

ACIT3855 – Project Week 1

Purpose of the Software

The purpose of this software is to supplement the Wattch Fitness application to analyze heart rate (HR) while users are using/riding the application. Wattch Fitness syncs workouts to movies, hence analyzing heart rate is quite interesting and taps into the world of neurocinematics.

This connected fitness application receives ride data from a bike trainer and heart rate data from a HRM such as a Garmin Watch. The goal of this API is to compare the data from both devices to pull some meaningful insights. This API will only be used while a user is riding.

Events Received

The events the API will receive are as follows:

1. Ride data readings as a user is riding on a trainer, in the form of a **fit file**.
2. Heart rate readings throughout their ride in the form of a **heart rate variability data file (HRV)**.

Peak Concurrent Events

The events can happen throughout the day as users will ride whenever they would like. However, peak riding times are after work (5:00pm – 9:00pm) where the application can receive an estimated 50 rides per minute. This corresponds to the ride and heart rate readings data file during their ride, which will expect to have a peak load of 1000 readings per second.

Users

People using the application will be:

- **Wattch Fitness team members** who will view trends of ride statistics, movie watch times, and HR.
- **Application users** who would like to analyze their ride and HR data for training purposes.