Pathological Laboratory Mobile Application pLab

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***Abstract* — The first thing we ought to recognize is that mobile is now part of the fabric -every day in everybody's life. So if one is not looking at mobile solutions, then one is not really looking at all solutions. Many factors influence the depth, breadth and speed of health care's badly needed transformation, as costs escalate, the global population ages and the developing world demands better and more available access to care.**

In many industries, smart mobile devices and their applications have transformed the way people live, work and play. This is because mobile devices act as the linchpin for the other technology megatrends, delivering into people's hands the critical information and insight they need in a given moment, wherever they are. Mobile Health Care is the integration of mobile computing and health monitoring. It is the application of mobile computing technologies for improving communication among patients, physicians, and other health care workers.

***Keywords*— Search App, Cost Effective, Detailed View, Cost Cutting Initiatives, Managing Physicians, Technology MegaTrend.**

I. INTRODUCTION

Now a days there has been a boost in Mobile technologies and improvising its use in various fields. First and foremost, mobile healthcare can improve geographic coverage by providing information and connectivity to healthcare professionals anytime and anywhere. Medical is one such mandatory field which is why mHealth has become a crucial aspect of this field. Now a days people prefer having services that can be managed in a go. The application of mobile computing to healthcare has typically not been as extensive that of other technologies, such as medical imaging. Moreover, as society becomes increasingly mobile in almost all aspects of life, the expectation and requirement for a supporting healthcare service will, no doubt, increase in parallel. mHealth solutions cover various technological solutions, that among others measure vital signs such as heart rate, blood glucose level, blood pressure, body temperature and brain activities. Prominent examples of apps are communication, information and motivation tools, such as medication reminders or tools offering fitness and dietary recommendations.

A mobile app providing such functionalities will not only be a boon for the society but will in turn prove to be one of the powerful features of the same. Mobile applications are specifically written for use on mobile devices and these may be general applications or domain specific.

Mobile computing can be broadly described as computing technology, comprising software, hardware and communications specifically associated with mobility. The challenge of integrating medical equipment for monitoring patients' health goes beyond the economic and social aspects, i.e. deals with aspects related to technology, infrastructure and even technology acceptance by institutions, physicians and society, in general.

The advancement of mobile applications and wireless technologies for communication between users, machines communication enabling autonomous components to be interconnected and controlled remotely, with low-cost, scalable and reliable technologies enabled the interconnection of medical equipment and many other wireless mobile devices, such as smart phones in order to enable efficient contact with patients, clinicians that are responsible for the health of several patients.

The development of mobile computing can be seen as one of evolution as well as a revolution. The goal of mobile health care is to provide health care services to anyone at any time, overcoming the constraints of place, time and character.
Mobile health care takes steps to design, develop and evaluate mobile technologies that help citizens participate more closely in their own health care. The patients will participate in the health care process by their mobile devices and thus can access their health information from anywhere any time.
Mobile terminals can access information wirelessly from the home server or can search for data from the integrated databases available with the specific pLabs.
It is widely expected that m-health will become increasingly important in e-health.

The provision of effective emergency health care can prove essential for patient's recovery Recent advances in mobile communications are enabling the use of mHealth systems at anywhere and at any time.

Mobile computing describes a new class of mobile computing devices which are becoming omnipresent in everyday life. Handhelds, phones make information access easily available for everyone from anywhere at any time. Mobile health (hereafter "mHealth") covers "*medical and public health practice supported by mobile devices, such as mobile phones, patient monitoring devices, personal digital assistants (PDAs), and other wireless devices".* mHealth is an emerging and rapidly developing field which has the potential to play a part in the transformation of healthcare and increase its quality and efficiency.

This paper includes the description of four main modules of the application as given below from A to D.

***Login**: It will allow the user to login with the app using their own gmail username and password.*

***Map**: It will show the user the exact location of the pathological lab selected for a particular test.*

***Calendar**: This module will allow the server to show the available time slot and then the user can book an appointment selecting a particular test.*

***Gmail Authentication**: Username of the user should be registered. If not then the user should create a new gmail account.*

II. LITERATURE REVIEW

In An Overview of Recent Health Care Support Systems for eEmergency and mHealth Applications [2], advances in mobile communications and medical technologies facilitate the development of emerging mobile systems and applications for healthcare are given. The objective is to provide an overview and the current status of mobile health care systems (mHealth) and their applications for Emergency healthcare support (eEmergency).

In the application of mobile computing and technology to health care services [1], Mobile computing and technology is becoming prevalent in many aspects of private life and public services. This paper presents a discussion of the technology and its application in context of the UKs health care service, and outlines some potential benefits that may result from its integration into existing information systems and architectures. The additional component of mobility is believed to provide value to health care services, information systems and ultimately the patient's experience.

The next generation of "wireless e-health technologies" given in Emerging Mobile Communication Technologies for Health: Some Imperative notes on m-health [3] is a new and evolving topic in the areas of telemedical and telecare systems. These technologies involve the exploitation of mobile telecommunication and multimedia technologies to provide better access to healthcare personnel on the move, by removing the key disadvantage of trailing wires in current systems. These technologies provide equal access to medical information and expert care by overcoming the boundaries of separation that exist today between different users of such medical information. A great benefit to all users will be a more efficient use of resources and far greater location independence.

In [5] the overview of Wireless Telemedicine Systems is given. Rapid advances in information technology and telecommunications, and more specifically wireless and mobile communications, and their convergence (telematics) are leading to the emergence of a new type of information infrastructure that has the potential of supporting an array of advanced services for healthcare

III. PROPOSED SYSTEM ARCHITECTURE

The System Architecture for this app gives a complete detailed view of the functionalities provided which will not only facilitate the user to find the nearest pLab but will also prove to be of great importance in certain aspects such as cost, time, features, usability etc. System Architecture is given in figure 1 and detailed flowchart in figure 2.

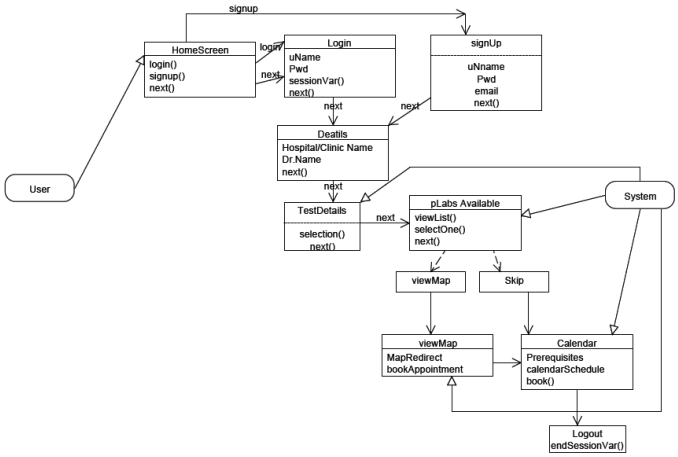

Fig.1. Proposed System Architecture

Here the included modules will not only provide functionalities but will also reduce the overall complexity.

1. **User login**

Here we provide gmail authentication that happens with the help of google authentication api module incase a user does not have any gmail account he would be redirected to a gmail signup page.

2. **Enter Test Details**

Here the user will be asked to enter his/her test details this will happen through a scroll down function where a user will be provided with a list of tests available and accordingly a user can select tests using the checkbox facility.

3. **View Labs**

In this module the available pLabs among the various registered labs will be short down depending of the users location and the availability of resources .

4. **Select Labs**

User will be allowed to select only a single lab amongst the various available labs.

5. **Map Redirect**

According to the users selected pLab the map will be enabled which will compute the shortest path from the users current location to the respective pLab.This module will be implemented with the help of Google Maps api.

6. **alendar Schedule**

Once the Map is enabled the calendar schedule for the particular pLab will be made available.This module will be

implemented with help of Google Calendar.In this module not only the schedule will appear but also the pre-requisite and the cost for the respective test will be specified

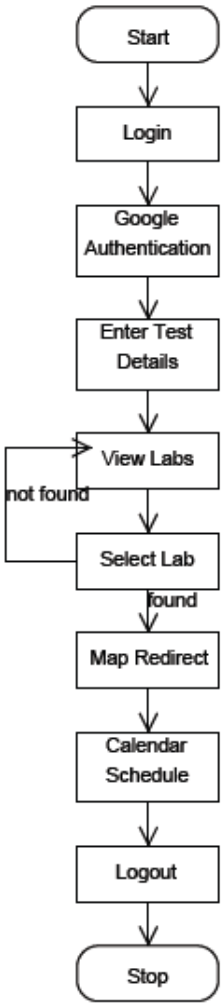

Fig. 2. Flowchart OF Proposed System

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IV. PURPOSE OF PROPOSED SYSTEM

The mobile app mainly facilitates the combined usage of emerging technology trends of mobile and the medical which is reason. Medical is one such mandatory field which is why mHealth has become a crucial aspect of this field .This app not only provides the user with the best service but also provides one with reasonable and efficient service. Providing an effective and efficient outcome .It can be seen from the above that the use of mobile and wireless technology can result in new opportunities, both technical and non-technical, for enhancing many aspects of the fundamental processes that govern the successful operation of a system such as the health service.

This would be anticipated from any supporting technology but more so from mobile and wireless technology because of the manner in which it can radically alter the way in which a system functions.

There is no doubt that that mobile and wireless technology is permeating into many aspects of life, including the health service, and will continue to do so both through choice and requirement

V. ADVANTAGES OF PROPOSED SYSTEM

The main aim of this software is to provide a easy,cost effective way to search for a lab providing a desired test at the touch of your fingers.This will not only help us save time on the finding of the same but will also provide the user a freedom to choose upon a pLab depending on various factors such as time, distance, cost.

VI. CONCLUSION

This paper attempted to give a snapshot of completed, ongoing and emerging applications of the mobile applications in health systems.

The whole system of mobile health care using mobile places forward some future works such as finding the effective data in the most informative manner with minimal storage and user interaction, modeling of data so that the system will not represent all the data but only relevant information thus saving memory. This paper demonstrates an intelligent system for mobile health monitoring.

The demands of a modern health care service and expectations of patients will, no doubt, continue to fuel its adoption. Some recommendations that will help the wider spread of health systems are Appointment Booking, Door step Test services, Door step Pharmacy services, Online Payment.

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