

A Web Application Based Administration Panel For Handyman Services

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Abstract— Web Development is evolving exponentially today at business purpose. Nowadays, there is an increasing need for handyman services and requires a simpler and more accessible way of storing and managing the required information about the Handyman website in the Admin panel and while using PHP/Python/Ajax, there is a blocking of data from the server-side and it takes multiple loading which makes the website with bad user interaction. This project proposed an administration panel for Household services. The purpose of this web design is to provide a non-blocking environment using Node JS to improve the quality of its working process. It is designed with React JS in front-end development, which makes faster response to the browser, SEO friendly. For security purposes, JWT is proposed in order to secure the data from unknown members by setting the Token. Also, a work analysis of the designed web application is presented and demonstrated in this paper.

Keywords: Admin panel, React JS, Node JS, Household services, content management, store, manage, Html5, CSS, Javascript.

I. INTRODUCTION

Web development can range from developing an easy single static web page of understandable text to dynamic webpage internet applications, businesses, and social network services. The administration panel or an admin panel is the first implementation to work with website services. This admin panel is an application that provides for access and manipulation of data between the user interfaces of the website. The admin panel can help user related details, such as providing customer data, profiles details, and tracking transactions.

The administration panel [4] is the interface used to manipulate their app data and CRUD operations where administrators constantly use it to enter and update data in their app dynamically and designed to control the attributes and functionality of a content management system. Top performance in the technologies that I have used in the admin panel will bring you fast user interaction and fulfill all the needs of the customer. It is the highest level of accessing data to the website [9].

When website content needs to frequently add or update this admin panel is using CRUD (Create, Read, Update and Delete Data) operation. It is the basic feature that all admin have. Implementing in-house CRUD for each new type of data you create, updating your management tasks and tasks, offering discounts, interacting with your users through contact-us management, makes the look of the site more different, and so on.

A well-built admin panel will raise productivity, give insight into data, and help you to grab errors, raise up to high

gain for the business growth. By developing the admin panel early, It is used to build the application much more proficiently. Often projects can run over because of this. Without using an admin panel can lead to a loss of data in the website which makes a bad user interaction in the website, and additionally a larger difficulty to the administrator as shown in Fig.1.

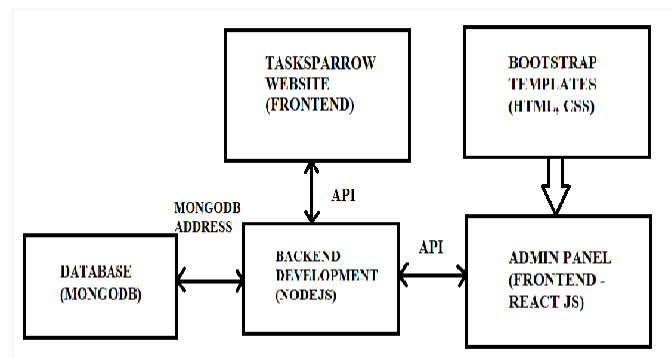


Fig. 1. System Architecture of Web development

Using the component creation renders the parent component of a react admin application which produces the reusability and debugging very easy. Continuously reporting dashboards in the admin panel. Here desired data information, orders, offer discounts, interact with the customers if any queries are managed. In this project, MERN development is used where M stands for MongoDB, which is a NoSQL unstructured document store model. R stands for ReactJS [3], an application used in frontend development. N stands for Node JS, an application used in Backend development. E stands for Express JS, it is a web framework for Node JS. For security purposes, JWT is proposed in order to secure the data from unknown members by setting the Token. Admin panel is used to manage the content of the website using the CRUD operations that means modify the structure of your database, create or delete or update or read the fields. Several "Lifecycle methods" run code at particular times in the process. In the list below, commonly used lifecycle methods are mounting, updating, unmounting. Also, many packages like AG-Grid, toasters, etc. are used which makes the website more innovative.

II. LITERATURE SURVEY

Afshan Saad, Muhammad Saad, Asia Samreen (2020) proposed an Interface Design And Development in CRM Tool Using PHP And Angular-JS For Consultants,[4] Customer Relationship Management is a business approach that targets apprehend, predict and achieve the needs of an organization. My Plug-in is

developing a PHP language, which helps in the server-side. The addition of a chat feature helps clients and customers. This feature is developed using AngularJs framework which is different from others.

Bin Liu, Yao Lu, (2019) proposed a Role of Advance Web-Based Content Management System And Its Significance In Library Management System,[3] This paper discusses the entry of Advanced Web-based Content Management System using Linked list based repetition for database management has been made to explain the different administration clients, so it improves the successful data searches and estimates accurate data ability and reliability efficiently.

Hamza Mahfoud Hamer,(2020) proposed A Web Application For Company Reports Management System. In this proposed system, they converted a paperwork system into electronic management for a recording system in an oil company. The proposed system of the web application using PHP and MySQL.

Pawel Rola, Dorota Kuchta,(2020) proposed a Content Management System as an Information Management System in Interdisciplinary Research. This paper is used to approximate the possibility and discuss the novel communication with the scientists using a content management system that operates on service based cloud computing software method.. This paper is used by the Polish National Science Centre for supporting their research Project work carried out by the CMS collaboration research team.

Aravindhan, Anusa, Periyakarupan, Kousaka, Lakshmi Priya(2020) proposed a Web Application Based on Demand Home Service System, [5] This proposed system says that created a web application developed using PHP as frontend development and SQL management as the backend development for household services. Home service administrators can register with this website and add their fundamental details about the users with their contact numbers. They can log in by providing their email id and password.

Gokay salami (2019) proposed A Secure Collaborative Module On Distributed SDN,[6] August-2019, The most important two requirements of modern application are Stability, and Security , In order to provide a continuous and secure services, the loading of website on the system ideally occurred in the server side..By using SDN controllers and a round robin scheme, the load balancing module is introduce. For server allocation and To provide reliability, the web application is designed using the Node JS and React JS

L Liang (2017) proposed an Express Supervision System Based On NodeJS And MongoDB, [7] This paper focuses on the angular JS for frontend and node JS for backend development and storage solutions of using MongoDB and the static functioning of an Express supervision system that requires large data visualization.

R.Mukhamadiev, N.Staroverova, M.Shustrova, (2020) proposed a Specifies of Project Management System

Development of Large Organization The main purpose of this work is to examine the functioning of the information systems and there is a problem in quality of the working system so for that to find the solution. Node JS and Ruby on Rails were used to design the new content management system in web application

Manoj Kumar Srivastav, Asoke Nath,(2018) proposed a Web Content Management System, [8] A web application of CMS that runs on web server which helps to facilitate creating a webpage. Also, it is tried to study mathematically working of the database in a web Content Management System.

Miha Pucelj (2020) proposed a Web Content Management Systems, [9] In this thesis, the architecture and principles of Content Management Systems are examined. Based on the decision theory, the decision model for picking the proper CM system was created.

III. PROPOSED METHODOLOGY

A. Existing Methodology

In Frontend development, Vue JS and Angular JS are used. They compel to follow certain rules and flow of work to follow, it gives the predefined coding rules. It constantly updates the DOM even if the data is not updated or it takes time to produce loading in the web page rather than storing the data on the API calls. In Backend Development PHP [10] language is used. It blocks the user requests required by the client to the server. It does not provide faster user interaction on web pages. Ajax and python also use it to load the web page, thus it decreases the performance of the web page. So, It does not help to expedite development activities. For data storage purposes, MySQL is used. It does not have the potential to retrieve the data. As the inbuilt admin panel will force you to do the work doubly at every feature will produce problems like it is not understandable for a new customer, In the complex workflow, it is difficult to maintain and debug, that are not perfect in User Interface quickly from the back end. Have to pay or using an internet connection to get the inbuilt admin panel which these are not suitable for the convenient.

B. Development Of Backend Using PHP

PHP is used in Backend Development which is a server-side scripting language that can be used to develop dynamic websites and applications in Back-end. While PHP [11] is a powerful tool supported by outsized data and full reference documentation, there are easier programming languages for web apps. PHP needs to be installed on the web server in the Backend that will host the server application and client applications can enter the server sources via web browsers. In the process of PHP, the flow of requests and responses are interrupted while sending to the client so there is a delay in getting the response. The diagram which is shown below demonstrates the basic architecture [12] of a PHP web application as shown in Fig.2.

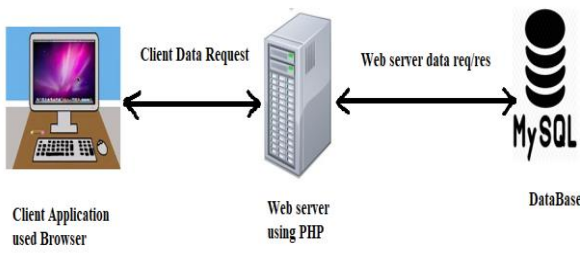


Fig. 2. PHP Workflow

C. Doing Database Design With MYSQL

MySQL is a relational database management system (RDBMS). It makes data into table format of rows and columns in which they have similar data types which are related to each other; these data types help to structure the data and the programming method typically used to query the database. SQL is a programming language where programmers use to add, update and delete data from the table database, as well as control the user access and manipulate the data to the database. In order to implement the computer storage system of the database, managing the user's details, network accessing, backup creation of details, database testing integrity, the MySQL database [13] works with the operating system of the PC along with the RDBMS and SQL. MySQL doesn't show any interface of graphics and the database can be managed through the command given where the advanced level of programmers prefer coding. MySQL [14] implements the SQL programming language, where these tools are available to use in the structured database design. The structured format of the MySQL database is shown below

TABLE I. STRUCTURED MYSQL FORMAT

ID	Name	Email	Address
1	Adma Khoo	adam@gmail.com	Singapur
2	Brian smith	brain@gmail.com	UnitedSates
3	Krishana kumar	krishna@gmail.com	India

D. Proposed Methodology

In frontend development, ReactJS is used which provides a Fast rendering, it does not reload the page when make any updates in the data because the data content stored in the local storage in Redux Technology [15]. Despite It is a library, it has its way of coding doesn't need to follow any rules. It renders Complex User Interface with High performance. The basics behind React's VirtualDOM. Each time the data changes in the app, it creates a new Virtual Dom Representation. In Backend Development, Node JS is used which provides a HTTP module for simultaneously sending multiple requests and responses without any interruption. To store up and manage the data, MongoDB is used where the data can be easily retrieved by using the id of each document. When website content needs to be frequently added or updated by using the admin panel. The most suitable solution to build the admin panel when website content needs to be often added or updated, it provides a

swift overview of all the activities in the store. The admin can do all sorts of tasks like user and content management, keeping a record of the data like the number of users or taskers visiting the website, etc. Top performance is based on the adaptable features which are comfortable for everyone. A user interface for doing all these tasks would make the administrator's life simple. In admin panel, Is used to manage the admin details, site and profile details, the count and details of the users and taskers who have logged in to the website, a task details are stored in the category management and other managements like subscription and newsletter is used to send emails to the customer. Packages like jwt, ag-grid, to satisfy, sweet alert which makes the web page more interactive as shown in Fig.3.

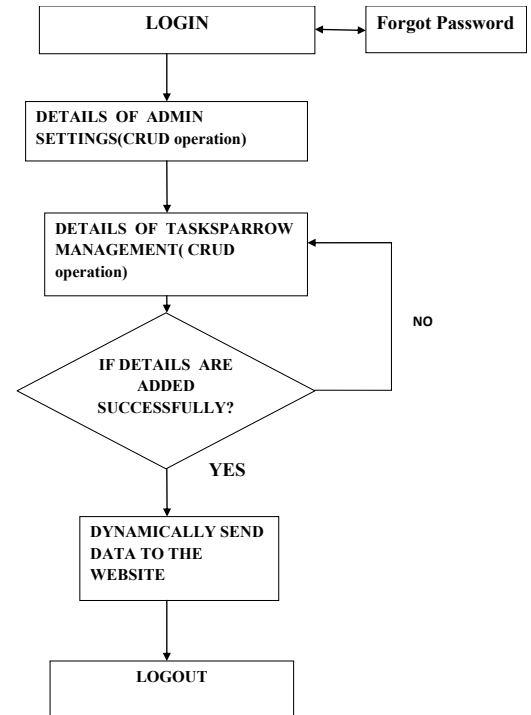


Fig. 3. Admin panel Flow diagram

E. REACTJS

React JS [16] is a frontend JavaScript client side library for building an user interfaces in Frontend Development. The important feature in React is the use of a virtual DOM or virtual Document Object Model. React forms an in-built data storage, Once the data gets changed virtual DOM will be updated, then comparison between the virtual DOM and a Real DOM that was taken right before the updation. By comparing the virtual DOM with a pre-update version of Real DOM, React exactly finds out which virtual DOM objects are changed that objects only update, not others. The process of this virtual DOM is called the "diffing Algorithm". However, React has been considered as a state management tool using Redux. While rendering the state object or data to the DOM, so creating React applications usually requires the use of additional library for routing purpose using react-router.

F. AXIOS and AG GRID

It performs HTTP request between frontend and Backend development. Axios uses methods like `get()` and `post()` that perform HTTP GET and POST requests for retrieving or creating the data. Ag-Grid is used to showcase the data in tabular format. To customize the behavior of the data. It provides some features like paging, sorting, filtering etc

G. Backend Technologies

Node JS is a cross-platform, server-side scripting tool in the back-end development that runs on V8 engine chrome in JavaScript runtime environment. This allows Node.js to be very reliable and executes JavaScript code in a web browser, server-side scripting where running the scripts in server-side before creating the page and sending to the web browser produces a dynamic web page content. It is a tool for almost any kind of project in the backend. A Node.js app is run on a single-threaded event loop process, unless creating a new thread for every request sent to client-side. Node.js provides a set of asynchronous I/O in its standard library system that prevents blocking the server req/res by using the Javascript coding. When Node.js performs a request/response operation, like clicking something from the webpage, retrieving a database, to the backend side. Instead of blocking the request/response and wasting CPU waiting process, Node JS will rectifies the problems when the response/response comes from back and forth using a single-threaded operation. In the Backend, file upload work has been accomplished by using the Multer package. It makes it easy to handle multiple files when the users upload the file.

H. JASON WEB Token and NODE MAILER

In the Backend, file upload work has been accomplished by using the Multer package. It makes it easy to handle multiple files when the users upload the file. It is used to send a notification through mail to the users regarding any announcement, discount or coupon offers, products reviews, to help if any doubts.

I. Database Management- Mongo DB

Mongoose is an Object Data formatting tool for MongoDB[4] and Backend development. MongoDB is also called No SQL or Not only SQL. The data can be maintained through this relationship, the schema connection can be validated, and Data can be translated in object format and the representation of those MongoDB is in the objects format. MongoDB is a less schema Not only SQL document based database. It means JSON format documents can be stored into it, and the arrangement of these storing of the data can be vary as it is not required like SQL databases. By using the `_id` can easily retrieve the unique data. The advantages of using Not only SQL is to speed up application development and complexity is reduced in storing a huge amount of data. A user can avoid delay and difficulties while retrieving data as shown in Fig.4.

```
{
  "Id": 1,
  "FirstName": "Ada",
  "LastName": "Lovelace",
  "Email": "ada.lovelace@gmail.com",
  "Phone": {
    "Home": "+1.123.456.7890"
  },
  {
    "Work": "+1.111.222.3333"
  }
}
```

Fig. 4. Unstructured JSON format

IV. RESULTS

This admin panel is the first tool for creating the website, which sends the content of the data dynamically to the website. The interface between the client-side and the server-side is also done easily with the help of API connection, in case any client sends any request to server, the server sends fast response through single-threaded event loop to the client side; The whole content of the website like managements, emails sending, admin functionalities, login details will be managed by administrator of website.

A. Merits

The merits of the proposed system are as follows:

- Fast rendering on the web page.
- Fast response in a single-threaded event loop.
- Virtual DOM.
- The whole content of the website will be managed by the admin panel.

An email newsletter has various types of email content sent out by the administrator to the subscribers. That list of newsletter should include the existing offers, the users that have signed up as customers or taskers and given clear content to receive communication about tasks and taskers as shown in Fig.5.

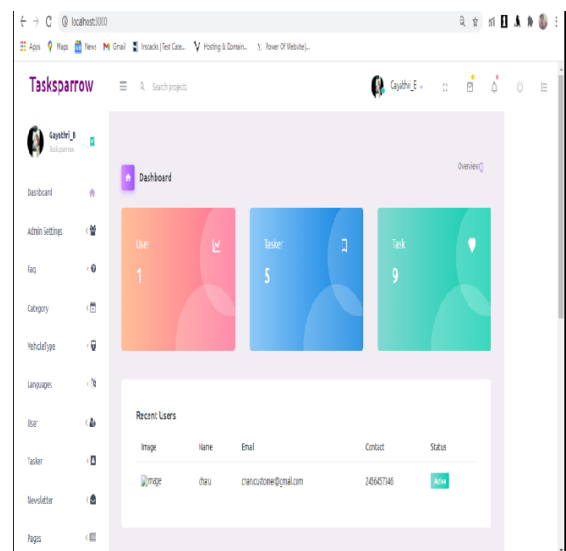


Fig. 5. Dashboard Page

Email newsletters are sent frequently and contain valuable contents like guidelines, Faq posts, updated news, reviews of the tasks, recommendations for personal reasons, tips for improvement, any announcements in the website and other details as shown in Fig.6 and Fig. 7.

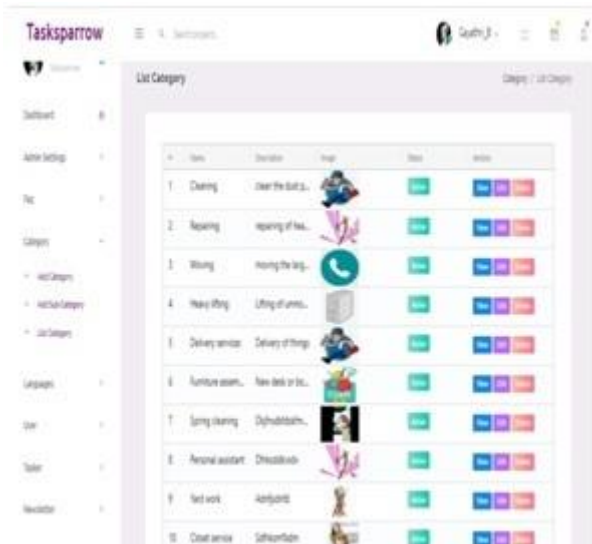


Fig. 6. Category management

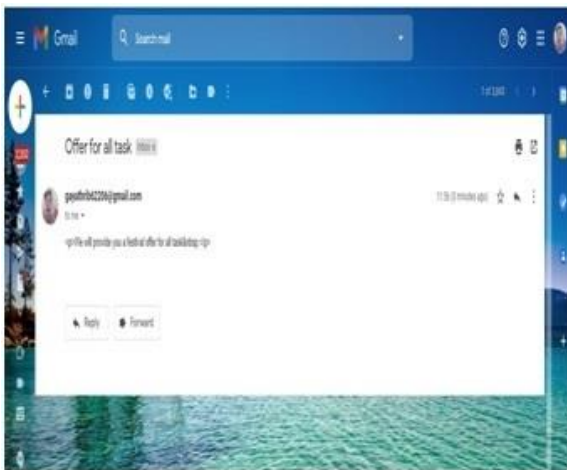


Fig. 7. Offer mail sent to users from admin

The administrator offers any discounts or coupons in a task related to details that are sent to the users' email id. By using the subscription list any information can be sent to users regarding the offers available, registration mail, notification mail, if want to contact through user mail id means can contact them through subscriptions management.

V. CONCLUSION

This web design proposes a reliable admin panel that overcomes current situation problems in the website using web development. The proposed scheme can produce a fast rendering of a web page without loading and manage the dynamic data of the website. VirtualDOM, where an update of data has been done fastly. The ExpressJS framework is used to handle the huge number of requests from client side and response from server side. This admin side of a web application is

where one controls, manages, and maintains the user end of the website. The admin can do all sorts of tasks like user and content management, keep reporting of data like the number of members visiting the website. The overall system can be designed so that its capacity can be increased in response to the further requirement for the application.

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