Addressing ideas and concepts discussed in the lectures

1. Technology Stack and Tools

In our project, the selection of tools was critical in ensuring that the platform we built was accessible and interactive, aligning with the principles discussed in our lectures. **Power BI** was selected as the core technology for its dynamic visualization capabilities, which we learned are essential for engaging non-expert users. This was particularly relevant when discussing community orientations from the course content, which emphasized designing for the end user. By integrating Power BI, we made it easy for middle school students and the public to explore deforestation data in an intuitive and meaningful way.

To enhance the functionality, we integrated **Excel** and **Power Query** for data preparation, ensuring that we could clean and structure the raw datasets effectively. The importance of using flexible tools for data transformation was highlighted in the lectures, where we learned how effective data manipulation tools can simplify complex datasets. These tools provided the necessary functionality to perform tasks like unpivoting columns, handling missing data, and creating meaningful insights without overwhelming users with technical details.

2. Community and User-Oriented Design

A significant portion of our design choices was influenced by the community-oriented design principles discussed in class. The focus was on making the platform accessible to a broad audience, particularly middle school students and the public. In the lectures, the importance of understanding the community's characteristics was also discussed. By considering the needs of our target audience, we avoided using complex technical tools like GIS and focused on creating interactive features that would make the deforestation data understandable. Interactive features like tooltips, filters, and drill-throughs were added to provide deeper engagement and foster active exploration.

Additionally, based on feedback from our target users, we made sure the platform’s layout was simple and allowed for easy navigation. The platform’s ability to adjust to different user needs (e.g., broad trends vs. localized data) was shaped by community research and user feedback, aligning with the Content Disinformation Design Strategy discussed in our lectures. This helped us create a platform that not only displayed data but encouraged engagement with it.

3. Sustainable Development Goals (SDGs)

In line with the UN SDG principles, particularly SDG 13 (Climate Action) and SDG 15 (Life on Land), we focused on raising awareness of deforestation's impact on climate and biodiversity. The integration of these SDGs into our project was reinforced by our class discussions on how sustainability should guide project development. The platform was built with the goal of providing educational tools for users to understand deforestation trends and their connection to environmental degradation.

Our project is aligned with SDGs as it empowers students and the public to make informed decisions about forest preservation, something we learned was crucial in shaping educational and community-oriented tools in class. By offering a platform that visualizes real-time data and its impacts, we addressed both environmental education and the need for actionable insights, directly supporting climate action as envisioned in SDG 13.

4. Stakeholder Considerations

From the course content on Stakeholder Analysis, we identified our stakeholders as high school students and the public. These groups, as highlighted in the course, often struggle with understanding complex datasets and lack access to user-friendly platforms. As a result, we prioritized making the platform easy to use, with features like interactive dashboards and dynamic filtering to cater to their needs.

Feedback from our target audience emphasized the need for clear visuals and simple navigation. By applying the principles of stakeholder-driven design discussed in our course, we ensured that the platform was tailored to the needs of these users, making complex deforestation data easier to interpret and more engaging. This feedback loop helped refine the platform, ensuring that it remained focused on delivering value to our users.

5. Iterative Development and Prototyping

The iterative development process discussed in our class was integral to how we built the platform. We started with a basic prototype that displayed key deforestation trends. As we iterated on the design, we introduced interactive features based on user feedback, making the platform more engaging and useful. This process aligns with the minimum viable product (MVP) concept we learned

about, where we focused on delivering core functionalities early on and enhanced them based on feedback.

By following the course's emphasis on prototyping and refinement, we evolved our initial design into a fully functional platform that not only met our users' needs but also allowed for continuous improvements. Each version of the platform was tested, feedback was gathered, and changes were made to improve the overall user experience, which we believe helped create a product that is both effective and aligned with the principles of sustainable development.