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Company Liaisons: Alex LaVelle & Jay LaRosa

BACKGROUND

Alcon's goal is to make the assembly process of the Legion, a cataract treatment device, as effortless and straightforward as possible. In assembling the Legion, it is necessary to gain access to three of its four sided chassis.

Currently, workers assemble the Legion device by hand. Continuous manual tightening of screws can cause carpal tunnel in employees. To relieve this stress, a mechanism needs to be designed to work alongside Alcon's UR robot in order to flip and assemble the Legion with minimum effort.

OBJECTIVE

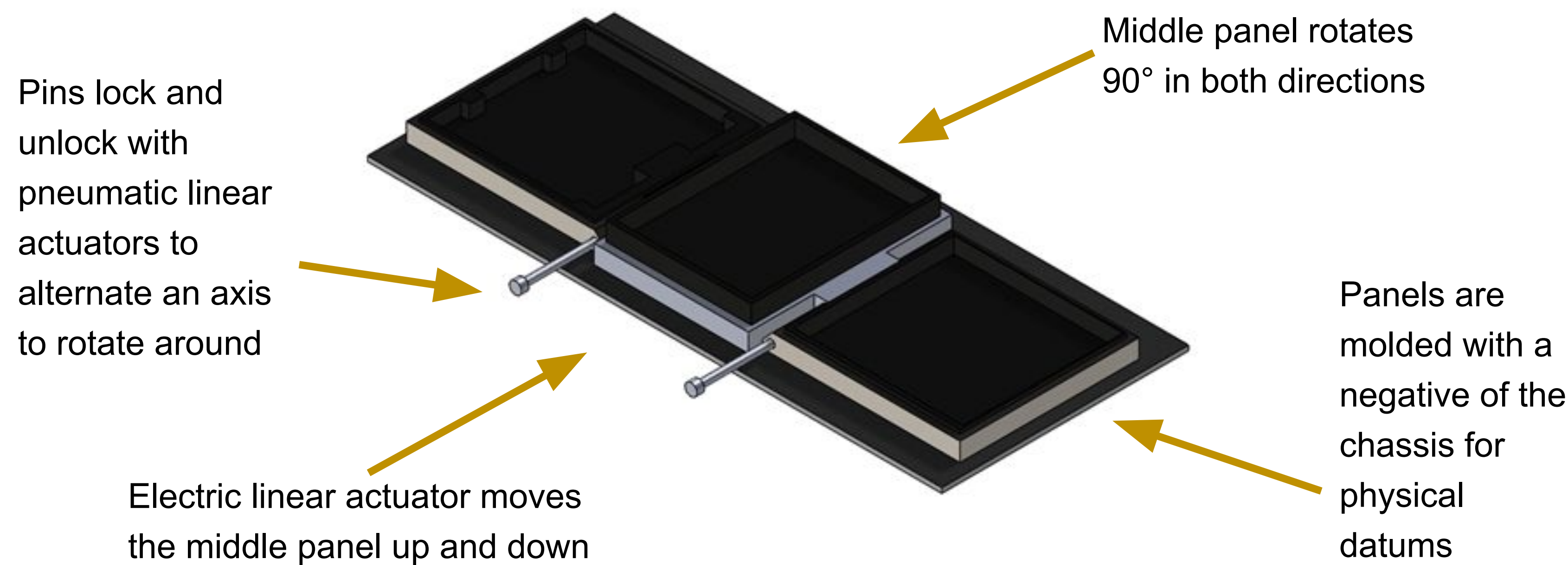
The objective of this project is to design a flipping mechanism that simplifies the assembly process of the Legion.

REQUIREMENTS

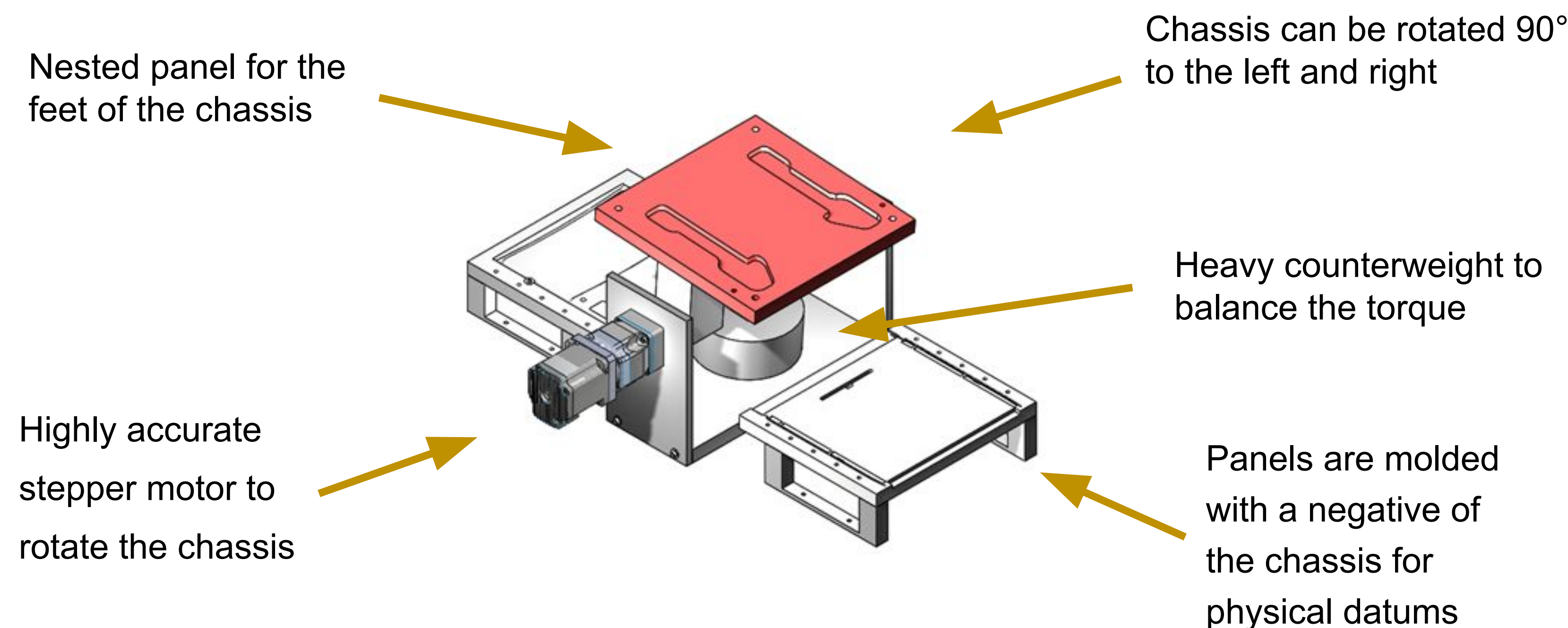
- Create an autonomous flipping mechanism
- Flipper will allow easy access to the chassis' 3 surfaces
- Create accurate and precise datums
- The assembly process will not exceed 300 seconds
- Ensure a reliable and repeatable system

DESIGN INNOVATION

Three Part Flipper



Pivoting Arm



TIMELINE

Fall: Research and design several flipper concepts. Present to Alcon and agree upon two designs. Begin ordering parts

Winter: Prototype and test designs. Make modifications to models as necessary

BUDGET

This project is funded by Alcon. There is no set budget.

TEAM MEMBERS



Left to right: Andrew Marzban, Gregory So, Soha Foroughi, Christine Tran, Matthew Cruz, Anthony Nguyen, Majd Saleh, Ahmad Barbakh, Matthew Gonzalez, Blake Byrnes, Estin Liu, Quang Nguyen

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