

Diabetics Online

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Abstract: The project involves creation of 1. Website which will help an NGO named Juvenile Diabetic Parent Association of India (JDPAI) to reach out to the larger audiences and help them out in managing their diabetes and 2. As an Android powered Mobile device is the gadget found commonly in the common man we will develop an Android app which will help in managing diabetes by helping in counting the daily calorie intake, giving suggestions on different situations faced by the diabetics in their daily lives etc. The website has all the information about JDPAI and its work throughout the years. The android app will have all the information about the organization as well as extra features like calorie counting, sugar level manager, etc. This app will help the diabetics (Majorly type 1) manage their lives without any stress. The entire result given on each query fired by the user would be stored on the database of the app.

Keywords: Android app, Diabetes, Diabetes Management, e-learning.

I. INTRODUCTION

Why diabetes management is important? Is there really anything else which needs to be done to manage diabetes except for taking injections? Isn't diabetes curable? We have progressed so much but still there's no cure for diabetes, why? These questions have generated heated debates since many years. The internet has proved to be one of mankind's greatest achievements, a great blessing to the humankind. Internet is one of the easiest methods to reach out to the common man today using computers, cell phones, and other kinds of gadgets.

A website is a set of inter-related pages. A website is hosted on a server, accessible via Internet. All the websites which are publicly accessible constitute the www (World Wide Web). A website can be for a government organisation, nongovernment organisation, charitable trust, educational & informative, e-commerce, personal or forum etc. Web pages which are the building blocks of any website are created in plain text documents like notepad etc. But the language in which they are written can vary from HTML to PHP to CSS.

A mobile app is a computer written program which is usually written to accomplish a specific task, perform a specific task on a mobile device which maybe operating on the Android OS, Windows OS or iOS etc. A mobile app can be written in languages like java, .net, etc.

Diabetics online is a website for a NGO and a mobile app which helps in diabetes management. The app will help in calorie counting, helping out in sick day management, suggesting immediate measures for emergency conditions etc. The website is a way to reach out to the larger audiences and increase their awareness about diabetes and its effect and how an NGO is helping out people and making them more aware about diabetes.

II. OBJECTIVES

The objectives of our project are

1. Cost Efficient- Instead of spending thousands on creating brochures and distributing them, having a website you can skip that entirely.

2. Influence- By having a website potentially thousands of people are going to see it. You are able to influence people, increase their awareness about particular thing and educate them as well.
3. Publicity- No matter what type of organization you've, a website & a mobile app are a great place to showcase your work. By including a portfolio or photo album, as well as testimonials about your work, you can demonstrate what makes your organization unique.
4. Communication- By having a website & an app, broadcasting and communicating with people becomes easier. You can update them about the happenings and other similar information.
5. Management- Having a app which works on health care can also help you manage your lifestyle and help you improve it by using factors like diet, exercise, calorie count etc.

III. WORKING

The website is an informative website and so the user needs to open the website on the browser (Firefox, Internet Explorer, Opera, etc). The website is done entirely using the HTML, CSS, and Bootstrap & PHP in server as well as client side. As the website is all about diabetes and an informative one as well so we don't require a login & password.

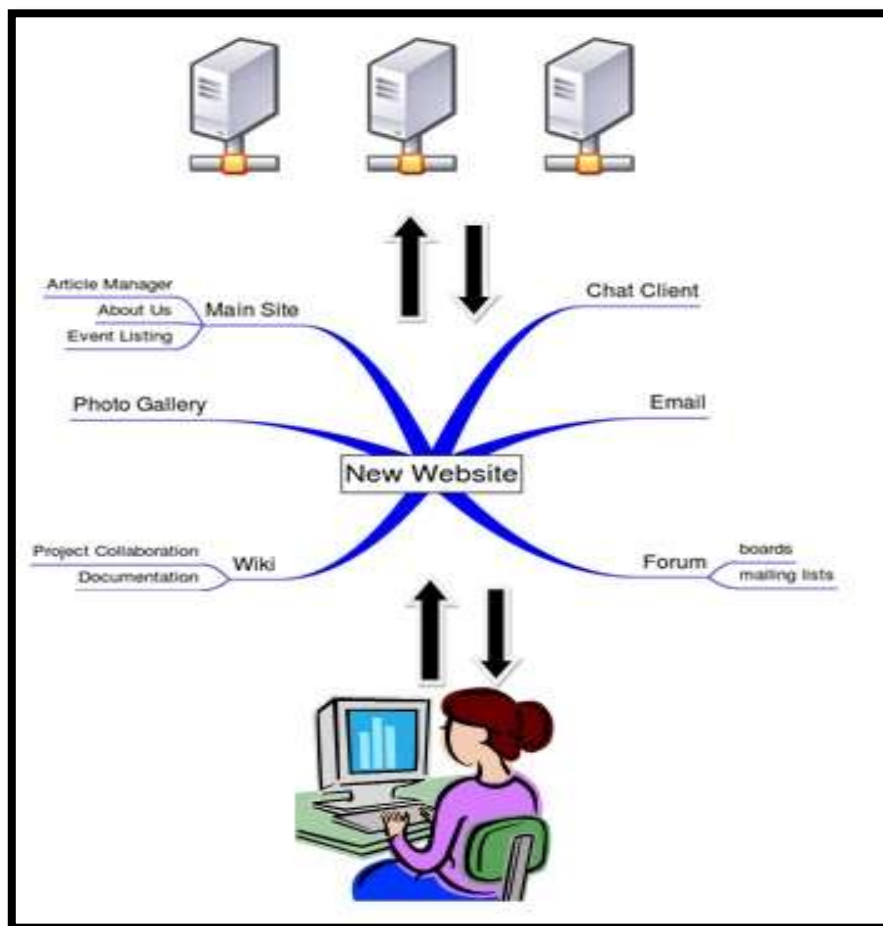


Fig. 1: Working of a website

The mobile application has a calorie counter and a sugar check counter. The sugar check counter needs to be provided with an input in units of mg/dl i.e. milligram per decilitre. The user would then have to select the timing of blood sugar test like fasting, pre-meal, post-meal or random, and then according to the timing, the counter would tell if the sugar is normal enough or is it high. If it is high, it'll suggest measures to correct it. The sugar counter will also help a layman to check if he's diabetic i.e. if the sugar levels are very high than the normal levels, then there are chances that the person has diabetes.

The calorie counter would also perform a similar task, but in case of calories. The calorie counter would take an input of what the person eats, and how much he eats. And then provide him the output of how many total calories he has consumed up till the current time and will tell if up to that time, consuming that many calories is fine or not.

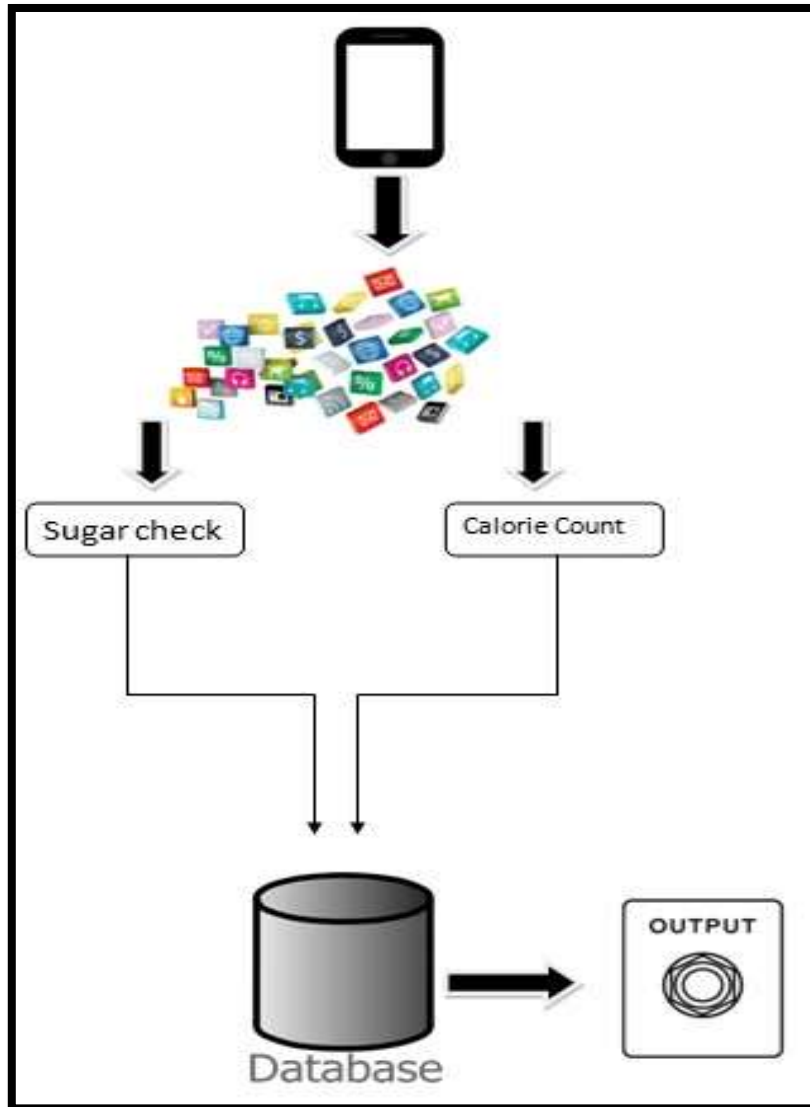


Fig. 2: Working of Mobile Application

The mobile application would help any normal person to count his daily calorie intake and that would help him plan his diet accordingly. The app will also be helpful to diabeticians, doctors, diet conscious people etc.

All the outputs given will already be stored in the database of the mobile application. The database would be available offline which means the app will not necessarily require an internet connection always to work, it will also be able to work offline.

IV. APPLICATION

1. A website is a great option to reach out to the larger audiences.
2. The mobile application will provide all the diabetics to manage their lives well, in a more convenient manner.
3. The mobile application will guide the newly detected diabetics and also the diet conscious people and a layman as well to manage his day to day diet and plan his calorie intake.

V. IMPLEMENTATION

5.1 Modules:

I. Website: The website module will be implemented in order to provide a lay man with all the information about diabetes symptoms, motivational & inspirational stories with people living with diabetes.

II. Mobile Application: The mobile app will have two main features i.e. the sugar check and the calorie count. The calorie count will count the daily input of the user's calories and the sugar check will tell the user according to the timing of the day he selects if his blood sugar is in control.

○ **Experimental Setup:**

▪ **Software Requirement:**

I. Android SDK: Android software development kit enables its users to create apps for the Android devices. Android SDK includes a sample code, tools for development, an emulator i.e. a virtual mobile device operating on the machine and the necessary header files & libraries required to build the application. Also it includes additional features like debugger and relevant documentation required for the android application program interfaces.

II. ADT toolkit: The Application Development Toolkit (ADT) is used for development of android compatible software which can be run on android devices. The main objective of Application Development toolkit (ADT) is to provide developers with a user friendly development environment. It includes a platform-independent cross compiler tool chain, debugging and profiling tools and support scripts. These features allow the developers & designers to work towards their goal.

III. JDK 7.1: JAVA is a programming language which was introduced in 1995 and was used to connect users with information whether that information comes from web servers, databases, information providers or any other sources. JAVA has everything a good language, a high quality execution environment and a huge library provided.

IV. Android OS (4.1 jellybean or above): The Android OS is an open source operating system majorly used in android device. Android operating system which is runnable on any android device is having a specified version of 4.1 of jellybean which is minimum requirement of this app. We have to set up this version primarily when a new project has been created.

V. MySQL: MySQL is a freely available open source Relation Database Management system (RDBMS) that uses structure query language (SQL). SQL is the most popular language for adding, accessing and managing content in a database. It is most noted for its quick processing, proven reliability, and ease and flexible of use.

VI. Notepad: Notepad is a simple text editor & a basic text editing program which allows the users to create text documents and also allows the users to write & design web pages in html & php. It is available in all the Windows systems.

VII. XAMPP: It is a free cross platform web-server solution stack package. It mainly consists of Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages.

▪ **Hardware Requirements:**

1. 1 GB RAM
2. i3 processor minimum
3. Windows device
4. Android device

VI. CONCLUSION

Thus we conclude that our website and the android app will ensure proper diet and exercise and will help a diabetic maintain his health in the areas of blood sugar control and diet. This can help the diabetics and their families to control diabetes efficiently without the often visits to a doctor.

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