



## Design Overview

Our project will demonstrate a horizontal model that mimics the functionality of an elevator. This project will be coded using PLC(Programmable Logic Control) with OpenPLC which consists of floor selection, door operation, & user interface.

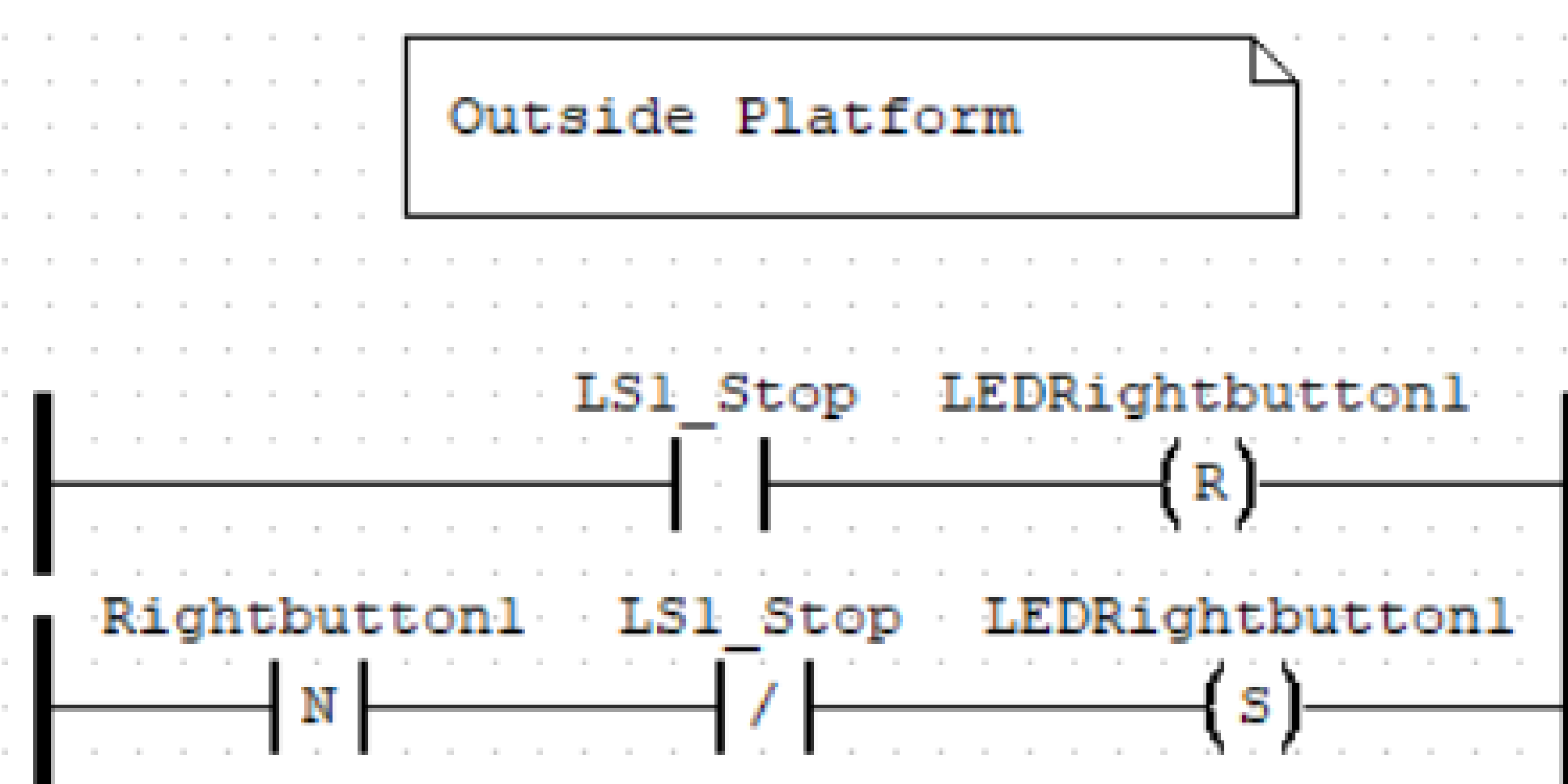
## D1 Requirements

- Individual Sub-system functionality demonstrated by simulation in OpenPLC
- Simulation demonstrating button response, car motor activation/direction, car door operation and sensor input
- Documentation of planned hardware implementation and controller(s) selection

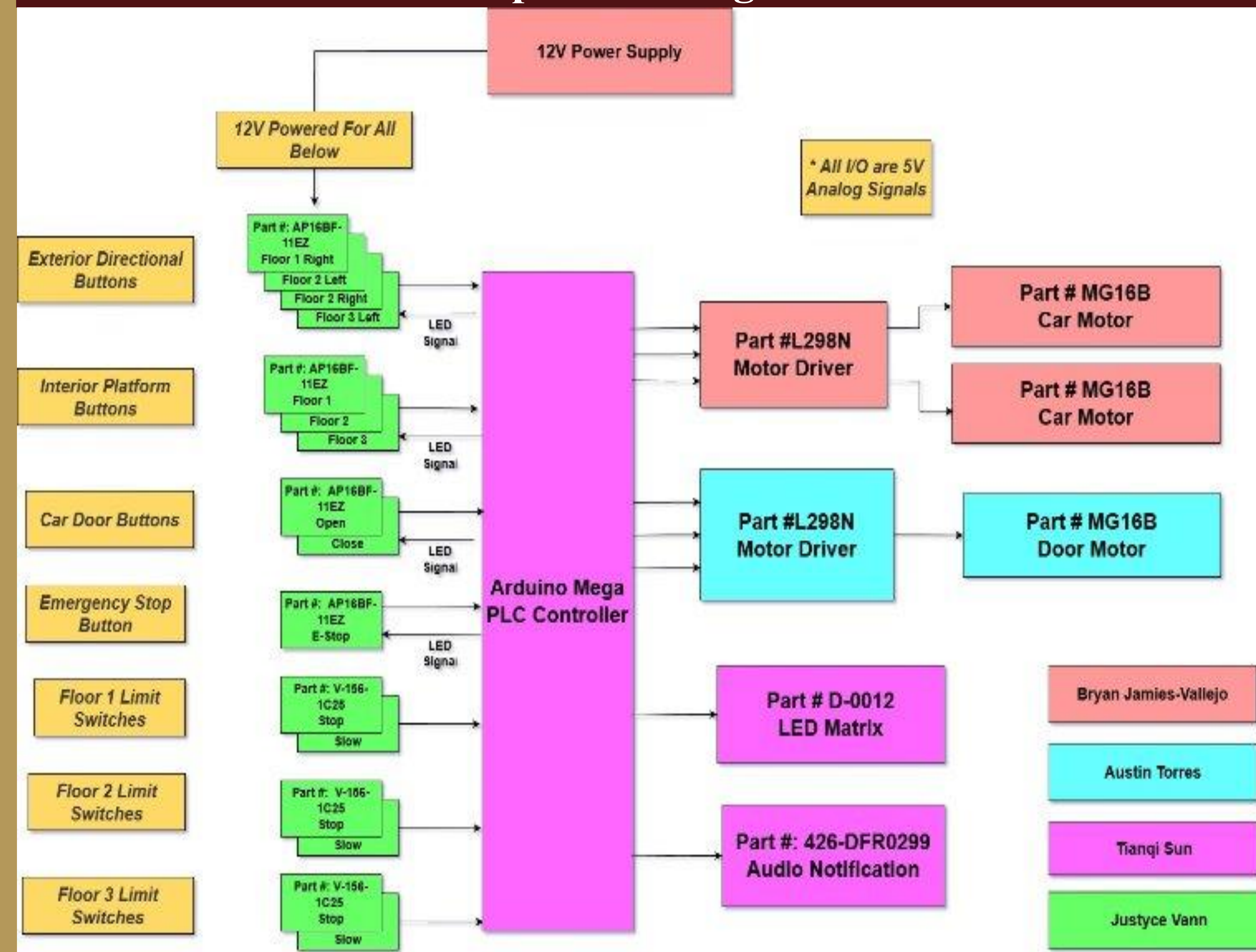
## D1 Achievements

- Requirements for D1 were met
- Subsystems were wired on the breadboard using Arduino Mega
- Physical model was built, and each subsystem is being implemented in the actual physical model

## OpenPLC Sample Code



## Top Level Diagram



## Meet The Team



|                    |               |                                |                |
|--------------------|---------------|--------------------------------|----------------|
| <b>Justyce(PM)</b> | <b>Bryan</b>  | <b>Tianqi</b>                  | <b>Austin</b>  |
| Floor Selection    | Motor Control | Status Feedback User Interface | Door Operation |

## D2 Plans

- Full design, integration, and working model
- Demonstrating button response, car motor activation/direction, car door operation and sensor input
- Optimization of elevator movement and floor wait time

## 3D Model

- 3D Model was designed using Autodesk Fusion



## Acknowledgements

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- D2 Mentor Team: 2.01 TSGC ILCS-2