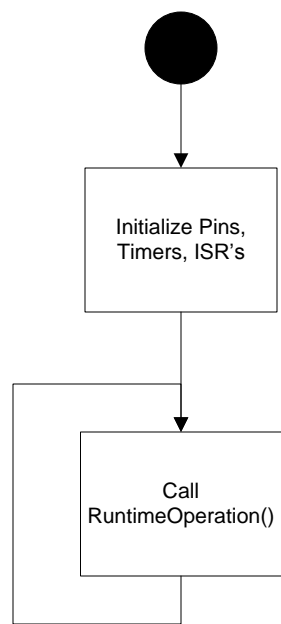
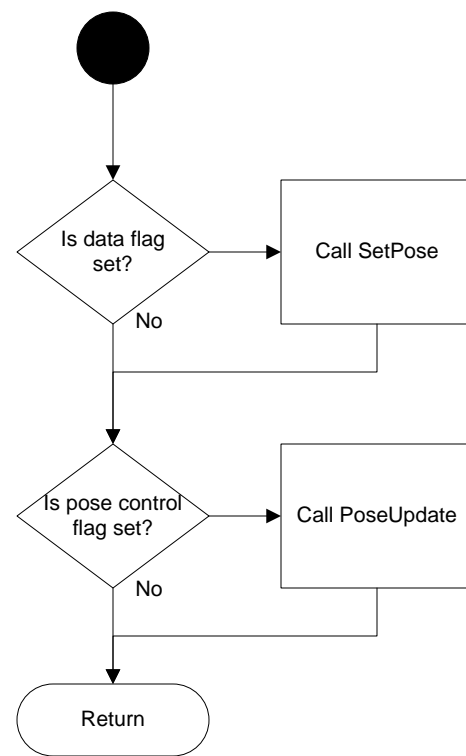


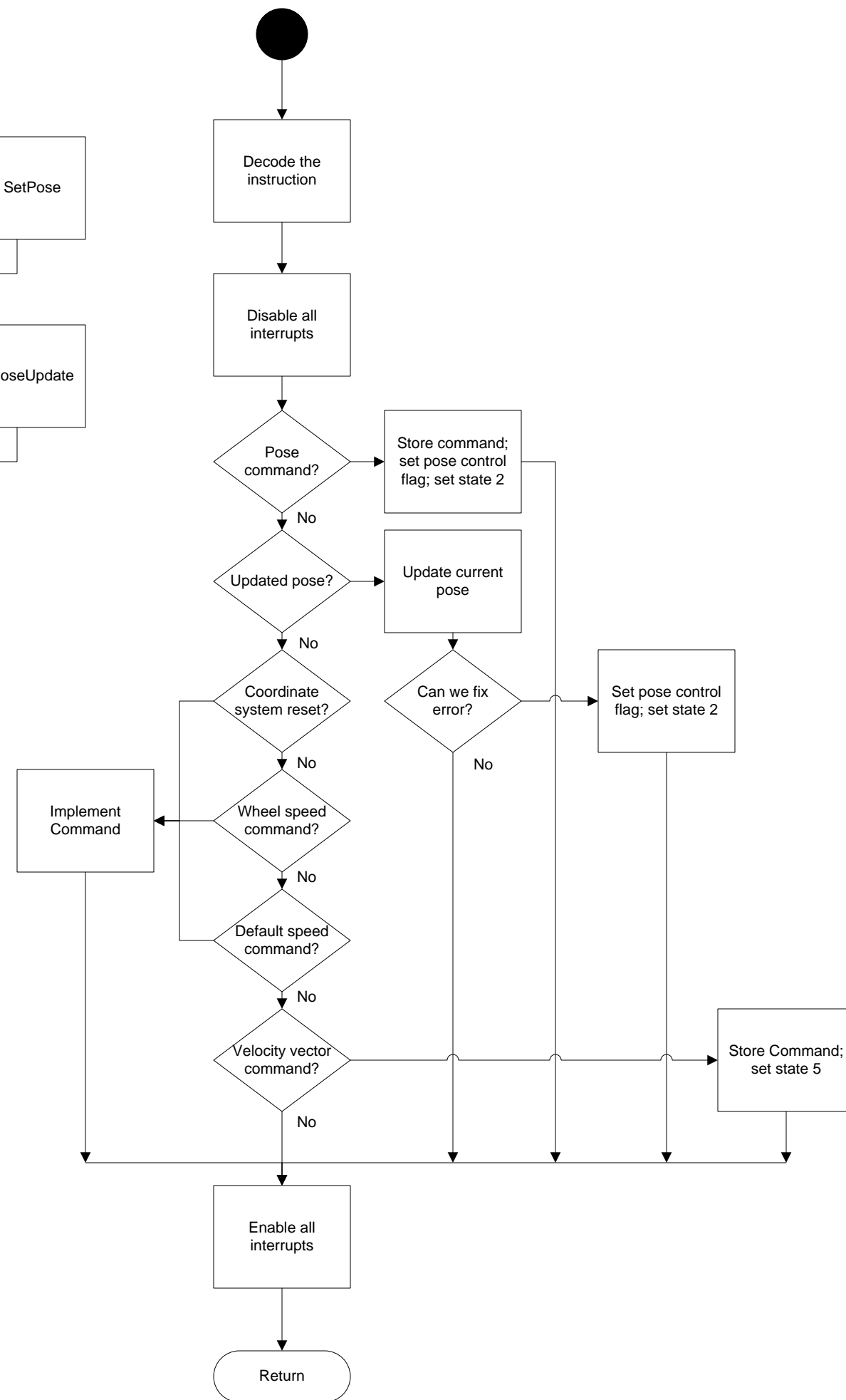
Main Loop



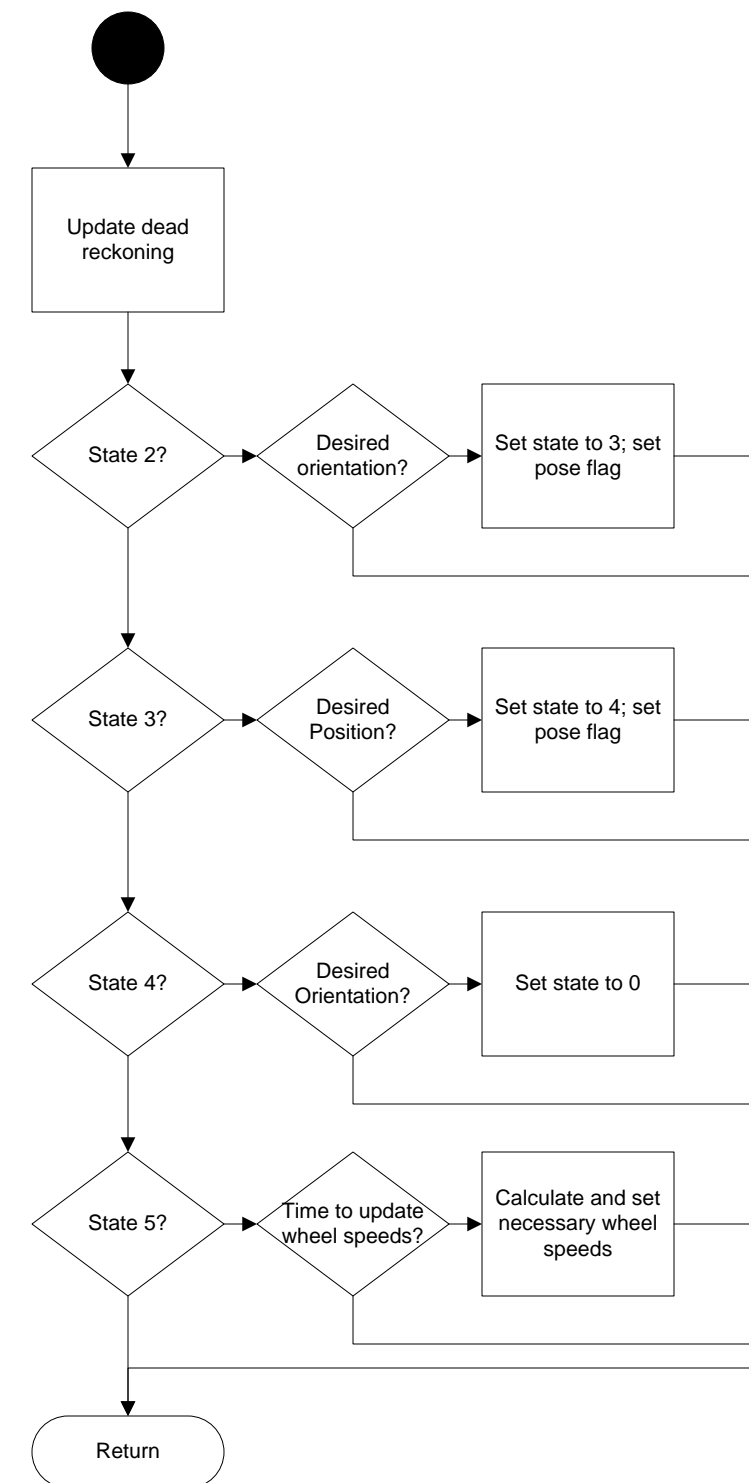
RuntimeOperation



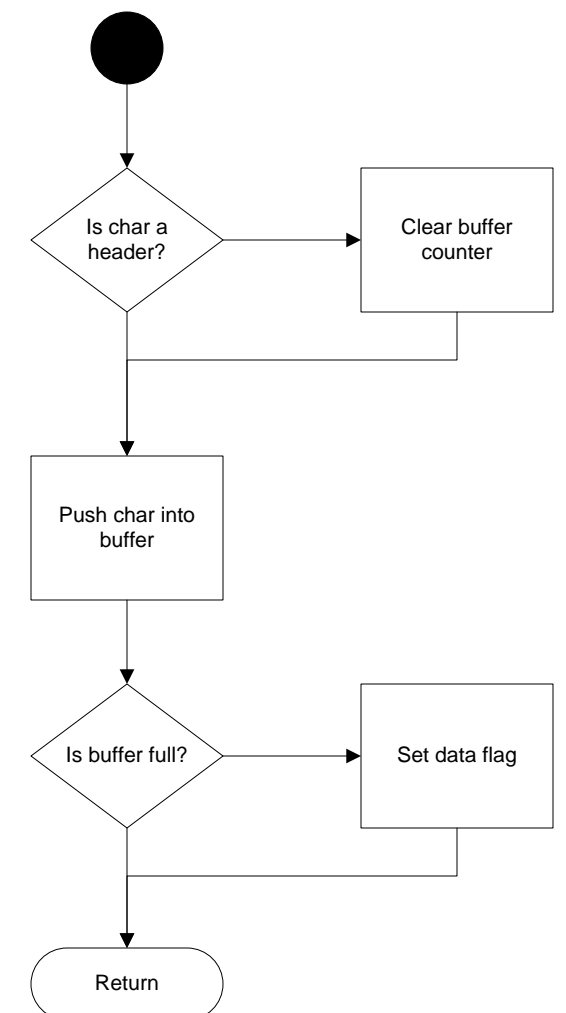
SetPose



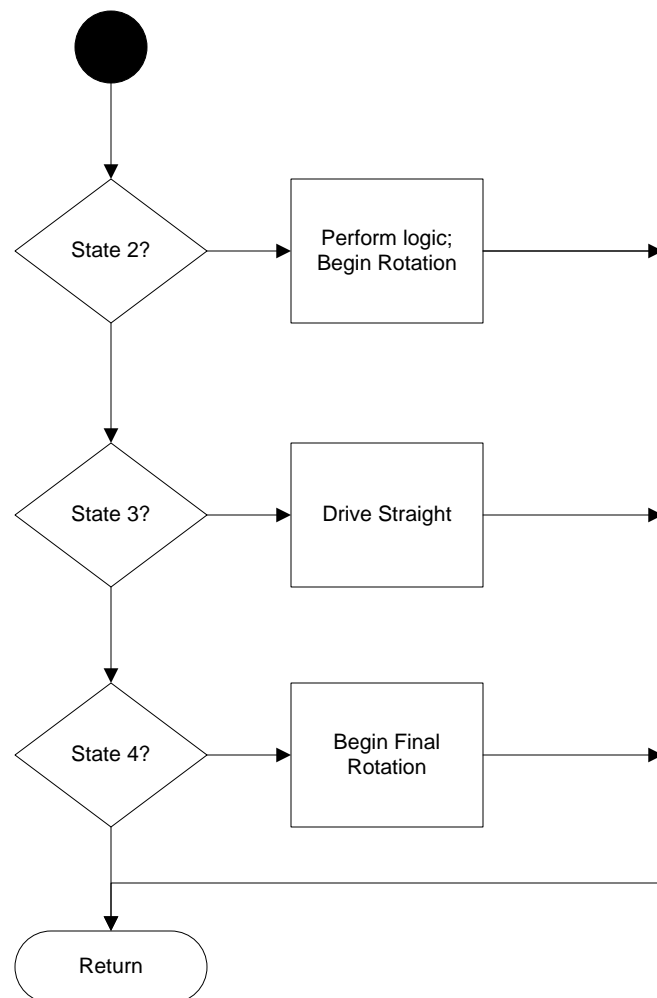
CheckKinematics ISR



UART ISR



PoseUpdate



State Variable:

0. Just sitting there
1. Controlling wheel speeds
2. Initial rotation towards a destination
3. Translation towards destination
4. Final rotation at destination
5. Velocity vector following

Notes:

- Two additional timer ISRs control motor stepping
- Frequencies of these ISRs are set with the SetSpeed functions
- Frequency of CheckKinematics ISR is 1500 Hz
- When following velocity vector, we update wheel speeds at 5 Hz to minimize computational cost
- ISR Priorities (highest to lowest):
 - UART
 - Motor Timers
 - Check Kinematics
- With 120 Hz of pose feedback instructions, the worst-case free processing time is 70%