Doctor Patient Interaction System for Android

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Abstract: The establishment and improvement of doctor-patient interaction system is a very important requirement, especially when the communication technology is developing rapidly. The advantages of the web can be l useful to make up the time and distance between doctors and patients and to provide fast and adequate medical services. Through the connection between user terminals and specific service, both doctors and patients are able to obtain required data to achieve a better interaction. The platform, Web services, and database technology are all gradually maturing so that we can develop a doctor- patient interaction system for Android to meet the needs of the patient and to provide Communication with patients by the doctor's more efficient and convenient means of communication with patients.

Keyword: Developing Rapidly, Distance, Terminals, Android, Communication.

I. INTRODUCTION

Medical services informationalization is the trend of international development. With the rapid development of information technology, more and more hospitals accelerate the implementation of overall construction based on the information platform in order to improve the hospital services. The development of mobile web provides a new service mode and development direction for the medical industry.

Android is an open source mobile phone operating system based *on Linux platform*. It has occupied an important position in the field of mobile web for its open and convenient development mode. Here we present a doctor-patient interaction system based on Android.

Its excellent performance on mobile terminals makes it possible that patients are able to access the hospital server to obtain the necessary suggestion about the symptoms and interact with the doctors on their own *mobile terminals*, while doctors can track patients whenever and wherever possible or make a diagnosis of alert depends on the monitoring data from the hardware of mobile terminals.

II. SYSTEM ANALYSES

A. Existing System
In today's world if someone wants to book a Doctor's Appointment we need to call in a clinic or personally go to that place and book the appointment. This consumes the precious time of the patient. Also if the doctor cancels his / her schedule, the patient does not come to know about it unless he/she goes to the clinic.

B. Proposed System
The proposed system consists of four panels: Doctor, Patient, Hospital or clinic, and Admin. The users will first have to download the application and install it on their mobile devices. Once installed, this application will remain into the device permanently until the user deletes it or uninstalls it. The patient will have to register into the application for the first time. On registering, the patient will receive a username and password. The patient can use this username and password for logging into the app each time he/she uses it. After logging in, the patient will have to select a filtration type. The filtration is done on two bases: Gender wise and Specialty wise. After selecting the filtration type, the doctor's list will be displayed. The patient can select any particular doctor and view his profile. And patient gives reviews on doctor profile. Also, the patient can view the doctor's profile and look for an appointment. The patient will then send a request for an appointment. The doctor can either accept the appointment or reject it. The database will get updated accordingly and the patient will get a confirmation message. The add-on to this system is that the patient will receive a notification 2 hours before the actual appointment. As well as, if a doctor cancels the appointment patient received a message for appointment cancellation. This will be very useful in case the patient tends to forget the appointment. Also, the doctor can search patient history by using a unique ID.

C. System Requirements

Hardware Requirements:-
- Android Phone

Software Requirements: -
- Operating System: Android OS
- Front-End   :   HTML, CSS, and JS
- Back-End: Angular JS, PHP, MYSQL

D. List of Modules

DOCTOR
- Login
- View Complaint
- Post Solution
- Clinic Register

PATIENT
- Register
- Login
- Find Doctor
- Post-Complaint
- View Details
- View Profile

CLINIC
- Login
- Update Patient Details

E. Module Description

DOCTOR:
- ***View complaint:***
  - *The doctor enters this system and views patient's complaint details.*
- ***Post Solution:***
  - *Doctor posts their solution report to the patient.*
- ***Clinic Register:***
  - *The doctor only can register the clinic details.*

PATIENT:
- ***Find Doctor:***
  - *The patient enters this system and finds the doctor details about entire surrounding.*
- ***Post Complaint:***
  - *Patient enters this system and post their complaint to doctor.*
- ***View Report:***
  - *Patient view the report details for their corresponding diseases.*
- ***View Profile:***
  - *Patient enters this system view and updates their own details.*

CLINIC:
- ***Update Details:***
  - *Here clinic updates the patients report details.*

III. DIAGRAMS

A.UML Diagrams
The **Unified Modeling Language** (**UML**) is a general-purpose, developmental, modeling language in the field of software engineering that is intended to provide a standard way to visualize the design of a system.

UML was originally motivated by the desire to standardize the disparate notational systems and approaches to software design developed_by Grady Booch, Ivar Jacobson, and James Rumbaugh at Rational Software in 1994–1995, with further development led by them through 1996.

In 1997 UML was adopted as a standard by the Object Management Group (OMG), and has been managed by this organization ever since. In 2005 UML was also published by the International Organization for Standardization (ISO) as an approved ISO standard.[2] Since then it has been periodically revised to cover the latest revision of UML.

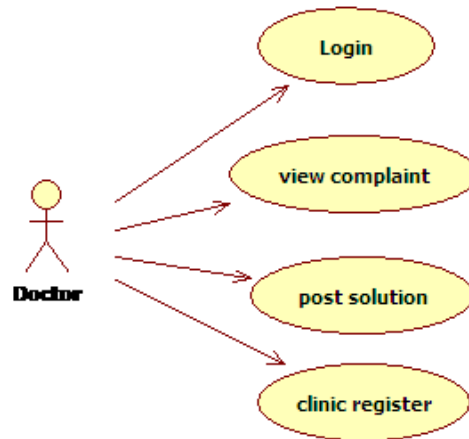- *Use-Case Diagram*
  - A. **Doctor**

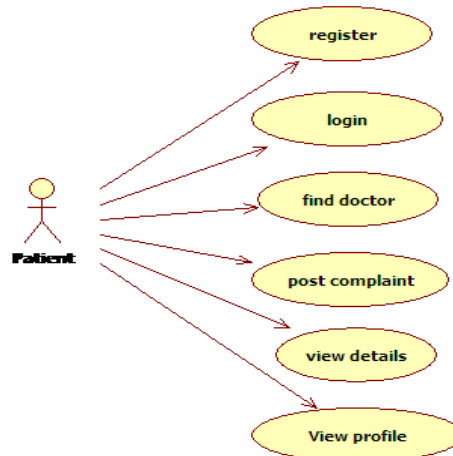**Fig. 1 Use case diagram for Doctor Activity in this application**

  B. **Patient**

Fig. 2 Use case diagram for Patient Activity in this application

C. Clinic
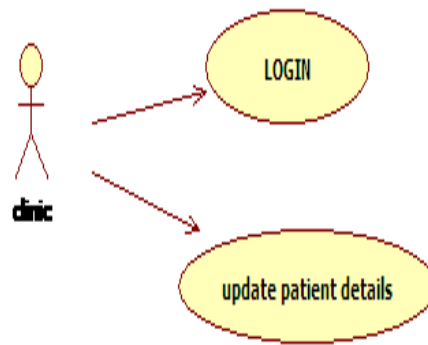
Fig. 3 Use Case diagram for clinic activity in this application

- *Sequence Diagram*
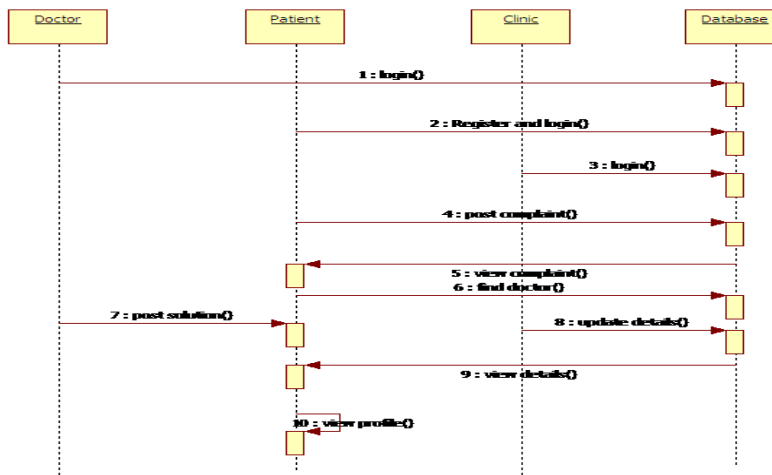
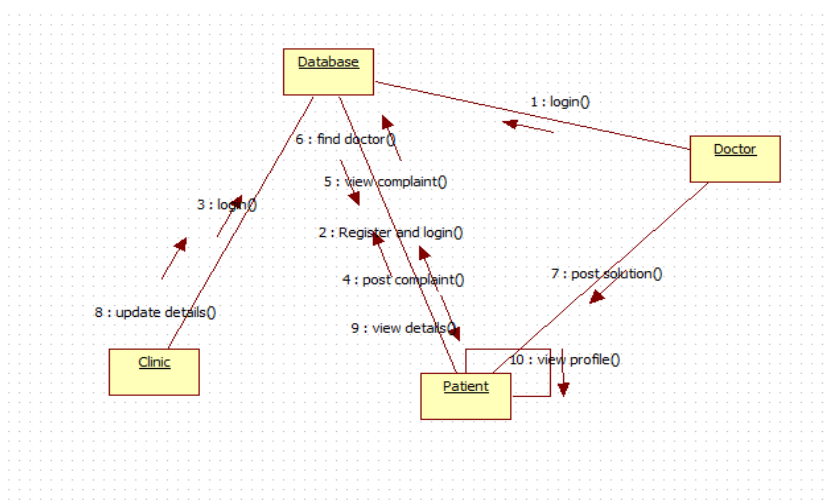**Fig. 4 Sequence Diagram**

- *Collaboration diagram*

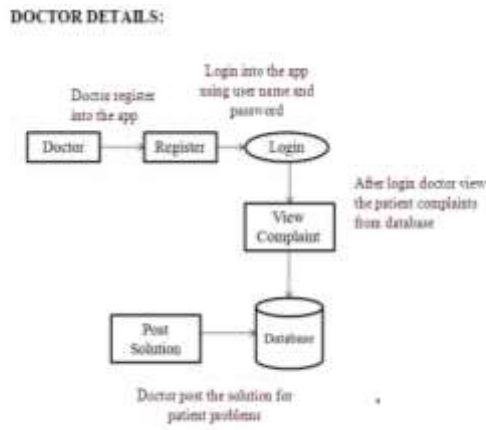**Fig. 5 Collaboration diagram**

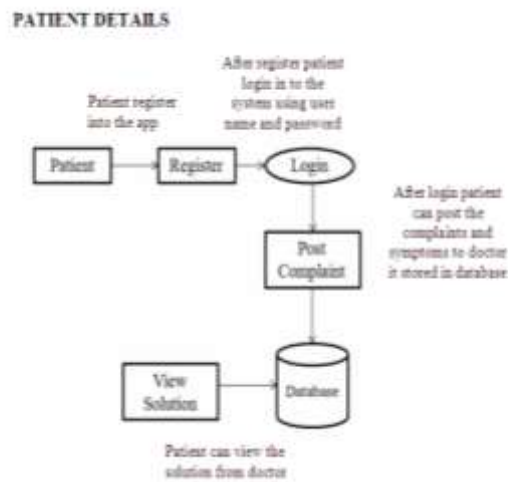- *DFD(Data flow Diagrams)*

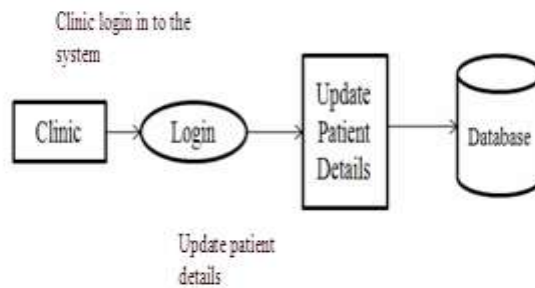**Fig. 6 Doctor Details**

Fig. 7 Patient Details

Fig. 8 Clinic Details
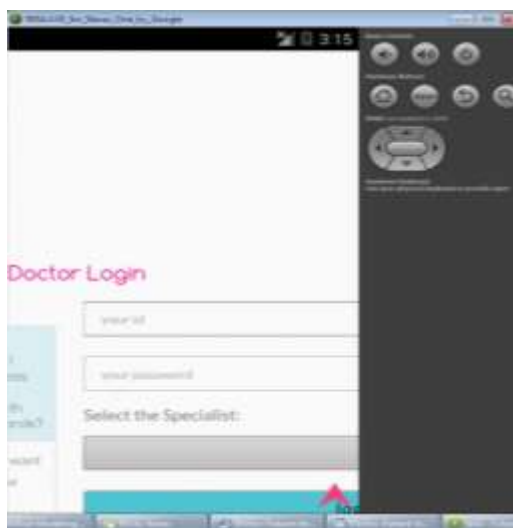
IV.SYSTEM DEVELOPMENT

- *Doctor page*

Fig. 9 In this page doctor enters his user ID and Password to login into the app.
New doctors must create an account in this app. They enter their details and get new user id and password.

- *Patient page*

Fig. 10 In this page patient login into the app and find the doctor by specialist
Wise and post their symptoms and view for an appointment for the doctor.
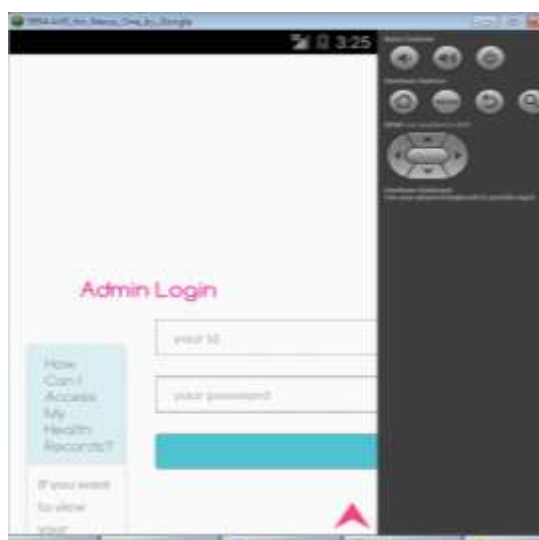
- *Clinic page*

Fig. 11 In this page, clinic updates the doctor and patient details and maintain.

CONCLUSION

This system aims to simplify the task of the patient and the doctor. It will make patients more relaxed as they do not have to stand in a long queue to fix their appointment and also book an appointment according to their choice in a more convenient way. Doctors need not worry about managing their appointment. Though you are not going to the clinic for taking an appointment, your appointment gets booked from anywhere and however, you want. This helps to save the time of the patient. Also, the patient can get the doctor of his choice through various filters used in the application. The doctor is also able to view his day to day appointment list which makes it easier for him to plan his schedule. This application will help to optimize the work of patient and doctor.

ACKNOWLEDGMENT

REFERENCES

[1] Mark L.Murphy, "*The Busy Coder's Guide to Android Development*," United   States of   America, Commons Ware, LLC., 2008.

[2] Justin-luhui.baike.Baidu[EB/OL].[2010-1O-12].

[3] CHENG Chun-Iei, PAN Ze-qiang, "*Research of Chinese traditional medicine embedded information system based on android platform,"* Manufacturing Automation. pp 136-138. January 2011.

[4] Shuiping Wei, Bangyan Ye, Zhiguang Fu, "Research *on GPS Positioning Information Transfer Based on Wireless Network,*" 2007,28(6): 589-592.

[5] Owens M., "*Query Anything with SQLite*," The World of Software Development, 2007, 32(12):24-28.

[6] Jianxun Zhao, "*Mobile Location Services Development and Implementation Based on Android Platform*," Modern Business Trade Industry. pp 271-272. October 2010

[7] Chao-Tung Yang, Yen-Yu Chu, "*Implementation of a Medical Information Service on Android Mobile Devices*," New Trends in Information Science and Service Science, 2010(4):72-77.

[8] Dimitris Tychalas, "*Planning and Development of an Electronic Health Record Client based on the Android Platform*," Panhellenic Conference on Information, 2010(14):3-6

[9] Kuzmanovic Nikola, Maruna Tomislav, Savic Milan, Miljkovic Goran, Isailovic   Djordje, "*Google's Android as an application environment for DTV decoder system*," 2 010 IEEE 14th International Symposium on Consumer Electronics(ISCE)

[10] Reto Meire, "*Professional Android Application Development*", Wiley Publishing Inc., 2009.