# **1.3 Scope and limitations**

**Scope of the project**

The Capital Radiology MRI Online System aims to modernize the MRI scan and reporting process by implementing a user-friendly , secure web portal. This system will be developed based on the following scope of the project:

1. **Patient Portal**
   1. Patients can register with their email and a secure password.
   2. Patients can book MRI appointments , selecting preferred and available time slots in accordance with the selected location.
   3. Patients can access their MRI report , Image files and medical history securely.
   4. Patients are able to view and manage their billing details and digital receipts.
   5. Patients receive email notifications for appointment confirmation and report status.
2. **Doctor / Radiologist Portal:**
   1. Secure login for authorized radiologists and doctors is provided by the admin for the hospital.
   2. Doctors can access MRI images (DICOM format) and medical history of the patient assigned .
   3. Doctors can create , sign and upload structured medical reports , digital prescriptions or medical recommendations using predefined templates.
3. **Admin Dashboard:**
   1. Admin can manage and assign user accounts to Technicians and Radiologists / Doctors.
   2. Admin can view , approve or reschedule appointments.
   3. Admin can track system usage, log user activities and generate analytical reports.
   4. Monitor and manage data uploads and communication logs.
4. **Technician Dashboard:**
   1. Select patients and upload MRI scan images in DICOM format through their web portal.
   2. Assign appointments to available MRI equipment.
   3. Record scan durations , usage time and availability of MRI machines .
   4. Log equipment error or technical issues / regular service .
   5. View patient Anatomical data and medical history for MRI scan adjustments.
5. **Image Management:**
   1. Upload and store MRI scan images in DICOM Format.
   2. Each Image is associated with the corresponding patient via patient ID and appointment ID. It will make it easier to retrieve the images.
   3. Radiologist will be able to view and annotate images using open-source image viewer (such as “OHIF Viewer” )
6. **Notifications and Communications:**
   1. Send automated email alerts for booking confirmations , report status and appointment reminders.
   2. Encrypted internal messaging system between hospital staff and admin.
7. **Security and Compliance:**
   1. Strong encryption system for data at rest and in transit.
   2. Access logs and audit trails (activity logs , usage logs) for all hospital accounts for auditing and compliance.
8. **Platform Compatibility:**
   1. Interfaces for Admin , Doctor , Staff will be designed for desktop use.
   2. The patient portal will be mobile-responsive for convenient access on mobile phones and tablets.
   3. The web-application will be accessible through the modern web browsers (i.e. chrome , firefox and safari)

**Limitations of the Project**

Following are the limitations of this project:

1. **Manual DICOM Uploads:** Integration with MRI machine is out of scope of this project. Instead, technicians will be able to upload MRI images manually through their portal.
2. **Simplified Billing and Insurance:** This system will simulate billing features with basic cost breakdowns. Full integration with insurance providers or claim APIs will not be implemented.
3. **No Native mobile App:** A mobile application is not included in this version. This system will be browser-based , with responsive design.
4. **Limited Database Hosting :** This web-application will run on localhost or free- cloud infrastructure (e.g. firebase) and use selenium testing and demonstration purposes.
5. **Partial Mobile Responsiveness:** Full mobile responsiveness will only be applied to the patient interface while the Admin , Doctor and radiologist dashboard will be desktop-focused for ease of development.