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| **Project Title**: Visualizing the perils of Plastic Pollution 2019 - 2023 | **Resources needed**: plastic waste/pollution dataset from 2019 - 2023 |
| Project Group Members: 1. Alston C. Armah  2. Dereje Dereje Dimetros | Project submission date: February 4, 2025 |
| 1. **Methodology**:   This project will employ internet research as the primary method of gathering the needed data. After gathering the data, the project team will clean up the data, ensuring data accuracy and completeness. Thereafter, the team will analyze the data, identifying limitations, setting parameters and visualizing the data to tell an exciting story of plastic pollution. | |
| 1. **Abstract:**     Our planet is in great peril. The lifestyle of modern humans makes our long-term existence susceptible to perils, some of which tend to be most frightening when seen in terms of data analytics and visualizations. One of the most significant perils confronting human existence is the continued and uncontrolled disposal of plastic waste in the environment. From hamlets to cities to the rivers and mighty oceans, plastic pollution is ubiquitous. Plastic waste is a global phenomenon that endangers not only human existence but also the existence of other animal and plant species.  Something needs to be done to reverse and control the alarming trend of plastic pollution. While it appears to be a difficult task and seemingly insurmountable task, it is important that we all take some little steps in this direction. One such little step is story telling through visualizations. That is exactly what this project sets out to do: to tell a story of the ever-present danger of plastic waste which is endangering our world. This is done in the belief that people hearing the story will visualize the extent of the danger confronting us and by that very fact will begin to adopt a lifestyle that aims at reducing plastic pollution. If, by hearing our story backed by data and visuals, an individual will (i) reduce the number of grocery bags he brings home from the store or (ii) begin to recycle plastic materials, we will have made a small yet significant impact.    As stated above, plastic waste is a critical phenomenon that affects human life and other forms of life on the earth. To get a very good insight into how much our planet is affected by this phenomenon, this project aims to create an interactive data visualization platform to analyze and communicate the impact of plastic waste pollution. By leveraging datasets on plastic waste generation, recycling rates, and environmental consequences, this project will present key insights to educate users and encourage action toward reducing the danger posed by plastic pollution.   1. **Project objective:**   The objective of the project is to:   1. Promote positive behavior change towards the environment; 2. Highlight the scale and trends of plastic waste pollution; 3. Showcase the relationship between plastic waste and environmental degradation; and 4. Empower users to explore data and identify actionable insights. 5. **Key Features**   The project entails the following key features:   1. A user-friendly dashboard displaying interactive visualizations; 2. Filtering capabilities to explore data by region, year, and type of plastic; and 3. A backend database for housing and querying data efficiently. | |
| 1. **Key questions:**   The project will answer the following key questions:   1. What are the prevailing trends in plastic pollution? 2. What are the top five countries generating the most plastic waste? 3. Who are mostly affected – land creatures or marine creatures? 4. What will be the long-term consequences if plastic pollution is not reversed? | |