BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT

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DEPARTMENT OF ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

A Mini Project on

"AI-Assisted Telemedicine KIOSK for Rural OPD"

Presented by

Sunkeerth 3BR22AI160

Mini Project Guide
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ABSTRACT

- This project aims to improve healthcare in rural India using an AI-powered telemedicine kiosk.
- The kiosk helps people easily register with QR codes, select their health issues, and connect with doctors.
- A voice assistant makes the process simple, even for those who don't know how to use technology.
- The system is fully automated, saving time by handling registration, symptom selection, assigning doctors, and printing consultation details.
- Future plans include adding voice commands, better data security, and reusable QR codes. Currently tested with college QR codes, the system is ready to work with Aadhaar or voter ID QR codes. This kiosk is designed to make healthcare easy, secure, and accessible for people in remote areas.

CONTENTS

1.INTRODUCTION

Our Telemedicine system simplifies patient management by using a camera to scan identification cards like Aadhar, Voter IDs, ration cards, or student IDs. After scanning, it retrieves and displays the user's details. Patients can then proceed to select their medical concerns, and the system generates a unique code for their appointment. This code is shared with both the patient and the assigned doctor through an automated notification, ensuring a smooth and efficient appointment process.

2.LITERATURE SURVEY

SL.NO	Title	Author	Findings
[1]	Digital Solutions for Rural Healthcare Challenges	A. Kumar, S. Patel (2019)	This study highlights the use of mobile applications and SMS services for providing quick access to healthcare reports and reducing manual processes in rural clinics.
[2]	Design and Implementation of Self-Service Kiosks in Healthcare	R. Smith, M. Johnson (2021)	The research focuses on the benefits of self-service kiosks in healthcare facilities, emphasizing faster receipt generation and reduced waiting times for patients.

3.PROBLEM STATEMENT

To streamline the process of providing healthcare receipts for patients in rural areas, reducing the time spent in long queues and eliminating the need for cash payments, thereby addressing the challenges of inefficiency, inconvenience, and additional burden on unwell individuals seeking basic healthcare documentation.

4.OBJECTIVES

1. To user Input and Registration

2. To location-Based Guidance

3. To appointment Scheduling

4. To confirm doctor Availability and Emergency Alerts

5. To communication Platform

5.REQUIREMENTS

5.1 Hardware Requirements:

- **Touchscreen Monitor** : A 15-20 inch Processing Unit : CPU: Intel Core i3
- **RAM**: Minimum 4GB
- **Storage**: 128GB SSD
- **Printer** : A compact thermal or inkjet printer.
- **Camera and Microphone** : High-resolution webcam and microphone.
- **Power Supply and Backup** : UPS or battery backup.
- **Networking Equipment** : Ethernet or Wi-Fi adapter.

5.2 Software Requirements:

- **Backend** : Node.js
- **Database** : MongoDB
- **Frontend** : HTML,CSS
- **Development Tools** : VS Code

Functional Requirements

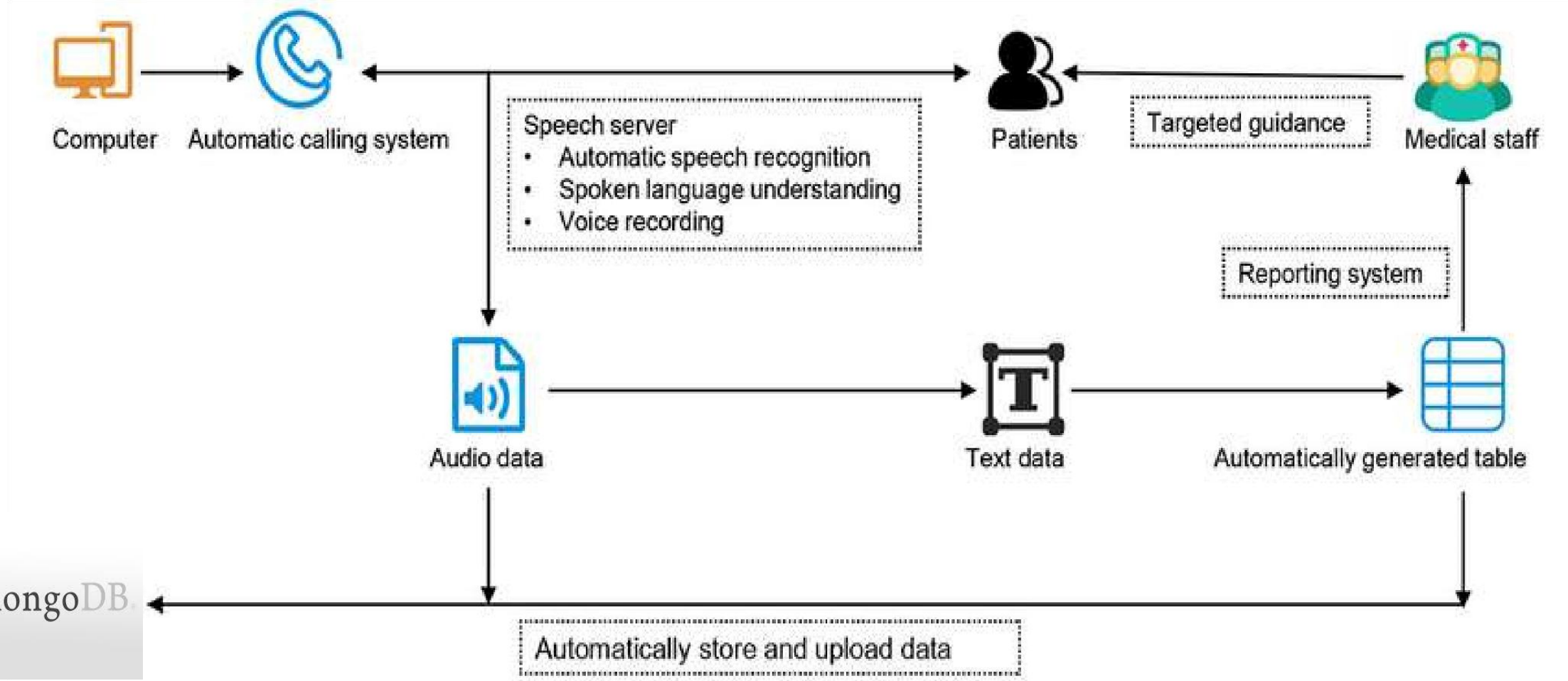
- User Registration
- QR Code Integration
- Symptom Selection
- Appointment Scheduling
- Doctor Assignment
- Notification System
- Voice Assistance
- Real-Time Doctor Availability
- Receipt Generation
- Data Storage

Non Functional Requirements

- Performance
- Scalability
- Accessibility
- Reliability

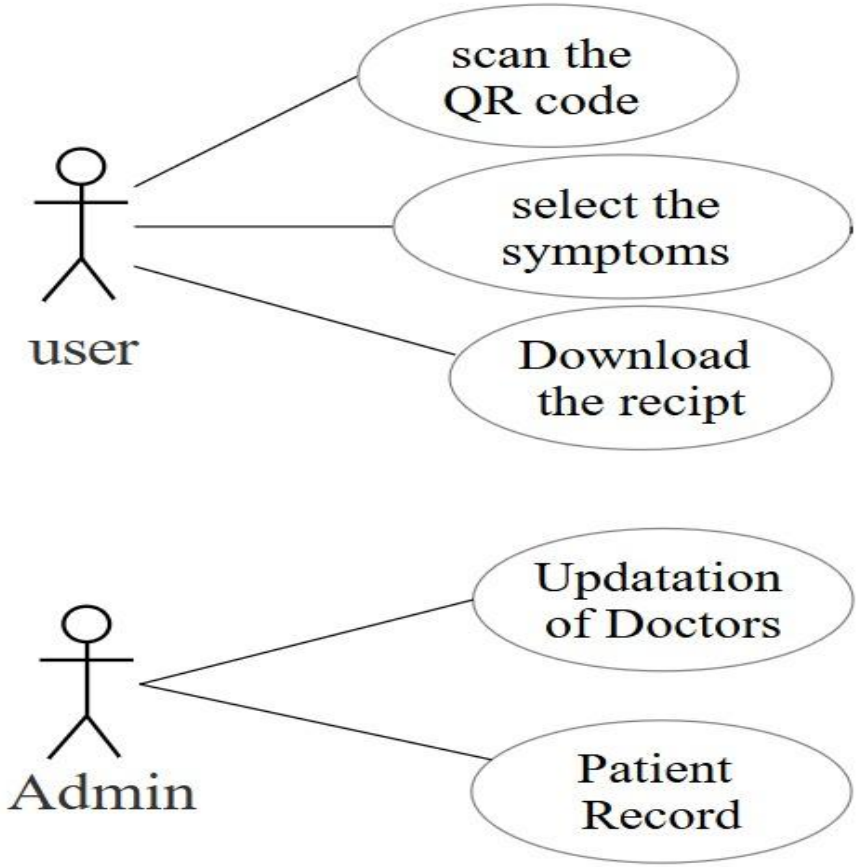
6.METHODOLOGY

Block Diagram

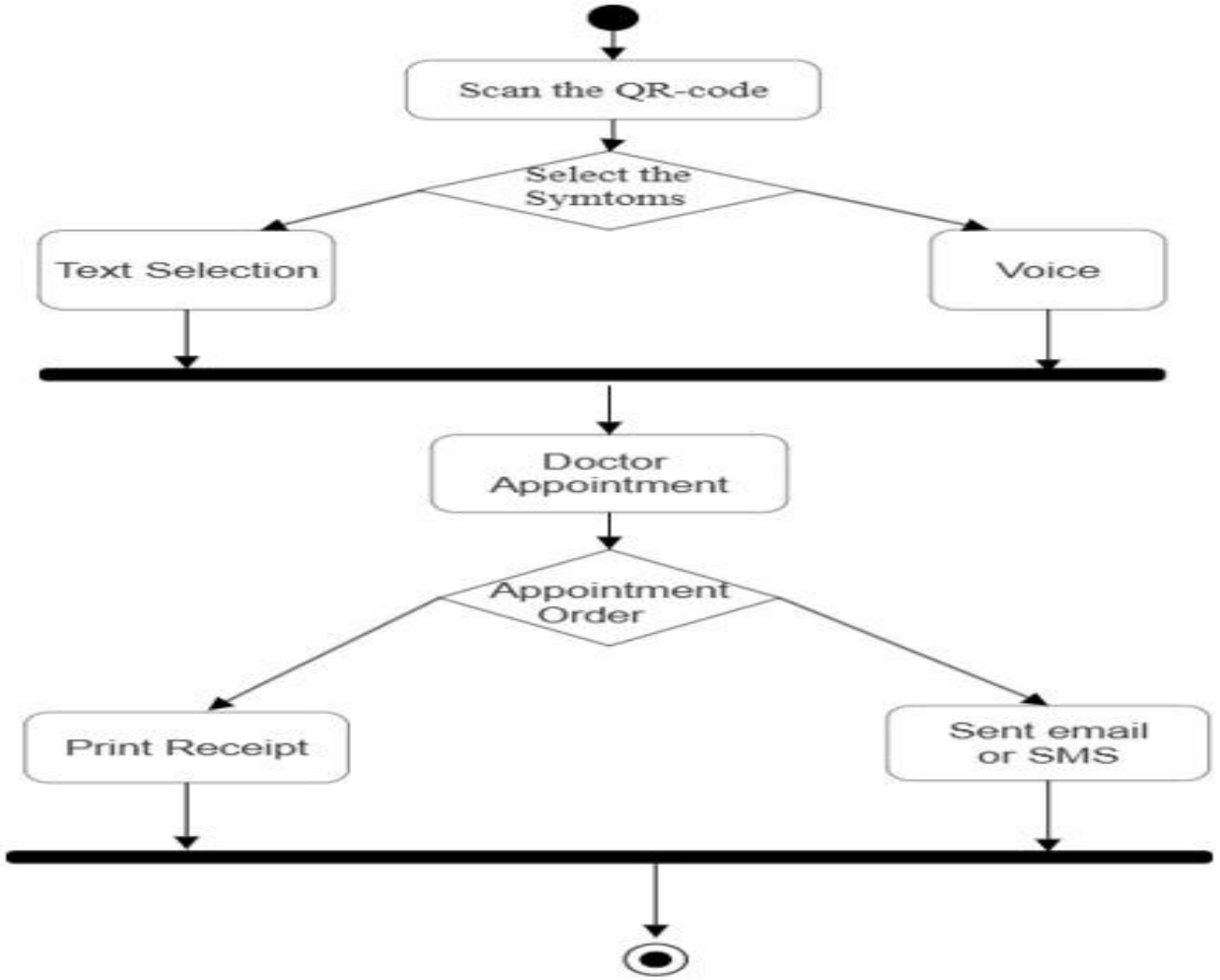


7.DESIGN

- Use case diagram



- Activity diagram



8.IMPLEMENTATION

Frontend-HTML,CSS

User Interface (UI):Technology : Tkinter (Python) or HTML/CSS

Components :

- Home Page: Simple menu for navigation (e.g., Appointment, Payment, Help).
- Forms: Fields to enter user data like name, age, symptoms, and payment details.
- Interactive Elements: Buttons for navigation and submission.

Backend - Node.js

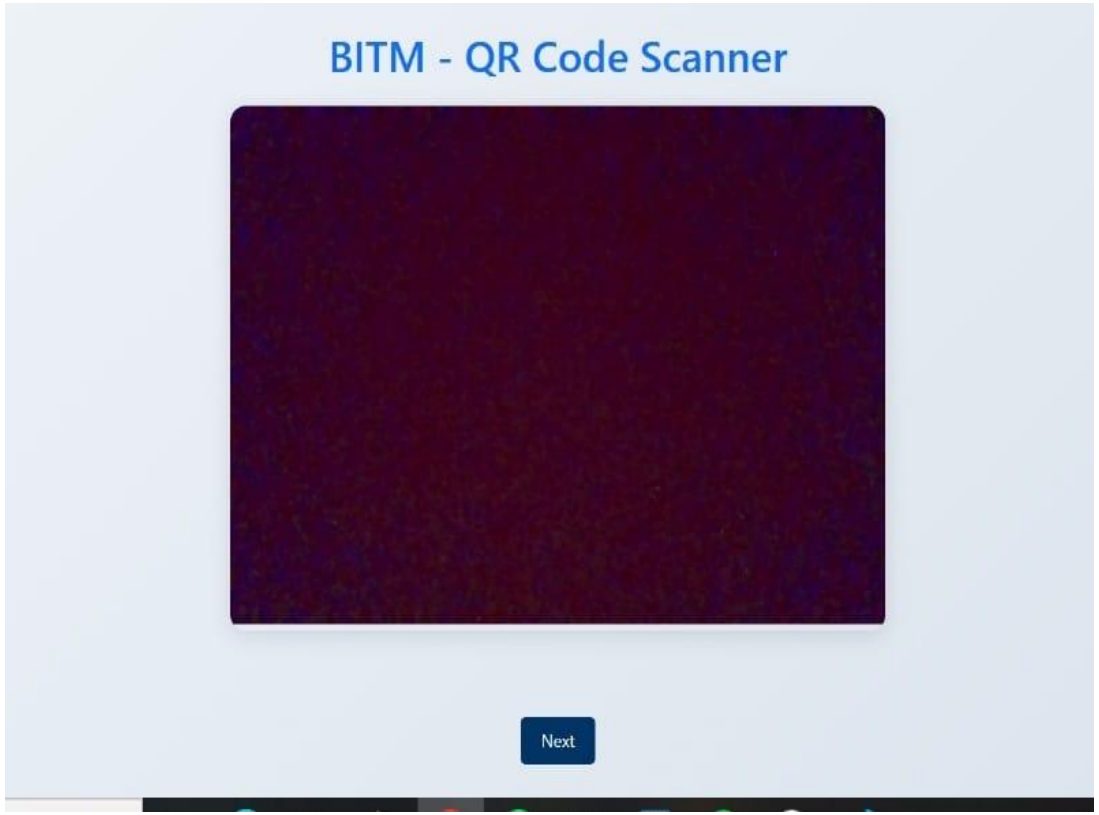
- The system processes the information users provide.
- It checks doctor availability, schedules appointments, and handles payment requests.
- It also manages video calls between patients and doctors.

Database - MongoDB

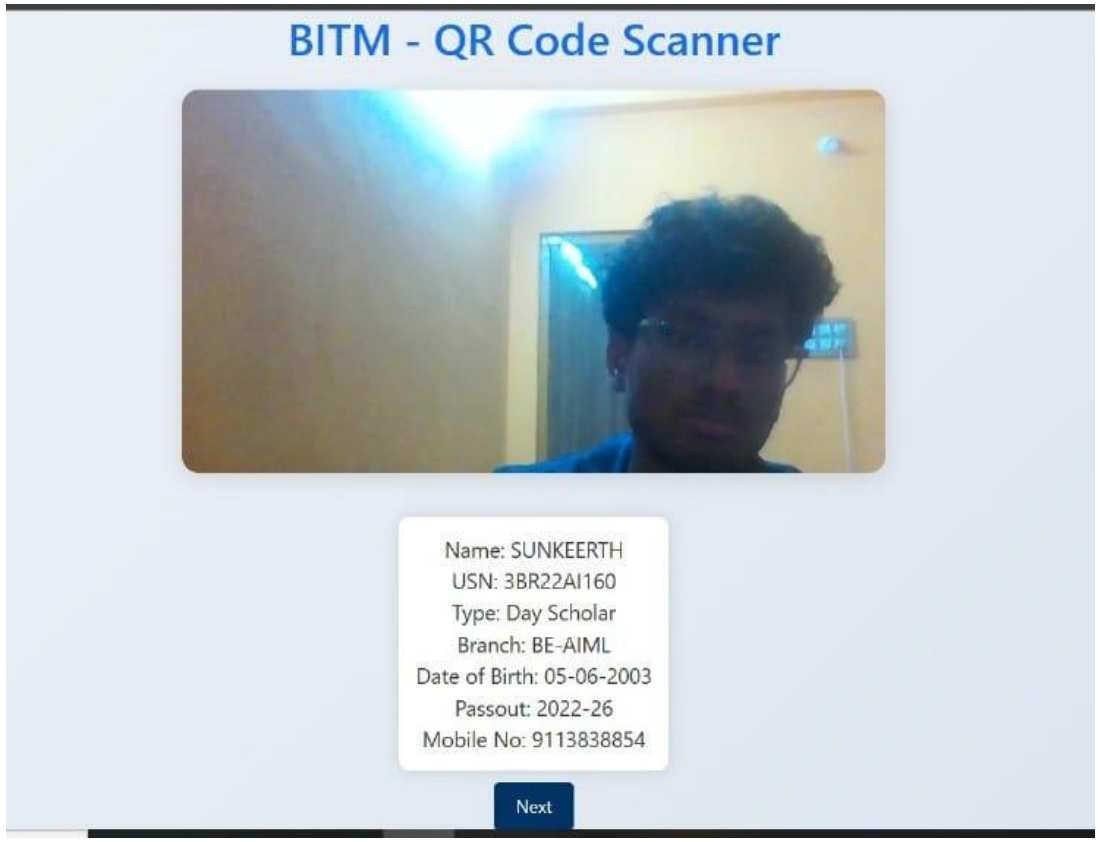
- Stores important information like:

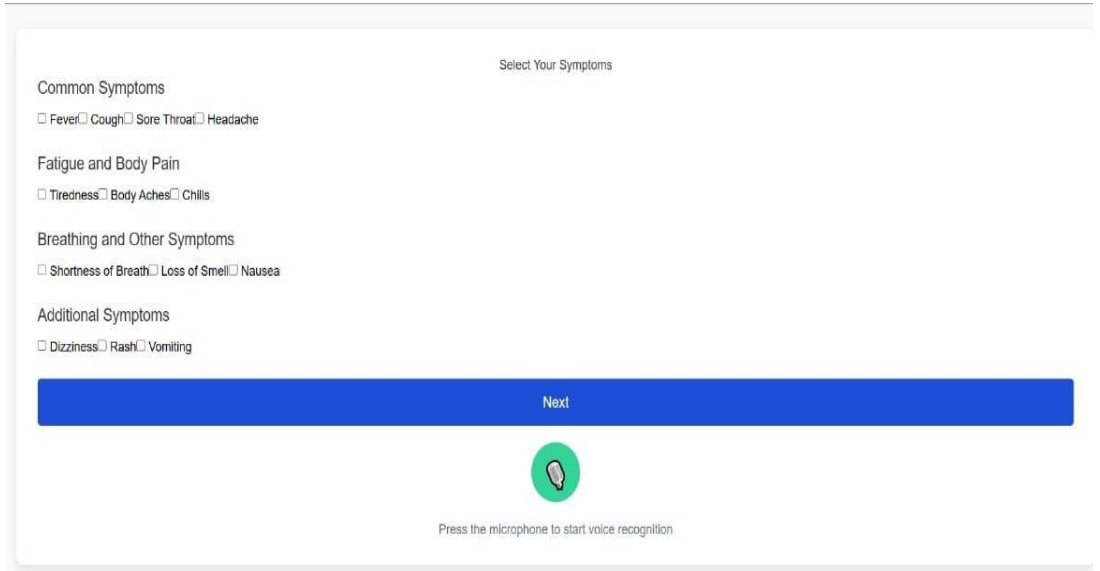
1. User details: Name, age, symptoms.
2. Doctor schedules: Availability and specialtyes.

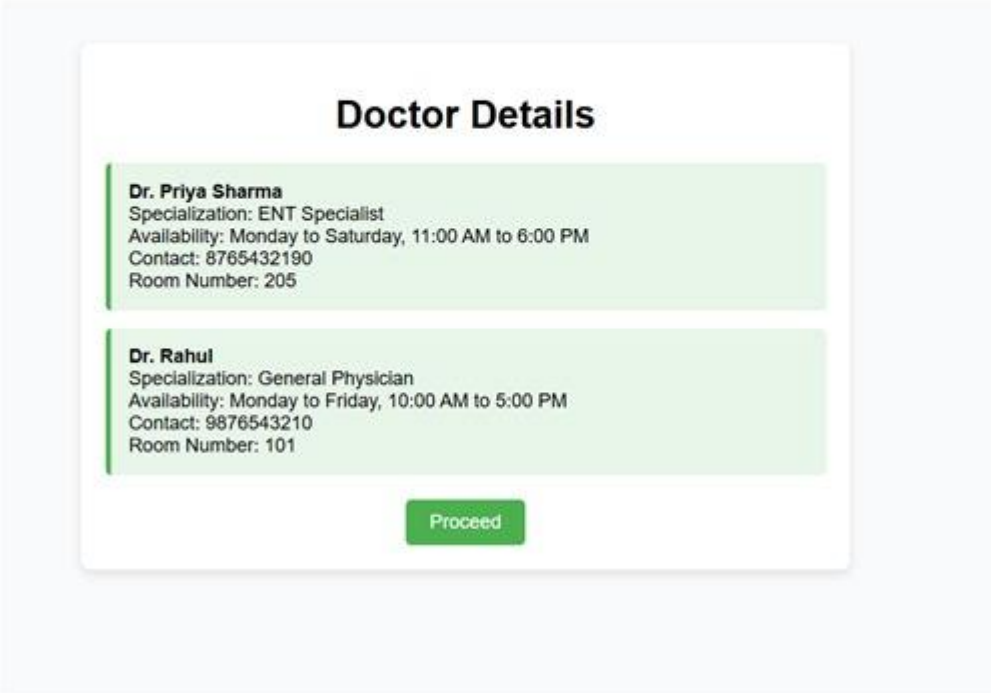
9.RESULTS

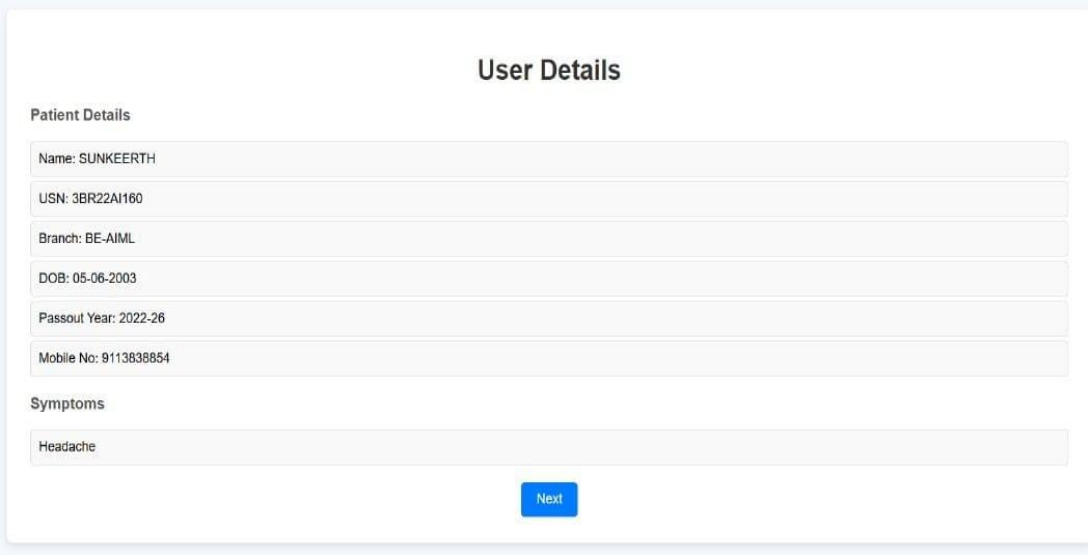

BITM - QR Code Scanner
Next

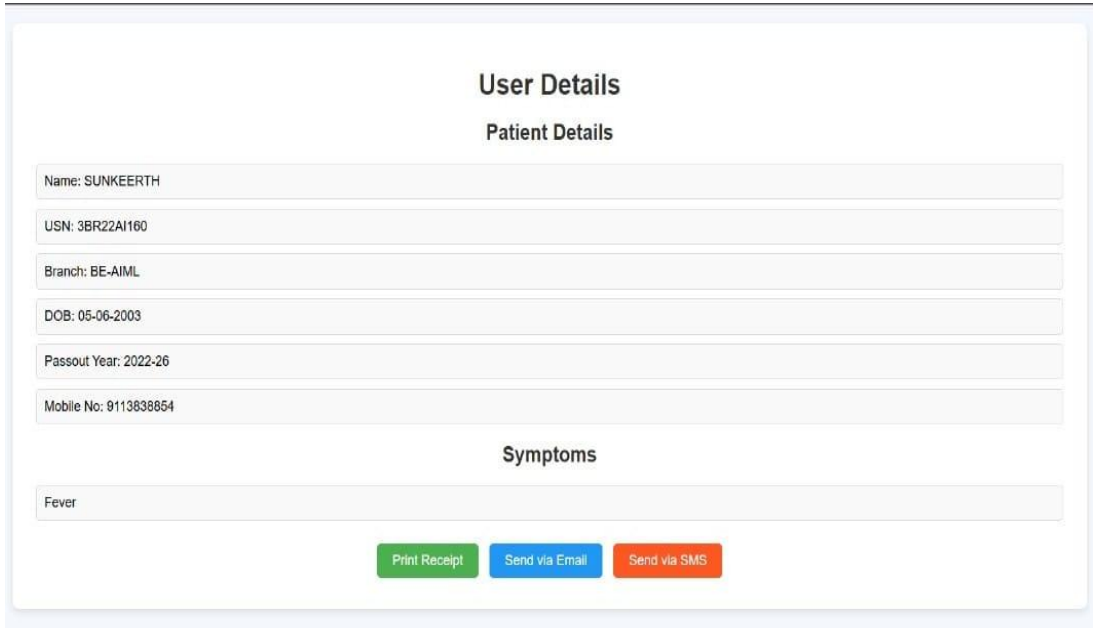

BITM - QR Code Scanner
found please return to BITM - Ball
Next

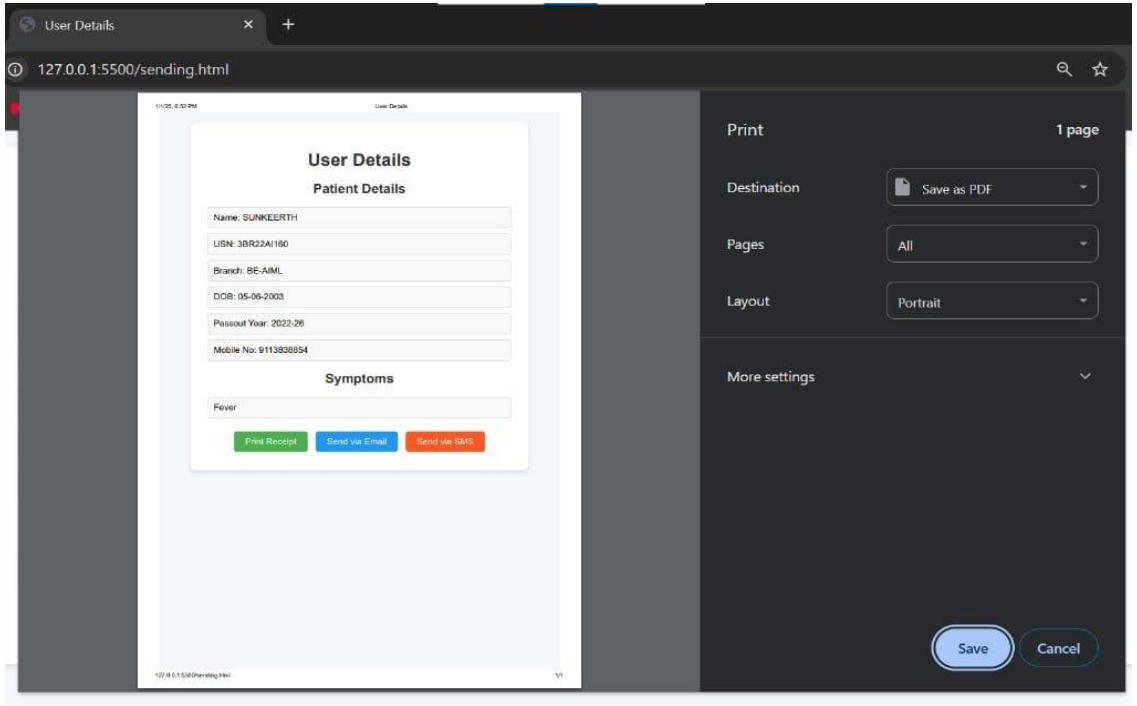

BITM - QR Code Scanner
Name: SUNKEERTH
USN: 3BR22AI160
Type: Day Scholar
Branch: BE-AIML
Date of Birth: 05-06-2003
Passout: 2022-26
Mobile No: 9113838854
Next


Select Your Symptoms
Common Symptoms
Fever Cough Sore Throat Headache
Fatigue and Body Pain
Tiredness Body Aches Chills
Breathing and Other Symptoms
Shortness of Breath Loss of Smell Nausea
Additional Symptoms
Dizziness Rash Vomiting
Next
Press the microphone to start voice recognition


Doctor Details
Dr. Priya Sharma
Specialization: ENT Specialist
Availability: Monday to Saturday, 11:00 AM to 6:00 PM
Contact: 8765432190
Room Number: 205
Dr. Rahul
Specialization: General Physician
Availability: Monday to Friday, 10:00 AM to 5:00 PM
Contact: 9876543210
Room Number: 101
Proceed


User Details
Patient Details
Name: SUNKEERTH
USN: 3BR22AI160
Branch: BE-AIML
DOB: 05-06-2003
Passout Year: 2022-26
Mobile No: 9113838854
Symptoms
Headache
Next


User Details
Patient Details
Name: SUNKEERTH
USN: 3BR22AI160
Branch: BE-AIML
DOB: 05-06-2003
Passout Year: 2022-26
Mobile No: 9113838854
Symptoms
Fever
Print Receipt
Send via Email
Send via SMS


User Details
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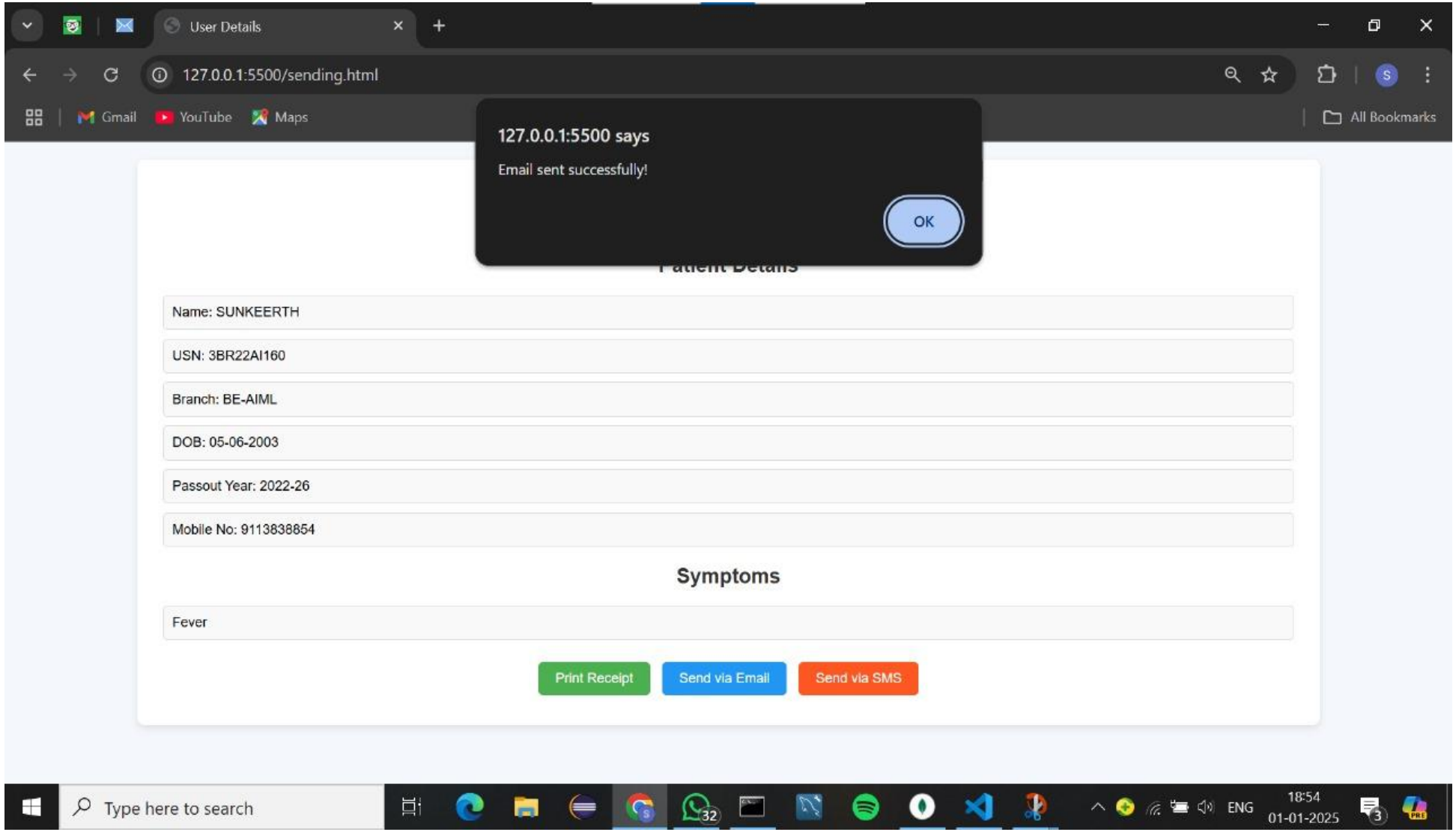
User Details
Patient Details
Name: SUNKEERTH
USN: 3BR22AI160
Branch: BE-AIML
DOB: 05-06-2003
Passout Year: 2022-26
Mobile No: 9113838854
Symptoms
Fever
Print Receipt
Send via Email
Send via SMS
Print
1 page
Destination
Save as PDF
Pages
All
Layout
Portrait
More settings
Save
Cancel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Gmail
YouTube
Maps
All Bookmarks
127.0.0.1:5500 says
Email sent successfully!
OK
Patient Details
Name: SUNKEERTH
USN: 3BR22AI160
Branch: BE-AIML
DOB: 05-06-2003
Passout Year: 2022-26
Mobile No: 9113838854
Symptoms
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Print Receipt
Send via Email
Send via SMS
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18:54
01-01-2025

10.CONCLUSION

The "Smart Kiosk System for Patient Management and Healthcare Automation" shows how technology can make healthcare easier and better. It includes features like booking appointments, sharing doctor details, and secure communication, making things simple for both patients and doctors. This project focuses on using automation to save time and effort while keeping data organized and easy to manage. It helps make healthcare faster and more efficient. In the future, this system can include more features like checking health in real-time, using AI to help with diagnosis, and offering support in different languages. This project is a great start to creating smarter and more patient-friendly healthcare solutions.

REFERENCES

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Thank You