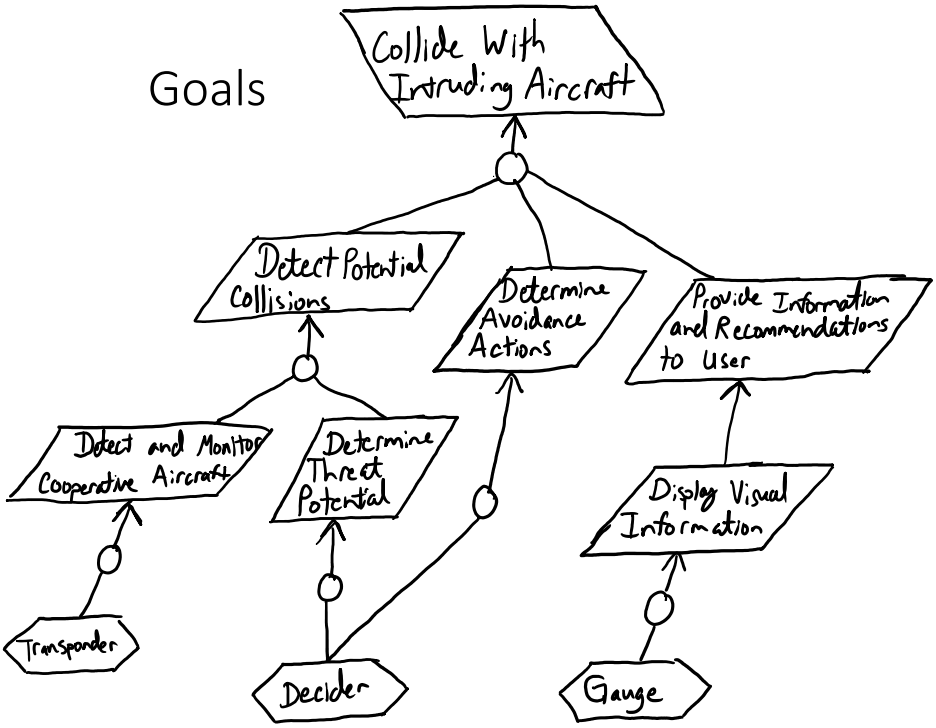
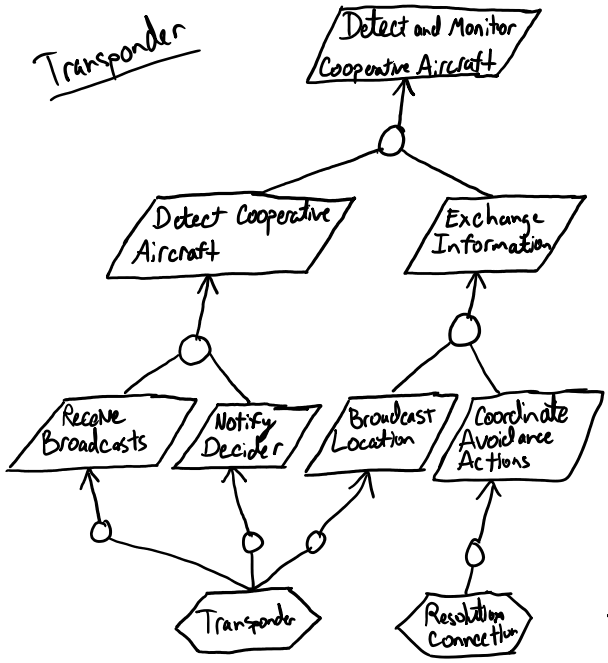
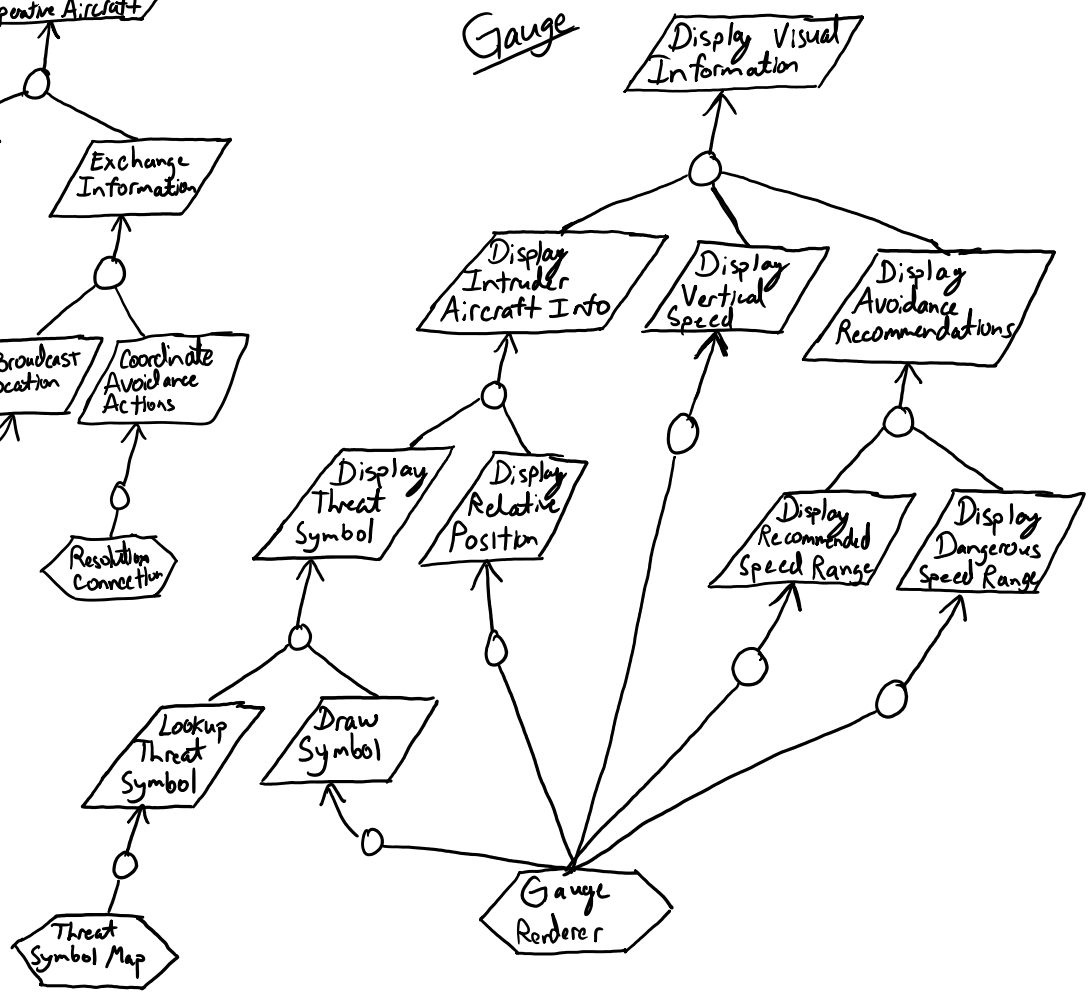
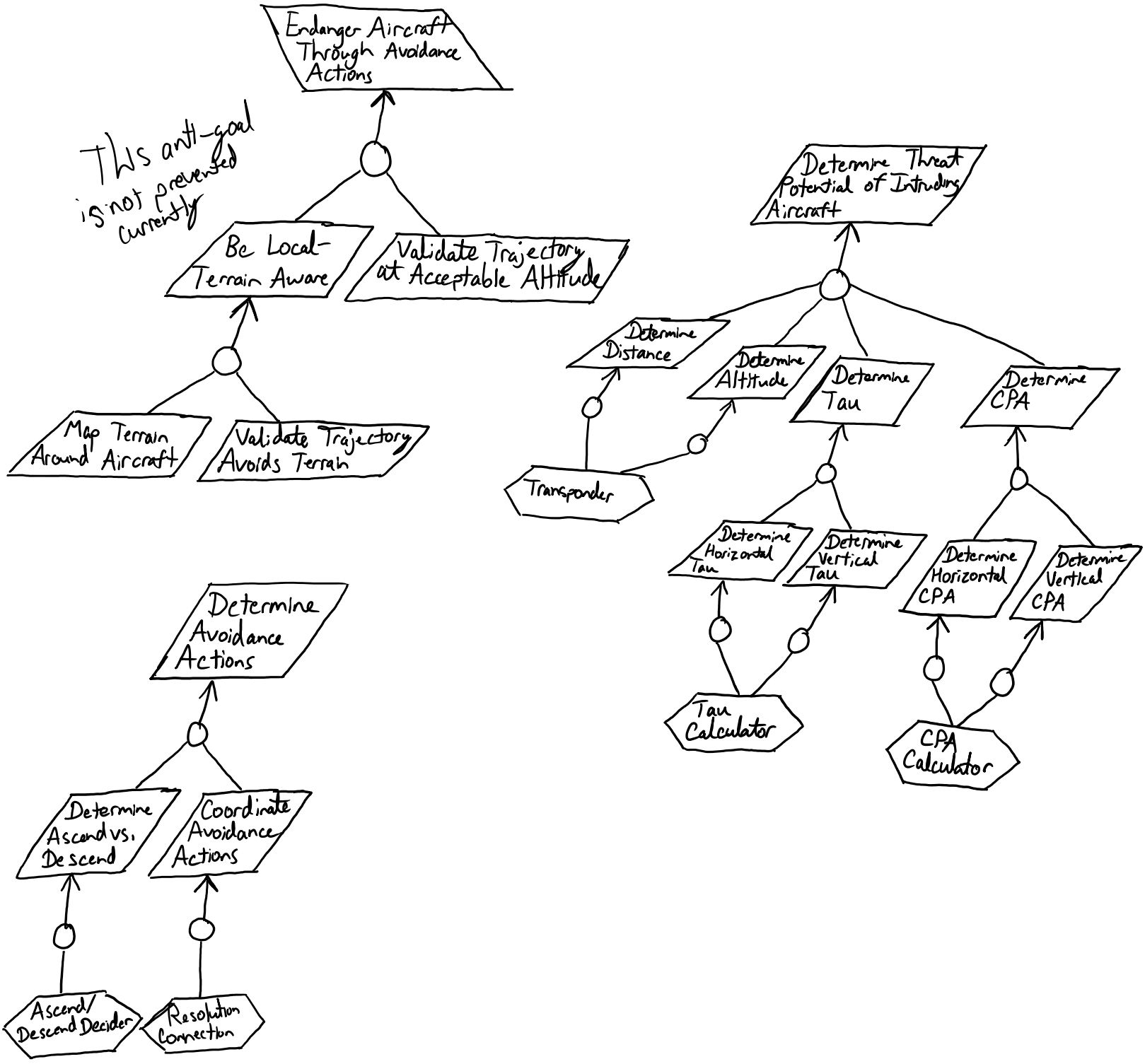
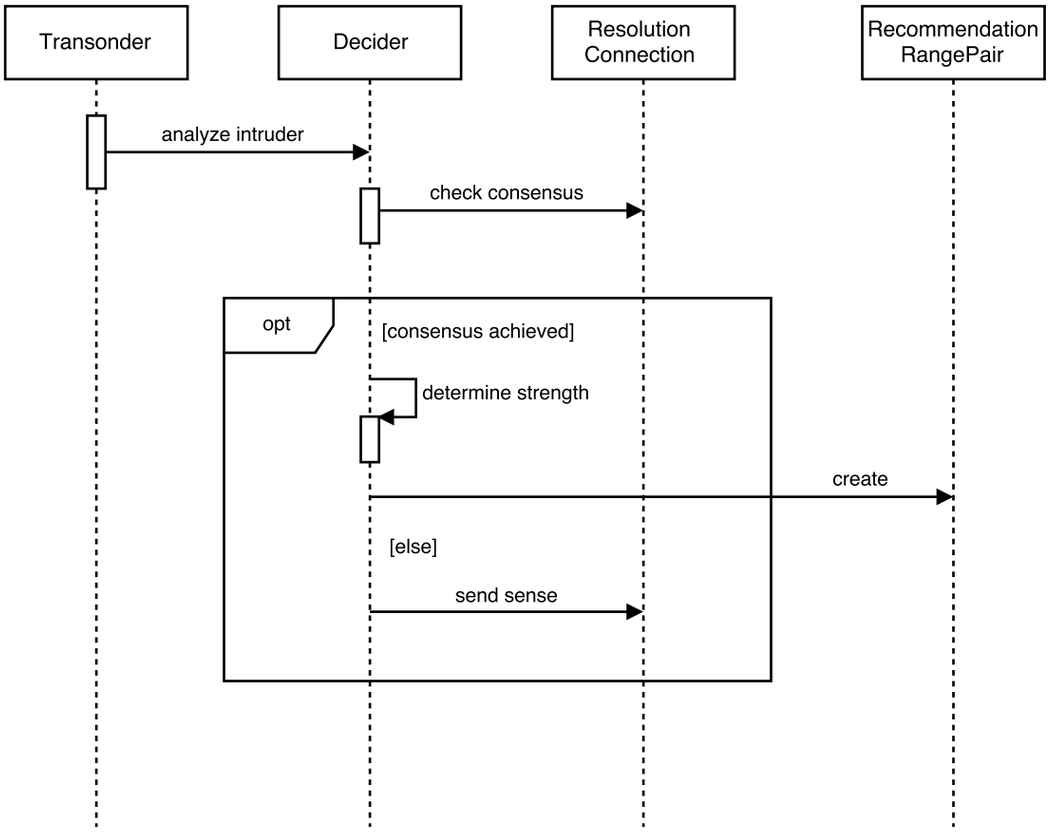

Goals
Collide With Intruding Aircraft
Detect Potential Collisions
Determine Avoidance Actions
Provide Information and Recommendations to User
Detect and Monitor Cooperative Aircraft
Determine Threat Potential
Display Visual Information
Transponder
Decider
Gauge

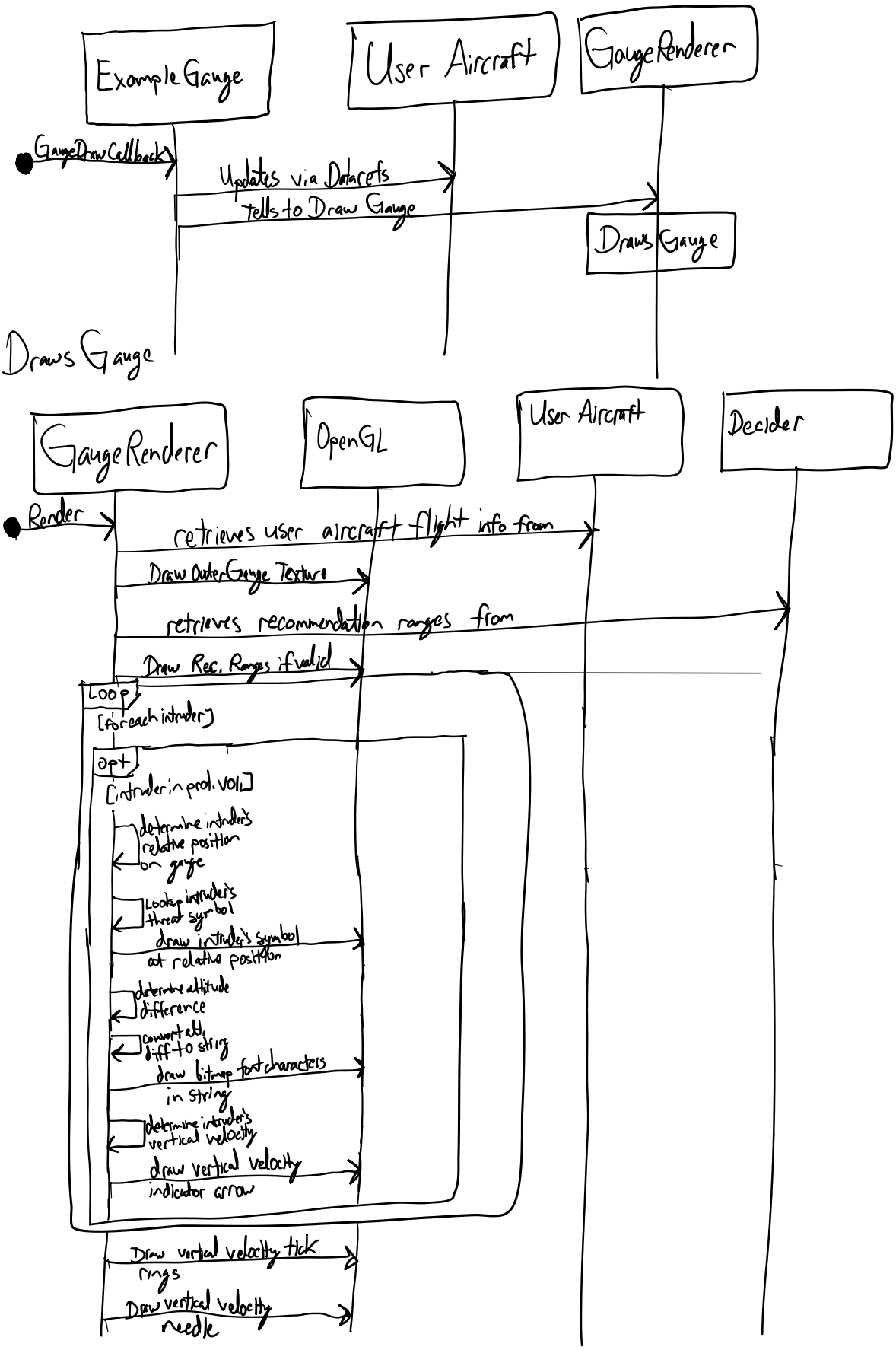

Transponder
Detect and Monitor Cooperative Aircraft
Detect Cooperative Aircraft
Exchange Information
Receive Broadcasts
Notify Decider
Broadcast Location
Coordinate Avoidance Actions
Transponder
Resolution Connection

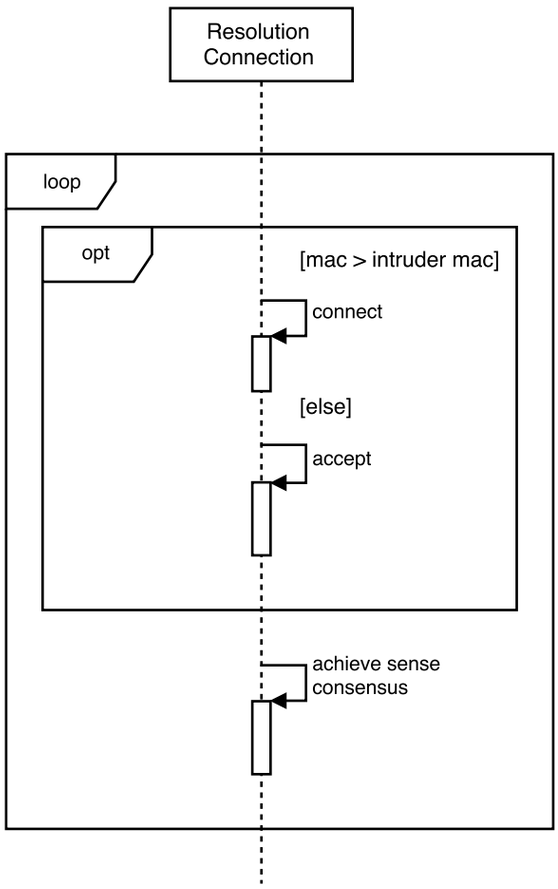

Gauge
Display Visual Information
Display Intruder Aircraft Info
Display Vertical Speed
Display Avoidance Recommendations
Display Threat Symbol
Display Relative Position
Display Recommended Speed Range
Display Dangerous Speed Range
Lookup Threat Symbol
Draw Symbol
Gauge Renderer
Threat Symbol Map

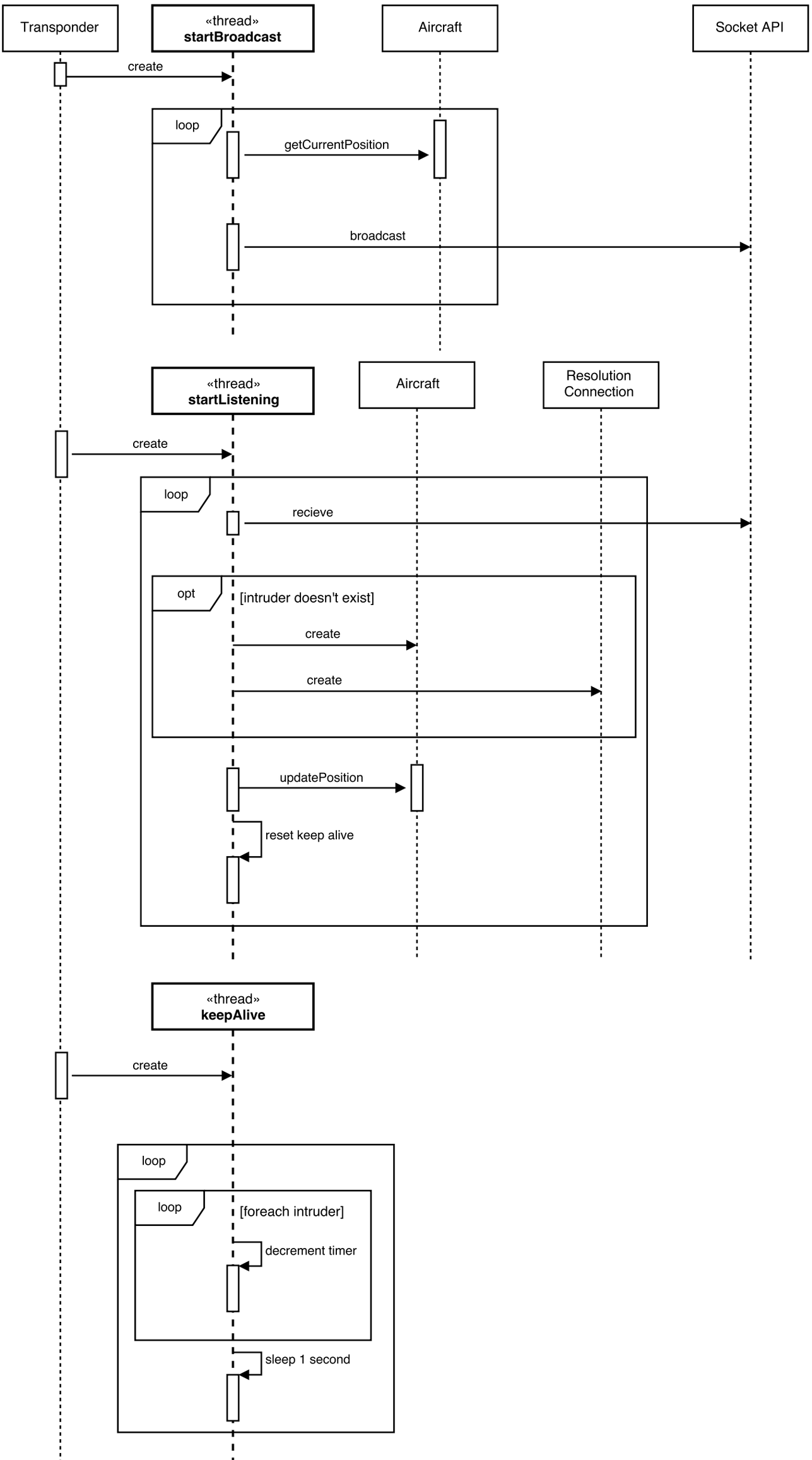
Decider Goals




Transonder
Decider
Resolution Connection
Recommendation RangePair
analyze intruder
check consensus
opt
[consensus achieved]
determine strength
create
[else]
send sense


ExampleGauge
User Aircraft
GaugeRenderer
GaugeDrawCallback
Updates via Datarefs
Tells to Draw Gauge
Draws Gauge
Draws Gauge
GaugeRenderer
OpenGL
User Aircraft
Decider
Render
retrieves user aircraft flight info from
Draw OuterGauge Texture
retrieves recommendation ranges from
Draw Rec. Ranges if valid
Loop
[foreach intruder]
opt
[intruder in prot. vol.]
determine intruder's relative position on gauge
Lookup intruder's threat symbol
draw intruder's symbol at relative position
determine altitude difference
convert alt. diff to string
draw bitmap font characters in string
determine intruder's vertical velocity
draw vertical velocity indicator arrow
Draw vertical velocity tick rings
Draw vertical velocity needle


Resolution
Connection
loop
opt
[mac > intruder mac]
connect
[else]
accept
achieve sense
consensus


Transponder
«thread»
startBroadcast
Aircraft
Socket API
create
loop
getCurrentPosition
broadcast
«thread»
startListening
Aircraft
Resolution
Connection
create
loop
recieve
opt
[intruder doesn't exist]
create
create
updatePosition
reset keep alive
«thread»
keepAlive
create
loop
loop
[foreach intruder]
decrement timer
sleep 1 second