Hazard Analysis
MTOBridge

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Table 1: Revision History

Date	**Developer(s)**	**Change**
October 12 2022	Darren	Added System Boundaries & Components
Date2	Name(s)	Description of changes
...	...	...

Contents

[You are free to modify this template. —SS]

1 Introduction

This document is a hazard analysis of MTOBridge. A hazard is a potentially harmful event resulting from the conditions of the system and the environment.

2 Scope and Purpose of Hazard Analysis

This document describes the components of MTOBridge, the potential hazards associated with each, and any new functional requirements that can be derived from these hazards. This process is important to identify any potential issues with the system, and then design the system to eliminate the potential issues.

3 System Boundaries and Components

This hazard analysis addresses the system that consists of the following components:

1. UI Component, for providing a graphic display to the user and visualizing MATLAB results
2. Input Handler Component, for processing user inputs
3. MATLAB Interaction Component, for calling scripts and supplying specified arguments to them
4. MATLAB Engine Component, for performing bridge calculations
5. File Manager Component, for reading inputs from files and saving results in various formats

The system boundary includes these software components and any dependency files required for the application to operate. Although the MATLAB Engine Component is owned by the client and its exact contents verified independent of this project, this hazard analysis will address it due to being a crucial component of the system.

4 Critical Assumptions

We will be making the following assumptions about the system:

1. The MATLAB Engine Component will take less than 1 second to perform bridge calculations. This is because the equations that need to be solved have closed form solutions, and should be easy to compute.

2. The MATLAB Engine Component will be correct. We are assuming this because we do not have control over the MATLAB scripts that will be running.

3. The user of the system will have input (keyboard, mouse) and output (monitor/display) devices.

5 Failure Mode and Effect Analysis

[Include your FMEA table here —SS]

6 Safety and Security Requirements

[Newly discovered requirements. These should also be added to the SRS. (A rationale design process how and why to fake it.) —SS]

7 Roadmap

[Which safety requirements will be implemented as part of the capstone timeline? Which requirements will be implemented in the future? —SS]