Zenith Controls

Climb Arms Up — **LT** — **RT** — Climbing Arms Down
Intake — **LB** — **RB** — Shoot Speaker
Unbound
Move Robot — **LS**
Unbound

Y Aim Amp
X Aim Speaker
B Axle Up (test)
A Axle Down (test)

Unbound
Shoot Trap

RS Rotate Robot
Boost (hold)

Robot Systems

Intake
- Break beam sensor
- Rollers
- Belt System
- Shooting Angle
- Polycarbonate side panel
- Infrared sensor

Climber
- Unique hook shape
- Spring and String
- Rail

Shooter
- Different angles for amp and speaker

Drive Train
- Swerve Drive
- Max swerve modules

Robot Systems

Shoulder/Arm
- Side panels
- Big chunky gears
- Spacing
- Bracing
- Main axle
- Middle shaft
- Encoders
- Gear Chains

Electrical
- CAN
- Battery analyzation system
- Wire management
- Component mounting

PICTURE HERE

Programming

- Auto aiming
- Driving subsystems
- Climbing subsystems
- Intake subsystems
- Max swerve
- Shooter subsystems
- Ultrasonics
- Infrared sensor
- Vision
- Unicorn hat (LED Feedback)

Autonomous
- **Multiple starting positions**
- Shoot into Speaker
- Shoot into Amp
- Pick up 2 notes

AprilTags
- 2 camera
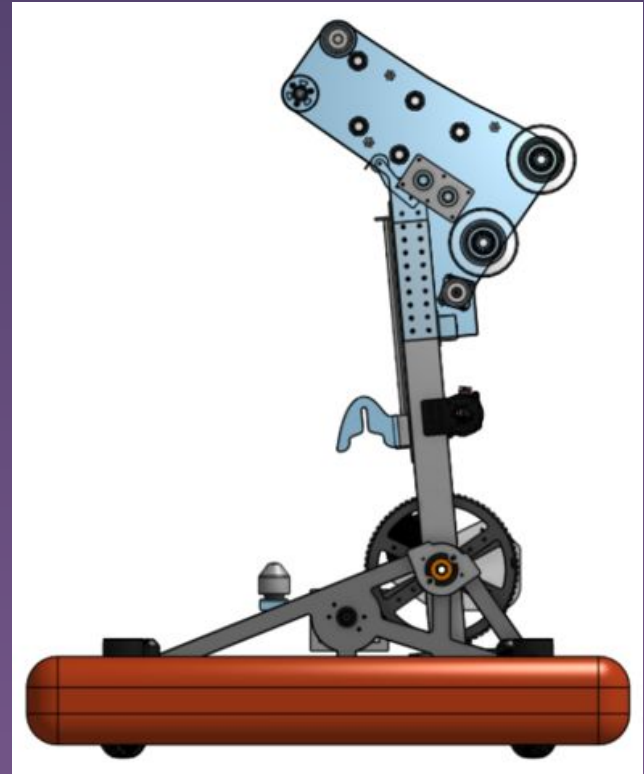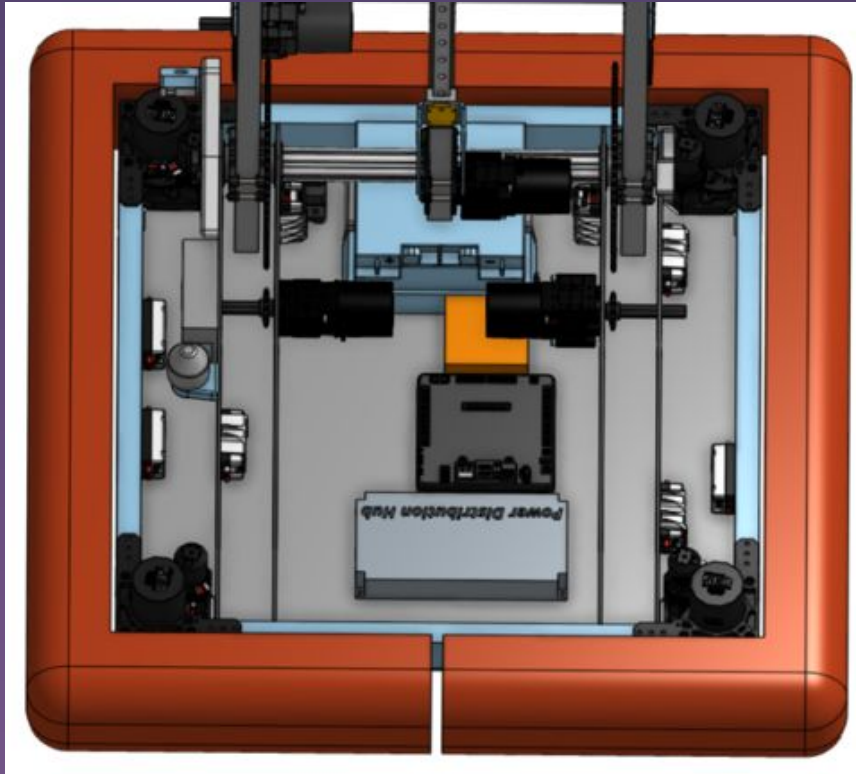- Detecting AprilTags and notes

Design

- Intake and shooter efficiency and structure
- Combine several features into 1 mechanism
- Axle location for different actions (Amp and speaker)
- Cable management
- Basic climb design incorporating existing systems

Innovative Parts of our Robot   What we can do

- Wire and cable management
- Focusing on both amp and speaker at different angle
- Mechanical–Infrared/Break beam sensor, limit switches, ultrasonic sensor
- Unicorn hat and LEDs to communicate data to driver

- Intake from the ground
- Shoot into Speaker
- Shoot into Amp
- Climb
- Drive under stage