Project Context:

In today’s fast-paced environment, long waiting times and inefficient queue management in clinics often lead to frustration among patients and operational inefficiencies for healthcare providers. Traditional manual queuing systems are prone to delays, mismanagement, and overcrowding, which negatively impact both patient satisfaction and clinic productivity.

To address these challenges, SmartQueue is proposed as a web-based queue management system designed to streamline patient flow in clinics. This system will allow patients to book appointments, check real-time queue status, and receive notifications about their turn, reducing unnecessary waiting times. For clinic staff, it will provide an automated system for managing patient queues, tracking consultation times, and optimizing daily operations.

Objectives:

1. To develop a web-based system that allows patients to register for queues and book appointments remotely.
2. To incorporate queue prioritization features that allow clinics to prioritize special cases such as emergency patients, senior citizens, or pregnant women.
3. To integrate an automated notification system that alerts patients when their turn is approaching via SMS or in-app notifications.

Scope and Limitations:

The SmartQueue system is a web-based queue management platform designed to streamline patient flow and optimize clinic operations. It is intended for use in small to medium-sized clinics that experience high patient volumes and require an organized queuing system. Internet Dependency, The system requires a stable internet connection for real-time updates and notifications. If the internet is unavailable, queue registration and tracking will be affected. Human Intervention Still Required, While the system automates queue management, clinic staff still need to verify patient arrivals, update queue status, and handle emergencies manually. Device Compatibility, While accessible via web browsers, the system may not be optimized for older devices with outdated software.

Methodology:

To ensure an efficient and systematic development of the SmartQueue system, the project will follow the Agile Software Development Methodology, specifically the Scrum framework. This approach allows for iterative development, continuous testing, and regular feedback from stakeholders to refine the system.