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Report

on

Family Blood Pressure Monitoring Management System

Minor Project II

For

fulfillment of

Computer Science & Engineering Session (2022-23)

Submitted By:

DUSHYANT KUMAR (2115990006) section H - 65

RAJUL VARSHNEY (201500555) section H -45

Submitted To:

Ms. [Madhu]

Technical Trainer

G.L.A UNIVERSITY, MATHURA (U.P.)

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Project Guide

1. INTRODUCTION

1.1. Scope of the Project

The objective of this application is to develop a system that effectively manages the data related to the Blood Pressure monitoring. The purpose is to maintain a centralized database of all BP monitoring related information. The goal is to support various functions and processes necessary to manage the data efficiently.

1.2. Existing System

This existing system is not providing secure registration and profile management of all the users properly. This system is not providing on-line Help. This system doesn't provide tracking of users activities and their progress. This manual system gives us very less security for saving data and some data may be lost due to mismanagement.

1.3. Proposed System

The development of this new system contains the followingactivities, which try to automate the entire process keeping in the view of database integration approach. This system maintains user's personal, and contact details. This system will provide on line help and search capabilities. User friendliness is provided in the application with various controls provided by system rich user interface.

Authentication is provided for this application only registered users can access. Blood pressure monitoring information files can be stored in centralized database which can be maintained by the system. This system provides the users to manage the blood pressure monitoring data systematically. This system basically lessens the manual work and improves the quality of maintaining records and other information related to the blood pressure monitoring. One of the solutions that we are going to discuss here to speed up the database response by using MySQL database and to reduce the time complexity by using multi-user environment. Multi-user environment reduces burden with effortless maintenance.

2. SYSTEM ANALYSIS

2.1 FEASIBILITY STUDY

A feasibility study is a high-level capsule version of the entire System analysis and Design Process. The study begins by classifying the problem definition. Feasibility is to determine if it's worth doing. Once an acceptance problem definition has been generated, the analyst develops a logical model of the system. A search for alternatives is analyzed carefully. There are 3 parts in feasibility study.

2.1.1 Operational Feasibility

Question that going to be asked are Will the system be used if it developed and implemented.

If there was sufficient support for the project from the management and from the users.

Have the users been involved in planning and development of the Project.

2.1.2 Technical feasibility

Does the necessary technology exist to do what is been suggested Does the proposed equipment have the technical capacity for using the new system? Are there technical guarantees of accuracy, reliability and data security? The project is developed on Pentium III with 128 MB RAM. The environment required in the development of system is any windows platform.

The observer pattern along with factory pattern will update the results eventually.

The language used in the development is PHP, Apache Server and database as MySQL.

2.1.2 Economical Feasibility

To decide whether a project is economically feasible, to consider various factors as cost benefit analysis, long-term returns and maintenance costs.

NUMBER OF MODULES

The system after careful analysis has been identified to be presented with the following modules:

Blood Pressure Monitoring Management System Module:

In BPMMS project we use PHP and MySQL database. It has one modules i.e. user module.

User Module

User Registration: In this section, the user can register himself. A one-time registration is required for every user.

User login: In this section, users can log in with a valid email id and password.

Dashboard: In this section, the User can view the total listed family members and total BP records count.

Family Members: In this section, the user can add, edit and delete the family members.

BP: In this section, the user can add, edit and delete the family member BP details.

Reports: In this section, the User can generate the b/w dated report of a particular family member.

User can also update their profile, change their password and recover their password.

2.4 HARDWARE REQUIREMENTS:

Processor : Intel P-IV based

system

Processor : 2.0. GHz

Speed

RAM : 1GB

Hard Disk : 40GB to 80GB

2.5 SOFTWARE REQUIREMENTS:

Database : MySQL Server : Apache

Frontend : HTML

Scripting : Java Script

language

IDE : Sublime

Technology : PHP

3. SYSTEM DESIGN

3.1 Class Diagram:

The class diagram shows a set of classes, interfaces, collaborations and their relationships.

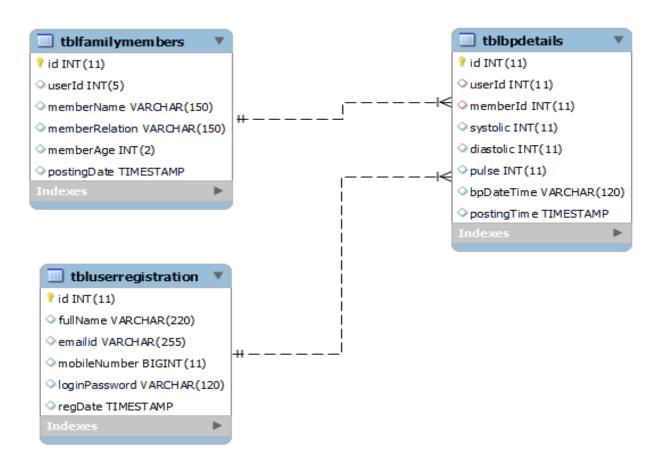
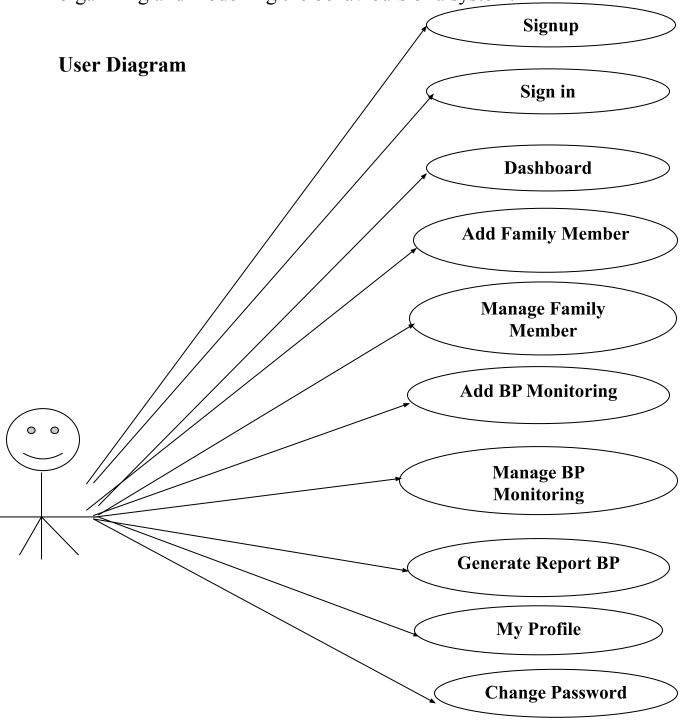


Fig: 3.1.1.1 Class diagram for on Blood Pressure monitoring management

3.1.1 Use case diagrams:

Use case diagram consists of actors, use cases and their relationships. These diagrams are especially important in organizing and modelling the behaviours of a system.



3.2 ER-DIAGRAM

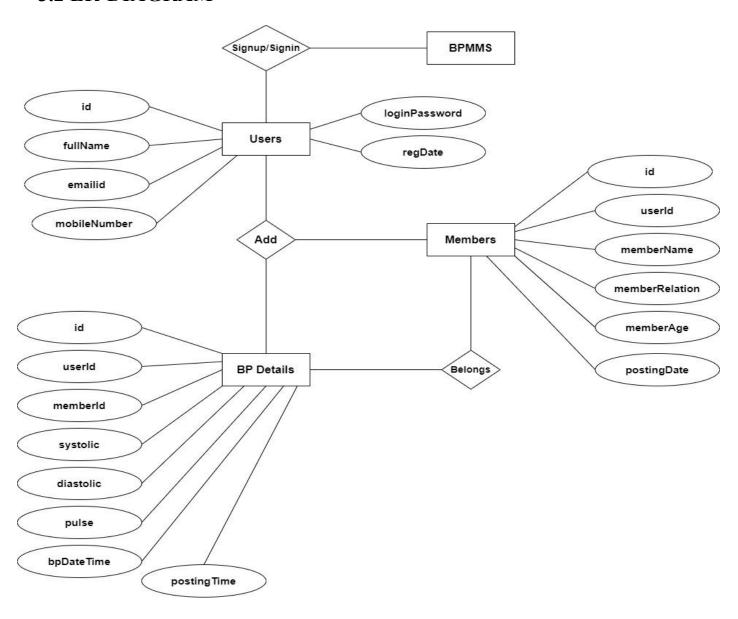
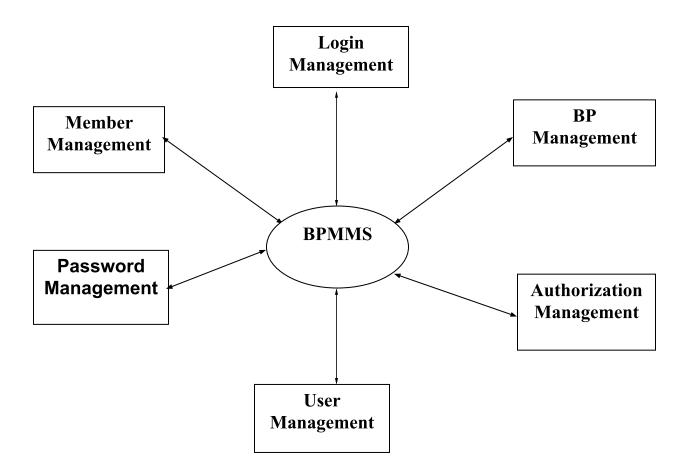


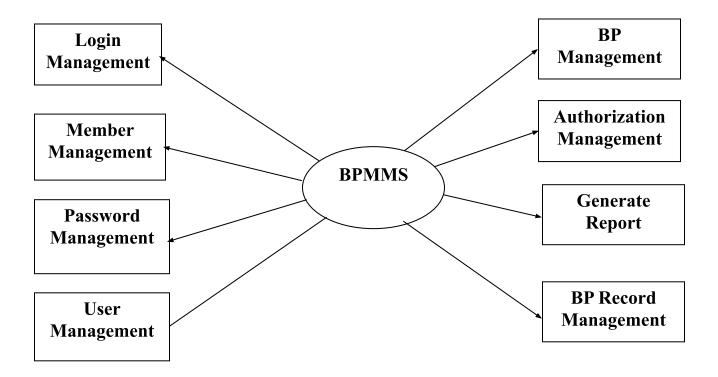
Fig: 3.1.3 ER diagram for Blood Pressure Monitoring System

3.2 DATA FLOW DIAGRAM

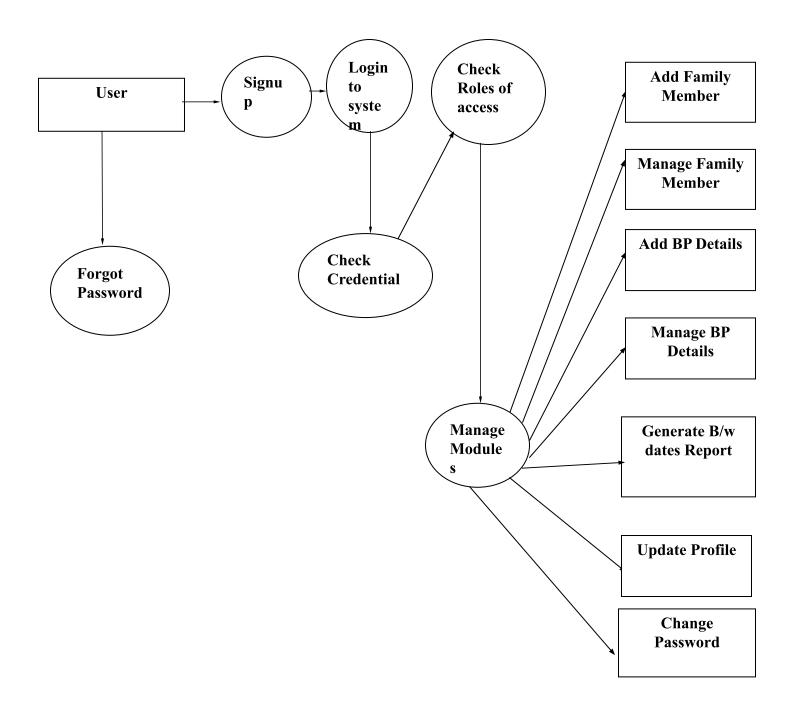
Zero Level DFD



First Level DFD



Second Level DFD



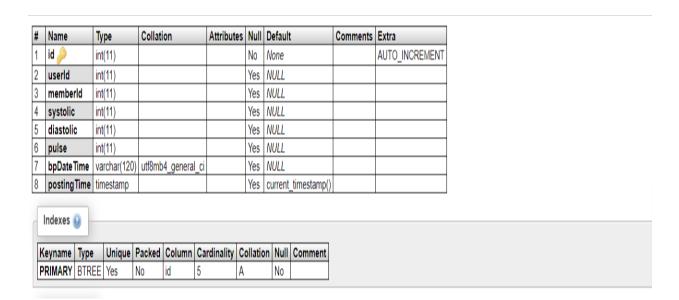
3.3 Tables

The data in the system has to be stored and retrieved from database. Designing the database is part of system design. Data elements and data structures to be stored have been identified at analysis stage. They are structured and put together to design the data storage and retrieval system.

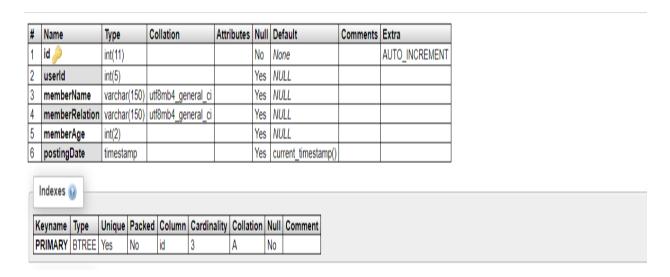
A database is a collection of interrelated data stored with minimum redundancy to serve many users quickly and efficiently. The general objective is to make database access easy, quick, inexpensive and flexible for the user. Relationships are established between the data items and unnecessary data items are removed. Normalization is done to get an internal consistency of data and to have minimum redundancy and maximum stability. This ensures minimizing data storage required, minimizing chances of data inconsistencies and optimizing for updates. The MySQL Access database has been chosen for developing the relevant databases.

Blood Pressure Monitoring Management System (BPMMS) contains three MySQL tables:

tblbpdetails: This table store the blood pressure details of family members.



tblfamilymembers: This table store the family members details.



tbluserregistration: This table store the details of registered users.

#	Name	Туре	Col	lation	Attrik	utes	Null	Defa	ult	Comments	Extra
1	id 🔑	int(11)					No	None	,		AUTO_INCREMENT
2	fullName	varchar(22	20) utf8	mb4_gener	ral_ci		Yes	NULI	L		
3	emailid	varchar(25	55) utf8	mb4_gener	ral_ci		Yes	NULI	L		
4	mobileNumber	bigint(11)					Yes	NULI	L		
5	loginPassword	varchar(12	20) utf8	mb4_gener	ral_ci		Yes	NULI	L		
6	regDate	timestamp					Yes	curre	nt_timestamp()		
Indexes @											
K	eyname Type	Unique I	acked	Column	Cardinality	Colla	tion	Null	Comment		
l In	RIMARY BTREE	Voc	Vo	id	2	Α		No			

4. IMPLEMENTATION

INTRODUCTION:

Implementation is the stage of the project when the theoretical design is turned out into a working system. Thus, it can be considered to be the most critical stage in achieving a successful new system and in giving the user, confidence that the new system will work and be effective. The implementation stage involves careful planning, investigation of the existing system and its constraints on implementation, designing of methods to achieve changeover and evaluation of changeover methods.

4.1 TECHNOLOGIES USED

Programming Language

PHP

- ✔ PHP stands for PHP: Hypertext Preprocessor
- ✓ PHP is a server-side scripting language,

like ASP

- ✔ PHP scripts are executed on the server
- ✔ PHP supports many databases (MYSQL, Informix, Oracle, Sybase, Solid, Generic ODBC, etc.)

MYSQL

- ✓ MYSQL is a database server
- ✓ MYSQL is ideal for both small and large applications
- ✓ MYSQL supports standard SQL
- ✓ MYSQL compiles on a number of

platforms

✓ MYSQL is free to download and use

CSS

- ✓ Cascading Style Sheets (CSS)
- ✓ Simple mechanism
- ✓ Easy for adding style (e.g., fonts, colors, spacing) to Web documents.

✓			

5. TESTING

Introduction

The purpose of testing is to discover errors. Testing is the process of trying to discover every conceivable fault or weakness in a work product. It provides a way to check the functionalities of components, sub assemblies, and/or a finished product it is the process of exercising software with the intent of ensuring that the software system meets its requirements and user expectations and does not fail in an unacceptable manner. There are various types of tests. Each test type addresses a specific testing requirement.

5.1 Types of Testing

5.1.1 Unit Testing

Unit testing focuses verification effort on the smallest unit of software design, the module. The unit testing, we have is white box oriented and some modules the steps are conducted in parallel.

5.1.2. Integration Testing

Testing is done for each module. After testing all the modules, the modules are integrated and testing of the final system is done with the test data, specially designed to show that the system will operate successfully in all its aspects conditions.

Thus the system testing is a confirmation that all is correct and an opportunity to show the user that the system works. The purpose of integration testing is to verify functional, performance and reliability requirements placed on major design items. These "design items", i.e. assemblages (or groups of units), are exercised through their interfaces using black box testing, success and error cases being simulated via appropriate parameter and data inputs. Simulated usage of shared data areas and inter-process communication is tested and individual subsystems are exercised through their input interface.

Test cases are constructed to test that all components within assemblages interact correctly, for example across procedure calls or process activations, and this is done after testing individual modules, i.e. unit testing.

5.1.5 System Testing

System testing ensures that the entire integrated software system meets requirements. It tests a configuration to ensure known and predictable results. An example of system testing is the configuration oriented system integration test. System testing is based on process descriptions and flows, emphasizing pre-driven process links and integration points.

6. Output Screen of Project

User Module Screens

Home Page

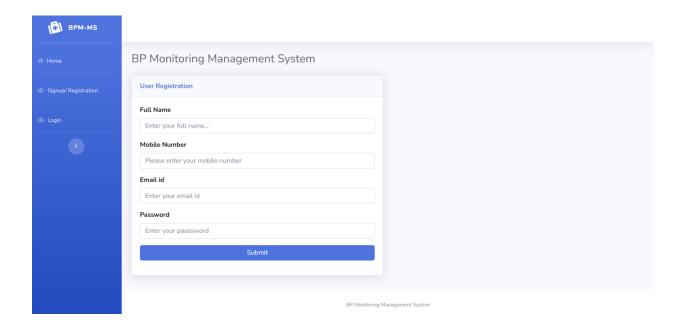


What is blood pressure?

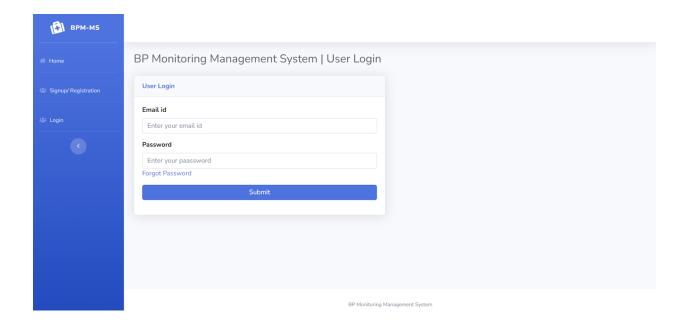
Blood pressure is a measure of the force that your heart uses to pump blood around your body

How is blood pressure measured? Blood pressure is measured in millimetres of mercury (mmHg) and is given as 2 figures: • systolic pressure – the pressure when your heart pushes blood out • diastolic pressure – the pressure when your heart rests between beats For example, if your blood pressure is "140 over 90" or 140/90mmHg, it means you have a systolic pressure of 140mmHg and a diastolic pressure of 90mmHg. As a general guide: • ideal blood pressure is considered to be between 90/60mmHg and 120/80mmHg • high blood pressure is considered to be 140/90mmHg or higher • low blood pressure is considered to be below 90/60mmHg

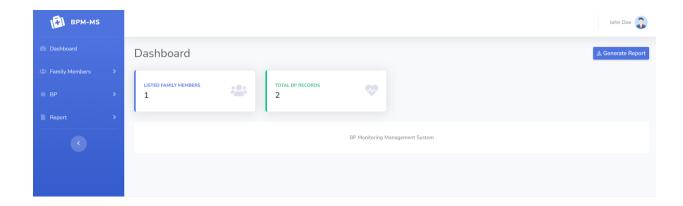
User Signup



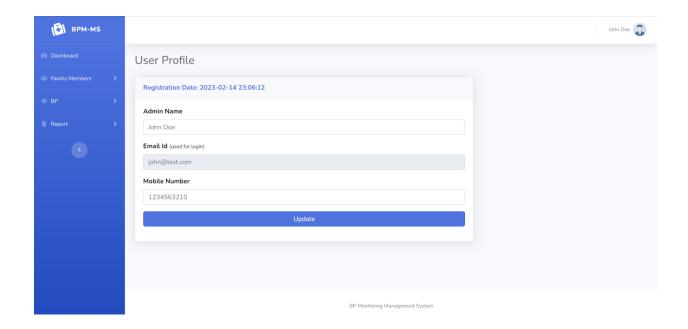
User Sign In



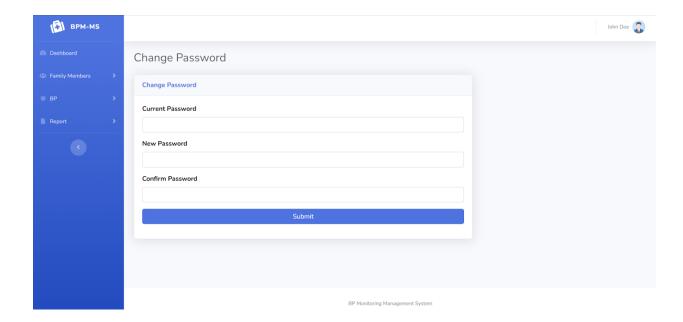
Dashboard



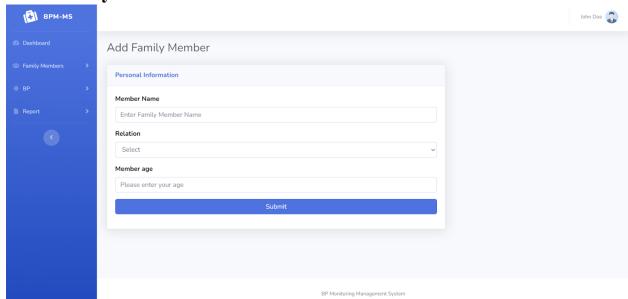
Profile



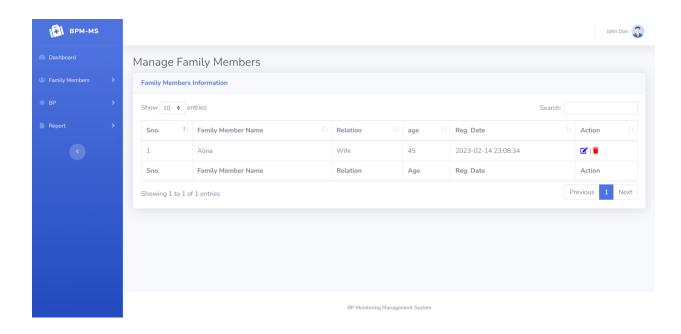
Change Password



Add Family

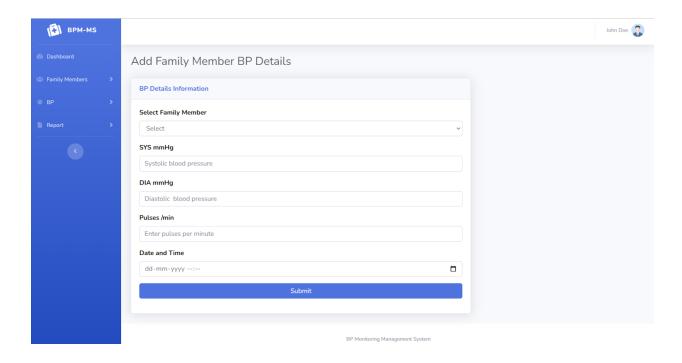


Manage Family Details

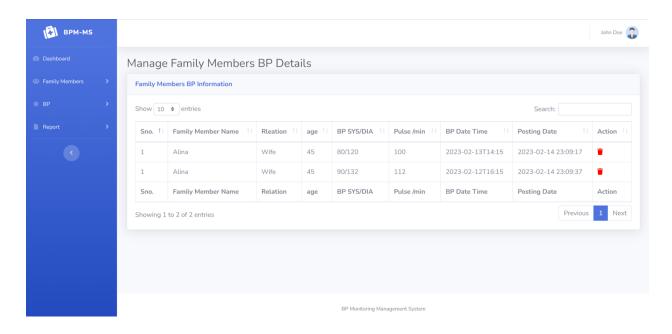


Update Family Details

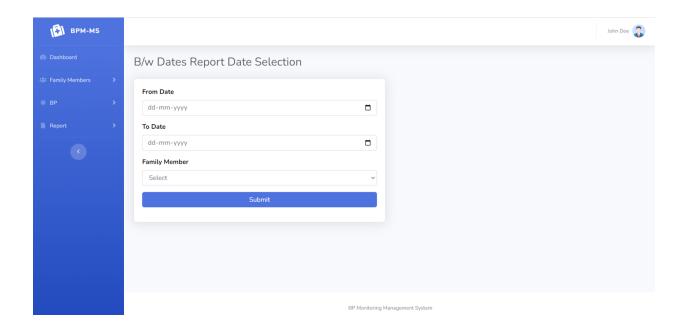
Add BP Details



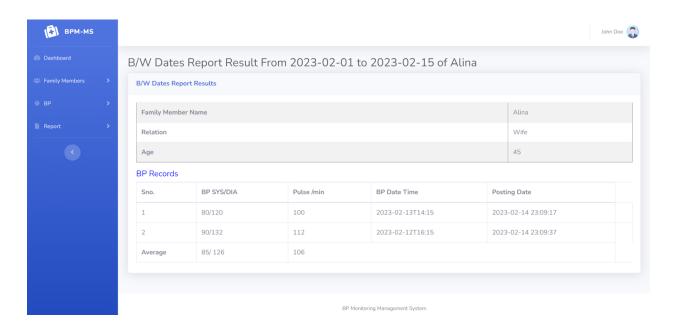
Manage BP Details



Blood Pressure Report



View Blood Pressure Report



7. CONCLUSION

The "Blood Pressure Monitoring Management System" was successfully designed and is tested for accuracy and quality. During this project we have accomplished all the objectives and this project meets the needs of the organization. One of the solutions that we are going to discuss here to speed up the database response by using MySQL Server database and to reduce the time complexity by using multi-user environment. Multi-user environment reduces burden with effortless maintenance.

GOALS ACHIVIED

- Reduced entry work.
- Easy retrieval of information.
- Reduced errors due to human intervention.
- User friendly screens to enter the data.
- Portable and flexible for further enhancement.
- Web enabled.
- Fast finding of information request.

8. REFERENCES

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