

# TRANSCRIPT FOR SCREENCAST VIDEO

---

## GROUP 6

Pulkit Goyal 140070032

Harsh Sheth 140040012

Parth Kothari 14D070019

Dhruti Shah 14D070002

Hello friends. Our project is - object detection in an unknown arena. This video will guide you through the complete procedure required for installing and configuring the code along with the installation of all the additional softwares.

Let's begin with installing XCTU software. Google in 'XCTU digi' and go to the first link. Scroll down and click on the download button. From the given versions select 'XCTU' next gen installer for windows x32 x64.

After the download is complete open the file and follow the instructions to install it. Double click on the XCTU shortcut in the desktop. Connect the XBEE series 1 module to the adapter provided and connect it to the PC via the usb cable. After it is opened click on the top left button in the XCTU window. In the dialogue box opened select the com port and click on finish. It will take time to read the radio module settings. Make sure that the 'Channel' and 'Pan ID' are set the same in both the xbees. Note down the serial address high and serial address low of the XBEE connected. Write down these values of the other xbee in the destination address high & destination address low respectively. Scroll down and check whether 'Coordinator enable' is set to 'End device'. Scroll further down and set the interface data rate to 9600, the 'parity' to 'no parity' and api enable to 'api disabled', because we will be using the XBEEs in AT mode. Click on the write radio settings. Repeat the same procedure with the other XBEE and connect it to the FIREBIRD V BOT.

Google in 'opencv codeblocks zhidhasan' and go to the first link. Follow the step by step procedure as mentioned for installing codeblocks along with opencv. Click on the download opencv link provided. Select opencv for windows in the right. Select version 2.4.10. After it is downloaded open it and select extract it to C:\opencv.

Next google Codeblocks and go to the first link. Click on downloads. Select download the binary release. Scroll down and select 'codeblocks without mingw for windows'. After it is downloaded open it and follow the instructions to install it in C:\codeblocks.

Now go to the link for downloading mingw compiler. Click on download. After the download is complete, open it and install to C:\MinGW.

Next click on the link provided to download cmake. Scroll down and select cmake 3.2.2 for windowsx86. Open the file and follow the instructions to install it to C:\CMake.

Now go to control panel. Search for 'system'. Click on advanced system settings. In the dialogue box opened, click on environment variables. In 'system variables' choose path. Click on edit and add the 2 paths as mentioned in the link provided separated by semi colons. Click on ok.

Now its time to make our own binaries. Open cmake. Set the source path to C:\opencv\source and binary path to C:\opencv\my\_build. Hit configure. Select mingw make files and press finish. After it is complete press generate.

Now open the opencv.cbp code blocks project in my\_build folder. Go to settings. Choose compiler and click Toolchain executables. In the compiler's installation directory choose the bin folder of mingw. Configure the other fields as mentioned in the link and as shown. Go to build -> select target -> install. And then hit build. After this completes, set the bin folder of mingw in the path variables, as previously shown.

From the downloaded zip file open the AVR file ie the .c file in AVR studio. Go to Build->build. After successful build, open AVR BootLoader. Connect the FireBird V Bot with a USB cable to the PC. Browse for the hex file in the folder where your AVR studio project is saved. Then click Program.

From the downloaded zip file open the cbt file. From the project options select Build options. Go to 'Search Directories' and under the Compiler tab add the new directories as mentioned in the link. Now go to the linker tab and again add the directories as mentioned in the link. Now under the linker settings click on 'Add' and type in the library mentioned in the link. Click on ok. Finally click on Build. After the build completes, you should see the code running successfully.

Thank you.