Deliverables

User Requirements:

* RateMyLab must allow the user to select a particular lab to rate from drop down boxes
* The system must display the average rating and all the reviews for the particular lab that the user has chosen on a page
* Must have a button to display a form for users to put in rating
* Form will included a rating scale from 1-5 (1 being the worst), questions, and a text form field for user input
* Must have a button at the end of form to allow user to submit their form
* The system shall display recent user input (rating average and review) on the page

System Requirements:

This system would be designed for students to give feedback on previous labs they have taken and for professors to receive those feedbacks and potentially make adjustments to their course.

* The system should be able to store the data (.txt file / SQL) that the students input to give an actual rating for the lab
* Access to feedback should be visible to both students and professors
* Professors should be restricted from editing or deleting a student’s feedback from RateMyLab
* The system will generate a series of questions to ask students about their experience in the lab.
* System shall calculate the average rating of Lab from all user ratings
* System should update average rating and add new review if there is new input being submitted

Risk Analysis:

The Rate My Lab project is quite tame by nature. However, there are a few risks inherent in the architecture of the system that are worthy of further investigation and mitigation.

The highest priority risk of the Rate My Lab system is information security. Rate My Lab consists of a select number of services, each using the schools student information repository to some extent. The student information repository contains some sensitive information regarding each student, including but not limited to names, student emails, and login credentials. It is of the utmost imperative, as it regards security, that these student records are accessed, displayed, updated, and archived safely, with as little chance of data leak as possible.

This risk can be mitigated by using well-known and widely-trusted system architectures built for information security. This means that components receiving student information do not have many input parameters, and components updating student information have data outputs made up of simple data structures. The student information repository (i.e. the GSU database) must have a simple, accessible, and most importantly, secure API by which these components access student information. There should be very explicit ways of querying and updating records without the option to allow payloads.

The second risk, of relatively lower priority, is that of reliable and consistent system availability. Students, professors, and system administrators must be able to log into the system reliably without downtime, when possible. If the system relies too much on external services to provide the Rate My Lab service, any changes or updates to internal services could cause incompatibilities between system components and lead to a system crash. When the system is architected, it must be done so with care to ensure maximal system reliability.

This risk can be mitigated by creating components with enough autonomy and security that they could run individually. By carefully crafting the system architecture, the system could possibly continue to run even if a select number of system components fail to operate.

A third risk of the rate my lab system, which may lie in the “acceptable risks” category of risks, may be the artificial inflation or deflation of lab ratings by student rating submissions. The nature of the Rate My Lab system is such that users can interact with the system in a way somewhat similar to some social media platforms. Online ratings tend to be sensationalist, meaning that they tend to be exaggerated in a positive or negative direction. This could cause lab ratings to be exaggerated in a way that is not consistent with reality. If the Rate My Lab system grew to be a system widely used by students, this could lead to some professors' labs being overly represented in the category of positively reviewed labs, and other labs to be overly represented in the negative category.

This risk cannot be mitigated directly using any software engineering principles. This risk has more to do with student culture and social media culture at large. Ultimately, one of the purposes of the Rate My Lab system would be to create an environment where students could share their honest ratings on labs. This is why this risk could be considered as part of the “acceptable risks” category.