AYAKSHM

HEALTHCARE APPLICATION

To help a person aged 65 or above, live a healthier and better life.

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Question

How can you help Sunita Sharma (65+ years old) to live a healthier and better life?

Identify one use case for elderly care (for the age group 65+) and create a **working prototype** to demonstrate your idea using technology known to you.

Expected Efforts: 2-3 days

What we are looking for this in this activity?

Innovation & Ideation	Coding Skills	Your magic touch
➢ Originality in idea ➢ Research skill ➢ Value outcome	➢ Logic ➢ Rapid Prototyping ➢ Coding practice	➢ Secret ingredient for going towards expertise

Idea

To help Sunita Sharma live a healthier and better life, I propose developing a personalized health monitoring and assistance system using technology. This system will incorporate various devices and sensors to track her health parameters and provide real-time assistance for better management of her well-being.

Valued Outcome

The personalized health monitoring and assistance system will have several benefits for Sunita Sharma and other elderly individuals:

1. Early Detection of Health Issues: The system will continuously monitor vital signs such as heart rate, blood pressure, and oxygen levels, enabling early detection of potential health issues.
2. Medication Reminders: The system will provide reminders for taking medications on time, reducing the chances of missed doses.
3. Fall Detection and Emergency Alerts: By incorporating motion sensors, the system will be able to detect falls and automatically send alerts to designated emergency contacts.
4. Activity Tracking: The system will track Sunita's physical activity levels and encourage her to stay active, leading to improved overall health and fitness.
5. Personalized Recommendations: Based on the collected health data, the system can provide personalized recommendations for diet, exercise, and lifestyle modifications.

Secret Ingredient for Expertise: Continuous Improvement and Adaptation

To truly excel in the field of elderly care technology, the secret ingredient lies in continuous improvement and adaptation. This involves actively seeking feedback from users like Sunita Sharma and incorporating their suggestions into future iterations of the system. It also entails keeping up with the latest advancements in technology and healthcare to ensure the system remains effective and relevant.

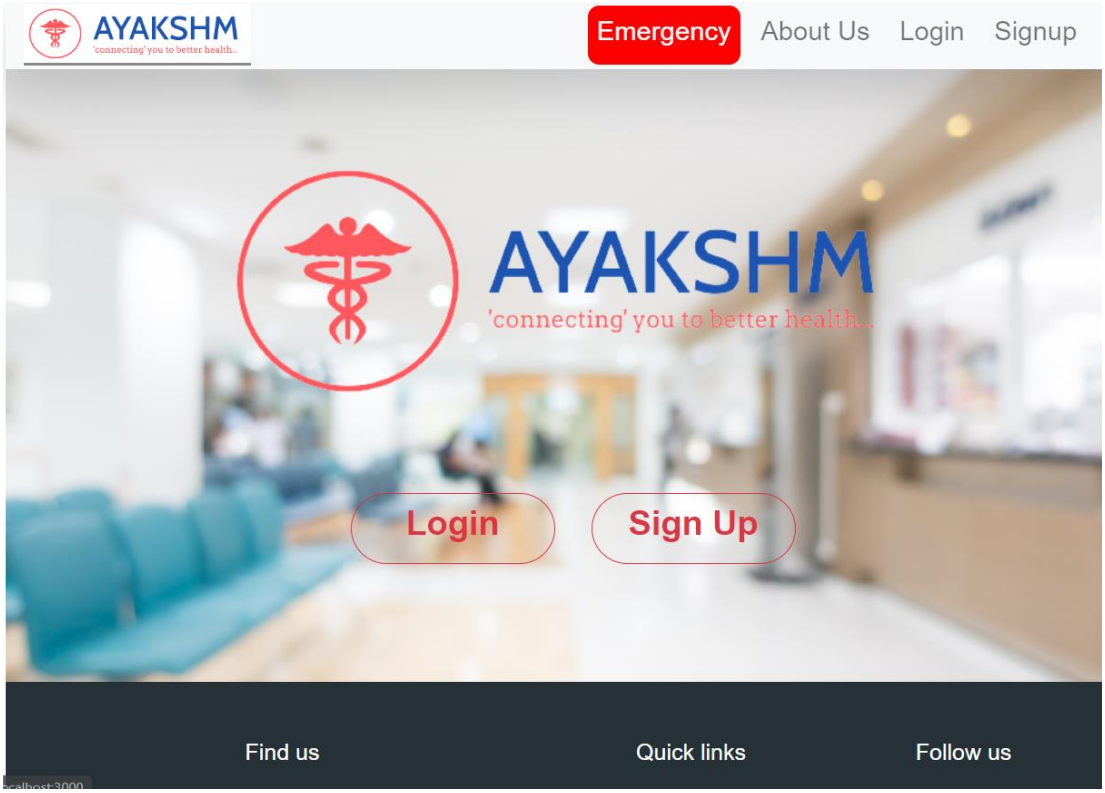
By continuously improving and adapting the personalized health monitoring and assistance system based on user feedback and technological advancements, we can provide Sunita and other elderly individuals with a comprehensive solution that helps them live healthier and better lives.

The Application

Web-based application is create using React.js on front-end, Java Spring Boot Rest APIs at back-end and MySQL for database. Both front-end and back-end are deployed onto Amazon EC2 instance and database is deployed on Amazon RDS instance.

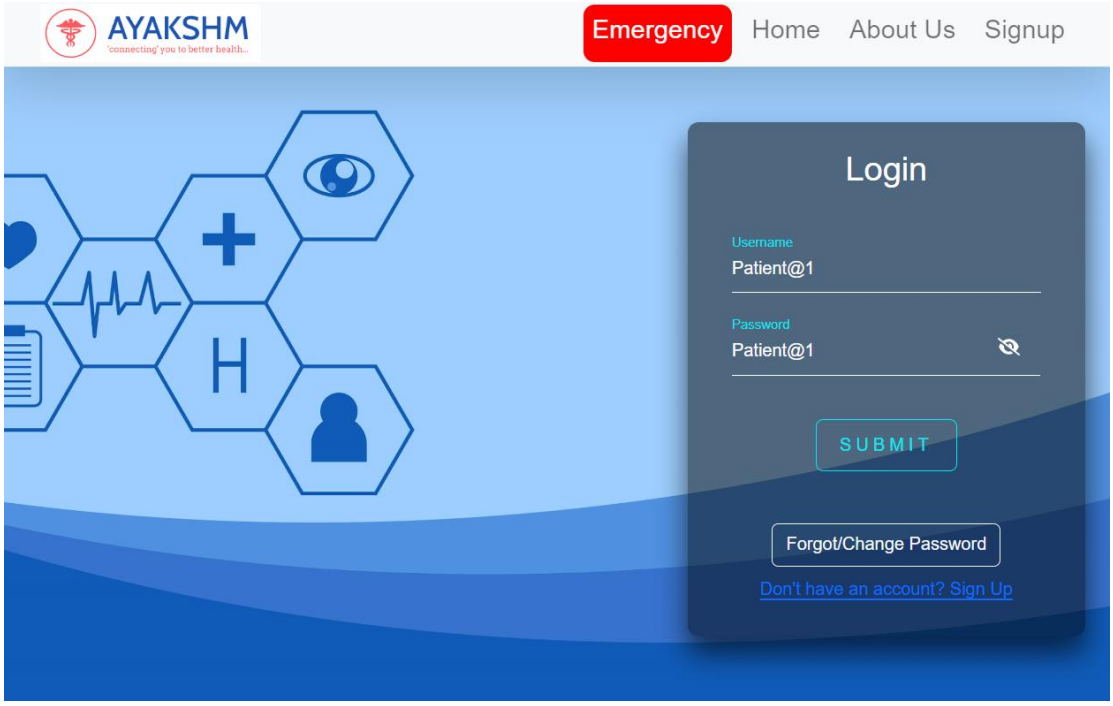
Link of working web application: http://43.205.118.157:3000

1. Home Page for login or signup. This page will contain "Emergency button" for immediate medical attention.



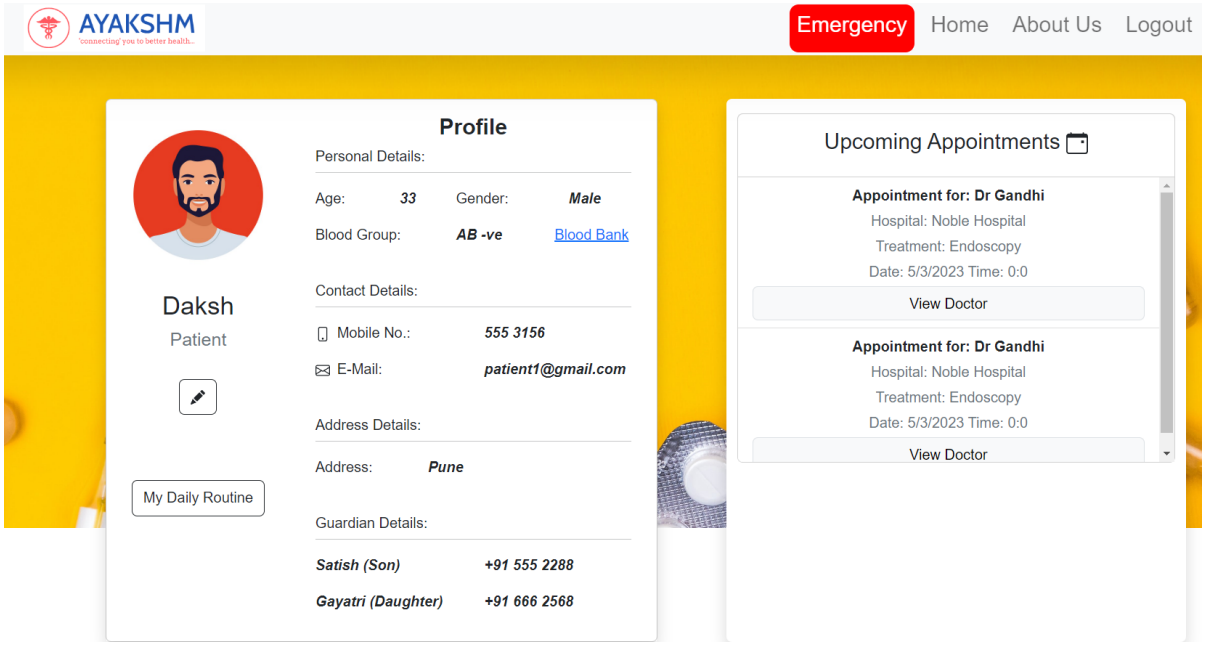
2. 64-bit encryption is used for storing password.

Demo username and password is: **Patient@1**



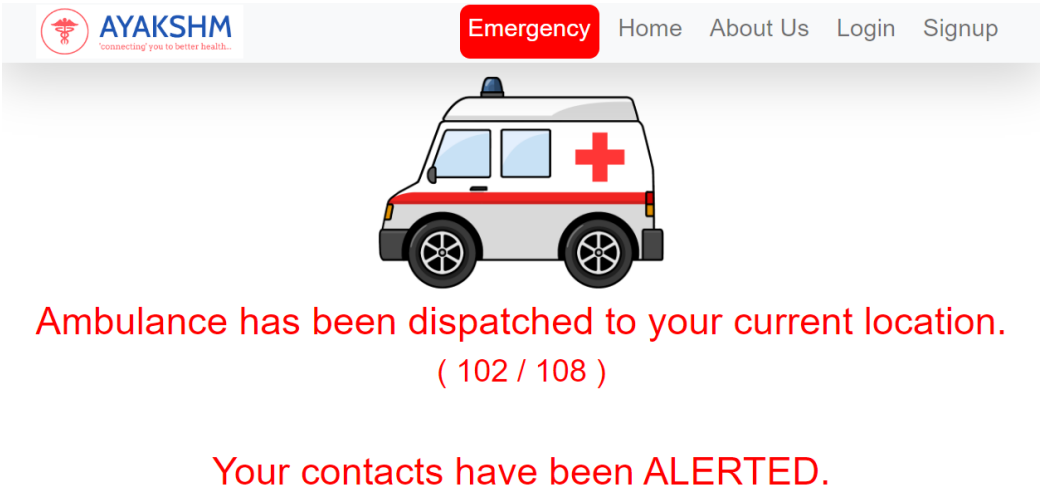
3. Patient Page:

Consists of patient's details, daily routine, blood group with link to search for availability of blood banks near them, and patient's emergency contacts(guardian).

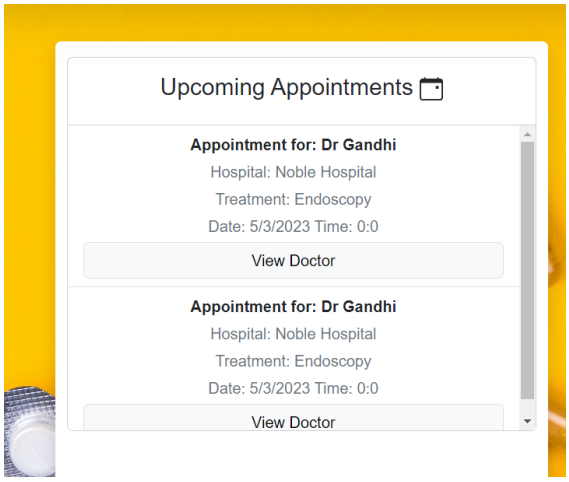


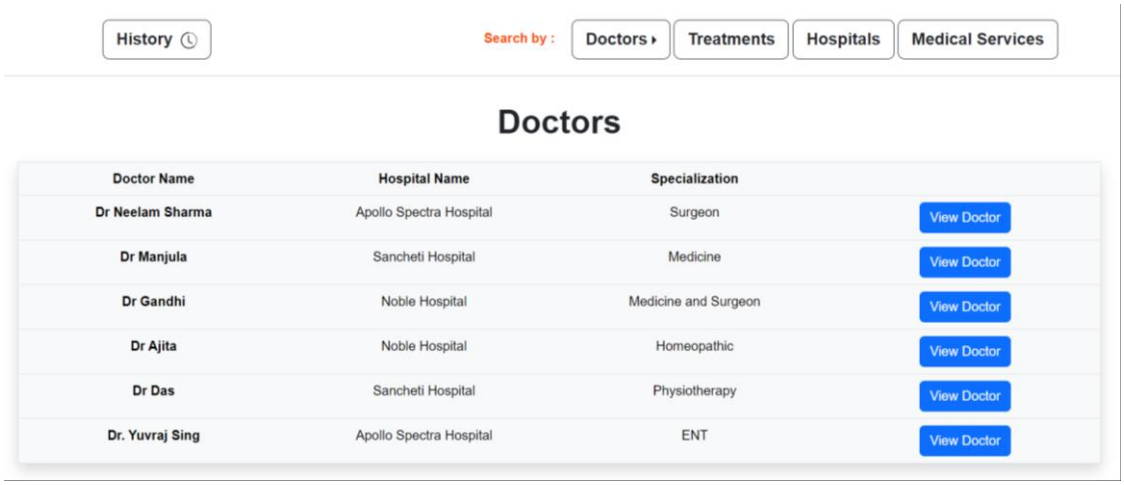
4. Daily Routine will consist of all the daily activity list like waking up, breakfast, medication and also a reminder can be set for these things for those people who tends to not remember things.

5. Emergency button will alert nearest hospital for medical emergency and dispatch an ambulance. Also send an alert on the devices of patient's guardians.

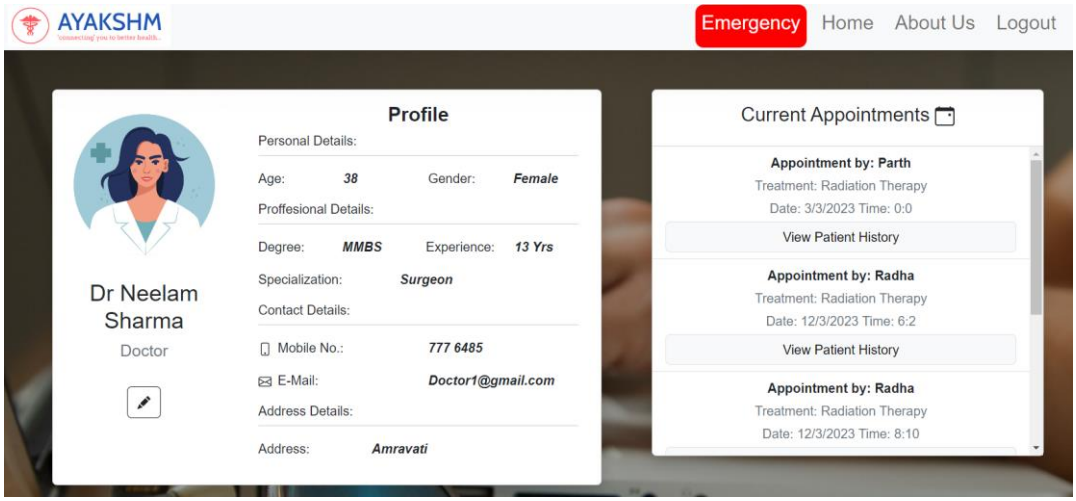


6. Patient page will also consist of upcoming appointments and can also book an appointment for regular checkup.





7. Even doctor can create an account and keep track of patient's record



Future Scope

The future scope of personalized virtual exercise assistants and technology-driven elderly care is promising. Here are a few key areas of potential development:

1. Advanced Machine Learning and AI: Future systems can leverage advanced machine learning algorithms and artificial intelligence to provide even more personalized exercise routines and feedback. These algorithms can adapt to individual capabilities, preferences, and progress, enhancing the effectiveness of the exercise programs.
2. Integration with Wearable Devices: The integration of personalized virtual exercise assistants with wearable devices will offer a comprehensive approach to health monitoring and activity tracking. By collecting data from sensors like heart rate monitors, smartwatches, or posture correction devices, the assistant can provide more accurate feedback and insights for exercise optimization.
3. Virtual Reality (VR) and Augmented Reality (AR): VR and AR technologies have the potential to revolutionize the elderly care landscape. Future developments could involve creating immersive exercise experiences, virtual trainers, and interactive environments that motivate and engage elderly individuals during workouts. This can add an element of entertainment and novelty to their exercise routines.
4. Social Integration and Community Building: Developing features that foster social interaction and community building within the virtual exercise assistant can enhance motivation and accountability. This may include virtual group exercises, challenges, and the ability to connect with peers, trainers, or healthcare professionals for support and guidance.
5. Remote Monitoring and Telehealth Integration: With advancements in telehealth, future systems can integrate with remote monitoring technologies to enable healthcare professionals to monitor and provide guidance to elderly individuals during exercise sessions. This can enhance safety, improve personalized recommendations, and facilitate remote care management.
6. Continuous Data Analysis and Insights: By leveraging big data analytics, future systems can provide deeper insights into exercise patterns, health trends, and personalized recommendations. This can contribute to preventive healthcare and proactive interventions, enabling early detection and management of health issues.
7. Multilingual and Multicultural Support: To cater to diverse populations, future systems can incorporate multilingual support and culturally sensitive content. This will ensure that

the virtual exercise assistants are accessible and effective for a broader range of elderly individuals worldwide.

8. Collaborative Partnerships: Collaboration between technology developers, healthcare providers, and researchers will drive innovation in elderly care. By fostering interdisciplinary partnerships, future developments can integrate medical expertise, user-centered design, and cutting-edge technology to create comprehensive and effective solutions.

The future scope of personalized virtual exercise assistants and technology in elderly care is dynamic and constantly evolving. Continued research, innovation, and collaboration will shape the future landscape, enabling better health outcomes, enhanced well-being, and improved quality of life for elderly individuals.

Let us know what you think

Please give us feedback on this assignment, so we can improve. Thanks!