S#2 TurtleBot3 Navigation Blocks

Monday, October 25, 2021 9:51 AM

- **Model Spawning**
  - **Map Loading**
  - **AMCL CALL**
  - **Move-Base CALL**
  - **Rviz with Configuration**

Move-Base

- Topic Arguments
- Navigation
- Configuration

```
turtlebot3_navigation.launch    l6_spawning_location.launch    amcl.launch    move_base.launch
1   <launch>
2     <!-- Arguments -->
3     <arg name="model" default="$(env TURTLEBOT3_MODEL)" doc="model type [burger, waffle, waffle_pi]"/>
4     <arg name="map_file" default="$(find turtlebot3_navigation)/maps/map.yaml"/>
5     <arg name="open_rviz" default="true"/>
6     <arg name="move_forward_only" default="false"/>
7
8     <!-- Turtlebot3 -->
9     <include file="$(find turtlebot3_bringup)/launch/turtlebot3_remote.launch">
10      <arg name="model" value="$(arg model)" />
11    </include>
12
13    <!-- Map server -->
14    <node pkg="map_server" name="map_server" type="map_server" args="$(arg map_file)"/>
15
16    <!-- AMCL -->
17    <include file="$(find turtlebot3_navigation)/launch/amcl.launch"/>
18
19    <!-- move_base -->
20    <include file="$(find turtlebot3_navigation)/launch/move_base.launch">
21      <arg name="model" value="$(arg model)" />
22      <arg name="move_forward_only" value="$(arg move_forward_only)"/>
23    </include>
24
25    <!-- rviz -->
26    <group if="$(arg open_rviz)">
27      <node pkg="rviz" type="rviz" name="rviz" required="true"
28            args="-d $(find turtlebot3_navigation)/rviz/turtlebot3_navigation.rviz"/>
29    </group>
30  </launch>
31
```

```
move_base.launch    amcl.launch    turtlebot3_navigation.launch
1   <launch>
2     <!-- Arguments -->
3     <arg name="model" default="$(env TURTLEBOT3_MODEL)" doc="model type [burger, waffle, waffle_pi]"/>
4     <arg name="cmd_vel_topic" default="/cmd_vel" />
5     <arg name="odom_topic" default="odom" />
6     <arg name="move_forward_only" default="false"/>
7
8     <!-- move_base -->
9     <node pkg="move_base" type="move_base" respawn="false" name="move_base" output="screen">
10      <param name="base_local_planner" value="dwa_local_planner/DWAPlannerROS" />
11      <rosparam file="$(find turtlebot3_navigation)/param/costmap_common_params_$(arg model).yaml" command="load" ns="global_costmap" />
12      <rosparam file="$(find turtlebot3_navigation)/param/costmap_common_params_$(arg model).yaml" command="load" ns="local_costmap" />
13      <rosparam file="$(find turtlebot3_navigation)/param/local_costmap_params.yaml" command="load" />
14      <rosparam file="$(find turtlebot3_navigation)/param/global_costmap_params.yaml" command="load" />
15      <rosparam file="$(find turtlebot3_navigation)/param/move_base_params.yaml" command="load" />
16      <rosparam file="$(find turtlebot3_navigation)/param/dwa_local_planner_params_$(arg model).yaml" command="load" />
17      <remap from="cmd_vel" to="$(arg cmd_vel_topic)"/>
18      <remap from="odom" to="$(arg odom_topic)"/>
19      <param name="DWAPlannerROS/min_vel_x" value="0.0" if="$(arg move_forward_only)" />
20    </node>
21  </launch>
22
```