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SENIOR CONNECT- A TRUSTED SUPPORT SYSTEM FOR ELDERS

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ABSTRACT
Senior Connect – A Trusted Support System for Elders is a smart web-based application designed to provide safety, healthcare support, communication assistance, and emergency services for senior citizens. Many elderly people face difficulties in managing daily activities, accessing healthcare services, remembering medications, and contacting family members during emergencies. The proposed system aims to provide a reliable digital platform that improves the quality of life, safety, and independence of elders.
The system includes features such as emergency alert management, medicine reminders, health monitoring, location tracking, caretaker communication, and AI-based assistance. The application enables elders to connect easily with family members, caretakers, and healthcare providers through a simple and user-friendly interface.
The project is implemented using technologies such as Python, Flask/Streamlit, Machine Learning algorithms, Firebase/MySQL database, and notification services. AI-based modules help analyse health conditions and provide intelligent reminders and suggestions for better elderly care. The system improves elder safety, reduces caregiver burden, and ensures quick response during emergencies.

Keywords:
Elderly Care, Senior Citizen Support, Artificial Intelligence, Emergency Alert System, Health Monitoring, Medicine Reminder, Caregiver Communication, AI Assistance, Smart Healthcare, Streamlit, Python, Web Application, Trusted Support System.

INTRODUCTION

The elderly population is increasing rapidly due to improvements in healthcare and living standards. Many senior citizens live alone or face challenges in managing their health, daily routines, and emergency situations. Family members and caregivers may not always be available to provide continuous support. As a result, there is a growing need for intelligent systems that can help elders live safely and independently.
Traditional elderly care systems often depend heavily on manual monitoring and physical assistance, which may not always be efficient or accessible. Senior citizens may forget to take medicines, miss doctor appointments, or fail to contact family members during emergencies. These problems can affect their health, safety, and emotional well-being.
To overcome these challenges, the proposed Senior Connect – A Trusted Support System for Elders provides a smart and reliable platform for elderly support and monitoring. The system includes medicine reminders, emergency SOS alerts, health tracking, caretaker communication, and AI-based assistance. The application allows caregivers and family members to monitor elder activities and receive notifications whenever assistance is needed.
The proposed system improves communication, increases safety, supports independent living, and reduces manual caregiving effort. The platform provides an efficient and user-friendly solution for elderly care management using modern AI and web technologies.

OBJECTIVES

The primary objective of the Senior Connect – A Trusted Support System for Elders is to develop an intelligent and reliable platform that improves elderly care, safety, and communication. The specific objectives of the project are:
• To develop a web-based system that supports elderly people in managing daily healthcare activities efficiently.

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• To provide medicine reminders and appointment notifications for improving health management.
• To implement an emergency alert system that quickly contacts caregivers and family members during emergencies.
• To monitor basic health information and provide AI-based assistance and suggestions.
• To enable communication between elders, caregivers, doctors, and family members through a user-friendly platform.
• To store and manage elder health records and emergency contact details securely.
• To reduce caregiver workload and improve the safety and independence of senior citizens.

METHODOLOGY

The proposed Senior Connect – A Trusted Support System for Elders follows a systematic workflow for elderly support, monitoring, and emergency management. The methodology consists of several stages including user registration, health monitoring, reminder management, emergency handling, AI-based assistance, and result visualization.

1. User Registration and Profile Management:
The process begins with elder and caregiver registration. Users enter personal details, emergency contacts, medical information, and caretaker details into the system. The information is securely stored in the database for future access and monitoring.

2. Medicine Reminder and Scheduling:
The system allows caregivers or elders to schedule medicine timings, doctor appointments, and health check-up reminders. Notification services automatically generate alerts and reminders at the specified time to ensure proper healthcare management.

3. Health Monitoring:
The application collects and stores health-related information such as blood pressure, sugar levels, heart rate, and daily activity details. The collected data helps in monitoring elder health conditions regularly.

4. Emergency Alert System:
An emergency SOS feature is integrated into the system. During emergencies, the elder can trigger an alert button that immediately sends notifications and location details to caregivers and emergency contacts for quick assistance.

5. AI-Based Assistance and Analysis:
The system uses Artificial Intelligence and Machine Learning techniques to analyse health data and provide intelligent suggestions, reminders, and alerts. AI modules help identify abnormal conditions and improve healthcare support for elders.

6. Dashboard and Communication Module:
All information including reminders, health reports, emergency alerts, and communication details are displayed through an interactive dashboard. The dashboard provides easy access to caregivers, family members, and elders for better monitoring and support.

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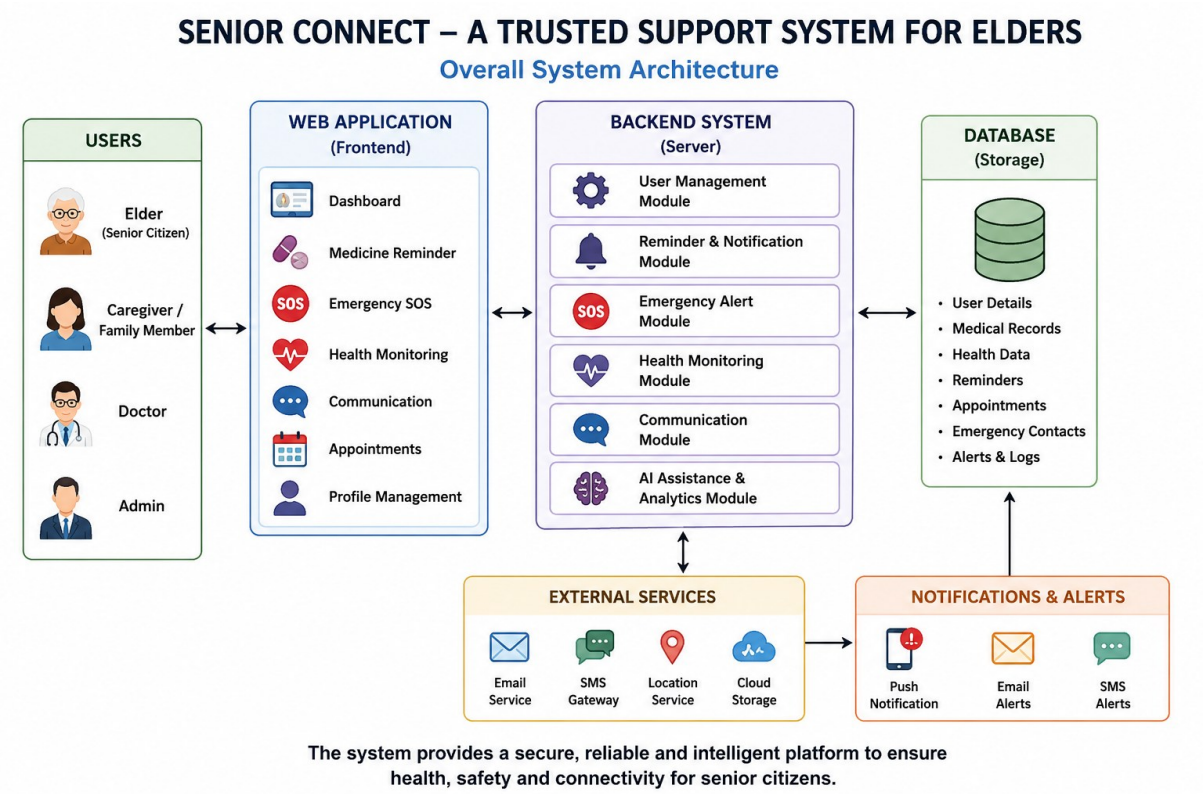

Figure 1 Overall System Architecture Diagram of the Project

RESULTS AND DISCUSSION

The proposed Senior Connect – A Trusted Support System for Elders was successfully implemented and tested with various elderly care functionalities. The system effectively performed medicine reminder management, emergency alert generation, health monitoring, and caregiver communication. The results demonstrate that the system can improve elder safety, healthcare management, and communication efficiency.

The medicine reminder module successfully generated timely notifications for medicines and doctor appointments, helping elders maintain proper healthcare routines. The emergency alert system effectively sent emergency notifications and location details to caregivers and family members during testing scenarios.

The health monitoring module stored and displayed health-related information in an organized format, allowing caregivers to monitor elder conditions efficiently. AI-based assistance provided intelligent suggestions and reminders based on health records and user activities.

All outputs including reminders, alerts, health reports, and communication details were visualized through an interactive dashboard. The results indicate that the proposed system reduces caregiver burden, improves elderly safety, and supports independent living through intelligent monitoring and communication services.

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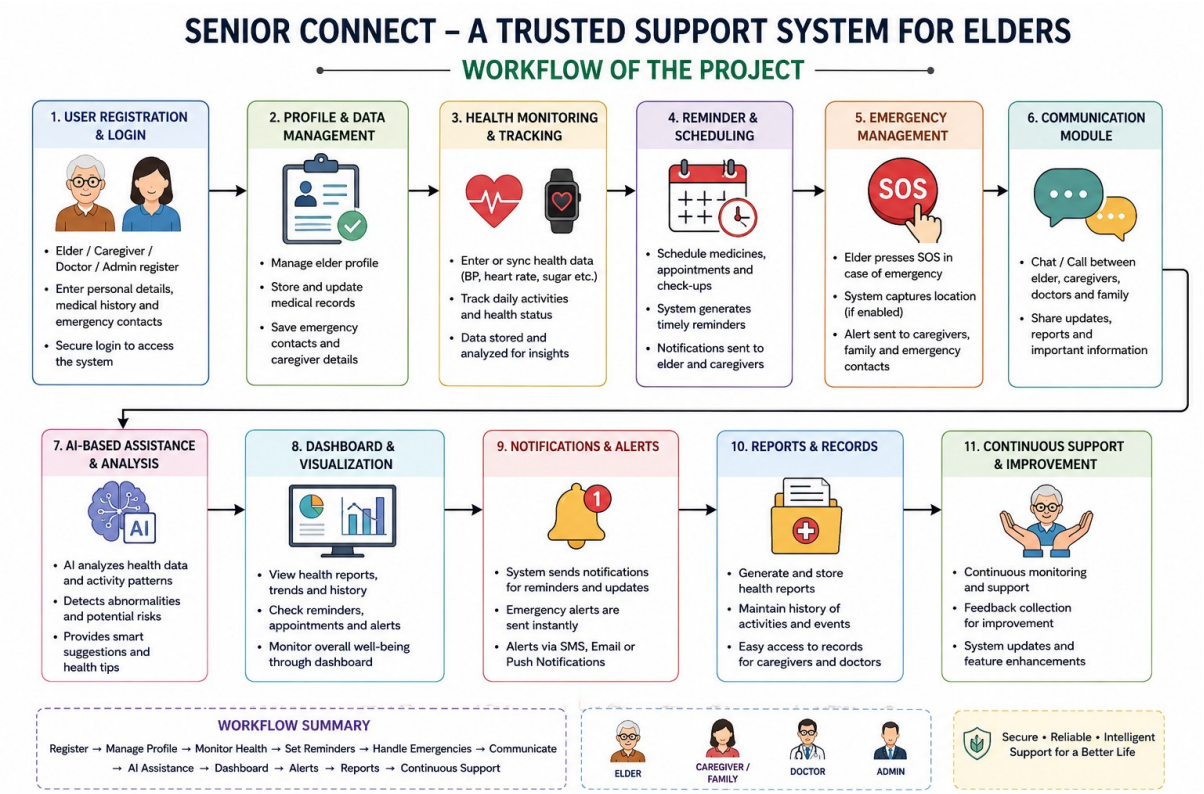

Figure 2 Workflow of the Project

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CONCLUSION

The proposed Senior Connect – A Trusted Support System for Elders successfully provides an intelligent and reliable solution for elderly care and support management. The system integrates emergency alert services, medicine reminders, health monitoring, caregiver communication, and AI-based assistance into a single platform that improves elder safety and healthcare management.

The application helps elders manage daily healthcare activities efficiently while enabling caregivers and family members to monitor and support them effectively. The emergency alert feature ensures quick response during critical situations, while AI-based analysis provides intelligent healthcare support and reminders.

The interactive dashboard presents health information, reminders, alerts, and communication details in a simple and user-friendly manner. Overall, the proposed system improves elderly safety, reduces caregiver workload, enhances communication, and supports independent living for senior citizens. The project also provides opportunities for future enhancements such as wearable device integration, real-time health monitoring, voice assistants, and smart IoT-based elderly care solutions.

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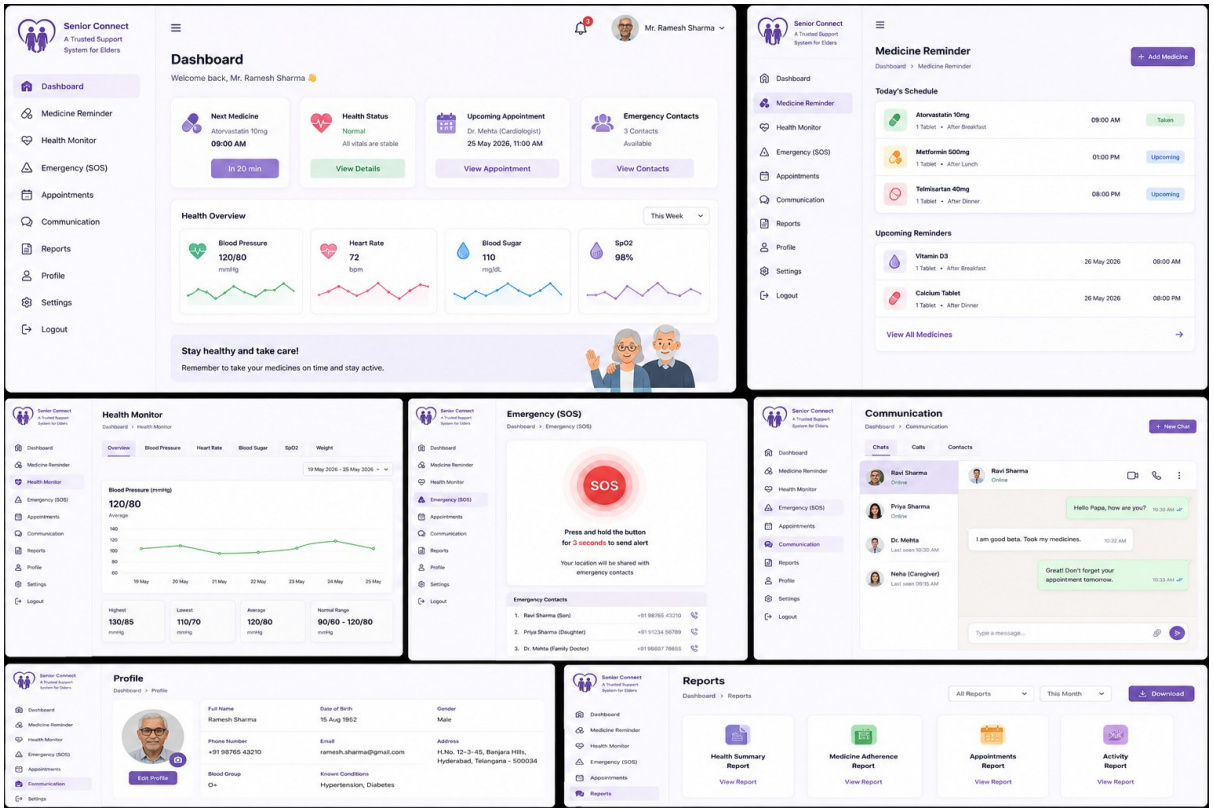

Figure 3 User Interface of the Project

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