

Potential risks :

1. Accuracy and Reliability: The risk of inaccurate or unreliable results due to variations in lighting conditions, occlusions, or complex backgrounds.
2. Placard Detection: The risk of not being able to accurately detect and recognize the placards held by students, particularly in challenging scenarios such as overlapping placards or low-resolution images.
3. Image Preprocessing: The risk of ineffective preprocessing techniques, leading to poor quality images and subsequently impacting the accuracy of placard detection and response mapping.
4. Robustness: The risk of the system being sensitive to environmental factors, such as changes in lighting, camera angles, or different classroom layouts, may affect the overall performance and accuracy.
5. Scalability: The risk of the system's performance degrading with an increase in the number of students or placards, potentially leading to slower processing times or decreased accuracy in more extensive classroom settings.
6. Real-Time Processing: The risk of the system not being able to achieve the desired real-time or near real-time performance, resulting in delayed feedback to the teacher or an inability to handle a dynamic classroom environment.
7. User Interface: The risk of a poorly designed or unintuitive user interface, which may lead to difficulties in initiating the image capture process, understanding the mapped responses, or visualizing the results effectively.
8. False Positives/Negatives: The risk of incorrectly associating placards with response options, leading to incorrect mapping and misinterpretation of student responses.
9. System Compatibility: The risk of compatibility issues with different hardware configurations, camera types, or operating systems, potentially limiting the system's usability in specific setups.

To identify the most critical risky element, consider assessing each risk based on its potential impact, likelihood of occurrence, and available mitigation strategies. This evaluation will help prioritize the risks and determine which ones require early attention and mitigation to minimize their impact on the project's success.