

INTERNWAY
A

Report submitted in partial fulfillment of the requirement for the
degree of
B.Tech.

In
Computer Science & Engineering

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DECLARATION

This is to certify that Report entitled “**INTERNWAY**” which is submitted by us in partial fulfillment of the requirement for the award of degree B.Tech. in Computer Science and Engineering to Pranveer Singh Institute of Technology, Kanpur Dr. A P J A K Technical University, Lucknow comprises only my own work and due acknowledgement has been made in the text to all other material used.

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CERTIFICATE

This is to certify that Report entitled “**INTERNWAY**” which is submitted by **Sana Parveen (1901640100232)**, **Pranjal Sharma (1901640100199)**, **Aditi Thakur (1901640100023)**, **Shivang Mishra (1901640100265)** in partial fulfillment of the requirement for the award of degree B.Tech. in Computer Science & Engineering to Pranveer Singh Institute of Technology, Kanpur affiliated to Dr. A P J A K Technical University, Lucknow is a record of the candidate own work carried out by him under my/our supervision. The matter embodied in this thesis is original and has not been submitted for the award of any other degree.

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ABSTRACT

The main aim of this project is that we are on the mission of resolving a crisis for a lot of small and medium enterprises, who are trying to recruit interns for their projects. This project's platform aims to onboard new interns, who have applied to the companies and help them understand the process and make the transition smooth. This platform is the best gateway to show recruiters, what interns are capable of and this all is possible by bridging the gap between the small enterprises or the company's recruiters and the Developers or the Interns that are hired by the respective companies.

The plight of small and medium companies has gravely wounded the world with serious consequences impacting all the onboard new interns, developers, full-time roles, and individuals during their recruitment phase. To solve these issues and to show a brilliant path to all the individuals listed we proudly present **Internway**, a platform for Internship Onboarding, Projects Management, Learning, Recruiting, and many more... for students, interns, developers, who are looking actively for Internship and full-time roles now.

We are on the mission of resolving a crisis for a lot of small and medium enterprises, who are trying to recruit interns for their projects. This platform aims to onboard new interns, who have applied to the companies and help them understand the process and make the transition smooth. This platform is the best gateway to show recruiters, what interns are capable of.

In this project, we are going to have a setup for every individual intern by providing their account section, i.e., Profile, likely and show others that you are ready to work on a particular stack by joining their company as an Intern. To guide you better, we are also planning to introduce Learning pages, Application Tracking Systems, Opportunity Tracker, and Live Interactive Sections on YouTube by our well-qualified mentors to keep you updated.

This program helps the intern, interact with the Recruiters & Managers, effectively by providing social media handles. Also, the interns get a chance to exhibit their work by sharing their GitHub, LinkedIn profiles with their recruiters.

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LIST OF ABBREVIATIONS

HTTP	Hyper Text Transfer Protocol
DB	Database
POS	Point of Sale
MERN	MongoDB, Express, React, Node
HTML	Hypertext transfer protocol
CSS	Cascading Stylesheet
JS	JavaScript
SWOT	Strength, Weaknesses Opportunities and Threat
RAM	Random Access Memory
JSON	JavaScript Object Notation
IDE	Integrated Development Environment
SQL	Structured Query Language
API	Application Programming Interface

CHAPTER 1

INTRODUCTION

MERN Stack Full Form is MongoDB, ExpressJS, ReactJS, NodeJS.

MERN Stack is a compilation of four different technologies that work together to develop dynamic web apps and websites.

It is a contraction for four different technologies as mentioned below:

M - MongoDB

E - ExpressJS

R - ReactJS

N – NodeJS

MERN Stack is a Javascript Stack that is used for easier and faster deployment of full-stack web applications. MERN Stack comprises of 4 technologies namely: MongoDB, Express, React and Node.js. It is designed to make the development process smoother and easier.

Each of these 4 powerful technologies provides an end-to-end framework for the developers to work in and each of these technologies play a big part in the development of web applications.

MERN stack is a collection of technologies that enables faster application development. It is used by developers worldwide. The main purpose of using MERN stack is to develop apps using JavaScript only. This is because the four technologies that make up the technology stack are all JS-based. Thus, if one knows JavaScript (and JSON), the backend, frontend, and database can be operated easily.

The first component is **MongoDB**, which is a NoSQL database management system.

The second MERN stack component is **ExpressJS**. It is a backend web application framework for NodeJS.

The third component is **ReactJS**, a JavaScript library for developing UIs based on UI components.

The final component of the MERN stack is **NodeJS**. It is a JS runtime environment, i.e., it enables running JavaScript code outside the browser.

As people's dependency on technology grows, so does the demand for effective web and mobile applications. As a result, software developers explore different approaches to achieve a better user experience. For example, even when there is a lot of network congestion, the user wants a better UI and a faster response time for HTTP requests. As a result, stack technology is introduced, which creates a responsive and interactive UI and makes the development process much easier. For these reasons only we have used this technology in our project.

We have made the UI of our project using the ReactJS code, and provided the backend part using the ExpressJS. Along with this we have used the MongoDB Atlas as a Database Management System. We will store all of our data in this database which includes the credentials of the Interns as well as the Developers also of Companies. Further Postman is used as an API of our project in which it will act as a interface between the frontend and the backend part of the Project. We have used this API to do the overall testing if the data that will be stored in the database of our project. Here is some of the Features that is made in our project:

- The user visits our React-based landing page.
- The user chooses to Login or Register as a Fresher or the Experienced Intern.
- User can access the user dashboard which will show all the Tasks and projects that will be provided by the companies as the Internship.
- Company can also login and access the admin dashboard using their credentials as a admin to provide the facilities for the Onboarding Interns.
- While on the backend, ExpressJS looks for the hit endpoint and calls the appropriate controller function to fetch the data.
- We can use mongoose in the controller to query the database, retrieve the data, and return in JSON format.
- The JSON data is sent back to React, which updates the state with the fetched information.
- That's how MongoDB, React, Express, and Node interact.

CHAPTER 2

EVOLUTION OF TECHNOLOGY

2.1 Language Description

2.1.1 ReactJS

The ReactJS framework is an open-source JavaScript framework and library developed by Facebook. It's used for building interactive user interfaces and web applications quickly and efficiently with significantly less code than you would with vanilla JavaScript. It is an open-source, component-based front-end library responsible only for the view layer of the application. It is maintained by Facebook. Moreover, ReactJS makes Front-end development very easy.



Figure 1

2.1.2 NodeJS

NodeJS is primarily used for non-blocking, event-driven servers, due to its single-threaded nature. It's used for traditional web sites and back-end API services, but was designed with real-time, push-based architectures in mind. It is an open-source and cross-platform runtime environment for executing JavaScript code outside a browser. You need to remember that NodeJS is not a framework and it's not a programming language.



Figure 2

2.1.3 MongoDB

MongoDB is a source-available cross-platform document-oriented database program. Classified as a NoSQL database program, MongoDB uses JSON-like documents with optional schemas. MongoDB is developed by MongoDB Inc. and licensed under the Server-Side Public License which is deemed non-free by several distributions. It is a document database used to build highly available and scalable internet applications. With its flexible schema approach, it's popular with development teams using agile methodologies.



Figure 3

2.1.4 ExpressJS

Express.js, or simply Express, is a back-end web application framework for Node.js, released as free and open-source software under the MIT License. It is designed for building web applications and APIs. It has been called the de facto standard server framework for Node.js.



Figure 4

CHAPTER 3

MODEL DESCRIPTION

The Model-View-Controller (MVC) is an architectural pattern that separates an application into three basic components: the model, the view, and the controller. Each of these components are built to handlespecific development aspects of an application. MVC is one of the most frequently used industry- standard web development framework to create scalable and extensible projects.

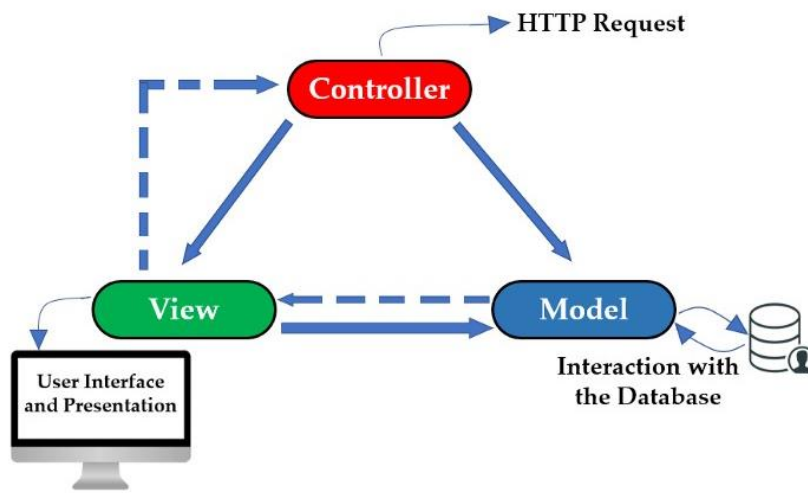


Figure 7

Let's discuss about the three basic logic components in a little bit more detail:

1. Model:

- manages the behavior and the data of the application domain.
- responds to requests for information about its state (usually from the view).
- responds to instructions for state change (usually from the controller).
- In event — driven systems, the model notifies observers (usually views) when the information changes so that they can react.

2. View:

- renders the model into a form suitable for interaction, typically a user interface element.
- Multiple views can exist for a single model for various purposes.
- A viewport typically has one to one correspondence with a display surface and knows how to render to it.

3. Controller:

- receives user input and initiates a response by making calls on model objects.
- A controller accepts input from the user and instructs the model and viewport to perform actions based on that input.

Brief Introduction to the MERN Stack

The MERN Stack is a JavaScript Stack that is used for easier and faster deployment of full-stack web applications.

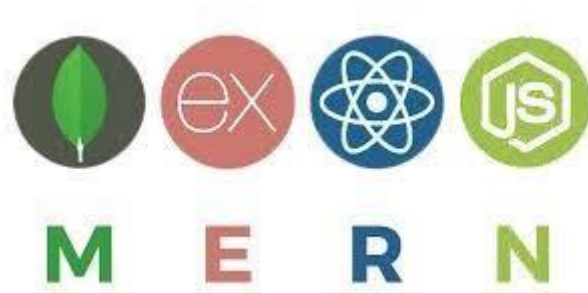


Figure 8

The MERN stack consists of the following technologies:

- **MongoDB:** A document-based open-source database.
- **Express:** A web application framework for Node.js.
- **React:** A JavaScript front-end library for building user interfaces.
- **Node.js:** JavaScript run-time environment that executes JavaScript code outside of a browser (such as a server).

It is also common to use **Mongoose**, which is a simple, schema-based solution to model application data.

MVC and MERN

MERN isn't an MVC framework in the traditional sense, because it spans both the server and browser. MVC can also be achieved by sticking to server-side templating in Node, and just sending the HTML to the browser and treating the browser as the View layer i.e., doing things the way things have always been done forever.

Although, when React is combined with a JavaScript backend, then it is MVC. React serves as the “V” in the MVC

- **Mongoose** models define the data part. This is where we will store all of the crucial data our application needs to function.
- **Express & Node.js** does all the functional programming and will be used to write the Business Logic Tier (controller). This tier represents the Application Server that will act as a bridge of communication for the Client and Database. This tier will serve the React components to the user's device and accept HTTP requests from the user and follow with the appropriate response.
- **React** serves as the “V” in the MVC. Our client tier (View) will be written in JavaScript, HTML, and CSS, using **ReactJS** as the framework. This level of the architecture is what the user will interact with to access the features of our application.

With this, we come to the end of this article. In this article, we have discussed how the traditional MVC architecture is implemented in the very trending MERN Stack.

CHAPTER 4

USE CASES

- **Login**

The existing user will have to login as it will be helpful to verify the user whether he/she is the Intern or the company employee.

- **Register**

The new user will have to register on the website either as a Intern or as an Employee.

- **Help**

A Help screen will display the contacts of the respective companies.

- **User Dashboard**

After login process the Interns/Developers will select the user dashboard.

- **Admin Dashboard**

After the login process the company employees can select the admin dashboard.

- **User Profile Creation**

Interns will write their respective profile credentials such as name, email, experience, skills, mobile no. etc.

- **Document Upload**

Interns will upload their Documents asked by the respective companies such as Marksheet, Identification Proof, CV, Resume, Certificates etc.

- **View Work Progress**

Interns can see their work progress by the pie chart in the User dashboard.

- **View Course**

Interns will see the courses uploaded by companies and will learn through it.

- **View Project**

Projects assigned to each Interns will be displayed as well as the list of projects that they have already worked on.

- **Admin Profile Creation**

Company will write their respective profile credentials such as Company name, HR, Social Media Handles etc.

- **Verification of Document**

Documents Uploaded by Interns will be verified by the Company.

- **Course Upload**

According to the assigned project, the courses will be provided by the company.

- **Assign Project**

According to the skillset and experiences the company will assign the project to the Interns.

- **Logout**

User or Admin can Logout after they are done with their work.

CHAPTER 5

MERITS AND DEMERITS

5.1 Merits

5.1.1 **EASY TO USE:** It is a strong site navigation makes it easy for user to find the internships that interests them sans, a potential frustrating “hunt”.

5.1.2 **WORK FROM HOME:** With the comfort of Home if you want to gain professional experience on working with the real word projects then Internway is the right is the right place for you providing the internships in almost every field

5.1.3 **GENUINE INTERNSHIPS:** While searching for internships you might come across few sites with fake internships but Internway follow a straightened authentication process before posting internships.

5.1.4 **INTERNSHIPS FOR EVERYONE:** It’s an awesome platform for fresher as well as experienced interns who want to implement the knowledge of the skills they have gained into the practicality.

5.1.5 **TRAINING:** You will be trained fully by the company employees by providing the courses and notes.

5.1.6 **FREE INTERNSHIPS:** Without paying one is getting the internships.

5.2 Demerits

5.2.1 **STIPEND:** In many cases the employers (mostly from start-ups) do not pay the interns the mentioned stipend and often negotiate with them.

5.2.2 **WORKLOAD:** Do not be surprised if you are being asked to do something which is not mentioned in the “day-to-day responsibilities”!

CHAPTER 6

CONCLUSION

Internway concentrates on helping interns in learning, training, and garnering real-world-experience. It was launched with a mission to encourage college students or even the developers in India with practical knowledge and real-life skills to achieve their dreams and turn them into reality by practicing the art of implementation of the knowledge of the skills they have learned in the past experiences. So, students will learn technologies with the help of courses that we are providing as well as implement technologies in projects.

Companies are constantly working towards providing internships and training across cities, small towns, and villages. This is the driving factor for Internway. In the coming years, Internway wants to take the step of providing meaningful internships to students and individuals in tier 2 and tier 3 cities by creating awareness and bringing opportunities to them.

In this program, we are going to have a setup for every individual intern by providing their account section and show others that you are ready to work on a particular stack by joining their company as an Intern. To guide you better, we are also planning to introduce Learning pages, Application Tracking Systems, Opportunity Tracker etc.

This program is made to help the intern, interact with the Recruiters & Managers, effectively by providing social media handles. Also, the interns get a chance to exhibit their work by sharing their GitHub, LinkedIn profiles with their recruiters.

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