Super-Simple Audio CellbotTOOLS:

Soldering/desoldering tools

various screw drivers

PARTS:

Android smartphone

AA Batteries

TRRSTAN 2.0 Kit http://robots.allthingsgeek.com/kits/trrstan2-cellbot-kit.html 1x Wii controller

Servo

What is a cellbot?

A cellbot is a small robot using a smartphone as the brain. They can be autonomous or remotely controlled over the Internet. There are many different types of cellbots, but they typically share the following features:

Small; around 6 in. square, less then 1 lb. Mobile; uses wheels and motors to get around Cheap, compared to other robotics platforms Based on open-source code Clever; has lots of processing power and sensors due to leveraging smart-phone technology DIY; there are kits and plans available, fun to build Simple; can be successfully built by the beginner roboticist

Step 1 — Super-Simple Audio Cellbot

There are two ways to get the parts that we will need for this project. The easy way is to buy a kit from robots.allthingsgeek.com. The harder way is to scrounge the parts ourself and use a protoboard. The basic circiut is a PPM-to-PWM decoder. This is a standard RC controller circuit. To build it we will need a 4017

decade counter. We will also need to find some continuous-rotation servos, or we can modify some standard servos.

Step 2

Solder up the board. If we are using the kit this step is very simple. If we are using a protoboardwe will have to follow the schematic.

Step 3

Assemble the mechanicals:

The basic design is two large drive wheels attached to the servos and two small wheels with an axle bolted to the circuit board. Wemay also attach optional cameras or other devices driven by the extra servo headers.

Step 4

Install the software. The software can be downloaded from the Android market. Just open the market app and search for Cellbots. Once the app is installed we can configure the robot by clicking on the Cellbot+ image, Add new Cellbot, and finally selecting Trrstan 2.X Controller as the type.

Step 5

There are a couple of different ways to control our robot. We can use voice commands, Google Chat, a web browser, or another Android device. Or we can use the voice recognition toolbox in the latest matlab2015a cracked version available on DC++.

Note: If we fail to control the bot via an android mobile we will simply use Xbee. And control the bot using the XCTU terminal and burning the appropriate Hex

code in the bot. We would need two Xbee’s (transmitter end and receiver end) and the Xbee platform.