Colorado School of Mines—EPICS 151

Guidelines for Testing Protocols, Safety Plan, & Plan for Stakeholder Feedback F-16

Date:
Team Name:
Section:

(*Delete italicized notes when submitting this document***)**
*The **Testing Protocols** list your intended process to validate critical, unproven parts of your concept. Attention should be paid to the interfaces between the sub-systems.*

*The **Safety Plan** is an analysis of the risks associated to your testing, and a plan to mitigate or reduce the significant risk.*

*The **Plan for Stakeholder Feedback** is a communication plan to incorporate stakeholder's feedback during the analysis phase, before the design is fully developed.*

Your mentor will indicate approval to move forward with your testing plan through deliverable assessment.

1.1. State your team's Problem Definition

1.2. Describe your team's System

- *Sketch your team's System Diagram.*
- *List Sub-Systems and provide a brief explanation of each, including the major tasks and functions it is intended to accomplish and the technology it will employ.*
- *Describe the critical components that need testing and/or validation.*

1.3. Testing Protocols (<u>one set for each component to be validated, one per team member</u>)

1.3.1. State your hypothesis

- *How is your prototyped component expected to contribute to solving the overall problem, within its constraints and requirements?*
- *Include a definition of what success looks like. This could be pass/fail criteria to demonstrate compliance with a specification, or a description of a baseline (aka an existing condition to meet or exceed, such as acceptable pH or temperature ranges in your system.)*

1.3.2. Document your test plan

- *How will you test each specific hypothesis in a measurable, controlled, repeatable manner?*
- *Define 8-15 steps of a procedure that an unrelated party would be able to execute.*

1.3.3. List Test Equipment and Materials needed

1.3.4. Phases of testing

- *Describe as best you can the rounds of testing you may need. Early testing may be very informal; evaluating basic concept feasibility. Later testing becomes more focused and builds towards a complete works-like concept prototype. Include the length of time each phase might take. Update your Project Plan accordingly.*

1.3.5. ALTERNATIVE to above for critical components needing research validation

- *For components needing research-based validation, create a Research Validation Plan. What questions need to be answered, and how specifically will you answer them? Define a research plan that an unrelated party would be able to execute.*

1.4. Safety Plan: Risk Identification and Mitigation Plan

- *Identify all of risks associated with your testing and research.*
- *Assess risks using the Risk Matrix below (Figure 1) to determine the Likelihood and Impact, therefore Magnitude of the risk.*

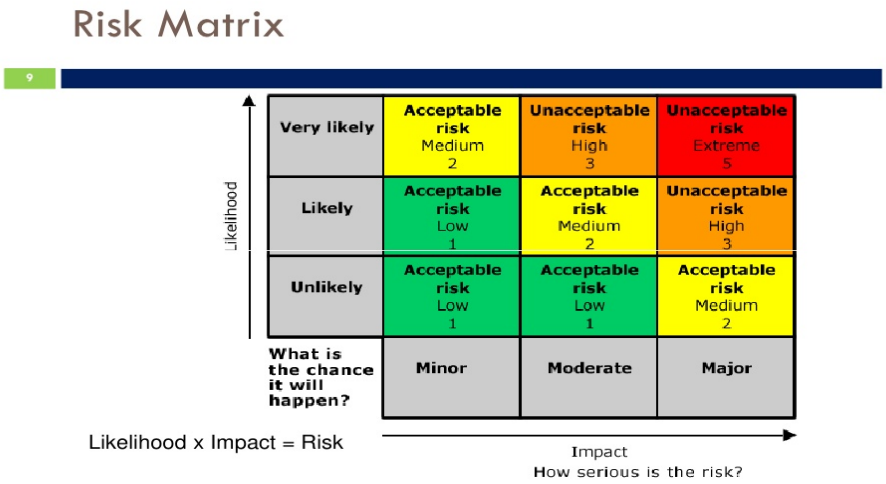

Figure 1: Risk Matrix

- *Use Risk Register (see Table 1) to record your Safety Plan for all medium-and-above risks.*

Table 1: Risk Register on Testing

Risk	Likelihood	Impact	Magnitude	Mitigation Plan
1. Example A	*Likely*	*Major*	*Extreme*	*To reduce impact we will……*
2.				
3.				

1.5. Plan for Stakeholder Feedback

1.5.1. Demonstrations for Mentor - *You will demonstrate (in class or at arranged times) performance of tested features, results, conclusions, any follow-on recommendations, design summary.*

1.5.2. Plan for Interviewing Stakeholders

- *Brainstorm possible key project stakeholders whom the team might interview or observe during the analysis phase, before solution is finalized.*
- *Use Communication Plan (see Table 2). Update your Project Plan accordingly.*
- *If needed, Brianna Buljung bbuljung@mines.edu in the library is a willing proxy stakeholder.*

Table 2: Communication Plan for Stakeholder Feedback

Stakeholder/Type	Name, Contact Info	Due Date	Person Responsible