Online Hospital Appointment Management using Cloud Computing

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ABSTRACT

Salesforce Cloud computing is quickly replacing the traditional model of having software applications installed on on-premise hardware, from desktop computers to rooms full of servers, depending on the size of the business. With cloud computing, businesses access applications via the internet. It's called Software as A Service (or SaaS). Salesforce is the leader in cloud computing, offering applications for all aspects of your business, including CRM, sales, ERP, customer service, marketing automation, business analytics, mobile application building, and much more. And it all works on the same, connected platform, drawing from the same customer data. The outpatient of most clinics in developing countries are faced with plethora of issues. These include: overtime for doctors and nurses during clinic sessions, long waiting time for patients, and peak workloads for counter personnel. The quality of health care delivery has been threatening by overtime and peak work load. This paper focuses on developing a system to improve upon the efficiency and quality of delivering a web based appointment system to reduce waiting time. In this project, a patient appointment and scheduling system is designed using Salesforce Lightning for the frontend, Apex is used to get values from frontend and store in back end cloud storage.

KEYWORDS: System Analysis, Methodology, Alogritham, Future Enhancement

I. INTRODUCTION

Worldwide, health care sector is the pivot and integral part of human lives. Thus, any error committed in the clinical services might leads to defect or termination of life. Patient appointment with the Doctor is one of the clinical services that have been automated. Healthcare providers are motivated to reduce operation cost while improving the quality of service. Nowadays, there are many means by which to schedule a medical appointment. In the past, people used to make hospital appointments with schedulers in person or via telephone. However, these approaches may negatively influence patient satisfaction because they require verbal communication with real people who sometimes make mistakes, such as filling in the wrong appointment date or time, or sending the patient to the wrong health service provider. The importance of Patient Scheduling cannot be underestimated in the health care delivery landscape. Patient scheduling is a complex process that perform a crucial role in health care. Patient scheduling performs several functions, from allocating resources to patients in need of exams and allocation of surgery rooms to on-demand appointment scheduling with Family Doctors working at Primary Care clinics. A good appointment scheduling system encourages patient and physician satisfaction, and as such, is an important component of healthcare. The efficiency of health care delivery hinged solely on the effectiveness of the Patient scheduling system. it reduces medical error among practitioner and also reduce the number of unsatisfied patient. Appointment systems have been extensively used to reduce patient waiting times and waiting-room congestion. Such systems have the potential to increase access to medical resources while reducing cost, as well as staff and patient dissatisfaction derived from unmet schedule constraints. The main aim of optimal patient scheduling is to determine an appointment technique for which a particular measure of performance is optimized under uncertain conditions. Appointment scheduling system is a system for planning of appointments between resources such as patients, facilities and providers. It is used in order to minimize waiting times, prioritize appointments and optimize the utilization of resources.

II. LITERATURE REVIEW

Salesforce is a Cloud computing is quickly replacing the traditional model of having software applications installed on on-premise hardware, from desktop computers to rooms full of servers, depending on the size of the business. With cloud computing, businesses access applications via the internet. It's called Software As A Service (or SaaS). Businesses are freed up from having to maintain or upgrade software and hardware. Just log on and get to work, from anywhere and, in many cases, any device. Salesforce is the leader in cloud computing, offering applications for all aspects of your business, including CRM, sales, ERP, customer service, marketing automation, business analytics, mobile application building, and much more. And it all works on the same, connected platform, drawing from the same customer data.

So as opposed to working in silos, your entire company can work as one team. And because it's all in cloud as opposed to being installed on-premise, even the largest, enterprise-wide deployments can happen in a fraction of the time of traditional deployments, which can take over a year.

"Benefits in using Salesforce CRM are:

Allows extensive business automation.
Data is much secured.
Allows Multi –tenant architecture.
Increased storage capacity.
Flexibility as there is no need of installing any software and can access from any location
Use of an in-memory data model.
Allows instant, in memory, manipulation of massive datas
Does not require high cost hardware.
Automated data integration and a graphical analytical environment attractive for customers.
Fast and powerful visualization capabilities.
Ease of use—end users requires almost no training.
Highly scalable—near instant response time on very huge data volumes.
CRM is model used to manage an organizations interactions: Phone calls, Emails, Meetings, Social media With customer and prospects pertaining to: Sales, Marketing, Support
Common goals of CRM:
Increase sales revenue
Increase visibility between departments
Decrease operating costs
Streamline business processes.
User features
Chatter
Search

REPORTS
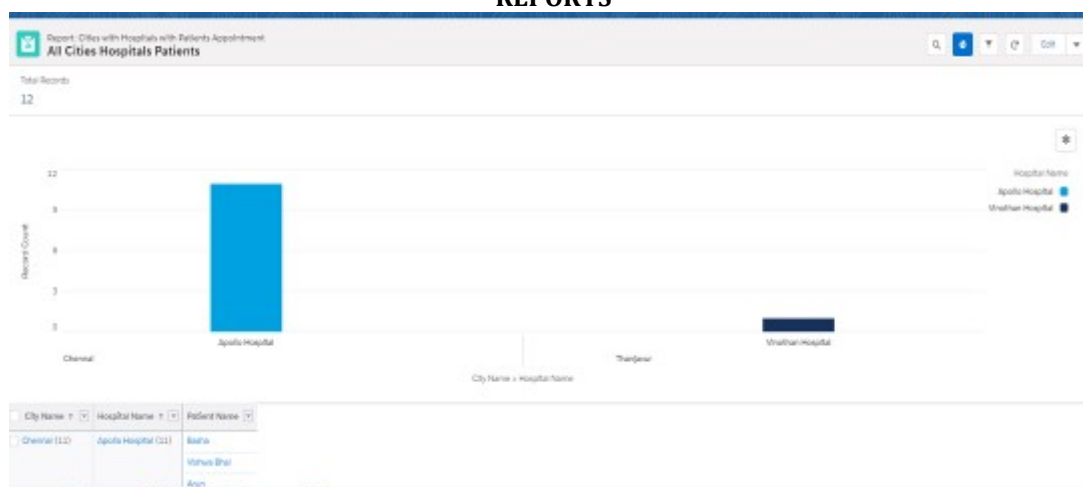
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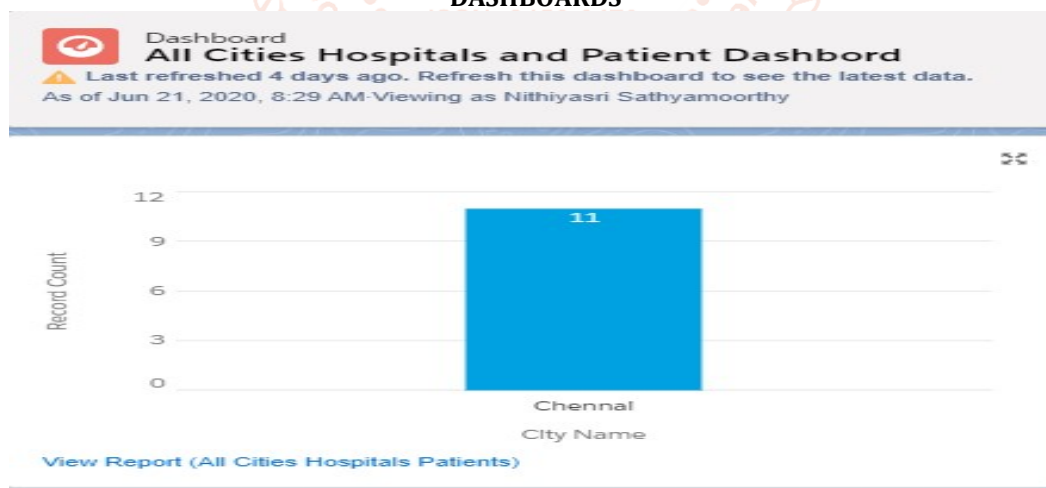
III. SYSTEM ANALYSIS

System study is the first stage of system development life cycle. This gives a clear picture of what actually the physical system is. The system is done in two phase. In the first phase, the preliminary survey of the system is done which helps in identify the scope of the system. The second phase of the system study is more detailed and in-depth study in which the identification of user's requirement and limitations and problem of the present system are studied. After completing the system study, a proposal is prepared by the user.

3.1. EXISTING SYSTEM

Presently people are making appointments manually. This is a time consuming process, patient has to physically go to the clinic in order to make appointment. Some clinics provide the opportunity to make appointments by placing a phone call. But in this case, people are often left unattended.

3.2. LIMITATIONS OF EXISTING SYSTEM
By analyzing the existing system, some of its drawbacks are listed.
1. Time consuming.
2. Lack of efficiency.
3. Needs to be physically present at the clinic.
4. Can't make appointments in advance for long intervals.

IV. METHODOLOGY
Proposed system will overcome the drawbacks of existing system. Existing system is manual and available appointment applications are not user friendly. Proposed system is computerized and user friendly. The proposed system has many advantages

4.1. MERITS OF PROPOSED SYSTEM
The use of proposed system will avoid the problems of the existing system and we also get a new system for managing information under the Hospital Appointment System. The proposed system offers:
Manual work which is time consuming can be reduced.

Easy to store data in the database.

Administrator can add/remove new doctors, patients & departments.

Increase processing speed.

An easily access environment for users.

Doctors can view/cancel appointments.

Doctors can send prescription.

Automatic removal of past appointments.

Easy to use real time search facility.

Responsive layout that fits all devices.

V. ALOGRITHAM
STEP 1   : LOGIN WEB PAGE
STEP 2   : PATIENT REGISTRAION USER ID AND PASSWORD
STEP 3   : OTP VERIFICATION
STEP 4   : ENTRING PUBLIC PORTAL
STEP 5   : SELECT CITY
STEP 6   : SELECT HOSPITAL
STEP 7   : SELECT DEPARTMENT
STEP 8   : SELECT DOCTOR
STEP 9   : SELECT AVAILBLE DATE AND TIME
STEP10   : BOOK APPOINTMENT
STEP11   : BOOKED APPOINTMENT
STEP 12 : SYSTEM VERIFY APPOINTMENT DATE AND TIME
STEP 13 : EMAIL NOTIFICATION SENT TO PATIENT AND DOCTOR
STEP 14 : APPOINTMENT CONFIRMED

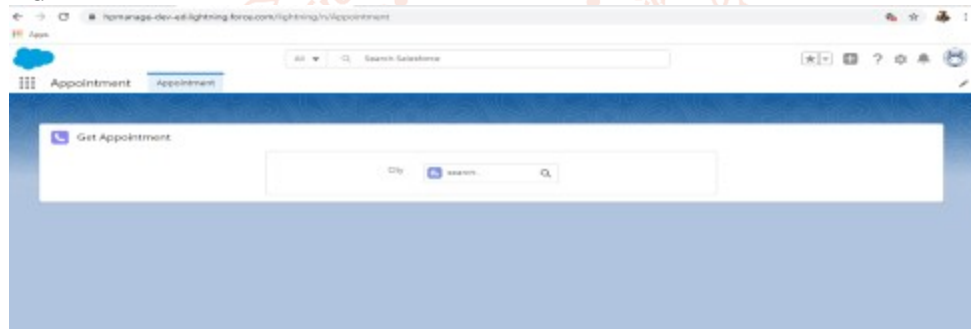## VI. USECASE DIAGRAM
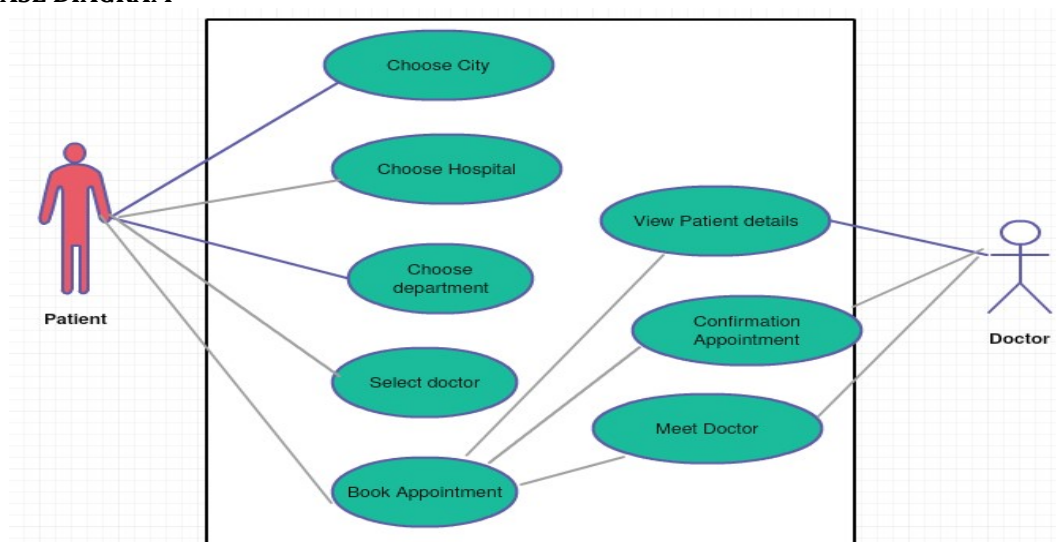
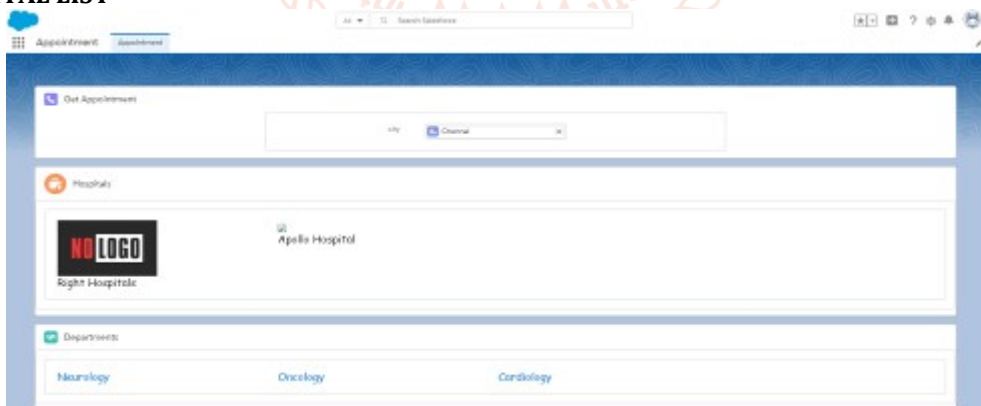## VII.   Sequence Diagram
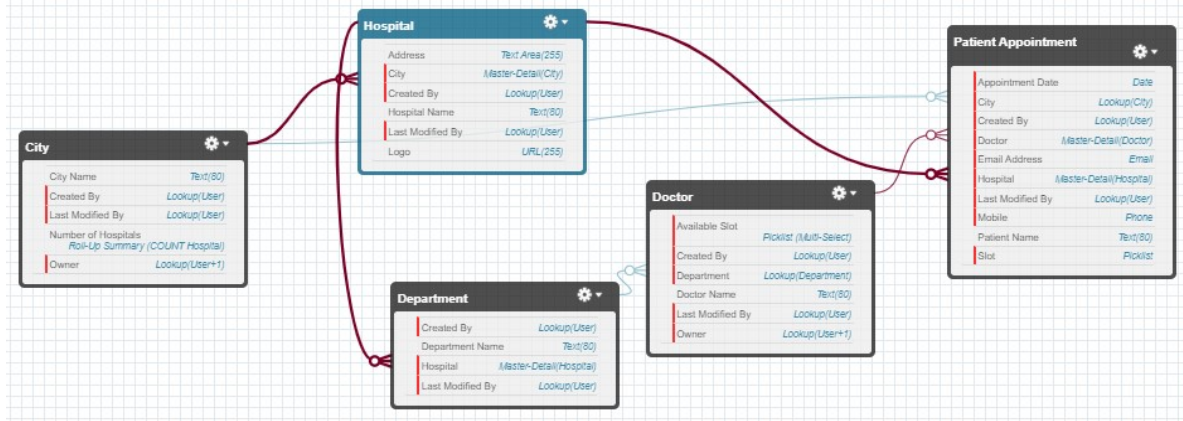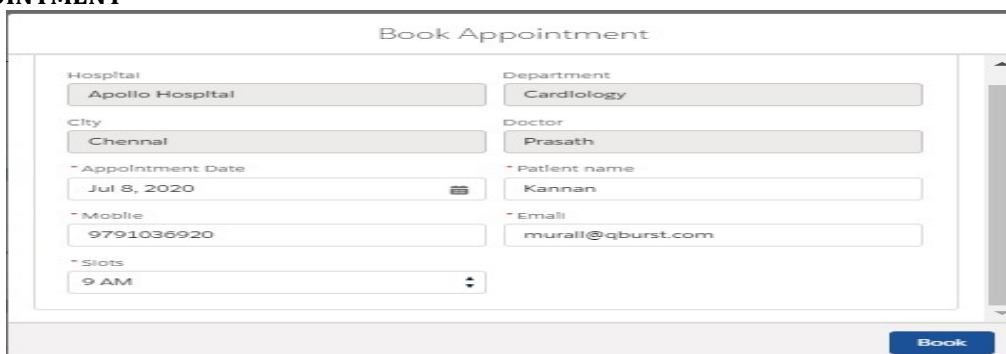

VIII.   PROJECT SCREEN SHOTS
PATIENT LOGIN

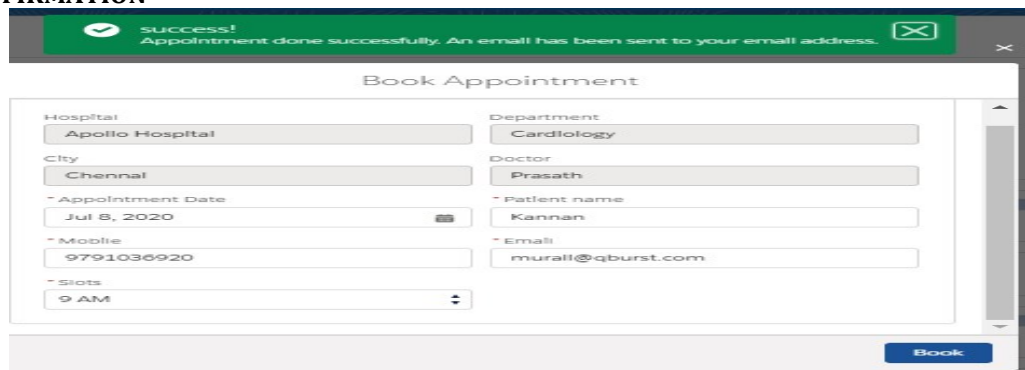## PATIENT HOME PAGE

CITY AND HOSPITAL LIST

BOOKING APPOINTMENT

BOOKING CONFIRMATION

IX. CONCLUSION

Making hospital appointments shouldn't be hard, but often due to the manual way of making appointments, patients find it's hard to make appointments with their desired doctor. Often patients have to wait in long queues and yet sometimes they won't be able to book their appointments. Online Hospital appointment is an easy solution for such patients. They don't have to wait in endless queues or ask someone to do them a favour, because Online Hospital appointment has everything they need to make an appointment with their desired doctor. Clinic Appointment System comes with a clean and responsive interface, so that user can make appointments from every device, all they need is an internet connection.

From the hospital/clinic point of view, they often fail to satisfy the needs of their patients/customers. Sometimes, a staff may need to take a leave and it may cause the whole appointment procedure to go down. With the new Online Hospital appointment, all they need to do is deploy the application to their web server and they are done. Once the administrator has added all the departments and doctors list, patient can book their appointments by visiting the system. No need of a third person to process the request.

Online Hospital appointment also provides doctors an account to interact with their patients. Now doctors can easily send prescriptions online, or see their patient details in advance or even better, they can cancel/ put the appointment to the pending list. Patient on the other side, don't have to worry about losing his/her prescription since it's stored in the hospital's servers.

X. FUTURE ENHANCEMENT

As the number of patients are increasing day by day with unhealthy lifestyle trends in India the need of doctors are also increasing to a great extent for health problem consultation. But it is sometimes not possible for the healthcare seekers to get doctor appointments at their desired time and date due to patient queues and doctor availability. Here online doctor appointment booking websites like Book My Doctor plays a significant role and as a platform for joining the patients with their specialised doctors at their desired time and date.

The benefits such as time management, quick appointment bookings in busy work schedules, portable mobile bookings at anywhere and anytime, 24 hours booking services, flexible doctor searching and finding options etc. helps the patients to easily book online appointments instantly and consult the doctor at the fixed time and date rather than the boring waiting for consultation turn in the patients queue. Everyone is busy with their life schedules so people always look for methods to get easy and instant appointments for their health problems at their specific location. So the scope of online doctor appointment is higher and for that there should be much more reliable and user friendly interface and websites.

XI. REFRENCES

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