ShipTrackr – Project Report

June 21, 2025

1. Task Allocation System Description

ShipTrackr is a responsive, browser-based shipment and task management system built using HTML, CSS, JavaScript, jQuery, and Bootstrap. The application allows users to manage shipments by inputting a unique ID, expected arrival date, urgency, and delivery status. All data is handled on the client-side using `localStorage`, which eliminates the need for a backend and allows persistent storage across sessions. Visual summaries, interactive calendar integration, and real-time chart analytics provide users with meaningful insights into logistics activity.

The system is designed with modularity and usability in mind. Each shipment is stored as a structured JavaScript object, and the app maintains a global state that is synchronized across the dashboard, summary, calendar, and activity sections. This architecture enables efficient task management and easy expansion for future features such as cloud syncing or authentication.

2. Coding Decisions

2.1 Tasks Page

The Tasks page is the core component where users input and manage shipment data. The form is validated using Bootstrap classes and jQuery event handling. Each entry is rendered into a table row, complete with edit and delete controls. Sorting buttons allow users to rearrange the table by ID, urgency, date, or status. Status badges and priority color coding are applied via conditional logic for enhanced readability. A calendar view was implemented to help users visualize arrival dates. Chart.js was integrated to create shipment analytics showing status distribution and monthly activity.

2.2 Latest Activity Section

The homepage includes a Latest Activity feed that displays the five most recent shipment entries. This feed pulls from `localStorage` and presents each shipment with an emoji and a Bootstrap status badge. The UI provides a concise, visual summary of recent additions to the system and reinforces engagement by reflecting user interaction across pages.

2.3 Custom Page – FAQ

The custom page (`faq.html`) contains three distinct components: an accordion-based FAQ, a visual roadmap timeline using Bootstrap badges, and a "How It Works" instructional section with icon-enhanced Bootstrap cards. The page improves accessibility by providing contextual guidance and common support questions, fulfilling the requirement for a creative and educational third component.

3. GitHub Repository

GitHub Repository: `https://github.com/nikolasbatsaris/task-manager-app.git`

4. Reflection

This coursework was completed individually and offered a complete view into the frontend development lifecycle. One of the biggest challenges was structuring reusable JavaScript to ensure consistent behavior across five different pages. I had to carefully integrate Bootstrap and jQuery while also preserving responsiveness and accessibility across form elements, tables, charts, and modals. Using Git for version control helped organize feature iterations and avoid regressions during development. The dark mode toggle and tooltip system were particularly interesting to implement and required close attention to class-based theme switching.

The project reinforced my understanding of DOM manipulation, form validation, and client-side data management. I learned how to use Chart.js for interactive analytics and how to design a calendar interface using only JavaScript and CSS. I also gained experience writing structured, maintainable code and thinking in terms of user experience and modular page logic. If I were to expand this project further, I would explore integrating Firebase for real-time cloud syncing or migrate the frontend to React for better state management. Overall, I'm proud of the project and grateful for the chance to build something fully interactive from scratch.