Incremental Deliverable 2 Risk Report
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1. New technologies: Probability: 9, Impact: 7; Recurring

   We have added more tools to our project that are new to most group members. Along with the technology concerns of the previous deliverables (typescript and react), we have added Playwright, Rollbar and Jest. We have engaged in knowledge sharing by having members research and create tutorials that are available in our groups Notion in an attempt to mitigate the risk that new technologies pose. Rollbar will be used for our multi-level logging system. Jest will be used in testing react components. Playwright has been used to test UI/UX features of the pages we have created. We are looking into implementing Apache Hadoop to help us deal with big data and security concerns. If we do end up implementing Hadoop in our project, the following deliverable will have yet another new technology for the group to learn.

2. Miscommunication: Probability: 7, Impact 8; Recurring

   In this deliverable, our team found that there needed to be more communication between the QA and Dev leads. The QA team and Dev leads will meet at the beginning of the next deliverable to hash out what features are expected to be finished. This will allow the QA team to create tests before code freeze. We hope to improve on these issues as time goes on.

3. Time estimations: Probability: 5, Impact: 4; Recurring

   We are beginning to improve on our time estimations. We have been recording our time spent, date and task worked on diligently throughout ID2. Along with our daily standup recorded by our discord bot, we are attempting to mitigate the risk of undershooting how long a given task will take. We are expecting all members to fill out their activity report as they complete their tasks instead of at the end of the deliverable when it comes time to hand in.

4. Learning the backend codebase: Probability: 8, Impact 6; Recurring

   We have run into some issues regarding the backend, namely the R Repository supplied by our stakeholder. We have not yet implemented any code that interacts with this repository. The risk involved is that we will not end up with a working webpage. We will begin to document how to interact with the repository.. We will need to document required inputs/outputs and make guarantees between the different modules involved.

We have begun to make diagrams that will model how we expect the system to act.. In the future, if we do commit to implementing Hadoop, we may need to change how the system interacts. When we make changes to the R-Repository, we will need to test and comment on what we changed and the reason for the change. We hope to mitigate the risks involved with working with an unfamiliar codebase.

5. Group Members having other commitments: Probability: 8, Impact: 4; Recurring

    For this deliverable, we were considering lessening the workload. This upcoming week, February 11-18, many of our group members will be writing midterms and other courses that need extra attention. Our plan is to keep in communication, continue with our normal meeting times, Mondays and Fridays. We should have enough time to complete ID3 with the same workload that we would normally take on given that we have a week after reading week to complete the deliverable.

6. Playwright functioning correctly: Probability: 7; Impact: 5

    Our Team has been encountering an issue with Playwright. When attempting to find headless browsers for testing, it is unable to find said issue. We have posted a github issue: https://github.com/microsoft/playwright/issues/4033, and will need to do further research to solve this issue. We will be running Playwright in a docker container. This is an essential issue to solve to ensure full test coverage.

7. Handling large amounts of data: Probability 8; Impact: 7

    We have clarified what our requirements are for the handling of data. The max data files should be no larger than 500MB. For the next deliverable we are focusing on getting the system up and running. We will then begin to explore options for handling big data. As mentioned by Dr. Osgood after ID1 presentation, we need to look into changing the architecture for the system. Dr. Osgood had mentioned Apache Hadoop. We have been looking into implementing this technology. The amount of users using the app at the same time, as conveyed by our stakeholder, should be no more than 10. We will need to ensure that the architecture, and tools used, shall be able to handle at least that amount of data (500MB x 10 users) concurrently. More research must be done to pick the correct tool to implement for big data if Hadoop is not a good fit.

8. Poor development goals: Probability: 7, Impact:7; Recurring

    As mentioned above, our team still needs to work on proper communication between team leads. Before this communication can take place the development goals need to

be more fleshed out. Much of the tasks are posted using Git issues. Git issues need to be more succinct. With smaller progress in Git issues we will attempt to make more commits and pull requests. This will allow the QA team to test much earlier in our deliverable. This will make for better testing and the QA team won't be rushed to complete their work.

9. Quality Assurance writing poor test coverage: Probability: 5, Impact: 6; Recurring

The QA team has implemented a robust code inspection template for submitted code. This helps us ensure that standards are in place for quality code. With greater communication between team leads, tests may begin sooner and better test coverage will result.

10. Midterm break productivity: Probability:8; Impact: 6

During the midterm break, it is possible for the team to reduce their productivity. Some team members will not be in town. It is important for us to communicate to avoid the risk of low productivity. The team plans on checking in via Discord at the same meeting times and keep each other posted on our progress. Team members are expected to fill out their activity report throughout the week. In doing this we hope to reduce the impact of our productivity.