Hazard Analysis
Mechatronics Engineering

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Table 1: Revision History

Date	**Developer(s)**	**Change**
October 19th, 2022	Jessica Bae Oliver Foote Jonathan Hai Anish Rangarajan Nish Shah Labeeb Zaker	Initial Documentation

Contents

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

1 Introduction

[You can include your definition of what a hazard is here. —SS]

2 Scope and Purpose of Hazard Analysis

3 System Boundaries and Components

4 Critical Assumptions

[These assumptions that are made about the software or system. You should minimize the number of assumptions that remove potential hazards. For instance, you could assume a part will never fail, but it is generally better to include this potential failure mode. —SS]

5 Failure Mode and Effect Analysis

Table 2: FMEA Table

Design Component	Failure Modes	Causes of Failure	Effects of Failure	Detection	Recommended Action
Heart Rate Detection	Heart Rate not detected	• Device not worn properly • Sensor failure • Device surface slippery	EMA may not be triggered	Software check to see if any sensor data is being collected	Ensure the device has been wrapped around properly for more accurate detection
	Device not starting	• Device is faulty • Battery has died	Device not turned on, thus no monitoring	Battery dead logo appears when turning on the device	• Charge the device • Change batteries if needed

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]