



EECE500 _ Approved Experience

Internship Progress Report

Summer 2024

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Company Name: Engineering Design and Manufacturing (EDM)

Weeks of Internship: 8 Weeks

Internship Starting Date: Monday May 20, 2024

Progress Report Submission Date: Wednesday July 3, 2024

Company Profile

EDM is a dynamic technology company that specializes in innovative software and IT solutions. EDM's primary focus is on developing cutting-edge web applications, APIs, and providing comprehensive cloud-based services. With a commitment to excellence and customer satisfaction, EDM delivers robust, scalable, and secure solutions to meet the diverse needs of our clients that can streamline business processes & grow revenue.

I. Work at the company

I am a .NET and React Developer Intern at EDM, playing a role in the development of various projects. As an intern at EDM, I have been engaged in various projects that leverage ReactJS, Redux, .NET 8 API, C#, and Entity Framework. My projects span across the full stack and my role involves both frontend and backend development, contributing to the creation of comprehensive web applications. My initial training included a series of mini projects to build foundational knowledge, followed by more complex projects to apply and extend these skills in real-world scenarios.

Responsibilities:

- **Backend Development:** I use the latest .NET 8 framework, to build robust and scalable APIs. My work involves integrating identity authentication and authorization, implementing payment endpoints, and creating various services to support application functionality.
- **Frontend Development:** On the frontend, I utilize React to build interactive and responsive user interfaces. I use Redux for state management and Redux Toolkit to

streamline the development process. My projects often involve complex UI components, routing using React Router, and handling asynchronous calls with Redux Toolkit Query.

Skills:

- **Backend:** .NET 8, C#, Entity Framework, RESTful APIs, Identity Authentication & Authorization, Stripe Integration.
- **Frontend:** ReactJS, Redux, Redux Toolkit, React Router, Axios, Hooks, Functional and Class Components.
- **Cloud:** Azure for deployment and cloud services.
- **Other:** Gitlab for version control, Agile methodologies, and a strong focus on writing clean, maintainable code.

II. Progress and Contribution

During my internship at EDM, I have embarked on a comprehensive learning journey, starting with a foundational React course and progressing through a series of practical projects to apply and extend my skills. This report details my work and contributions, from initial training projects to real-world applications, and outlines the remaining tasks to be completed. I have completed ProjectOPedia, which is part of the React training course and consists of 8 mini projects listed below. Additionally, I worked on and finished Red Mango, a restaurant webpage with both frontend and backend, and the WhatsApp Broadcast Portal, a portal for sending broadcasts with only the backend finished till now.

ProjectOPedia Training Mini Projects

ProjectOPedia: This series of eight mini-projects within the React course helped me build React skills, including JSX, props, components, state management, event handling, lifecycle methods, hooks, and Redux state management.

1. TaskOPedia

- **Description:** Built a simple page listing current tasks while learning a React course.
- **Topics Covered:**
 - JSX
 - Props and Components
 - Class-Based and Functional Components

2. CountOPedia

- **Description:** Developed a simple game to attack or defend and earn points.
- **Topics Covered:**
 - State Management
 - Handling Events in React

3. ContactOPedia

- **Description:** Implemented CRUD operations on a contact list in React.
- **Topics Covered:**
 - Reusing Components
 - Axios for API Calls
 - Validations in React

4. LifeCyclOPedia

- **Description:** Explored lifecycle methods in functional and class components.
- **Topics Covered:**
 - Lifecycle in Class and Functional Components
 - React Hooks
 - Controlled Components
 - Local Storage State

5. WatchOPedia

- **Description:** Added movies to a list with a counter to explore hooks in functional components.
- **Topics Covered:**
 - State in Functional Components

6. RouteOPedia

- **Description:** Implemented routing in React using various navigation techniques.
- **Topics Covered:**
 - React Router
 - NavLink
 - Navigation Hooks
 - Parameterized and Nested Routes

7. ReduxOPedia

- **Description:** Improved state management using Redux Toolkit to display a destination list.
- **Topics Covered:**

- Redux Store
- Reducers and Actions
- Redux Slice
- Custom Listeners

8. TravelOPedia

- **Description:** Utilized Redux Query and Mutation for async operations on a travel list.
- **Topics Covered:**
 - Redux Toolkit Query and Mutation
 - JSON Server for Data Management

Real-World Projects

Red Mango: I developed a full-stack application for a restaurant, using .NET 8 API with secure authentication, various restaurant-related endpoints, and a comprehensive React frontend that interacts with the API. This project involved functionalities like user login, menu management, order processing, shopping cart, payment integration with Stripe, and deployment to Azure.

1. Red Mango API: <https://redmangoapiedm.azurewebsites.net/index.html>

- **Description:** Developed a .NET 8 API for a restaurant with multiple endpoints.
- **Topics Covered:**
 - .NET 8 API Development
 - Identity Authentication & Authorization
 - Stripe Payment Integration

- Various Restaurant Endpoints

2. **Red Mango Client:** <https://redmangoedm.azurewebsites.net>

- **Description:** Built a comprehensive React frontend to consume the .NET API.
- **Topics Covered:**
 - React and Redux Integration
 - React Hooks
 - Stripe for Payments
 - React Router
 - Azure Deployment

WhatsApp Broadcast Portal: The backend for this project is complete. I am currently working on the React frontend, which will allow users to securely access the portal, manage settings and contacts, and send bulk WhatsApp messages.

3. **WhatsApp Backend**

- **Description:** Developed the backend for a WhatsApp broadcast portal.
- **Topics Covered:**
 - .NET 8 API Development
 - C# and Entity Framework
 - API Controllers for Authentication, Contacts, Settings, and Message Broadcasting

III. Remaining task to complete

WhatsApp Frontend

The remaining tasks for my internship focus on completing the frontend for the WhatsApp broadcast portal and deploying the backend and frontend at the end of this project. This includes:

- **Login Page:** Implementing secure login functionality with a user-friendly interface.
- **Portal Main Page:** Creating a navigable main page with headers for Settings, Contacts, Broadcast, and Logout options.
- **Settings Page:** Developing a form to manage settings required for message broadcasting.
- **Contacts Page:** Implementing add/edit/delete functionality for contacts, including a sortable, filterable, and paginated list.
- **Broadcast Page:** Creating the interface for sending WhatsApp messages, including a contact list with checkboxes, a message section, and a send button.

Conclusion

My internship at EDM has been a valuable learning experience, providing me with hands-on experience in both frontend and backend development. I have successfully completed several training projects and contributed to significant real-world applications. As I move forward, I am focused on completing the remaining tasks for the WhatsApp frontend, ensuring the project's successful delivery and deployment. I started the internship with a React course, followed by ProjectOPedia projects to build foundational skills, then applied these skills in the Red Mango project, and now I am working on the WhatsApp Broadcast Portal for use within the company.

Detailed Project Descriptions

Red Mango

Objective: Created a website for a restaurant to manage orders, payments, and deliveries, including an admin portal for the restaurant owner.

Pages and Functionalities:

- **Register and Login Pages:** Secure the web portal with user authentication.
- **Home Page:** Main interface with menu items, search bar, and sorting/filtering options.
- **Menu Item Management:** Admin interface to add, edit, and delete menu items.
- **Order Management:** Admin and user interfaces to manage and track orders.
- **Shopping Cart and Payment:** Customer interfaces for managing cart items and processing payments.

Technologies Used:

- Frontend: ReactJS, Redux, Bootstrap
- Backend: .NET 8 API, C#, Entity Framework
- Cloud: Microsoft Azure

WhatsApp Broadcast Portal

Objective: Developed a portal to send bulk WhatsApp messages to predefined contacts for business communications.

Pages and Functionalities:

- **Login Page:** Secure access to the portal.
- **Portal Main Page:** Central navigation hub.
- **Settings Page:** Form to manage sender details.
- **Contacts Page:** Interface to manage contact information.
- **Broadcast Page:** Interface for composing and sending messages.

Technologies Used:

- Frontend: ReactJS, Redux, Bootstrap
- Backend: .NET 8 API, C#, Entity Framework

Remaining Tasks:

- Completing the frontend components as detailed above.
- Ensuring a responsive and user-friendly design.
- Implementing necessary libraries and tools to finalize requested features.
- Researching and implementing WhatsApp message broadcasting functionalities.