

# MIT\_ROSMAT: Software Architecture (simplified)

DroneRun.sh

*logs into drone  
and runs*

SpiderFlight.sh

*runs*

dragon-prog

*Runs multiple  
threads*

*Thread a @? Hz*

*Thread b @? Hz*

*...*

*Thread "Control" ...@200Hz:*

.....

....

`void RSEDU_control(*sensordata,*motorcommands)`

...

...

*We fully implement this function with:*  
*a) access to the server/ keyboard via a socket*  
*b) access to optical flow data and image processing results via named pipes*  
*c) the simulink model that is fed with a), b) and \*sensordata to compute new \*motorcommands*

*Thread "Vision & Optical Flow" ...@60Hz:*

.....

`void RSEDU_image_processing(*image buffer)`

...

`void RSEDU_optical_flow(vx,vy,vz,...)`

...

*We fully implement this function to process the image and dump the results into a named pipe*

*We fully implement this function with the only purpose of dumping optical flow data into a named pipe*

*c-files in /embcode/, in particular  
rsedu\_control.c, rsedu\_vis.c, rsedu\_of.c*