

AJAY KUMAR GARG ENGINEERING COLLEGE

27 KM STONE DELHI HAPUR BYPASS ROAD, P.O. ADHYATMIC
NAGAR GHAZIABAD-201009

AN INTERNSHIP TRAINING REPORT AT Solar Secure Solution Pvt. Ltd.

As Full Stack Web Developer Intern



**SUBMITTED BY:
HARSH JAISWAL
(2000270120043)**

**SUBMITTED TO:
MS. ANKITA RANI**

AJAY KUMAR GARG ENGINEERING COLLEGE

27 KM STONE DELHI HAPUR BYPASS ROAD, P.O. ADHYATMIC NAGAR GHAZIABAD-201009

CERTIFICATE

This is to certify that **Harsh Jaiswal** student of **Ajay Kumar Garg Engineering College B.Tech 4th year CS Branch**, has successfully completed an Internship Training at Solar Secure Solution Pvt Ltd, from July 2023 to Sept 2023 .

Ms. Ankita Rani
Assistant Professor

Dr. Anu Choudhary
H.O.D. CSE

CERTIFICATE



ABSTRACT

This internship report presents a comprehensive overview of my experience at Solar Secure Solution, a dynamic and innovative company specializing in providing course to grow their skills. Over the course of my internship, I was immersed in the world of web app development, using technologies such as HTML, CSS, Javascript, NodeJs, ExpressJS, MongoDB. My primary responsibilities included building a website from scratch, connecting them with the backend, and ensuring their responsiveness and reactivity.

Throughout this internship, I honed my skills in SQL, Frontend as well as Backend Technologies and API implementation. The experience of creating a full-stack, real-time live website in a startup environment provided valuable insights into industry-level application development and the dynamic culture of startups.

This report outlines my key accomplishments, the skills I acquired, and the insights gained from this internship, underscoring the significant impact it has had on my professional growth.

ACKNOWLEDGEMENT

I extend my sincere gratitude to **Ms. Ankita Rani Ma'am**, for providing me with the right guidance and advice at the crucial junctures and for showing me the right way. Most importantly, I'm grateful to our respected **HOD Dr. Anu Choudhary Sir**, for allowing me to use the facilities available.

Last but not the least, I would like to thank Ashish Singh Sengar , my manager at Solar Secure Solution, who is always there to provide his guidance and knowledge.

Harsh Jaiswal
(2000270120043)

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CHAPTER 1

INTRODUCTION TO ORGANISATION

1.1 About Solar Secure Pvt Ltd.

Solar secure solutions was established in 2018 by a passionate team of freelancers primarily as a Web Development firm on the principles of high standards, ethics, and genuine customer service and since then we have provided boost to many small and big businesses and gained their trusts with repetitive project orders. Our Headquarter is located in Bengaluru (also called Bangalore) . Our moto is to make healthy relations with our clients and we believe that blessing actually works.

Solar Secure solutions is an MSME(Govt. of India) organization working on various environmental issues such as solar energy services, water conservation, renewable energy projects, and eco-tourism Camps. We are conducting various workshops, Certified Industrial Solar Internships for final year engineering students and training programs on solar photovoltaic technology for individuals & corporate sectors. Solar Secure solutions also take up consulting, design, and erection of solar and renewable energy products to the Indian sub-continent region.

Some Little Positive Changes makes big Differences in your professional and personal life both, Let's find out those changes and see what we can do together. We Discover every tiny thing from scratch what suits best for your requirement, right from Logos, Theme Colors, Title's, Names, Slogans, Coding etc. to provide you unique experience and satisfaction.

Designing the website is a time-Consuming process which involves a lot of hit & trials to match the need of the clients, this focuses on Front End Designing Concepts for User Interface and User Experience.

1.2 IT Solutions and Services :

a) Web Designing :

Web Designing is the Main Service offered since the very beginning of Solar secure. We Design a variety of Websites like portfolio/individual website, Social, Commercial, eCommerce, Job Portal Etc.

b) Front End Development :

Front-End Development is related to the User Interface and User Experience (UI/UX). And We provide top quality Frond End developing service to our clients.

c) Back End Development :

Back-end concepts are related with Coding and Programing to create a website. We Majorly Use HTML, CSS, JAVA, JavaScript, J-Query and C++ To create Stunning Results.

d) SEO & Promotion :

We provide SEO Services to increase ranking of your website on popular search engines and do promotion on various platforms to increase the traffic on your website.

e) Lead Magnets & Lead Generation :

We Provide Lead Generation Services with the help of Lead Magnets. A Lead Magnet although look simple, but plays a powerful role to generate fresh leads from the traffic coming on your website.

f) Social & Email Marketing :

Entering in the crowd of new digital era of Internet, Social Media and Emails, It seems a good way to generate leads and prospects for your business and our team does it for you.

CHAPTER 2

SOFTWARE TRAINING WORK UNDERTAKEN

2.1. Background of the Training:

The food industry has witnessed a significant shift towards digital platforms, and online food delivery services have become increasingly popular. Recognizing this trend, the goal of this project was to develop a comprehensive online food delivery platform that streamlines the process of ordering food from local restaurants.

2.2. Technologies and Tools:

2.2.1 ReactJS:

One of the main benefits of using React JS is its potential to reuse components. It saves time for developers as they don't have to write various codes for the same features.

React was chosen for the frontend to create a dynamic and responsive user interface. Its component-based architecture facilitated the development of interactive views for users



2.2.2 MONGODB:

MongoDB was chosen as the database for its flexibility and scalability. Its document-oriented structure allowed for easy storage and retrieval of restaurant information, menus, and user data.

MongoDB is built on a scale-out architecture that has become popular with developers of all kinds for developing scalable applications with evolving data schemas .



2.2.3 VISUAL STUDIO CODE:

Visual Studio, a powerful integrated development environment (IDE) for Web app development, was an integral part of the training. This IDE played a crucial role in my work, allowing me to design and build Web applications seamlessly.



2.2.4 NodeJS:

NodeJS is easily employed as a server-side proxy, where it can handle a large amount of simultaneous connections in a nonblocking manner. It's useful for proxying different services with varying response times, or collecting data from multiple source points.

Node.js served as the runtime environment for executing server-side JavaScript. It facilitated the coordination between the server and the MongoDB database, ensuring smooth data flow.



2.2.5 ExpressJS:

Express is the most popular Node web framework, and is the underlying library for a number of other popular Node web frameworks.

Express.js was utilized to build the backend server, handling HTTP requests and serving as the middleware to connect the frontend and the MongoDB database.



CHAPTER 3

INTERNSHIP TRAINING WORK UNDERTAKEN

3.1 Overview:

During my internship at Solar Secure Solution Pvt Ltd, I had the opportunity to work on a challenging and innovative project. The primary objective of the project was to gain practical experience in developing web applications and integrating them with back-end systems. The tools and technologies I were introduced to played a crucial role in achieving this goal.

3.2 Project Objectives:

The project at Solar Secure Solution aimed to achieve several key objectives:

- **Development of a Web Applications:** The primary task was to create a web applications from scratch. These applications were not only designed but also connected seamlessly with the back-end systems, ensuring a holistic user experience.
- **API Implementation:** As part of my responsibilities, I was tasked with designing and implementing APIs for various tasks. This included making the applications reactive and responsive to user interactions.
- **Full-Stack Experience:** Building two full-stack applications from the ground up provided me with valuable insights into creating industry-level, real-time web applications. It allowed me to understand the interplay between the front-end and backend components, a critical aspect of modern application development.

3.3 Skills Acquired:

Through my work on the project, I honed several key skills:

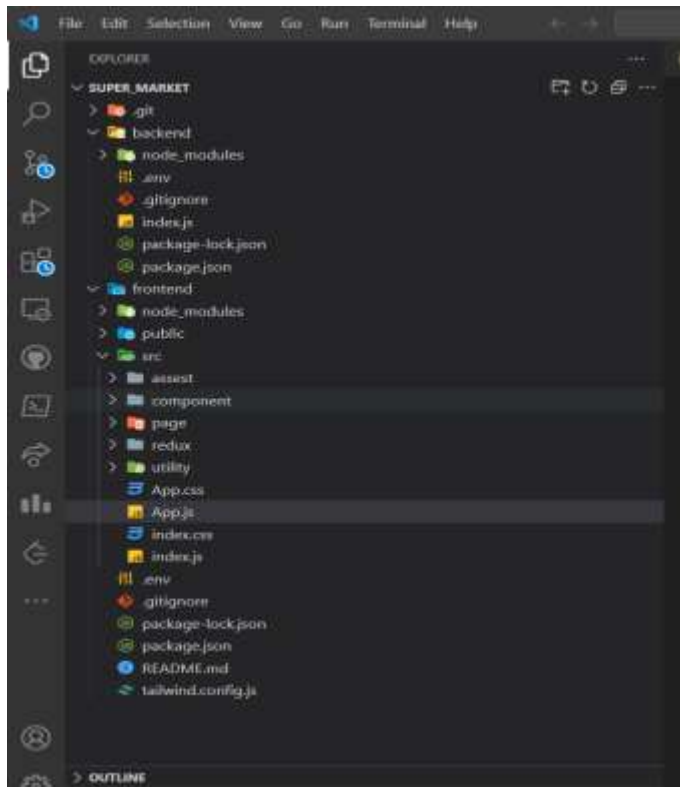
- **MongoDB:** I gained proficiency in managing and retrieving data using MongoDB databases, a crucial skill in web application development.
- **Nodejs:** Working on the project introduced me to how to communicate with the server from user side and interaction with database management.
- **Frontend Development:** A significant portion of my work involved creating frontend UI using HTML, CSS , Javascript. This not only enhanced my development skills but also allowed me to integrate with back-end seamlessly.

CHAPTER 4

SYSTEM ARCHITECTURE

4.1 Project Overview:

During my internship at Solar Secure Solution , I had the opportunity to work on an exciting project that involved the development of to leverage the MERN stack to develop a scalable and efficient online food delivery platform. Specific goals included the implementation of user authentication, menu management, order processing, and the creation of an intuitive user dashboard.



4.2 Building the Online Food Ordering Website :

The core of the project revolved around developing a web application for users to request orders of food online. Full Stack development was used for creating a user-friendly and responsive web application.

4.3 Database Design :

The MongoDB database was designed with collections for restaurants, menus, users, and orders. Schemas were defined to maintain consistency and structure within the data.

```

//mongodb connection
mongoose.set("strictQuery", false);
mongoose
  .connect(process.env.MONGODB_URL)
  .then(() => console.log("Connect to Database"))
  .catch((err) => console.log(err));

//schema
const userSchema = mongoose.Schema({
  firstName: String,
  lastName: String,
  email: {
    type: String,
    unique: true,
  },
  password: String,
  confirmPassword: String,
  image: String,
});

const userModel = mongoose.model("user", userSchema);

```

```

127
128 //product section
129
130 const schemaProduct = mongoose.Schema({
131   name: String,
132   category: {
133     type: String,
134     index: true,
135   },
136   image: String,
137   price: String,
138   description: String,
139 });
140 const productModel = mongoose.model("product", schemaProduct);
141
142 //save product in data

```

4.4 Backend Structure :

The backend, built with Express.js and Node.js, featured a well-organized structure. Routes were established for handling user authentication, menu management, and order processing, with middleware ensuring security and validation.

The backend (or “server side”) is the portion of the website you don't see. It's responsible for storing and organizing data, and ensuring everything on the client-side actually works.

4.5 Frontend Structure:

React components were structured to provide a seamless user experience. State management using React Hooks ensured real-time updates and efficient rendering of components.

The front end is the part of the website users can see and interact with such as the graphical user interface (GUI) and the command line including the design, navigating menus, texts, images, videos, etc.

4.6 Responsive & User -Centric Design : The project's web application was meticulously designed to be exceptionally responsive to user interactions and preferences. The user-centric approach was at the forefront of the application's design, resulting in an interface that offers a delightful experience for both side. This emphasis on responsiveness and user-friendliness enhances user satisfaction, making the app a go-to choose items from menu.

CHAPTER 5

Features and Functionality

5.1 User Authentication :

User authentication was implemented using JWT to secure user accounts and provide a personalized experience. This feature enhanced the overall security of the platform.

User authentication is a fundamental component of any online platform, ensuring secure access and personalized experiences for users.

```
api login
app.post("/login", async (req, res) => {
  const { email } = req.body;

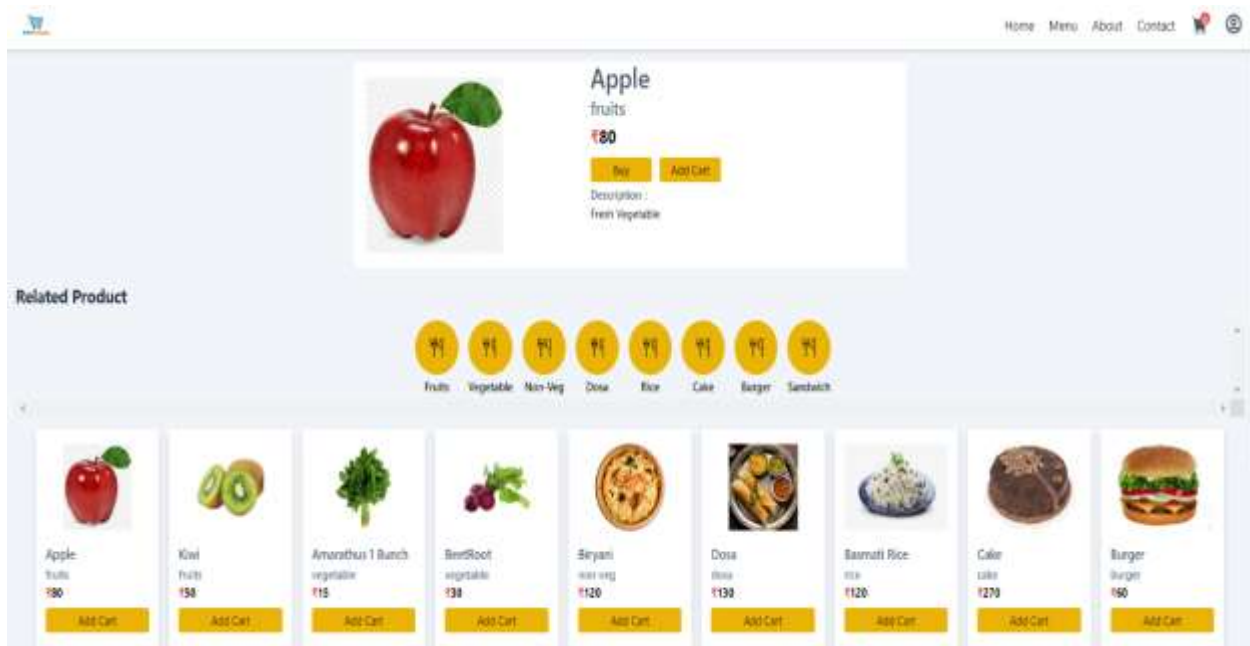
  try {
    const result = await userModel.findOne({ email: email });

    if (result) {
      // compare passwords
      const userpassword = req.body.password;
      const compareResult = await bcrypt.compare(userpassword, result.password);
      if (compareResult) {
        const dataSend = {
          _id: result._id,
          firstName: result.firstName,
          lastName: result.lastName,
          email: result.email,
          image: result.image,
        };
        res.send({
          message: "Login is successful",
          alert: true,
          data: dataSend,
        });
      } else {
        res.send({
          message: "Something Went Wrong",
          alert: false,
        });
      }
    } else {
      res.send({
        message: "Email is not available, please sign up",
        alert: false,
      });
    }
  } catch (err) {
    console.log(err);
    res.status(500).send({ message: "Server error" });
  }
});
```

5.2 Menu Management :

The platform allowed restaurant owners to manage their menus efficiently through a user-friendly interface, enabling the addition, modification, and removal of menu items.

Menu management in the context of an online food delivery website is a pivotal function that enables restaurants to curate and present their offerings to potential customers in a convenient and visually appealing manner. It involves a sequence of steps that ensure the seamless digital representation of a restaurant's menu.



5.3 Order Processing :

The order processing system facilitated the seamless placement and tracking of orders in real-time. Users could monitor the status of their orders, from confirmation to delivery.

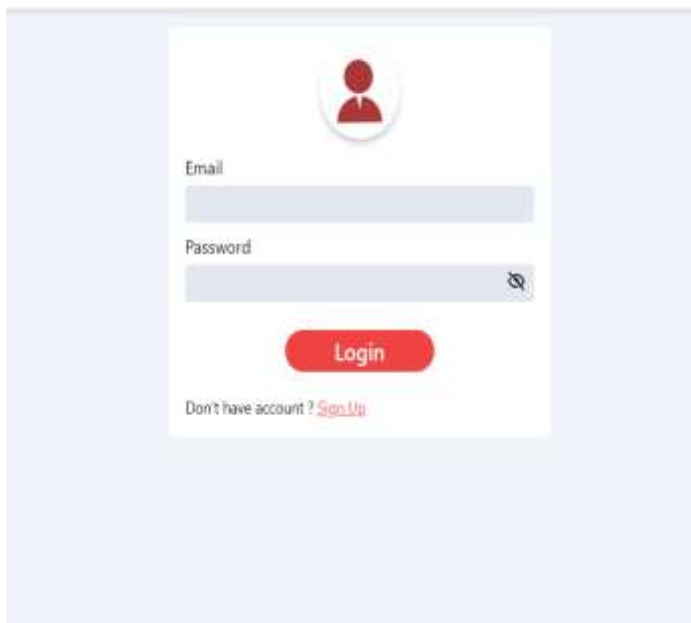
Order processing in the context of an online food delivery website is a meticulous and essential operation that orchestrates the entire journey of an order, from the moment a user places their food order to the delightful moment of receiving the meal at their doorstep. It commences with users selecting their desired items, customizing their orders, and confirming them through the website.



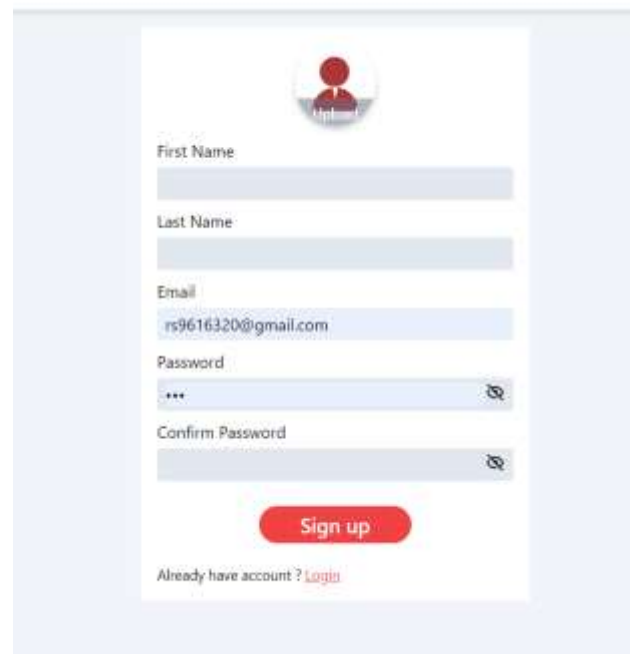
5.4 User Dashboard :

A personalized user dashboard provided customers with access to order history, account settings, and the ability to save favorite restaurants and dishes for future orders.

A user dashboard for an online food delivery website is a central hub that offers a personalized and convenient experience to users. It plays a pivotal role in enhancing the overall user experience and ensuring smooth interactions between customers and the food delivery service.



A login form UI mockup. At the top center is a red circular icon with a white silhouette of a person. Below it are two input fields: 'Email' and 'Password'. The 'Password' field has a small eye icon on the right. Below the input fields is a red rounded button with the text 'Login'. At the bottom, it says 'Don't have account ? [Sign Up](#)'.



A sign up form UI mockup. At the top center is a red circular icon with a white silhouette of a person. Below it are four input fields: 'First Name', 'Last Name', 'Email', and 'Password'. The 'Email' field contains the text 'rs9616320@gmail.com'. The 'Password' field has a small eye icon on the right. Below the input fields is a red rounded button with the text 'Sign up'. At the bottom, it says 'Already have account ? [Login](#)'.

CHAPTER 6

Challenge Faced

5.1 Technical Challenges :

During development, we faced challenges related to real-time updates and data synchronization. Implementing efficient solutions, such as WebSocket integration, resolved these issues and ensured a smooth user experience

5.2 Design Challenges

Design challenges included creating an intuitive and visually appealing interface. User feedback and iterative design processes were crucial in overcoming these challenges and improving the overall aesthetics of the platform.

CHAPTER 6

LEARNING OUTCOMES

6.1 Technical Skills :

The project significantly enhanced technical skills in MERN stack development, including proficiency in MongoDB, Express.js, React, and Node.js. The hands-on experience provided insights into building scalable and responsive web applications.

6.2 Project Management :

The development process improved project management skills, from initial planning to testing and deployment. It emphasized the importance of collaboration and effective communication within a development team.

CHAPTER 7

RESULTS AND DISCUSSION

At Solar Secure Solution, it has been an enriching experience, marked by several key outcomes and achievements. During this internship, I had the opportunity to work on a dynamic and challenging project: **“the development of an online food ordering website”**. This hands-on experience has significantly enhanced my technical skills, particularly in mobile application development using full stack. The versatile framework empowered me to create user-friendly and responsive web applications.

Additionally, my engagement with **SQL** allowed me to delve into database management, providing me with practical insights into efficiently designing and interacting with databases, which play a vital role in numerous software applications.

A standout skill developed during this internship is my expertise in backend development using cutting-edge technologies. I specialized in creating robust server-side solutions that powered the core functionality of our applications. This proficiency was instrumental in building high-performance and scalable systems, ensuring data was efficiently processed, and delivering responsive and data-rich experiences to our users.

Perhaps the most valuable aspect of this internship was the opportunity to **work on a real-world project**. The task of creating an online food ordering website from scratch provided me with invaluable insights into the complexities and intricacies of building a full-stack, industry-level, real-time mobile application. I gained practical experience connecting the front-end and back-end components of the application, ensuring a seamless and user-centric experience. This experience also provided a glimpse into the work culture prevalent in startup environments, emphasising the significance of user feedback and the agile methodologies employed in project development.

In conclusion, my internship at Solar Secure Solution has been a transformative journey. It has not only enhanced my technical competencies but has also provided me with practical insights into industry-level web application development.

CHAPTER 6

CONCLUSION

My internship journey at Solar Secure Solutions has been a highly rewarding experience, marked by significant achievements, skill enhancement, and valuable insights into the realm of software development. Throughout this internship, I had the privilege of working on an exciting project: the development of an online food ordering website, akin to industry leaders in the field. This real-world project provided me with profound insights into the intricacies of crafting user-friendly and feature-rich online platforms.

One of the standout accomplishments of my internship is the significant advancement of my technical skills. I honed my expertise in web application development, mastering technologies such as MERN (MongoDB, Express.js, React, Node.js) stack. This versatile stack empowered me to create a responsive, intuitive, and dynamic online food ordering platform that caters to the diverse needs of users. Additionally, I delved deep into database management, utilizing SQL and NoSQL databases to handle data efficiently and securely.

My proficiency in user authentication, menu management, and order processing were instrumental in creating a seamless and enjoyable user experience. These skills allowed me to develop secure login systems, design and manage restaurant menus effectively, and streamline the order processing flow. Additionally, I gained insights into the pivotal role of user feedback and agile methodologies in the development of online platforms, ensuring continuous improvement and user satisfaction.

Working on a real-world project under the Solar Secure Solutions banner granted me invaluable insights into the dynamic and innovative work culture prevalent in this organization. I learned to prioritize user-centric solutions, embrace agility in project development, and effectively collaborate with cross-functional teams.

In conclusion, my internship at Solar Secure Solutions has played a pivotal role in shaping my growth as a software developer. The practical experiences, skills acquired, and insights gained have equipped me with a strong foundation for my future endeavors. As I look forward to contributing to the continued success of Solar Secure Solutions, I am eager to leverage the knowledge and experiences gained during this transformative internship to create innovative and user-centric solutions for the online food ordering industry.

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