**Develop a Requirements Traceability Matrix (RTM)**

**Must Have:**

* **Automated Appointment Scheduling:** Develop a system that allows patients to book, modify, and cancel appointments online.
* **Ensure the system automatically checks and updates calendar availability in real-time.**
* **Double Booking Prevention:** Implement mechanisms to detect and prevent overlapping appointments.
* These requirements are essential because they directly address the core problems of the current system: long wait times and double bookings.

**Should Have:**

* **Real-Time Notifications:** Enable automated email and SMS alerts for appointment confirmations, cancellations, and updates.
* This requirement is important for improving patient communication and reducing no-shows, but the system can still function without it.

**Could Have:**

* **Integrated Resource Management:** Connect the scheduling platform to existing hospital resource systems for seamless allocation of equipment and staff.
* While this would improve resource optimization, the core scheduling issues can be addressed without it.

**Won't Have:**

* Redesigning clinical workflows or altering medical procedures.
* Overhauling non-IT operational processes unrelated to scheduling.
* Any enhancements outside the realm of scheduling, notifications, or resource visibility.
* These are explicitly stated as out-of-scope for the project.