

**A SURVEY ON NEW HORIZONS FOR HEALTH THROUGH MOBILE
TECHNOLOGIES**¹Vishwambhar Kapare, ²Priyanka Gade, ³Priyanka Kumari, ⁴Radhika Sagam^{1,2,3,4} Department of IT, Dr.D.Y.Patil Institute Of Technology Pimpri,Pune

Abstract—This paper Clinical Management system is developed by the android software. It is associate android app for on-line communication between a doctors and a patient. This application is useful for patients to raise concerning appointment and in current location. It's helpful to each patient and doctor. Here, our main focus is on on-line appointment ,which provide immediate appointment with doctor and patients and it's time saving. We are able to search doctors by their specialty, availability and recognition and additionally we are able to search all doctors below one roof. This application has distinctive options like provision of son-line appointment to patients, referring patient to a specialist, reducing the value of client service and providing an important communication link between doctors and patients.

Keywords- GPS, Mobile Computing, Location-based Service

I. INTRODUCTION

Clinical Management System is made public to reinforce the worth of clinical forethought administration methodologies of general skilled and modest clinics. A number of its provisions are manufactured for patient information bases. This will be SOA (Service Oriented Application) with mobile interface. This application allows user to look the doctors as per disease or illness with different aspects like geographical position, quality and specialty of the doctor. This permits patient to take an appointment. Patient will search for doctor from the list of available doctors. Then OTP sent to the patient. Identify at patient is verify by OTP and appointment is allocated and confirmation message send to the patient. Doctor will see the appointments, produce the prescription and maintain the history of patient, that prescription may be shared with different doctors and medical store wherever from patient should buy the medicines. This application allows patient to report day to day recovery standing to the doctor, patient will have on-line chat with doctor concerning any emergency issue.

II. LITERATURE SURVEY

Paper Name:The Role of Internet Technology in Future Mobile Data Systems

Authors:Ivano Guardini, Paolo D'Urso, and Paolo Fasano

Description: Mobile telephone and therefore the internet are the quickest growing businesses within the telecommunications market. This can be why most operators and repair suppliers square measure taking care of the event of latest services in each sectors, and newcomers are expected to enter stage. The mobile operators foresee an increasing share of their revenues returning from new information services, whereas internet service suppliers are interested in wireless technology and quality services each to cut back prices inside the last-mile section and to complement their market share, providing omnipresent access to the internet and company intranets. During this state of affairs many wireless overlay networks can be, and their interworking are going to be a difficult objective. The utilization of internet technology, with its novel quality and security extensions, appears to be the foremost enticing possibility for achieving that goal. additionally, the migration to a full IP specification, even inside every specific wireless domain, are going to be another promising chance, already into account inside many technical and standardization bodies. The pictured role of internet technology makes it worthy to undertake important analysis efforts on the event of innovative IP-based mobile information systems, and opens promising opportunities for each telcos and net service suppliers.

Paper Name:Personal Digital Assistant Infectious Diseases Applications for Health Care Professional

Authors:S. M. Miller, M. M. Beattie and A. A. Butt

Description: In this article, four infectious diseases organizer applications square measure reviewed: ePocrates ID (part of ePocrates Rx Pro), the Johns Hopkins Division of Infectious Diseases Antibiotic Guide, the 2002 Sanford Guide to Antimicrobial medical aid, and Infectious Diseases and Antimicrobials Notes. Drug data, as well as clinical material medical, dosing in patients with insufficiency, adverse reactions, and drug interactions, is evaluated for completeness and accuracy by comparison of every application with the package insert. Treatment recommendations for six diseases square measure compared with current observe tips. Every organizer infectious diseases application reviewed has distinctive

blessings and downsides. This review article can facilitate health care professionals choose the infectious diseases organizer application best tailored to satisfy their individual data wants.

Paper Name: Mobile Healthcare Information Management utilizing Cloud Computing and Android OS

Authors: Charalampos Doukas, Thomas Pliakas and Ilias Maglogiannis

Description: Cloud Computing provides practicality for managing data knowledge in an exceedingly distributed, present and pervasive manner supporting many platforms, systems and applications. This work presents the implementation of a mobile system that permits electronic tending knowledge storage, update and retrieval exploitation Cloud Computing. The mobile application is developed exploitation Google’s android operating system and provides management of patient health records and medical pictures (supporting DICOM format and JPEG2000 coding). The developed system has been evaluated exploitation the Amazon’s S3 cloud service. This text summarizes the implementation details and presents initial results of the system in observe.

Paper Name: Mobile multi-agent based, distributed information platform (MADIP) for wide-area e-health monitoring

Authors: Chuan Jun Su

Description: In this paper we gift the planning and design of a mobile multi-agent primarily based info platform – MADIP – to support the intensive and distributed nature of wide-area (e.g., national or metropolitan) watching setting. To exemplify the planned methodology, an e-health watching setting was designed on high of MADIP as an illustration. Aglets package Development Kit (ASDK) was adopted for prototyping, concept-proofing, and analysis. By desegregation the planned platform with light-weight, moveable watching devices (e.g., transportable sign monitor), continuous semi-permanent health watching may be performed while not interfering with the patients’ everyday activities and while not proscribing their quality. The optimum utilization of medical resources may be conjointly achieved.

III. PROPOSED SYSTEM

Clinical Management is android based application that covers all aspects of management of clinics. This application covers options of Doctors Details, Patients Records, on-line appointments etc.

The patient (User) can enter the main points of their sickness and the area supported user will enter details and therefore the doctors are searched who had quality, specialist in handling such type of sickness. The list of nearest hospital and therefore the doctor details are given to the patient.

This project supports to administrator to access complete application, Patient takes appointment through on-line, Doctors manage patient’s report and secretary approves patient’s appointment and schedule the time for meeting. Each patient (User) of the Clinical Management Application contains a distinctive patient ID and word. By coming into User ID and word patient will login to the Clinical Management Application and patient will read Appointment details, Patient reports etc.

IV. SYSTEM ARCHITECTURE

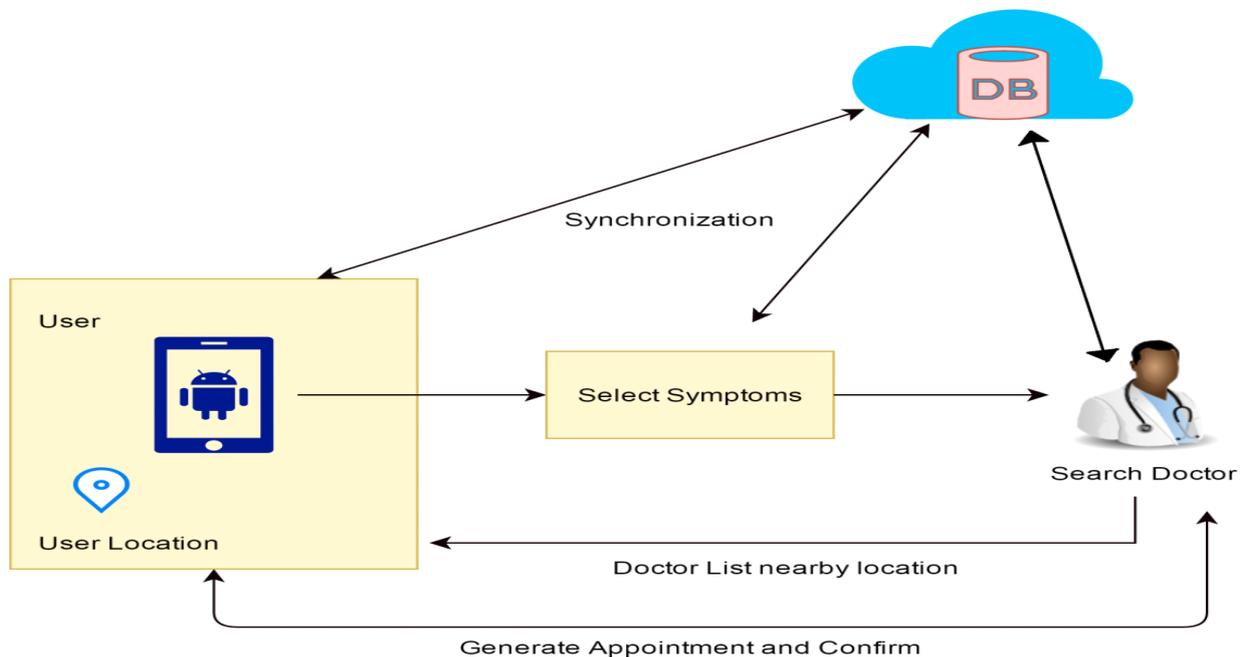


Fig 1: Architecture diagram of proposed system

4.1. The proposed system consists of the admin, doctors, receptionists and patients will be the main users. The system is also designed to be user-friendly.

- Admin
- Receptionist
- Doctors
- Patients

4.1.1 Admin:

Admin should have all information of the system. Admin will regulate the full system. Admin will add, delete, update and modify the system.

4.1.2. Receptionists:

In order to keep and update the details of the patients come back for the treatment and consequently provide identification to them.

4.1.3. Doctors:

Doctors are able to see the respective appointments taken and also can view patient's details and records.

4.1.4. Casual users:

User need to register and login to use the Clinical Management System. While registration at new user OTP sent to user on mobile number for verification at the user. User will search the doctors by inserting the area and create appointment on-line supported the doctor popularity, availability and specialist. User will read the data of the Clinical Management System. Patients will read their own records and doctors details and timings and can also take appointment on-line.

4.2.Third-Party Provider Solutions

For last few years, a big range of third-parties providing to deliver alert messages (and different information services) via text electronic messaging services. The design of those systems is comparatively straightforward. Whether or not activated through an online interface, directly from a phone, or as software system running on a field administrator's laptop, these services act as SMS aggregators and inject text messages into the network. Within the event of Associate in Nursing emergency message is shipped to the service center from the victim or footer mobile.

4.2.1. Short Message Service

Short Message Service (SMS) could be a text electronic communication service element of phone, web, or mobile communication systems, exploitation standardized communications protocols that enable the exchange of short text messages between fastened line and itinerant devices. SMS text electronic communication is that the most generally used knowledge application within the world, with 3.6 billion active users, or seventy eight of all itinerant subscribers. The term SMS is employed as an equivalent word for all sorts of short text electronic communication in addition because the user activity itself in several components of the globe. Straightforward user generated text message services - embrace news, sport, financial, language and placement primarily based services, in addition as several early samples of mobile commerce like stocks and share costs, mobile banking facilities and leisure booking services. SMS has used on fashionable handsets originated from radio telegraphy in radio memoranda pagers exploitation standardized phone protocols and later outlined as a part of the Global System for Mobile Communications (GSM) series of standards in 1985] as a method of causing messages of up to one hundred sixty characters, to and from GSM mobile handsets. Since then, support for the service has dilated to incorporate alternative mobile technologies like ANSI CDMA networks and Digital AMPS, in addition as satellite and land line networks. Most SMS messages ar mobile-to-mobile text messages although the quality supports alternative styles of broadcast electronic communication in addition.

4.2.2. GSM Technology

GSM could be a cellular network, which implies that cellphones connect with it by checking out cells within the immediate neighborhood. There square measure five completely different cell sizes in an exceedingly GSM network. The coverage space of every cell varies per the implementation atmosphere. Indoor coverage is additionally supported by GSM. GSM uses many crypto logical algorithms for security. A convenient facility of the GSM network is that the short message service. The Short Message Service – purpose to purpose (SMS-PP) was originally outlined in GSM recommendation that is currently maintained in 3GPP as TS twenty three.040. GSM 03.41 (now 3GPP TS twenty three.041) defines the Short Message Service – Cell Broadcast (SMS-CB), that permits messages (advertising, public data, etc.) to be broadcast to any or all mobile users in an exceedingly nominal geographic region. Messages square

measure sent to a brief message service center (SMSC) that provides a "store and forward" mechanism. It makes an attempt to send messages to the SMSC's recipients. If the subscriber's mobile unit is power-driven off or has left the coverage space, the message is hold on and offered back to the subscriber once the mobile is power-driven on or has reentered the coverage space of the network. This operate ensures that the message are going to be received.

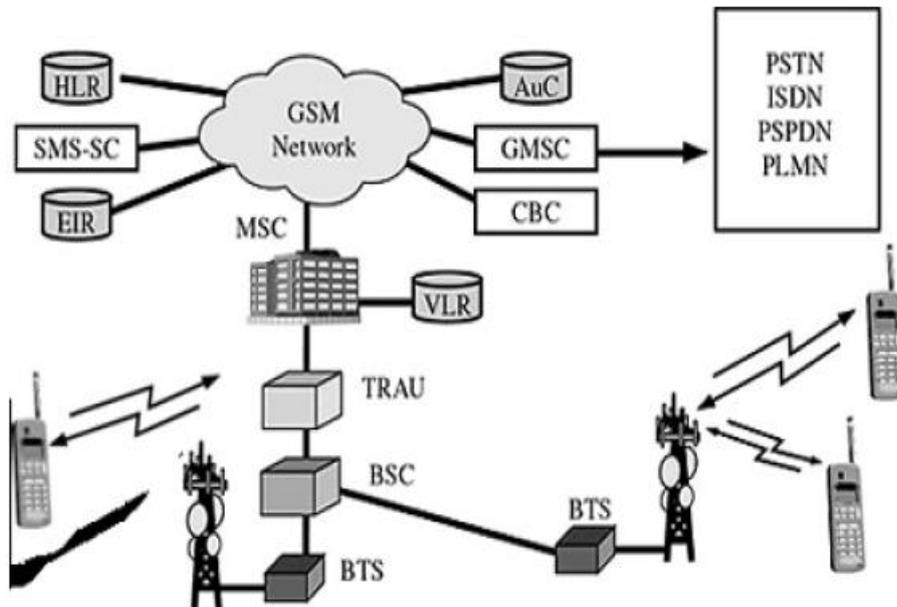


Fig 2: GSM Network along with Short Message Service Center (SMSC)

Both mobile terminated (MT, for messages sent to a mobile handset) and mobile originating (MO, for those sent from the mobile handset) operations are supported. In Message delivery, delay or complete loss of a message is uncommon, typically affecting less than 5% of messages.

4.2.3. GPS Technology

The Global Positioning System (GPS), additionally referred to as Navstar, could be a Global navigation satellite system (GNSS) that has location and time data altogether climatic conditions, anyplace on or close to the planet wherever there's associate degree unobstructed line of sight to four or a lot of GPS satellites. The GPS system operates severally of any telecommunication or web reception, though' these technologies will enhance the utility of the GPS positioning data. The GPS system provides essential positioning capabilities to military, civil, and industrial users round the world. The US government created the system, maintains it, and makes it freely accessible to anyone with a GPS receiver. The GPS conception is predicated on time and also the celebrated position of specialized satellites. The satellites carry terribly stable atomic clocks that square measure synchronized with each other and to ground clocks. Any drift from true time maintained on the bottom is corrected daily. Likewise, the satellite locations square measure celebrated with nice exactness. GPS receivers have clocks as well; but, they're typically not synchronized with true time, and square measure less stable. GPS satellites ceaselessly transmit their current time and position. A GPS receiver monitors multiple satellites and solves equations to see the precise position of the receiver and its deviation from true time. At a minimum, four satellites should be visible of the receiver for it to work out four unknown quantities (three position coordinates and clock deviation from satellite time).

4.2.4 Cloud

Most mobile application a backend service for sharing and processing data from multiple users, or storing large files. This application need cloud for store data of multiple users. Cloud contain list of doctor. User can see list of doctor in current location whichis store in cloud.

V. MATHEMATICAL MODEL

Let S be the Whole system which consists:

$$S = \{IP, Pro, OP\}.$$

Where,

- A. IP is the input of the system.
- B. Pro is the procedure applied to the system to process the given input.
- C. OP is the output of the system.

A. Input:

IP = {u, F, }.

Where,

- 1. u be the user.
- 2. F be set of files used for sending

B. Procedure:

B. Process

- 1. Source node send packets toward the destination node.
- 2. At middle pc packet get drop by various factors like low bandwidth, frequency etc...
- 3. Or any hacker drops/change the packet and forward to destination
- 4. At destination detection will be performed whether packet drop by itself or by hacker

C. Output:

Proper Detection will be done at destination

Search Algorithm:

D => Set of Doctors

L => Se of Locations

DL => Set of Doctors from Specified Locations

P => Patient

Input => PL - Patient Location, IL – illness Details

DS => Set of Doctors with specified specialty.

- 1. List=>Empty
- 2. Input (PL, IL, P)
- 3. D => Get Doctors (DL, PL)
- 4. for T in D
- 5. bool flag = Match(IL,DS)
- 6. If flag
- 7. add (List,D)
- 8. Go to 4
- 9. Display List

VII. CONCLUSION AND FUTURE SCOPE

Since we are getting details of the patients electronically within the “Clinical Management System”, information are going to be secured. This application is helpful for the patient to book the appointment on-line with the specialist regarding their location and conjointly we are able to retrieve patient’s history with one click. So processes are going to be quicker. It guarantees correct maintenance of Patient details. It simply reduces the paper work and so reduces the human effort and will increase speed and accuracy.

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