Poster Presentation of Undergraduate Project

Automated Prescription Generator

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Abstract

The Automated Prescription Generator is a web-based application designed to streamline the prescription writing process for healthcare professionals. Utilizing HTML, CSS, and JavaScript, the tool allows for easy entry of patient information and medication details, generating well-formatted prescriptions suitable for printing. This project aims to reduce manual errors and save time, contributing to improved efficiency in healthcare delivery.

Introduction

In the healthcare sector, the accurate and efficient management of patient prescriptions is crucial. Traditional methods involve manual entry, which can lead to errors and inconsistencies. This project presents a solution by creating a digital platform that automates the prescription process, enhancing both accuracy and usability. The Automated Prescription Generator simplifies the documentation of patient details and medication instructions, ensuring that prescriptions are organized and professional.

Problem Statement

Doctors, especially younger professionals, often need to consult external resources to confirm medication names, which can be time-consuming and disrupt the flow of patient interactions. Furthermore, frequently prescribed medications often need to be handwritten repeatedly, which slows down the process and contributes to prescription errors. Handwriting issues can also lead to misunderstandings between doctors, pharmacists, and patients. To improve efficiency, consistency, and clarity, there is a need for a digital tool that streamlines prescription creation, reduces reliance on memory for commonly prescribed medications, and minimizes handwriting-related errors.

Objectives

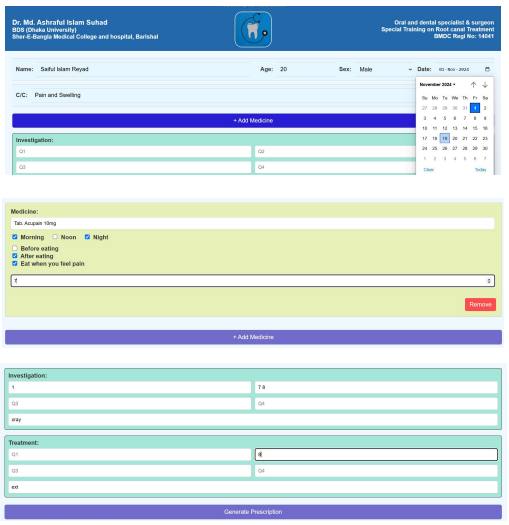
-To provide doctors with quick access to frequently prescribed medications, eliminating the need to search online for drug names during patient interactions.
-To reduce the time required for prescription writing by automating common entries, thereby increasing the doctor's efficiency.
-To create a user-friendly interface that simplifies prescription writing and ensures legibility, thus minimizing misunderstandings related to handwriting.
-To offer a "smart" solution that maintains a list of frequently prescribed medications, making the tool adaptable to the doctor's unique practice needs.

Future Work

EHR Integration: Automatically sync patient records for quick access to medical histories.
Voice-to-Text Entry: Enable doctors to dictate prescriptions, speeding up data entry.
Mobile Compatibility: Adapt for use on tablets and mobile devices in various healthcare settings.
Interaction Warnings: Notify doctors of potential medication interactions or contraindications.
Data Analytics: Track frequently prescribed medications to enhance patient care and efficiency.
Patient Database: Store patient data for easy updates on prescriptions and medical history.
Refill Reminders: Automate reminders for prescription refills to boost adherence.
Patient Feedback: Allow patients to report symptoms for better follow-up and treatment adjustments.
Multilingual Support: Provide prescription options in multiple languages for broader accessibility.
Remote Access: Enable secure access to the generator for managing prescriptions from various locations.

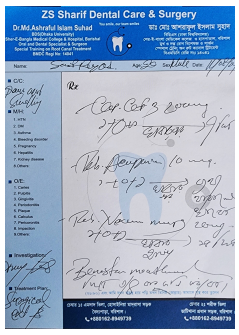
Methodology

1. Doctorss enter patient information [name, age, sex, date(automatic generated, also can be modified), chief complain] into a web form
2. Doctors can add medications from dropdown or input custom entries or can select after writing partial name,Each medicine entry has options to specify dosage times (morning, noon, night) and meal instructions (before or after meals). A separate input allows for defining the treatment duration.
3. Doctors can locate specific teeth and access the investigation and treatment plan, which draws a PLUS icon in the prescription
4. Generate Prescription: Upon clicking the 'Generate Prescription' button, a formatted prescription is displayed, ready for printing



The entire UI is accessible only on the doctor's PC and can be tailored to meet specific requirements. This particular design is customized for dentist Dr. Ashraful Islam Suhad

Prescription Transformation



Can you decipher this ancient script? 😭

Imagine if it were typed—easy to read and also a time-saver for the doctor!

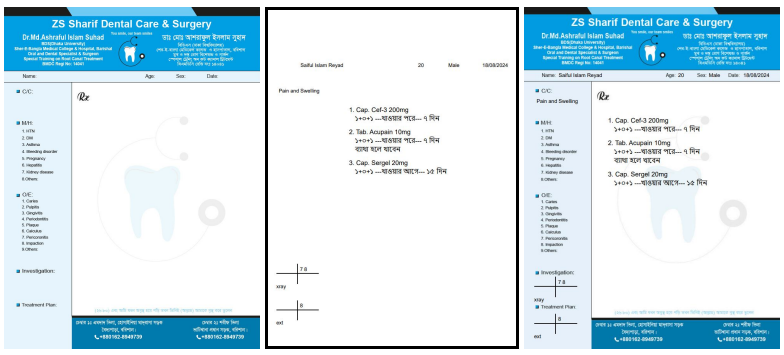


image1 + image2 = image3

So it's beneficial for doctors who already have a printed blank prescription pad as well as for those who don't

Conclusion

The Automated Prescription Generator tackles key challenges for doctors, such as time-consuming handwriting and legibility issues. Its user-friendly interface enhances efficiency, promotes clear communication, and reduces prescription errors. This project showcases the potential of digital solutions in healthcare to improve workflows and patient experiences.

📱 Scan the QR code for a detailed video demonstration of the generator!

References: This project draws on web development and UI design practices from resources like MDN Web Docs and W3Schools, along with healthcare prescription standards. Additional insights were gathered from clinical observations and discussions with healthcare professionals on workflow needs and digital prescription features.