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Surgery DBMS and Visualizer

[1]Gughan.B, [2]Dr.C.K. Vijayalakshmi
[1]*Student, Biomedical Engineering, Nandha Engineering College (Autonomous), Erode-52*
[2]*ASP, Biomedical Engineering, Nandha Engineering College (Autonomous),Erode-52*

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ABSTRACT:Surgical Data are much important and that need to be stored and analysed securely. To improve the efficiency of the hospital management and to maintain the surgical data and to make it available easily we use database management system. The main objective in this project is to develop a tool that could store and maintain database of global surgeons from various hospitals. This software mainly aims at optimizing the process and improves the overall quality of services. The proper usage of cloud storage to store surgical data will increase the efficiency of the hospital management. Visualization of the gathered surgical data will help surgeons and hospital management to understand more about their progress. With the well-designed software which automates the most of manual process makes the work less complex.

KEYWORDS: Healthcare ,Tkinter , Python

I. INTRODUCTION

In recent years the growth in data-oriented fields is humungous. Organisations started to utilize their data and uses data analysts or data scientist to analyse the gathered data to provide the detailed insights about the progress. These insights help business analysts to coin different policies and to make decision for the growth of the company.

Likewise in healthcare information technology field hospitals are started to utilize their data to get different insights that helps to run the hospital.

The surgery data management and visualization tool mainly aim at optimizing the process and improves the overall quality of services. Most of the manual process can be automated with usage of the well-designed software. The visualization feature in the tool specifically helps to provide better insights about the surgery process.

II. PROPOSED METHODOLOGY

To perform surgery the management schedule the surgery using the tool. The data provided to the tool will be stored in the firebase cloud server in real-time. When the management want to get detailed insight about the progress, the data stored in the cloud will be downloaded to the local SQL database.

A specific module in the tool which contains the pandas library converts the raw data into a proper data frame from csv file.

Basic information about the surgery such as the date and time of surgery, age, gender of the patient, and other details about the operation were stored on a real-time website. As part of the profile, this information is also stored under the parent code (ID), but this time the ID was the unique patient ID created at the time of admission.

First, the hospital used to distribute the surgeon's surgery, then the surgeon responds by reviewing the condition RECEIVED from DISTRIBUTED.

After receiving the surgery, the surgeon can request the patient's medical history to study at the hospital, then the hospital will upload the required documents to the cloud (storage data) and the surgeon can access the file. Since patient history files are private, the tool will delete the files from the cloud immediately after downloading.

These are the main features of the software. Additional includes data and statistics table. The software system used in the hospital, one data table contains information about the surgeons and the other about the state of the assigned surgery.

All information from the cloud is downloaded and consumed in the data table. The information in the data table cannot be changed, but can be deleted. In order to update information, the user must double-click the appropriate line and need to go to the appropriate section. If a hospital needs an update on a surgeon's profile, they should go to the profile section. Details of eligible doctors will be automatically filled in the text boxes and surgeon only need to change the required information and click the update button. After updating the profile, the data table will be updated automatically and newdata will be downloaded.

The null values are eliminated and data was processed. The matplot and seaborn library provided by python programming plays important role in

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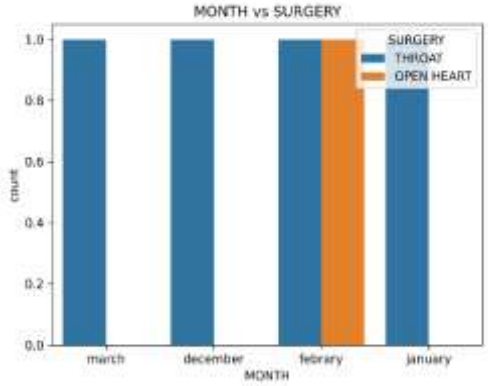
generating the detailed insights and these libraries are responsible for the generation of the graphs.

III. OUTPUT



The graphs are generated after data pre-processing and these graphs are fed into the graphical user interface / dashboard for view. This process is a real-time process and a cyclic one. Surgeons can use different dimensions to generate different charts which are very useful to hospitals to take decision.

The classification feature will help the hospitals and surgeons by providing the detailed insight about the progress. By analysing the progress of the doctors and hospitals the analytics feature will provide graph or map which is very useful.

SL.NO	TOOLS USED	PURPOSE	PACKAGE / LIBRARY
1	PYTHON	DEVELOPING	PYTHON IDLE
2	SQL	STORAGE	SQL PACKAGE
3	FIREBASE	CLOUD	PYREBASE
4	TKINTER	GUI	TK PACKAGE
5	SEABORN	GRPAHS	SNS PACKAGE

IV. CONCLUSION

Looking Storing and maintaining the database is very important in each and every field and proper usage of the data / information collected makes the process easy for all. With the GUI, this tool can access and use the data which was stored in the cloud.

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