**The first synopsis of the project entitled**

**“ProManager”**

**Submitted in partial fulfillment of the requirements of**

**BACHELOR OF TECHNOLOGY**

**IN**

**COMPUTER SCIENCE & ENGINEERING**



**SUBMITTED TO: SUBMITTED BY:**

Mr. Tanveer Singh

( ) Roll no:- 2007037

**Ramgarhia Institute of Engineering and Technology(RIET)**

**(Phagwara)**

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**COMPANY PROFIL**

1. **Introduction to the Industry / Institution Contents**

**1.1 Nature of business of the Industry / Institution**

O7 Services is an ISO 9001:2015 Certified Organization. Fundamentally, deal in Web Designing, Mobile Development, Custom Software Development, Web Designing, Graphic Designing, Hosting services, Digital Marketing, Registration of Domain Names with the various latest extensions, Internet and Social Media Marketing, Search Engine Optimization (SEO), Pay Per Click (PPC) Management, and give the most experienced IT solutions, supporting the full business cycle: preliminary counselling, framework development and deployment, quality confirmation, and 24x7 backings. With a rich encounter of over 8 years, O7 Services is in general form dependable key organisation with their clients to guarantee affordable costs, opportune conveyance, and quantifiable business results. The Head Office of O7 Services is in Jalandhar and the Branch Office is in Hoshiarpur With more than 30 team members as of the year 2023, they have provided services to many major and minor organisations, start-ups, and public and private establishments. The vision of O7 Services is to help their clients with figuring out their fantasies and work with them with prime administrations that beat their assumptions, and hence, add to a prevalent society for their clients and various accomplices as well as broad society. They will continue with their drive to grasp this vision.

**1.2 Different products / activities of the Industry / Institution**

Since its establishment, O7 Services has worked with a wide range of products from Learning Management System (LMS) to custom ERP software. It has provided its support to the various organisations like LMS, E-commerce websites, Betting Strategy websites, Tracking Systems, School Management System, Informative Websites, HR ERP Softwares. The company of O7 Services has worked very closely with innumerable customers by providing the best of the work. Some of the company products and websites that are designed by O7 Services are as follows-













**PROBLEM DEFINITION**

Nowadays handling and managing tasks are quite difficult, even if it is in a business field or in an educational field or any other field. The work of assigning tasks to your colleagues or team members separately and collecting the completed works from every member is so time consuming and difficult to manage.

**ProManager** is a task management website, which helps to manage and handle the tasks between the team leader and the team members. With this project the users will get a better way to assign and upload their work.

**INTRODUCTION TO PROJECT**

ProManager is basically a task management system. This is truly beneficial for them who face many difficulties in managing and handling the work or tasks with their co-members. “ProManager” is a platform which provides the facility to admin to make the group of their employees and can invite their team-members/colleagues.

The admin can assign tasks to everyone in the group with task’s description, attachments and due dates. Admin can make announcements

The group member will get notification of their tasks and after the completion of their given tasks they can easily upload their completed work in ProManager and the admin will get the work from all the employees.

**Beneficial factors :-**

* User friendly
* Tasks easily assigned by the admin.
* Admin can check the progress report.
* Easy to upload the work done.
* A better way of handling and managing.

**OBJECTIVE**

The main objectives of the ProManager are:

* A centralized platform to store and organize tasks. This helps users avoid scattered lists and ensures all tasks are in one accessible location.
* It facilitates collaboration among team members. Features such as task assignment, comments, and sharing other information to everyone is on the same page.
* Task management tools include progresstracking features, allowing admin to monitor the progress on each task. This helps improve time management and provides insights into individual and team productivity.
* Task management websites are beneficial for individuals, teams, and organizations across various industries. Whether for personal task management, project management, or team collaboration, these tools can be adapted to different needs.

**Content in website: -**

Firstly, there is a login phase for the admin. The new user will register by the admin.

After that the following things that user will get:

**Admin: -**

* **Register employee:**

The group admin will register the new employees and provide them a login password.

* **Assign Task:**

The group admin can assign the tasks to their group members with task name, task description and deadline.

* **Updating and Delete task:**

Sometimes it happens when a mistake is made, so to correct that the admin can modify (make changes) in the assigned task or even can delete the task.

* **Conversation:**

The admin can communicate with the group members.

* **Block & unblock:**

When the admin finds that there is no longer need of the specific employee or, any other issue admin can block & unblock the employee.

* **Rewards & Warnings (coins system):**

Admin can give a coin to the employee as a reward, and one coin will be deducted from the employee’s account when the admin sends warning.

**Employee: -**

* **View task:**

The group members can get their task which is assigned by their group admin with all the details.

* **View Project:**

The group members can the projects which is assigned by their admin with all the details.

* **Upload task:**

After the completion of tasks they can easily upload their task in the group.

* **Reminder:**

Tells you which of your tasks is pending with its due dates.

* **Profile:**

Profile where employee can update their profile.

**EXISTING SYSTEM:**

• Lack of User-Friendliness

* Inefficient Reporting and Analytics:

• Bugs

• Lack of Exposure

**PROPOSED SYSTEM:**

Here all the above factors are minimized, system involves several components and considerations to ensure efficiency, usability, and scalability. Like:

* Allow users to create tasks with essential details such as title, description, due date, priority, and attachments.
* Provide a centralized view to track the status of tasks, including "In Progress," "Completed," and "pending".
* Notify with reminders when the due date for task is near and your work is still pending.

**RESOURCES NEEDED**

Resources are the requirement of the system. It can also be defined as the environment within which a system can work efficiently. In order to implement the proposed system, the following various hardware and software requirements to achieve good performance:

**Minimum Hardware Requirements**

**Processor** : Intel core i3

**RAM**  : 8 GB

**SSD**  : 256GB

**Hard Disk** : 512 GB or more

**Monitor** : 15” CRT or LCD monitor

**Keyboard** : Normal or Multimedia

**Mouse**  : Compatible Mouse

**Software Requirements**

**Front End :** React

**Web Server :** Express Server 8.0.0 (or Above).

**DB Tool :** MongoDB

**Browser :** Mozilla Firefox/Chrome/Edge

**OS :** Windows Operating System/Linux

**Text Editor :** Visual Studio

**Environment :** NodeJS

**TECHNOLOGY USED**

**FRONT END**

1. **HTML:**

**HTML** (Hypertext Markup Language) is the standard markup language for creating web pages and web applications.

It provides the structure and content of a webpage, defining the elements that make up the page, such as text, images, links, forms, and more. HTML is a crucial technology in web development and is typically used in conjunction with CSS (Cascading Style Sheets) for styling and JavaScript for dynamic behavior. The latest version of HTML is **HTML5.**

**Syntax:**

* HTML uses a markup language composed of tags, attributes, and content.
* Tags are enclosed in angle brackets, such as <tagname>.
* Most HTML tags have opening and closing tags, like <tagname> and </tagname>.
* Attributes provide additional information about HTML elements.

**HTML5 APIs:**

* HTML5 introduced various APIs (Application Programming Interfaces) for web development, including the Canvas API for drawing graphics, Geolocation API for obtaining user location, Web Storage for client-side data storage, and more.

1. **CSS:**

**CSS** (Cascading Style Sheets) is a style sheet language used for describing the presentation of a document written in HTML or XML. CSS defines how the elements of a webpage should be displayed, including their layout, colors, fonts, spacing, and other visual properties. It allows web developers to separate the structure and content of a document from its visual representation, providing greater flexibility and maintainability in web design. And the current version of css used is **CSS3**

* Helps in to make the simple HTML page into an eye attracting page.
* User can give any design and look to its webpage, by using its property in correct manner.
* CSS allows the creation of smooth transitions and animations to enhance the user experience.

1. **JAVASCRIPT:**

**JavaScript** is a MUST for students and working professionals to become a great Software Engineer specially when they are working in Web Development Domain. I will list down some of the key advantages of learning JavaScript:

* JavaScript is the most popular **programming language** in the world and that makes it a programmer’s great choice. Once you learn JavaScript, it helps you develop great front-end as well as back-end software’s using different JavaScript based frameworks like jQuery, Node.JS etc.
* JavaScript is everywhere, it comes installed on every modern web browser and so to learn JavaScript you really do not need any special environment setup. For example, Chrome, Mozilla Firefox, Safari and every browser you know as of today, supports JavaScript.
* Due to high demand, there is tons of job growth and high pay for those who know JavaScript. You can navigate over to different job sites to see what having JavaScript skills looks like in the job market.
* Great thing about JavaScript is that you will find tons of frameworks and Libraries already developed which can be used directly in your software development to reduce your time to market.

1. **BOOTSTRAP:**

 Bootstrap is the most popular front-end framework in the recent time. It is sleek, intuitive, and powerful mobile first front-end framework for faster and easier web development. It uses HTML, CSS and JavaScript. This tutorial will teach you the basics of Bootstrap Framework using which you can create web projects with ease. The tutorial is divided into sections such as Bootstrap Basic Structure, Bootstrap CSS, Bootstrap Layout Components and Bootstrap Plugins.

* **Mobile first approach:** Bootstrap 3, framework consists of Mobile first styles throughout the entire library instead them of in separate files.
* **Browser Support**: It is supported by all popular browsers.
* **Easy to get started**: With just the knowledge of HTML and CSS anyone can get started with Bootstrap. Also, the Bootstrap official site has a good documentation.
* **Responsive design**: Bootstrap's responsive CSS adjusts to Desktops, Tablets and Mobiles.

* **JavaScript Plugins** − Bootstrap contains over a dozen custom jQuery plugins. You can easily include them all, or one by one. This is covered in details in the section **Bootstrap Plugins**.

**React:**

React is a framework that employs Webpack to automatically compile React, JSX, and ES6 code while handling CSS file prefixes. React is a JavaScript-based UI development library. Although react is a library rather than a language, it is widely used in web development. The library first appeared in May 2013 and is now one of the most commonly used frontend libraries for web development.

React offers various extensions for entire application architectural support, such as Flux and React Native, beyond mere UI.

React’s popularity today has eclipsed that of all other front-end development frameworks. Here is why:

● **Easy creation of dynamic applications**: React makes it easier to create dynamic web applications because it requires less coding and offers more functionality, as opposed to JavaScript, where coding often gets complex very quickly.

● **Improved performance**: React uses Virtual DOM, thereby creating web applications faster. Virtual DOM compares the components’ previous states and updates only the items in the Real DOM that were changed, instead of updating all of the components again, as conventional web applications do.

● **Reusable components**: Components are the building blocks of any React application, and a single app usually consists of multiple components. These components have their logic and controls, and they can be reused throughout the application, which in turn dramatically reduces the application’s development time.

* **Unidirectional data flow**: React follows a unidirectional data flow. This means that when designing a React app, developers often nest child components within parent components. Since the data flows in a single direction, it becomes easier to debug errors and know where a problem occurs in an application at the moment in question.

**BACKEND**

**Node Js:**

Node.js is an open-source, cross-platform JavaScript runtime environment and library for running web applications outside the client's browser. Ryan Dahl developed it in 2009, and its latest iteration, version 15.14, was released in April 2021. Developers use Node.js to create server-side web applications, and it is perfect for data-intensive applications since it uses an asynchronous, event-driven model.

**● Asynchronous in Nature and Event driven**: The servers made with the NodeJs never waits for the from an API. Without waiting for the data from the API, it directly moves to the next API.

● **Single Threaded Architecture**: With event looping, a single threaded architecture is followed by NodeJs and for this architecture makes NodeJs more scalable.

●  **Scalable**: Nowadays, scalable software is demanded by most of the companies. One of the most pressing concerns in Software Development is addressed by NodeJs and that is scalability.

●  **Quick Execution time for code**: V8 JavaScript runtime motor is used by NodeJs and this is also used by Google chrome.

●  **Compatibility on the cross platforms**: Different types of systems like Windows, UNIX, LINUX, MacOS and other mobile devices can use NodeJs

●  **Uses JavaScript**: From an engineer's perspective, it is a very important aspect of NodeJs that this framework uses JavaScript Most of the developers are familiar with JavaScript, so for them it becomes very easier to grab NodeJs.

● **Fast Data Streaming**: The processing time of the data that have been transmitted to different streams takes a long time.

● **No Buffering** : The data is never buffered in NodeJs application.

**DATABASE**

**MongoDb:**

MongoDB (link resides outside IBM) is an open source, non-relational database management system (DBMS) that uses flexible documents instead of tables and rows to process and store various forms of data. As aNoSQL database solution, MongoDB does not require a relational database management system (RDBMS), so it provides an elastic data storage model that enables users to store and query multivariate data types with ease. This not only simplifies database management for developers but also creates a highly scalable environment for cross-platform applications and services.

### **●** **Mobile applications**: MongoDB’s JSON document model lets you store back-end application data wherever you need it, including in Apple iOS and Android devices as well as cloud-based storage solutions.

### ● **Real-time analytics**: As companies scale their operations, gaining access to key metrics and business insights from large pools of data is critical.

### ● **Content management systems**: Content management systems (CMS) are powerful tools that play an important role in ensuring positive user experiences when accessing e-commerce sites, online publications, document management platforms and other applications and services.

### ● **Enterprise Data Warehouse**: The Apache Hadoop framework is a collection of open source modules, including Hadoop Distributed File System and Hadoop MapReduce, that work with MongoDB to store, process and analyze large amounts of data.

**SERVER**

**Express Js:**

Express is a node js web application framework that provides broad features for building web and mobile applications. It is used to build a single page, multipage, and hybrid web application.

● Express was created to make APIs and web applications with ease,

● It saves a lot of coding time almost by half and still makes web and

● Mobile applications are efficient.

● Another reason for using express is that it is written in javascript as javascript is an easy language even if you don't have a previous

**Features**:

● **Fast Server-Side Development**: The features of node js help express saving a lot of time.

● **Middleware**: Middleware is a request handler that has access to the applications request-response cycle.

● **Routing**: It refers to how an application’s endpoints URLs respond to client requests.

* **Templating**: It provides templating engines to build dynamic content on the web pages by creating HTML templates on the server