**5. Evaluation**

**1.1 What Went Well**

My team has incredible accomplishments in collaborating on research projects, which involved applying R programming in solving data visualization problems. There would have been insurmountable difficulties due to the different lab schedules, but communication and coordination went as planned through well-structured planning and some collaborative tools.

Another tool that was critical to our workflow was Trello. It was basically our planning and task team management backbone from clearly stating the project milestones to assigning responsibilities and deadlines. Thus, all of us remained organized and focused by having our individual tasks clear so that everyone could own responsibility while maintaining the overall site's purpose.

GitHub was as important in our project as anything else. The platform allowed us to develop, test, and refine our codebase. Thoughtful repository management allowed us to merge our changes without conflicts, and so keep our code repository clean, functional, and well documented. Every contribution is merged with that inference from all the team members, demonstrating our cohesive activity even when away from each other.

The project was a product of the combined energies and talents of the team. Each person contributed their very own skills to the mix, which added to the overall quality of the code produced but also to a more attractive and technically excellent output. Challenges presented along the course of the project were tackled with a take-a-stab-at-it attitude, which facilitated growth and learning in such an environment.

To really sum it all, this project is testimony to our management of balancing between technical complexity and teamwork, which speaks volumes on the success of proper planning and common purpose in excellence.

**1.2 Points for Improvement**

While the project overall ended up as a good success story, certain points surely provided an avenue for improvement:

**Time Conflicts**

Aligning meetings among team members to nonexistent lab hours would remain one of the greatest challenges. However, most of this was bridged by the virtual discussions held within Google Meet. That flexibility with using virtual meetings made possible scenarios where team members could connect from different locations and discuss critical aspects of the project. It might still be quite little with time overlaps, making some final decisions slow. In future projects, we may augment this system even further to help bring everyone up to speed by recording the Google Meet sessions for those not present, or by centralizing shared documentation on meeting notes.

Slack, which had been primarily used for tutor communications, could create a whole new layer for communication and support - something that would allow us to get inputs or feedback quickly, clear up doubts, or share updates with tutors. A future vision would expand Slack even more to include asynchronous teams discussion or even some shared channels to add another layer of communication with Google Meet, as it would also suffice for some settings.

**Initial Learning Curve**

R programming had one of the most steep learning curve, and the visualization libraries posed the most challenge to some of the team members who have been introduced to those tools. It caused a slow down, even though, like magic, the group eventually adapted through personal efforts and support from the colleagues. The tutors on Slack helped to address many technical queries, but it could have been more proactive in addressing the learning curve with dedicated workshops or collaborative coding sessions scheduled earlier into the timeline of the project. Curated resources such as an already gathered collection of tutorials and documentation shared in team meetings or on Slack would form another effective basis for building confidence among the members.

**Commit Documentation**

GitHub was a very helpful tool to work with in getting the project repository well organized yet commit documentation had some inconsistencies leading to some confuse in it at times. As a team, we were able to take full advantage of GitHub for version control. However, some commit messages actually did not contain sufficient detail about the reasons for making those changes or the context of those edits that makes code review painful. Clear and comprehensive guidelines focused on writing commit messages would better clarify and trace changes.

**1.3 Group’s Time Management**

Our team exercised an excellent manage of time by following the project schedule and milestone achievement dates. The Trello boards which were effective for distributing tasks, clarifying roles, and setting deliverable deadlines were systematic so that all remained on the same page, notwithstanding the differences in the lab schedule. Updates and task watching on the Trello platform gave everyone accountability and shared transparency as we organized ourselves toward our targeted goals.

Some delays were caused by unknown bugs and integration troubles most especially during code contributions merging of bits. Such delays were fairly resolved without them majoring on the overall timeline using collaborative problem solving. Timely communication and decision-making were further strengthened by the use of Google Meet. We could certainly use a buffer period in future projects to enhance flexibility and fortify the team even better in managing its time.

**1.4 Project’s Overall Judgement**

This project met all of its goals and produced valuable research outputs with striking visualizations. The R program that we created is not only functional but also user-friendly, and it solves the visualization problem effectively and precisely. The visual output narrates the data meaningfully while showcasing the team's technical excellence and commitment to quality.

Teamwork and effective collaboration tools made significant contributions to the project's success. Trello structured the planning and the tasks; GitHub provided seamless version control and integration of contributions. Together with proactive face-to-face communication through Google Meet, these tools enabled us to remain coordinated and productive throughout the project. The output is, therefore, cohesive and technically brilliant, as well as efficient in collaborative work.