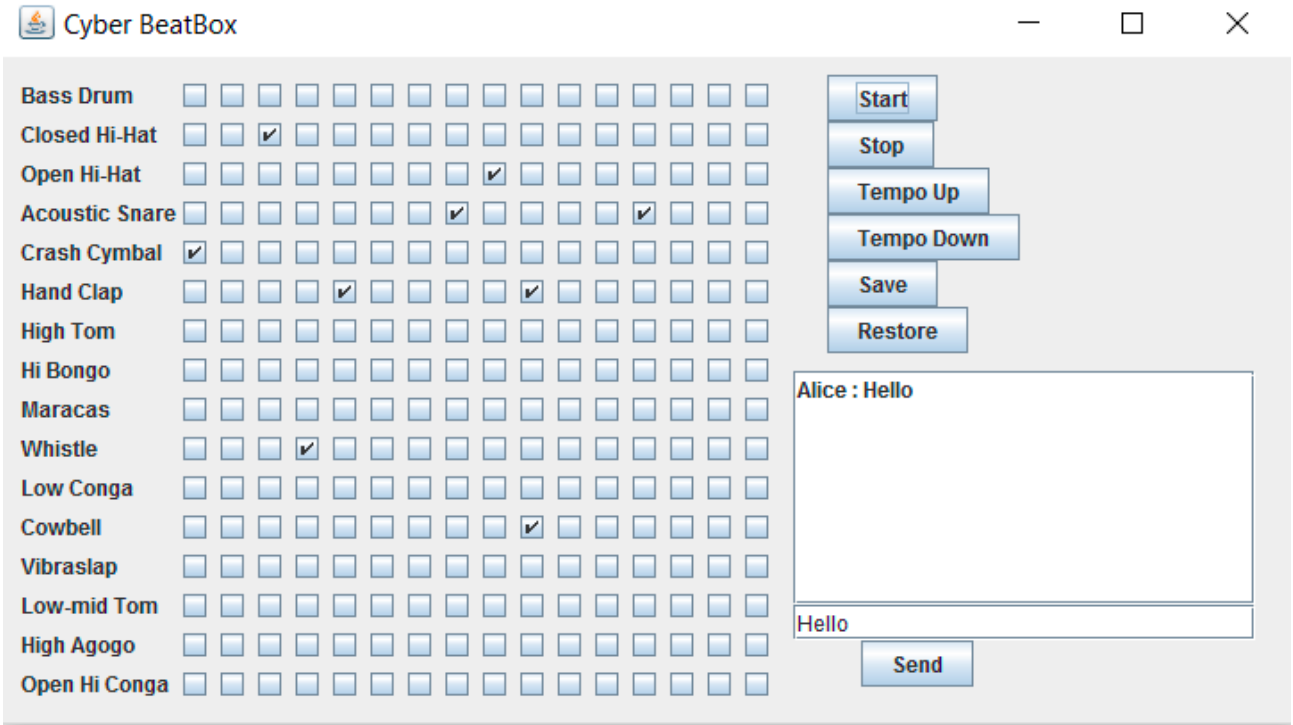
2.7 Assumptions and Dependencies

The Working of the Music Machine is dependent on the following dependencies -
1) javax.swing API
2) javax.sound API
3) javax.net API

The following API have been used with reference to the current JAVA Standard Edition, and are subject to change with every new update.

3. External Interface Requirements

3.1 User Interfaces



The above picture depicts the user interface -
It consists of a List of Beats on the left,
Start, Stop, and Tempo control
and on the bottom right We have a Real-Time Group Chat so that everyone can collaborate together.

3.4 Communications Interfaces

The communication between clients and the server will be established using Sockets available in the java.net API.
The Port and Ip address will be set using the above for the server and the clients will be able to access this by establishing a connection.

4. System Features

Following are the Use Case of the Music Machine

4.1 Select A Beat

The Client will be able to select a beat from the given list

4.1.1 Description and Priority

This Feature is of High Priority as the whole motive of the project is based on the beat selection process.
ure. These will correspond to the dialog elements associated with use cases.>

4.1.2 Functional Requirements

The List should Consist of the basic beats one requires.
It should be easily accessible.

4.2 Save and Restore

4.2.1 Description

This feature will enable clients to save the sequences of beat you created and will restore it

4.2.2. Functional Requirements

The beat mixes will be saved on the server and will be restored to client upon request

4.3 Real-Time Chat Client

4.3.1 Description

The User Interface will consist of a real time chat which will be used by clients working together.

4.3.2 Functional Requirements

The Chat should allow all of the clients to send messages simultaneously allowing group collaboration.

5. Other Nonfunctional Requirements

5.1 Software Requirements :

Our System is based on the following key software
requirements :
1) A User Interface made using GUI with SWING API supporting a Real time Chat Client, List of Beats to be selected, and START, STOP, TEMPO UP, TEMPO DOWN
3) A Model which consists of business logic for the
system – JAVA , C#, Kotlin, etc.

5.2 DEPLOYMENT:

Operating System Server: Window 8, Linux, UNIX, Fedora
GTK etc.

5.3 HARDWARE SPECIFICATION

Processor: Intel Core i5RAM: 4GBHard Disk: 640 TB