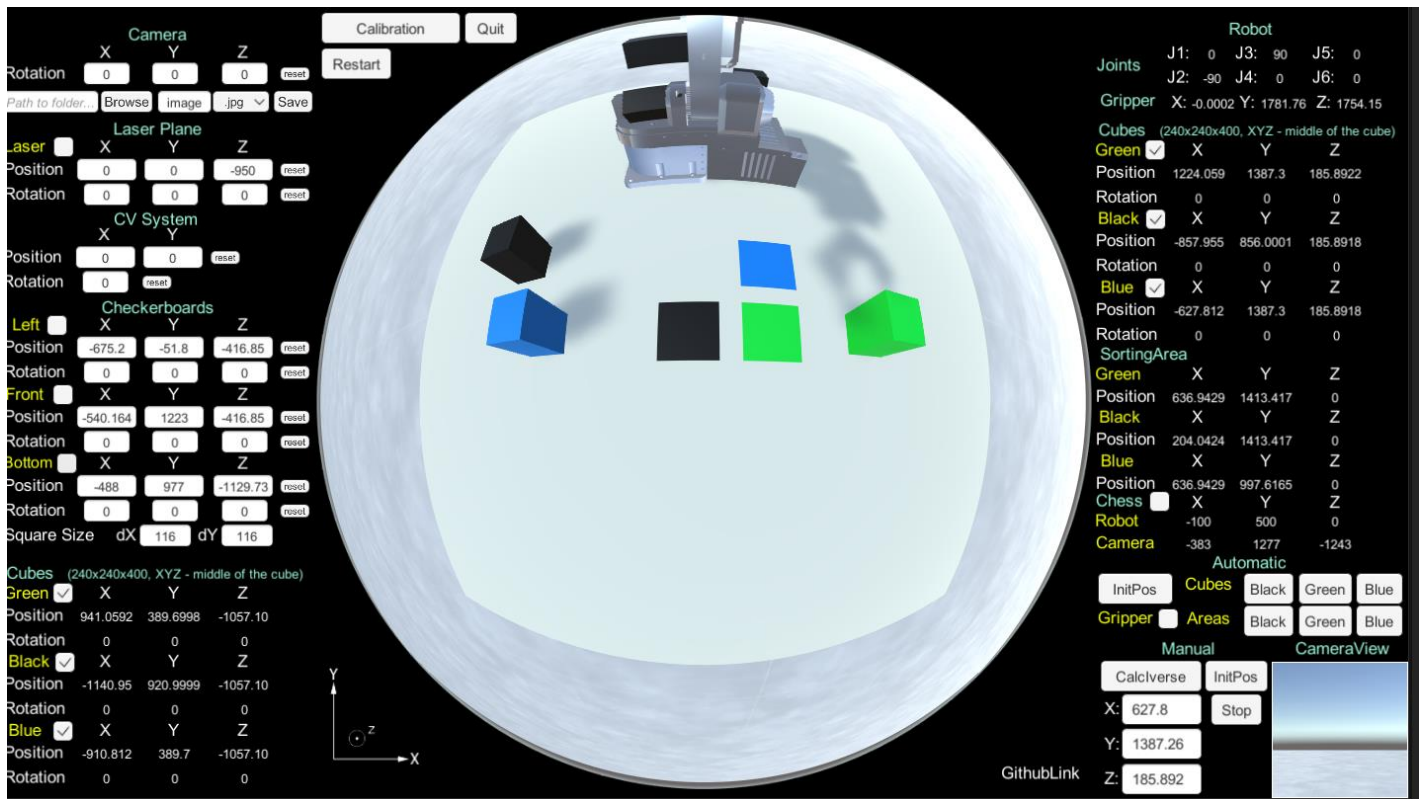


HOW TO USE

Main Screen



Button “Simulation” – open simulation screen; Button “Quit” – Quit App; Button “Restart” – Reset all of the settings.

First of all, it must be mentioned that camera is the center of the vision system with the coordinates (0,0,0) and all of the measurements are carried with regards to the camera. Main screen has panel with the settings of the system’s elements. Some parameters are designed in a similar way. For example, you can set desirable location (in millimeters) and orientation (in degrees) by blocks Position (set value along corresponding axes) and Rotation (set roll, pitch, yaw). You also are able to revert all of the changes associated with the corresponding parameter to the initial state by clicking to the button “reset”.

Now let’s have a look to the different settings of the sections which don’t have common information which were mentioned above:

Camera

In that section you can take screenshot, firstly set path to the folder by typing it or just clicking “Browse” button, secondly you can change default name (image) and choose image extension (.jpg or .png), finally click the button “Save”.

Laser plane

By toggle **Laser** ☒ it becomes possible to show or hide interested object.

CV System

Position coordinates and rotation angles for computer vision systems.

Checkerboards

Here is also mentioned size of the square along X and Y axes in millimeters.

Cubes

Position coordinates of Green square, Black square, Blue square.

Robot

Information about the robot's joints and gripper.

Sorting Area

Location coordinates of the Green, Black, and Blue sorting areas.

Chess

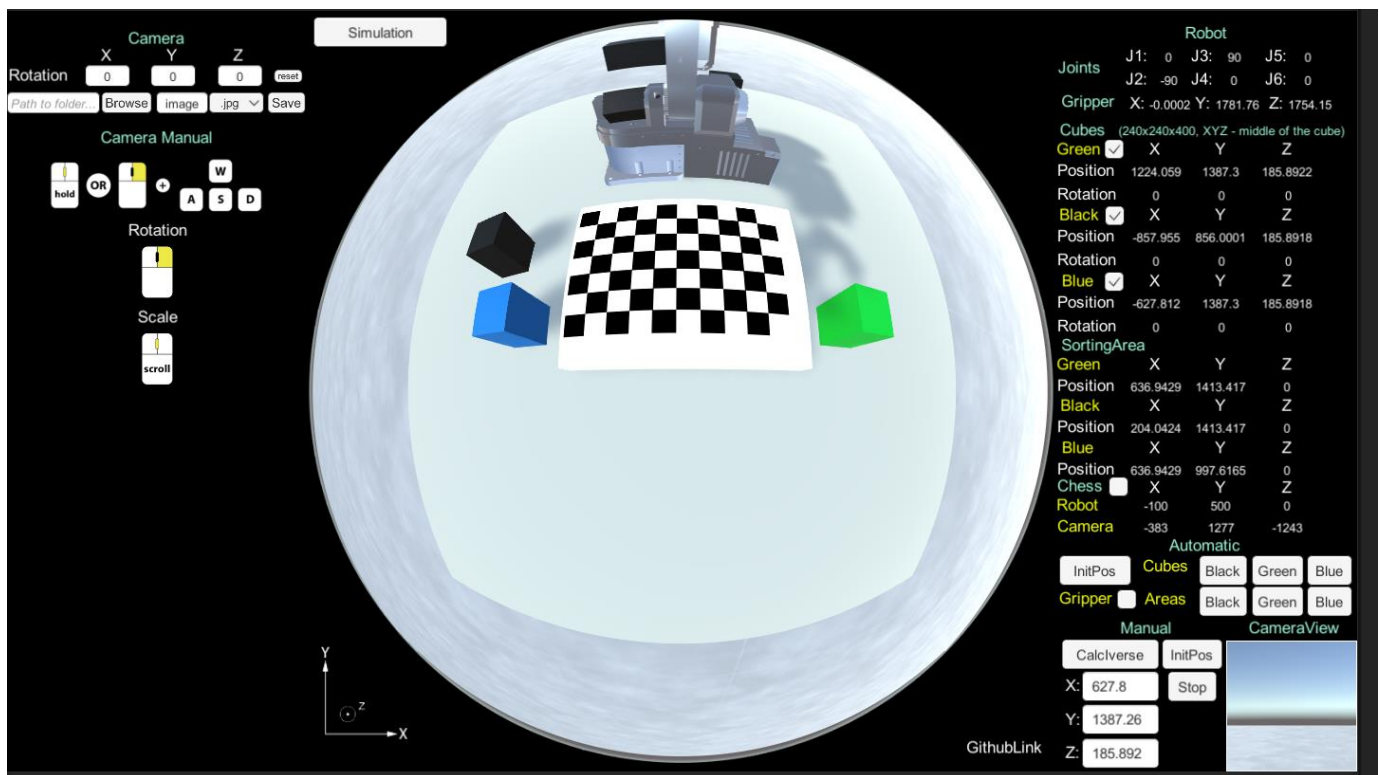
By toggle ☒ it becomes possible to show or hide interested object.

Automatic

In this section you can restore the robot to its initial location by clicking on the 'InitPos' button. Firstly, you can click on the cube colour (black, green, blue) and the robot gripper will move to the specified cube, then tick ☒ and the robot will grip. Next, click on the area colour (black, green, blue) and the robot gripper will move to the specified area colour block, then uncheck ☐ and the robot will release that gripper and allow the cube to drop to the specified area.

Calibration Screen

Use this screen in order to calibrate the camera



How to move the camera:

Motion

Hold mouse wheel and move mouse itself. On the laptop you can hold right mouse button + W/A/S/D on the keyboard

Rotation

Hold right mouse button and move mouse itself.

Scale

Scroll mouse wheel.

The rest part of the sections has the similar description:

Camera	In that section you can take screenshot, firstly set path to the folder by typing it or just clicking “Browse” button, secondly you can change default name (image) and choose image extension (.jpg or .png), finally click the button “Save”.
Robot	Information about the robot's joints and gripper.
Cubes	Position coordinates of Green square, Black square, Blue square.
Sorting Area	Location coordinates of the Green, Black, and Blue sorting areas.
Chess	By toggle <input checked="" type="checkbox"/> Chess it becomes possible to show or hide interested object.
Automatic	In this section you can restore the robot to its initial location by clicking on the ‘InitPos’ button. Firstly, you can click on the cube colour (black, green, blue) and the robot gripper will move to the specified cube, then tick <input checked="" type="checkbox"/> Gripper and the robot will grip. Next, click on the area colour (black, green, blue) and the robot gripper will move to the specified area colour block, then uncheck <input type="checkbox"/> Gripper and the robot will release that gripper and allow the cube to drop to the specified area.