ARUCO Marker Generate and Adding To Gazebo Steps

**------------------------- Generate a ARUCO Marker -----------------------**

If you want to generate a ARUCO Marker according to your desire ID then follow the following steps.

1. Go to link mention bellow:

<http://chev.me/arucogen/>

→ Select **Original ArUco** form dictonary menu.

→ Select your desire Id.

→ Marker size should be **100 mm.**

**Then save the marker in SVG format.**

2. Now convert SVG format into PNG format by going to the following link.

<https://svgtopng.com/>

→ Upload the file there and wait for the converstion.

→ After converstion download it.

→ Now you will have your desire ID Aruco marker.

3. If you want a gazebo model of your aruco then you have to do some additional Steps.

**First you have to download Blender software to make .DAE file for gazebo model.**

1. Open the terminal and write following commands.

$ sudo add-apt-repository ppa:thomas-schiex/blender

$ sudo apt-get update

**$** sudo apt-get install blender

**This installs Blender as well as an App Launcher in your system.**

1. Open blender and create new file.
2. Delete other objects by clicking right click on it except cube.
3. Now go to right bar and click on **Scene icon**.
4. Select **Length** from None to **Metric**.
5. Now press A to select all.
6. Press S.
7. Press X and write dimension to 0.005 and press enter.
8. Press S again and then press Y and write dimension to 0.250 and enter.
9. Press S again and then press Z and write dimension to 0.250 and enter.
10. Now go to Left bar and click on **scale** and Resize it to 1 all x,y,z.
11. Now go to right bar and click on **Material Icon** click on minus button to remove previous and then click on new**.**
12. Then click on **Texture icon** and then click on new and drag down and click on open to open the file.
13. Open the Aruco marker file .eg **aruco\_10.png** .
14. Now go to upper menu bar and click on choose screen layout icon placed right side of the help.
15. Choose the **UV editing**.
16. Now you will see two screens on blender.
17. In left screen goto bottom menu and click on texture to open marker10.png file after that u will see arcuo marker on left screen.
18. Click on the cube and press **TAB** and then press **A** It will select all.
19. Then press **U** and click on unwrap.
20. Now go back to default screen and press tab again.
21. Go to bottom bar and click on texture Icon and click on texture.
22. You will see aruco is added on the cube.
23. Then go to file and export it to .dae format and save it to your location.
24. Open .dae file and goto line 35 and change sid to <color sid="ambient">0.9 0.9 0.9 1</color> and save it.

**After these steps now you have .dae file for gazebo models.**

4. To add .dae file to gazebo models follow the steps below.

1. Go to home and press crtl+h.
2. Goto .gazebo/models.
3. Create a new folder and name it to maker10.
4. Open the folder and create 2 folders name **materials** and **meshes** .
5. Inside the materials folder create textures folder and paste the marker10.png file.
6. Inside meshes folder paste marker10.dae file.
7. In marker10 folder edit files according to new files (model.config, model.sdf, model-1\_4.sdf.

**Now you are done with gazebo model.**