Introduction to the Development Phase

- Objective: Build a user-first web app for health data management
- Technologies: PHP, MySQL, HTML, CSS, JavaScript
- Focus: User-friendliness, secure data administration, responsive UI

Functional and non-functional requirements

1. **Functional Requirements**:
    1. **Patient Management**: Registration, profile management, and tracking of health parameters like blood pressure, blood sugar, and body temperature.
    2. **Health Data Monitoring**: Systematic storage and access to health monitoring data, including blood pressure, blood sugar, and temperature readings.
    3. **Reporting**: Generation of detailed reports for blood pressure, blood sugar, and body temperature for individual members.
2. **Non-Functional Requirements**:
    1. **Performance**: Efficient data handling and fast response times, especially in a multi-user environment.
    2. **Security**: Protection against unauthorized access and data breaches, ensuring data integrity.
    3. **Usability**: User-friendly interface with various controls for a rich user experience.
    4. **Scalability**: Capability to handle a growing number of users and an expanding dataset.
    5. **Maintainability**: Clear separation of the presentation and service layers for easy future modifications.

Updated System Requiremens

- Updated Requirements: Reflecting user and stakeholder feedback
- Enhanced Security: For patient data
- Improved Accessibility: Across devices

Finalized Architecture Documentation

Architecture Overview: Layered structure for flexibility and scalability

Data Flow Diagram: Visual representation of data processing

System Components: Detailed breakdown of modules and interfaces

PHP & MySQL - Core Development Technologies

PHP: Server-side scripting for dynamic content

MySQL: Robust database for secure data storage

Integration: Seamless communication between front-end and back-end

System Specifics and Integration Details

Validation Techniques:

- Implemented robust data type and format checks to ensure accuracy and integrity.
- Examples: Email format validation, numeric range checks for vital signs.

Session and Access Control:

- Secure session management with time-out protocols and token-based authentication.
- Role-based access control: Differentiated access for admin, doctors, and patients.

Responsive Design:

- Utilized CSS media queries to ensure accessibility across devices.
- Frameworks used: Bootstrap for intuitive, responsive UI design.

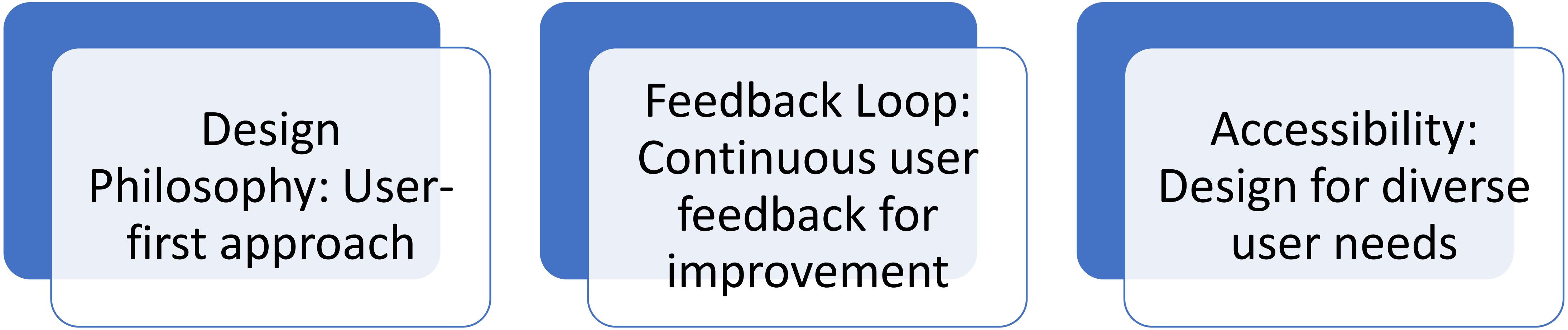
Essential Health Information:

- Comprehensive data including medical history, medications, allergies, lab results.
- Focused on critical information for decision-making in patient care.

Integration with Health Records:

- Seamless data exchange with existing EHR systems using standardized formats (e.g., XML, JSON).
- Ensured real-time update and synchronization for accuracy and efficiency

User-Centric Design Approach



Design Philosophy: User-first approach

Feedback Loop: Continuous user feedback for improvement

Accessibility: Design for diverse user needs

Data Security and Management in PHP

- Secure PHP Coding Practices
- Data Encryption and Validation Techniques
- Session and Access Control Mechanisms

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MySQL Database Integration

- Database Design: Normalization for data integrity
- SQL Transactions: Consistency and atomicity
- Backup and Recovery: Ensuring data availability

Responsive UI Design for Enhanced UX

PRINCIPLES OF RESPONSIVE DESIGN

MEDIA QUERIES AND FRAMEWORKS

TESTING ON MULTIPLE DEVICES

Patient Registration Module

USER-FRIENDLY REGISTRATION PROCESS

DATA COLLECTION: ESSENTIAL HEALTH INFORMATION

INTEGRATION WITH HEALTH RECORDS

Appointment Scheduling System

REAL-TIME APPOINTMENT BOOKING

CALENDAR INTEGRATION

NOTIFICATIONS AND REMINDERS

Module Development: Meeting User Needs

- Tailored Functionality for Diverse Health Scenarios
- User Feedback Incorporation in Module Design
- Adaptive Modules for Personalized User Experience

Health Record Management Features

Comprehensive Health Profile Management

Secure Access to Medical History

Interactive Health Data Analytics

Adhering to Industry Standards in Quality Assurance

1. **Industry Standards Overview**:

   1. HIPAA (Health Insurance Portability and Accountability Act) for data privacy and security.

   1. HL7 (Health Level 7) for healthcare data exchange standards.

1. **Compliance Strategies**:

   1. Data Privacy and Security: Implementing encryption and secure data storage for HIPAA compliance.

   1. Interoperability: Ensuring system compatibility with HL7 standards for seamless data exchange.

1. **Quality Assurance Processes**:

   1. Testing Methods: Employing unit testing, integration testing, and user acceptance testing to ensure software reliability and functionality.

   1. Continuous Monitoring: Regular system audits and updates to maintain compliance and address emerging healthcare IT standards.

Security Measures for Sensitive Information

Encryption Protocols for Data at Rest and in Transit

Regular Security Audits and Compliance Checks

User Authentication and Authorization Strategies

Anonymization Techniques for Privacy Preservation

Project Highlights: Functionality Meets Security

Integration of Advanced Functional Features with Robust Security

Data Security as a Key Aspect of Functionality

Achievements: Enhanced User Trust and Compliance with Health Data Regulations

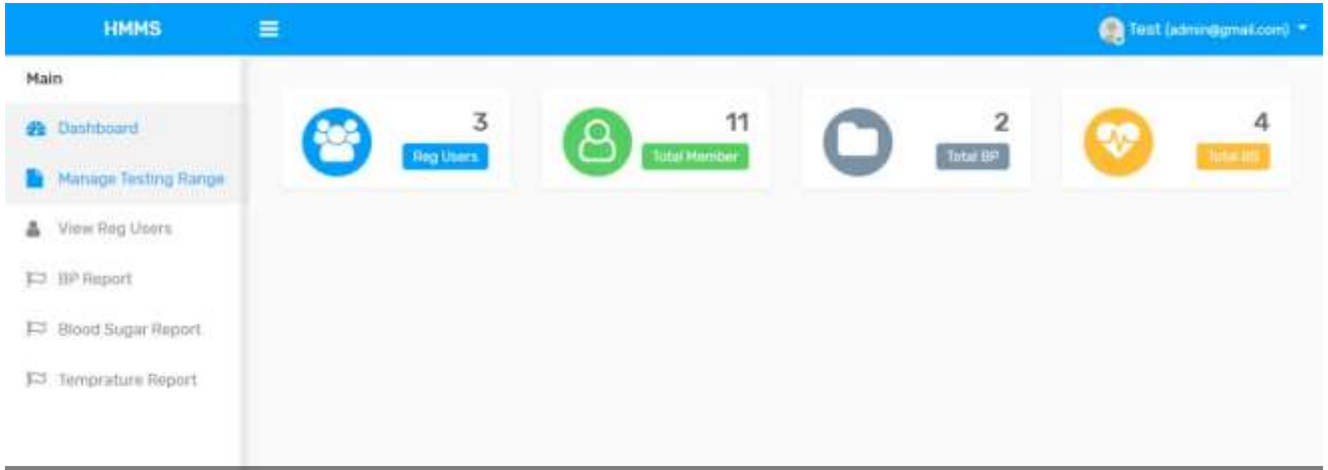
Leveraging Web Technology in Healthcare

The Intersection of Web Technology and Health Management

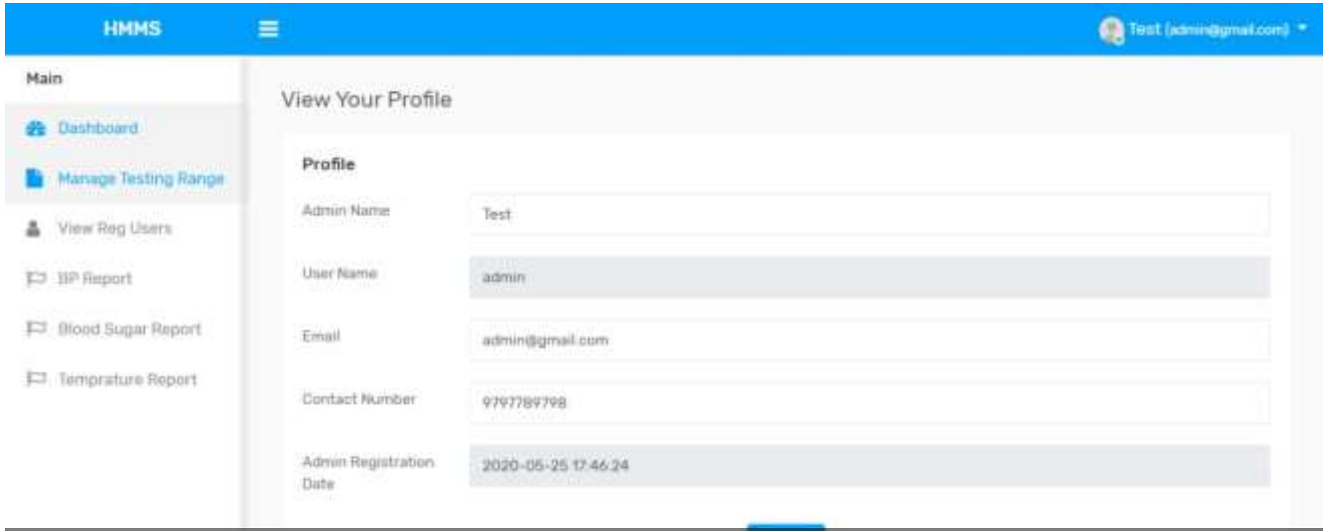
Digital Solutions: Enabling Remote Health Monitoring

Data Analytics: Transforming Patient Data into Actionable Insights

Screenshots from the projects



Admin Dashboard



View Your Profile

Profile

Admin Name: Test

User Name: admin

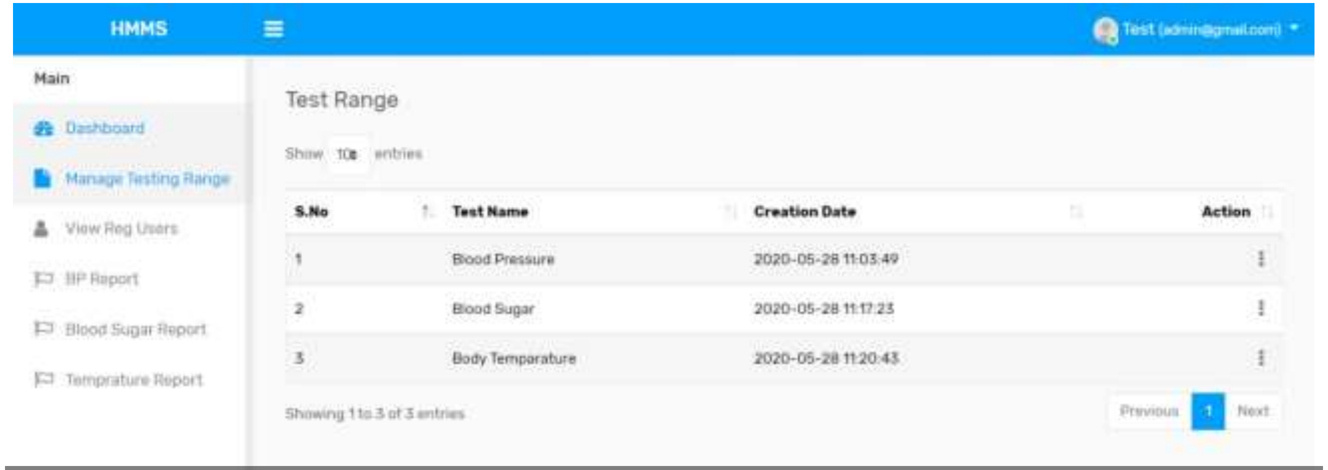
Email: admin@gmail.com

Contact Number: 9797789798

Admin Registration Date: 2020-05-25 17:46:24

Profile Management

Screenshots from the projects



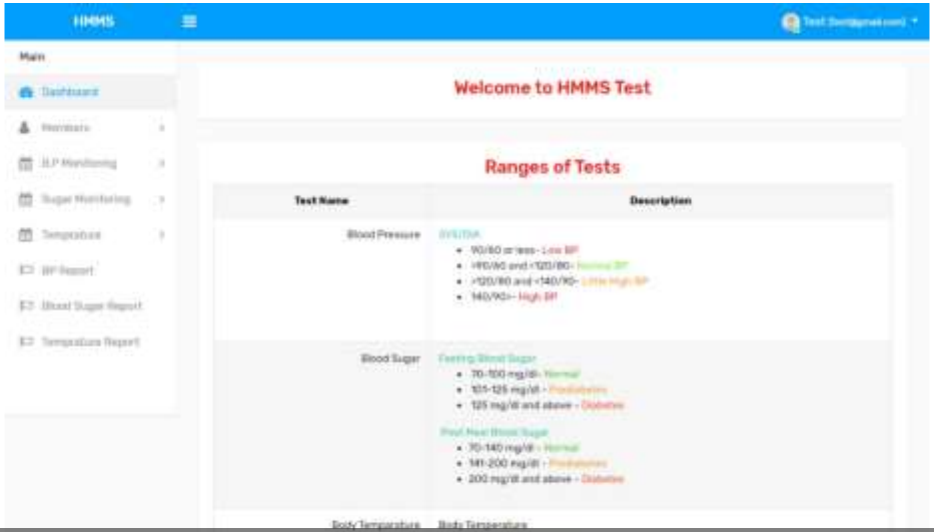
Test Range

Show 10 entries

S.No	Test Name	Creation Date	Action
1	Blood Pressure	2020-05-28 11:03:49	⋮
2	Blood Sugar	2020-05-28 11:17:23	⋮
3	Body Temparature	2020-05-28 11:20:43	⋮

Showing 1 to 3 of 3 entries

Manage Test Range



Welcome to HMMS Test

Ranges of Tests

Test Name	Description
Blood Pressure	SYS/DIA • 90/60 or less- Low BP • >90/60 and <120/80- Normal BP • >120/80 and <140/90- Little High BP • 140/90>- High BP
Blood Sugar	Fasting Blood Sugar • 70-100 mg/dl- Normal • 101-125 mg/dl - Prediabetes • 125 mg/dl and above - Diabetes Post Meal Blood Sugar • 70-140 mg/dl - Normal • 141-200 mg/dl - Prediabetes • 200 mg/dl and above - Diabetes
Body Temparature	Body Temperature 95.6°F-97°F - Normal Temp >98.6°F -High Temp

User Dashboard

Conclusion: Impact on Healthier Lifestyles

- The Health Monitoring Management System: A Catalyst for Change
- Positive Outcomes: Enhanced Patient Engagement and Preventive Care
- Future Directions: Continuous Improvement and Expansion