Diabetic Heart Rate Monitor

Opportunity and Significance

Diabetes mellitus is a metabolic condition, which affected 25.8 million people in the U.S in 2010 and has thus increased to 29.1 million people in 2012.

Develop a system based on heart rate, for diabetic individuals regardless of age, to have an alert system and notify of low heart rate.

The estimated total economic cost of diagnosed diabetes in 2012 is $245 billion, a 41% increase from our previous estimate of $174 billion in 2007.

Technical Objectives

Create an add-on device for patients with diabetes that will utilize an application that runs on iOS systems.

Have an alarm go off to alert the users of a low heart rate and use of Kardia Mobile to send EKG to physician.

Compatible with multiple heart rate monitors such as Apple Watch and Fitbit.

Technical Approach, Accomplishments and Results

- Each user saves their information within the application in order to tailor the application thresholds for heart rate to themselves.
- If the patient's readings fall outside or go above the target range, the patient is alerted and instructed to take their EKG.
- EKG and heart rate are sent to a physician through the application.

Technologies

- The mobile app was built using XCode with the SWIFT programming language.
- The Charts API will be used to graph the heart rate data.
- We are planning to use a parse server through AWS for our product.

Next Steps for Development and Test

The Heart Rate Application will be available to users through the Apple App Store. Our application will then be partnered with Cardiology practices to be as a recommendation to diabetic patients as an add-on device to their normal sleeping habits.

Commercialization Plan & Partners

This product was built as a project for the Biomedical Engineering Program. It was given to us by our client as a possible solution to the Dead in Bed syndrome facing Diabetic individuals.

If there is a great reception to the application on the App Store development will continue to improve on the telehealth ability and vital measurement.

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