

Senior-shield

A Next-Gen HealthCare App for Elderly



# ABSTRACT

Senior Sheild is an IoT driven healthcare application meticulously crafted to address the pressing needs of the ageing population by offering real-time monitoring and comprehensive support. In a world where elderly individuals often face challenges related to health management and safety, Senior Shield emerges as a beacon of innovation and practically. Through its sophisticated array of features, including fall detection, heartrate monitoring, medication reminders, and GPS tracking, the application provides a proactive solution to mitigate risks and ensure timely assistance. Imagine an elderly individual living alone, susceptible to falls or sudden health problems. With Senior Shield, they can rest assured that they are being continuously monitored, with any detected abnormalities triggering immediate alerts to designated caregivers. Moreover, the incorporation of GPS tracking offers an added layer of security, allowing caregivers to point out the users’ location in case of emergencies. The application also facilitates seamless communication with the doctors or healthcare professionals through a dedicated chat platform, enabling timely consultations and interventions. Senior Sheild’s user-centric design, characterized by intuitive navigation and adaptive interfaces, ensures accessibility for users of all users. By addressing these critical challenges in eldercare and leveraging IoT technology, Senior Sheild stands as pioneering solution, fostering a safer and more connected environment for ageing individuals and their caregivers alike.

Table of Contents

[ABSTRACT 1](#_Toc160224575)

[INTRODUCTION 3](#_Toc160224576)

# INTRODUCTION

The Senior Sheild project represents a groundbreaking endeavor in the realm of elderly healthcare, leveraging cutting-edge technologies to address the unique challenges faced by aging individuals. Developed using Flutter framework, Senior Shield offers a seamless and intuitive user experience across the android platform for now ensuring widespread accessibility and adoption. At the core of the application lies its sophisticated health monitoring capabilities, including real-time heart rate monitoring facilitated by ECG sensors and fall detection enabled through piezoelectric sensors. These sensors work in tandem to continuously monitor the user’s vital signs and detect any sudden falls or abnormalities, thereby providing timely assistance and intervention.

In addition to its advanced monitoring feature, Senior Shield boasts a comprehensive set of functionalities designed to enhance the overall well-being and safety of elderly users. GPS integration enables precise location tracking, empowering caregivers to swiftly locate and assist the user in case of emergencies or wandering. Furthermore, the application facilitates direct communication with healthcare providers through a built-in chat interface, facilitating prompt consultation and medical assistance. Real-time alerts ensure that caregivers are promptly notified of any emergent situations, enabling them to take immediate action and ensure the user’s safety. Moreover, Senior Shield includes medication remainders to help users adhere to their prescribed treatment regimens, promoting better health outcomes and medication compliance.

The project methodology employed in the development of Senior Sheild follows an agile approach, emphasizing iterative development, collaboration, and adaptability. By breaking down the development process into smaller, manageable increments, the agile methodology enables rapid prototyping, continuous feedback, and timely adjustments to meet evolving project needs and requirements. This iterative approach fosters greater flexibility and responsiveness, ultimately resulting in a more robust and user-centric application.

The Senior Sheild application represents pioneer effort in leveraging technology to address the healthcare needs of elderly population. By harnessing the power of Flutter and integrating advanced sensor technologies, the application offers a comprehensive suite of features aimed at promoting the health, safety, and independence of elderly individuals. Through its agile development methodology, Senior Shield exemplifies a commitment to continuous improvement and innovation, ensuring that it remains at the forefront of eldercare solutions.