GREENHOUSE GOBLIN
README FILE

FOLDER STRUCUTURE

1. DESIGN PROCESS ARTIFACTS

RESEARCH_REPORT
Detailed report that contains resistance value calcuations for maximum efficency and component ratings, the DFI output for the prototype as well as the scaled up final design to meet the requirments. The key design decisions for each subsystem is discussed, and the integration of the subsystems is outlined.

DIAGRAM_SOURCE_FILES
Source files (Fritzing and Draw.io) for Diagrams used for Visual Abstract.

PICTURES
Contains folders with images demonstrating progress organized by Prototiping and Integration Phases.

2. FINAL DESIGN ARTIFACTS

VISUAL_ABSTRACT

FINAL_CAD_CAM
Fusion (3D print) and Autocad (laser cut) source files for final enclosure design. Also contains the Prusa Slicer file submitted to myfab.

PICTURES
Renders and screenshot that help gain insight into how the final enclosure operates mechanically

FINAL_HARDWARE
Contains final version of the circuit diagram

FINAL_SOFTWARE
Commented controller code used in the final assembly, as well as a file with unit tests used to verify the main code file.

STATE_DIAGRAM

KEY_DESIGN_DECISIONS
A set of annotated diagrams that guide through mayor design decisions that were undertaken throughout the process.

4. MYFAB DIGIFAB
Confirmation emails for the 3D print and laser cut MyFab submissions

4. BUILD ARTIFACTS
Set of pictures from the build process and integration stages of the design

5. TESTING
Videos and pictures demonstrating how the design meets the requirments and how it operates.

TEAMWORK PROCESS

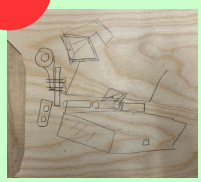
GitHub was used to collaborate on code, media, folder structure and laser cut design files.

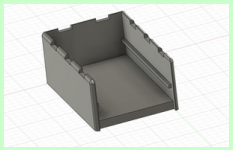
Github repository: https://github.com/Mateusz-alicante/Praxis3-PB

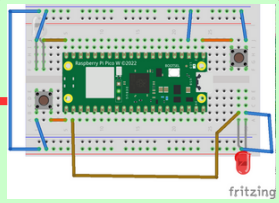
Fusion 360 was used to work together on 3d print CAD files, as well as keep track of the version history for the design.

Online 3D model: https://a360.co/497xzXL

MAYOR DESIGN PROCESS STAGES

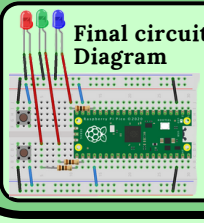
1. 
Original Sketch Idea

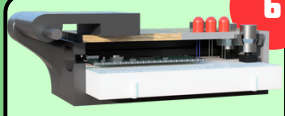
2. 
Fist Fusion CAD model

3. 

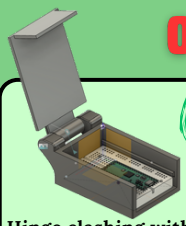
First Circuit Layout

4. 
Controller code write-up

5. 
Final circuit Diagram

6. 
Final enclosure design

OBSTACLES FACED:


FIXED!
Hinge clashing with planned light locations.


FIXED!
Screws too tall and touching electrical components


FIXED!
Confusion from GPIO numbers not matching board numbers

FIXED!
Homogenous buttons hard to differentiate.