Independent University, Bangladesh

IUB

Assignment 6

System Analysis & Design

CSE307

Submitted By Group 1

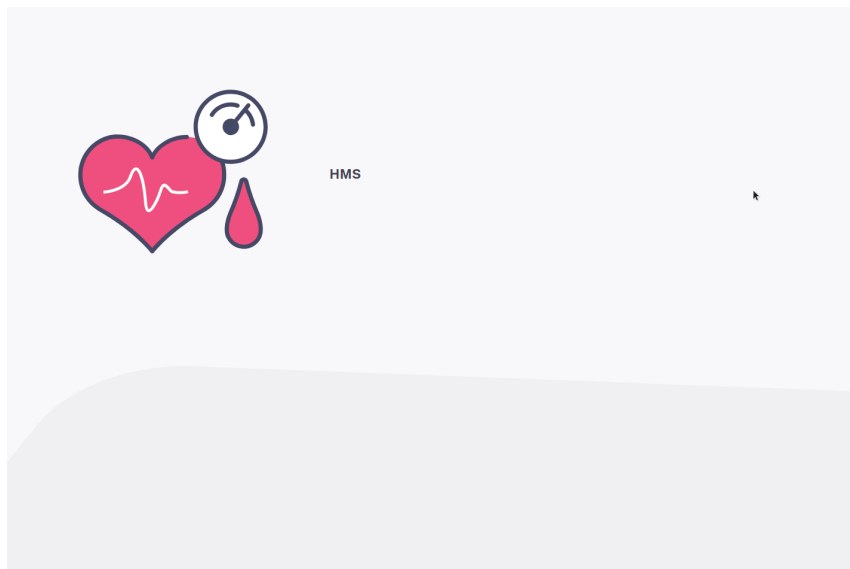| Name	ID
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Intelligent Health Diagnostics and Personalized Wellness Solution UI/UX Documentation

Authentication & Registration

Login Interface

Controls & Methods

1. **Input Fields**
   - Email/Username field with validation
   - Password field with visibility toggle
   - Remember me checkbox

2. **Navigation Links**
   - Forgot password
   - Create account

3. **Security Features**
   - Session management
   - Input sanitization
   - Authentication tokens

Justification

- Minimalist design reduces cognitive load
- Essential security controls while maintaining usability
- Clear pathways for account recovery and creation
- Industry-standard authentication practices

Patient Registration

HMS

Adventure starts here 🚀

Health Care made easy!

First Name

Enter your first name

Last Name

Enter your last name

Phone Number

Enter your phone number

Date of Birth

Select your Date of Birth

Email

Enter your email

Password

Enter your password 👁

User Type ⌄

Address

Enter your address Select Address

☐ I agree to privacy policy & terms

Sign Up

Already have an account? Sign in instead

Controls & Methods
1. **Form Components**
   - Personal information fields
   - Password creation with strength indicator
   - Role selection dropdown
2. **Validation System**

- Real-time field validation
- Form submission handler
- Error messaging system

Justification

- Comprehensive data collection
- User-friendly validation feedback
- Secure account creation process
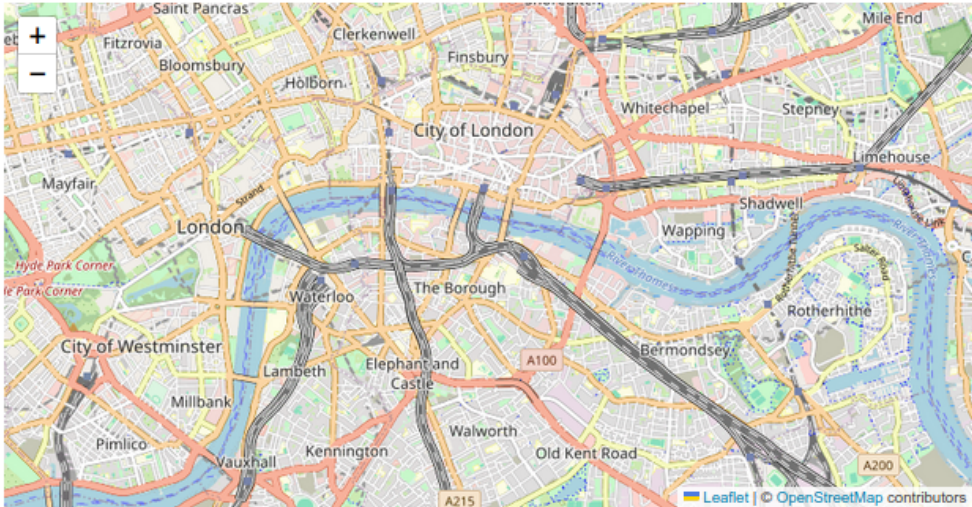- Role-based access control implementation

Address Selection Modal

Search Address

Search

Latitude

Longitude

Selected Address

Select Location

I agree to privacy policy & terms

Sign Up

Already have an account? Sign in instead

Controls & Methods

1. **Map Interface**
   - OpenStreetMap integration
   - Interactive location picker
   - Search functionality

2. **Location Data**

- Latitude/longitude capture
- Address verification
- Location preview

Justification
- Visual confirmation of location
- Accurate geographical data collection
- Enhanced user experience for address input
- Critical for emergency services routing

Patient Management

Upload Diagnostic Report

Controls & Methods
1. **File Upload System**
   - Drag-and-drop interface
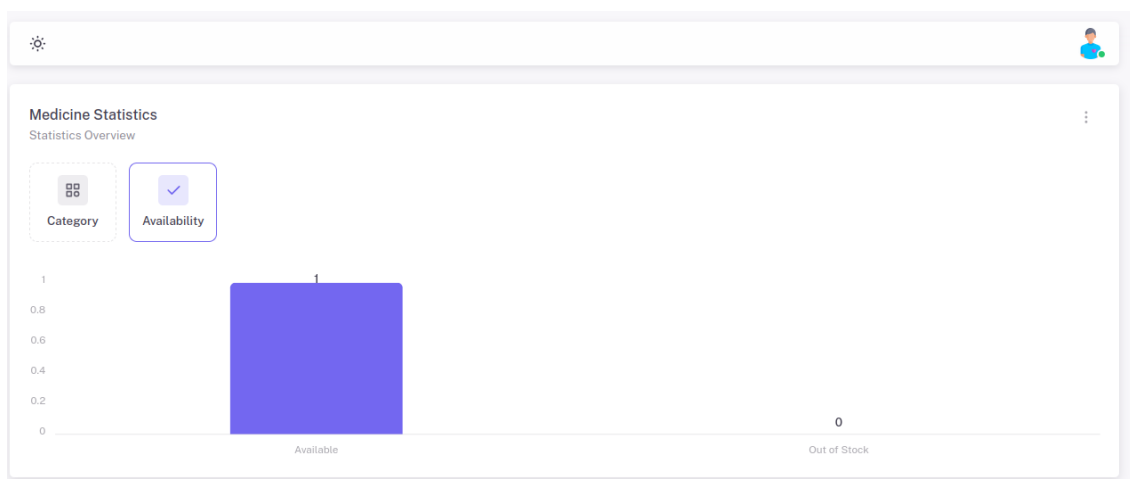   - File type validation
   - Size limit enforcement

2. **Preview Features**
   - Thumbnail generation
   - File metadata display
   - Remove/replace options

Justification
- Streamlined document submission
- Error prevention through validation
- Clear visual feedback
- Efficient file management

Inventory Control

Medicine Availability View

Controls & Methods

1. **Statistics Display**
   - Category/Availability toggle
   - Bar chart visualization
   - Binary status indicators (Available/Out of Stock)

2. **Data Representation**
   - Vertical scaling (0-1)
   - Clear metrics display
   - Color-coded status

Justification

- Immediate visual feedback on stock status
- Simple binary representation for quick assessment
- Essential for inventory management decisions
- Clear status visualization

Category View

Controls & Methods

1. **Category Display**
   - OTC medication tracking

- Percentage-based visualization
- Consistent color scheme

2. **Navigation Controls**
   - View toggles
   - Category filters
   - Data refresh

Justification
- Category-specific monitoring
- Ratio tracking between medicine types
- Consistent user experience
- Efficient inventory categorization

Inventory Management Dashboard
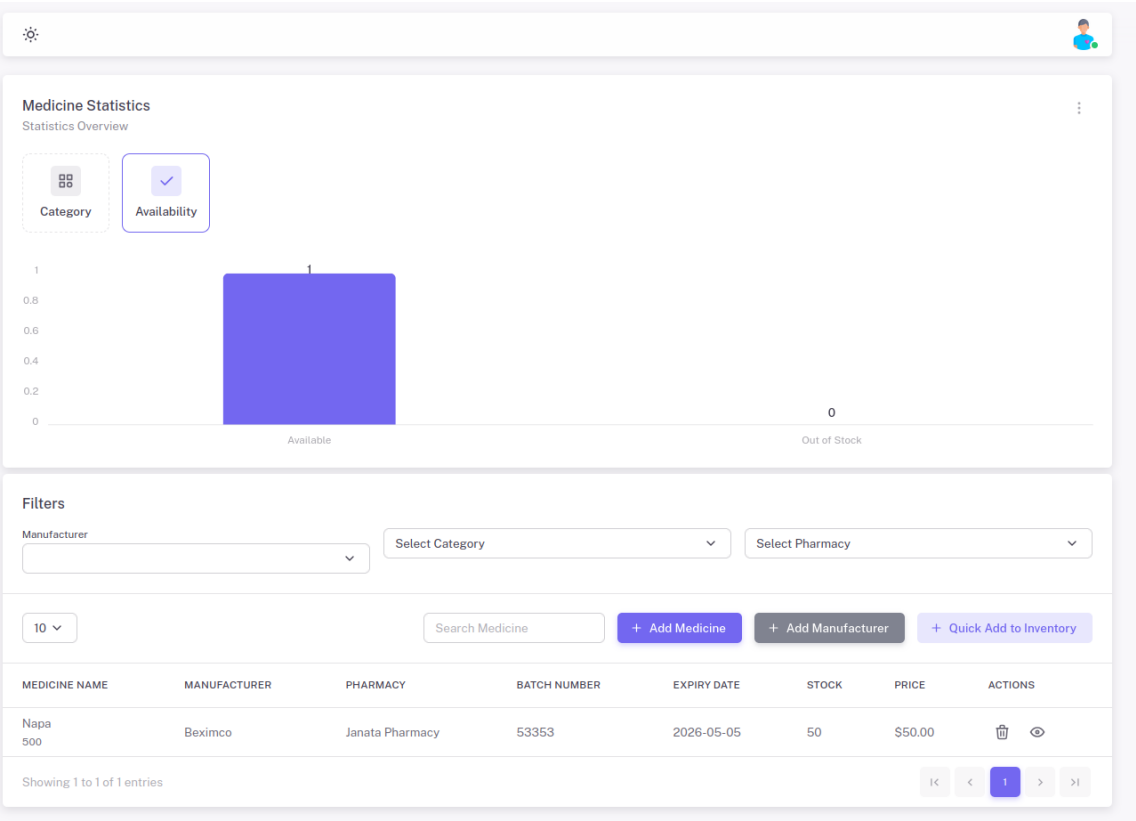
Controls & Methods

1. **Filtering System**
   - Manufacturer dropdown
   - Category selector
   - Pharmacy filter

2. **Data Management**
   - Search functionality
   - Pagination controls
   - CRUD operations

3. **Quick Actions**
   - Add Medicine

- Add Manufacturer
- Quick Add to Inventory

Justification
- Comprehensive inventory control
- Efficient data access and management
- Streamlined stock operations
- Complete audit trail capability

Add Manufacturer

Controls & Methods
1. **Input Fields**
   - Manufacturer name
   - Country selection
   - License number
   - Contact details

2. **Validation System**
   - Required field checking
   - License format validation
   - Duplicate checking

Justification
- Complete manufacturer documentation
- Regulatory compliance
- Streamlined data entry
- Quality control maintenance

Add Medicine

Controls & Methods

1. **Medicine Details**
   - Name and generic name
   - Manufacturer selection
   - Category assignment
   - Dosage information
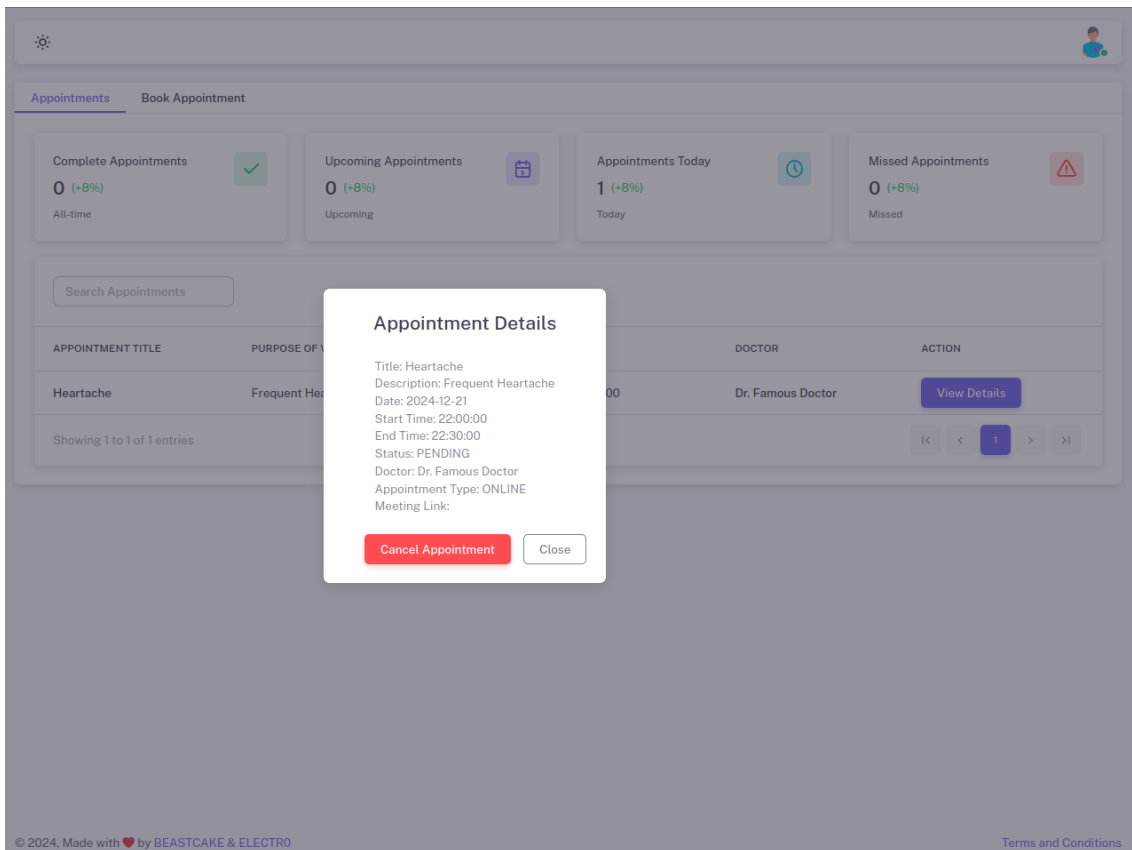
2. **Form Controls**
   - Dropdown selections
   - Validation rules
   - Required field indicators

Justification

- Standardized medicine documentation
- Complete pharmaceutical information
- Error prevention
- Regulatory compliance

Appointment System

Appointment Details Modal

Controls & Methods
1. **Information Display**
     - Title and description
     - Date and time slots
     - Status indicator
     - Appointment type (ONLINE/IN-PERSON)

2. **Action Controls**
     - Cancel appointment
     - Close modal
     - Status updates

Justification
- Comprehensive appointment information
- Clear status visibility
- Easy appointment management
- Efficient workflow

Book Appointment Form

Controls & Methods

1. **Booking Interface**
   - Medical need description
   - AI recommendation integration
   - Doctor selection system
   - DateTime picker

2. **Scheduling Tools**
   - Availability checker
   - Type selector
   - Confirmation system

Justification

- Streamlined booking process
- Intelligent doctor matching
- Flexible scheduling options
- User-friendly interface

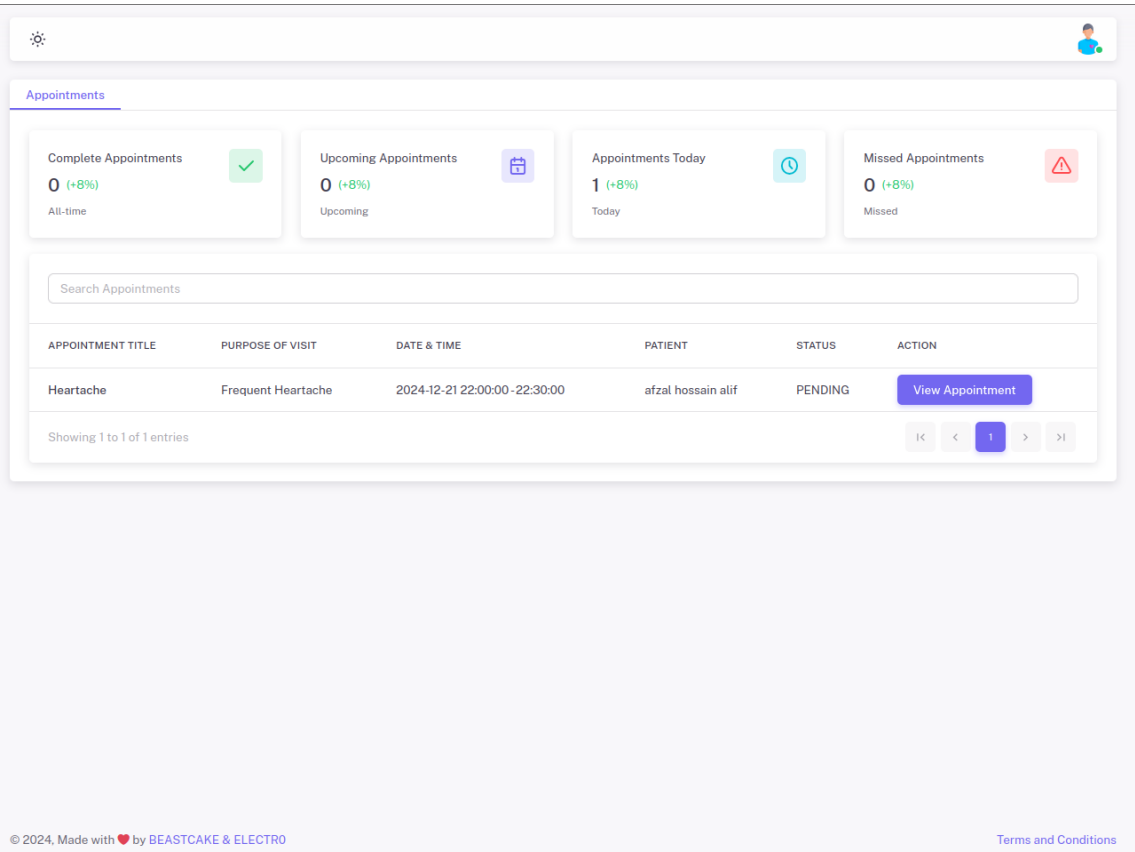## Doctor's Appointment Dashboard

Controls & Methods

1. **Statistics Display**
   - Complete appointments
   - Upcoming appointments
   - Today's schedule
   - Missed appointments

2. **Management Tools**
   - Detailed appointment table
   - Status updates
   - Action buttons

Justification

- Comprehensive schedule overview
- Performance metrics tracking
- Efficient appointment management
- Clear status monitoring

AI & Diagnostics

AI Diagnosis Details

Report Details Reviewed
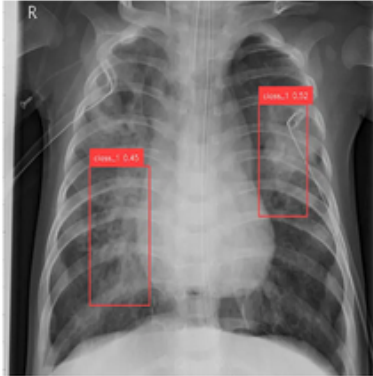
File Information

Type: xray
Uploaded: 12/21/2024, 9:03:57 PM

AI Analysis Results

Original Image

AI Analysis

AI Detection Results:

- class_1 (Confidence: 51.76%)
- class_1 (Confidence: 44.91%)

Doctor's Review

Reviewed by: Dr. Dr. Famous Doctor
Comments: pneumonia detected, ai analysis verified. go see a doctor asap.

Close

Controls & Methods

1. **Image Analysis**
   - Side-by-side comparison
   - AI detection scores
   - Professional review section

2. **Report Management**
   - Status indicators
   - Timestamp tracking
   - File metadata

Justification

- Transparent AI analysis
- Professional oversight
- Complete audit trail
- Efficient review process

Pending Diagnosis Reviews
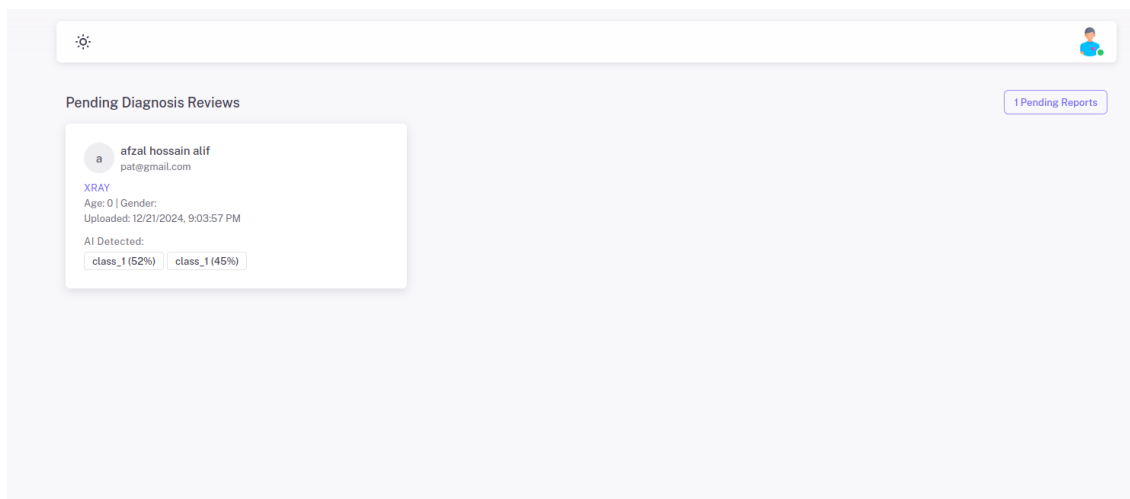
Controls & Methods

1. **Review Queue**
   - Case list management
   - Patient information display
   - AI confidence scores

2. **Workflow Tools**
   - Case categorization
   - Priority sorting
   - Status updates

Justification

- Efficient workflow management
- Clear case prioritization
- Comprehensive case information
- Streamlined review process

Recommendations

Recommendation Main Page
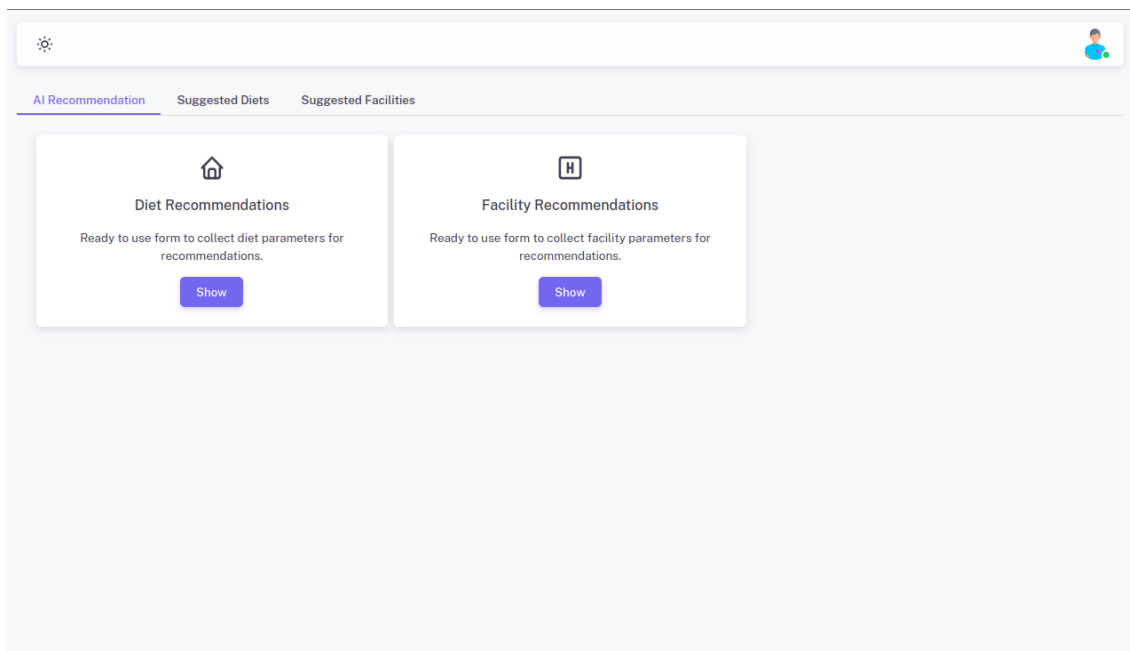
Controls & Methods

1. **Navigation System**
   - Tabbed interface
   - Category selection
   - Action buttons

2. **Content Display**
   - AI Recommendations
   - Suggested Diets
   - Suggested Facilities
   - Card-based layout

Justification

- Organized recommendation categories
- Clear navigation structure
- Easy access to services
- User-friendly presentation

Diet Recommendation Form

Controls & Methods

1. **Parameter Input**
   - Current weight display
   - Goal weight input
   - Duration selector
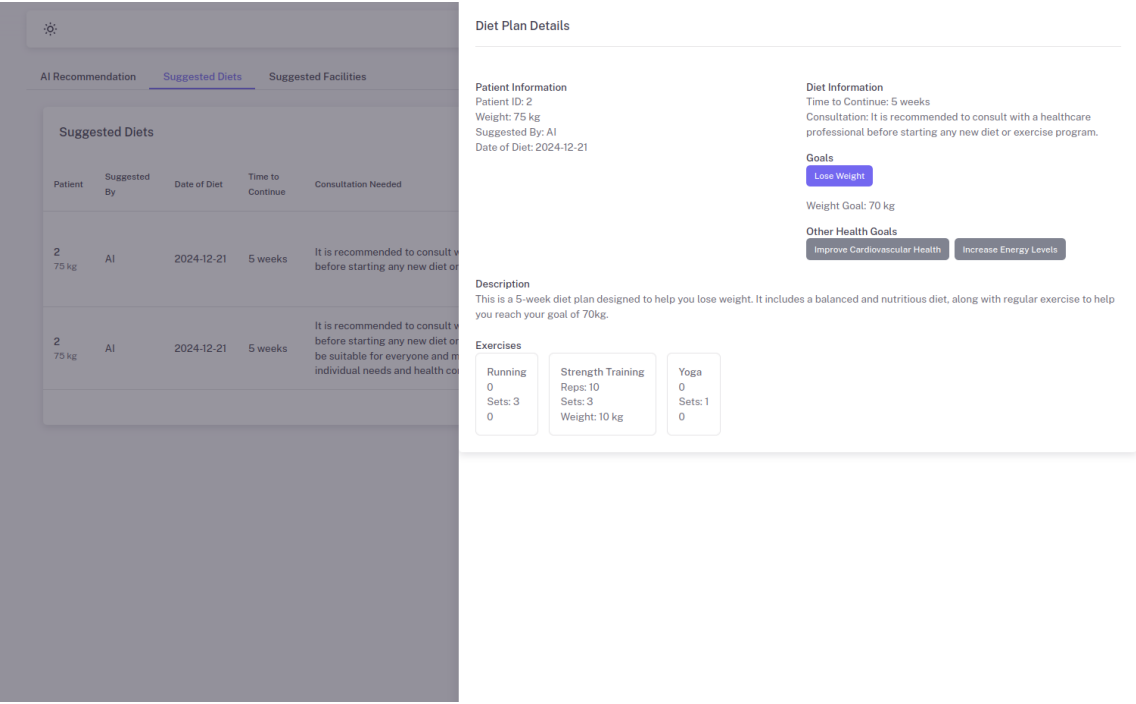   - Goal toggles

2. **Form Controls**
   - Validation rules
   - Submit/Reset buttons
   - Modal dialog

Justification

- Focused data collection
- Clear goal setting
- Simple parameter selection
- Immediate feedback system

Diet Plan Details

Diet Plan Details

Patient Information
Patient ID: 2
Weight: 75 kg
Suggested By: AI
Date of Diet: 2024-12-21

Diet Information
Time to Continue: 5 weeks
Consultation: It is recommended to consult with a healthcare professional before starting any new diet or exercise program.

Goals
Lose Weight

Weight Goal: 70 kg

Other Health Goals
Improve Cardiovascular Health Increase Energy Levels

Description
This is a 5-week diet plan designed to help you lose weight. It includes a balanced and nutritious diet, along with regular exercise to help you reach your goal of 70kg.

Exercises

Running	Strength Training	Yoga
0	Reps: 10	0
Sets: 3	Sets: 3	Sets: 1
0	Weight: 10 kg	0

AI Recommendation   Suggested Diets   Suggested Facilities

Suggested Diets

Patient	Suggested By	Date of Diet	Time to Continue	Consultation Needed
2 75 kg	AI	2024-12-21	5 weeks	It is recommended to consult w... before starting any new diet or...
2 75 kg	AI	2024-12-21	5 weeks	It is recommended to consult w... before starting any new diet or... be suitable for everyone and m... individual needs and health co...

Controls & Methods

1. **Plan Display**
   - Patient information
   - Goal section with tags
   - Exercise recommendations
   - Time-based planning

2. **Management Tools**
   - Progress tracking
   - Plan updates
   - Professional consultation

Justification

- Comprehensive plan overview
- Clear exercise guidance
- Goal tracking capability
- Professional oversight

Health Records Management

Health Records History

Controls & Methods

1. **Data Display**
    - Tabular layout
    - Pagination system
    - Search functionality

2. **Record Management**
    - Vital signs display
    - Timestamp tracking
    - Delete actions

Justification
- Organized medical data presentation
- Easy record access
- Clear chronological organization
- Efficient record management

Submit Health Record

Controls & Methods

1. **Data Entry**

- Grouped measurements
  - Unit-specific inputs
  - Two-column layout

2. **Form Controls**
  - Validation rules
  - Submit/Reset options
  - Navigation sidebar

Justification
- Intuitive data entry
- Error prevention
- Efficient space usage
- Clear visual hierarchy

Administrative Tools

Quick Add to Inventory

Controls & Methods

1. **Inventory Management**
  - Medicine selection
  - Pharmacy assignment
  - Batch tracking
  - Price controls

2. **Stock Controls**
  - Quantity management
  - Reorder levels
  - Expiry tracking

Justification

- Efficient inventory updates
- Complete stock control
- Price management
- Quality assurance

Medicine Order Management
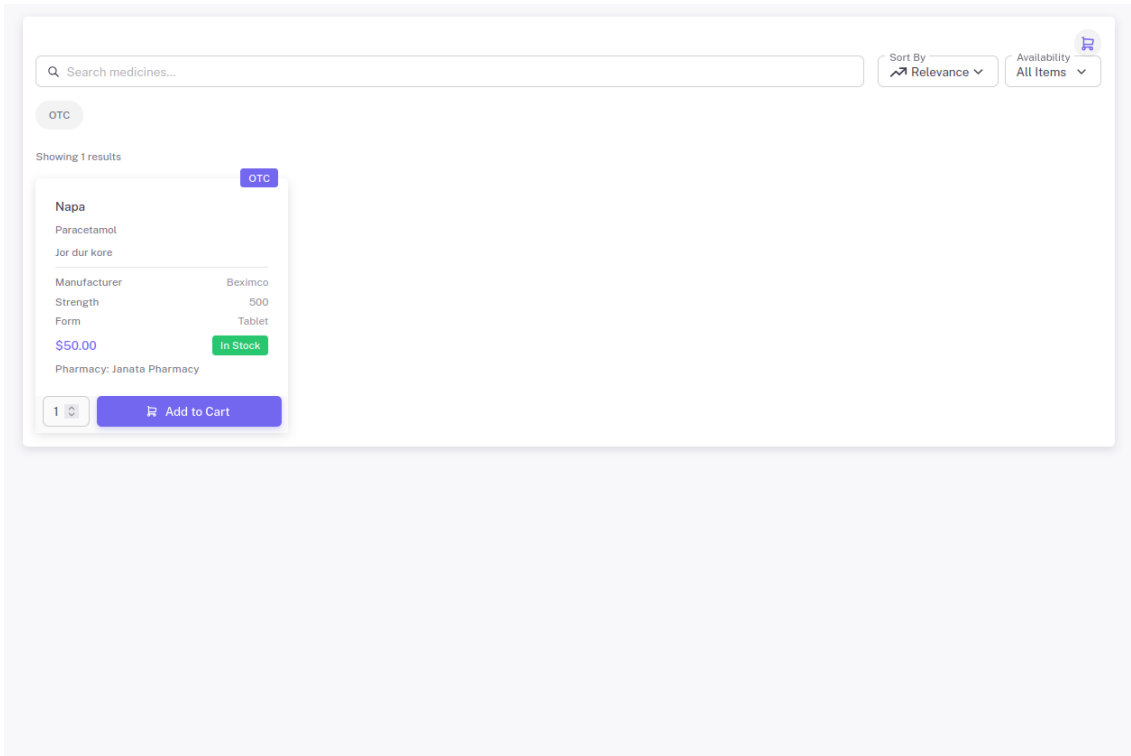
Controls & Methods

1. **Search Interface**
   - Search bar
   - Category filters
   - Sort options

2. **Product Display**
   - Detailed medicine cards
   - Availability status
   - Pricing information
   - Order controls

Justification

- Easy medicine search
- Clear product information
- Simple ordering process
- Stock transparency

Shopping Cart
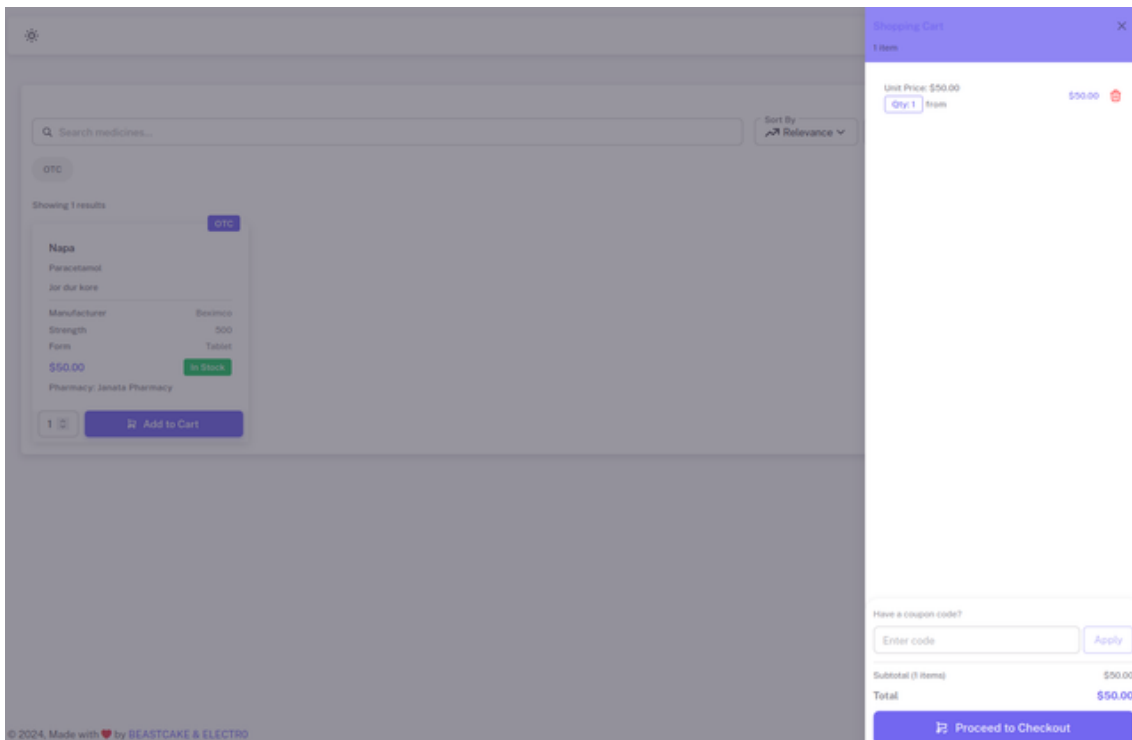
Controls & Methods

1. **Cart Management**
   - Item summary
   - Quantity adjusters
   - Price calculation
   - Promotional features

2. **Checkout Process**
   - Clear CTAs
   - Remove options
   - Total calculation

Justification

- Transparent cost breakdown
- Easy quantity modification
- Promotional integration
- Streamlined checkout

Checkout Process

Controls & Methods

1. **Progress Tracking**
   - Step indicators
   - Navigation controls
   - Information review

2. **Location Management**
   - Address input
   - Map integration
   - Location verification

Justification

- Clear process flow
- Accurate delivery information
- Visual location confirmation
- Simple navigation

System-Wide Technical Specifications

Responsive Design Implementation

Controls & Methods

1. **Breakpoint System**
   - Mobile: < 768px
   - Tablet: 768px - 1024px
   - Desktop: > 1024px

2. **Layout Adaptations**
   - Fluid grid system
   - Flexible images
   - Dynamic typography

3. **Component Behavior**

- Collapsible navigation
- Stacked layouts on mobile
- Touch-friendly interfaces

Justification
- Consistent experience across devices
- Optimal usability on all screen sizes
- Accessibility compliance
- Future-proof design system

Security Implementation

Controls & Methods
1. **Authentication**
   - JWT token management
   - Role-based access control
   - Session timeout handling

2. **Data Protection**
   - End-to-end encryption
   - HIPAA compliance measures
   - Audit logging

3. **Input Validation**
   - XSS prevention
   - SQL injection protection
   - Data sanitization

Justification
- Protected patient information
- Regulatory compliance
- Secure data transmission
- Comprehensive audit trails

Performance Optimization

Controls & Methods
1. **Loading Strategies**
   - Lazy loading for images
   - Code splitting
   - Caching mechanisms

2. **Data Management**
   - Pagination implementation
   - Search optimization
   - Real-time updates

3. **Resource Optimization**
   - Image compression
   - Minified assets
   - CDN integration

Justification
- Fast page load times
- Efficient resource usage

- Smooth user experience
- Scalable architecture

Accessibility Standards

Controls & Methods
1. **WCAG 2.1 Compliance**
    - Semantic HTML
    - ARIA labels
    - Keyboard navigation

2. **Visual Considerations**
    - Color contrast ratios
    - Font scaling
    - Focus indicators

3. **Assistive Technology**
    - Screen reader compatibility
    - Alternative text
    - Skip navigation

Justification
- Universal access
- Legal compliance
- Inclusive design
- Enhanced usability

Integration & API Documentation

External Service Integration

Controls & Methods
1. **Third-Party Services**
    - Payment gateways
    - Map services
    - SMS/Email providers

2. **API Management**
    - Rate limiting
    - Error handling
    - Version control

3. **Documentation**
    - API endpoints
    - Request/Response formats
    - Authentication methods

Justification
- Seamless service integration
- Reliable communication
- Clear implementation guide
- Maintainable codebase

Testing & Quality Assurance

Controls & Methods

1. **Testing Protocols**
   - Unit testing
   - Integration testing
   - End-to-end testing

2. **Quality Metrics**
   - Code coverage
   - Performance benchmarks
   - Accessibility scores

3. **Monitoring**
   - Error tracking
   - Usage analytics
   - Performance monitoring

Justification
- Reliable system operation
- Quality maintenance
- Issue prevention
- Data-driven improvements