DiaHealth Duo

Abstract

Worldwide the number of diabetes patients is increasing and the rate is alarming in countries with low and middle income. Medication of a diabetes patient still costly which leads to high mortality in developing and low income countries. Considering the fact that diabetes is a non-curable disease, prevention and management is a big deal. However, proper lifestyle management requires awareness, knowledge and care. Information and Communication technology has made life easier as information can be found more easily. Smartphone based applications are also becoming more popular as prices are lowering every day. Sharing knowledge, creating awareness, disease management and even diagnosis is possible using smartphone applications. In this article we discussed possible solution of diabetes management and prevention through mobile application and also presented our intelligent application, DiaHealth for diabetes management and prevention. To do this, we added recent trends of diabetes based mobile application and compared DiaHealth with other popular applications. Then detailed feature is given in a structured manner. With the technological advancement, we believe DiaHealth will shed light to diabetes patients to manage their health and lifestyle, consequently it will prevent health consequence and reduce healthcare cost.

Objective

Being a complex disease, diabetes requires rigorous self-management and control. Technology advancements has developed innovative healthcare solutions like continuous glucose monitoring devices, non-invasive insulin delivery systems, and digital diabetes management platforms. These connected devices are rich sources of physiological, behavioral and contextual data that can be collected and analyzed for more data-driven diabetes care. DiaHealth, a 'A Smart App for Complete Diabetes Lifestyle Management' includes almost all necessary features required for diabetes prevention and management. In this project, our goal is to build a next version of DiaHealth called 'DiaHealth Duo'. That will focus on Predictive Analysis of the data of diabetes patients who use or have been using DiaHealth, leveraging big data to drive better patient outcomes by empowering people with diabetes to manage their conditions more efficiently.

Proposed Solution

DiaHealth is a smart mobile application which is developed to help and manage the lifestyle of diabetes patients. It is a complete app for diabetes management. It combines all necessary features from most popular apps and also some required features such as BMI Calculation, Auto Data Input and Tips and Tricks for a diabetes patient. To make a better user experience input options are made very easy and user friendly and divided into various sections for adaptability.

The primary features of the app can be summarized as:
• Blood glucose monitor
• Medication suggestion
• Diet plan
• Automated transfer of blood glucose data
• Data entry and record (blood glucose/sugar,
• Blood pressure, HBA1c, cholesterol, weight etc.)
• Nutrition information
• Communication with healthcare team
• Education
• Weight management
• Blood pressure monitoring
• Insulin

In this version, 'DiaHealth Duo' will leverage big data analytics and predictive algorithms to empower healthcare providers with the right tools to analyze population trends and provide personalized recommendations, from patient data that DiaHealth takes.

Along with the existing features, the following features will be added in the next version:

1. Fitness and activity tracker
2. Artificial intelligence to develop an individualized treatment plan, and alert system that matches the patient with a specially assigned clinician and a health coach for real-time professional help and consultation
3. A Doctor's analytics Dashboard, using the patient data that'll provide the doctor with individual patient's predictive analysis.