Hazard Analysis
Room8

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Table 1: Revision History

Date	Developer(s)	Change
Date1	Name(s)	Description of changes
Date2	Name(s)	Description of changes
...	...	...

Contents

1 Introduction

2 Scope and Purpose of Hazard Analysis

3 System Boundaries and Components

This section goes over the components that the system can be divided into.

3.1 User Smart Phone

Smart phone the user is using with the supported version of Android or iOS.

3.2 Camera

Responsible for taking picture for cleanliness detection analysis when sensor sends information of user.

3.3 Motion Sensor

Detects movement in the shared space to determine if user has entered or exited shared space signaling the camera for a picture.

3.4 Smart Phone Application

A mobile application installed on smart phones which have versions of Android and iOS that is currently being supported mobile providers. This includes front-end of the system where users can see details and change settings of various back-end components listed below.

3.5 Authentication

Authentication using OAuth of user credentials and house details are processed in this component including the update of information mentioned previously.

3.6 SMS ChatBot

ChatBot responsible for sending messages to group chat of home members for notifying them of cleanliness assessment, expenses from bill splitter, or reminders to complete tasks.

3.7 Calendar Tool

Allows users to add events to calendar and display to other housemates, if involved in event, in their respective calendars. Also houses logic for generating chore/cleaning schedule and adding in calendars of users.

3.8 Cleanliness Manager

Responsible for handling and showing users information about their cleanliness after use of shared space and history of events in the space.

3.9 Bill Splitter

Calculate charges due from a shared expense and keeps track of which expenses are due from each user and who they owe using the SMS ChatBot to notify users. Also stores history of expenses and charges paid.

3.10 Database

Used to securely store user and house information, calendar events, expense history, and pictures for cleanliness calculator.

3.11 Cleanliness Calculator

Runs algorithm for detecting change in environment through input received from hardware and stores information for the user to view on application.

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

[Include your FMEA table here. This is the most important part of this document. —SS] [The safety requirements in the table do not have to have the prefix SR. The most important thing is to show traceability to your SRS. You might trace to requirements you have already written, or you might need to add new requirements. —SS] [If no safety requirement can be devised, other mitigation strategies can be entered in the table, including strategies involving providing additional documentation, and/or test cases. —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]

Appendix — Reflection

The purpose of reflection questions is to give you a chance to assess your own learning and that of your group as a whole, and to find ways to improve in the future. Reflection is an important part of the learning process. Reflection is also an essential component of a successful software development process.

Reflections are most interesting and useful when they're honest, even if the stories they tell are imperfect. You will be marked based on your depth of thought and analysis, and not based on the content of the reflections themselves. Thus, for full marks we encourage you to answer openly and honestly and to avoid simply writing "what you think the evaluator wants to hear."

Please answer the following questions. Some questions can be answered on the team level, but where appropriate, each team member should write their own response:

1. What went well while writing this deliverable?

2. What pain points did you experience during this deliverable, and how did you resolve them?

3. Which of your listed risks had your team thought of before this deliverable, and which did you think of while doing this deliverable? For the latter ones (ones you thought of while doing the Hazard Analysis), how did they come about?

4. Other than the risk of physical harm (some projects may not have any appreciable risks of this form), list at least 2 other types of risk in software products. Why are they important to consider?