ZERO-AID, OFFLINE MEDICAL ASSISTANT

A mini project report
submitted in partial fulfillment of
the requirements for the award of the degree of
BACHELOR OF TECHNOLOGY

in

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from

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CERTIFICATE

*This is to certify that the MINI PROJECT report entitled "***ZERO-AID, OFFLINE MEDICAL ASSISTANT***" is a bonafide record of the work done by* **SALIMA JABEEN P. (MEA20IT022)** *under our supervision and guidance. The report has been submitted in partial fulfillment of the requirement for award of the Degree of* **Bachelor of Technology** *in* **INFORMATION TECHNOLOGY** *from APJ Abdul Kalam Technological University for the year 2023.*

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DATE: SALIMA JABEEN P.

ABSTRACT

In our daily lives, we frequently utilize Google to look up arbitrary home cures for common illnesses. A reliable internet connection is necessary for this. However, the lack of internet access in rural areas is a major issue in many nations, including India. NetBeans IDE (JAVA) was used to create the desktop application known as ZeroAid (Medical Assistant). It acts as a trustworthy and easily available source for medical advice and help, concentrating particularly on offline features. Users of the application get offline access to age-based medication dose recommendations (limited), emergency care procedures, and home remedies. The software also includes an online appointment system. Along with helping to fulfill individual needs, the option to request unavailable medications and home remedies motivates users to actively contribute to the application's future improvements. The application aims to provide a convenient and accessible healthcare experience.

Contents

List of Figures

List of Abbreviations

CPR	Cardio Pulmonary Resuscitation
IDE	Integrated Development Environment
OS	Operating System
AI	Artificial Intelligence
MA	Medical Assistant
JVM	Java Virtual Machine
SQL	Structured Query Language
DBMS	Database Management System
RAM	Random Access Memory
JRE	Java Runtime Environment

CHAPTER 1

INTRODUCTION

Normally, we use google to search for random home remedies for a typical illness in our day to day life. This requires a stable internet connectivity. But The unavailability of internet in rural areas is a significant challenge in many countries, including India. While efforts have been made to improve connectivity, several factors contribute to the ongoing issues like Infrastructure Challenges, Lack of Connectivity Options, Affordability, Digital Literacy and Awareness, Government Initiatives and Policies Delaying etc. Our Medical Assistant is a desktop application built using Java and the NetBeans IDE. It serves as a reliable and accessible resource for medical information and assistance, specifically focusing on offline functionalities. The application provides users with offline access to home remedies, emergency care steps, and medicine dosage recommendations based on age. Online Appointment system is an additional feature of the software.
Key Features of the project includes Offline Home Remedies in which Users can access a comprehensive collection of home remedies offline, Search functionality allows users to find specific remedies based on their ailments or symptoms, also each remedy includes detailed instructions. Offline Emergency Care which Provides offline access to step-by-step instructions for common medical emergencies, Users can quickly access emergency care procedures without an internet connection, and covers a range of emergency scenarios, including CPR, choking, burns, allergic reactions, etc. Offline Medicine Dosage which Offers dosage recommendations for a limited number of commonly used medicines based on the user's age, Users can enter their age and select the medicine they require information about and the application displays the appropriate dosage instructions, ensuring safe and accurate medication administration.

Netbeans IDE was used to build the Software, which works under JAVA[2]. NetBeans is an integrated development environment 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. The NetBeans IDE is free, open source,

cross-platform, feature-rich, easy to use and as powerful as Eclipse IDE. Its integration is great with other tools.

1.1 Objective

The main objectives of this proposed technique are

- To provide home remedies (offline) instead of using Google.
- To provide emergency care informations.
- To check the medicine Dosages with available medicines.
- To request for remedies if there's no remedies available for a symptom.
- To login or register, for an individual user.
- To book an appointment with a available doctor.
- To manage the appointments done by a particular user.

CHAPTER 2

LITERATURE REVIEW

2.1 AI Based Healthcare Assistant and consulting Android application [3]

AI-based healthcare assistant and consulting Android application is a mobile app that uses artificial intelligence to provide healthcare services to users. These services can include symptom analysis, diagnosis, treatment recommendations, and doctor consultations. The app can be used to access healthcare information and services from anywhere, at any time.

This AI-based healthcare assistant and consulting Android application can provide a number of benefits to users, including:

- Convenience: The app can be used to access healthcare services from anywhere, at any time. This can be especially helpful for people who live in rural areas or who have difficulty getting to a doctor's office.

- Accuracy: The app can use AI to analyze symptoms and provide accurate diagnoses. This can help people get the care they need sooner, and it can also help to reduce the number of unnecessary doctor's visits.

- Cost-effectiveness: The app can be a more affordable way to access healthcare than traditional methods. This is especially true for people who have difficulty paying for health insurance.

- Personalization: The app can be customized to the individual user's needs. This means that the app can provide more relevant and helpful information to each user.

2.1.1 System Features

- Symptom checker: The app can allow users to enter their symptoms and receive a diagnosis or a list of possible diagnoses.

- Medical advice: The app can provide users with medical advice, such as how to manage their symptoms or what medications to take.

- Doctor referral: The app can help users find a doctor who is qualified to treat their condition.

- Health tracking: The app can track users' health data, such as their weight, blood pressure, and blood sugar levels.

The development of an AI-based healthcare assistant and consulting Android application is a complex task, but it has the potential to revolutionize the way that people access healthcare. By providing convenient, accurate, and cost-effective healthcare services, these apps can help to improve the health of people all over the world.

Here are some of the challenges that would need to be addressed in order to develop a successful AI-based healthcare assistant and consulting Android application:

- Data collection: The app would need to be able to collect large amounts of data about users' health in order to train its AI models. This data could be collected from users' self-reported symptoms, medical records, and other sources.

- Model training: The app's AI models would need to be trained on a large dataset of health data in order to be accurate. This training process could be computationally expensive and time-consuming.

- User interface: The app's user interface would need to be easy to use and understand. This is especially important for users who are not familiar with technology.

- Security: The app would need to be secure in order to protect users' personal health information. This would involve using encryption and other security measures.

2.2 Mobile Applications in Enhancing MedicalAssistant Efficiency

Mobile applications (apps) have become an essential part of our lives, and the healthcare industry is no exception. Medical assistants (MAs) are increasingly using mobile apps to improve their efficiency and effectiveness.

There are a number of ways that mobile apps can help MAs be more efficient. For example, apps can be used to:

Access patient information quickly and easily. MAs can use apps to access patient records, lab results, and other important information from anywhere. This can save them time and help them provide better care. Complete tasks more efficiently. There are apps that can help MAs with a variety of tasks, such as scheduling appointments, sending reminders, and tracking patient progress. This can free up their time so they can focus on other important duties. Communicate with patients and other healthcare providers. MAs can use apps to communicate with patients and other healthcare providers via text, email, or video chat. This can help them stay connected and ensure that patients receive the best possible care. In addition to improving efficiency, mobile apps can also help MAs provide better care. For example, there are apps that can help MAs with:

Diagnosing and treating patients. Some apps provide access to medical reference information, diagnostic tools, and treatment plans. This can help MAs make better decisions about patient care. Monitoring patient health. There are apps that can help MAs track patient vital signs, medication adherence, and other important health data. This can help them identify and address potential problems early on. Educating patients. There are apps that can help MAs educate patients about their health conditions and treatment plans. This can help patients better understand their care and make informed decisions about their health. Overall, mobile apps can be a valuable tool for MAs. They can help MAs be more efficient, provide better care, and stay connected with patients and other healthcare providers.

Here are some specific examples of mobile apps that MAs can use:

i. UpToDate: This app provides access to medical reference information, including drug information, diagnosis and treatment guidelines, and patient education materials.

ii. MDCalc: This app provides a variety of calculators for medical professionals, including calculators for calculating medication dosages, fluid requirements, and body mass index.

iii. PatientKeeper: This app helps MAs track patient vital signs, medications, and allergies. It also provides access to patient education materials.

iv. Doximity: This app allows MAs to connect with other healthcare providers, share patient information, and schedule appointments.

v. HealthTap: This app allows MAs to ask questions of medical experts and get answers within minutes.

These are just a few examples of the many mobile apps that are available to MAs. With so many options to choose from, MAs can find apps that meet their specific needs and help them improve their efficiency and effectiveness.

There are many potential drawbacks to consider:

Mobile applications can be distracting. If medical assistants are constantly checking their phones, they may not be as focused on their work. This could lead to errors or missed opportunities.

Mobile applications can be outdated. The software and hardware of mobile devices are constantly changing. This means that mobile applications may become outdated quickly. If an application is not updated regularly, it may not be compatible with the latest devices or operating systems.

Mobile applications can be difficult to use. If a mobile application is not well-designed, it can be difficult to use. This can lead to frustration and decreased productivity.

Despite these potential drawbacks, the benefits of mobile applications in healthcare can outweigh the risks. By carefully selecting and implementing mobile applications, healthcare organizations can improve the efficiency and quality of care.

2.3 Mobile Health Applications for Primary Care: A Systematic Review"by J. Liu et Al. (2016) [4]

The systematic review by Liu et al. (2016) investigated the use of mobile health (mHealth) applications in primary care. The review included 14 studies that evaluated the effectiveness of mHealth applications for a variety of conditions, including chronic diseases, mental health, and preventive care.

The review found that mHealth applications can be effective in improving patient outcomes. For example, one study found that an mHealth application for diabetes self-management was associated with improved glycemic control. Another study found that an mHealth application for depression self-management was associated with reduced depressive symptoms.

However, the review also found that the quality of the evidence for the effectiveness of mHealth applications is mixed. Some studies found significant benefits of mHealth applications, while others found no benefits or even harmful effects. The review authors concluded that more research is needed to determine the long-term effectiveness of mHealth applications in primary care.[4].

2.3.1 Key findings of the Review

- Health applications can be effective in improving health outcomes, but the evidence is mixed.

- The effectiveness of mHealth applications varies depending on the specific application and the health condition being targeted.

- A number of factors may influence the effectiveness of mHealth applications, including the design of the application, the user's motivation to use the application, and the availability of support from healthcare providers.

The review by Liu et al. (2016) provides an overview of the current state of research on mHealth applications in primary care. The review suggests that mHealth applications have the potential to improve patient outcomes, but more research is needed to determine the long-term effectiveness of these interventions.

2.3.2 Limitatoions

The review included a limited number of studies. The quality of the included studies was mixed. The review did not consider the cost-effectiveness of mHealth applications. Despite these limitations, the review by Liu et al. (2016) provides a valuable overview of the current state of research on mHealth applications in primary care. The review also identifies a number of factors that may influence the effectiveness of mHealth applications, which can help developers and healthcare providers design and implement more effective mHealth interventions.

CHAPTER 3

METHODOLOGY

3.1 Problem Statement

In today's fast-paced world, access to the internet has become an indispensable part of our lives, providing us with a wealth of information and resources at our fingertips. One common use of the internet is to search for random home remedies for typical illnesses that we encounter in our day-to-day life. However, this convenient practice is not available to everyone, especially in rural areas, where the unavailability of stable internet connectivity remains a significant challenge.

In our day-to-day lives, when faced with emergencies or typical illnesses, many people rely on search engines like Google to find immediate information on Emergency Care steps, such as CPR (Cardiopulmonary Resuscitation) or first aid for choking incidents. These online resources provide valuable guidance on how to respond quickly and effectively in critical situations. However, a major obstacle that hinders access to such vital information is the lack of stable internet connectivity, especially in rural areas of many countries, including India.

India, like many other countries, faces this issue due to various factors that hinder widespread internet access in rural regions. One of the main challenges is the vast geographical expanse and remote locations of many rural areas, making it difficult for telecommunication infrastructure to reach every corner of the country. The cost of laying down the necessary cables and establishing cellular towers in these regions can be prohibitive, deterring private telecom companies from investing in such areas.

3.2 Existing System

3.2.1 Telemedicine Service

Telemedicine is a form of remote medical consultation that allows patients to receive healthcare services through digital communication channels like video calls or phone calls. It enables patients to consult with healthcare providers, discuss medical concerns, receive diagnoses, and even get prescriptions without having to visit a physical clinic or hospital. Telemedicine has gained popularity for its convenience and accessibility, especially during times when in-person visits might be challenging or risky.This system uses smart mobile devices that utilize 3G and 4G mobile networks for data transmission. The specialist and the patient can access the medical registers conveniently regardless of time and place and patient may contact the specialist for any emergency.There are three main types of telemedicine, which include store-and-forward, remote monitoring, and real-time interactive services.Telemedicine will help the doctor to communicate more effectively. Telemedicine technology allows providers and other healthcare personnel to track when and how their patients take their medication.As of my last update in September 2021, telemedicine was already an established and growing sector in the healthcare industry. It offered several benefits, such as improved accessibility, convenience, and reduced healthcare costs. Many healthcare providers and platforms offered telemedicine services, including virtual doctor visits, remote monitoring, and online prescriptions.however it have many disadvantages.

There is limited evidence to support the efficacy of telemedicine, lack of regulation surrounding the practice of telemedicine, there are concerns about the security and privacy of medical information exchanged via telemedicine, there can be technical problems with the equipment used for telemedicine, telemedicine may not be available to all patients due to limited access to technology, there may be inequitable access to telemedicine if it is only available to patients who can afford it, there may be geographic barriers to the use of telemedicine, there may be time zone differences between the patient and care provider which can make it difficult to coordinate care.

3.2.2 Health powered by Ada

Health powered by Ada is an innovative online medical assistant app designed to provide users with symptom assessment and self-care guidance. The app utilizes advanced AI algorithms and medical knowledge to analyze the symptoms reported by users and offer personalized insights.When a user enters their symptoms into the app, Ada's AI-powered system asks relevant follow-up questions to gather more information and understand the context better. The app's extensive medical database and algorithms then analyze the data to generate potential causes and explanations for the reported symptoms.One of the key strengths of Health powered by Ada is its user-friendly interface and the ability to offer personalized results based on the individual's inputs. It helps users understand possible conditions related to their symptoms, but it also emphasizes the importance of consulting a healthcare professional for accurate diagnosis and treatment. In addition to symptom assessment, the app provides users with self-care guidance to manage minor health issues and promote wellness. This feature can include tips on managing common ailments, lifestyle suggestions, and home remedies. It is important to note that while Health powered by Ada offers valuable assistance in understanding symptoms and possible causes, it is not a replacement for professional medical advice. The app serves as a useful tool to empower users with information, but it always encourages seeking the expertise of a qualified healthcare professional for accurate diagnosis and personalized treatment plans.While Health powered by Ada has many advantages as an innovative online medical assistant app, there are also some potential disadvantages to consider:

i. Misdiagnosis or Inaccurate Assessments: Despite using advanced AI algorithms, the app may not always provide accurate diagnoses or assessments for every user. The complexity of medical conditions and the limitations of AI may lead to incorrect conclusions or incomplete evaluations of symptoms.

ii. Overreliance on Self-Care Guidance: While the app offers self-care guidance, users might rely too heavily on the provided information without seeking professional medical advice. This could delay necessary medical intervention or lead to improper self-treatment.

iii. Lack of Human Interaction: The app's reliance on AI means that users may miss the empathetic and personal touch that comes with interacting with a human healthcare professional. Face-to-face consultations allow for a more comprehensive assessment of a person's health and well-being.

iv. Limited Scope: Although Health powered by Ada covers a wide range of symptoms and conditions, it might not address more complex or rare medical issues effectively.

Some conditions may require a deeper level of expertise and evaluation that only a trained healthcare professional can provide.

v. Privacy and Data Concerns: As an online app, there might be potential privacy and data security concerns. Users need to ensure that their personal health information is protected and handled securely.

vi. Cultural and Language Barriers: The app's algorithms and database might not be equally effective for users from diverse cultural backgrounds or those who speak languages other than the primary supported ones.

vii. No Physical Examination: The app relies solely on the user's self-reported symptoms, which may not provide a complete picture of their health. Physical examinations, lab tests, and other diagnostic procedures are crucial for a comprehensive assessment

3.3 Proposed System

Our Software consists of 2 phases -online and offline phases.

3.3.1 Offline phase

i. User can search for home remedies for limited number of symptoms. User can select their symptoms in a drop down menu on a set of symptoms. Then home remedies for that symptoms will be provided. If their symptoms are no longer in the drop down list, they can give a request for the home remedies.

ii. User can get the medicine dosage based on their age. Dosage of medicine typically depends on factors like age, medical condition and the specific medication. It can provide accurate dosage based on the age of person.

iii. It can handle various emergency situation. In emergency section provides information about various steps to be taken during medical emergencies such as CPR.

For example During a medical emergency, such as a cardiac arrest, performing CPR (Cardiopulmonary Resuscitation) can be crucial in saving a person's life. It provide key steps to follow for example during CPR: 1.Check the scene. 2.Check for responsiveness. 3.Call for help. 4.Open the airway. 5.Check for breathing. 6.Perform chest compressions. 7.Rescue breaths (optional). 8.Continue CPR. 9.Use an automated external defibrillator (AED) if available. 10.Continue until help arrives.

3.3.2 Online phase

The user can book the appointment at the online stage.To implement such a system, there must be a backend database to store user information, doctor availability and appointment details. Also, it requires a front-end interface for users to interact with the system. It includes various steps -

1. **User Registration and Login:** Design a registration form where users can enter their user ID, name, password, age, and weight. Implement a backend system to store user data securely in a database. Create a login page where users can enter their credentials to access the app.
2. **Specialization Selection:** Display a list of available specializations for users to choose from. Store the selected specialization in the user's profile.

3. **Doctor Selection and Availability:** Fetch the list of doctors based on the selected location and specialization. Display the list of doctors in a drop-down menu or list for users to choose from. Check the doctor's availability based on the selected date and slot.

4. **Slot and Date Selection:** Provide a calendar or date-picker for users to select their preferred date. Display available time slots for the selected date. Allow users to choose a preferred time slot from the available options.

5. **Appointment Booking:** Once the user selects a slot and date, check the availability to ensure no other user has booked it. If the selected slot is available, book the appointment for the user. Update the doctor's availability and the user's appointment status in the database. In the online phase, the user can request for home remedies, medical dosage and emergency care information, if none of these are available.

3.4 Requirement Analysis

3.4.1 Software and Language Requirements

1. **Netbeans IDE**

   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.

2. **Java**

   Java is a high-level, class-based, object-oriented programming language that is designed to have as few implementation dependencies as possible. It is a general-purpose programming language intended to let programmers write once, run anywhere (WORA), meaning that compiled Java code can run on all platforms that support Java without the need to recompile. Java applications are typically compiled to bytecode that can run on any Java virtual machine (JVM) regardless of the underlying computer architecture. The syntax of Java is similar to C and C++, but has fewer low-level facilities than either of them. The Java runtime (JRE) provides dynamic capabilities (such as reflection and runtime code modification) that are typically not available in traditional compiled languages. As of 2019, Java was one of the most popular programming languages in use according to GitHub, particularly for client–server web applications, with a reported 9 million developers

3. **Operating System**

   Currently we have only created the software supported by Windows OS which is used by large number of people around the Globe. Windows OS, short for "Windows Operating System," is a family of operating systems developed by Microsoft Corporation. It is one of the most widely used and recognizable operating systems for personal computers (PCs), laptops, tablets, and other devices. Windows OS has evolved significantly over the years, with each version offering new features, improvements, and enhancements.

4. **MySQL Workbench**

   MySQL Workbench is a graphical user interface (GUI) tool provided by Oracle Corporation for designing, developing, and managing MySQL databases. It serves as an integrated development environment (IDE) specifically tailored for working

with MySQL databases. MySQL Workbench is available for various operating systems, including Windows, macOS, and Linux, making it accessible to a wide range of developers and database administrators.

5. **Database - SQL**

   MySQL is an open-source relational database management system (RDBMS) that is widely used for building and managing databases in various applications and websites. It is developed, distributed, and supported by Oracle Corporation. MySQL is known for its ease of use, performance, reliability, and scalability, making it one of the most popular database systems in the world.

3.4.2 Hardware Requirements

- Processor : Intel Core 2 Duo processor 2.2 GHz or above
- Hard Disk : 500 GB or above
- RAM : 4 GB or above
- Monitor : 15 VGA Color / LCD/ LED

3.5 Design and Algorithm

3.5.1 Flowchart of the proposed Model

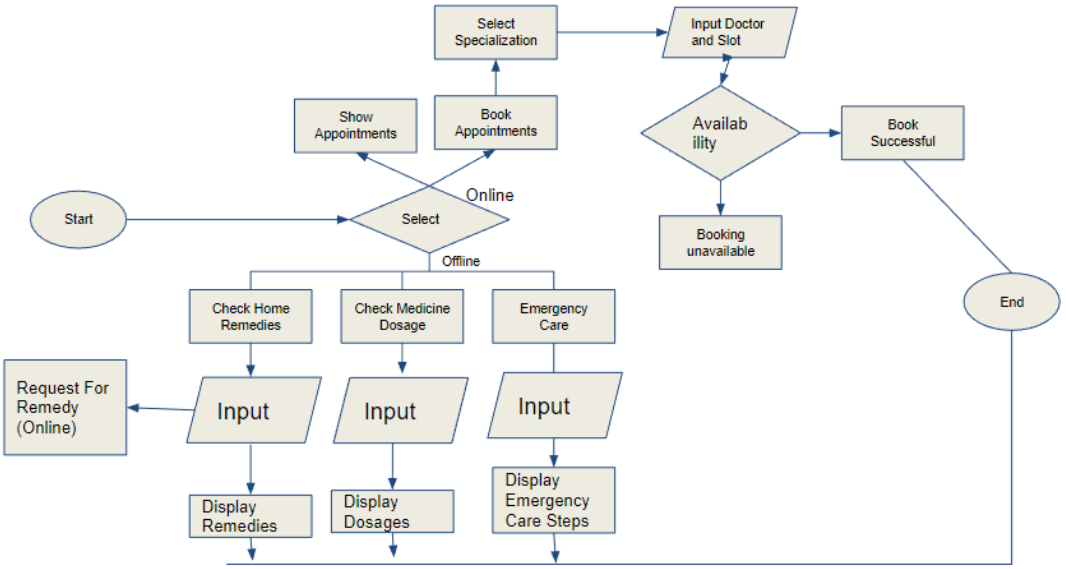

FIGURE 3.1: Basic Working flowchart

1. Firstly, when software starts, the user can either select Offline services or "Book An Appointment" Service.
2. When Users goes with offline service, it redirects user to other interface.
3. User can select whether they require Home remedies, Medicine Dosage or Emergency.
4. In Home remedies page, User can select their existing system in a drop down menu on a set of symptoms. If their symptoms aren't listed here they can request for remedies(online).
5. In Dosage Section, it will provide users with a convenient and easy way to find the correct dosage of various medicines, based on the user's age.
6. In Emergency Section, provides information about various steps to be taken during medical emergencies, such as CPR. It is intended for use by laypeople who may not have any medical training. If you are ever in a medical emergency, it is important to stay calm and act quickly. By following the steps in this software, you can help save a life.

7. In Online phase, User can individually register with their own user id, Name, password, age, weight etc during the registration.
8. After the registration, user can login using their credentials.
9. After Successful Login, user lands in an interface in which User selects their preferred location in a dropdown menu.
10. Then User can select for available Specialization right now.
11. Select the doctor from the dropdown menu.
12. Select the preferred slots from available slots.
13. Select available date. Check for the availability. If Available, Then appointment will be booked. Also can manage/delete the appointments.

3.5.2 Database Design

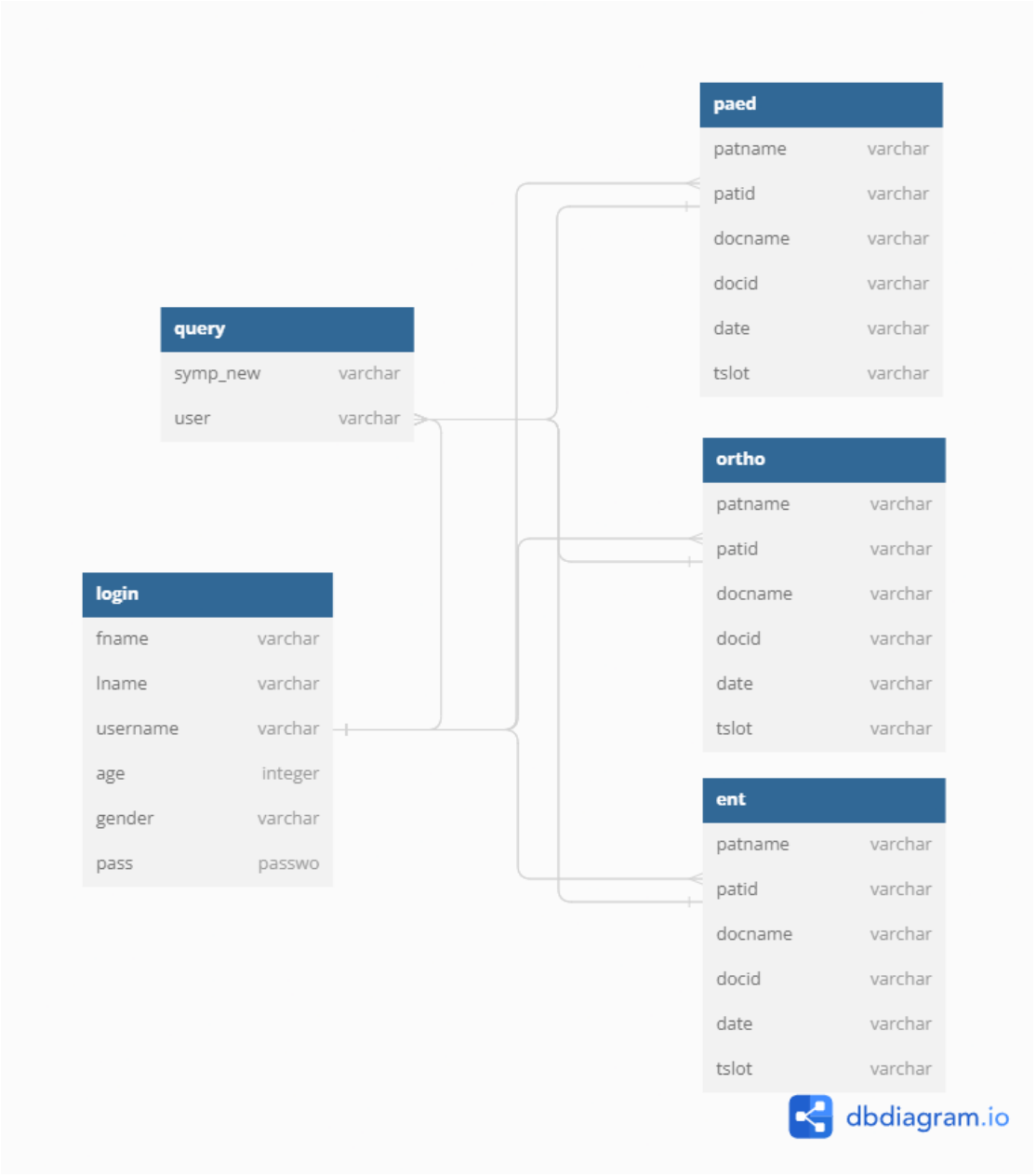

FIGURE 3.2: Database design

3.6 Modules

3.6.1 Homepage

Homepage module allows users to navigate to different functions/pages of the software such as Online/Login Module, Medicine Dosage module, Home Remedies module, Emergency Care module.

3.6.1.1 Login Module

Login module allows users to login to the software using id and password, or register as a new user.

3.6.1.2 Selection Module

Once logged in, Allows users select services such as Book Appointment and Show Appointment.

3.6.1.2.1 Booking Module

Allows user to book appointment with available doctors in various Specializations.

3.6.1.2.2 ShowBookings Module

Allows user to show the pending appointments with doctors and also removes those if required.

3.6.1.3 Registration Module

Allows new users to register using details like name, id, age and other details.

3.6.1.4 Home remedies Module

Allows users to select the symptom and find the corresponding remedies for that symptoms.

3.6.1.5 Emergency Module

Allows users to select the emergency care and find step wise procedure for emergency care.

3.6.1.6 Dosage Module

Allows users to select the available medicines and find age-wise dosage information.

3.7 Implementation

3.7.1 Technology Used

3.7.1.1 NETBEANS IDE

NetBeans IDE offers first-class tools for Java web, enterprise, desktop, and mobile application development. It is consistently the first IDE to support the latest versions of the JDK, Java EE, and JavaFX. It provides smart overviews to help you understand and manage your applications, including ouf-of-the-box support for popular technologies such as Maven.

With its end-to-end application development features, constantly improving Java Editor, and continual speed and performance enhancements, NetBeans IDE sets the standard for application development with cutting edge technologies out of the box.

3.7.2 Few Code Snippets

```
public class db {
    public static Connection mycon(){
        Connection con = null;
        try {
            Class.forName("com.mysql.jdbc.Driver");
            con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/java_app","root","root");

        } catch (ClassNotFoundException | SQLException e) {
            System.out.println(e);
        }
        return con;

    }
}
```

FIGURE 3.3: Database Connection

```
private void pass_wKeyPressed(java.awt.event.KeyEvent evt) {

        if(evt.getKeyCode()==evt.VK_ENTER){
            String un=username.getText();
        String ps=String.valueOf(pass_w.getPassword());
        try {
            String sql="select * from login where username=? AND password=?";
            pst=con.prepareCall(sql);

            pst.setString(1, un);
            pst.setString(2, ps);

            rs=pst.executeQuery();
            if(rs.next()){
                JOptionPane.showMessageDialog(rootPane, "Logged In...");
            }else{
                JOptionPane.showMessageDialog(rootPane, "Wrong Credentials");
            }

        } catch (Exception e) {
        }
```

FIGURE 3.4: Login Validation

```
private void btnsubmitMouseClicked(java.awt.event.MouseEvent evt) {

        String fname=first.getText();
        String lname=last.getText();
        String usern=user.getText();
        String userage=age.getText();
        String gend=gender.getSelectedItem().toString();
        String password=String.valueOf(pass.getPassword());

        try{
            Statement s=db.mycon().createStatement();
            s.executeUpdate("insert into login(fname,lname,username,age,gender,passwo)
"
                    +
"values('"+fname+"','"+lname+"','"+usern+"','"+userage+"','"+gend+"','"+password+"')");
            JOptionPane.showMessageDialog(rootPane, "Your Account created...");
        }
        catch(Exception e){
            System.out.println(e);
        }
```

FIGURE 3.5: Registration Snippet

```
private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {

        String a;
        a = jComboBox1.getSelectedItem().toString();

        if (a== "Cough")
        {

            remedies remed=new remedies();
            remed.remedtext.setText("1. Honey \n2. Turmeric\n3. Ginger\n4.
Peppermint\n5.Humidifier\n6.Salt Water Gargling");
            remed.setVisible(true);


            //jTextArea1.setText("1. Honey \n2. Turmeric\n3. Ginger\n4.
Peppermint\n5.Humidifier\n6.Salt Water Gargling");
            //jTextArea2.setText("no input ");
        }
        else if (a=="Cold"){
            remedies remed=new remedies();
            remed.remedtext.setText("1. Honey \n2. Take plenty of water\n3. Ginger\n4.
Use saline nasal drops and sprays.\n5.Humidifier\n6.Salt Water Gargling");
            remed.setVisible(true);
            //jTextArea1.setText("1. Honey \n2. Take plenty of water\n3. Ginger\n4. Use
saline nasal drops and sprays.\n5.Humidifier\n6.Salt Water Gargling");
        }
        else if(a=="Diarrhea"){
            remedies remed=new remedies();
            remed.remedtext.setText("1. Hydration \n2. Probiotics\n3. Ginger\n");
            remed.setVisible(true);
            //jTextArea1.setText("1. Hydration \n2. Probiotics\n3. Ginger\n");
        }
```

FIGURE 3.6: Symptom and Remedies

```
private void jButton3ActionPerformed(java.awt.event.ActionEvent evt) {

        try{




            Class.forName("com.mysql.jdbc.Driver");
            Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/java_app","root","root");
            Statement st=con.createStatement();


            userdetails obj1=new userdetails();
            String abc=obj1.a;
            String sql1="select * from ortho where patid='"+abc+"'";
            ResultSet rs1=st.executeQuery(sql1);
            while(rs1.next()){

                String docn=String.valueOf(rs1.getString("docname"));
                String date=String.valueOf(rs1.getString("date"));
                String doci=String.valueOf(rs1.getString("docid"));

                DefaultTableModel model=(DefaultTableModel)jTable2.getModel();
                model.addRow(new Object[]{docn,date,doci});
            }

        }
        catch(Exception e){
            System.out.println(e);
        }
    }
```

FIGURE 3.7: Show Booking snippet

```
try{

            Class.forName("com.mysql.jdbc.Driver");
            Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/java_app","root","root");
            Statement st=con.createStatement();

            String sql="select * from login where username='"+abc+"'";
            ResultSet rs=st.executeQuery(sql);
            while(rs.next()){

                String pfname=String.valueOf(rs.getString("fname"));
                String plname=String.valueOf(rs.getString("lname"));
                String puname=String.valueOf(rs.getString("username"));

                Statement s=db.mycon().createStatement();
            s.executeUpdate("insert into ortho(patname,patid,docname,docid,date)"
                    + "values('"+pfname+"
"+plname+"','"+puname+"','"+docname+"','"+plname+"','"+dat1+"')");
            JOptionPane.showMessageDialog(rootPane, "Your Booked...");
            }

        }
        catch(Exception e){
            System.out.println(e);
        }
```

FIGURE 3.8: Doctor Booking snippet

CHAPTER 4

RESULT

The "Zero Aid" application represents a breakthrough solution for individuals who are in need of medical treatment but face challenges in accessing medical clinics or hospitals. This application serves as a comprehensive medical assistant, effectively providing people with solutions to their health concerns through a combination of natural remedies, proper medication guidance (including dosages), and access to qualified doctors. The success of this application lies in its ability to bridge the gap between medical care and those who lack easy access to it.

The "Zero Aid" application offers users a holistic approach to addressing their health problems. It empowers individuals by providing them with a range of options, from natural remedies to medical interventions. This inclusive approach ensures that users have the necessary tools and information to make informed decisions about their health, even when medical facilities are not readily available.

Through the application, we have achieved success in helping people access solutions to their health issues, regardless of their physical location. This proactive approach ensures that individuals are prepared for medical contingencies and have a reliable resource at their fingertips.

The "Zero Aid" application has successfully demonstrated its capacity to provide valuable healthcare assistance to individuals in need, regardless of their access to medical facilities. Through a combination of natural remedies, verified medications, and access to qualified doctors, the application empowers users to take control of their health and well-being. By bridging the gap between medical care and those with limited access, "Zero Aid" becomes a lifeline for individuals seeking effective healthcare solutions and serves as a beacon of hope in times of medical uncertainty.

4.1 Testing

4.1.1 Offline Phase(Home Remedies)

Homepage after launching the application is given below.

FIGURE 4.1: Homepage

After selecting Home Remedies, navigate to next page.

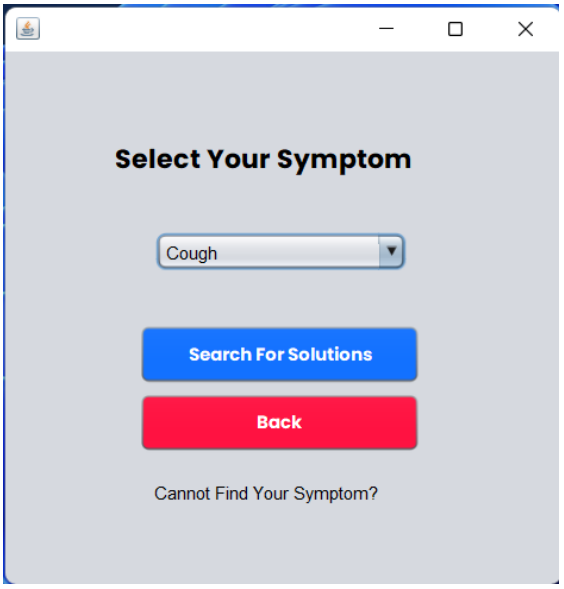

FIGURE 4.2: Select a Symptom

Home remedies available is presented to the user, for the corresponding symptom.

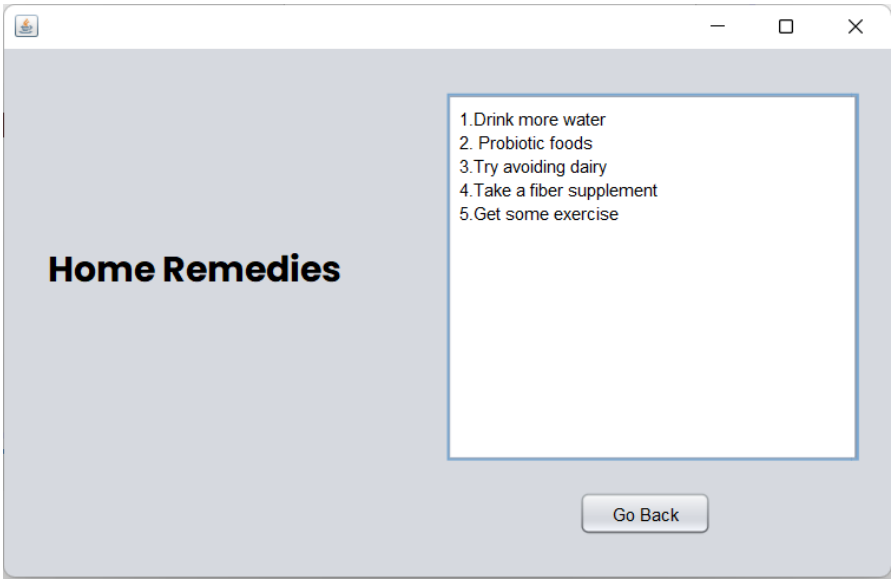

FIGURE 4.3: Remedies available

If Symptom(Home remedies) isn't available, then user can request it online.

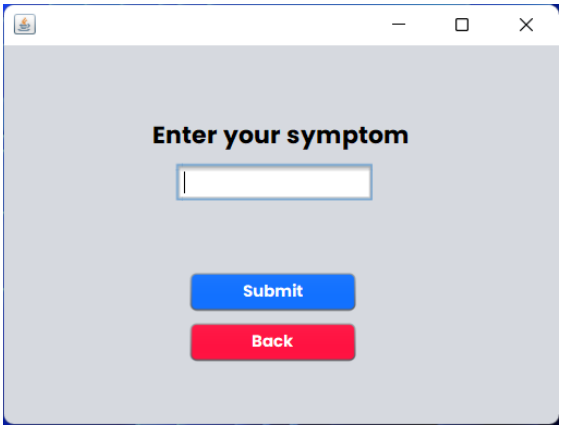

FIGURE 4.4: Request New Symptom

4.1.2 Online Phase

User Must login or Register before booking an appointment.

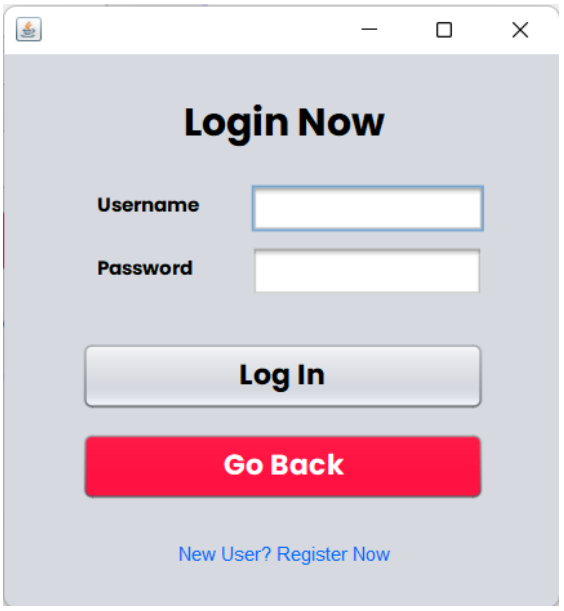

FIGURE 4.5: Login Interface

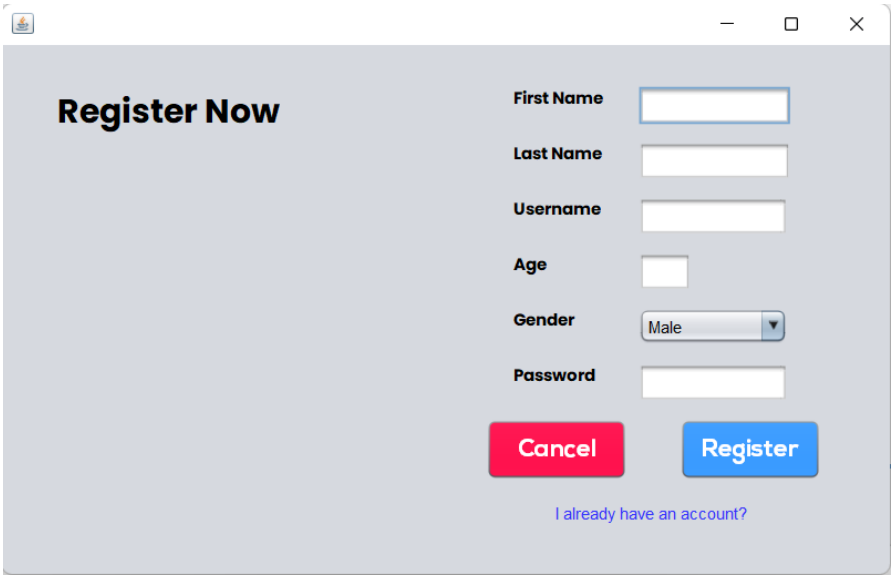

FIGURE 4.6: Registration

The interfaces shown below is complete appointment booking procedure, after selecting available specializations.

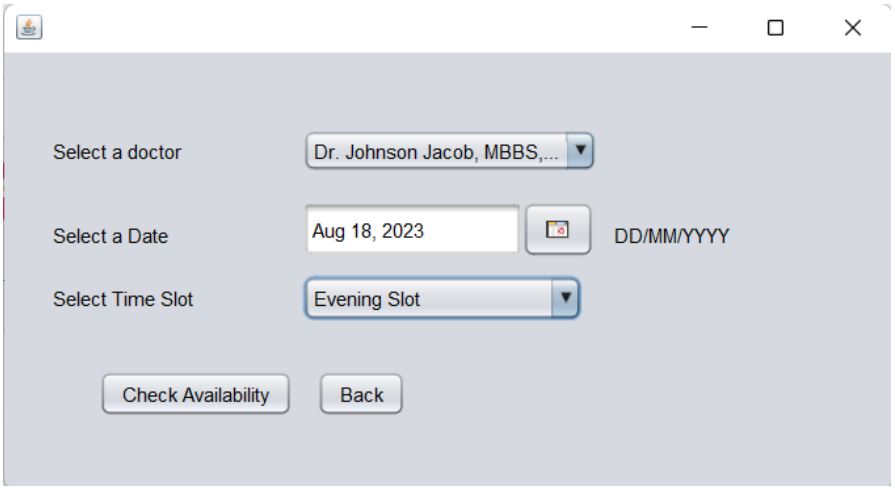

FIGURE 4.7: Select A doctor

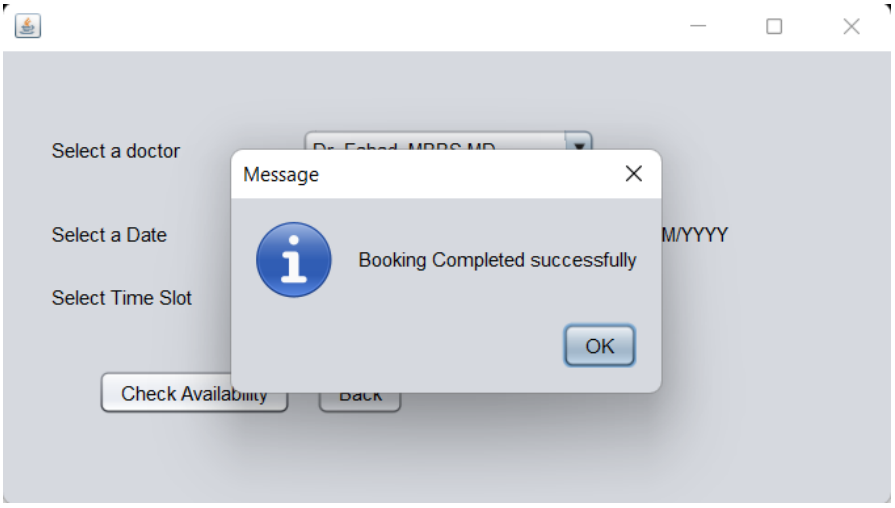

FIGURE 4.8: Booking Completed

CHAPTER 5

CONCLUSION

In the current situation, where access to hospitals and clinics is limited for some parts of the population, the proposed system aims to provide a solution through the Zero Aid Application. This application allows people to find potential cures for their health issues using their own devices or gadgets by installing the Zero Aid Application. Users can also get appointment with doctors in real-time through the online mode within the application, ensuring access to medical advice if required.

To maintain the credibility of the information provided, the application ensures that doctors, emergencies, dosages and cures are verified before being included in its database, preventing the spread of false information.

The Zero Aid Application is developed using NetBeans IDE, which is an Integrated Development Environment for Java. NetBeans enables the development of applications using modular software components called modules. Moreover, the application is compatible with various operating systems, including Windows, Mac OS, Linux, and Solaris, ensuring accessibility for a wide range of users.

Our future upgradations and developments may include Health Records Management, Telemedicine Integration, Medication Reminder, Health Tips and Articles, Integration with Wearable Devices, Android/IOS Version, Health Surveys and Assessments, Health Reminders and Health Goals.

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