Low Level Design Document

Introduction

This Low Level Design (LLD) document outlines the core frontend architecture for **Mediform - Healthcare Appointment Booking UI**. The application enables users to book, manage, and view healthcare appointments via a responsive, modern React-based interface, emphasizing robust form handling, validation, and user experience.

1. System Components

Component Name	Description / Responsibility
App	Root component, routing, global state provider
AppointmentForm	Appointment creation/edit form, validation logic
AppointmentList	Displays list of appointments, supports filtering
AppointmentDetails	Shows detailed view of a selected appointment
MediaUploader	Handles media (e.g., document/image) uploads
Header/Footer	Layout, navigation, branding
Notification	Displays success/error messages

2. Class/Interface Overview

Component/Class	Key Props/State/Methods	Relationships
`AppointmentForm`	Props: onSubmit, initialData State: formFields, errors Methods: handleChange, validate, handleSubmit	Used by App, updates AppointmentList
`AppointmentList`	Props: appointments, onSelect	Renders AppointmentDetails
`AppointmentDetails`	Props: appointment	Receives from AppointmentList
`MediaUploader`	Props: onUpload, acceptedTypes	Used in AppointmentForm

Key Methods Example:

```
// AppointmentForm
function handleSubmit(event) {
  event.preventDefault();
  if (validate(formFields)) {
    onSubmit(formFields);
  } else {
    setErrors(validationErrors);
```

```
        }
    }
```

---

3. Data Structure Overview

Model Name	Fields
Appointment	id, patientName, doctorName, date, time, reason, mediaUrls
User (optional)	id, name, email
Media	id, url, type, uploadedAt

---

4. Algorithms / Logic

Appointment Booking Flow (Pseudocode):

```
onFormSubmit(formFields):
  if validate(formFields):
    saveAppointment(formFields)
    showNotification("Success")
  else:
    showNotification("Validation Error")
```

Form Validation Logic:

- Required fields: patientName, doctorName, date, time
- Date/time must be in the future
- Media files: check type/size

---

5. Error Handling

Scenario	Handling Approach
Form validation failure	Show inline error messages
Media upload error	Display notification, allow retry
Network/API failure (future)	Show error banner, suggest retry
Invalid date/time	Prevent submission, highlight field

End of Document