

RAPID PROTOTYPING AND OBJECT-ORIENTED PROGRAMMING

WELCOME TO

HOSPITAL MANAGEMENT SYSTEM WITH COVID-19 TRACKING



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CONTENTS:

- ABSTRACT
- PROBLEM STATEMENT
- FEATURES
- SOFTWARE'S AND TOOLS USED
- SOFTWARE & HARDWARE REQUIREMENTS
- SOFTWARE ARCHITECTURE
- SETUP-INSTRUCTIONS
- DATABASE SET-UP
- WEB APPLICATION SET-UP
- SCREENSHOTS
- CONCLUSION
- REFERENCES

ABSTRACT

The application is a Hospital Management System, it is an ERP (Enterprise Resource Planning) system, which provides the administration with an upper edge by providing them on-time data that can be used for further analysis and decisions making. This project is developed under the subject of Rapid Prototyping and Object-Oriented Programming, guided by Dr Sunil Mane.

This application helps any hospital administration by providing a web application and a desktop application that assists the administration to add, search, analyze patients and doctor staff in their hospital.

PROBLEM STATEMENT

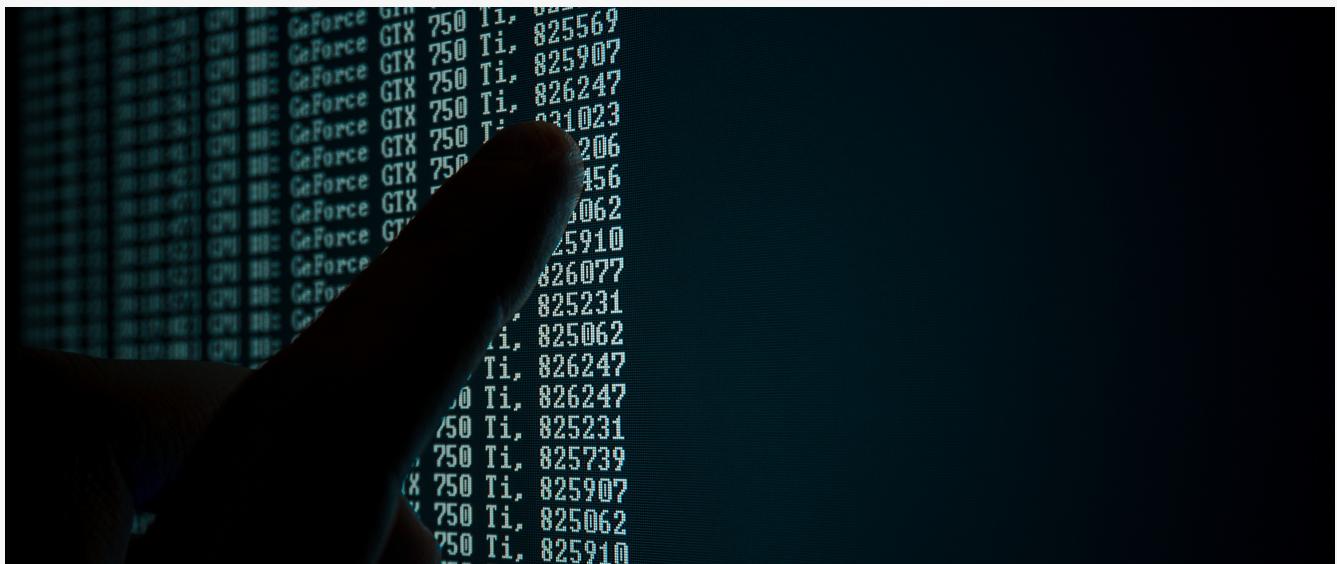
Today the industry is looking forward to incorporating many management tools that could assist them with day-to-day operations, saving their time and providing accurate results that can be used for analysis and decision making. Our goal is to develop an ERP system that can be used for Hospital Management, which provides a desktop and web interface, so users can act on their data anywhere and anytime, not providing any strict constraints on them. We also look forward to incorporating a Corona Tracking Module such that the Management is ready for handling the current scenario.



FEATURES

THE CURRENT PROJECT INCLUDES A VARIETY OF FEATURES THAT CAN HELP ANY HOSPITAL SYSTEM MANAGE ITS DAILY OPERATIONS. THE LIST OF FEATURES GIVEN AS BELOW:

- **Web Application for remote access**
- **Login Module for Administration**
- **Add Patients**
- **Display List of Patients**
- **Search for a Patient**
- **Add Doctors**
- **Display List of Doctors**
- **Search for a Doctor**
- **Patient Analysis**



SOFTWARES AND TOOLS USED

THERE ARE A VARIETY OF TOOLS AND SOFTWARE'S WHICH WE HAVE USED TO DEVELOP THE PROJECT, LISTED AS BELOW:

JAVA SWING

Java Swing is a part of Java Foundation Classes (JFC) that is used to create window-based applications. It is built on the top of AWT (Abstract Windowing Toolkit) API and entirely written in java. Unlike AWT, Java Swing provides platform-independent and lightweight components.

JAVA SERVER PAGES

JSP technology is used to create web application just like Servlet technology. It can be thought of as an extension to Servlet because it provides more functionality than servlet such as expression language, JSTL, etc.

PHASE 03

JSP page consists of HTML tags and JSP tags. The JSP pages are easier to maintain than Servlet because we can separate designing and development. It provides some additional features such as Expression Language, Custom Tags, and other components.

JFREECHART

JFreeChart is an open-source framework for the programming language Java, which allows the creation of a wide variety of both interactive and non-interactive charts. JFreeChart supports several various charts, including combined charts: X-Y charts (line, spline, and scatter). Time axis is possible. Pie charts Gantt charts Bar charts (horizontal and vertical, stacked, and independent). It also has built-in histogram plotting. Single valued (thermometer, compass, speedometer) that can then be placed over map. Various specific charts (wind chart, polar chart, bubbles of varying size, etc.). It is possible to place various markers and annotations on the plot. JFreeChart also works with GNU Classpath, a free software implementation of the standard class library for the Java programming language.

POSTGRESQL

PostgreSQL is a powerful, open-source object-relational database system that uses and extends the SQL language combined with many features that safely store and scale the most complicated data workloads. The origins of PostgreSQL date back to 1986 as part of the POSTGRES project at the University of California at Berkeley and has more than 30 years of active development on the core platform. PostgreSQL has earned a strong reputation for its proven architecture, reliability, data integrity, robust feature set, extensibility, and the dedication of the open-source community behind the software to consistently deliver performant and innovative solutions. PostgreSQL runs on all major operating systems, has been ACID-compliant since 2001, and has powerful add-ons such as the popular PostGIS geospatial database extender. It is no surprise that PostgreSQL has become the open-source relational database of choice for many people and organisations.

NEATBEANS

NetBeans is an integrated development environment (IDE) for Java. NetBeans allows applications to be developed from a set of modular software components called modules. NetBeans runs on Windows, macOS, Linux and Solaris. In addition to Java development, it has extensions for other languages like PHP, C, C++, HTML5, and JavaScript. Applications based on NetBeans, including the NetBeans IDE, can be extended by third party developers.

ECLIPSE

Eclipse is an integrated development environment (IDE) used in computer programming.[5] It contains a base workspace and an extensible plug-in system for customizing the environment. Eclipse is written mostly in Java and its primary use is for developing Java applications, but it may also be used to develop applications in other programming languages via plug-ins. It can also be used to develop documents with LaTeX (via a TeXlipse plug-in) and packages for the software Mathematica. Development environments include the Eclipse Java development tools (JDT) for Java and Scala, Eclipse CDT for C/C++, and Eclipse PDT for PHP, among others.

SOFTWARE & HARDWARE REQUIREMENTS

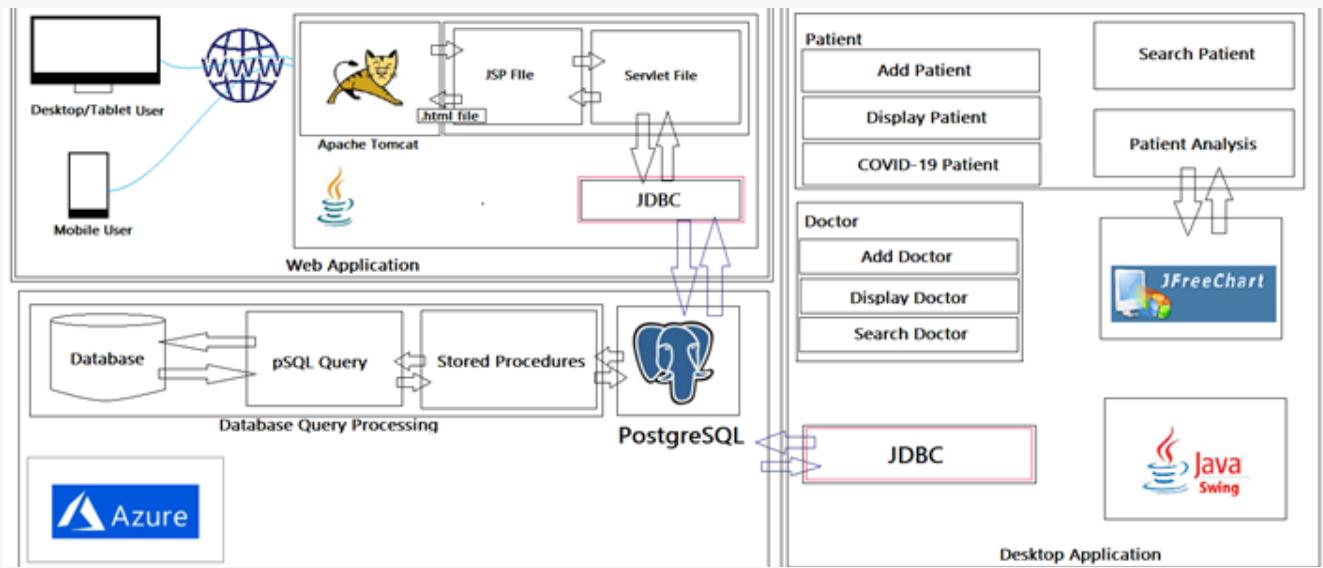
SOFTWARE REQUIREMENTS

- Amazon Corretto JDK 16
- Apache Tomcat
- NeatBeans IDE
- Eclipse
- JFreeChart Library
- PostgreSQL Server

HARDWARE REQUIREMENTS

- Microsoft Windows 7 or higher / Ubuntu 18.04 or higher
- Intel i3 processor (1.30 GHz)
- Minimum 4GB RAM

SOFTWARE ARCHITECTURE



SETUP-INSTRUCTIONS

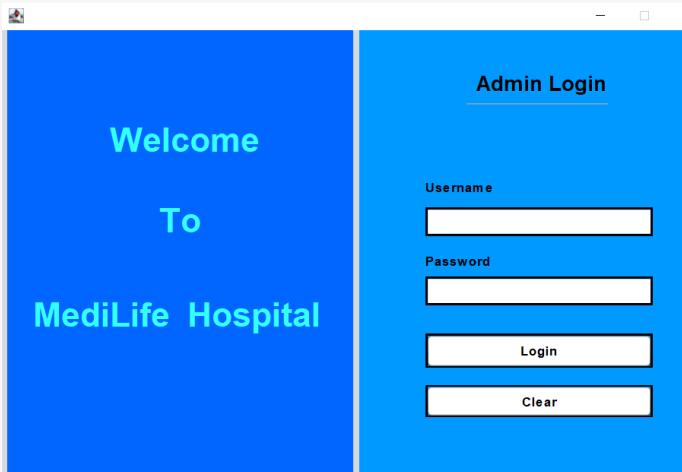
DATABASE SET-UP

- First Install PostgreSQL <https://www.postgresql.org/>
- Install PgAdmin / Install WAMP <https://bitnami.com/stack/wamp>
- Create a localhost Server.
- Create a database.
- Right-Click on database and click RESTORE
- Select hospital-management.sql file
- Your database is ready.

WEB APPLICATION SET-UP

- Install Apache Tomcat <http://tomcat.apache.org/>
- Install Eclipse <https://www.eclipse.org/>
- Click File.
- Click on Import.
- Select Existing Projects into workspace.
- Browse to project location.
- Click Finish
- Web Application is ready. [Make sure that port number 8080 is available on your machine]

SCREENSHOTS

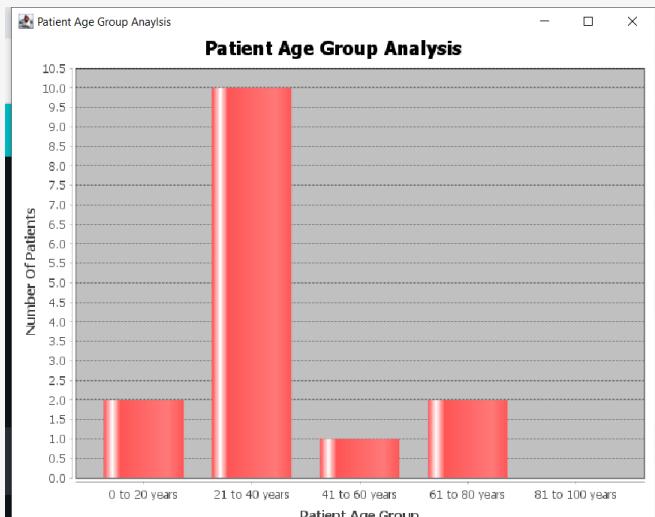


The Add Patient screen contains fields for "Name", "Age", "Gender" (with radio buttons for Male and Female), "Phone No.", "Email", "Problem", "Ward No.", "Doctor Assigned" (a dropdown menu), and "Covid Patient" (radio buttons for YES and NO). It includes "Back", "Clear", and "Add Patient" buttons.

The Search Patient screen has a "Back" button and a field to "Enter the Name of the Patient". It includes "Clear" and "Search" buttons.

The Patients list screen shows a table with columns: ID, NAME, AGE, GENDER, CONTACT, EMAIL_ID, DISEASE, WARD_N, DOCTOR, and DOCTOR. The data includes entries for patients like purav, someone, newcovidp, noncov1, LatestPat1, oppo, vivo, Purav De..., and Purav De... (repeated).

The Add Doctor screen contains fields for "Name", "Age", "Gender" (radio buttons for Male and Female), "Specialization", "Experience", and "Phone No.". It includes "Back", "Clear", and "Add Doctor" buttons.



Worldwide Patients

COUNTRY	STATE	TOTAL CASES
Afghanistan		58214
Albania		129980
Algeria		120174
Andorra		12917
Angola		24883
Antigua and Barbuda		1217
Argentina		276952
Armenia		210518
Australia	Australian Capital Territory	123
Australia	New South Wales	5402
Australia	Northern Territory	136

Search Doctor

Search Doctor

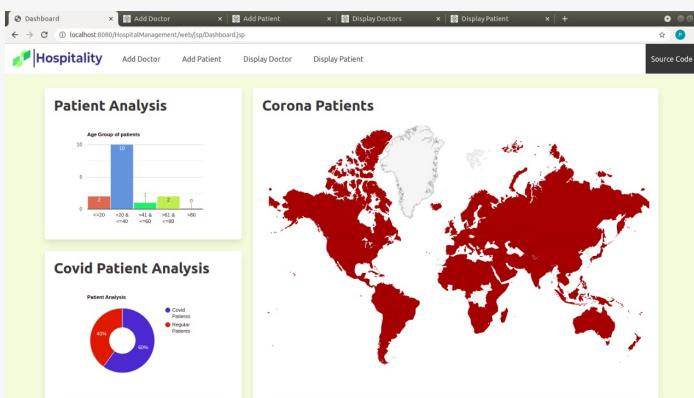
Enter the Name of the Doctor :

Doctors

Clear **Search**

Doctors

DOCTOR_ID	NAME	AGE	GENDER	SPECIALIZATION	EXPERIENCE	CONTACT
2	purav	30	Male	cardiac	10	730403
3	Dr Samrat Sawant	30	Male	Neuron Scientist	4	823462
4	DR PURAV DESAI	32	Male	Neuro	5	123456
5	PP	48	Female	great	2	123321
6	okk	18	Male	asda	18	233211
7	DR. Chinaswami	72	Male	Gynac	32	341287
8	DR. Shah	80	Male	heart	16	241443
9	Kapil Joshi	50	Female	Cardiac Surgery	10	730403
10	kk	64	Male	ke	2	123456
11	kk	64	Male	ke	2	123456
12	mr.uber	86	Male	onvt	6	321233



Hospitality

Add Doctor

Name: Dr. Kapil Joshi

Age: 30

Gender: Male Female

Specialization: Cardiac Surgery

Experience: 10

Contact Number: +91 9876543210

Submit

CONCLUSION

CHANGE IS INEVITABLE IN ALL THE PROSPECTS, TO COPE UP WITH THE EVOLVING TECHNOLOGIES TRENDS IN BUSINESS AND MAINTENANCE ADVANTAGE, ERP IS A COMPLETE SOLUTION. THE HOSPITAL MANAGEMENT PROJECT PLAYS A VITAL ROLE IN THE ANALYSIS, DISPLAY AND MAINTENANCE OF RECORDS OF PATIENTS AND DOCTORS. THE HOSPITAL MANAGEMENT PROJECT PROVIDES COMPREHENSIVE REPORTS, GEO CHARTS AND ON-TIME DATA WHICH CAN BE ACCESSED ANYWHERE BY ANY DEVICE.

REFERENCES

- [HTTPS://WWW.POSTGRESQL.ORG/](https://www.postgresql.org/)
- [HTTPS://WWW.POSTGRESQL.ORG/ABOUT/](https://www.postgresql.org/about/)
- [HTTPS://WWW.JAVATPOINT.COM/JAVA-SWING](https://www.javatpoint.com/java-swing)
- [HTTPS://WWW.JFREE.ORG/JFREECHART/](https://www.jfree.org/jfreechart/)
- [HTTPS://EN.WIKIPEDIA.ORG/WIKI/ECLIPSE_\(SOFTWARE\)](https://en.wikipedia.org/wiki/Eclipse_(software))
- [HTTPS://WWW.JAVATPOINT.COM/JSP-TUTORIAL](https://www.javatpoint.com/jsp-tutorial)
- [HTTPS://AZURE.MICROSOFT.COM/EN-IN/](https://azure.microsoft.com/en-in/)