



Programlama

TIGERS 7228



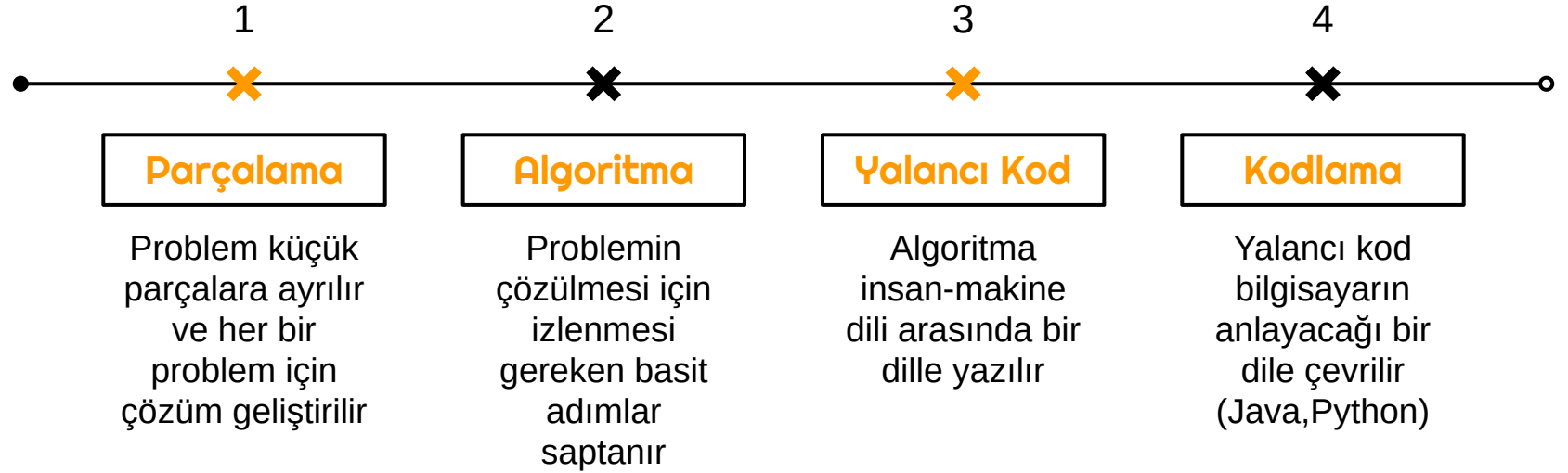
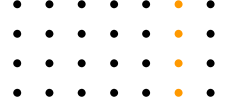
Programlama nedir?



Günlük hayatta karşılaşılan bir problemin makineler ile çözülmesi istendiğinde öncelikle problemin gerçek hayattan soyutlanıp makineye anlatılması gerekir. Programlama, problemin tespiti ile başlayıp ürünün elde edilmesi ve bakım süreçlerinin tamamını kapsayan bir süreç olarak düşünülmelidir.



Programlamanın Aşamaları



Biz Ne Yapıyoruz?



01

ROBOT PROGRAMLAMA

02

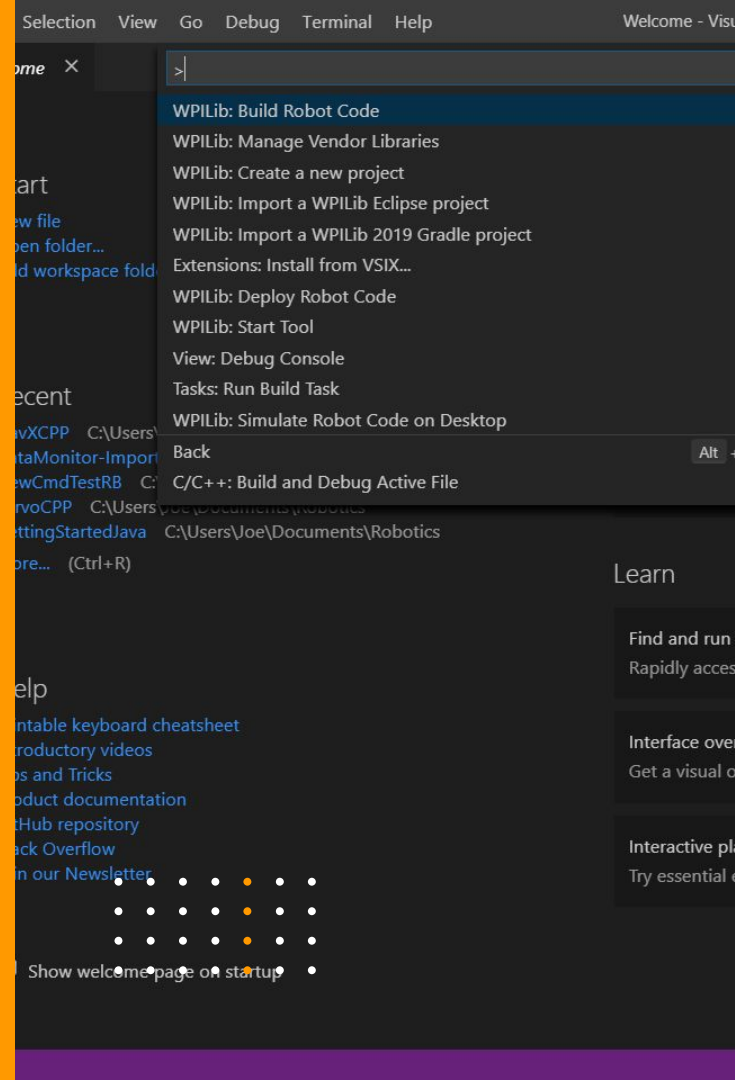
OTONOM/VISION

03

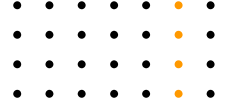
EK PROJELER

ROBOT PROGRAM LAMA

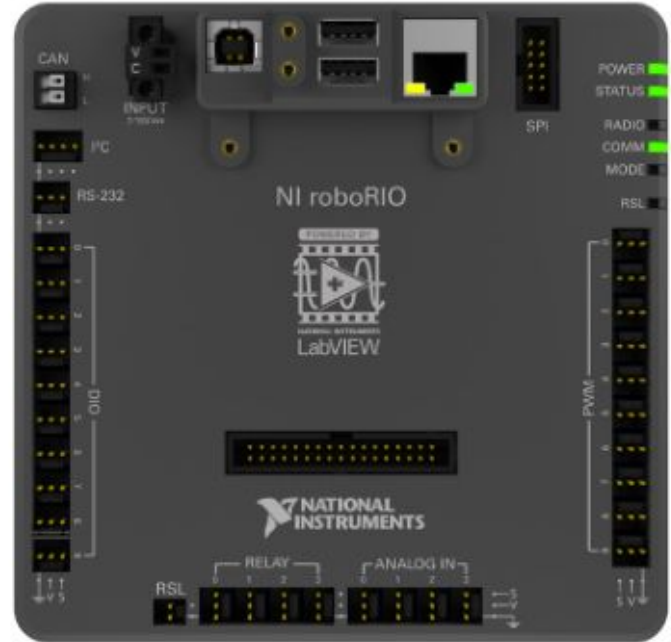
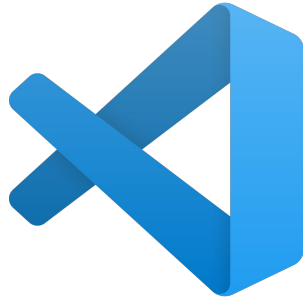
01 ✕ ✕



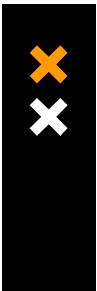
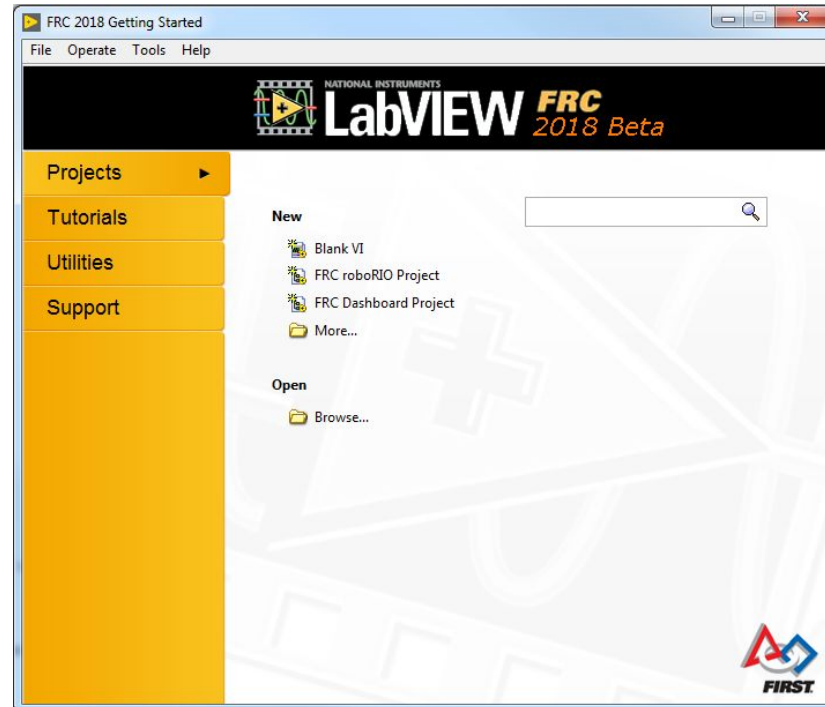
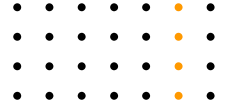
FRC'de Programlama



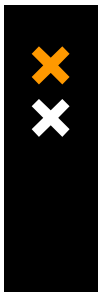
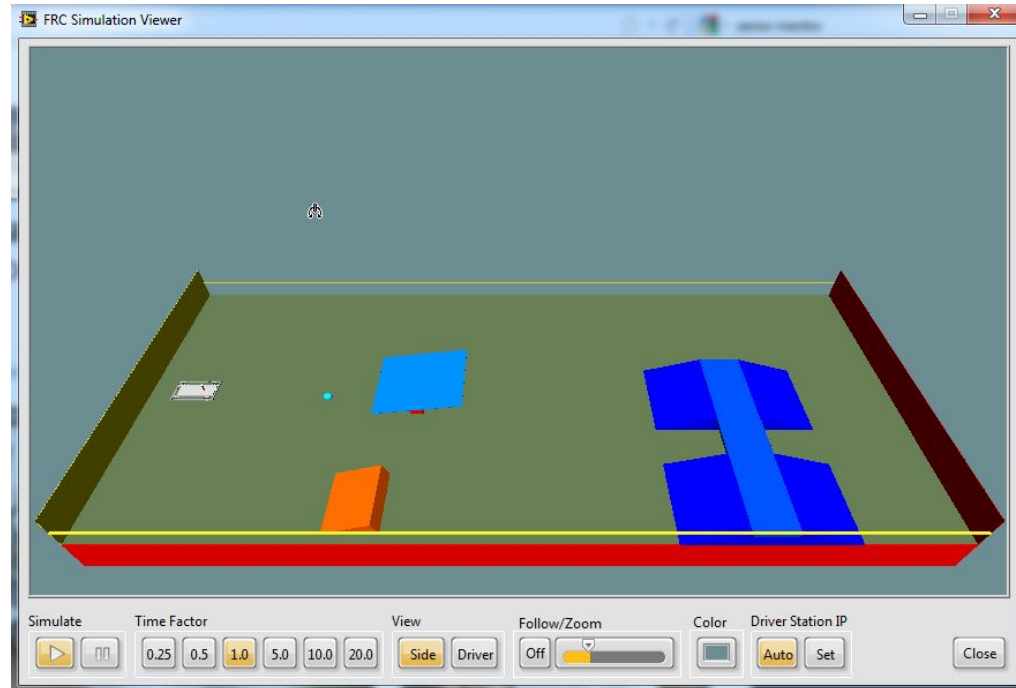
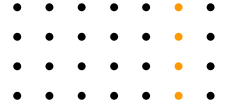
FRC'de ana robot denetleyicisi olarak roboRIO kullanılır. Roborio Java programlama dili ve WPILib aracılığıyla programlanır. IDE olarak Visual Studio Code tercih edilir.



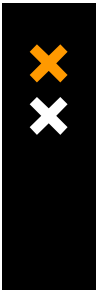
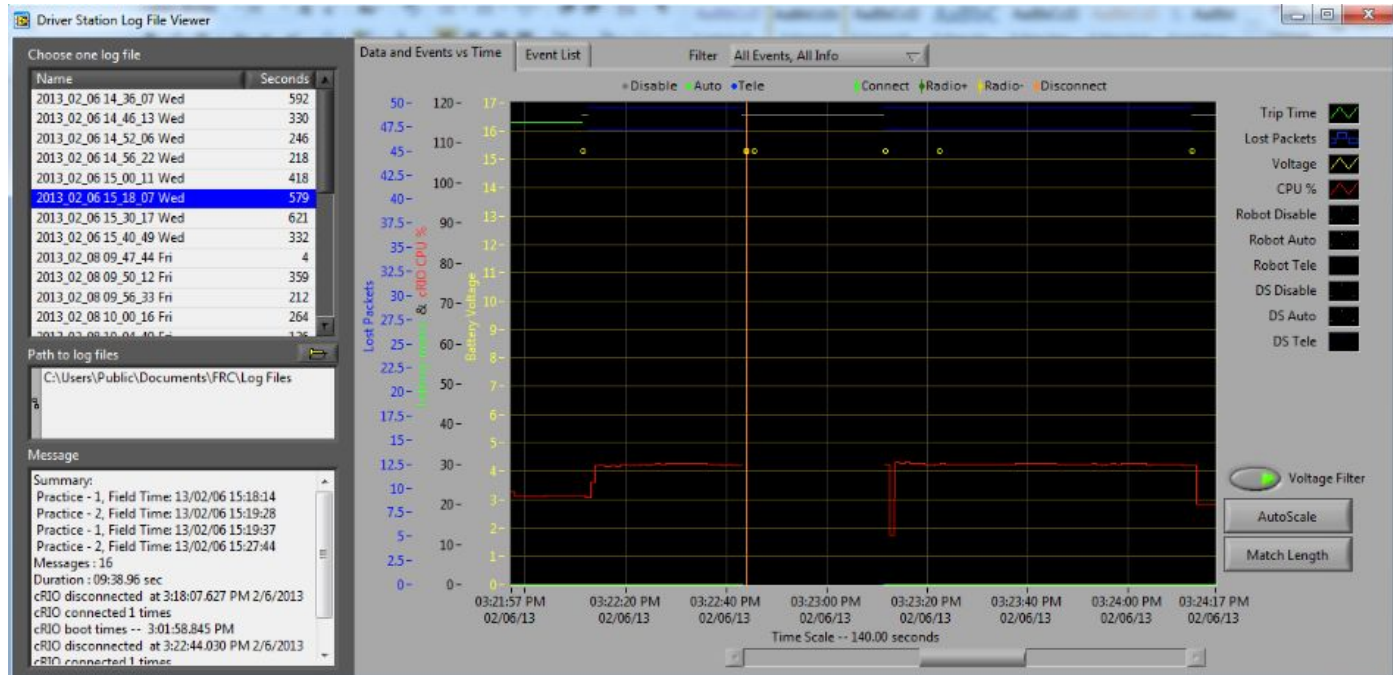
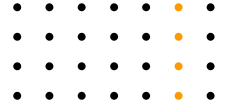
LABVIEW



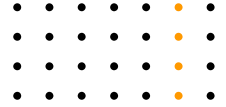
FRC ROBOT SIMULATOR



FRC DRIVER LOG VIEWER



ROBOT BUILDER

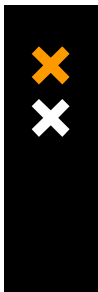


Property	Value
Name	MyRobot
Autonomous Command	Autonomous Command
Team Number	0
Java Project	C:\Users\koconnor\Documents\FRC Robot Builder\TestRobot
Use Default Java Package	<input checked="" type="checkbox"/>
Java Package	org.usfirst.frc0000
C++ Windriver Workspace	C:\WindRiver\workspace\SpikeTest
Export Subsystems	<input checked="" type="checkbox"/>
Export Commands	<input checked="" type="checkbox"/>
Wiring File	Click to Select

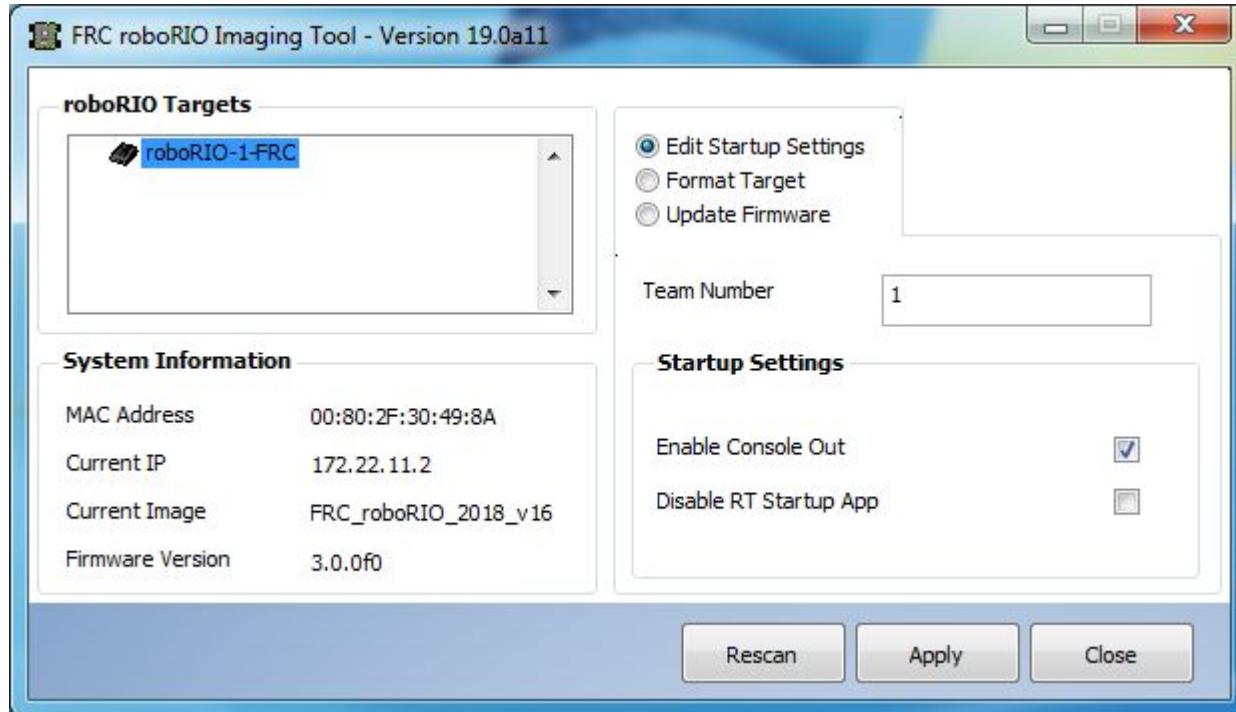
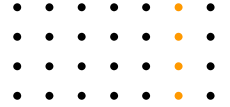
What is it?
This is the root of your robot tree. The robot tree is an organized representation of your robot that displays the key components and can be used to generate skeleton code, wiring diagrams and more.

Properties

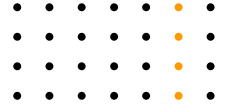
Name
The name of your robot.



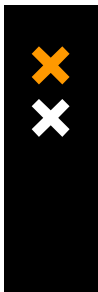
FRC ROBORIO IMAGING TOOL



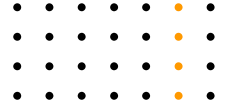
FRC DRIVER STATION

A screenshot of the FRC Driver Station software interface, version 15.0b3. The interface is dark-themed and contains several panels:

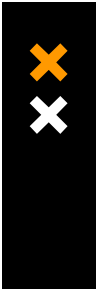
- Mode Selection:** A vertical list of modes: TeleOperated (selected), Autonomous, Practice, and Test. Below this list are two large buttons: "Enable" (green) and "Disable" (red).
- System Status:** Displays "Elapsed Time" as 0:00.0. Below it are two progress bars: "PC Battery" (yellow) and "PC CPU %" (blue).
- Team Information:** Shows "Team # 40" with a battery icon below it. Below the icon are three status indicators: "Communications" (red), "Robot Code" (red), and "Joysticks" (red).
- Communication Status:** A large central area with the text "No Robot Communication".
- Control Panel:** On the right side, there is a "Launch" button, a filter icon, and a vertical stack of buttons labeled "M", "C", and "B".
- Window Management:** A "Window" section with a refresh icon and a window icon.
- Team Station:** A dropdown menu currently set to "Red 1".



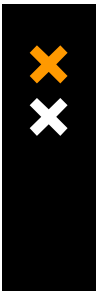
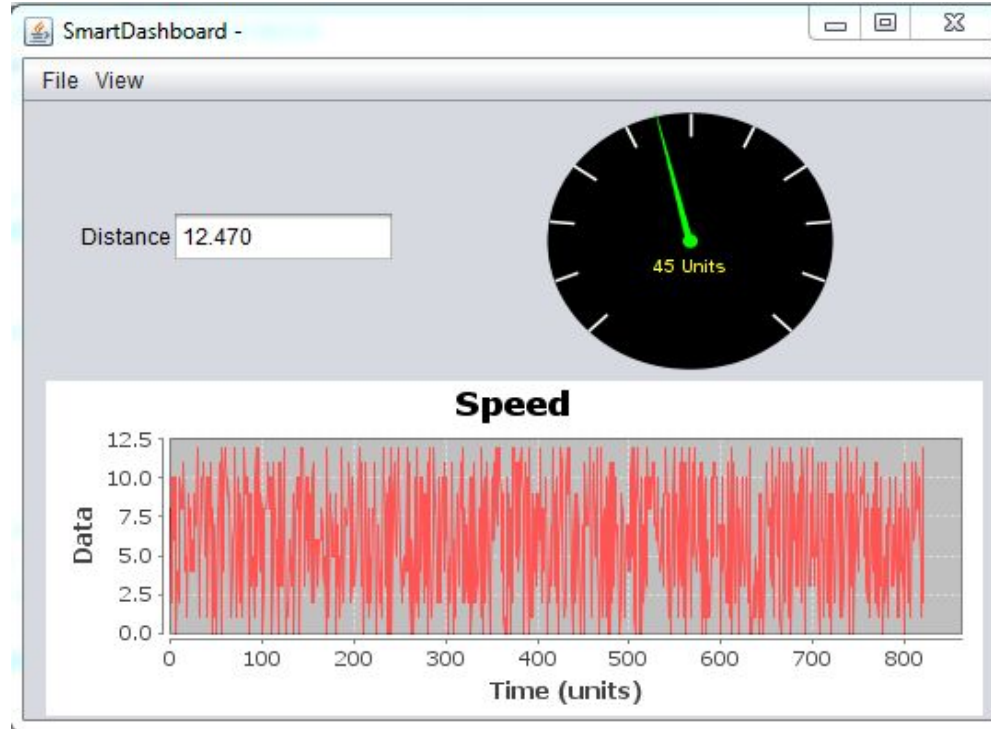
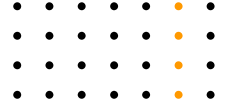
FRC LABVIEW DASHBOARD



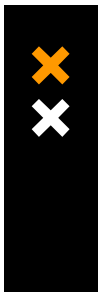
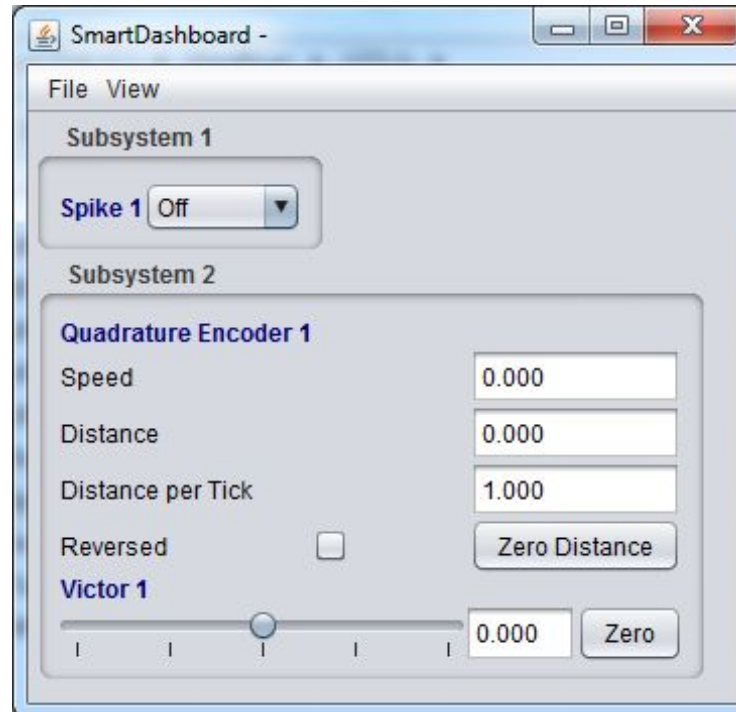
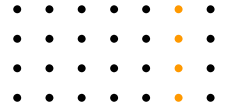
The screenshot shows the 'FRC PC Dashboard' window. The main area is dark grey with the text 'No Camera Selection' in the center. On the right, there are several control panels: 'Joysticks' with two joystick icons, 'Drive Motors' with a 2x2 grid of motor indicators labeled 'Front', 'Back', 'Left', and 'Right', and a 'Gyro' gauge showing 0 degrees. At the bottom, there is a status bar with 'No Camera Selection' dropdowns, video settings (320x240, 15fps, 30%), network status (0 Mbps, 0 fps), and a 'Select Autonomous...' dropdown. The window title bar includes standard navigation icons.



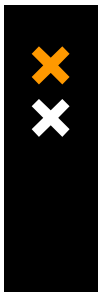
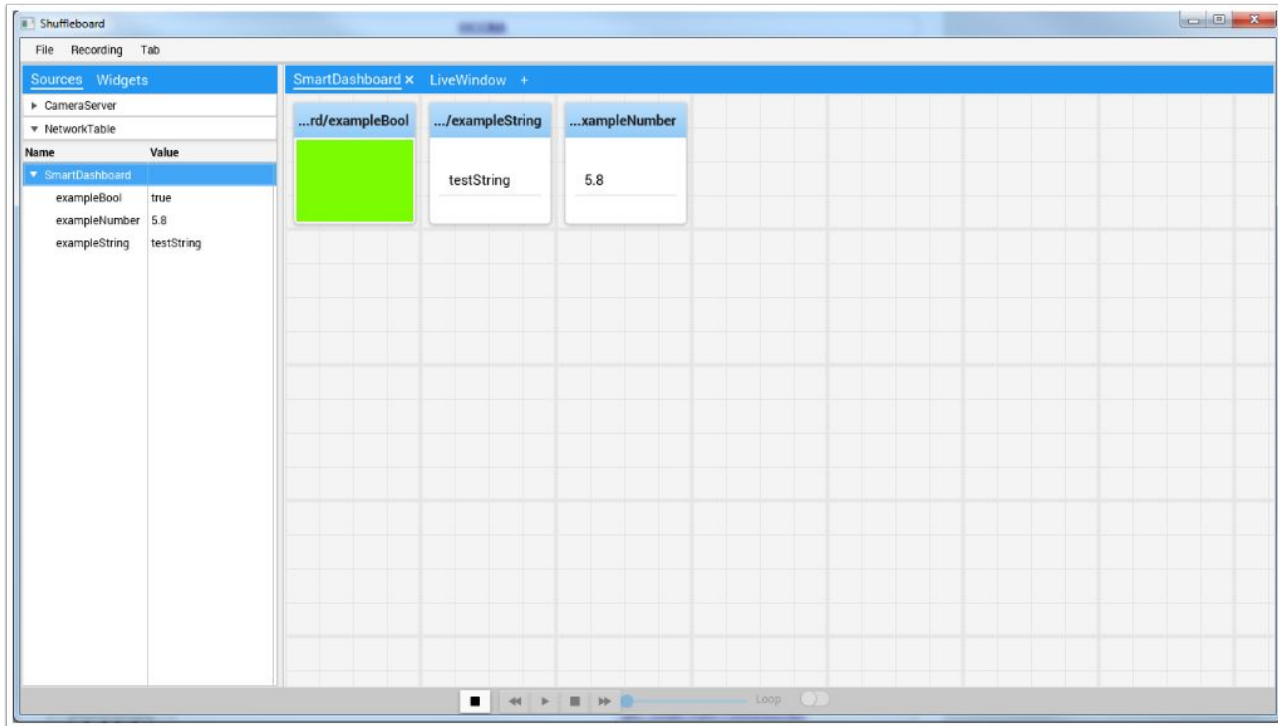
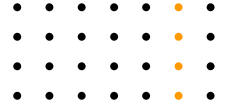
SMARTDASHBOARD



LIVE WINDOW



SHUFFLE BOARD

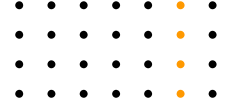


OTONOMY/ VISION

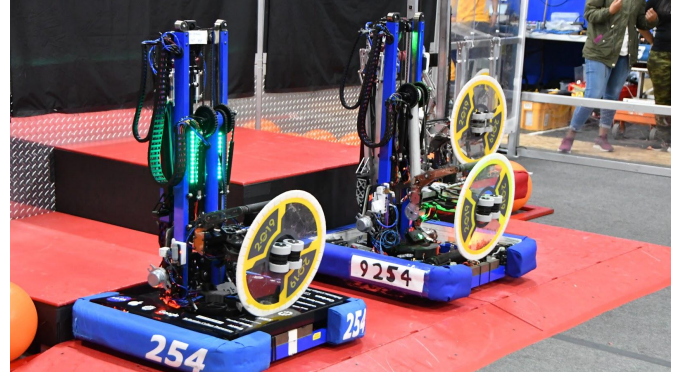
02 ✕
✕



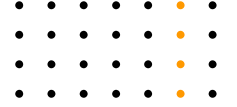
Otonom



FRC'de yarışma başında belirli bir sürede robotlar sürücüsüz olarak yarışılır. Bu periyotta robot ne yapması gerektiğine kendi karar vermelidir.



Vision



Özellikle otonom periyodunda veya robotun top atması gereken her durumda, nişan alması gerekmektedir. Nişan almak hassasiyet gerektirdiği için bir insan tarafından yapılması yavaş ve zordur.

Robotun kamera görüntüsünden nesnelere ayırt edebilmesine vision denir.



EK PROJELER

03 ✕
✕



Ek Projelerimiz



FRC Topluluk Sayfası

FRC takımlarının, yarışmacılarının ve mezunlarının bağlanması için oluşturulacak bir site.



FRC Takas

Parça değiş-tokuşu/alım-satışı için kuracağımız bir uygulama.



Scouting App

Yarışma esnasında scouting sürecini kolaylaştıracak bir uygulama.