#### **Kene Micheal Egwunwoke**

#### **Task 3: Troubleshooting and Structured Problem Solving**

1. **Issue 1: Large Payload from 3rd Party API**:

**Problem**: The response payload from a third-party API needs to be bigger, causing slowdowns in parsing and presenting data.

**Solution**:

* **Pagination**: Request smaller chunks of data using API pagination.
* **Data Filtering**: Retrieve only the necessary data fields by using query parameters.
* **Lazy Loading**: Load data incrementally as the user scrolls down or interacts with the page.

1. **Issue 2: Styles Not Inherited Properly Across Viewports**:

**Problem**: Styles are not properly inherited between mobile, tablet, and desktop views, requiring manual fixes for each viewport.

**Solution**:

* **Responsive Design Principles**: Start with a mobile-first approach, ensuring the base styles work well on small screens.
* **CSS Media Queries**: Use media queries to apply specific styles for different screen sizes.

1. **Issue 3: Build Errors from External Library Versions**:

**Problem**: The latest versions of external libraries are causing build errors in the codebase.

**Solution**:

* **Version Locking**: Use a package.json file to lock dependencies to specific versions.
* **Testing Updates**: Test library updates in a separate branch or environment before merging into the main branch.
* **Reverting to Stable Versions**: Use versions of libraries that are known to work with your codebase if new versions introduce issues.

1. **Issue 4: Regression Issues in Deployed Code**:

**Problem**: Recent iterations of deployed code contain previously fixed errors (regressions).

**Solution**:

* **Comprehensive Testing**: Implement unit, integration, and end-to-end tests to catch regressions.
* **CI/CD Pipeline**: Use a CI/CD pipeline to automate testing and deployment, catching issues early in the process.
* **Feature Flags**: Implement feature flags to roll out new features gradually and rollback if needed.
* **Detailed Changelog**: Maintain a detailed changelog to track changes and their impact on the codebase.