

# Hazard Analysis

## Sayyara

Team 3, Tiny Coders  
Arkin Modi  
Joy Xiao  
Leon So  
Timothy Choy

October 18, 2022

Table 1: Revision History

Date	Developer(s)	Change
October 13, 2022	Arkin Modi	Create Failure Mode and Effect Analysis table
October 14, 2022	Joy Xiao	Introduction

# Contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
<b>2</b>	<b>Scope and Purpose of Hazard Analysis</b>	<b>1</b>
<b>3</b>	<b>System Boundaries and Components</b>	<b>1</b>
<b>4</b>	<b>Critical Assumptions</b>	<b>1</b>
<b>5</b>	<b>Failure Mode and Effect Analysis</b>	<b>2</b>
<b>6</b>	<b>Safety and Security Requirements</b>	<b>3</b>
<b>7</b>	<b>Roadmap</b>	<b>3</b>

## 1 Introduction

This document outlines the hazard analysis of Sayyara. The definition of hazard is any property or condition in the system along with conditions in the environment that may cause harm or damage. This definition is from Nancy Leveson's work. The hazards for Sayyara include security and usage hazards such as protecting personal information, database failures, and having no internet connection.

## 2 Scope and Purpose of Hazard Analysis

The scope of the hazard analysis is to identify any hazards that may arise when using the application, their causes, coming up with steps to eliminate or mitigate the effect of the hazard. The purpose of the hazard analysis is to pinpoint areas where hazards may arise and their effects and come up with mitigation steps. Through completing the hazard analysis, safety and security requirements will be developed early in the design process to minimize the risk of having hazards occur without plans in place to reduce or mitigate the effects.

## 3 System Boundaries and Components

The system consists of:

1. The application's front-end and back-end components in the major categories:
  - Authentication
  - Appointments
  - Quotes
  - Work Orders
  - Shop Profile
  - Services
  - Shop Employees
2. The database being used which will store all of application's data

## 4 Critical Assumptions

- Assume the users of the application are not intentionally trying to misuse it
- Assume that the user will follow cybersecurity best practices

5 Failure Mode and Effect Analysis

Table 2: Failure Mode and Effect Analysis Table

Component	Failure Modes	Effects of Failure	Causes of Failure	Recommended Action	SR	Ref.
-----------	---------------	--------------------	-------------------	--------------------	----	------

## 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]