HEART RATE ADJUSTER

User Documentation

GROUP #12

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Software Engineering

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User Manual

Introduction

Thank you for choosing our Heart Rate Adjuster! We believe that health is one of the most critical aspects of our lives, and we hope that you will be able to use our application to optimize your workouts. It is our wish that by tracking your workout progress, you will be motivated to continue exercising and developing healthy bodies.

Best Wishes and Happy Work-out,

Group #12 (Jonathan, Kenny, Nikhil, Revan, Samani Tae-Min)

Requirements

To ensure that your hardware is compatible with our Android application, please check the following specifications:

- Heart Rate Monitor runs on Bluetooth 4.0+ and tracks heart rate in BPM
- Smartphone runs Android 4.3+ with a radio that supports Bluetooth 4.0+

Warning

You are urged to exercise cautious judgment when using our product. The intended audience is between **8-60** years of age. Although our product seeks to enhance your workout, it is safer for younger kids and the elderly to refrain from inducing extra stress on their heart. If you have any heart conditions, please do not use our product. Please consult a physician if you are unsure of your condition. (We integrated a warning system to notify you if your heart is in a dangerous condition, but it is NOT100% fail proof.)

System

This diagram explains how our system works on a basic level.

Heart Rate Monitor

Phone/Android App

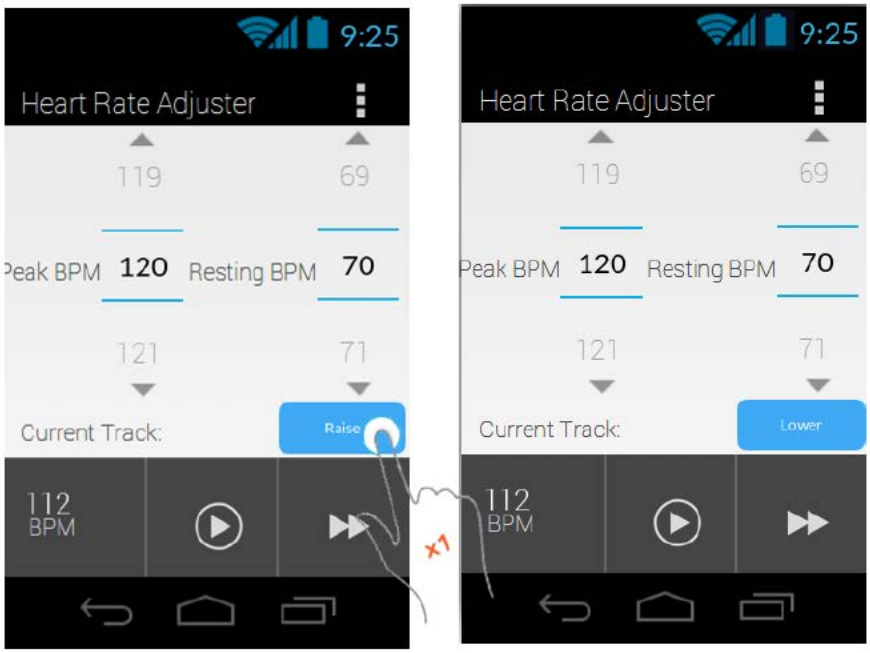
Server/Database

You directly interacts with our Android application. After receiving input, presumably to start the workout, the data manager is notified to start collecting data from the heart rate monitor. This is a SQL Lite database that is located on the Android phone. When you ask for graphs to track your progress, the application retrieves those graphs from the database and displays them accordingly.

How to Use

There are 4 main scenarios we identified which you are likely to come across during your interaction with our app's user interface. The included images and description should guide you in using our product. Note: If you have any further questions, feel free to email heartratemonitor@gmail.com, and we will be happy to answer them.

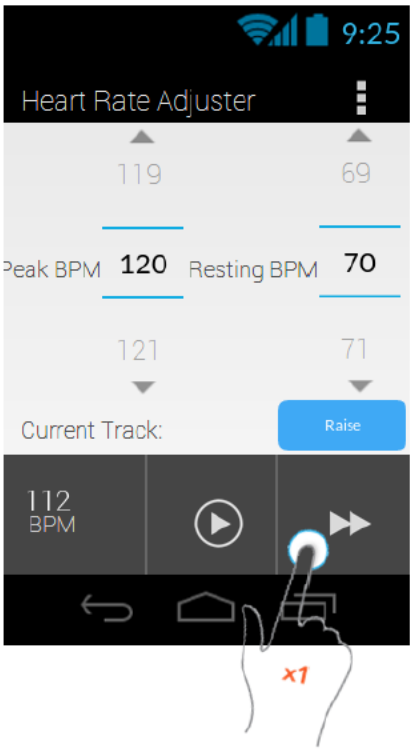
1 – Set Target Heart Rate



For this Use Case, the user's goal is to select a target heart rate for his workout. There are two ways a user can trigger this Use Case: modification of the currently active number selector, or pressing the toggle between Raise/Lower. As seen from the screenshots of our "home" screen above, we seek to minimize user effort in accomplishing his desired goal. The number selectors are standard Android UI components, so the user is presumably already familiar with their functioning. Changing the target direction requires only one press, of the Raise/Lower button. The existence of this button means that, once a user has set their target preferences, they won't need to change the sliders much, reducing the effort of selecting numbers.

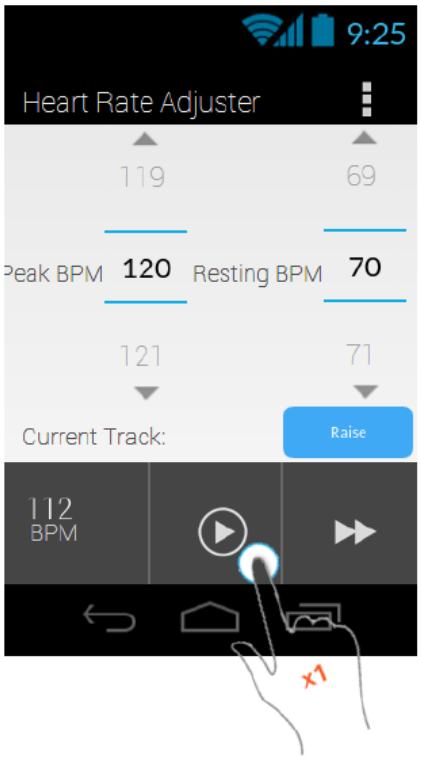
Once the user has selected a number, the system uses it in playback.

2 – Skip Track



To switch tracks is also very simple. It takes the user one simple tap to achieve his desired outcome. On the provided image of our concept interface, our application appears very similar to a mainstream music player. In the bottom right corner is the double-arrowed fast forward button. The user taps this button to advance to another song, and then the system fulfills that request by running its algorithm and picking out another track from the user's music library. The "Current Track:" label will also be updated accordingly.

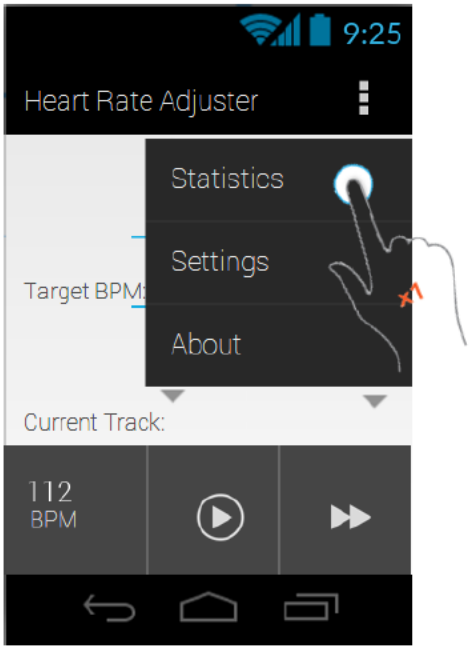
3 – Toggle Playback



Just like most music players, our application has a button located on the bottom center of the screen designed for the purpose of pausing the current song, or playing it, depending on the current state. The user just needs a single tap on the universal play/pause button to achieve his goal of playing or pausing the song.

When this is done, if the system was previously playing, the system responds by stopping its collection of heart rate data, and freezing the screen in its current state. If the system was not previously playing, the system responds by beginning its collection of heart rate data, and beginning playback.

4 – Display Statistics



Here, the user desires to view the statistics of his workout. To simplify the process for the user down to two clicks, we added a menu button in the top right corner of the screen. After pressing that menu button, a scroll-down menu with three options appears. The user needs to tap "Statistics" to bring up his workout information. The system is constantly logging the user data, and compiles a few useful graphs such as heart rate versus time.