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THE CLINIC LABORATORY APPLICATION
FOR YOUR SMART PHONE

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ABSTRACT

Clinic laboratory is a laboratory which examines blood, urine, and body fluids. It can identify diseases and illnesses as the results. The lab results cannot immediately generated. It would take (quite) much time. Patient comes to the clinic laboratory and takes medical test as his doctor refers to. Usually patient have to come back again after couple hours only to take the results. Then he visits his doctor again to deciphering the lab results. It's waste time. This paper introduce the smart phone clinic laboratory application to accelerate it. Using App Inventor design tool, this application will be developed as a postman which sending a lab results to the patient. Patient does not necessary need to take the lab results in the clinic laboratory again. By using the generated code which already given at the first time patient takes the medical test, he'll just open the lab results on his smart phone using this application. And he can visit his doctor to discuses it. This application will be low cost and save times.

Keywords : clinic laboratory, a postman medical lab results, smart phone application, App Inventor, Android application

INTRODUCTION

Clinic laboratory is a laboratory which examines blood, urine, and body fluids. It can identify diseases and illnesses as the results. Some hospital or others health care facility have their own clinic laboratory. But others did not have it. Doctor usually only give their patient a reference letter to take a medical test at clinic laboratory. Patient will bring the reference letter to the public clinic laboratory and take the medical test. The medical lab results cannot immediately generate, usually it takes (quite) much time. So after taking the medical test, patient will leave the clinic laboratory and come back again after several hours like clinic administration suggest, just only to take the lab results. Then patient will see his doctor to deciphering the medical lab results. For some people, this process won't be comfortable. Moreover if they are busy people which do not have a lot of time. Or for people who live far away from the clinic laboratory. This process will waste time and money.

This paper will be introduce the project of clinic laboratory application which can access using smart phone. The smart phone is chosen as the mainly tools in this project because of the increasing smart phone

popularity. Many people probably rarely using computer, internet and does not have email address, but they more familiar using application on smart phone.

While the mainly objective of this project is to build the clinic laboratory application to solve the lack of time and money. It aim to provide a smart phone application which can show the report of medical lab results to the patient. So patient does not need to come back again just to take the lab results. What they just need is install and run the application, have internet connection and get the lab results. Save money and time.

CLINIC LABORATORY

A medical laboratory or clinical laboratory[1] is a laboratory where tests are done on clinical specimens in order to get information about the health of a patient as pertaining to the diagnosis, treatment, and prevention of disease. Medical laboratory technicians collect samples and perform tests to analyze body fluids, tissue, and other substances. Clinic laboratory help clinical staff such as doctors, by provides essential analytical information, that enable accurate and rapid diagnosis and treatment of patients. Depending on the kind of medical test performed, most tests are completed and reported to the patient within about 24 hours. Certain tests take several days to weeks.

APP INVENTOR

App Inventor is[2] an online Android phone application design tool. The App Inventor servers store a work and help programmer keep track of his projects. App Inventor is[3] a mobile applications design tool consisted of two major parts; Component Designer and Block Editor. Component Designer is used to create the user interface. And the Block Editor is used to specify how the components on user interface should behave. Instead of the traditional programming language, the App Inventor working use some pieces of block syntax. It assemble program visually. It fitting pieces together, like what component will trigger an event and the algorithm will be used to handle the event occurs. It just like a puzzle. Figure 1 show the design of Clinic Laboratory application using App Inventor's Block Editor.
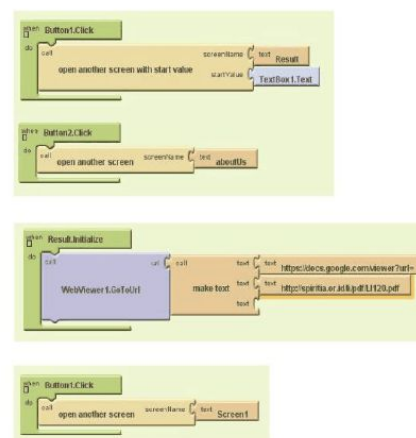

Figure 1: The design of Clinic Laboratory application

DESIGN SYSTEM

This application is reliable on the internet connection to connected between clinic laboratory and client/patient. To establish this connection, clinic laboratory can use ISP to have internet connection. While data patient and lab results can be stored in a server by using web hosting. A web hosting is a service that allows individuals and organizations to make their website/data accessible via the internet. The web hosts are companies that provide space on a server just like data center. But the server cannot access without domain name. Usually the web host will provide a free domain name. A domain name is used as an address to access the server/website. While in client side, patient just need a smart phone with internet connection. The figure below describe the whole design system of smart phone clinic laboratory application.

Figure 2: design system of smart phone clinic laboratory application.

RESULTS AND DISCUSSION

The smart phone clinic laboratory application is begin at the first time patient come to the clinic to take a medical test. After the register their personal information, they will get a verification code which is generated unique and only used once. This code needs to be entered into the smart phone application. Application will send it to the server as a request to open the report of medical lab results. At the server side, the verification code will be used as a keyword to find the matching patient data and the patient's medical lab results. (Here we assume that the the lab results is ready.) If the server founds the matching data, the server will send the report of medical lab results as a PDF document. Then the application will use a Google doc viewer* to open the lab results.

There are two reasons why using PDF instead of raw text data. The first, this application design without any connection to the original system which already used in clinic laboratory. The second, to avoiding human error while (if) entering the lab results again in a new system. We assume that every clinic laboratory have their own system, and it can save or produce a report medical lab results in PDF. So this application can implement without disturbing the existing system. The clinic laboratory staff just need to gather some personal information form the patient and

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* The google doc viewer is a viewer documents online

give the patient a generated verification code. The clinic laboratory staff still can use the existing system to input the lab results. The figure below, show how the smart phone clinic laboratory application is run.

Figure 3: The smart phone clinic laboratory application

CONCLUSION

The smart phone clinic laboratory application is a postman which sending a lab results to the patient. It accelerate the process of taking a medical test at clinic laboratory. By implementing this system, the clinic laboratory will help patient save money and time. Patient can get the report of medical lab results without need to go to the clinic again. Not only save money and time, using this smart phone clinic laboratory application will help earth by reducing the amount of carbon dioxide and reduce the traffic jam.

This paper not yet cover about security, and also yet cover the patient notification while the results is ready, which can send through sms getway. We assume that patient will get the notification if the lab result is ready, which is probably send by the clinic laboratory staff.

REFERENCES

[1] Medical_laboratory, "Medical Laboratory", https://en.wikipedia.org/wiki/Medical_laboratory, access at May 04, 2013, 3:59 PM

[2] MIT, "App Inventor for Android" http://appinventor.mit.edu/, access at May 04, 2013, 6:35 PM

[3] Kim, Hak. J. and Modell, Jonathan, Mobile App Design Tool for Smartphones: A Tutorial, International Journal of Soft Computing and Engineering (IJSCE) ISSN: 2231-2307, Volume-2, Issue-3, July 2012