Semiconductor Industry: Interactive Dashboard Report

Group members: Đoàn Phú Bình - ITCSIU22020

Nguyễn Đình Đăng Nguyên - ITCSIU 22101

This report details the setup, structure, and features of the "Semiconductor Industry" interactive HTML dashboard, designed to present key statistics and trends in the semiconductor industry.

1. Setup and Running the Application:

The application is a single, self-contained HTML file. To set up and run it:

1. Copy the entire HTML code provided.
2. Save the code into a new file with an .html extension (e.g., semiconductor_dashboard.html).
3. Open this file using any modern web browser (e.g., Chrome, Firefox, Edge, Safari). No external dependencies beyond an internet connection (for Chart.js CDN and Google Fonts) are required.

2. Structure of the Document:

The HTML document is structured into three main parts:

*   **HTML (HyperText Markup Language):** Defines the content and layout structure. This includes the header, tab navigation, content containers for charts and information, and the footer. Semantic tags are used for better organization.
*   **CSS (Cascading Style Sheets):** Embedded within <style> tags in the <head>. It controls the visual presentation, including colors, fonts (Orbitron and Roboto), layout (Flexbox, Grid), responsive design, a dark/light theme, and animations/transitions for a dynamic user experience.
*   **JavaScript:** Embedded within <script> tags at the end of the <body>. It utilizes the Chart.js library to render interactive charts. JavaScript handles tab switching logic, the theme toggling functionality, and dynamically updates chart elements (like text and grid colors) to match the selected theme. Chart data is hardcoded within the script for illustrative purposes.

3. Features Implemented:

- **Interactive Charts:** Six charts (line, doughnut, polar area, horizontal bar, bar) from Chart.js visualize data on global market growth, GPU/CPU/Mobile SoC market shares, Apple Mac revenue, and TPU market growth. These charts are responsive and include tooltips on hover.
- **Tabbed Navigation:** Content is organized into three tabs ("Market Overview," "Company Duels," "Chip Innovators") for easy browsing.
- **Creative "Cyberpunk/Tech" Theme:** A visually engaging design with a dark mode option.
- **Theme Toggler:** A button allows users to switch between light and dark themes, with chart elements adapting accordingly.
- **Responsive Design:** The layout and charts adjust to different screen sizes.
- **Informational Sections:** Provides context and summaries for key players and market trends, with inline citations.
- **CSS Animations & Transitions:** Enhances user interaction with smooth visual feedback.

4. References (Illustrative Data Sources):

The data used in the charts and informational sections is illustrative and based on synthesized information from general industry reports. Citations in the HTML (e.g., ` `, [2 of 2nd search]) refer to the internal search indices used during the development process to gather representative data points from sources like:

- Fortune Business Insights, Precedence Research (for overall market growth).
- Jon Peddie Research (JPR) via Tom's Hardware, Nasdaq (for GPU market share).
- Tom's Hardware, Communications Today (for CPU market share).
- Counterpoint Research, Omdia (for mobile SoC market share).
- Apple's quarterly earnings reports (for Mac revenue trends).
- Straits Research, various tech news outlets (for TPU market and Google TPU details).