<PLACE LOGO HERE>

<DEVICE NAME>
DESIGN RATIONALE

Completion Checklist (DELETE BEFORE POSTING)

- Update <MONTH> and <YEAR> in header
- Update V<X.Y.Z> in header
- Update <DEVICE NAME> in header
- Add logo to or remove the “Place Logo Here” textbox in header
- Update <YEAR> in footer
- Update <Author> in footer
- Update webpage link in footer
- Complete Overview page
- Complete Introduction
- Complete Requirements
    - List goals
    - List functional requirements
    - List non-functional requirements
    - List constraints
- Complete Research
    - Document commercially available options
    - Document DIY / maker friendly options
- Complete Ideation
    - Describe ideas created to meet the goals / requirements of the project
    - Include decisions about which ideas to continue with
- Complete Conceptual Designs
    - Describe the concepts created to meet the goal / requirements of the project
    - Include decisions about which concepts
- Complete Prototyping
    - Document prototypes developed
    - Include decisions on prototypes
- Complete Testing
    - Describe tests completed (or that would be good to complete)
    - Include results of tests
- Complete Detailed Design
    - Describe all aspects of the current version of the device to be released
- Complete Opportunities for Improvement (OFIs)
    - List OFIs for the device
- Check images have been inserted where required
    - Can search for <INSERT IMAGE OF DEVICE>
- Update Table of Contents
- Delete all help text

<PLACE LOGO HERE>

<DEVICE NAME>
DESIGN RATIONALE

- Delete Completion Checklist
- For detailed instructions on completing the Design Rationale, please see the OpenAT Documentation Guide

<PLACE LOGO HERE>

<DEVICE NAME>
DESIGN RATIONALE

Overview

The Design Rationale is intended to provide designers and maker information about the design process and design decisions behind the development of the <DEVICE NAME>, <INSERT ONE-LINE DESCRIPTION OF DEVICE>.

<INSERT IMAGE OF DEVICE>

<PLACE LOGO HERE>

<DEVICE NAME>
DESIGN RATIONALE

Contents

<PLACE LOGO HERE>

<DEVICE NAME>
DESIGN RATIONALE

Introduction

<DESCRIPTION OF WHERE IDEA FOR THE DEVICE ORIGINATED>

<Do NOT include identifying information on a specific end-user if they requested the device be designed (ex: name, age, gender, sex, location). >

<DESCRIPTION OF NEEDS BEING MET BY DEVICE>

<DESCRIPTION OF INTENDED END-USER. INCLUDE SPECIFIC NAMES OF CONDITIONS IF KNOWN.>

Requirements

The goals and requirements outlined here can be used to assess if a device would meet the needs of a user, and determine when a design is sufficient for release.

Goals

<GOALS ARE THE NEEDS THAT NEED TO BE MET BY THE DEVICE>

G01	
G02	
G03	

Functional Requirements

<FUNCTIONAL REQUIREMENTS ARE REQUIREMENTS RELATED TO HOW THE DEVICE WILL WORK TO MEET THE GOALS>

F01	
F02	
F03	

Non-functional Requirement

<NON-FUNCTIONAL REQUIREMENTS DO NOT RELATE TO HOW THE DEVICE WORKS, BUT ARE RELATED TO THE GOALS OF THE PROJECT>

NF01	
NF02	
NF03	

Constraints

<CONSTRAINTS ARE LIMITS ON THE DESIGN, SUCH AS COST, SIZE/WEIGHT, OR MATERIAL TYPES>

C01	
C02	

<PLACE LOGO HERE>

<DEVICE NAME>
DESIGN RATIONALE

C03	

Research

<DESCRIBE HOW AND WHEN RESEARCH WAS CONDUCTED>

Commercially Available Options

Options that can be purchased but not made by a maker.

<COMMERCIALLY AVAILABLE DEVICE NAME>

<COPY AND PASTE THIS SECTION, AND COMPLETE IT FOR EACH COMMERCIALLY AVAILABLE DEVICE>

Title / Name of device	<TITLE / NAME OF DEVICE>
Link	<LINK TO WEBSITE, IF AVAILABLE>
Author	<DESIGNER / MANUFACTURER / DISTRIBUTOR>
License	<DISTRIBUTION LICENSE, IF APPLICABLE>
Cost	<COST (INCLUDE TYPE OF CURRENCY: CAD, USD< ETC.)>

<INSERT IMAGE OF DEVICE>

<SHORT DESCRIPTION OF THE DEVICE AND HOW IT WORKS>

Requirements Met	**Requirements Unmet**
<LIST REQUIREMENTS FROM PREVIOUS SECTION THIS DEVICE MEETS>	<LIST REQUIREMENTS FROM PREVIOUS SECTION THE DEVICE DOES NOT MEET>

Useful Design Features

<INCLUDE ANY DESIGN FEATURES OF THE DEVICE THAT COULD / SHOULD BE CONSIDERED IN THE DESIGN OF ANOTHER DEVICE>

DIY / Maker-Friendly Options

Options that can be made by a maker.

<DIY / MAKER-FRIENDLY DEVICE NAME>

<COPY AND PASTE THIS SECTION, AND COMPLETE IT FOR EACH COMMERCIALLY AVAILABLE DEVICE>

Title	<TITLE / NAME OF DEVICE>
Link	<LINK TO WEBSITE, IF AVAILABLE>
Author	<CREATOR OF THE DEVICE>
License	<DISTRIBUTION LICENSE, IF AVAILABLE>
Cost	<COST (INCLUDE TYPE OF CURRENCY: CAD, USD< ETC.)>
Test Build (Y/N)	<HAVE YOU BUILT THIS DEVICE?>
Add to Library (Y/N)	<SHOULD THIS DEVICE BE ADDED TO THE MMC LIBRARY?>

<INSERT IMAGE OF DEVICE>

<PLACE LOGO HERE>

<DEVICE NAME>
DESIGN RATIONALE

<SHORT DESCRIPTION OF THE DEVICE AND HOW IT WORKS>

Requirements Met	Requirements Unmet
<LIST REQUIREMENTS FROM PREVIOUS SECTION THIS DEVICE MEETS>	<LIST REQUIREMENTS FROM PREVIOUS SECTION THE DEVICE DOES NOT MEET>

Useful Design Features

<INCLUDE ANY DESIGN FEATURES OF THE DEVICE THAT COULD / SHOULD BE CONSIDERED IN THE DESIGN OF ANOTHER DEVICE>

Ideation

<DESCRIBE THE INITIAL IDEAS GENERATED TO MEET THE GOALS OF THE PROJECT. THESE ARE BROAD CONCEPTS, NOT SPECIFIC IDEAS FOR PROTOTYPES, SPECIFIC COMPONENTS BEING USED, OR EXACT SOLUTIONS>

<INCLUDE SKETCHES, DESCRIPTION OF DESIRED FUCTION, AND HOW IT WOULD WORK>

<GIVE IDEAS NAMES / NUMBERS TO REFERENCE LATER>

Ideation Decisions

<DESCRIBE AND JUSTIFY WHY DIFFERENT IDEAS WERE ABANDONDED, MODIFIED, OR CHOSEN TO PROCEED>

Idea	Decision (Abandon, Modify, Proceed)	Justification
<IDEA 1>	<DECISION>	<JUSTIFICATION>
<IDEA 2>	<DECISION>	<JUSTIFICATION>

Conceptual Designs

<DESCRIBE DIFFERENT DESIGNS BEING WORKED ON. SHOULD INCLUDE DESIGNING PARTS, SELECTING COMPONENTS, AND OUTLINING CODE (IF APPLICABLE)>

<GIVE CONCEPTS UNIQUE NAMES / NUMBERS TO REFERENCE LATER>

<COPY THE BELOW SECTION FOR EACH CONCEPT CREATED>

<IF PARTS ARE SHARED BETWEEN CONCEPTS (EX: THE CODE FUNCTION / STRUCTURE), ONLY DESCRIBE IT ONCE AND REFER TO IT IN OTHER CONCEPT SECTIONS>

<REMOVE IRRELEVANT SECTIONS IF NOT USED IN THE DESIGN>

<DEVICE NAME>
DESIGN RATIONALE

<CONCEPT 1>

<INSERT ONE-LINE DESCRIPTION OF THE CONCEPT>

Physical Component / Enclosure

<INSERT DESCRIPTION OF THE PHYSICAL COMPONENTS / ELECTRICAL ENCLOSURE. INCLUDE IMAGES, LINKS TO PARTS, ETC.>

Electrical Components

<INSERT DESCRIPTION OF THE ELECTRICAL COMPONENTS. INCLUDE IMAGES, LINKS TO PARTS, ETC.>

Code Structure / Function

<INSERT DESCRIPTION OF THE CODE STRUCTURE / FUNCTION. LINK TO EXTERNAL LIBRARIES (IF USED)>

Concept Decisions

<DESCRIBE AND JUSTIFY WHY DIFFERENT CONCEPTS WERE ABANDONDED, MODIFIED, OR CHOSEN TO PROCEED>

Concept	Decision (Abandon, Modify, Proceed)	Justification
<CONCEPT 1>	<DECISION>	<JUSTIFICATION>
<CONCEPT 2>	<DECISION>	<JUSTIFICATION>

Prototyping

<DESCRIBE DIFFERENT PROTOTYPES BEING WORKED ON. SHOULD INCLUDE DESIGNING PARTS, SELECTING COMPONENTS, AND OUTLINING CODE (IF APPLICABLE)>

<GIVE PROTOTYPES UNIQUE NAMES / NUMBERS TO REFERENCE LATER>

<COPY THE BELOW SECTION FOR EACH PROTOTYPE CREATED>

<IF PARTS ARE SHARED BETWEEN PROTOTYPES (EX: THE CODE FUNCTION / STRUCTURE), ONLY DESCRIBE IT ONCE AND REFER TO IT IN OTHER CONCEPT SECTIONS>

<REMOVE IRRELEVANT SECTIONS IF NOT USED IN THE DESIGN>

<PROTOTYPE 1>

<INSERT ONE-LINE DESCRIPTION OF THE PROTOTYPE>

Physical Component / Enclosure

<INSERT DESCRIPTION OF THE PHYSICAL COMPONENTS / ELECTRICAL ENCLOSURE. INCLUDE IMAGES, LINKS TO PARTS, ETC.>

Electrical Components

<INSERT DESCRIPTION OF THE ELECTRICAL COMPONENTS. INCLUDE IMAGES, LINKS TO PARTS, ETC.>

Code Structure / Function

<INSERT DESCRIPTION OF THE CODE STRUCTURE / FUNCTION. LINK TO EXTERNAL LIBRARIES (IF USED)>

Prototype Decisions

<DESCRIBE AND JUSTIFY WHY DIFFERENT PROTOTYPES WERE ABANDONDED, MODIFIED, OR CHOSEN TO PROCEED>

Prototype	Decision (Abandon, Modify, Proceed)	Justification
<PROTOTYPE 1>	<DECISION>	<JUSTIFICATION>
<PROTOTYPE 2>	<DECISION>	<JUSTIFICATION>

Testing

<DESCRIBE THE TESTING COMPLETED, OR THAT SHOULD BE COMPLETED ON THE DEVICE>

<DESCRIBE THE GOAL OF EACH TEST COMPLETED>

<INCLUDE LINKS TO TEST CODE, IF APPLICABLE>

<INCLUDE IMAGES, IF APPLICABLE>

Test Methods

<DESCRIBE HOW THE TESTS WERE COMPLETED, WITH ENOUGH DETAIL FOR SOMEONE ELSE TO REPEAT THE TEST>

<GIVE TESTS DESCRIPTIVE NAMES / NUMBERS TO REFER TO LATER>

<TEST 1>

<DESCRIBE THE FIRST TEST, AS EXPLAINED ABOVE>

Test Results

<DESCRIBE THE RESULTS OF EACH TEST. INCLUDE RELEVANT IMAGES, DATA, AND FIGURES.>

Detailed Design

<DESCRIBE THE CURRENT VERSION OF THE DEVICE TO BE PUBLISHED>

<INSERT IMAGE OF DEVICE>

<PLACE LOGO HERE>

<INCLUDE GOALS AND REQUIREMENTS THAT WERE MET AND NOT MET>

Physical Component / Enclosure

<INSERT DESCRIPTION OF THE PHYSICAL COMPONENTS / ELECTRICAL ENCLOSURE. INCLUDE IMAGES, LINKS TO PARTS, ETC.>

Electrical Components

<INSERT DESCRIPTION OF THE ELECTRICAL COMPONENTS. INCLUDE IMAGES, LINKS TO PARTS, ETC.>

Code Structure / Function

<INSERT DESCRIPTION OF THE CODE STRUCTURE / FUNCTION. LINK TO EXTERNAL LIBRARIES (IF USED)>

Opportunities for Improvement

<DESCRIBE HOW THE DEVICE COULD BE IMPROVED IN FUTURE VERSIONS>

Physical Component / Enclosure

<INSERT DESCRIPTION OF IMPROVEMENTS TO THE PHYSICAL COMPONENTS / ELECTRICAL ENCLOSURE. INCLUDE IMAGES, LINKS TO PARTS, ETC.>

Electrical Components

<INSERT DESCRIPTION OF IMPROVEMENTS TO THE ELECTRICAL COMPONENTS. INCLUDE IMAGES, LINKS TO PARTS, ETC.>

Code Structure / Function

<INSERT DESCRIPTION OF IMPROVEMENTS TO THE CODE STRUCTURE / FUNCTION. LINK TO EXTERNAL LIBRARIES (IF USED)>