SI507 Final Project Proposal

Project Title: **International Trade (Import & Export) Network Analysis and Visualization**
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Project Description

This project aims to analyze and visualize the international trade networks, specifically the exports and imports between countries. In the network, every country/economy represents as a Node and the directed links represent imports and exports.

With the network, we can better analyze the trade flows between countries in each economic sector, e.g. manufacturing, living necessities, clothing industries. We can also identify the key importers and exporters in the global trade network in each category of goods. With this network, we can better understand the trade relationships and dependencies between countries across different economic sectors.

Data Sources:

1. WTO Global Trade Data Portal: The World Trade Organization provides the official trade data for nearly all economies in the world. The data includes the figures of imports and exports in and from each economy. The data is available on WTO Stats.
2. World Bank WITS: World Bank provides similar trade data portal as WTO, World Integrated Trade Solution. The data also includes the figures of imports and exports and detailed figures for different categories of goods.
3. UN Comtrade: The United Nations Comtrade provides the trade data for all countries in the world. The data includes the figures of imports and exports in and from each economy.

Data Analysis and Visualization:

Network Analysis

1. Identify the most important economies in the global trade network. This research will identify the economies with highest import and export values. Also, I will identify the economies with the highest number of trading partners.
2. Identify similar economies in the global trade network. This research will identify the economies with similar trade patterns, e.g. similar import and export values, or similar trading partners.
3. Identify the trade imbalances between economies. This research will compare the import and export values between two economies and identify the economies with the most trade deficits.
4. Identify the shortest path on the supply chain between two economies. This research will identify the shortest path between two economies in the global trade network.