
first box:

input:

$$\begin{bmatrix} \delta x \\ \delta y \end{bmatrix} = \left(\begin{bmatrix} x_{in} \\ y_{in} \end{bmatrix} - \begin{bmatrix} 320 & 240 \end{bmatrix} \right) \cdot \begin{bmatrix} 89.5/640 \\ 71.5/480 \end{bmatrix}$$

second box:
calculate current lengths:

$$\vec{l}_t = Pos2Len(\vec{p}_t + 0.3533 + tension) + startingLength$$

third box:
calculate current position:

$$(x_t, y_t) = forwardKinematics(\vec{l}_t)$$

forth box:
check boundaries

fifth box:
proportional control:

$$g = \begin{bmatrix} \delta x_t \\ \delta y_t \end{bmatrix} \cdot \begin{bmatrix} \delta x_t & \delta y_t \end{bmatrix} \cdot 0.03944444$$

sixth box:
calculate new changes in length:

$$\delta \vec{l}_t = inverseKinematics\left(\begin{bmatrix} x_t \\ y_t \end{bmatrix} + \begin{bmatrix} \delta x_t \\ \delta y_t \end{bmatrix}\right) - \vec{l}_t$$

seventh box:
calculate new speeds:

$$x = \max \left(\delta \vec{l}_t \right)$$
$$\vec{s} = \frac{g}{x} \cdot \vec{l}$$

eighth box:
set speeds.

ninth box:
calculate new positions:

$$\vec{p}_{t+1} = Len2Pos \left(\delta \vec{l}_t \right) + \vec{p}_t - tension$$

tenth box:
set new positions
