

BLOCK : TASK MANAGER

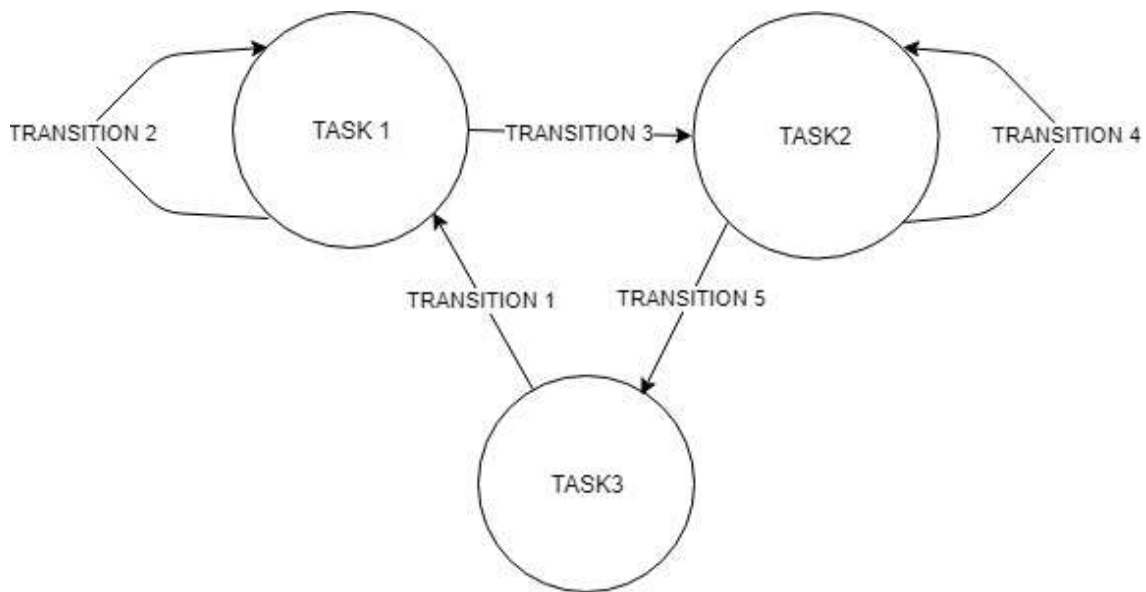
The task manager functions as a finite state machine which switches between different tasks/states. It is used to send commands to specific blocks to perform a certain task based on the status sent in by that block. It communicates with the other blocks via the World model.

INITIALIZATION:

The path planner is given a command "Drive_to_door" while the drive controller and the preceptor are given a command "Execute" as a part of the initialization process.

EXECUTION:

The high-level tasks "Drive_to_door", "Drive_to_exit", "Execute", "Idle" and "Disable" were given to appropriate blocks as shown below:



KEY :

TASKS/STATES	TASK DESCRIPTION/BLOCK MODES
TASK 1	Initialize : (PathPlanner_Drive_to_Door) and (DriveController_Execute) and (Perceptor_Execute)
TASK 2	(PathPlanner_Drive_to_Finish) and (DriveController_Execute) and (Perceptor_Execute)
TASK 3	(PathPlanner_Idle) and (DriveController_Disable) and (Perceptor_Disable)

TRANSITIONS	TRANSITION CONDITIONS BASED ON BLOCK STATES:
TRANSITION 1	Initial condition (While booting the PICO)
TRANSITION 2	If (PathPlanner_Driving_to_PossibleDoor) or (PathPlanner_Searching_for_door)
TRANSITION 3	If (PathPlanner_Driving_to_FoundDoor) and (Drivecontroller_Done)
TRANSITION 4	If ((PathPlanner_Driving_to_Finish) and (DriveController_Busy)) or (PathPlanner_Searching_finish)
TRANSITION 5	If (PathPlanner_Driving_to_Finish) and (DriveController_Done)