A
Project Report
on
"Matricsv"
At
Sushilaai Web Solutions, Dhule

Submitted By:

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To

Institute of Management Research and Development, Shirpur

KBC North Maharashtra University, Jalgaon

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In the partial fulfillment of the requirement for the award of the degree of ' Integrated Master of Computer Application'

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R. C. Patel Educational Trust's

R. C. Patel Institute of Management Research & Development

Shirpur, Dist-Dhule 425405

CERTIFICATE

This is to certify that Mr. Hemanshu Sanjay Mahajan, a final year student of ***'Integrated Master of Computer Application'*** *from Institute of Management Research & Development, Shirpur has successfully completed the project entitled* ***"Matricsv"*** *as a part of academic six month industrial training which is approved for degree of Master of Computer Application a post graduate course of* ***'KBC North Maharashtra University, Jalgaon'*** *during acadmic year 2024-25.*

Director
RCPET'S IMRD,
Shirpur

Examiner

Acknowledgment

I take this opportunity to express my sincere thanks to **Sushilaai web solutions, Dhule** for providing me an opportunity to work in the organization. I also express my gratitude to **Mr.Digambar Shinde (Project Manager and Team Leader)** Sushilaai Web Solutions, Dhule who gave me the opportunity to work in Sushilaai Web Solutions. His prudent ideas of work, keen interest in developing the system and constant effort were a great source of inspiration for us me. He not only guided us on the technical aspect but his acknowledgement of marketing strategies helped us in broadening our perspective.

I express my thanks to **Mr.Digambar Shinde (Project Manager and Team Leader)**. for their valuable guidance and experienced suggestion, encouragement and support extended by them helped me in various stages where I needed help and suggestions.

I am thankful to **Dr. Vaishali Patil. (Director), Prof. M. N. Behere (Head Dept. of MCA), and Prof. Sapana Yeshi. (Project Guide),** R. C. Patel Institute of Management Research and Development, Shirpur, for giving me his valuable guidance and encouragement during our course. I am thankful to the college staff for their constant encouragement.

Last but not least, I am thankful to all people who directly or indirectly contributed to make this project a success.

Thanks & Regards
Hemanshu S. Mahajan

Contents

Chapter 1

Introduction

1.1 Company Profile

Sushilaai Web Solutions, provides a comprehensive range of media services and solutions. The company operates in various sectors including web development, graphic designing, internet marketing, and more. We are committed to delivering high-quality and cost-effective software development solutions to our clients, ensuring timely delivery and exceeding customer expectations.

Our mission is to enhance customer satisfaction by offering reliable software development services through a team of experienced professionals who have earned the trust and confidence of our clients.

1.1.1 Services Offered

Web Development

Sushilaai Web Solutions has been offering website development services for the past two years, building a solid presence in the digital industry. We specialize in creating custom websites using technologies like .NET, Java, and Python. Our mission is to deliver innovative, fast, and reliable web solutions that help businesses optimize their operations. Serving clients across India and abroad, we focus on delivering creative, high-performance websites tailored to meet unique business needs.

Web Hosting

The important and most overlooked aspect of site development is hosting. We offer reliable, secure and super-fast hosting services. One of the most important things to consider when choosing a good Web hosting company is uptime, and we managed to get our hosting uptime at 99.9. We offer many hosting plans for small businesses. We offer all time support for web hosting.

Software Development

Sushilaai Web Solutions believes that software development is more than just coding and project delivery. It begins with a clear understanding of client requirements and business objectives. Based on this understanding, we recommend cost-effective and impactful solutions that align with our clients' goals. By combining strategic insights with the right mix of technologies, Sushilaai ensures innovative, high-quality outcomes that drive long-term value and success.

Graphic Designing

Graphic design is one of the key focus areas at Sushilaai Web Solutions. In today's digital world, people are naturally drawn to visually appealing content. Graphic design plays a crucial role in web design by enhancing the overall look and feel of a website. At Sushilaai, we blend creative graphic design with efficient web development to create engaging, user-friendly websites. Modern web development goes beyond code and speed—it demands visual impact, and graphic design is essential in capturing attention and building strong digital presence.

1.2 Introduction To MatricsV

The internship aimed to provide practical experience in the field of web development, with a focus on data visualization. The primary objective of the MatricsV project was to create an interactive, responsive dashboard that could interpret and display complex data through visually intuitive charts and graphs. This project was designed not just as a technical exercise but also as a real-world application of analytical thinking, user interface design, and performance optimization. Data visualization plays a crucial role in modern data analysis, allowing stakeholders to understand trends, patterns, and outliers in datasets. Throughout the project, I worked on various aspects of frontend development, including component-based architecture, charting libraries, data integration, responsive design, and state management.

1.2.1 Need And Motivation

In today's data-driven world, the ability to interpret complex data quickly and accurately is essential for effective decision-making. Organizations generate massive volumes of data daily, making data visualization a critical tool for identifying trends, patterns, and anomalies. However, raw data alone is often overwhelming and lacks clarity without proper visual representation.

The MatricsV project was initiated to address this need by building a responsive, interactive dashboard capable of transforming complex datasets into easily digestible visuals. The motivation behind the project was to bridge the gap between data and decision-making by applying modern frontend technologies to create intuitive user interfaces. This not only enhances user engagement but also supports faster, insight-driven actions in business and academic contexts. By combining performance, usability, and visual appeal, the project aimed to provide a practical, scalable solution to real-world data interpretation challenges.

1.2.2 Problem Definition

Many organizations struggle to extract meaningful insights from large, complex datasets. Traditional tools often lack interactivity and visual clarity, making analysis difficult. The MatricsV project addresses this issue by developing a responsive dashboard that transforms raw data into intuitive visualizations, enabling users to interpret trends, patterns, and outliers easily for better, faster decision-making.

1.2.3 Objective And Scope

This dashboard is designed to make data visualization simple, efficient, and interactive. The main goal is to convert complex datasets into user-friendly charts and graphs for better understanding and analysis.

1. To create an interactive and responsive web dashboard using modern frontend technologies.
2. To visualize data using dynamic charts such as bar, line, and pie charts.
3. To allow filtering and real-time updates based on user inputs.
4. To ensure the system is responsive and accessible across devices.
5. To help users identify trends, patterns, and outliers easily.
6. To integrate external data sources using APIs for dynamic data handling.
7. To optimize performance for smooth interaction, even with large datasets.
8. To provide a scalable structure for potential future expansion in different domains.

1.2.4 Features of Proposed System

Information needs only to be entered once and is available wherever you need it. More importantly, it all works together in the way you would expect, providing a natural workflow to everything you do.

1. Display of interactive dashboards and data visualization
2. Create separate dynamic components for each data category (charts, filters, etc.)
3. Provide real-time updates based on user interactions (filters, dropdowns, date-pickers)
4. Maintain user-friendly and responsive layouts for seamless access across devices

Features:

- **Graphical User Interface:** The MatricsV system is built with a simple, interactive, and user-friendly interface, allowing users to perform tasks easily.
- **Web Based:** The system is entirely web-based, making it platform-independent and accessible from any location.
- **Multi User:** Multiple users can access and interact with the dashboard, with a structure in place for managing and restricting user roles (using future extensions).
- **Dynamic Reports:** MatricsV provides dynamic visualization through different types of charts (bar, line, pie) for easy understanding and faster decision-making.
- **Flexible Reports (Daily, Monthly, Quarterly, Half-Yearly, Yearly):** Different visual reports and data breakdowns can be generated based on user-selected time periods and filters.

Chapter 2

System Requirement Analysis

2.1 System Requirement Analysis

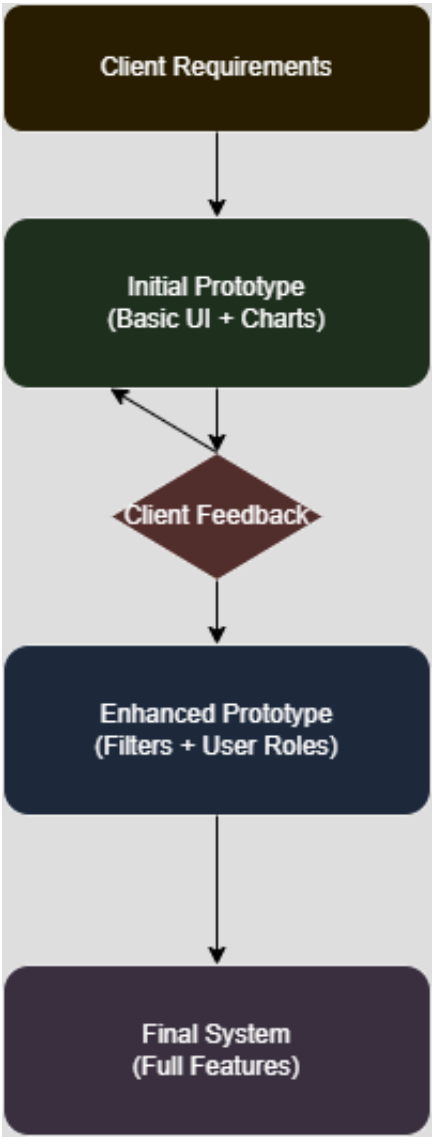
At the System Requirement Analysis stage, the information gathering process is identified as a critical step to understand user needs, system expectations, and project constraints. This involves engaging with stakeholders through interviews, questionnaires, observations, and document analysis to collect detailed insights. The goal is to define clear functional and non-functional requirements, ensuring that the system is designed to meet real-world use cases effectively. Accurate information gathering lays the foundation for a successful and user-centric system design.

2.2 Software Process and Development

The set of general objectives for "Matricsv" development were defined by the various

Prototype model

The prototyping paradigm begins with requirements gathering. Together with Panning of those aspects of the software that will be visible to the customer/user (e.g. input approaches and output formats).



2.3 Scope of Proposed System

While in this phase, the scope of em was defined first and then what needs to be done was finalized. Lot of brainstorming ws were very clearly noted down. We never came back to revise or change the requirement defined earlier.....

Advantages of Proposed System

2.4 Technical Specification

- **Hardware Specification**

Processor : Intel(R) Core(TM) i3-7020U CPU @ 2.30GHz 2.30 GHz

RAM : Min. 2GB

Hard Disk : Min. 20 GB free

- **Software Specification**

Platform : Windows 11

Front End : React.js, Redux (state management).

Back End : Node.js, Express.js.

Database : MYSQL

Web Browser: Google Chrome etc.

2.4.1 Technology Stack Explained

- **React.js**: A JavaScript library for building dynamic, component-based user interfaces.
- **Redux**: State management tool to centralize and manage application data.
- **Chart.js**: Lightweight library for rendering responsive, interactive charts.
- **D3.js**: Powerful library for custom data visualizations using SVG/Canvas.
- **MongoDB**: NoSQL database for flexible, JSON-like data storage.
- **Styled-components**: CSS-in-JS library for scoped styling and theme support.
- **Node.js**: JavaScript runtime for scalable server-side execution.
- **Express.js**: Minimalist framework for building RESTful APIs and routing.

Chapter 3

Feasibility Study

3.1 Introduction

After doing the project MatricsV System, study and analysing all the existing or required functionalities of the system, the next task is to do the feasibility study for the project. All projects are feasible-given unlimited resources and infinite time. Feasibility study includes consideration of all the possible ways to provide a solution to the given problem. The proposed solution should satisfy all the user requirements and should be flexible enough so that future changes can be easily done based on the future upcoming requirements. There are many different types of feasibility. Such as Economical Feasibility, Technical Feasibility, Operational Feasibility, Schedule Feasibility and Legal Feasibility

3.2 Economical Feasibility

It is a very important aspect to be considered while developing a project. We decided the technology based on minimum possible cost factor. All hardware and software cost has to be borne by the organization. Overall we have estimated that the benefits the organization is going to receive from the proposed system will surely overcome the initial costs and the later on running cost for system.

3.3 Operational Feasibility

Here the training cost of the system users also considered. The cost of the training program as well as space required for implementation of system is also available and the basic computer knowledge favorable atmosphere also found and utilization of software like menu driven system , will make the system more user friendly.

3.4 Technical Feasibility

It include the study of function, performance and constraints that may affect the ability to achieve an acceptable system. For this feasibility study, we studiedcomplete functionality to be provided in the system, as described in the system Requirement specification, and checked if everything was possible using different typeof frontend and backend platforms.

Chapter 4

Proposed System

4.1 Proposed System

The proposed system, MatricsV, is designed to provide a modern solution for visualizing complex data through an interactive dashboard. It is user-friendly, scalable, and helps stakeholders easily understand trends and insights. With responsive design, dynamic charts, and real-time filtering, the system meets the needs of both developers and end-users. MatricsV not only enhances data representation but also ensures better performance and usability. The aim of the proposed system is to improve data interpretation and decision-making. It reduces manual effort, ensures efficient data handling, and overcomes the limitations of traditional static dashboards, making data analysis smarter and more accessible.

4.2 User Privileges

User Privileges

The proposed system defines clear user privileges to ensure secure and efficient access control within the dashboard environment. Each user role is granted specific rights based on their level of interaction with the system.

- **Admin:**
  - Full access to all dashboard features
  - Manage data sources and chart configurations
  - Control user access and roles
  - Perform system-level configurations and updates
- **Regular User:**
  - View and interact with charts and visualizations
  - Apply filters and export data
  - Access assigned datasets and reports
- **Guest User (Optional):**
  - Limited access to publicly available data views
  - Read-only access without personalization features

These roles ensure data integrity, streamline operations, and maintain security by restricting sensitive functions to authorized users only.

4.3 Objective of the System

The main objective of the system is to develop an interactive and responsive data visualization dashboard that simplifies complex data interpretation. The system aims to provide users with real-time insights through visually intuitive charts and graphs. It is designed to enhance decision-making by presenting data in an organized and accessible manner. Additionally, the system focuses on delivering a seamless user experience across devices, reducing manual effort, and ensuring performance and scalability. Overall, the goal is to bridge the gap between raw data and actionable insights using modern web technologies

Chapter 5

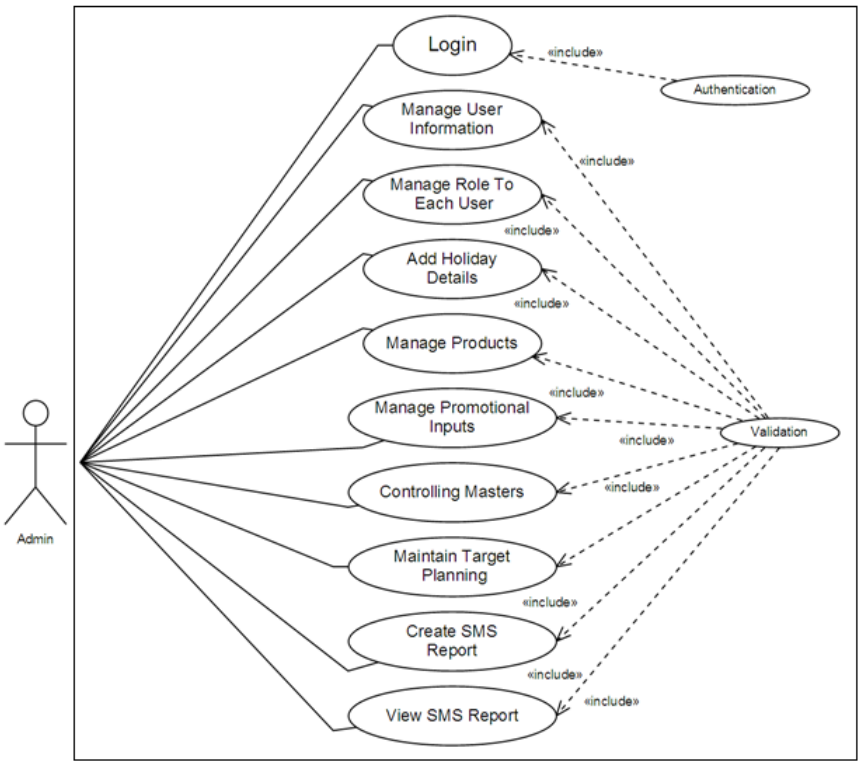
Preliminary Design

5.1 Tools of data flow strategy

Data flow strategy shows th and their interactions.....
Data flow analysis makes use of the following tools:
Flow Charts
Data Flow Diagrams
Data Dictionary
Flowchart
Flowchart is used to represent the algorithm .....
Data Dictionary
The logical characteristics of current systems data stores, including name, description, aliases, contents, ...
Data Structure Diagrams
A pictorial description of the relation between entities (people, places, events and things) in system and the set of information about the entity, ...
Structured Chart
A design tool that pictorially shows the relation between processing modules in computer software, describes .....

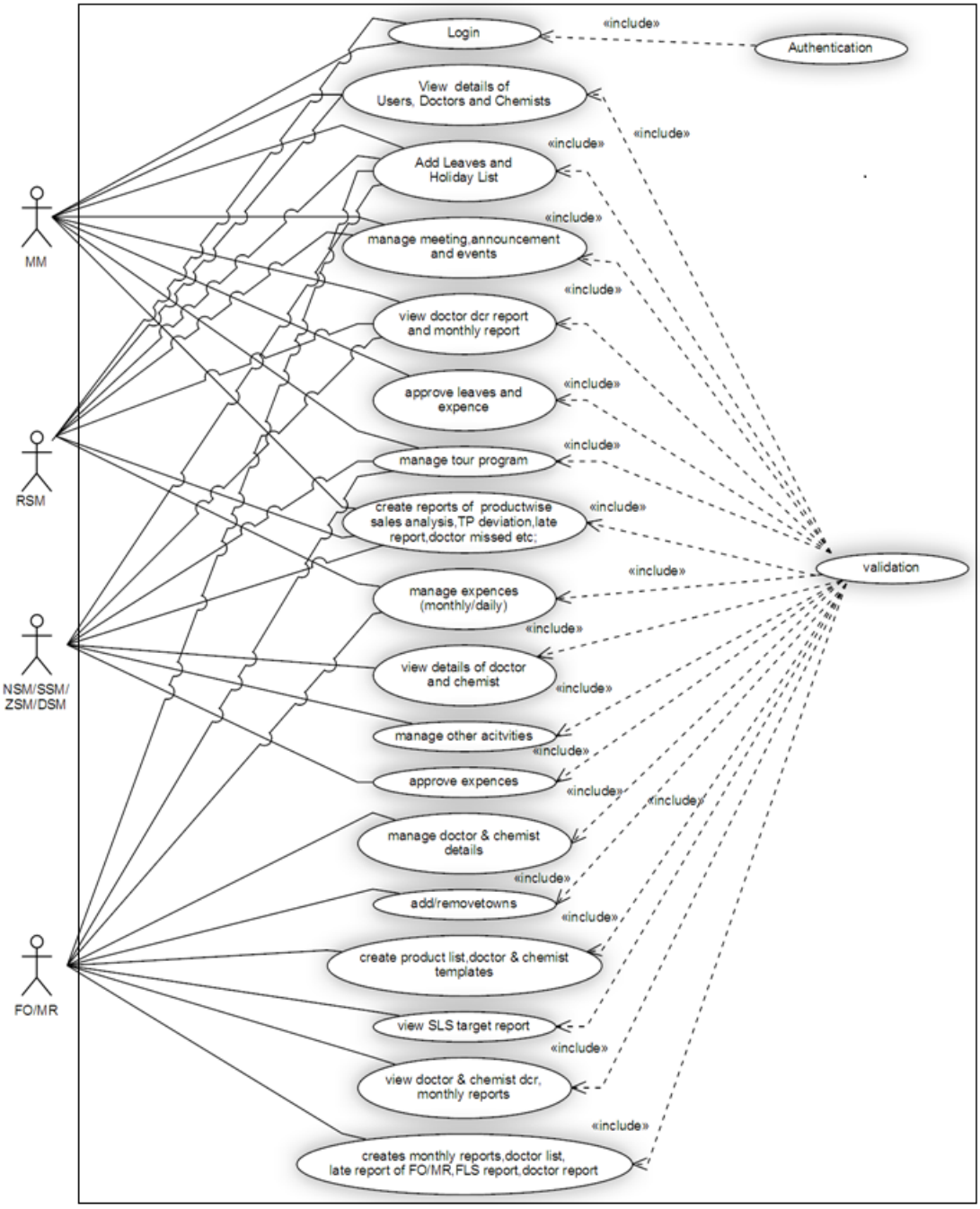
5.2 Use Case Diagram

Usecase Diagram For Admin



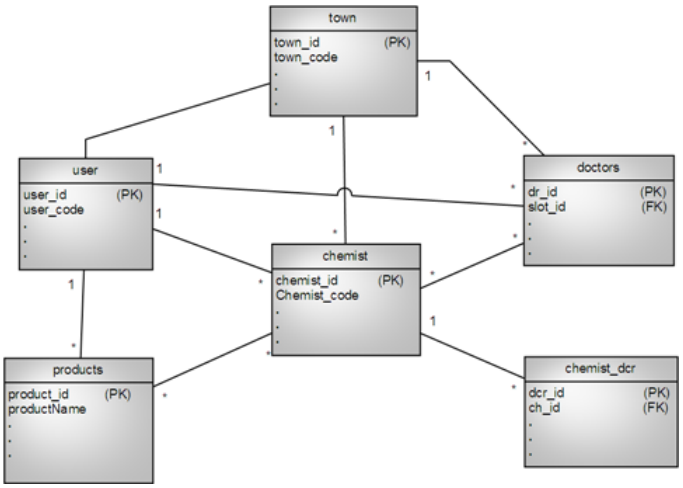
Usecase Diagram For Admin

Usecase Diagram For Other Users.

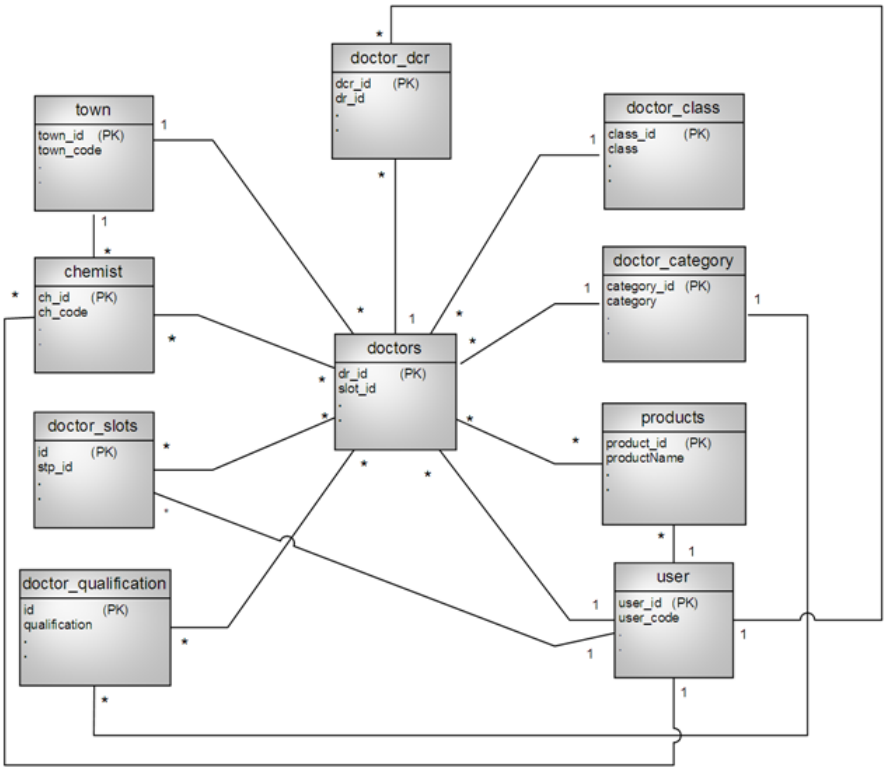


5.3 Entity Relationship Diagram

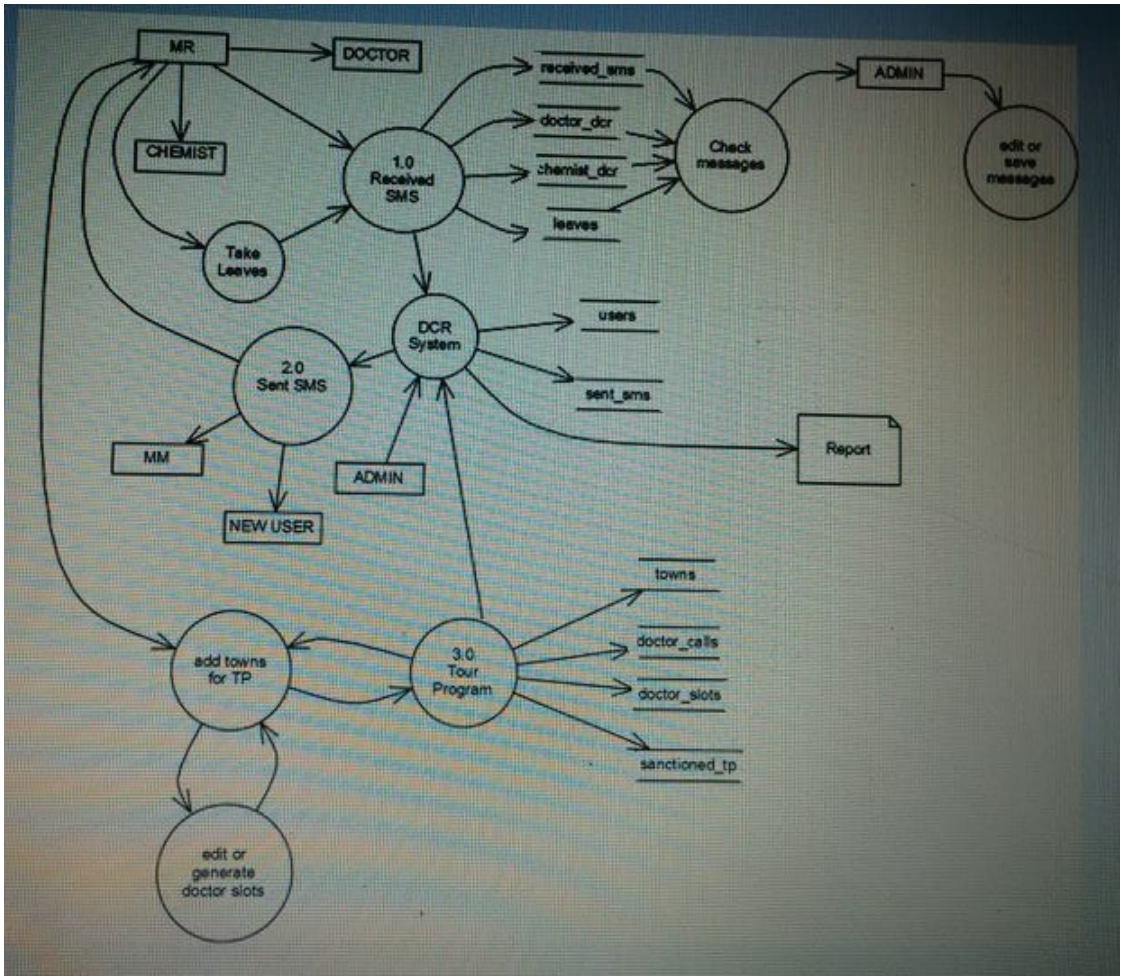
ERD For Chemist.



ERD For doctor.



5.4 Data Flow Diagram



Chapter 6

Detailed Design

Simply functionality and availability, is selected based on the relative important of these criteria.....

6.1 Data Dictionary

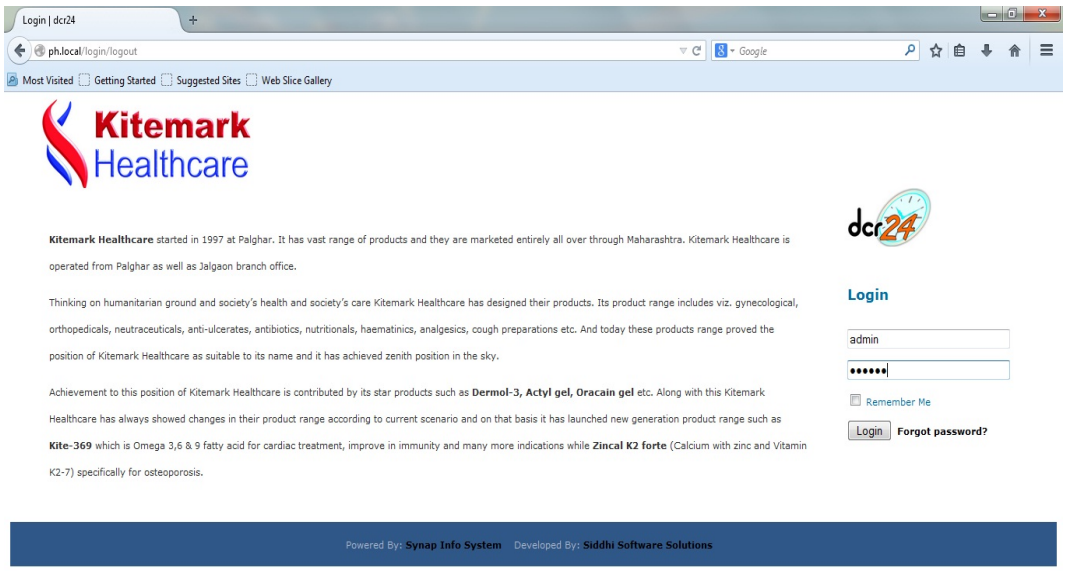
Data dictionary is only collection of data element definition. Entries in a data dictionary include the name of the data item and attributes. .....

6.2 Input and output Design

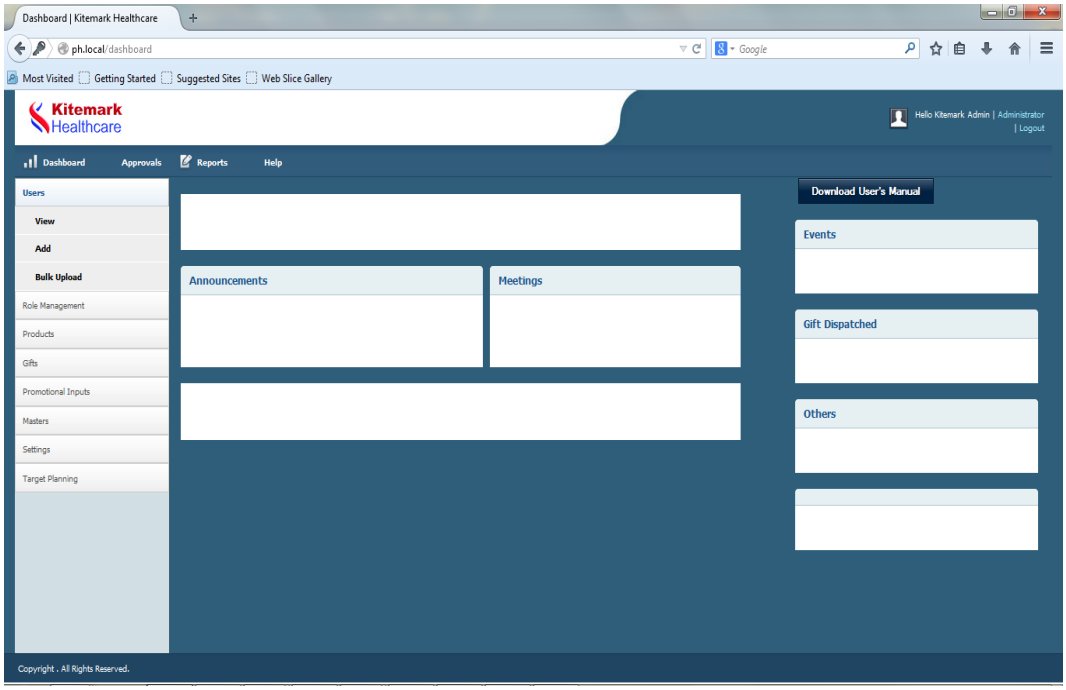
Considering all o the interaction of user with the system be in most effective and simplified way. All the input forms are designed in she user will be able to use them in very eff possibilities needed by the user.....

6.2.1 Admin

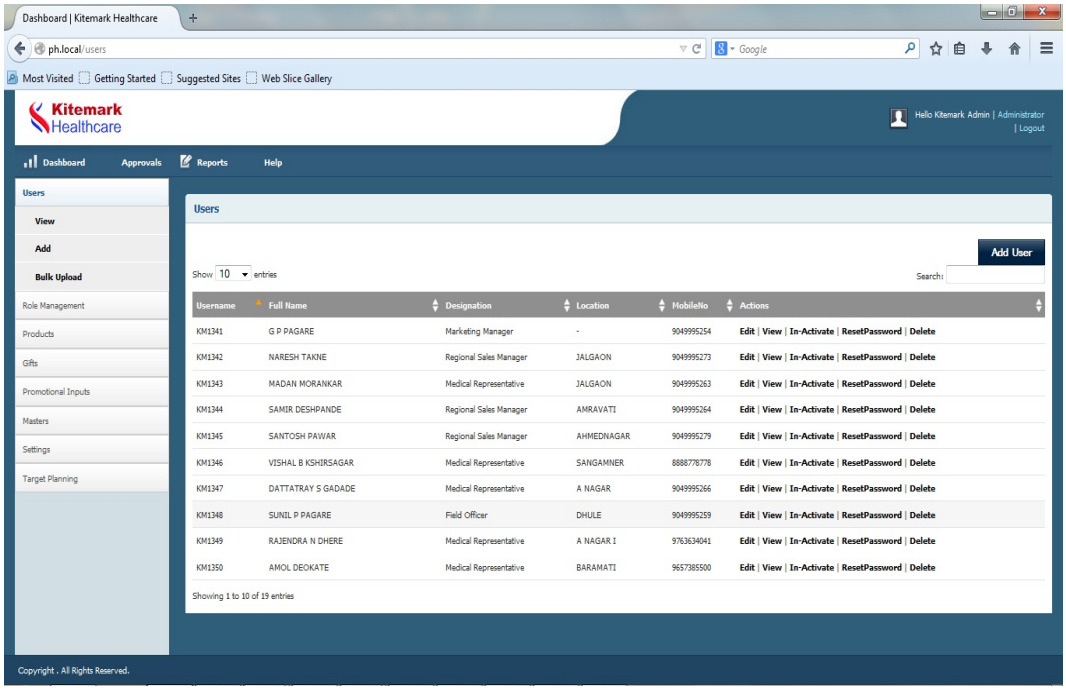
login



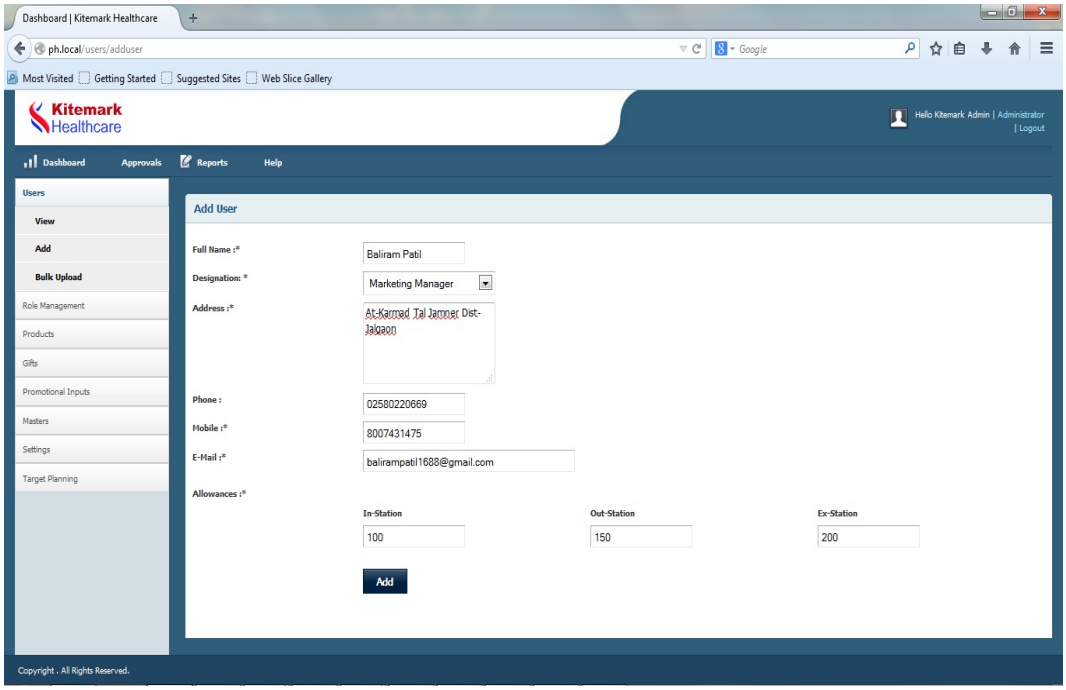
Admin Dashboard



View Users



Add User



6.3 Database structure

announcement: This table stores announcement added by Admin and useful to display announcement to other users.

Field Name	Data Type	size	Constraints
announceid	int	20	Primary Key,auto_increment
title	varchar	200	NOT NULL.
description	varchar	255	NOT NULL.
addedBy	int	11	NOT NULL
addedon	datetime	-	NOT NULL.
updatedon	datetime	-	NOT NULL.
expiry_date	date	20	NOT NULL.
status	varchar	-	NOT NULL.

Table 6.1: announcement

area: This table stores area details with region of that area.

Field Name	Data Type	size	Constraints
area_id	bigint	20	Primary Key,auto_increment
area	varchar	25	NOT NULL
region_id	bigint	20	NOT NULL
isActive	int	11	NOTNULL
addedon	datetime	-	NOT NULL
updatedon	datetime	-	NOT NULL

Table 6.2: area

chemist: This table stores all chemist details added by Medical Representative or Field Officer.

Field Name	Data Type	size	Constraints
chemist_id	bigint	20	Primary Key,auto_increment
chemist_code	bigint	20	NOT NULL
store_name	varchar	100	NOT NULL
store_address	Text	-	NOT NULL
town_id	bigint	20	NOT NULL
contact_person	varchar	100	NOT NULL
mobile	varchar	12	NOT NULL
email	varchar	100	NOT NULL
dob	date	-	NOT NULL
date_of_marrige	date	-	NOT NULL
is_hospital_attached	tinyint	2	NOT NULL
hospital_name	varchar	100	NOT NULL
dr_of_hospital	varchar	100	NOT NULL
near_by_dr	varchar	100	NOT NULL
available_products	varchar	150	NOT NULL
monthly_purchase	bigint	20	NOT NULL
status	varchar	20	NOT NULL
approved_by	varchar	25	NOT NULL
reject_reason	varchar	200	NOT NULL
added_by	bigint	20	NOT NULL
added_on	datetime	-	NOT NULL
updated_by	bigint	20	NOT NULL
updated_on	datetime	-	NOT NULL
isActive	tinyint	2	NOT NULL

Table 6.3: chemist

target_product_sale This table stores the target of product sales .
target_prod_calculations This table stores the product wise target calculation.
target_sls This table stores the target of sls.

Field Name	Data Type	size	Constraints
id	bigint	20	Primary Key,auto_increment
year	int	11	NOT NULL
hq_id	int	11	NOT NULL
prod_id	bigint	20	NOT NULL
sale	double	-	NOT NULL
added_by	bigint	20	NOT NULL
added_on	datetime	-	NOT NULL
updated_by	bigint	20	NOT NULL
updated_on	datetime	-	NOT NULL

Table 6.4: target_product_sale

Field Name	Data Type	size	Constraints
id	bigint	20	Primary Key,auto_increment
year	int	11	NOT NULL
prod_id	bigint	20	NOT NULL
packing	varchar	100	NOT NULL
calc_value	double	-	NOT NULL
expected_growth	double	-	NOT NULL
min1	double	-	NOT NULL
min2	double	-	NOT NULL
min3	double	-	NOT NULL
added_by	bigint	20	NOT NULL
added_on	datetime	-	NOT NULL
updated_by	bigint	20	NOT NULL
updated_on	datetime	-	NOT NULL

Table 6.5: target_prod_calculations

Field Name	Data Type	size	Constraints
id	int	11	Primary Key,auto_increment
month	text		NOT NULL
hq_id	int	11	NOT NULL
product_id	int	11	NOT NULL
sls	bigint	20	NOT NULL
closing_stock	bigint	20	NOT NULL
added_by	bigint	20	NOT NULL
added_on	datetime	-	NOT NULL
updated_by	bigint	20	NOT NULL
updated_on	datetime	-	NOT NULL
monthno	int	11	NOT NULL
year	int	11	NOT NULL

Table 6.6: target_sls

target_yearly This table stores the yearly target.

Field Name	Data Type	size	Constraints
id	int	11	Primary Key,auto_increment
year	text		NOT NULL
hq_id	int	11	NOT NULL
product_id	int	11	NOT NULL
annual_target	bigint	20	NOT NULL
target_value	bigint	20	NOT NULL
intro_month	text	-	NOT NULL
added_by	bigint	20	NOT NULL
added_on	datetime	-	NOT NULL
updated_by	bigint	20	NOT NULL
updated_on	datetime	-	NOT NULL

Table 6.7: target_yearly

town This table stores the town details.

Field Name	Data Type	size	Constraints
town_id	bigint	20	Primary Key,auto_increment
town_code	bigint	20	NOT NULL
town	varchar	25	NOT NULL
hq_id	bigint	20	NOT NULL
isActive	tinyint	11	NOT NULL
status	varchar	20	NOT NULL
approved_by	varchar	25	NOT NULL
reject_reason	varchar	200	NOT NULL
added_by	bigint	20	NOT NULL
added_on	datetime	-	NOT NULL
updated_by	bigint	20	NOT NULL
updated_on	datetime	-	NOT NULL

Table 6.8: town

users This table stores the users details.
users_leave This table stores the userwise leave details.
users_profile This table stores the user profiles details.

Field Name	Data Type	size	Constraints
id	int	11	Primary Key,auto_increment
company_code	varchar	3	NOT NULL
username	varchar	25	NOT NULL
password	varchar	25	NOT NULL
fullname	varchar	50	NOT NULL
role_id	int	11	NOT NULL
reports_to	int	11	NOT NULL
address	varchar	50	NOT NULL
phone	varchar	25	NOT NULL
mobile	varchar	10	NOT NULL
email	varchar	50	NOT NULL
nation_id	int	20	NOT NULL
zone_id	bigint	20	NOT NULL
state_id	bigint	20	NOT NULL
division_id	bigint	20	NOT NULL
region_id	bigint	20	NOT NULL
area_id	bigint	20	NOT NULL
headQuarter_id	bigint	20	NOT NULL
based_on	varchar	50	NOT NULL
addedBy	bigint	20	NOT NULL
addedOn	datetime	-	NOT NULL
updatedOn	datetime	-	NOT NULL
isActive	tinyint	1	NOT NULL
instation	int	11	NOT NULL
outstation	int	11	NOT NULL
exstation	int	11	NOT NULL

Table 6.9: users

Field Name	Data Type	size	Constraints
user_id	int	11	Primary Key,auto_increment
holiday_id	int	11	NOT NULL
date	date	-	NOT NULL

Table 6.10: users_leaves

Field Name	Data Type	size	Constraints
profile_id	int	11	Primary Key,auto_increment
profile_name	varchar	50	NOT NULL
discription	varchar	200	NOT NULL

Table 6.11: users_profile

user_roles This table stores the user roles details.

Field Name	Data Type	size	Constraints
role_id	int	11	Primary Key,auto_increment
profile_id	varchar	3	NOT NULL
parent_id	varchar	25	NOT NULL
designation	varchar	25	NOT NULL
permission	varchar	50	NOT NULL
isActive	int	11	NOT NULL
added_by	bigint	20	NOT NULL
added_on	datetime	-	NOT NULL
updated_by	bigint	20	NOT NULL
updated_on	datetime	-	NOT NULL

Table 6.12: users_roles

zones This table stores the zones details.

Field Name	Data Type	size	Constraints
zone_id	bigint	20	Primary Key,auto_increment
title	varchar	25	NOT NULL
nation_id	int	11	NOT NULL
isActive	int	11	NOT NULL
addedOn	datetime	-	NOT NULL

Table 6.13: zones

Chapter 7

Testing

7.1 Introduction

Testing is a process of executing error. A good test is the .....
The increasing a software failure are motivating forces for well planned, through testing.....

7.2 White Box Testing

This testing reveals the internal working of the code i.e. each of the programming elements is exercised properly. This type of.....

7.3 Black Box Testing

In this type of testing, ...

7.4 Validation Testing

Valid data must be in output i.e. report. For this checks are entry screen.....

7.5 GUI Testing

The criterion of the user interface is graphical which less time consuming for user but more complexes for the programmer.

Chapter 8

Concluding Remarks

8.1 Strengths of System

1. 1. System is easy to use....
2. 2. System has a user friendly GUI...

8.2 Limitations of system

- 1. The only limitation of the system is that the system is not fully automated....
- 2. The limited scope of current System doesn't fully encompass the current system.....

8.3 Scope for future development

Any software product developed has so til it is designed to satisfy all the existing as well as the future needs. This project is not an....

8.4 Conclusion

- Pharma Sales Force Automation (PsfA) is the product whir planning and provide more time for work tal organizations....

- The main motive of learning and acquiring the skills has also been achieved.
  o Way of analyzing the system.

  o Importance and skill of proper database design.
  o Proper use of state management tools.

- Company too is satisfied with the quality of work.

Appendix

References

[1] Books Referred,
Following books proved to be very helpful during the development of the system.
• CodeIgnitor for Rapid PHP Application Developement
David Upton
• Software Engineering: A Practitioner's Approach, Seventh Edition Roger S. Pressman

[2] WebSites Visited :-
Following websites proved to be very helpful during the development of the system.
• www.msdn.microsoft.com
• www.w3schools.com
• www.codeproject.com

[3] Software Used for Diagrams
• Pacestar UML Diagrammer 6

[4] Software Engineering a Practitioner's Approach. (McGraw Hill Publication) Roger S. Pressman.