

# Welcome to the Drone Designer!

Capacity (lb)

5

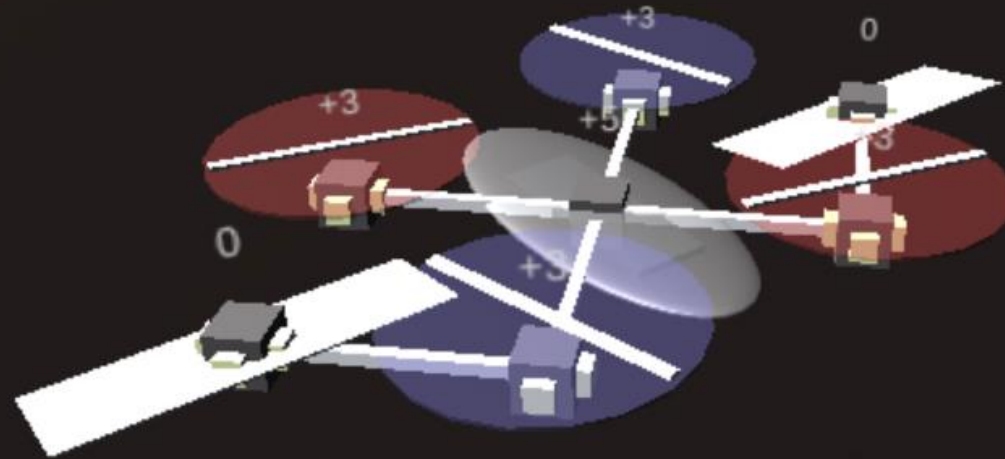
Evaluate

Team Designs

winged

base

Components /  
Hot Keys (1-5)



Forward



Capacity (lb)

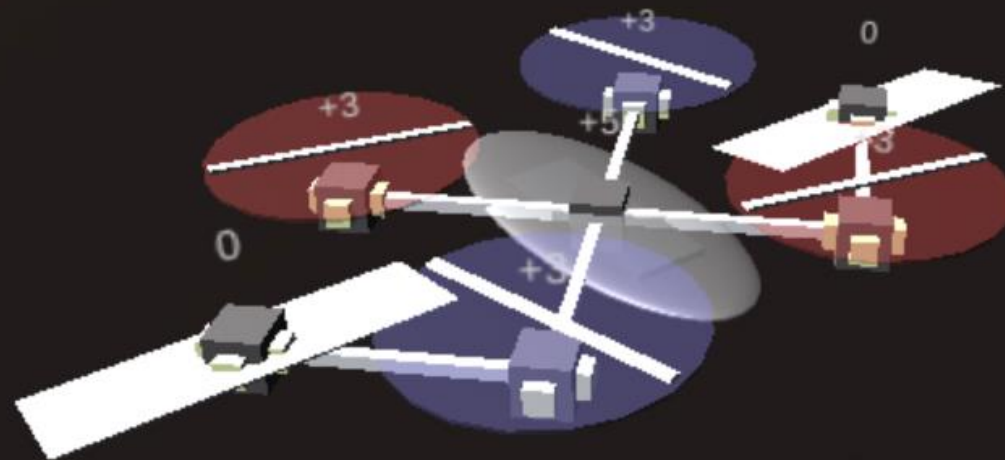
5

Evaluate



Your goal is to develop drone configurations that satisfy the objectives provided to you in the problem statement.

Components /  
Hot Keys (1-5)



Forward

Team Designs

winged

base

# General Guidance

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 your previous designs

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

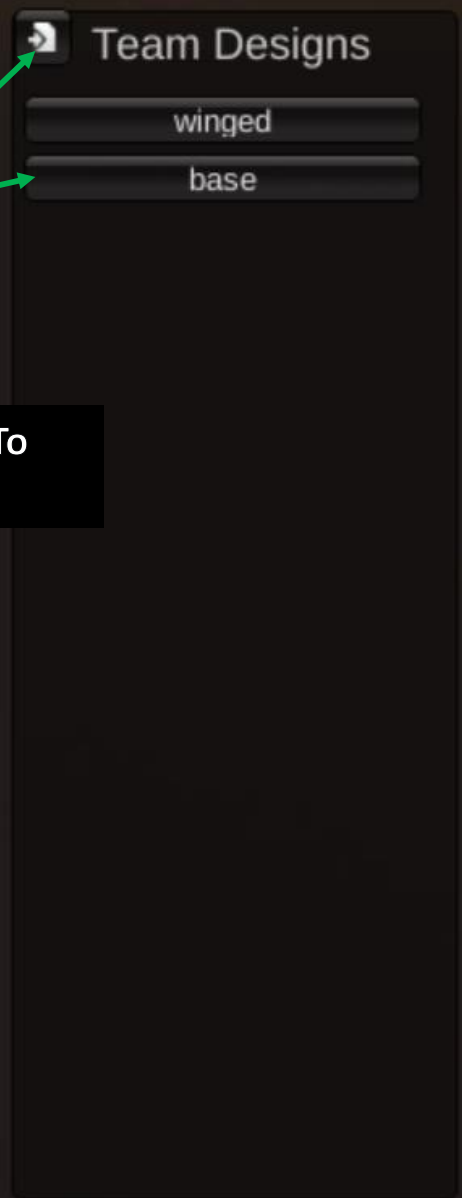
2) Evaluate a Design To Calculate its Performance Metrics

3) Submit a Design to the Experimenter in the Evaluation View, or Select 'OK' to Return to Design Mode

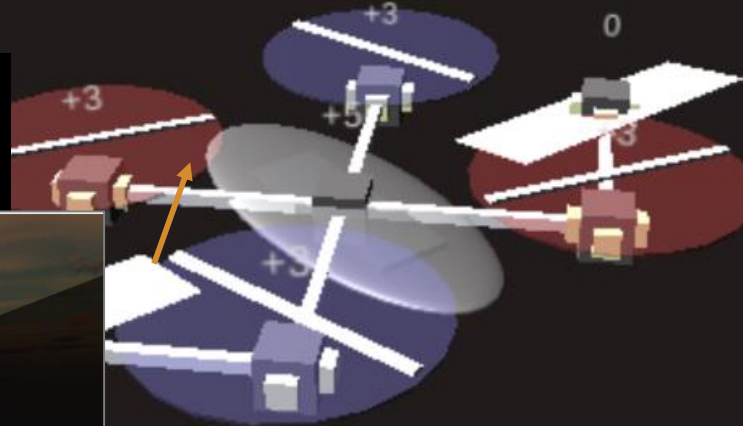


Capacity (lb) 5

Evaluate



Components /  
Hot Keys (1-5)



# Components

## Hotkeys

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<sup>2</sup>

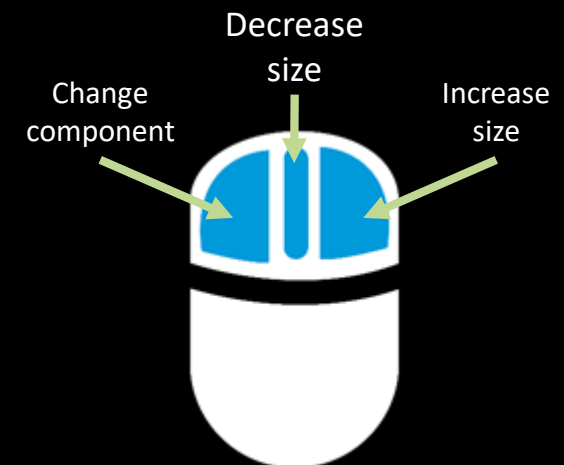
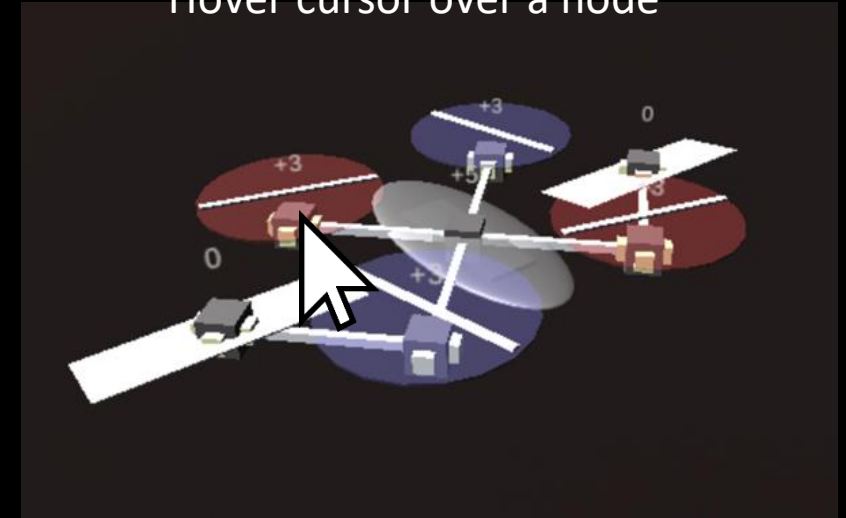
5



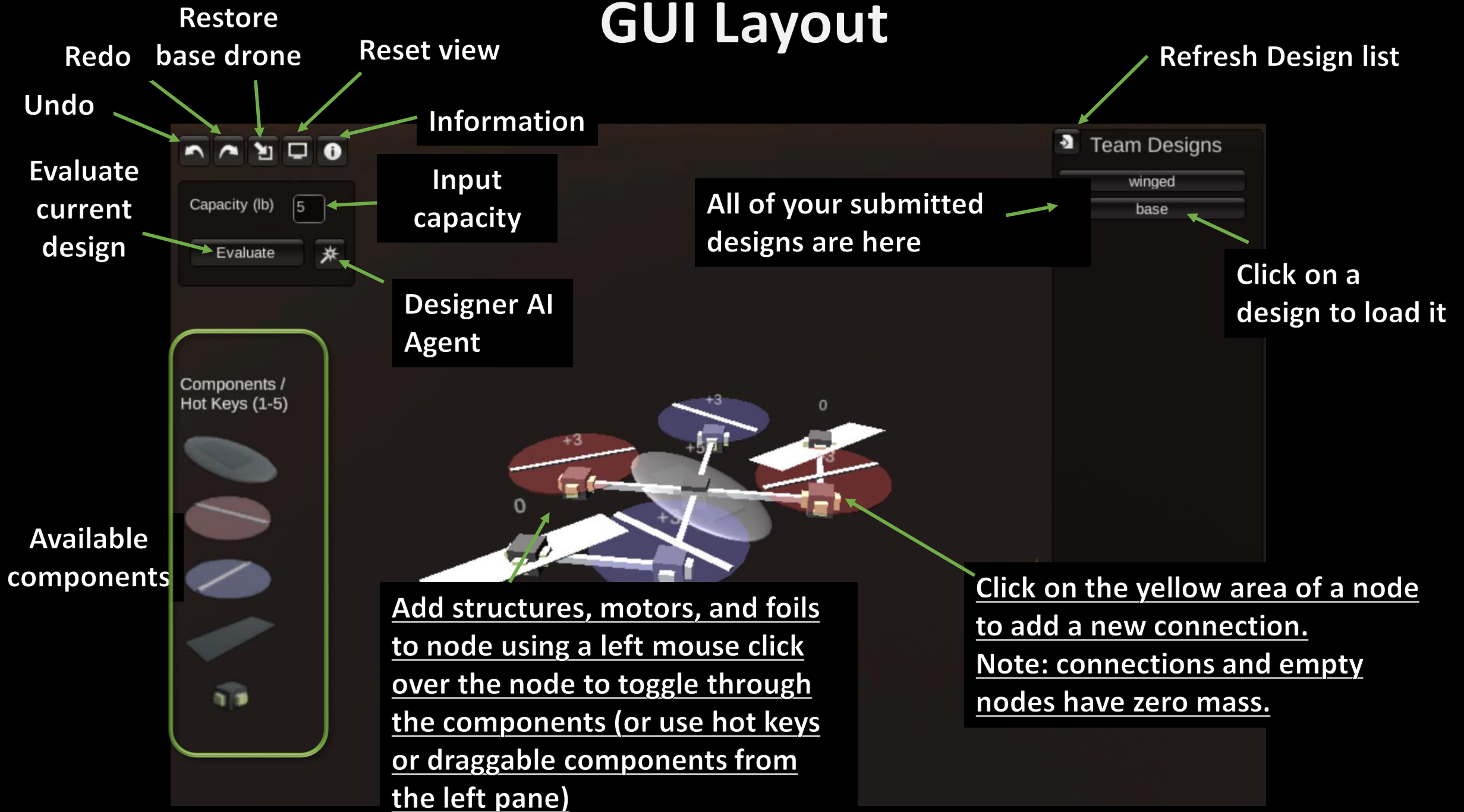
Node – provides mounting location for components, has zero mass

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

Hover cursor over a node



# GUI Layout



# Designer AI Agent

Capacity (lb)

5

Evaluate



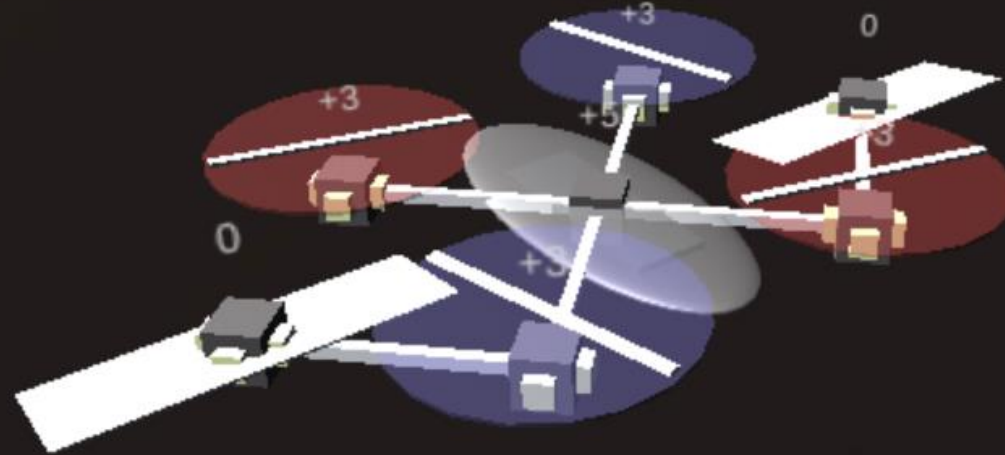
Click here to get suggestions from an AI designer based on your current drone design.

Team Designs

winged

base

Components /  
Hot Keys (1-5)



Forward

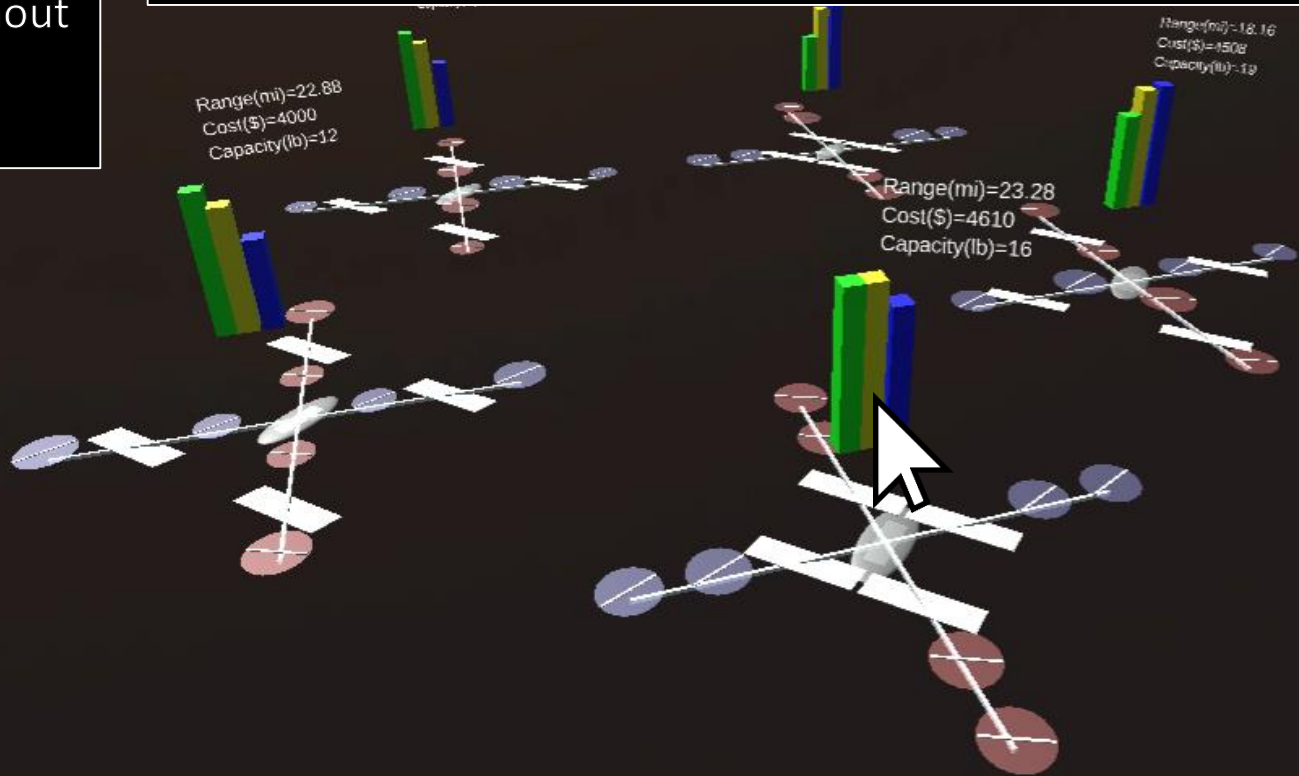


Design Mode

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

Range  
Cost  
Capacity

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



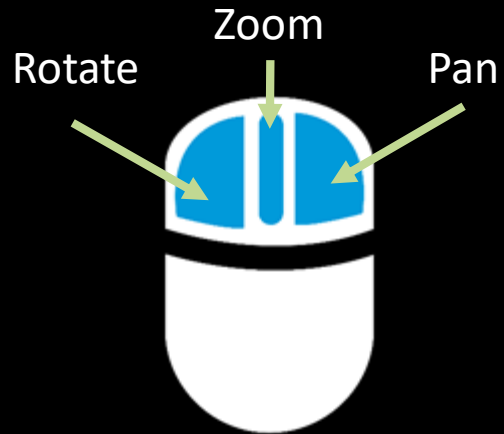
Increase size



# 3D Scene Movement

## Mouse

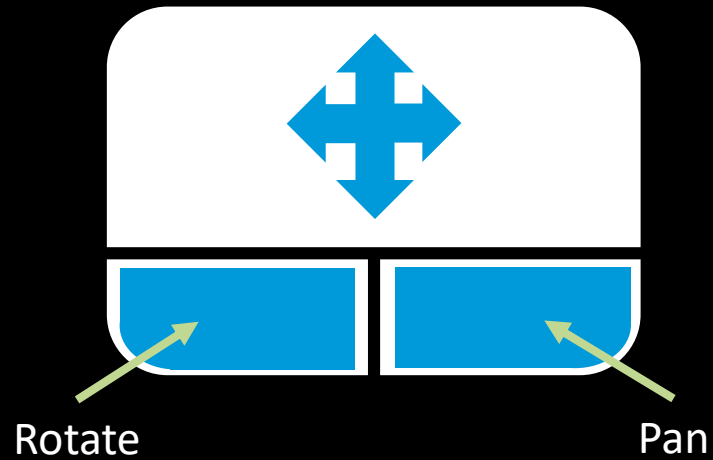
Click + drag



Zoom: Shift + drag

## Laptop Touchpad

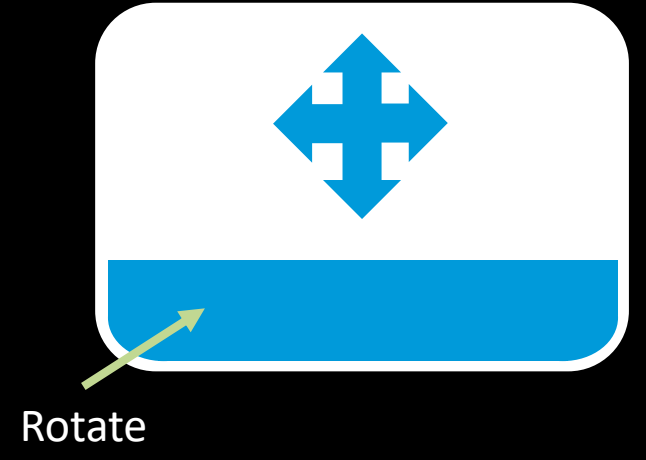
Click + drag



Zoom: Shift + drag

## Mac Tracpad

Click + drag

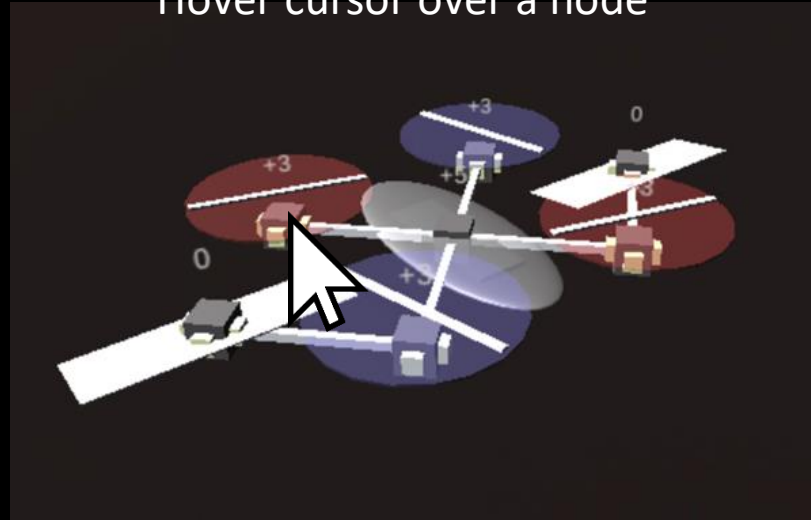


Zoom: Shift + drag



# Additional Hotkeys

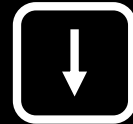
Hover cursor over a node



Delete – remove the component or structure from the design



Increase Component Size



Decrease Component Size