10. Testing and Quality Assurance:

Explain the testing methods used, including unit testing, integration testing, and user acceptance testing.

Provide test results, issues identified, and how they were resolved.

11. User Interface:

Describe the user-friendly software interfaces.

Include screenshots or mockups to showcase the design.

## 12. Version Control (GitHub):

In our project, we effectively managed version control using GitHub for the web application’s codebase. It provided us with the facility to keep track of our changes in the code, combine and integrate the codes since the it was developed by multiple team members and ensuring that team members could work on different features simultaneously.

Using GitHub provided us with many benefits which helped to complete this project successfully. It was easier to work collaboratively by dividing the workload and integrating them as one project. Also it provided the facility of tracking our work of team members easily for the leader so that he could assist. Also by providing the GitHub link, it promotes the transparency in the project allowing the interested parties to access the project’s source code and documentation. Through all these facilities, it saved time and was able to manage the assignment before the deadline.

GitHub Link :

## 13. Results and Achievements:

Project Objectives and Accomplishments:

The main objective of our project is to provide a valuable tool for students and educators to assess and manage stress level. We were able to successfully build a web application to achieve these goals by delivering a reliable stress prediction model that assist users to identify their stress levels. It has also facilitated data-driven decision-making for educational institutions, ultimately contributing to improved student well-being and academic performance.

### Metrics and Data:

The metrics and data associated with our web application have been a testament to its success. With a steadily increasing user base, our app has become a valuable resource for students seeking stress management support. We developed our application prediction model using different type of models namely ……………. and among them we chose ………. to demonstrate a high level of accuracy, offering precise assessments of stress levels. As a result of high accuracy and faster response, we were able to increase the reliability of the application providing a seamless user experience.

### User Feedback and Satisfaction:

User feedback has played a pivotal role in shaping the success of our web application. We gathered feedbacks through surveys and direct interactions and we received feedback positive feedbacks with user expressing gratitude for contributing their mental health. Furthermore, user suggestions and comments were taken into account and improved the application ensuring that it is user friendly and satisfactory.

### Real-World Impact:

The real-world impact from our web application cannot be understated. It has lead for the identification and management of student’s mental well-being. In addition to students, the educational institutions have also found our application instrumental in identifying students at risk of academics underperformance due to stress, allowing them to offer timely support. By providing the mental well-being and academic success of students, our web application has made a successful difference in the educational community.

### Future Prospects:

As we look forward in the future, we expect to broaden the prediction range by not limiting to students. Also, we look forward to predict more mental wellbeing relates such as depression level, anxiety level and etc by continuously improving our system. We hope to provide our commitment to mic success. Our commitment to ongoing development ensures that it will continue to evolve and adapt to the changing needs of its users and stakeholders.

## 14. Lessons Learned:

### Project Challenges:

During the course of creating our web application, we ran into a number of noteworthy difficulties. First, we encountered a problem with low accuracy when we first built our prediction model utilizing the gathered dataset. This motivated us to investigate alternative strategies to improve the model's capacity for prediction, which ultimately produced predictions of stress levels that could be trusted more. In addition, we experimented with Streamlet, a technology that was new to our team, while creating the web application. We had to swiftly pick up new skills and adjust to a new technological stack to meet this challenge. The dataset we used to train the model was uneven, which made it difficult to ensure that the model could accurately predict different levels of stress.

### Overcoming Challenges:

We learned a lot from the difficulties we endured. We improved our feature engineering and data pretreatment methods to address the initial model's low accuracy. Additionally, we investigated cutting-edge machine learning techniques, which significantly increased the forecast accuracy and guaranteed the model's efficacy in determining stress levels. Although initially difficult, the introduction of Streamlet broadened our skill set and provided new opportunities for designing user-friendly interfaces. We were able to create a very user-friendly web application because we took advantage of this learning opportunity. Last but not least, dealing with the unbalanced dataset highlighted the significance of using strategies like oversampling or data augmentation to guarantee our model could deliver accurate predictions across all stress levels, boosting the inclusiveness and value of the web application. These encounters have strengthened our capacity for problem-solving.

## 15. Conclusion:

The significant issue of anticipating students' levels of stress was the focus of our web application project, which produced important discoveries and results. With the help of the application, educational institutes and students now have access to a useful tool that allows for an accurate assessment of stress levels and provides advice on stress management. We used a dataset which was available in the Kaggle related to student’s stress level.

First, after finding a suitable dataset, we did preprocessing and cleaned the data. Then built the model and trained our dataset. We had to use different types of models to train our dataset in order to solve the problem of low accuracy and also had to do hyper tuning to increase accuracy. Then we built the application and connected to the model.

User input and user-centric design were crucial in influencing the application's functionality and design, increasing user happiness and the project's overall success. Additionally, our ethical considerations assured ethical stress prediction and responsible data handling, reaffirming our dedication to the wellbeing of students.

Our web application has major uses in the real world. In order to understand and manage their stress, it offers students a proactive and data-driven strategy, supporting mental health and academic achievement. This tool can be used by educational institutions to recognize and assist at-risk children, which will ultimately result in a more encouraging and nurturing learning environment. The project's results demonstrate how technology has the capacity to address fundamental issues in the field of education. As we look to the future, our web application is in a strong position to develop further, have a lasting effect on student wellbeing, and contribute to the larger discussion on mental health in education.