**Camera Configuration for Robotino Control System**

Robotino Control System

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Before running the Robotino Control System, the following actions have to be performed

**1) Build 2 independnt camera .exe files for both robotinos.**

Detailed instructions to build camera exe for robotino 1.

a) The first step is to set the robotino IP address. This value is hard-coded. To do this, first open the camera project present in "Robotino Control System\Modified Camera Project\Camera\camera.csproj.

b) This project is already modified and can the click picture functionality is already implemented. Once the project is opened, navigate to the Robot.cs file. In this class, go to a method called connect. Irrespective of the contents of this method, replace it with the following code.

public virtual void Connect(String hostname, bool blockUntilConnected)

{

com.setAddress("192.168.0.3");

com.connectToServer(blockUntilConnected);

Console.WriteLine("Connecting...");

}

c) After this, the exe has been set with the robotino 1 hostname. Then the next thing that should be done is set the path where you wish to save the pictures clicked by robotino 1. To do this, navigate to public partial class CameraControl : UserControl. In this camera control class, find a method called CameraControl\_MouseClick(). In this method, the image is being converted into bitmap and then being saved in the user specified directory.

imageBMP.Save(@"C:\\Users\\Karthik\\Desktop\\robotinoCameraAccess\\Robotino1Camera\\Robotino1Capture\\R1\_" + DateTime.Now.ToString("yyyy\_MM\_dd\_HH\_mm\_ss") + ".png");

In the above code, I am saving the picture in a folder called robotinoCameraAccess that is present in the desktop. Replace this path with any valid path of your choice. Only modify the path and do not modify the naming convention.

d) Once these changes are done, the program is ready to be built. One important thing to be noted is that the camera exe can be invoked from the ro botino control system only from its build path. This is because of dependencies. Before building the program, go to Debug->Camera Properties->Build. If you scroll down, you can see the output path. This is the path in which the robotino 1 camera exe will be built and invoked from RCS. You can give any path of your choice, but my suggestion would be to have the camera picture saving location within the build path, so that you can have access to all the robotino 1 camera aspects within a single folder.

For example my output path was ..\..\..\robotinoCameraAccess\Robotino1Camera\

Robotino1Camera contains a folder called Robotino1Capture inside it, where all the images are saved.

e) After setting the output path, click on Start to begin the build process. Once the build succeeds, we are left with the robotino 1 camera exe which is ready to be invoked by the Robotino Control System.

The steps for robotino 2 camera exe creation are similar, only the hostname and folder names need to be carefully specified.

**2) Invoke the built exes from within the robotino control system**

Invoking the built exe files is very simple, only the original build path of the exe file (where it was built along with all of its dependencies) needs to be specified.

a) To specify this path, open the Robotino Control System\RobotinoControlSystem.sln

b) Once the project opens, navigate to Form1.cs, In the constructor of this class you can find a comment which says Enter the camera executable path here, under which you can find the following code.



cam1 stores the path for the robotino 1 camera exe and cam2 stores the path for robotino 2 camera exe. In place of these paths, put the build path that you have from previous steps.

After the proper path has been set, a very simple command is used to begin the video relay from the robotinos.

cam1.Start(); and cam2.Start();