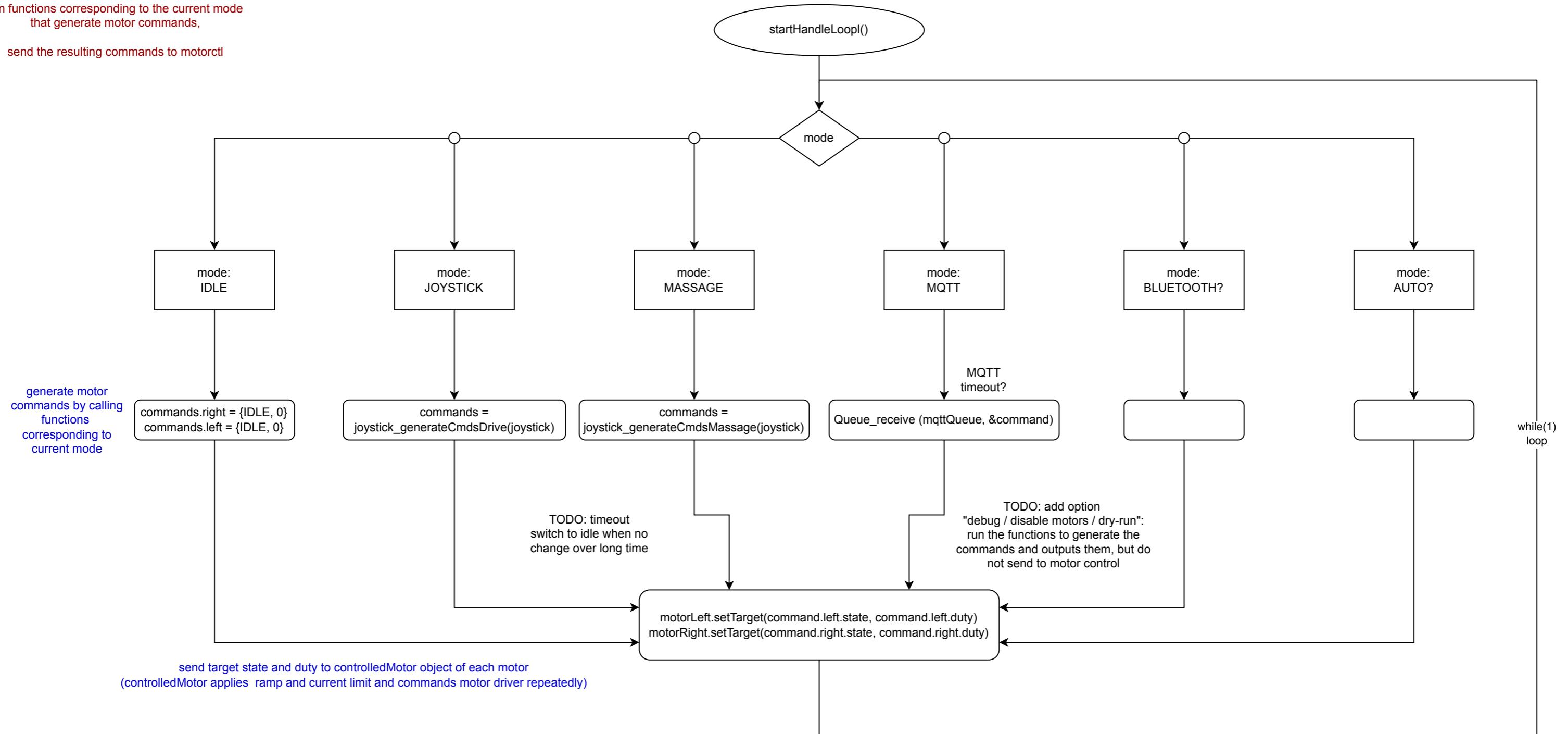


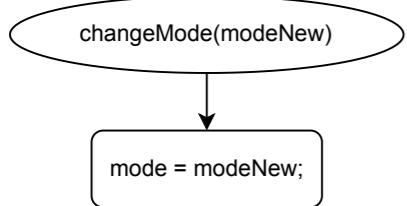
class controledArmchair (control.hpp, control.cpp)

run functions corresponding to the current mode
that generate motor commands,

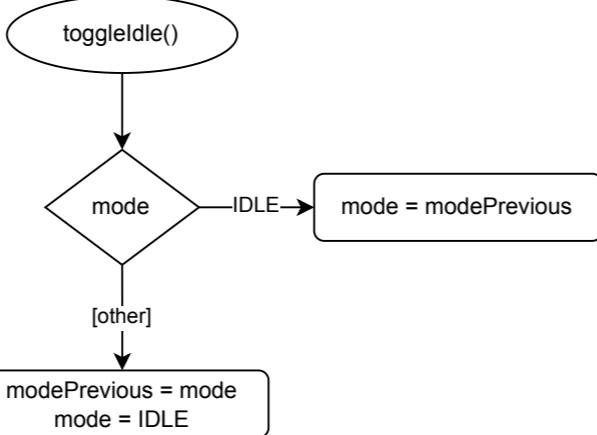
send the resulting commands to motorctrl



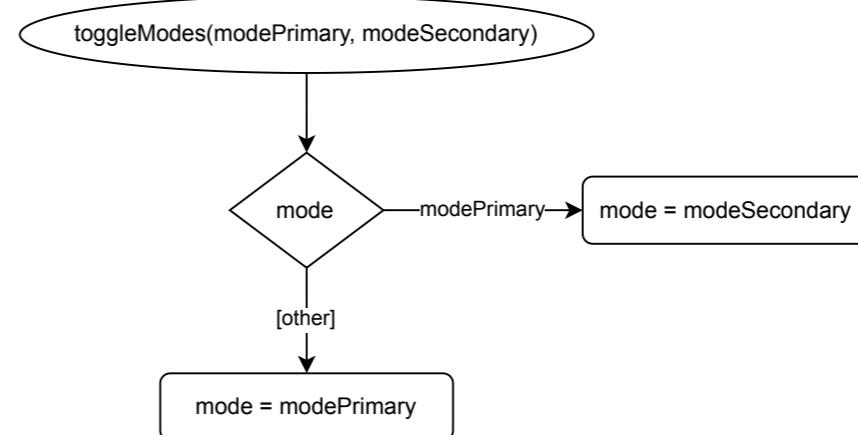
switch to specific mode



toggle between IDLE and previous or default mode



toggle between two specific modes
e.g. button press switches between MASSAGE and JOYSTICK

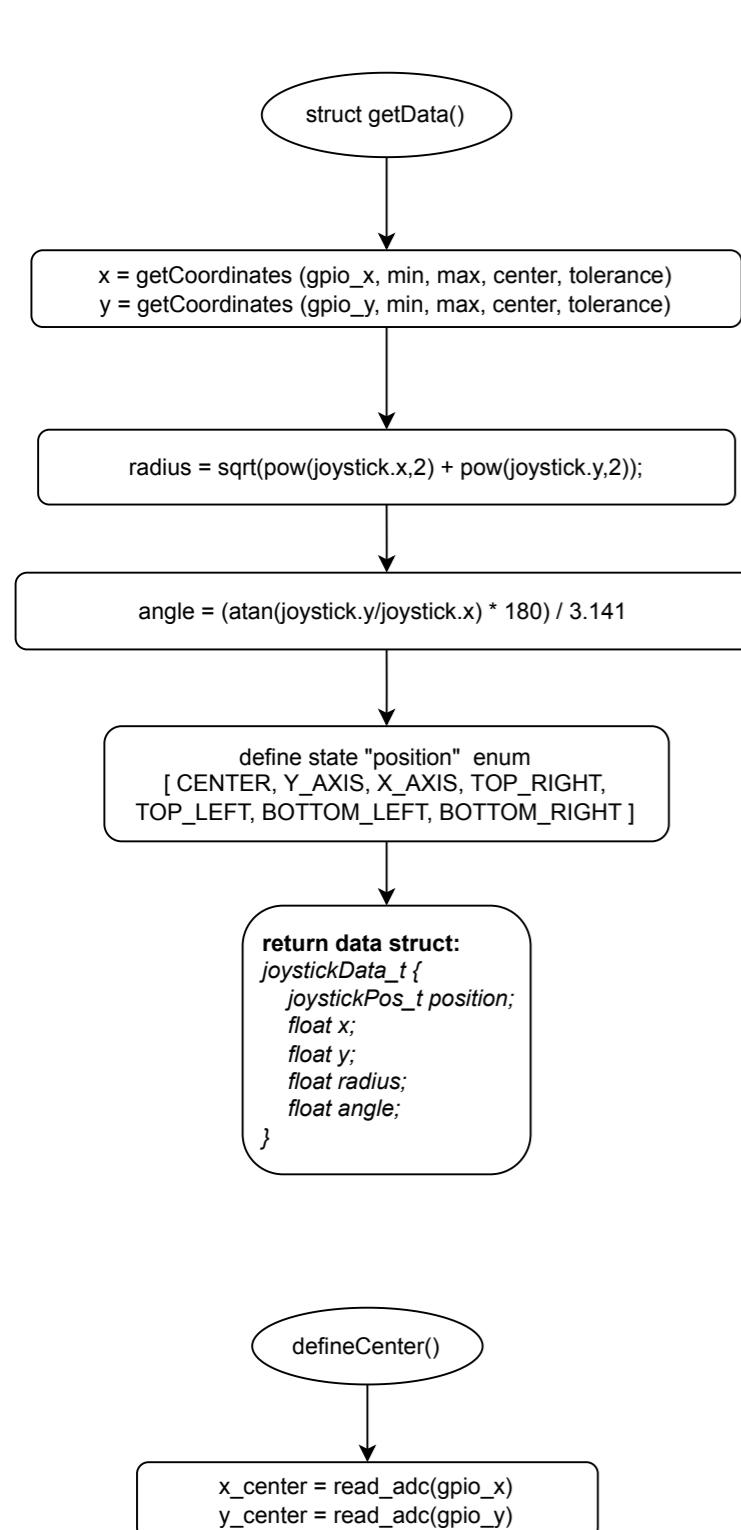


class evaluatedJoystick (joystick.hpp, joystick.cpp)

function that makes it possible to get a struct with current state and data of the joystick.

this can be used as input in other functions or tasks

private function that reads an analog input and calculates coordinates according to given parameters



float getCoordinate(gpio, min, max, center, tolerance)

voltage = read_adc(gpio)

center

voltage < center + tolerance
&& voltage > center - tolerance

return 0

max

voltage > max - tolerance

return 1

min

voltage < min + tolerance

return -1

positive area
(above center)

voltage > center
range = max - center - 2* tolerance
return (voltage - center - tolerance) / range

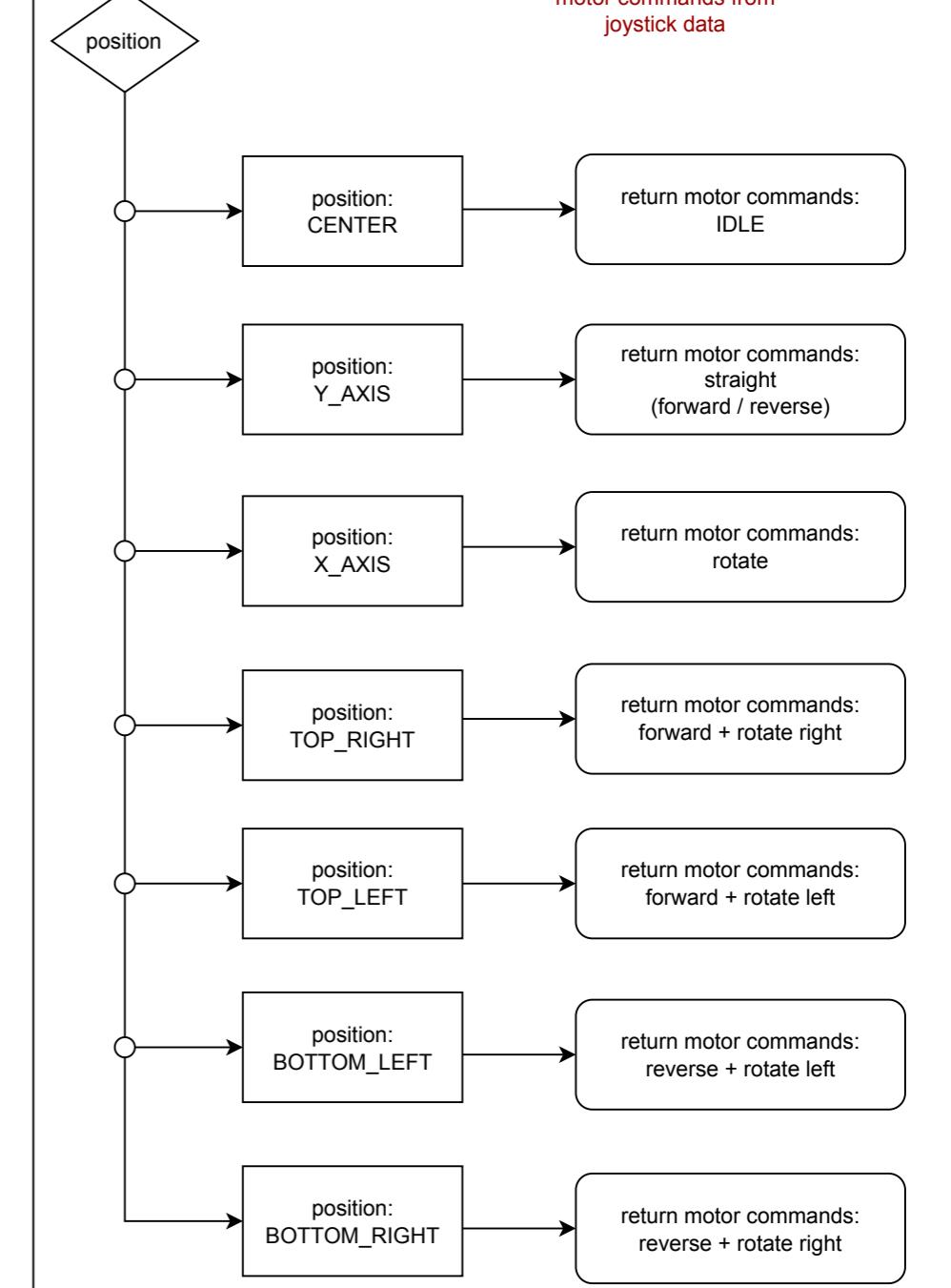
negative area
(below center)

voltage < center
range = center - min - 2* tolerance
return - (center - voltage - tolerance) / range

function: joystick_generateCommandsDriving

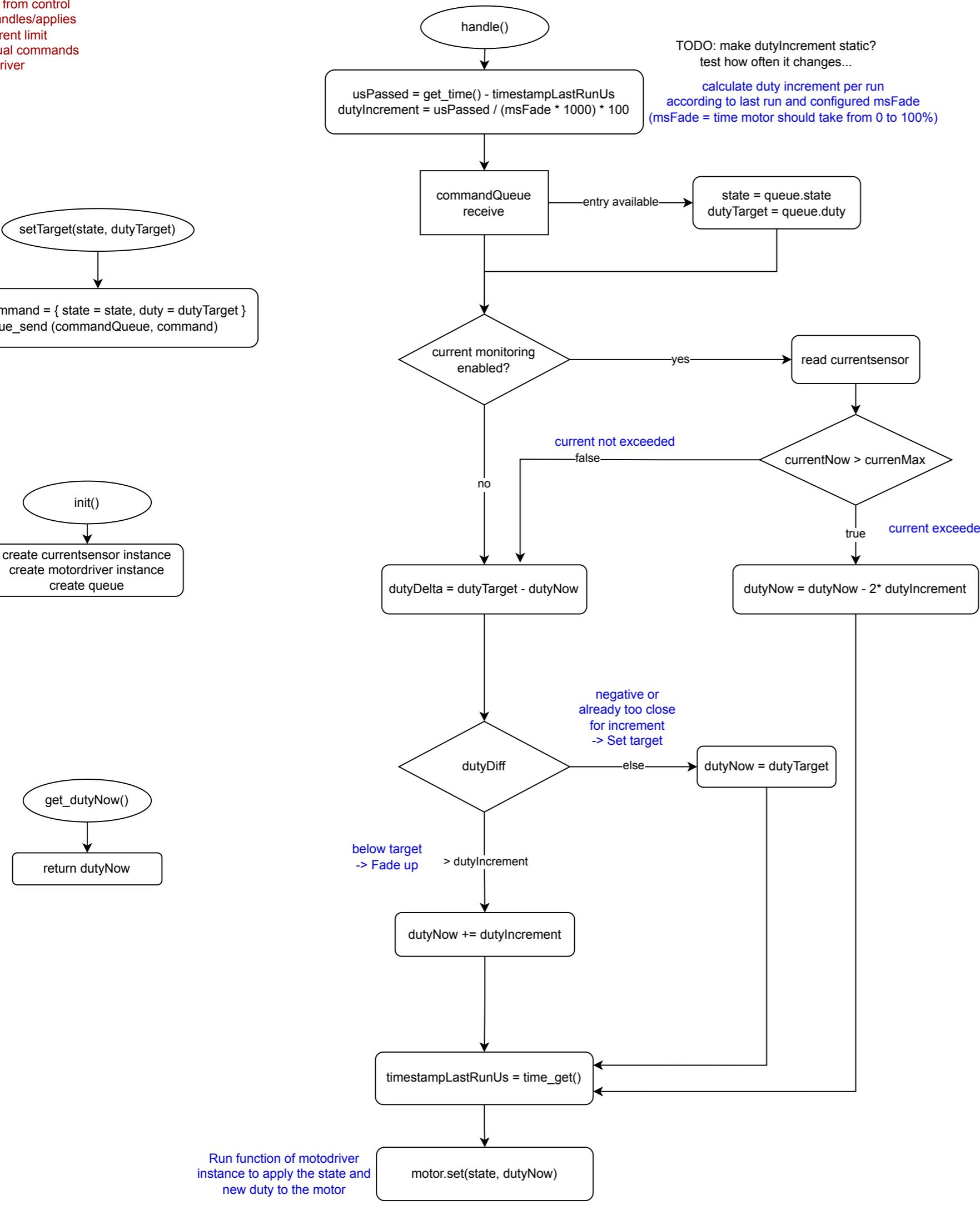
motorCommands_t
joystick_generateCommandsDriving(evaluatedJoystick)

function that generates motor commands from joystick data



class controlledMotor (motorctl.hpp, motorctl.cpp)

class for each motor that receives
motor commands from control
through queue, handles/applies
ramp and current limit
then sends the actual commands
to motordriver



class currentsensor

