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Original Article

Patient Management System

J.A.Lavanya[1], B.Alekhya[2], Y.Kavya[3], A.S.R.Vikram Aditya Varma [4]

[1]*Assistant Professor, Dept. of Computer Science and Engineering, SanketikaVidyaParishad Engineering College, Visakhapatnam, India*
[2,3,4] *B.Tech(IV/IV) Students, Dept. of Computer Science and Engineering, SanketikaVidyaParishad Engineering College, Visakhapatnam, India*

Abstract **-** *The project is mainly used to computerize the patient data with the help of the Salesforce cloud platform, also known as the health cloud. Salesforce platform is used in the project, which is accessible to the doctors 24*7 from anywhere, only on electronic devices with an internet connection.*

Keywords **-** *Multi-tenant, Force. Com, Heath cloud.*

I. INTRODUCTION

Patients today expect greater access and control over their health data, and this cloud-based application helps. Innovation in healthcare needs to address interoperability by enabling fast and secure data exchange between healthcare systems and applications with intelligent API management. Cloud Computing is the delivery of on-demand computing resources, customizing the app, data storage, and accessing the data over the Internet on a pay-for-use basis(no upfront costs, maintenance-free). Cloud applications are accessed anywhere from any device securely. One can run all kinds of apps in the cloud and can develop own Social, Mobile, Web, and real-time Enterprise applications.
It's a Cloud-based platform for developing Cloud applications. It is available on the cloud; no need to install any software or hardware required. We can develop our applications(Custom), or if you need any application on-demand, you can buy from the app exchange. It's a Multi-tenant Architecture, Provides services to the users. It follows MVC(Model View Controller) pattern. . Analysis of a patient's visit to the hospital is generated with the given data as reports. These reports are helpful for the admin/chairman of the hospital to view patients' visits etc.

II. EXISTING SYSTEM

Various existing hospital management systems are online-based, which use databases like oracle, MySql, etc., and programming languages like C, C++, Java, etc. These technologies need high maintenance and configuration of huge software, which is used to develop the application. Even different software's are present online, but they also limit users' access to the site.

A. Drawbacks of Existing System

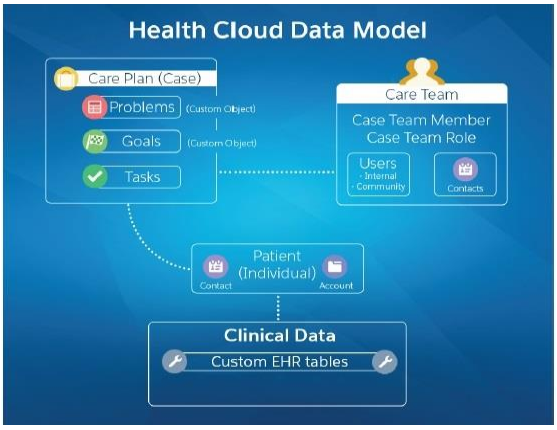
- Time is taken by different departments in the hospital delays patients' treatment.
- Lots of paperwork is required as an intermediary of departments.
- Physicians have to go through all case histories of patients, irrelevant of their department.

III. PROPOSED SYSTEM

Since there are a lot of problems in the existing system, new technology is used in this project called Patient Management System. This project deals with cloud computing. These cloud computing capabilities will be achieved by using the Cloud environment.
Health Cloud is a cloud-based Patient Relationship Solution that enables providers to completely view the patient with integrated data from EMR (Electronic medical records). It will empower healthcare providers (hospitals & doctors) to deliver patient-centric healthcare decisions, engage with patients across their caregiver networks and manage patient data.

Patient database organized by Nursing Homes. Easy to use interface to capture patient demographics.Database for recording patients' medical history and active problems.Physician order management for medications.H&P template for recording health and physical notes for new patients. Visit note template for recording follow-up notes.
Generates H&P and visit notes in PDF format with a button click. Diagnosis database for storing frequently used ICU codes. Rx database for storing frequently prescribed medication.
The physician Roster feature will automatically prepare and organize patients' lists for follow-up visits by month, week, and day.

A. Architecture



B. Salesforce

The Salesforce Platform stores data in relational tables. The records in these tables contain data for the platform's structure and user-created data. For example, the data about the configuration and settings of an account are already in-built as a relational table. But you can also create your tables to store data specific to your business, like the 'dispatch schedule' for a week, assuming you are a courier company.

It helps automate business processes and extend powerful APIs for added security. Tools in the App Cloud include Force.com, a platform as a service (PaaS), allowing admins and developers to create websites and applications with Apex that integrate into the main Salesforce.com application.

App Exchange is a marketplace to sell our custom applications and buy applications from app exchange.

C.CRM

Salesforce is one of the best customer relationship management (CRM) tools; it offers services to companies and keeps their clients satisfied with the particular corporation. Salesforce helps other corporations keep their sales and client information up to date, begin a campaign for different companies, and deal with their clients, sales, and business deals.

1. S-objects

These relational tables are roughly referred to as API Objects or only objects in Salesforce. There are three kinds of Salesforce objects.

- **Standard Objects** − The objects already created for you by the Salesforce platform.
- **Custom Objects** − These are the objects created by you based on your business processes.

2. Standard Objects:

These are the objects which already exist in the Salesforce platform to manage the configurations and settings of the environment. Once you log in to the Salesforce platform, you can see the available objects.

3. Custom Objects:

Following are the features available on Custom Objects. The features help you perform the following features :

- Build page layouts to control which fields users can view and edit when entering data for the custom object record.
- Import custom object records.
- Create reports and dashboards to analyze custom object data.
- Create a custom tab for the custom object to display the object's data.
- Track tasks and events for custom object records.
- Import custom object records.

D. Relationships:

1. ***Master-Detail***
2. ***Look-up***

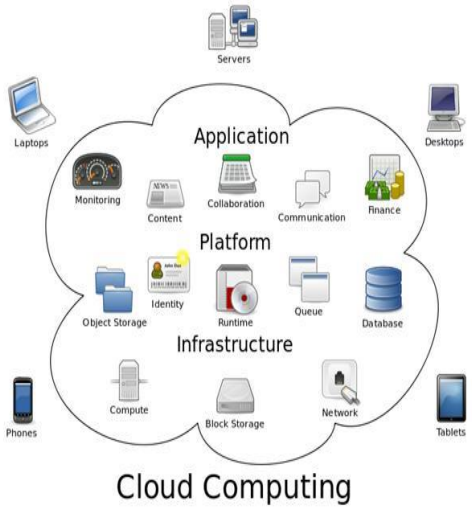
1. Master-Detail

The Master-Detail Relationship is used when we want to control the display of detail records based on the value in the master record. For example, a delivery schedule is always linked to a delivery location in the courier company model. If we remove a delivery location from our list, all the related delivery schedules should also be eliminated.

Such a dependency can be achieved through a Master-detail relationship between the salesforce objects.

2. Look-up:

The relationship between the two objects is a look-up relationship. A look-up relationship essentially links two objects together so that you can “look up” one object from the related items on another object.



Services offered by the cloud

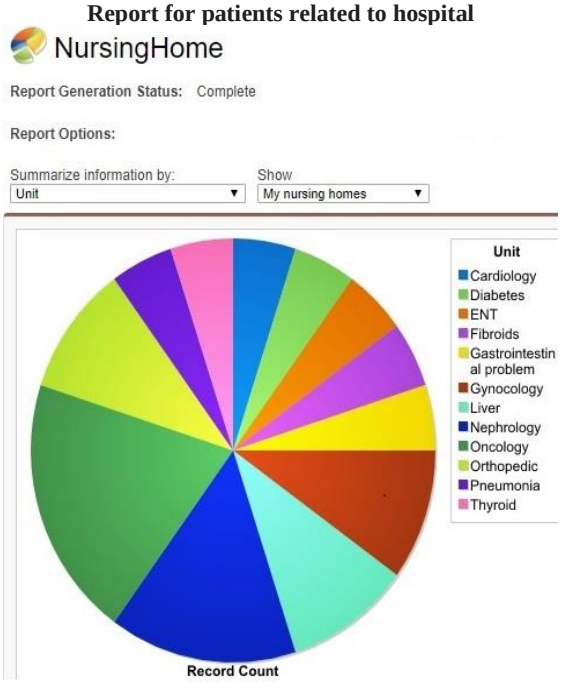
E. Advantages

- Disaster Recovery-Since the data is stored in a cloud database (Salesforce), data can be recovered easily.
- The unlimited number of users access.
- By Using Automation, the patient can get automatic emails regarding their status.
- Improved patient care delivery by minimizing errors, paperwork delays, and misinterpretation of orders.
- Reduced costs by shortening billing cycles.
- Reports and dashboard.
- Another feature of Health Cloud is **Data Analytics.**
- Based on the data in the application, we can prepare 'Reports' and 'Dashboards' on any information, like the performance of the Doctors and how many Patients registered on any particular day/week/month/year.

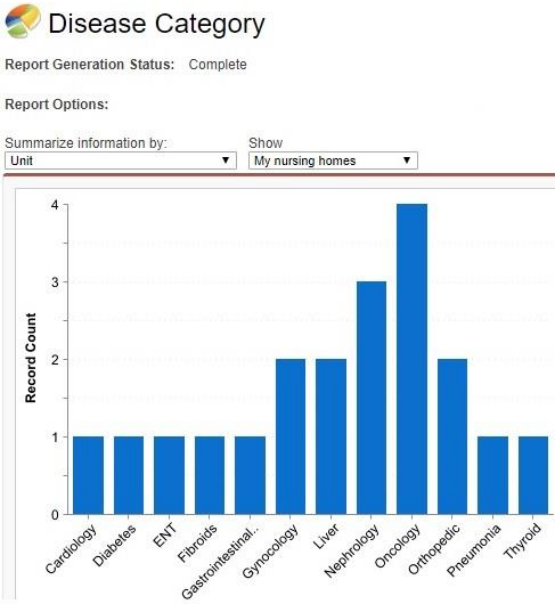
IV. RESULT

Various reports can be generated by data entered, and dashboards can be created with the bulk of reports. Both operating and Analysis of data are done in this project.

Report for patients related to hospital



Report for patients related to the disease category



V. CONCLUSION

The advent of this project platform is based mainly on the health cloud salesforce.This system can overcome load balancing across the Internet when an increased number of users for a blog. The motto of this project is to minimize the paperwork as much as possible, to provide
Information alerts to patients and data access to specialized doctors.

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