# Blue-tooth based blood sugar control application

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## Abstract

These days, citizens have made change of food life to take Western style food and to suffer from diabetes because of excessive nutrition taking, less exercise, stress and other environmental factors. They may suffer from diabetes because of genetic defect, surgery of pancreas, disinfection and medicine and others. One of ten Koreans may have symptom of diabetes to be popular. The diabetes that is a kind of metabolic disease has high blood sugar at disorder of hyper insulinism and/or defect of insulin action. Long time high blood sugar may produce chronic disease of kidney, eyes, nerve, heart and blood vessel and others. The purpose of health care of diabetes patient was to reach target blood sugar by diet, physical exercise and medicine and to prevent and delay complication . Diabetes patient shall control blood sugar to keep healthy. The blood sugar control requires time and effort, and all of the patients are difficult to make effort and to spend time. You can control blood sugar by the application. The application allows patients to control blood sugar and to save time and efforts and to make small sized input and automation of remaining area. The service was limited to blood sugar graph, and user carries smart phone to conduct test and to have difficulty. Further study needs to solve the problems and to investigate blood sugar testing not carrying smart phone and to make application of easy control of blood sugar.

## 1. Introduction

These days, citizens have made change of food life to take Western style food and to suffer from diabetes because of excessive nutrition taking, less exercise, stress and other environmental factors. They may suffer from diabetes because of genetic defect, surgery of pancreas, disinfection and medicine and others. One of ten Koreans may have symptom of diabetes to be popular. The diabetes that is a kind of metabolic disease has high blood sugar at disorder of hyper insulinism and/or defect of insulin action. Long time high blood sugar may produce chronic disease of kidney, eyes, nerve, heart and blood vessel and others. The purpose of health care of diabetes patient was to reach target blood sugar by diet, physical exercise and medicine and to prevent and delay complication. In other words, diabetes patients are asked to measure and control their own blood sugar steadily. The blood sugar control application informs user of blood sugar immediately by using blue-tooth. A patient may control his blood sugar by using data.

## 2. Associated Studies

Blue-tooth is near distance radio communication technology at 2.4GHz radio frequency to have high reliability and self correction of errors depending upon frequency hopping and to have advantage of low power consumption. Small sized radio modem was used to run by low power consumption and to have module type and to make inexpensive near distance communication system [2], Links of data transmission between blue-tooth devices includes ACL link of packet based data and control command transmission, and SCO link of circuit based voice data transmission. Data link may vary depending upon blue-tooth profile module of the device, and ACL link of all of profiles can make use at most of blue-tooth communication. Blue-tooth profile includes kinds, structure and use of protocol for blue-tooth application software. Common use access profile with all of profiles has given device retrieval, response, connection and security for blue-tooth communication. The profile can be classified into 3 types depending upon protocol layer of protocol stack of remaining profile. This study has described not only common use access profile but also hands free profile.

## 3. Contents

Smart phone Android OS shall be used to install application. A user shall fill out his or her profile. Basis information display has shown his or her input information and blood sugar of breakfast, lunch and dinner. Users are given menu service and physical exercise service. Click the exercise button of basic display to be given physical exercise service. Click the button to verify physical exercise recommended. Users verify changes of blood sugar intermediately. Click the menu button to be given menu service. Click the button to go to menu recommended and to display menu with low fat considering diabetes patient.

## 4. Conclusion

Diabetes patient shall control blood sugar to keep healthy. The blood sugar control requires time and effort, and all of the patients are difficult to make effort and to spend time. You can control blood sugar by the application. The application allows patients to control blood sugar and to save time and efforts and to make small sized input and automation of remaining area. The service was limited to blood sugar graph, and user carries smart phone to conduct test and to have difficulty. Further study needs to solve the problems and to investigate blood sugar testing not carrying smart phone and to make application of easy control of blood sugar.

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