Welcome to the Drone Design Team!

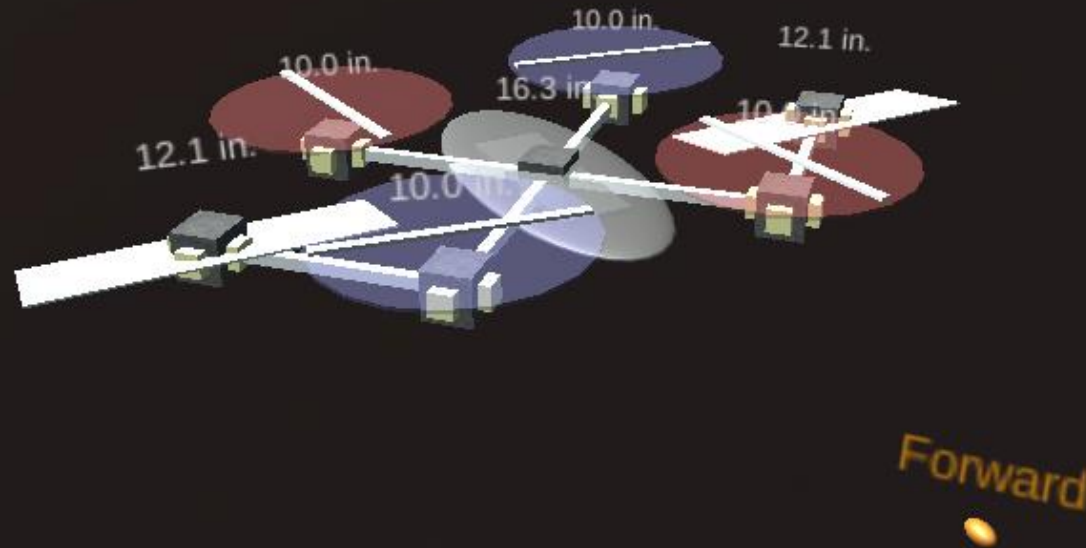# Information Flow

Your role is to develop drone configurations that satisfy the goals of the team's operation strategy

You will be receiving guidance from your team's operational planners to create drones that have a desired range, capacity, and/or cost performance

General Guidance

Capacity (lb) `15`

Evaluate

Submit

Components / Hot Keys (1-5)

test1

aaabbbcccdddeeefffgg

test

arl_2_design

base

aiDesign

1) Create a Drone Design Using Structures, Motors, Foils, and Connectors Using Mouse Clicks and Hot Keys. Also, Enter Desired Capacity in Pounds in the Upper Left Pane.

4) Load Plans from Your Team and Open/Edit

1) OR, Use the Designer AI Agent To Assist You in the Drone Design

2) Evaluate a Design To Calculate its Performance Metrics

3) Submit a Design to Your Team

10.0 in.   12.1 in.

16.3 in.

12.1 in.

10.0 in.

Forward

Last Run : Success range=15.02(mi) capacity=15(lb) cost=$4465

Components

Hover cursor over a node act
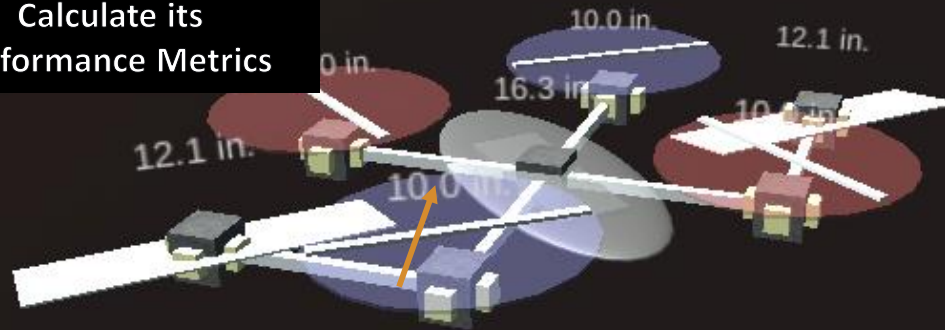
1 Battery – provides energy proportional to its size

2 Motor – provides upward and forward thrust proportional to size
- Red motors spin clockwise
- Blue motors spin counter clockwise

3

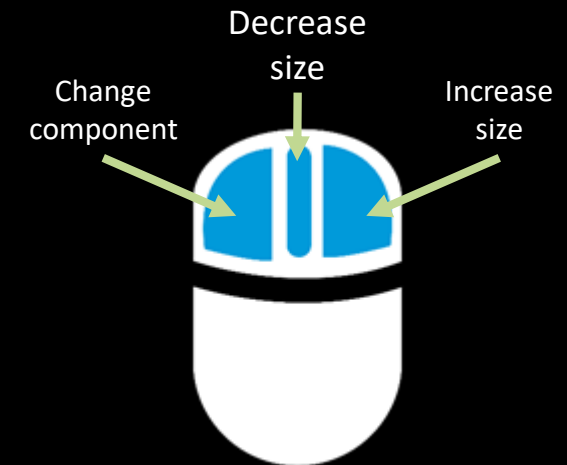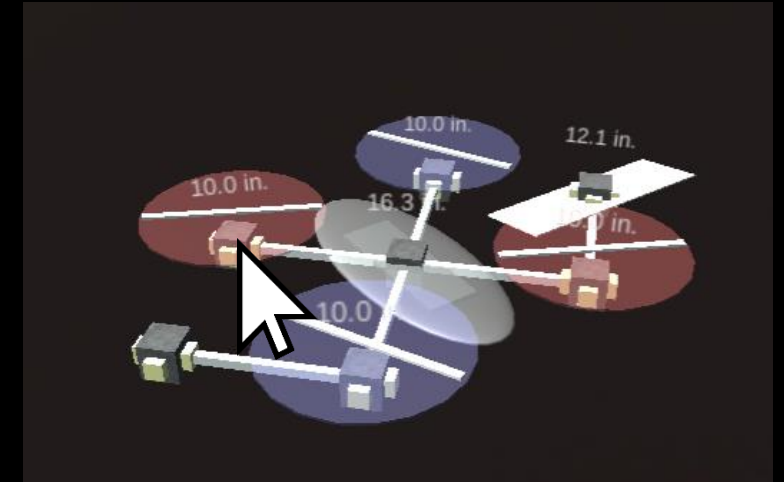**4** Airfoil – provides lift proportional to size and forward velocity[2]

5 Node – provides mounting location for components, has zero mass

Note: Component hotkeys are active when the cursor hovers over a node

Change component

Decrease size

Increase size

Decrease size Shift +

GUI Layout

Restore base drone

Reset View

Information

Refresh Design list

Evaluate current design

Submit current design

Designer AI Agent

Drone designs from the whole team are shown here

Click on a design to load it

Available components

Capacity (lb) 15

Evaluate

Submit

Components / Hot Keys (1-5)

Team Designs
- test1
- aaabbbcccdddeeefffgg
- test
- arl_2_design
- base
- aiDesign

10.0 in.

12.1 in.

10.0 in.

16.3 in.

10.0 in.

12.1 in.

10.0 in.

Forwa

Add structures, motors, and foils to node using a left mouse click over the node to toggle through the components (or use hot keys or draggable components from the left pane)

Click on the white area of a node to add a new connection. Note: connections and empty nodes have zero mass.

Last action log

Last Run : Success ra

Designer AI Agent

Click here to get suggestions from an AI designer based on your current drone design.

Design Mode

This button will return you to the design without selecting an AI agent design

Left click on any of the green, yellow, or blue metric bars to load the AI Agent generated design

Range
Cost
Capacity

Range(mi)=22.88
Cost($)=4000
Capacity(lb)=12

Range(mi)=23.28
Cost($)=4610
Capacity(lb)=16

Range(mi)=18.16
Cost($)=4508
Capacity(lb)=19
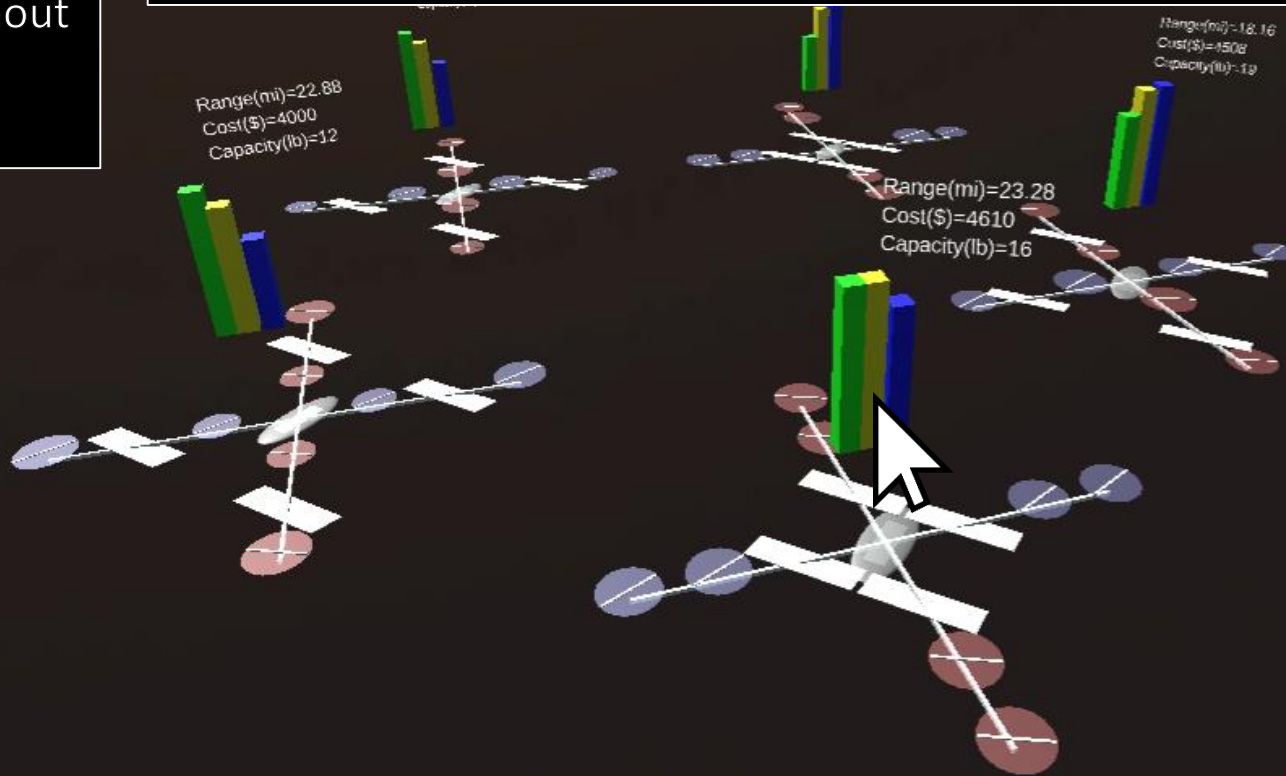
Increase size

< >

3D Scene Movement

Mouse
Click + drag

Zoom

Rotate

Pan
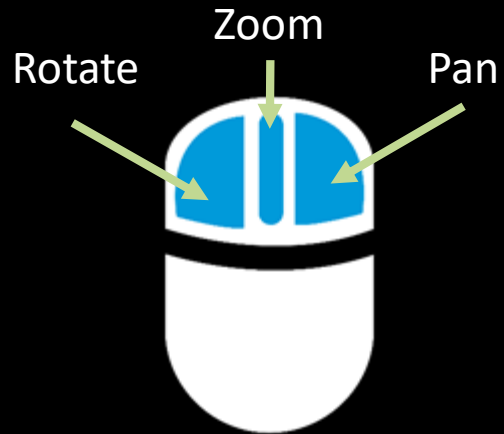
Zoom: Shift + drag

Laptop Touchpad
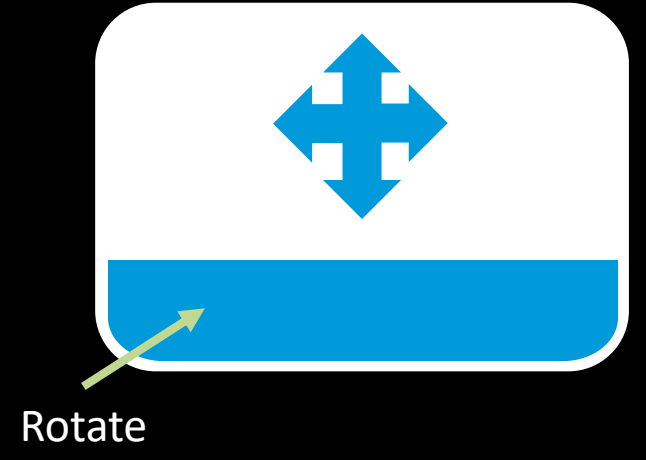### Click + drag

Rotate

Pan
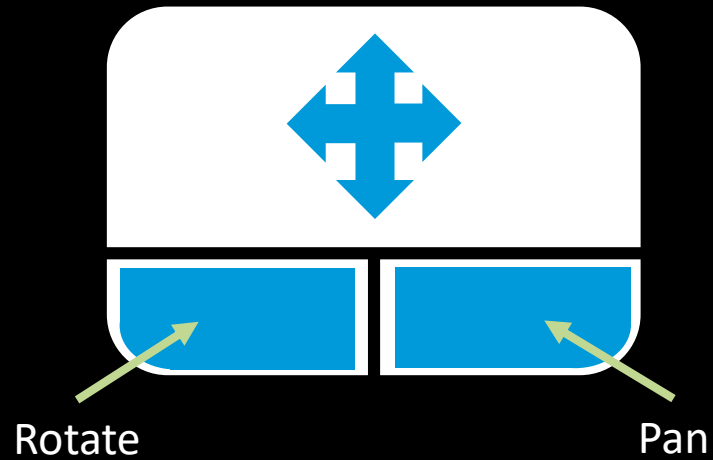
Zoom: Shift + drag

Mac Tracpad
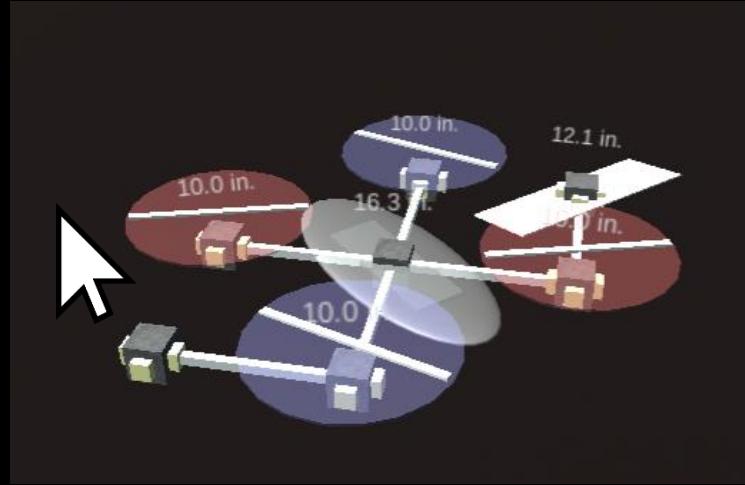### Click + drag

Rotate

Zoom: Shift + drag

Additional Hotkeys

Hover cursor over a node

D   **Delete – remove the component or structure from the design**

↑   **Increase Component Size**

↓   **Decrease Component Size**