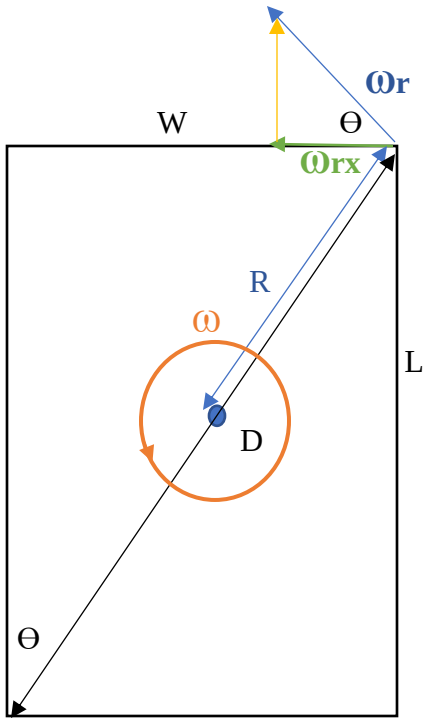

Calculate ωrx
D = sqrt($L^2 + W^2$)
R = 1/2D
Cos(Θ) = L/D
ωr = ω * R = ω * 1/2D
ωrx = Cos(Θ) * ωr
ωrx = L/D * ω * 1/2D
ωrx = L/2 * ω

Scale so that the maximum joystick position of 1 = maximum wheel motor speed of 1
Motor Speed = ωr
ωr = 1 when joystick X-axis = 1
ωr = ω * R
ω = X-axis
Add scaler of 1/R so that ωr = 1 when X-axis = 1
ωr = ω * R * 1/R
ωr = ω/R * R
If ω = X-axis and X-axis = 1 then ωr (motor speed) = 1

Add scalar to ωrx calculation
ωrx = L/2 * ω scaled to ω/R becomes
ωrx = L/2 * ω/R
ωrx = L/2R * ω
2R = D
ωrx = L/D * ω

In the code, the symbol R is used when it should be D as R is defined as sqrt($L^2 + W^2$), which is really D.