

# Welcome to the Drone Design Team!

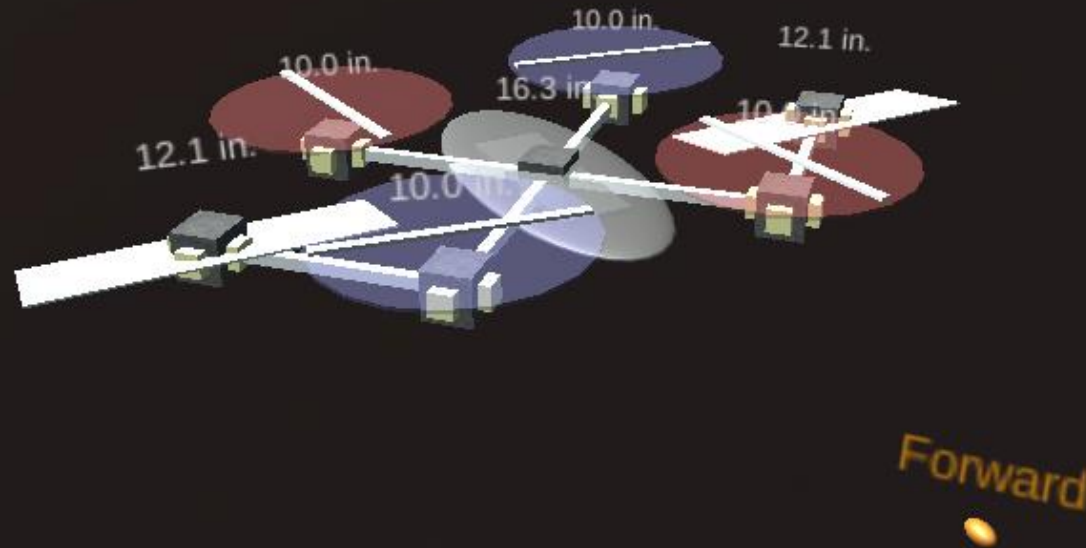


Capacity (lb)

Evaluate

Submit

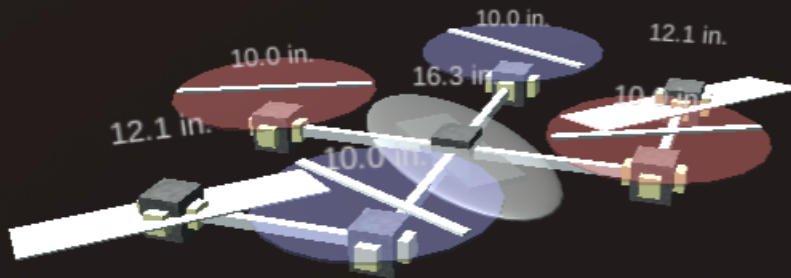
Components /  
Hot Keys (1-5)



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

# 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

## Team Designs

test1

ccccdddeefffgg

test

1 2 design

base

aiDesign

Design Specialist 1

[Info](#)

[Help](#)

Ops - Design 1

Ops Specialist 1 : We need some additional load capacity

Ops Specialist 1 : Can you design a drone that can carry 20 lbs?

Type Here

[Send](#)

[logout](#)

Components /  
Hot Keys (1-5)



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

# 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 Plans from Your Team and Open/Edit

2) Evaluate a Design To Calculate its Performance Metrics

3) Submit a Design to Your Team

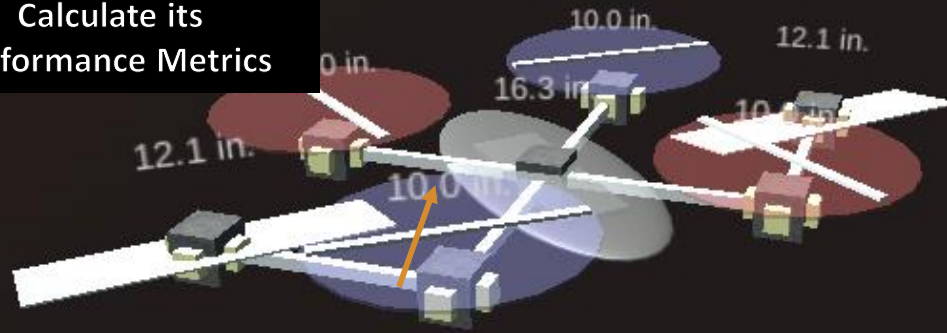


Capacity (lb) 15

Evaluate

Submit

Components /  
Hot Keys (1-5)



Forward



Team Designs

test1

aaabbbcccddeeeffgg

test

arl\_2\_design

base

aiDesign

# 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>

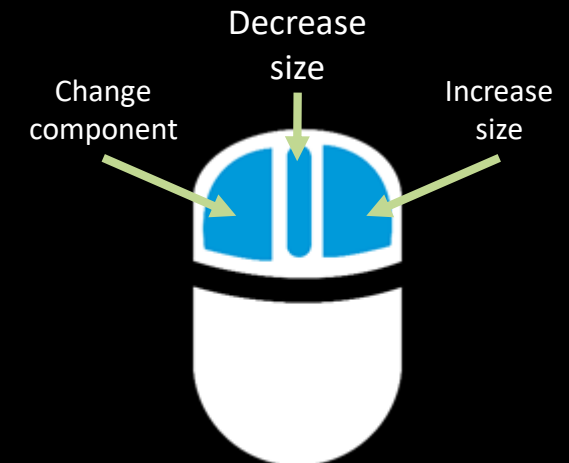
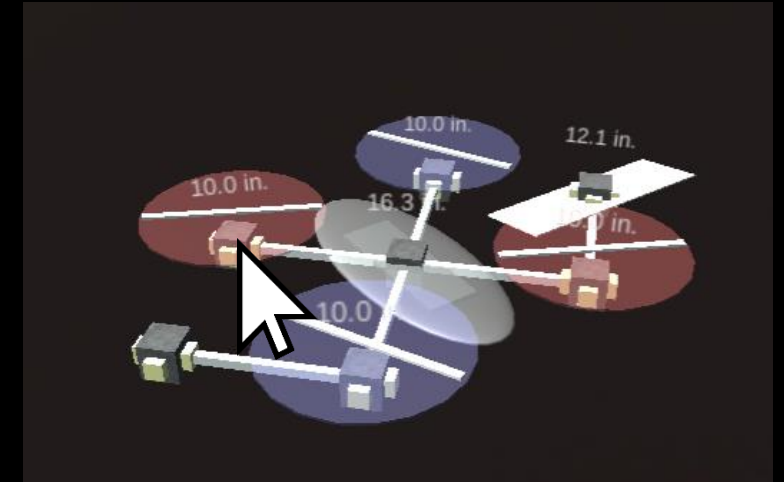
5



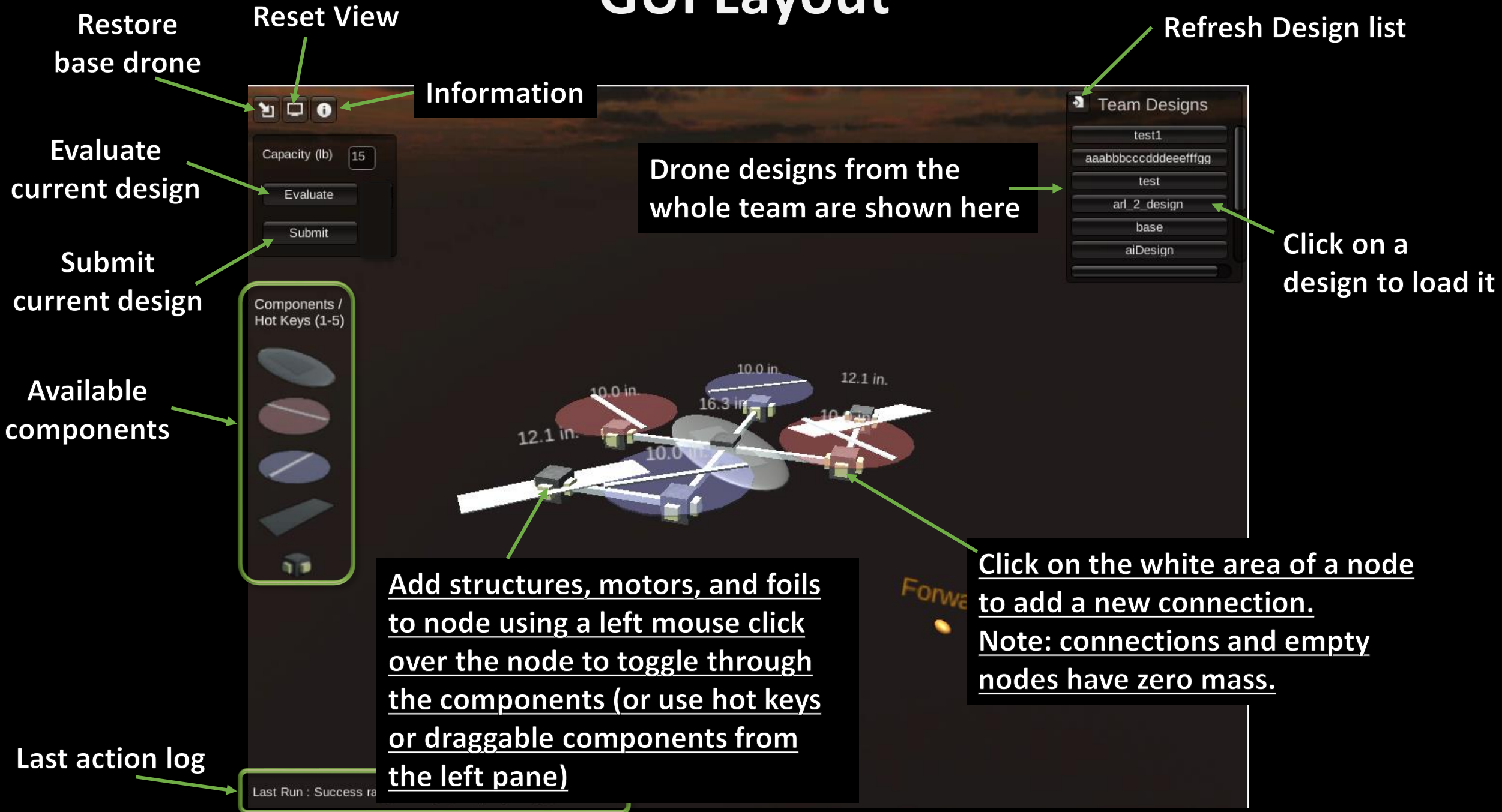
Node – provides mounting location for components, has zero mass

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

Hover cursor over a node



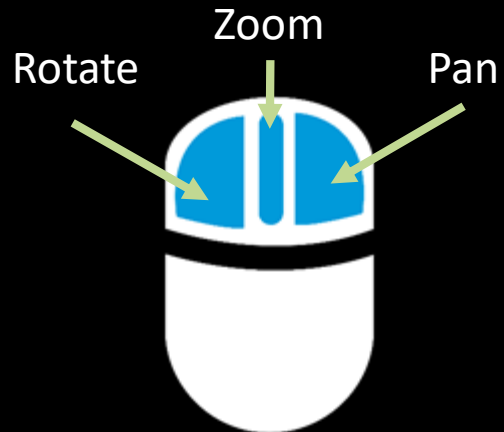
# GUI Layout



# 3D Scene Movement

## Mouse

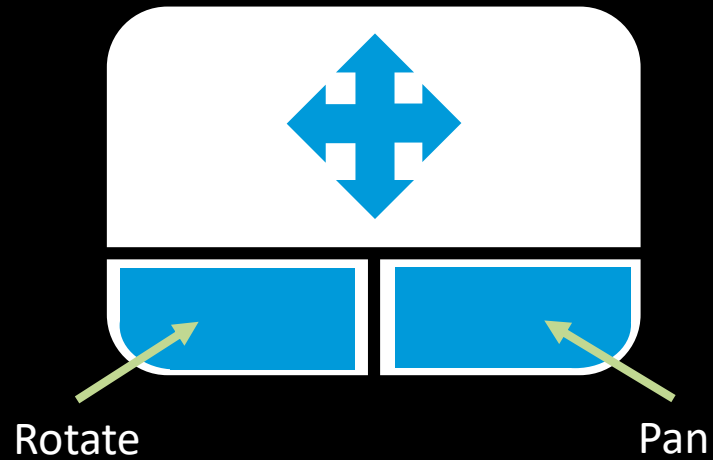
Click + drag



Zoom: Shift + drag

## Laptop Touchpad

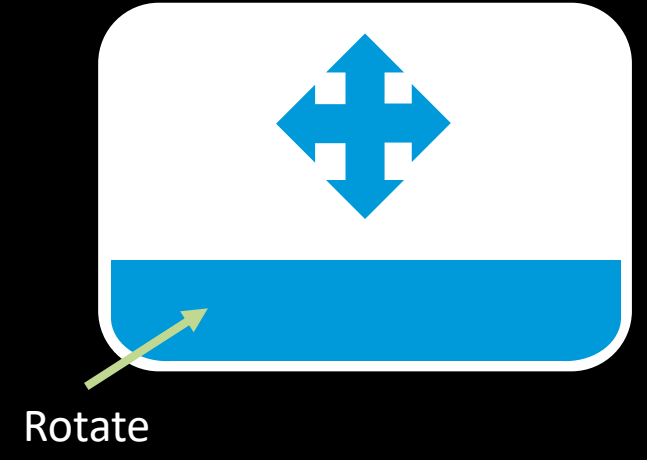
Click + drag



Zoom: Shift + drag

## Mac Tracpad

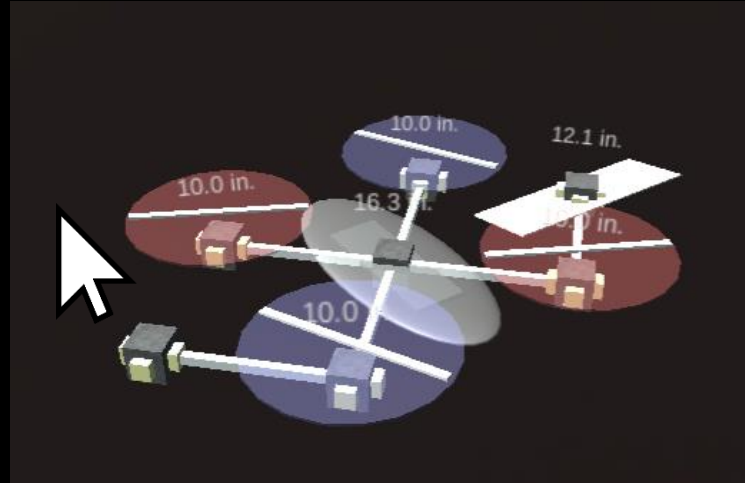
Click + drag



Zoom: Shift + drag

# Additional Hotkeys

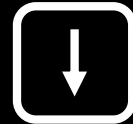
Hover cursor over a node



Delete – remove the component or structure from the design



Increase Component Size



Decrease Component Size