ID3: Top 10 Risks + Mitigation Plan

ID2 Risks:

- Low bus #
    - **Summary**: A select # of team members have the skill and experience to assume certain leading positions. The possible loss of the team leads would be detrimental to project development.
    - **Status**: Ongoing
    - **Solution:**
        - The testing lead has a team of 3 additional testers, and the dev lead has a team of additional developers.
        - Developers and testers asks their respective leaders knowledge of their part and also do online search to learn by themselves

- Learning Curve Effects;
    - **Summary:** Not everyone is as familiar/comfortable with using the necessary programs/languages such as TypeScript, Git, Jest etc. Team members often take a lot of time to search problems since they are not familiar with what they use.
    - **Status:** Ongoing
    - **Solution:**
        - Group Workshop to update team members with programming languages and tools used
        - Learn how to use tools/programming through online searching

- Scope creep
    - **Summary**: Although it wasn't likely, in early developmental stages, it's worth noting the costs of continually refining the features of a project. A distinction must be made between what could be implemented, and what should be implemented. This risk was resolved by regular communication between the dev team and dev lead, as well as explicit and defined design goals
    - **Status**: Mitigated

- Gold Plating

    - **Summary**: One of the possible setbacks for ID2 was the risk of "*gold plating*", that is putting more hours than necessary to increase quality, at the expense of time costs. For ID2, this was mitigated by prioritization (dividing the workload into "must have" and "would be nice to have"), communication, and time logging the hours put into individual components.
    - **Status**: Mitigated

- Ensuring all areas of the deliverable are being worked on
    - **Summary**: When a team is faced with a large-scale project with fixed requirements and rigid deadlines, it's important to make sure that all the areas of the deliverable are being worked on/completed, and that nothing slips through the cracks. This could be detrimental. GitHub was proven to be counter-productive for issue tracking and organization. To resolve this, there was a switch to Trello for handling those issues. GitHub was still useful for bug tracking, however. The addition of a Gantt chart was used to keep track of all the features of ID2. For ID3, ID4, and ID5 the same approach will be followed.
    - **Status**: Mitigated

- Time constraints/availability
    - **Summary**: In a team of nine, time conflicts are inevitable. Everyone has their individual commitments (i.e. class, work, deadlines, etc.) This was especially a concern during peak of midterm season. In response, time conflicts were brought up during meetings, and immediate tasks were delegated based on availability and urgency. Although midterm season is over, the probability of time conflicts is still high.
    - **Status**: Ongoing
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        - time conflicts were brought up during meetings, and immediate tasks were delegated based on availability and urgency.

- Unrealistic Scheduling
    - **Summary**: It is necessary to keep in mind the demanding nature of a student schedule. It is unrealistic to assume that a team member is able to dedicate all their time and effort towards project development. In response, realistic goals must be established, and tasks prioritized as necessary. Future meetings and events (i.e. 'bug parties') are scheduled in advance, to accommodate as many team members as possible, and development is handled on an incremental

basis. Established measures are likely to continue until the end of term, especially with reading week coming up.
    - **Status**: Mitigated

- Requirements changes
    - **Summary**: As we advance further into the developmental stages of the project, it is important to remember that the smallest change to the existing requirements could render hours/days/weeks of work useless. In response, regular meetings were arranged with the stakeholder, and builds were discussed on a weekly basis.
    - **Status**: Mitigated

- Critical path task blocking
    - **Summary**: There are a # of tasks which are integral to the progression of the project. If not completed on time, there is a critical blockage in development, with expensive consequences. Key tasks were distributed between team members, and given the appropriate resources early on. Following ID2, mocks have been incorporated for future mitigation efforts towards the end of the semester.
    - **Status**: Mitigated

- Unequal team contributions
    - **Summary**: It was anticipated from the beginning that different roles come with different responsibilities, and that some of those roles are more demanding. However, issues arise when individuals take on the bulk of the work, in comparison to the efforts of those in similar roles. Unequal contributions increase the risk of a less viable final product. Furthermore, it creates a poor work environment, and a sour team dynamic.
    - **Status**: Ongoing
        - Solution: Leaders of the teams assign work to be done to people that are in their team

New Risks (ID3)

- Fatigue; burnout could contribute to sloppy coding and missing important details
    - **Probability**: Medium
    - **Severity**: Medium
    - **Solutions**:
        - The 30 minute rule - if it doesn't make sense after 30 minutes, take a break, ask for help, etc.
        - Code Reviews to check the code
        - Sonar cloud to check code coverage and code smells

- Updated Time Constraints/availability:
    - Time Management; Now that we are mid-semester and in the heavy implementation stages of development, it's crucial that everyone is able to use their time effectively. Procrastination hurts everyone.
        - **Probability**: Medium
        - **Severity**: High
        - **Solutions**:
            - Team members should take the initiative to outline a set of achievable goals, and allocate a defined time slot to work on meeting them
            - Regularly keep up with Trello to see what is being worked on/needs to be worked on
            - Attend all (possible) group meetings/work sessions