Team Name: Neurolingua

Elderly Health Assistant

Team Members Details:

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- Roshaun Infant R
- Sharvesh K

Institution/Startup Name : PSG institute of Technology and applied Research

Problem Statement

- Elderly individuals living alone are at **high risk of falls**, leading to severe **injuries** and delayed medical response.
- Forgetting to take **medications** or eat meals **on time** can result in **serious** health issues for elderly individuals.
- Many elderly individuals suffer from loneliness and **mental health challenges** due to a lack of **social interaction** and engagement.
- Existing monitoring systems often intrude on privacy, making elderly individuals **uncomfortable** and less likely to use them
- Caregivers struggle to provide **timely assistance** without real-time alerts and updates on the elderly individual's condition and needs.

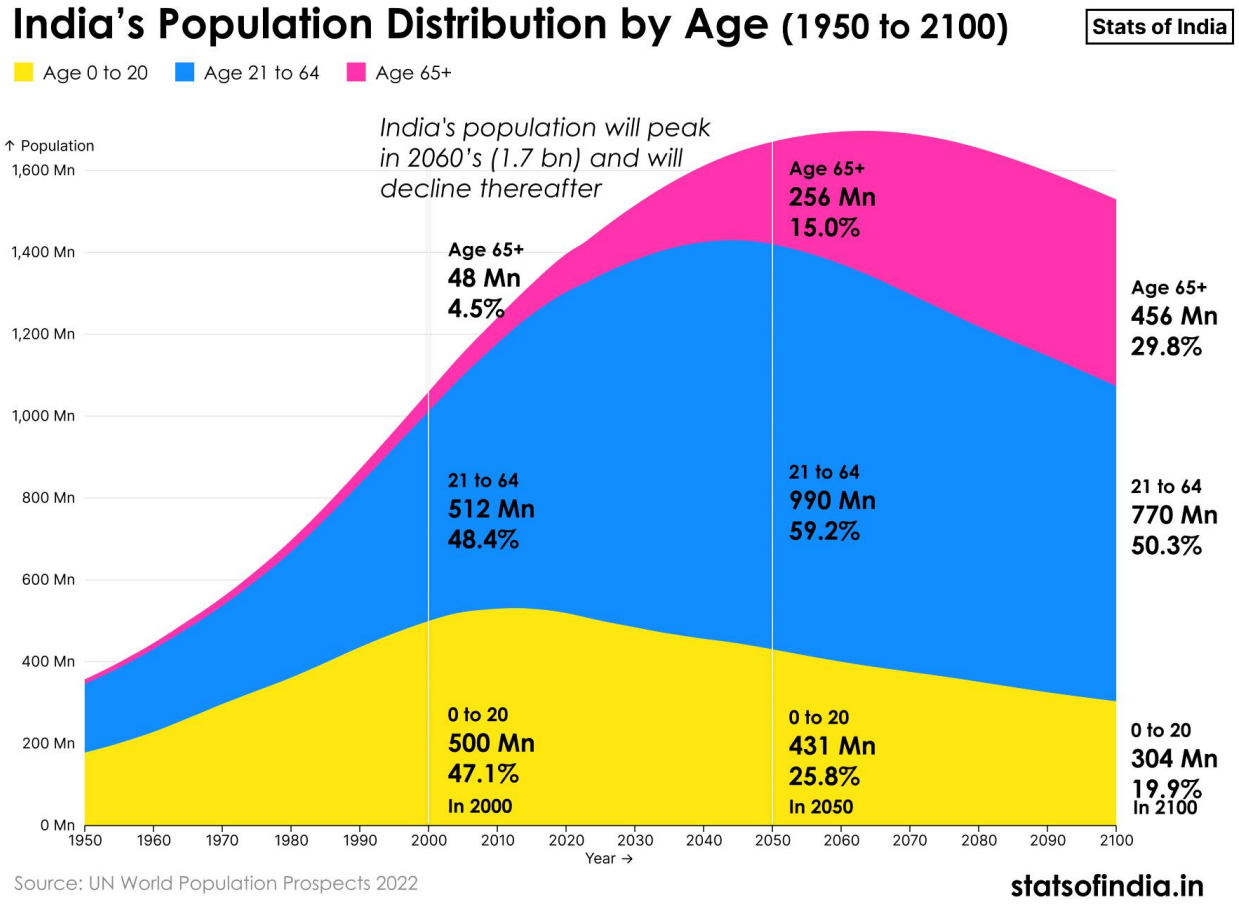
Market Size and Statistics

1. The global elderly population is projected to reach over 1.5 billion by 2100, with a significant portion at risk of falls, medication non-adherence, and social isolation.

2. Falls among older adults cause over 36 million incidents annually in the U.S., leading to 800,000 hospitalizations and substantial healthcare costs.

3. Nearly 50% of older adults do not adhere to their medication regimens, resulting in adverse health outcomes and increased mortality rates.

4. The market for elderly care products and services is growing rapidly, expected to reach $1,594.6 billion by 2028, with a rising demand for AI and smart technologies in home healthcare.



Proposed Solution

•Implement a non-intrusive **fall detection** system using **CCTV's** and AI algorithms to monitor and analyze movements, **sending real-time**.

•Use **GenAI (LLM)** to provide automated, voice-activated **reminders** for medications and meals, ensuring **timely** adherence in a common **speaker** in home.

•Develop an **AI-driven** system that interacts with the elderly, offering **conversation**, exercise recommendations, and social prompts to combat **loneliness** and enhance **mental** well-being.

•Integrate a **comprehensive** monitoring system that sends real-time updates and **emergency alerts** to caregivers, providing them with actionable **insights** and ensuring timely **intervention** when needed.

•Ensure the system respects **privacy** by using non-invasive monitoring techniques, focusing on safety and **independence** without constant, **intrusive surveillance**.

Innovation/Uniqueness you Claim

- Ensures **privacy** by using **non-invasive** techniques, providing **safety** without constant surveillance.
- Uses **GenAI and LLM** for tailored, voice-activated reminders and social engagement, enhancing user experience.
- Integrates **fall detection** and motion monitoring with instant **alerts** to caregivers, ensuring rapid intervention.
- Offers **real-time updates** and actionable **insights** through a user-friendly interface, **reducing caregiver stress**.
- Provides AI-driven companionship, **exercise recommendations, and motivational prompts** to promote overall well-being.

Impact on the Society

- Enhanced Safety and Independence for the Elderly
- Improved Quality of Life
- Reduced Caregiver Burden
- Increased Social Connectivity
- Economic Benefits
- Promotes Mental and Physical Well-being

Business Scalability Justification

1.Growing Elderly Population:

- The increasing number of elderly,globally creates a expanding market for elderly care solutions.

2.Rising Demand for Home Healthcare:

- Preference for aging in place and home healthcare services is driving demand for innovative, in-home monitoring systems.

3.Technological Advancements:

- Rapid advancements in AI, GenAI, and LLM technologies enable continuous improvements and cost-effective scaling of the system.

4.Adaptable and Modular System Design:

- The system's design allows easy integration of new features and services, catering to diverse needs and expanding market segments.

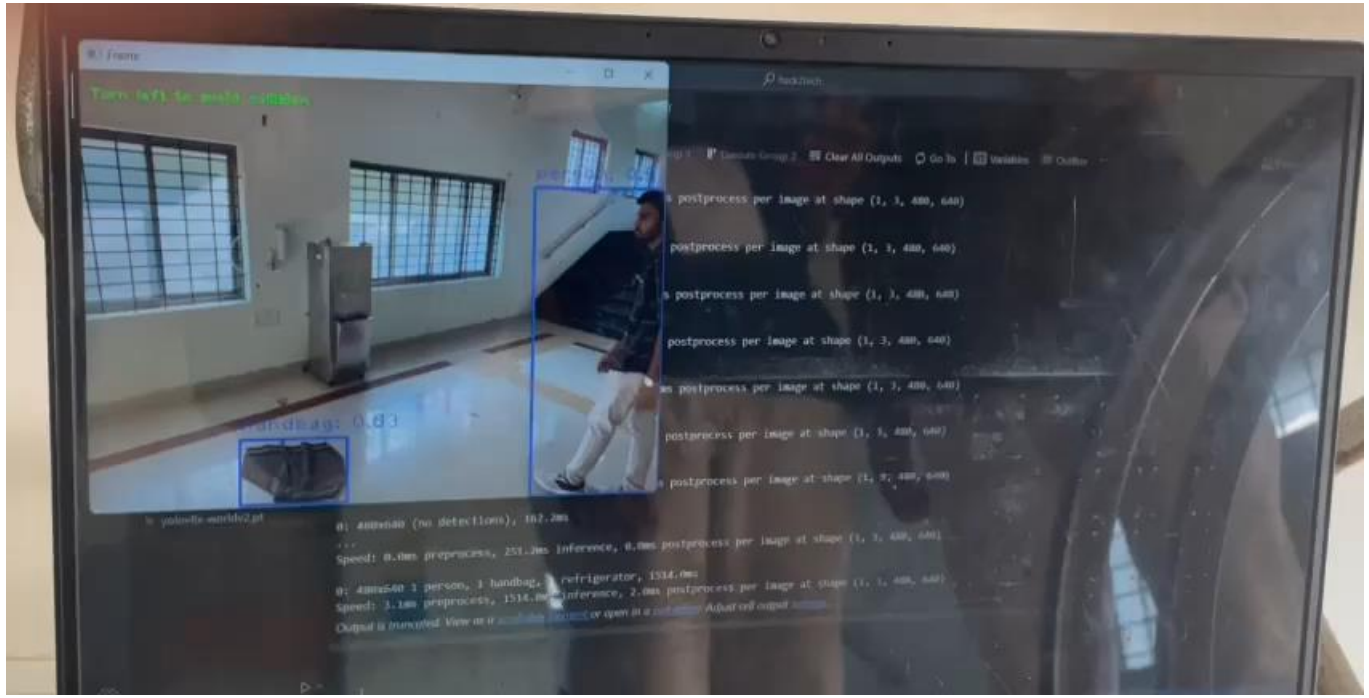
5.Subscription-Based Revenue Model:

- Implementing a subscription-based model ensures a steady revenue stream, supporting sustainable growth and scalability.

6.Partnership Opportunities:

- Collaborations with healthcare providers, insurance companies, and tech firms can enhance market reach and drive adoption.

Prototype & Its current level (if any)



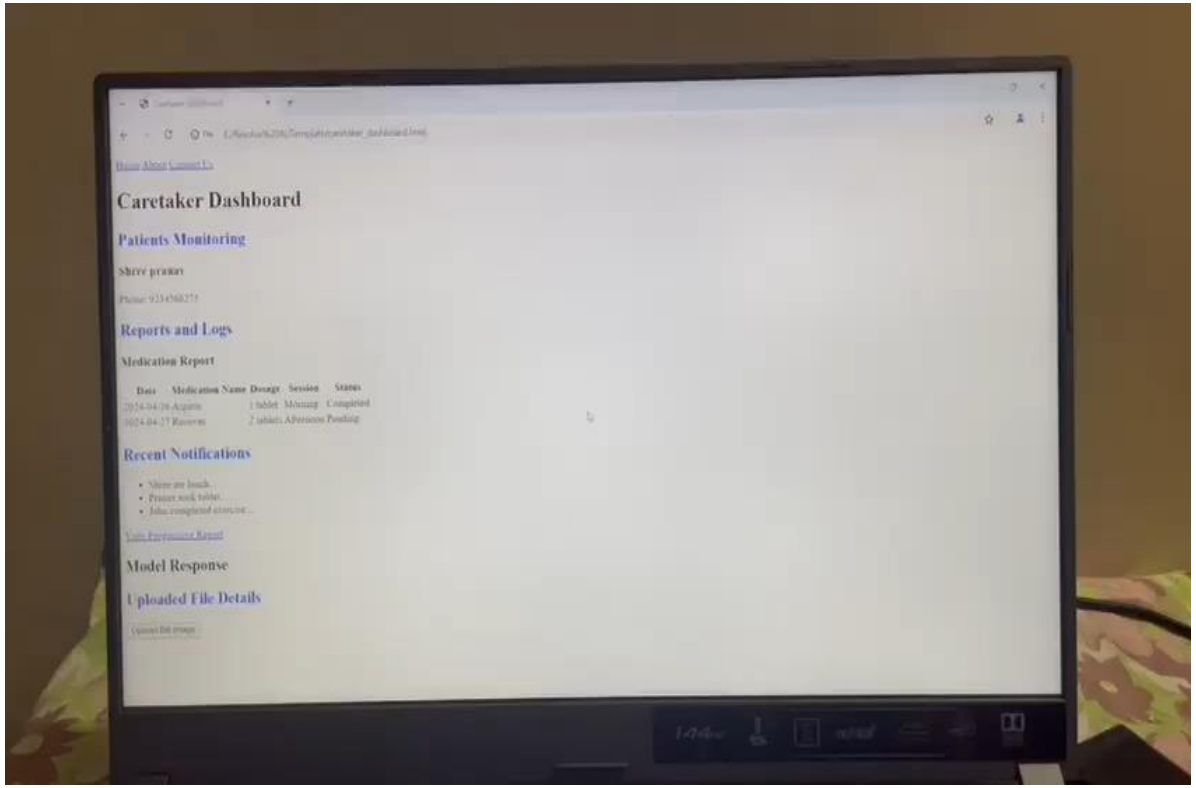
Obstacle detection

Drive link:
https://drive.google.com/drive/folders/1uscviJa0yRCNOKam9V5cromSCjiduZNf?usp=drive_link

Github link :https://github.com/Sharvesh1208/Caretaker-application-enhancing-lives-of-aged-and-disables-using-computer-vision

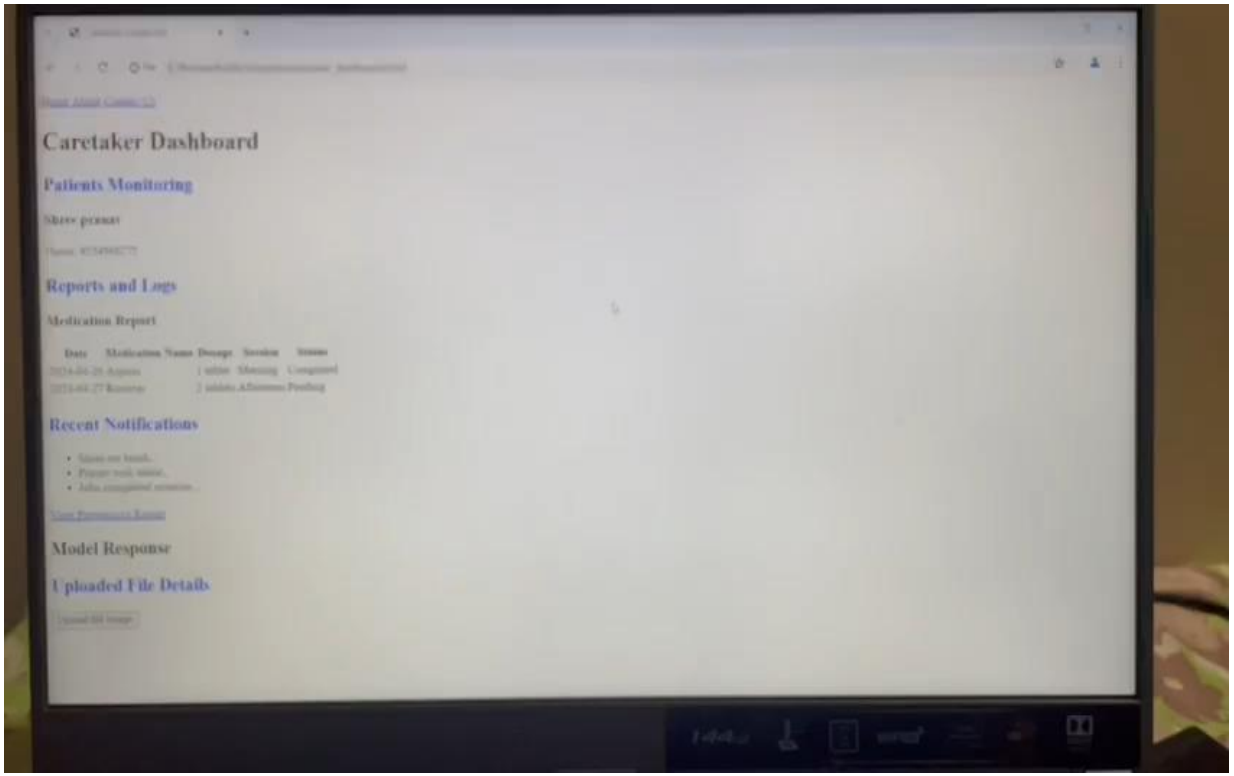
Prototype & Its current level (if any)

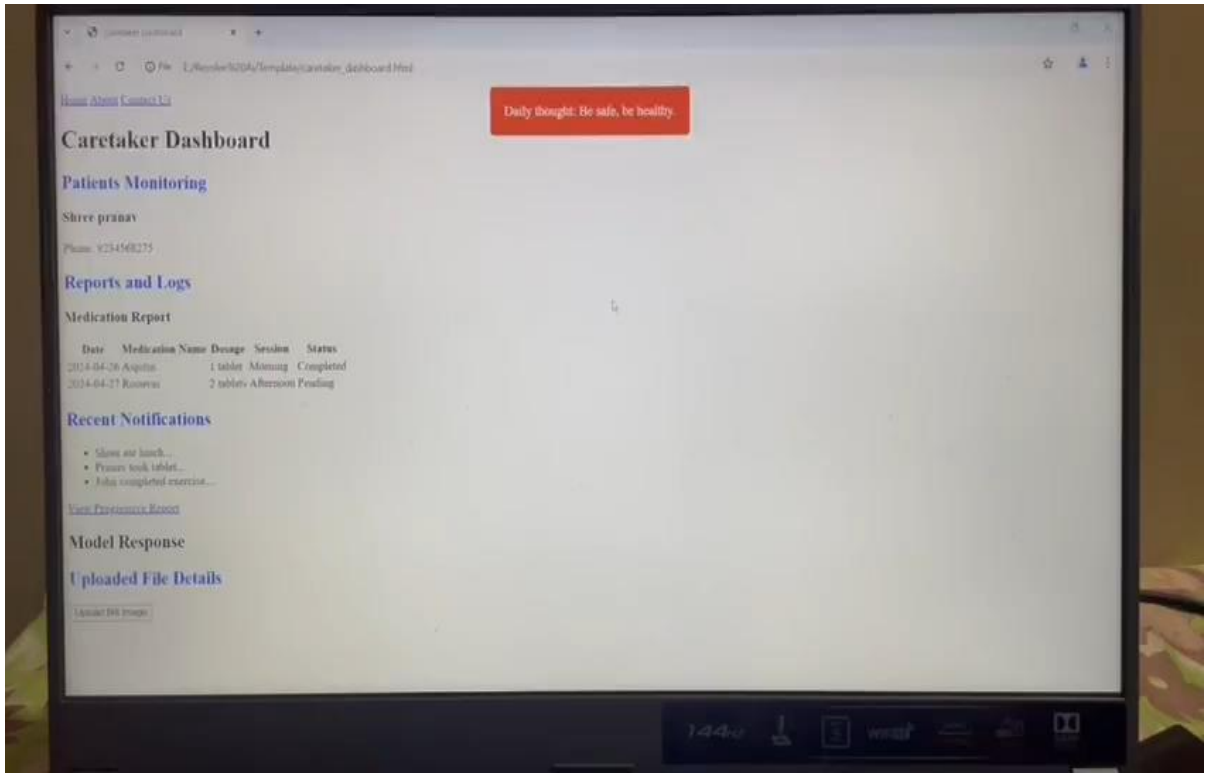
Fall Detection



Food/Medication remainder

Prototype & Its current level (if any)

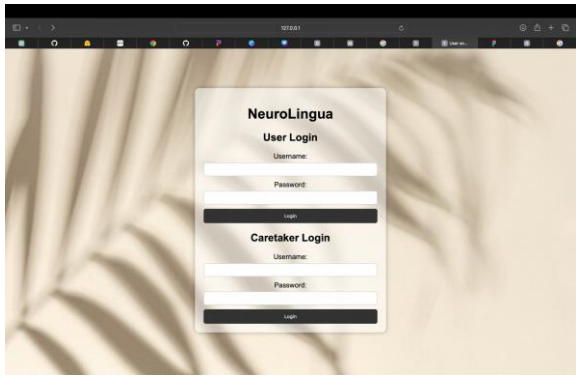




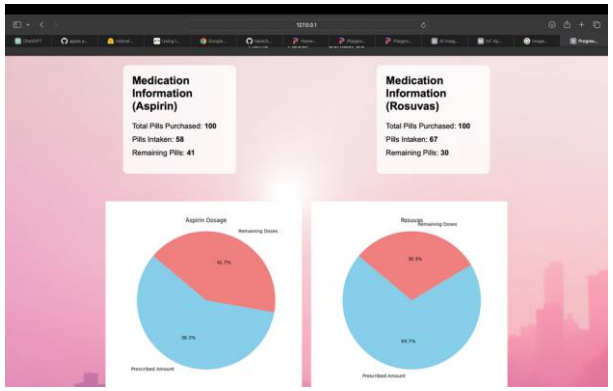
Excerise guide in voice

Thoughts teller

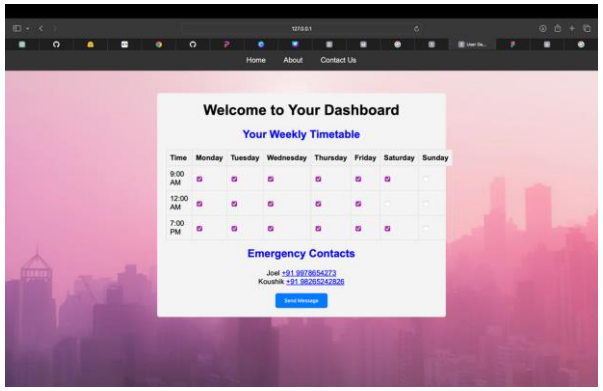
Prototype & Its current level (if any)



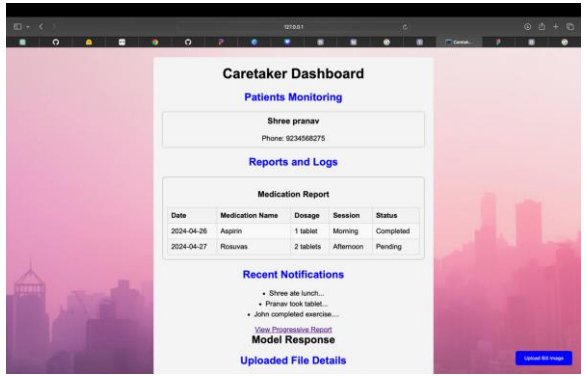
Login page



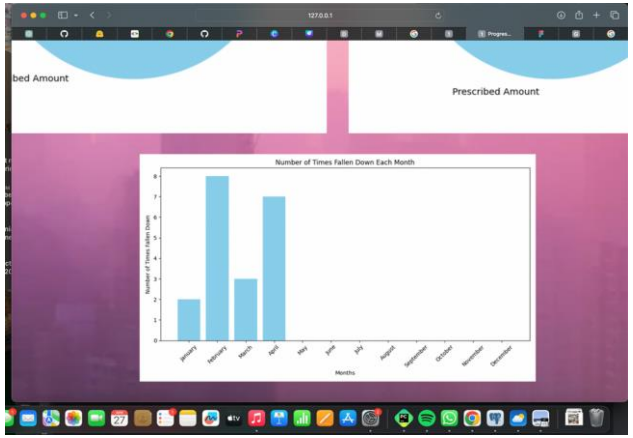
Insights



Medication



Dashboard



Analytics

Strategy and Business Model

- **Target Market Segmentation:** Focus on elderly individuals living independently, their caregivers, and assisted living facilities.
- **Value Proposition**: Emphasize non-intrusive monitoring, AI-driven personalized interactions, and comprehensive emergency response.
- **Subscription-Based Revenue Model**: Implement a subscription-based model for steady revenue and sustainable growth.
- **Partnerships and Collaborations**: Partner with healthcare providers, insurance companies, and tech firms to enhance market reach and adoption.
- **Digital Marketing and Education**: Utlize digital marketing, social media, and educational content to raise awareness and attract customers.
- **Continuous Improvement and Innovation**: Invest in R&D to continuously improve and expand system features, maintaining competitive advantage and meeting evolving customer needs.

Thank You