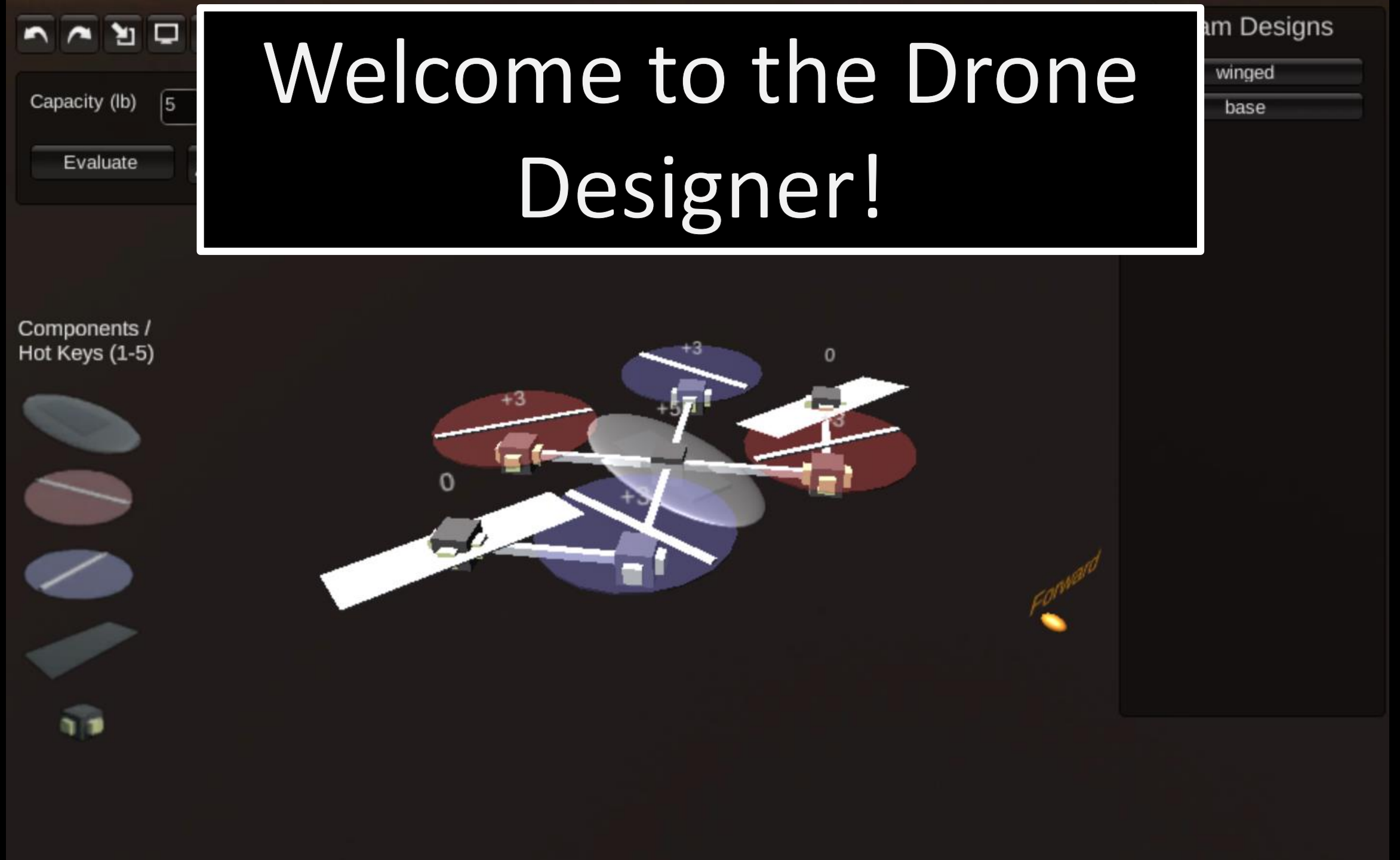
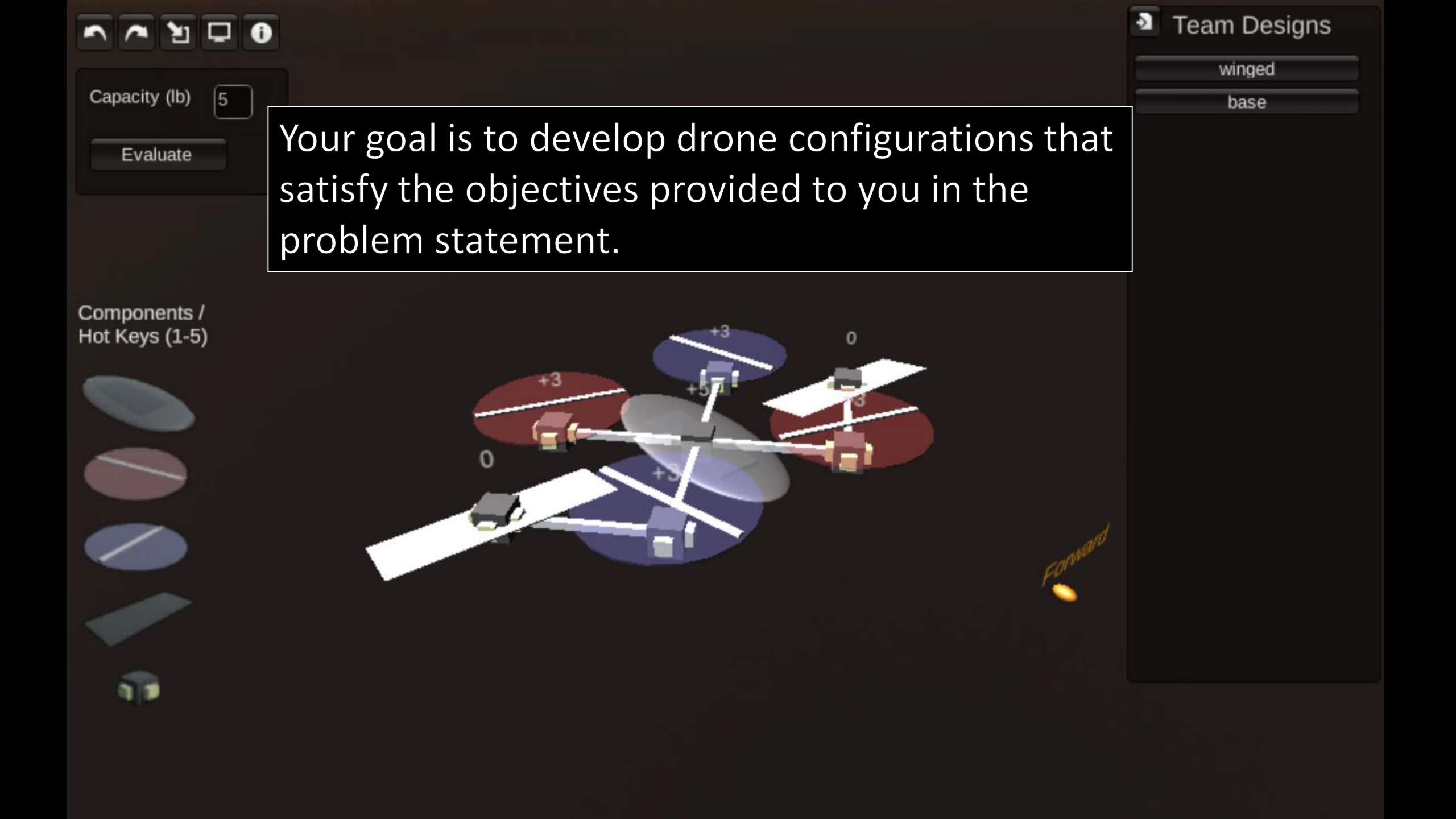
Welcome to the Drone Designer!




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)
Team Designs
winged
base
+3
0
+3
+3
0
Forward

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

Capacity (lb) 5

Evaluate

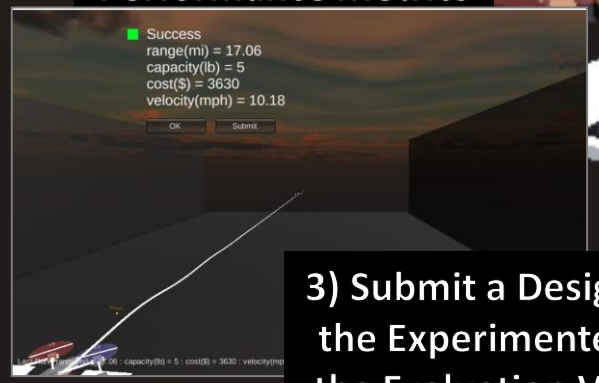
Team Designs

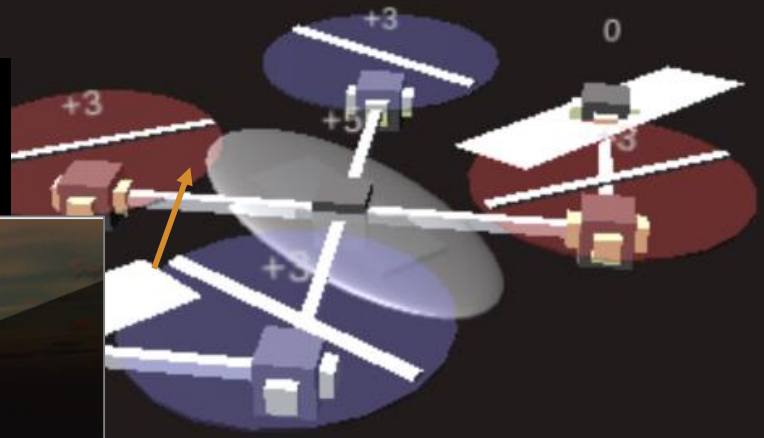
winged

base

Components / Hot Keys (1-5)

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

Forward

Components

Hotkeys

1

2

3

4

5

Battery – provides energy proportional to its size

Motor – provides upward and forward thrust proportional to size

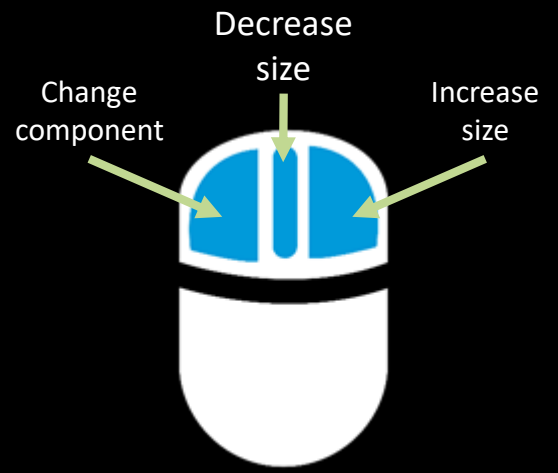
- Red motors spin clockwise
- Blue motors spin counter clockwise

Airfoil – provides lift proportional to size and forward velocity^2

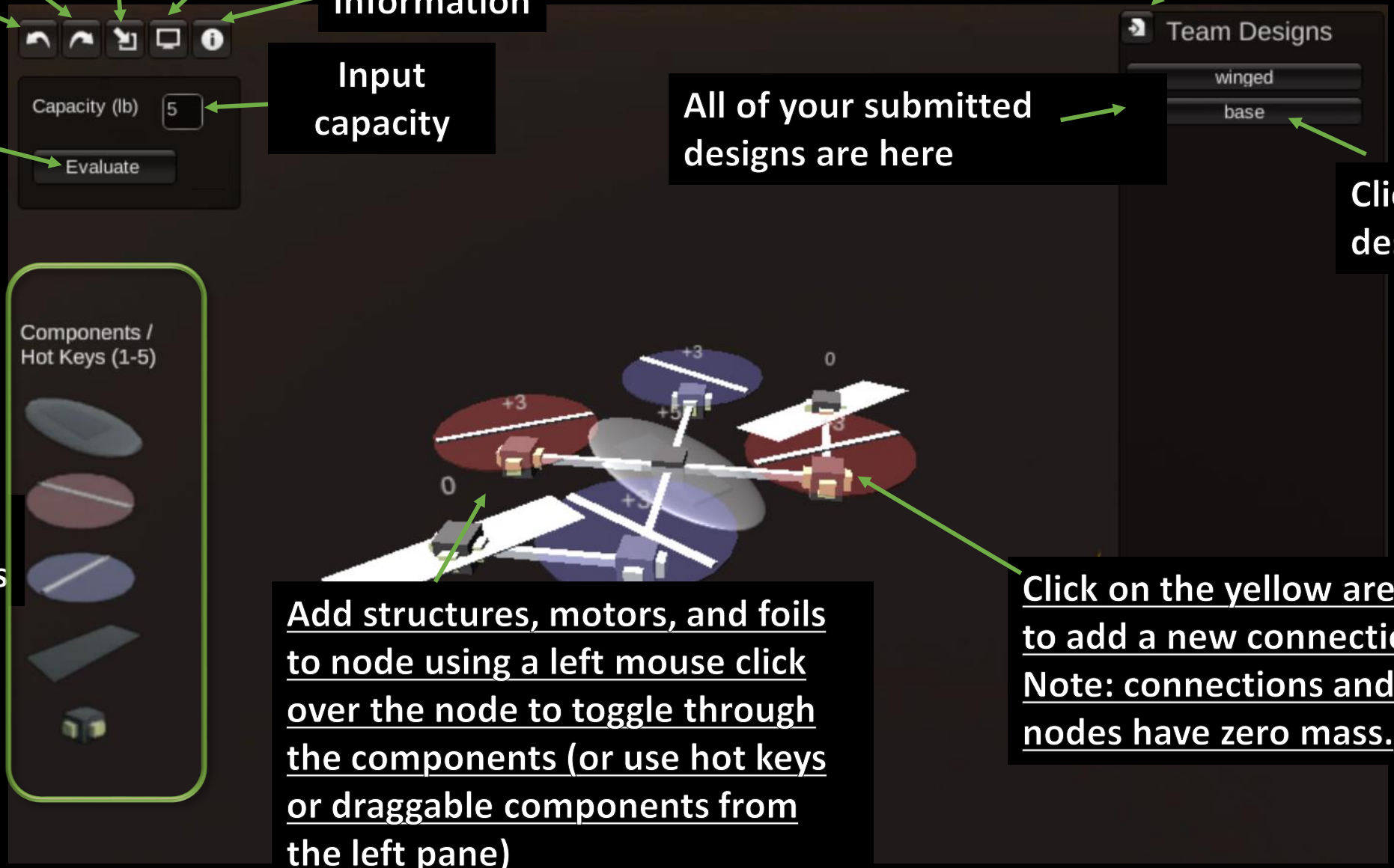
Node – provides mounting location for components, has zero mass

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

Hover cursor over a node



GUI Layout



Restore base drone

Redo

Reset view

Undo

Refresh Design list

Information

Evaluate current design

Input capacity

All of your submitted designs are here

Click on a design to load it

Available components

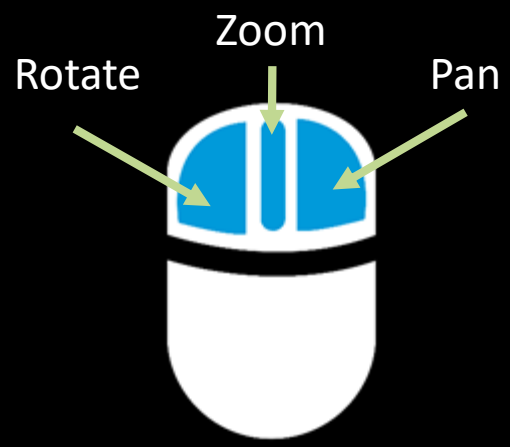
Add structures, motors, and foils to node using a left mouse click over the node to toggle through the components (or use hot keys or draggable components from the left pane)

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

3D Scene Movement

Mouse

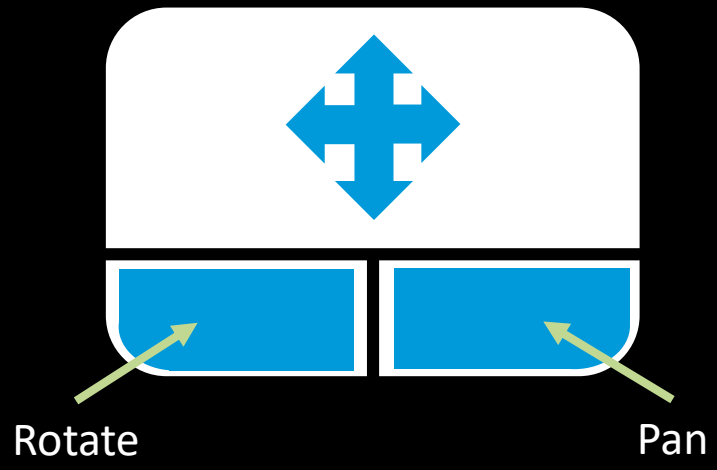
Click + drag



Zoom: Shift + drag

Laptop Touchpad

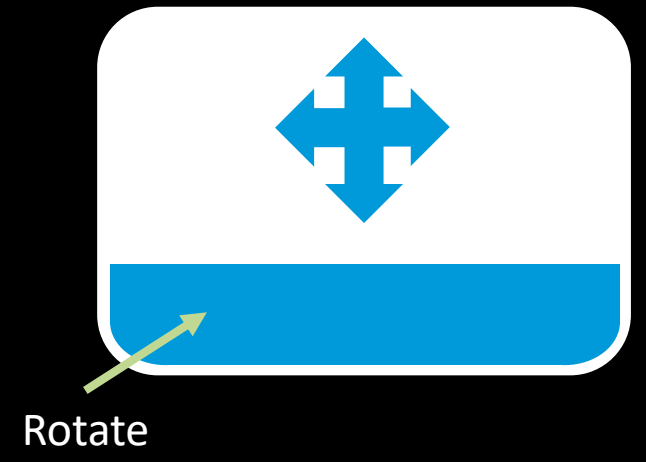
Click + drag



Zoom: Shift + drag

Mac Tracpad

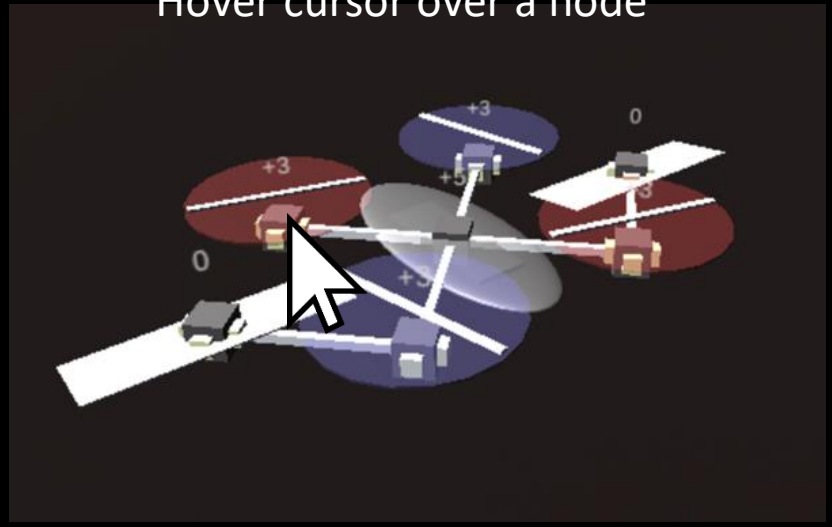
Click + drag



Zoom: Shift + drag

Additional Hotkeys

Hover cursor over a node



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

↑ — Increase Component Size

↓ — Decrease Component Size