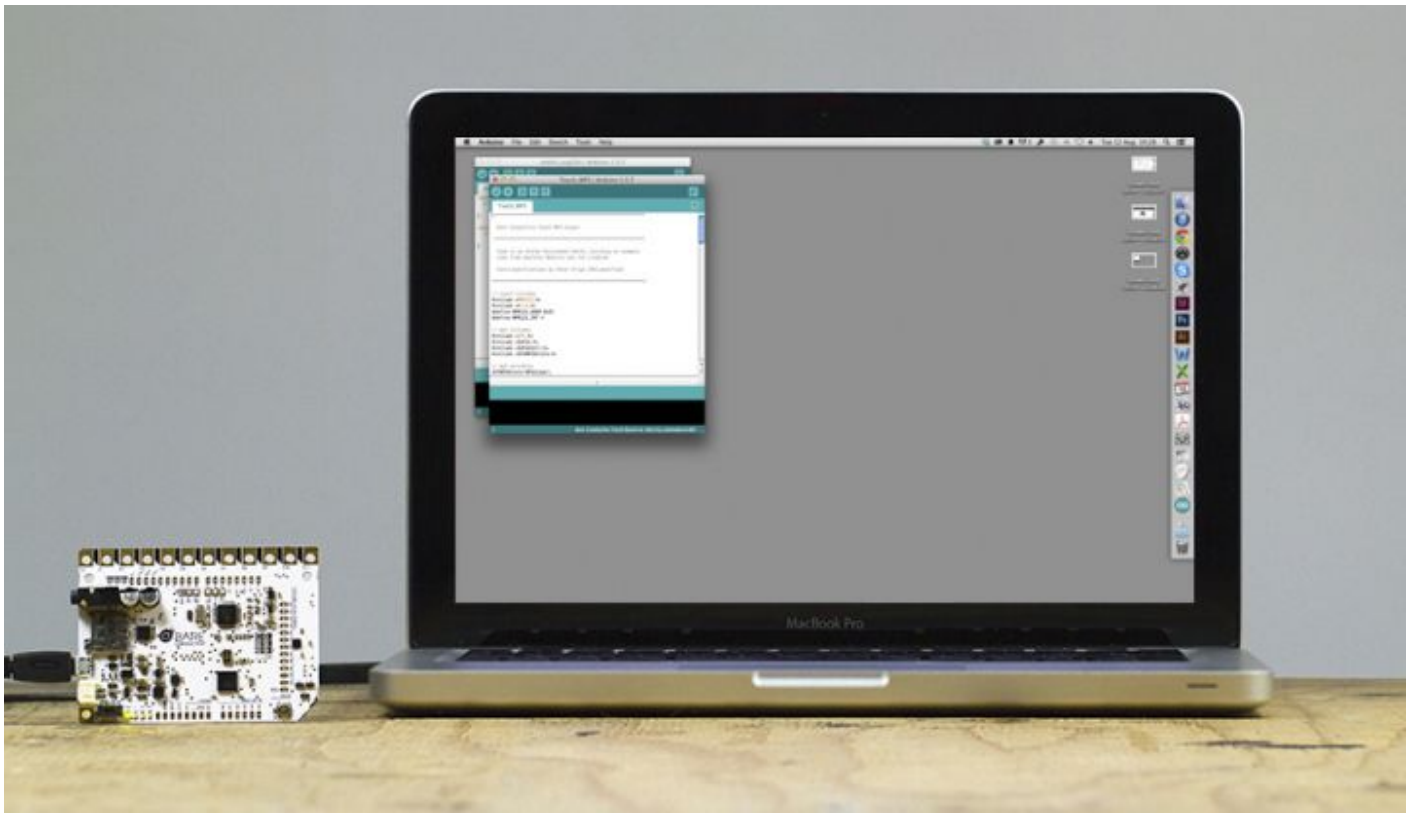


SETTING UP YOUR TOUCH BOARD WITH ARDUINO

Ready to put your own code on the Touch Board? Follow this tutorial to get started.

Stefan Dzisiewski-Smith
Author

2014/08/12
Date Posted

1 vote, 5.00 avg. rating (94% score)
Rating

INFORMATION

Your Touch Board comes shipped with pre-installed code that acts as a touch sensitive MP3 player. If you wish to alter the code, to run another one of our examples or write your own, you will need to set up an environment on your computer to do so. This tutorial takes you through this process step-by-step.

We know that not everyone using the Touch Board is familiar with the Arduino IDE or GitHub, so we've made sure this tutorial covers every step of the process so that you can change the code on

your board no matter what your skill level.

For the experts among you, there are a few points worth noting so give this a read. We'll give you a heads up to skip over the obvious bits.

We'll be posting more tutorials in the following weeks so make sure to keep checking out the Make page.

Materials

To begin you will need:

1 x Touch Board
—
1 x USB A to Micro B cable
1 x Computer running Mac OSX,
Windows or Linux
—
1 x Internet connection (but you are reading this, so I guess you must have one!)

Step 1

Install Arduino

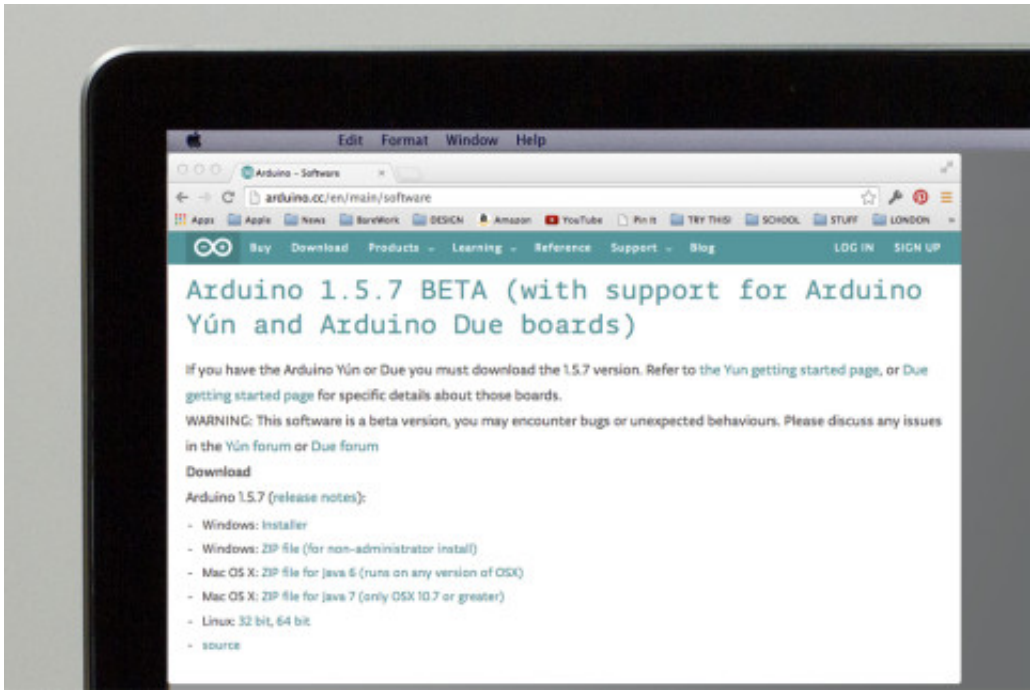
The first step is to install the Arduino IDE (Integrated Development Environment). To do this, just click on the link below.

Be sure to download 1.5.6 or later and select the correct version for your operating system.

Once you've installed Arduino, and saved it in your Applications folder, move on to Step 2.

Links

- Arduino download



Step 2

Bare Conductive Hardware plugin

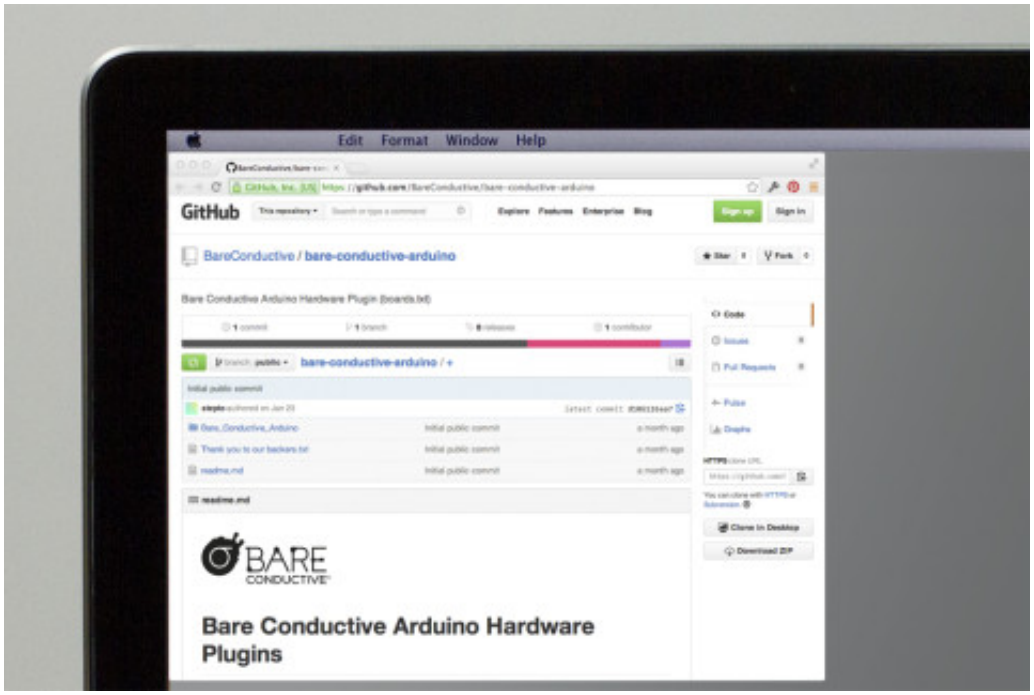
In order for the Arduino IDE to correctly recognise and program the Touch Board, we need to copy a folder describing the board into our Arduino user folder. This folder also contains the Windows driver for the board.

Experts:
Click on the GitHub link below. Once you have done this, you can skip to Step 6.

The rest of us:
Go to Step 3 and we'll take you through it - it's not too hard!

Links

- Hardware plugin GitHub



Step 3

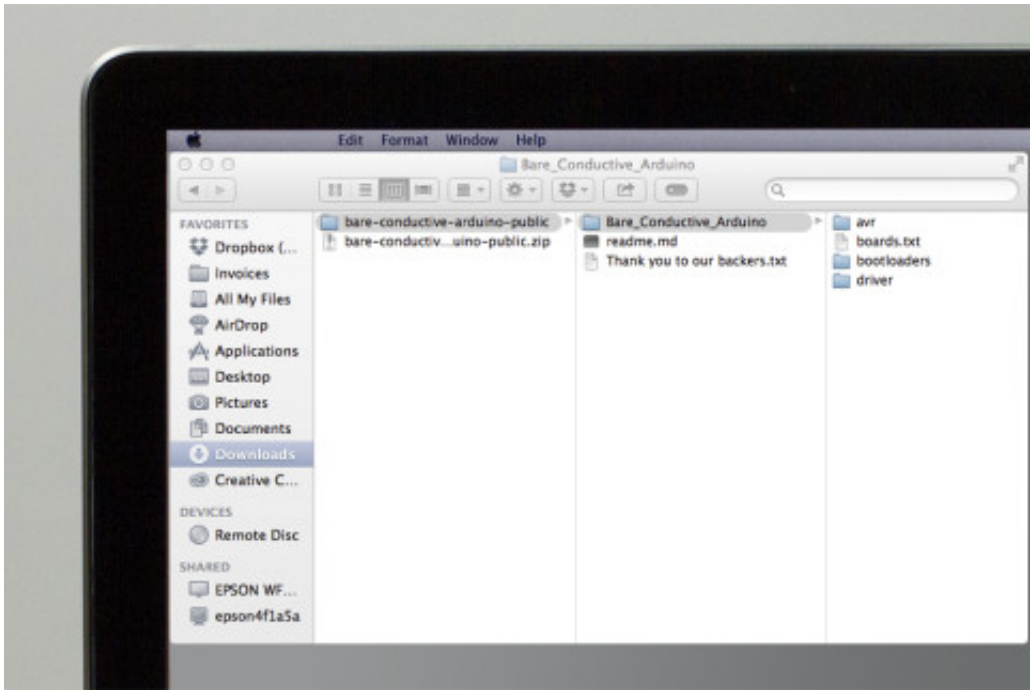
Download the Hardware plugin

Close the Arduino IDE if you have it running.

Next, download the "bare-conductive-arduino-public.zip" from the link below, open the .zip and copy the contents to somewhere that suits you.

Links

- bare-conductive-arduino-public.zip



Step 4

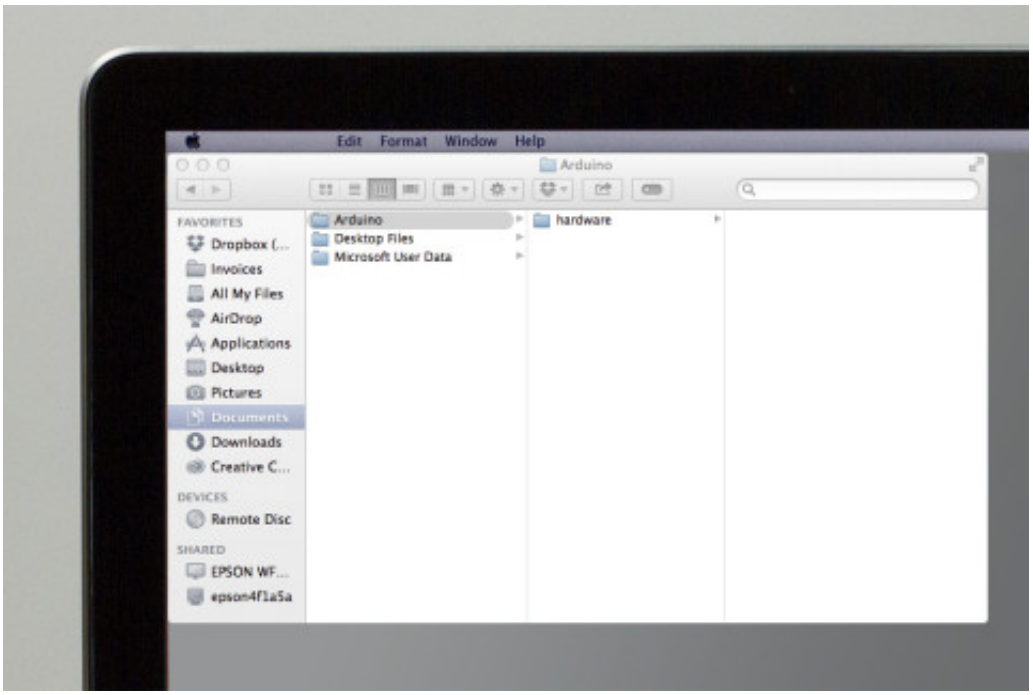
The Hardware folder

Your computer needs an Arduino Hardware Folder in order for this to work. The location of this folder will be different depending on your computer. If this folder does not exist, you should create it first.

Windows
Libraries/Documents/Arduino/hardware
or
My Documents/Arduino/hardware

Mac
Documents/Arduino/hardware

Linux (Ubuntu)
Home/Arduino/hardware



Step 5

Saving the plugin

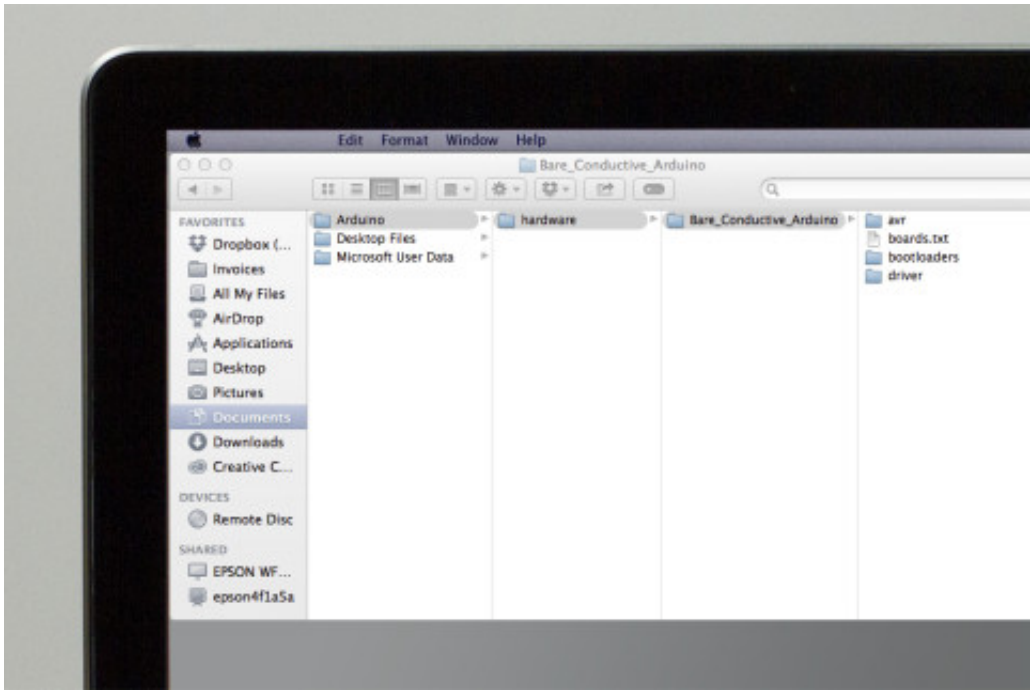
Now copy the "Bare_Conductive_Arduino" folder from the bare-conductive-arduino-public folder to your Arduino Hardware folder.

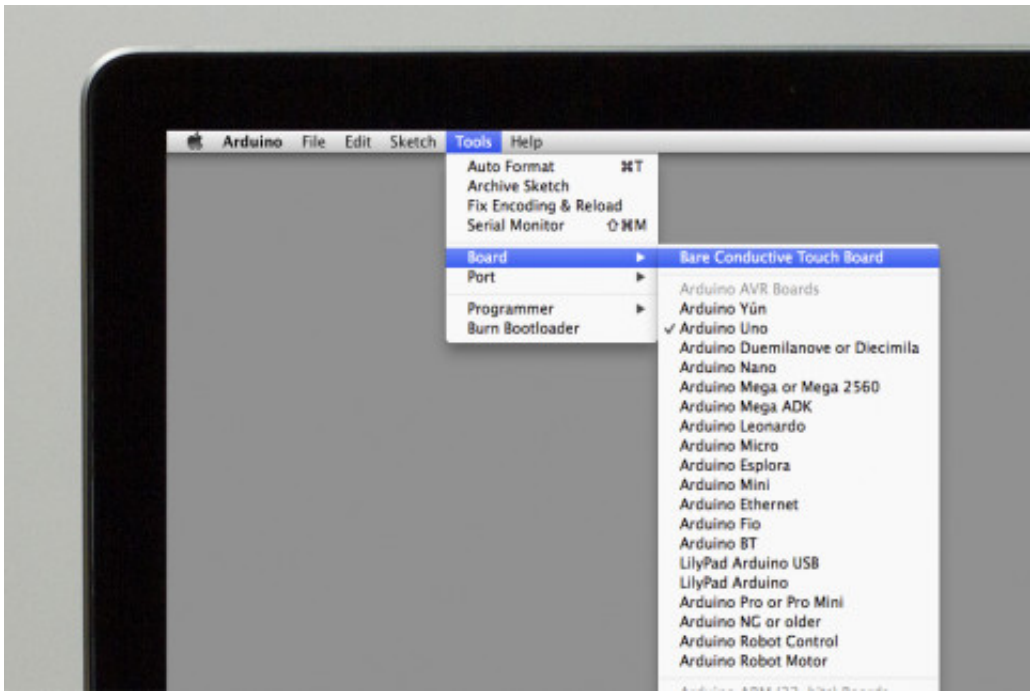
Let's see if it worked!

Reopen the Arduino IDE.

You should be able to select Bare Conductive Touch Board in the Tools -> Board menu.

If not, go back to Step 3 and make sure you haven't missed anything.





Step 6

Install libraries

Now that we have the Arduino IDE recognising the board, we need two further libraries. One of these interfaces with the capacitive touch chip on the Touch Board and the other with the MP3 chip.

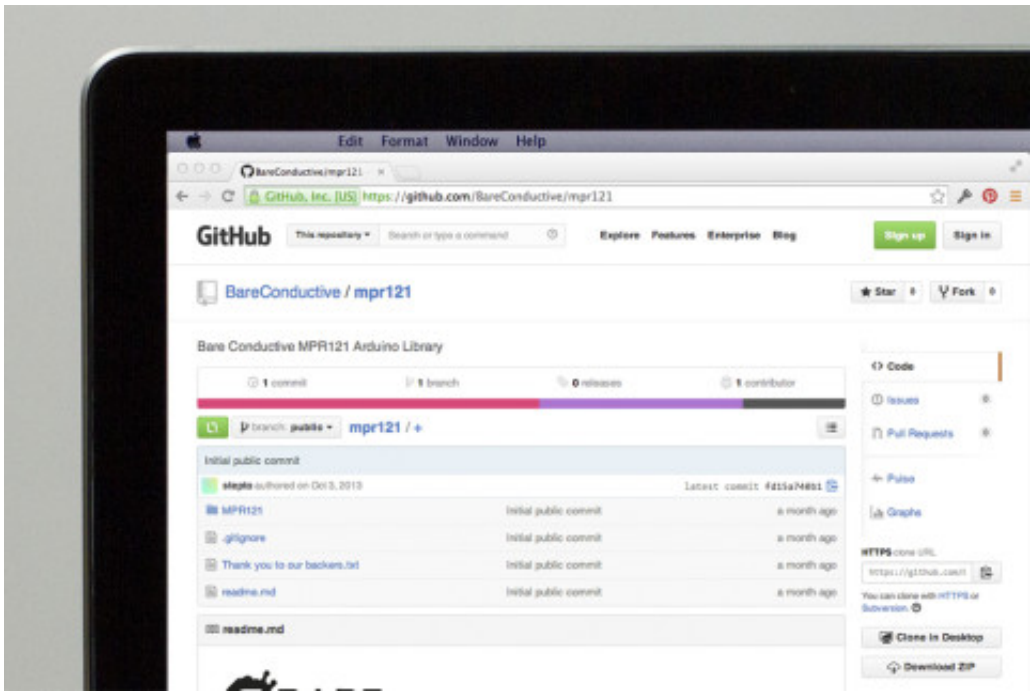
Even if you already have these libraries, please update them as only the latest versions are compatible with the Touch Board.

Experts:
Links to the Github for each library are given below. Please Note - the MP3 library download contains two library folders - SFEMP3Shield and SdFat - these must BOTH be installed. Once this is done, you can skip to Step 11.

The rest of us:
We'll take you through this install in Step 7 - it's quite similar to the hardware plugin from before.

Links

- MPR121 GitHub
- VS1053 GitHub



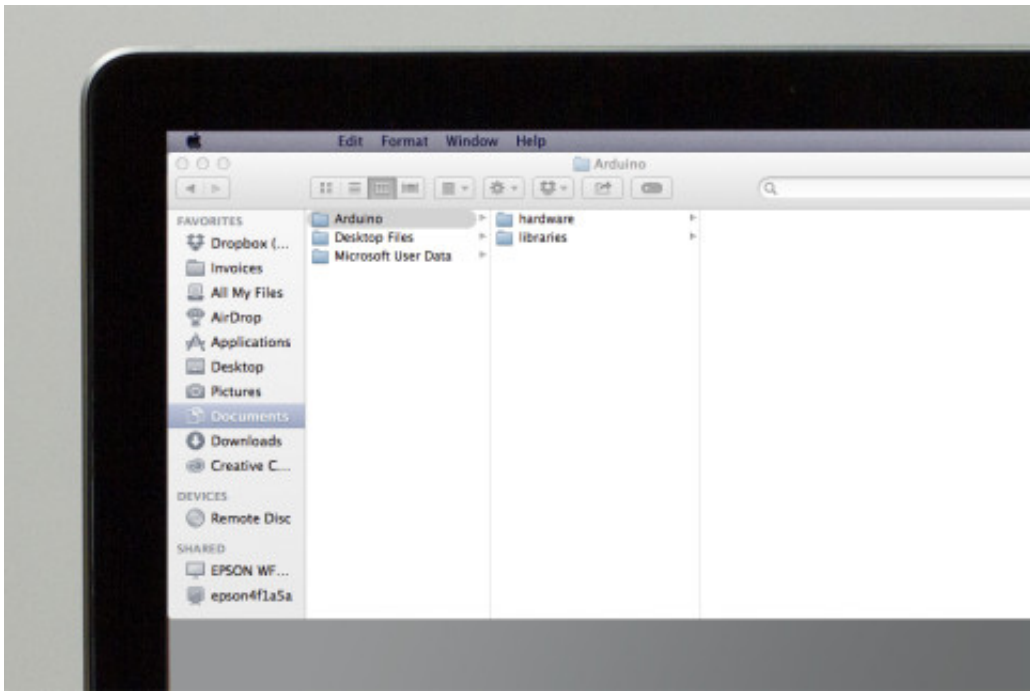
Step 7
The Libraries folder

Just like the Hardware folder, there should be a Libraries folder in the Arduino folder. If not, create a new folder and call it "libraries".

Windows
Libraries/Documents/Arduino/libraries
or
My Documents/Arduino/libraries

Mac
Documents/Arduino/libraries

Linux (Ubuntu)



Step 8

Download and install the MPR121 library

The MPR121 is the capacitive touch chip on the Touch Board - this library allows us to access it.

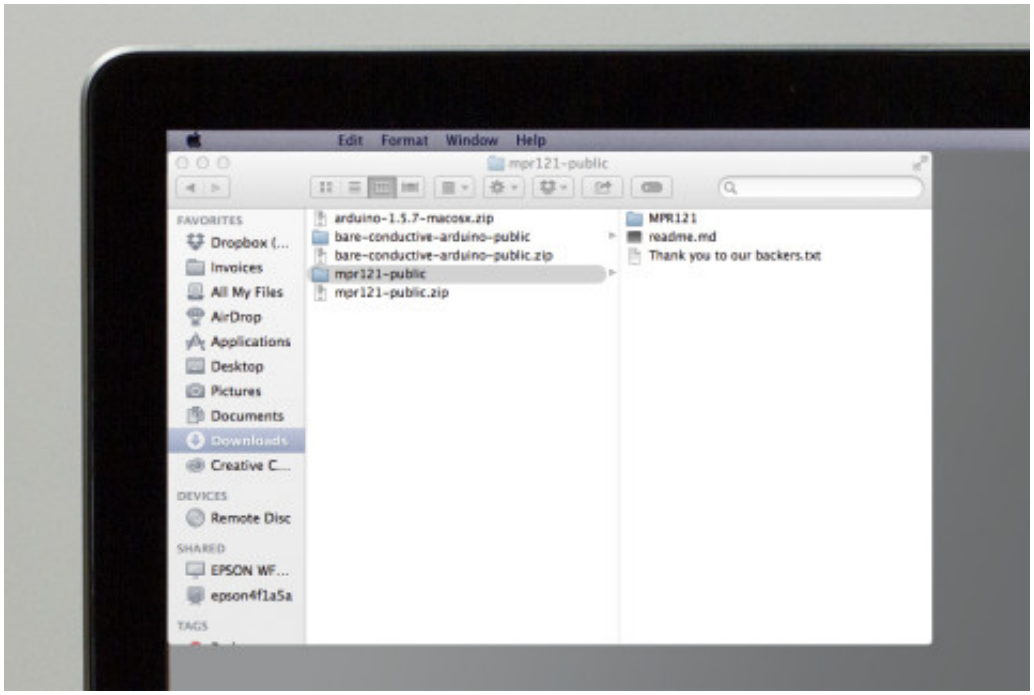
First, make sure to close the Arduino IDE if you have it running.

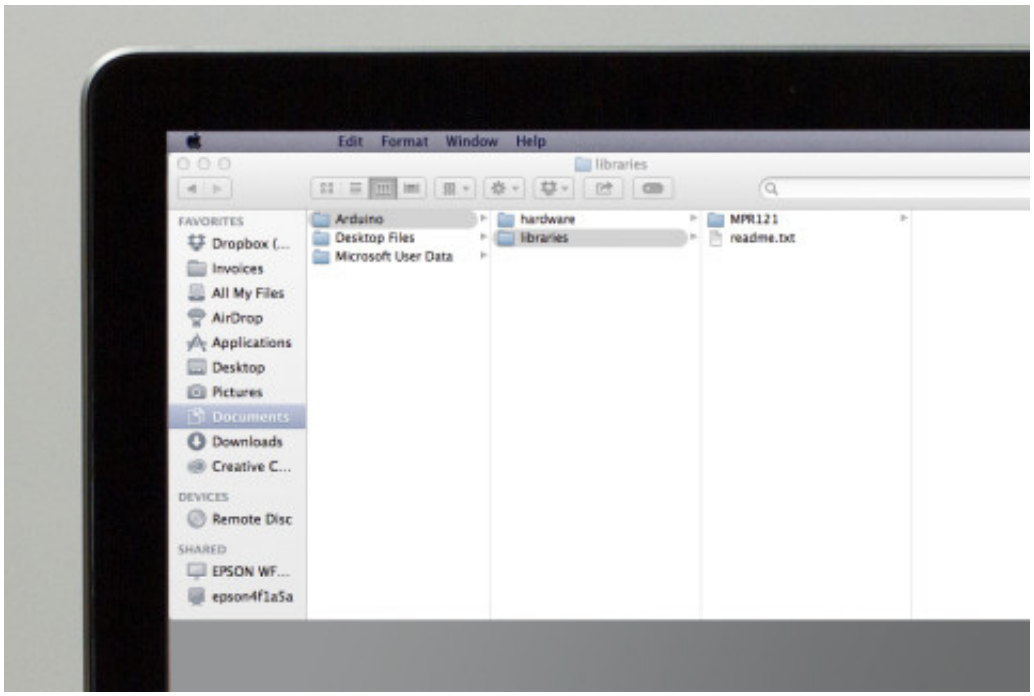
Next, download the "MPR121 library .zip" file from the link below, open it and copy the contents to somewhere that suits you.

Now copy the "MPR121" folder from the mpr121-public folder to your Arduino Libraries folder.

Links

- MPR121 library .zip





Step 9

Download and install the VS1053 libraries

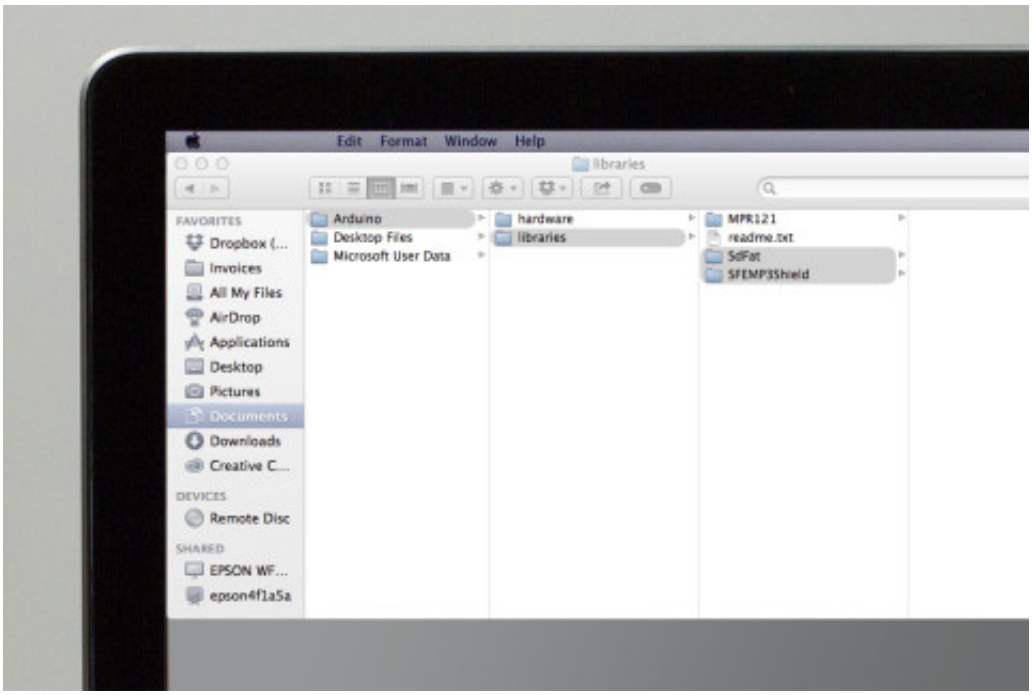
The VS1053 chip is the MP3 chip on the Touch Board. It uses two libraries, one for the chip and one for the onboard micro SD card. Both are included in the "VS1053 library .zip" linked below.

As before, download the .zip and copy its contents somewhere suitable.

Next, copy BOTH the "SdFat" and "SFEMP3Shield" folders from the Sparkfun-MP3-Player-Shield-Arduino-Library-master folder into your Arduino Libraries folder.

Links

- VS1053 library .zip



Step 10

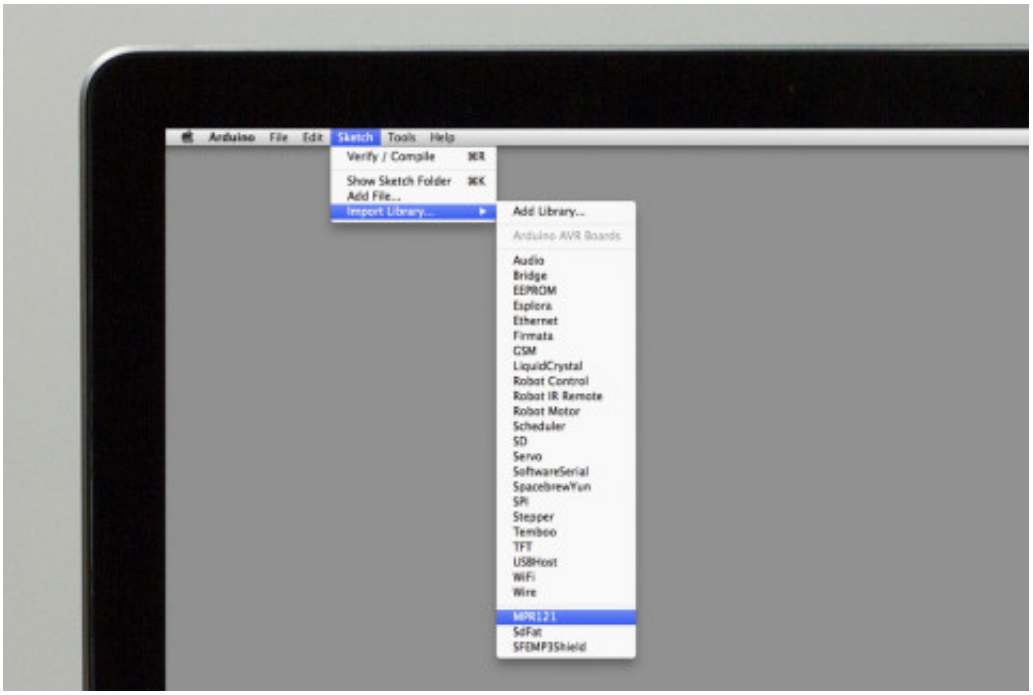
Let's check that the libraries are installed

Reopen the Arduino IDE.

If we have correctly installed all the required libraries, you should see them listed at the bottom of the Sketch -> Import Library... menu in the Arduino IDE.

If any of them are not listed or the name is incorrect, go back to Step 6 and check that you haven't missed anything.

Pay particular attention to ensuring that the correct folder has been copied across each time.



Step 11

Getting code onto the board

As we've previously mentioned, the Touch Board comes pre-installed with code that makes it function as a touch-sensitive MP3 player. And now we have added everything we need to run our own code!

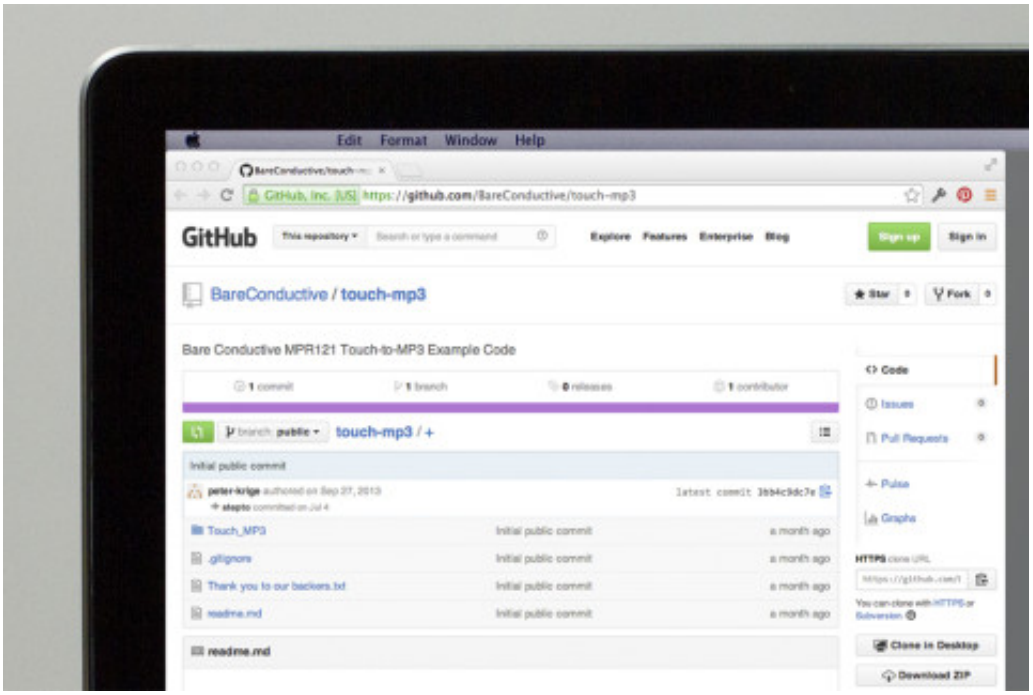
To begin, though, let's go through putting the original code onto the board again, just to keep it simple.

Experts:
A link to the Touch MP3 GitHub is given below. Join us again at Step 14.

The rest of us:
Let's download and install the code in the next step.

Links

- Touch MP3 GitHub



Step 12

The Sketchbook

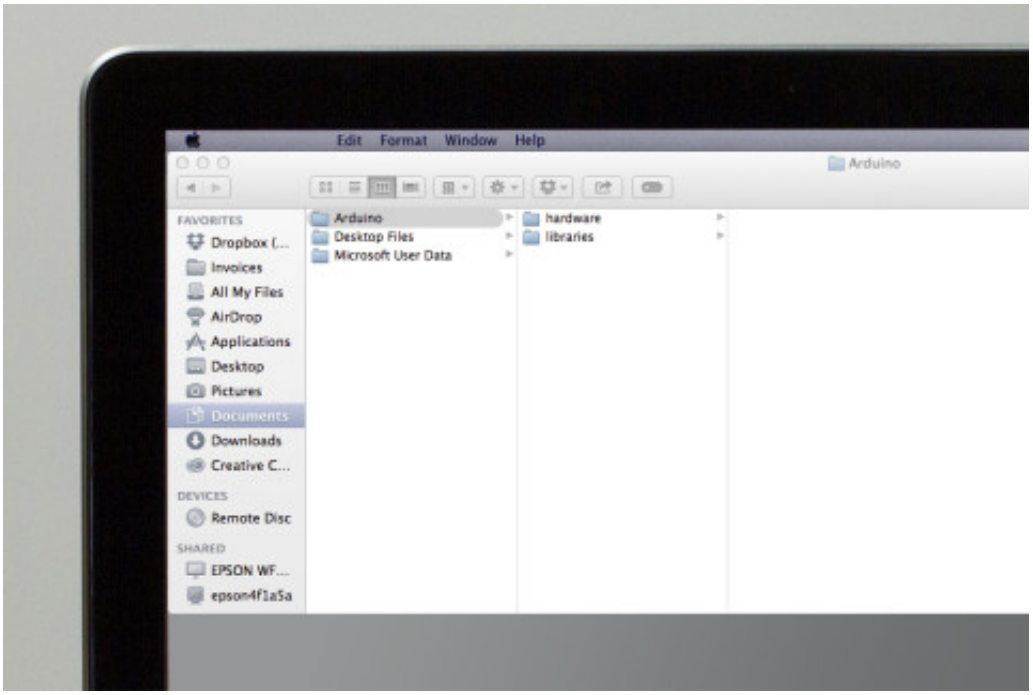
The Arduino Sketchbook is where each of the "sketches" or programs that run on your Arduino-compatible boards live.

This folder is the same place as the Hardware and Libraries folders we created before, and its location varies depending on your computer as shown below.

Windows
Libraries/Documents/Arduino
or
My Documents/Arduino

Mac
Documents/Arduino

Linux (Ubuntu)
Home/Arduino



Step 13

Download and install the Touch MP3 Demo Code

Firstly, close the Arduino IDE if you still have it open.

The link below is to a .zip file containing the code that the Touch Board ships with. Download it and copy the contents somewhere convenient.

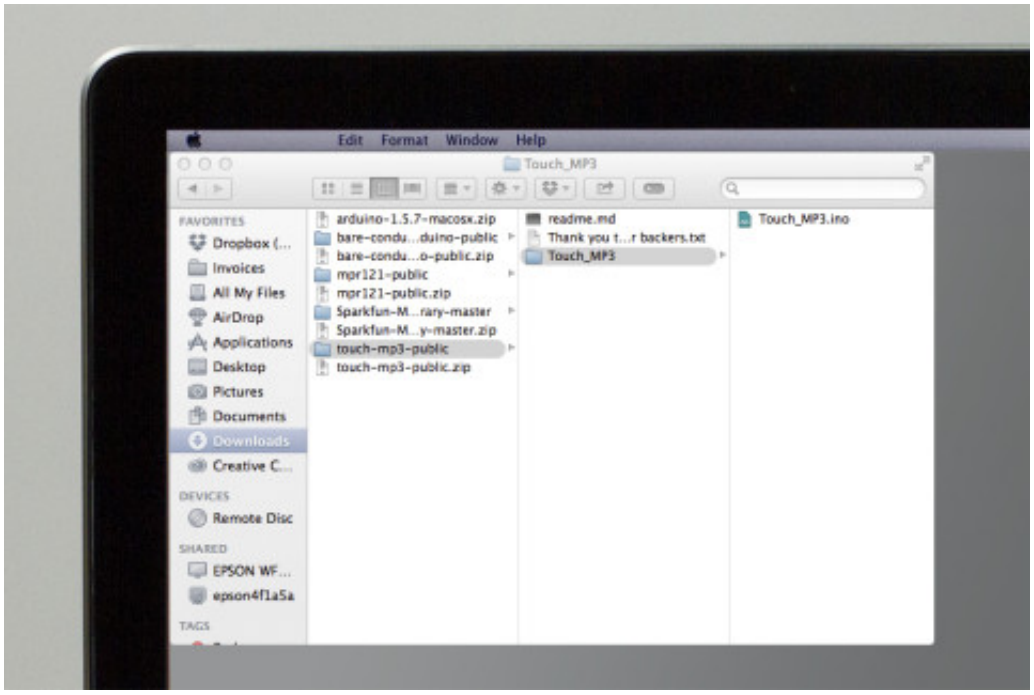
Then, copy the "Touch_MP3" folder out of the touch-mp3-public folder from the .zip and copy it to the Arduino Sketchbook folder.

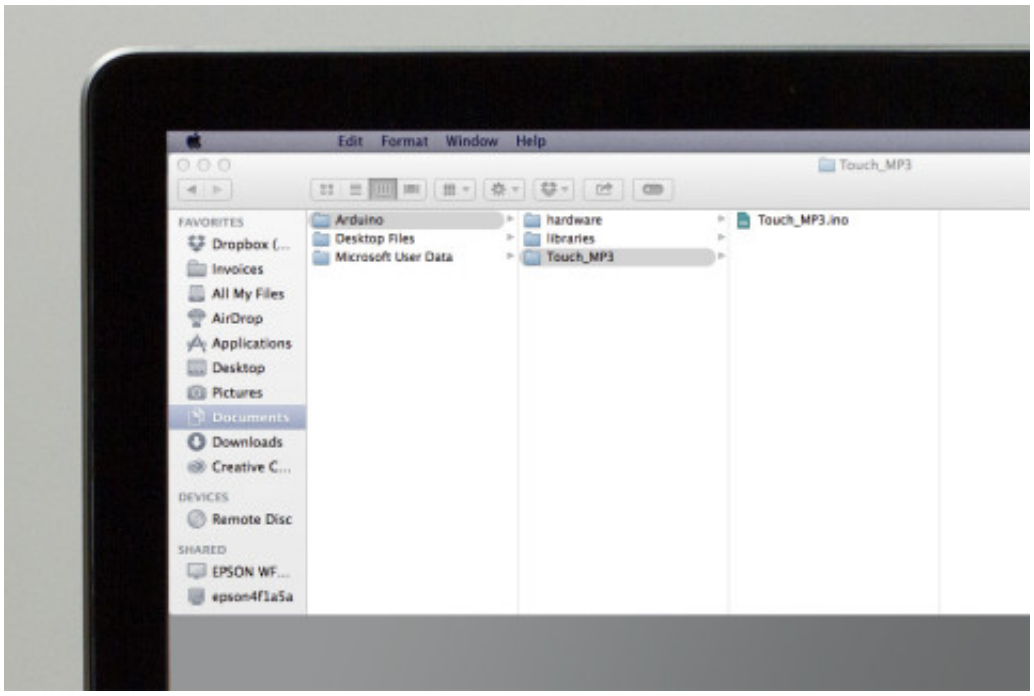
Now reopen the Arduino IDE (last time I promise!) - you should now be able to open the Touch_MP3 sketch by selecting it from the
File -> Sketchbook menu.

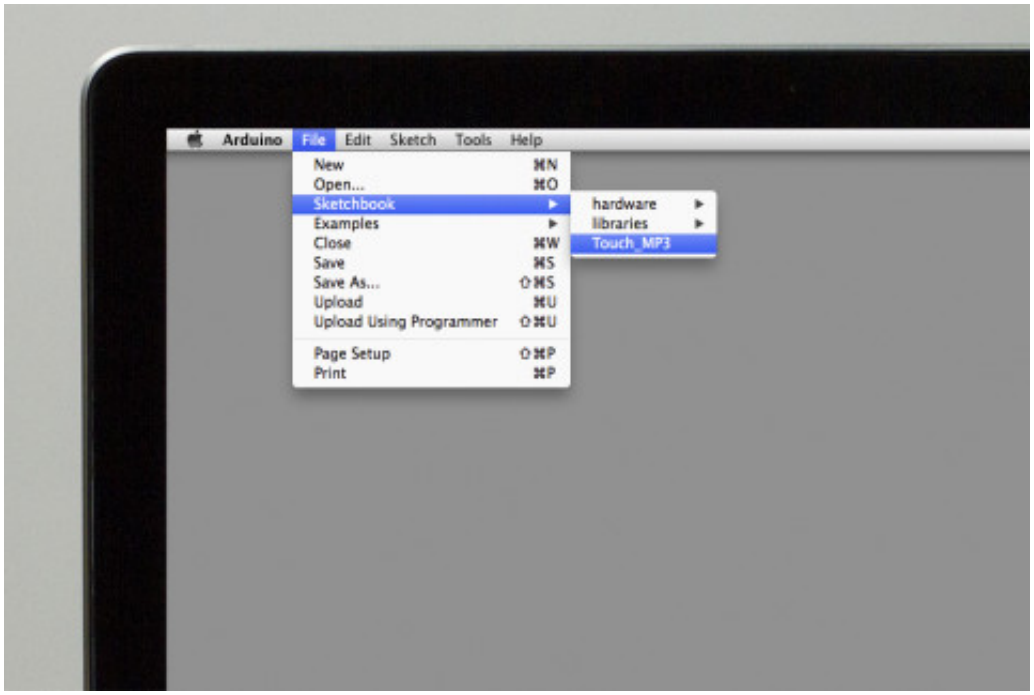
If you are using Windows proceed to Step 14. Mac and Linux people can join us again in Step 15.

Links

- Touch MP3 .zip







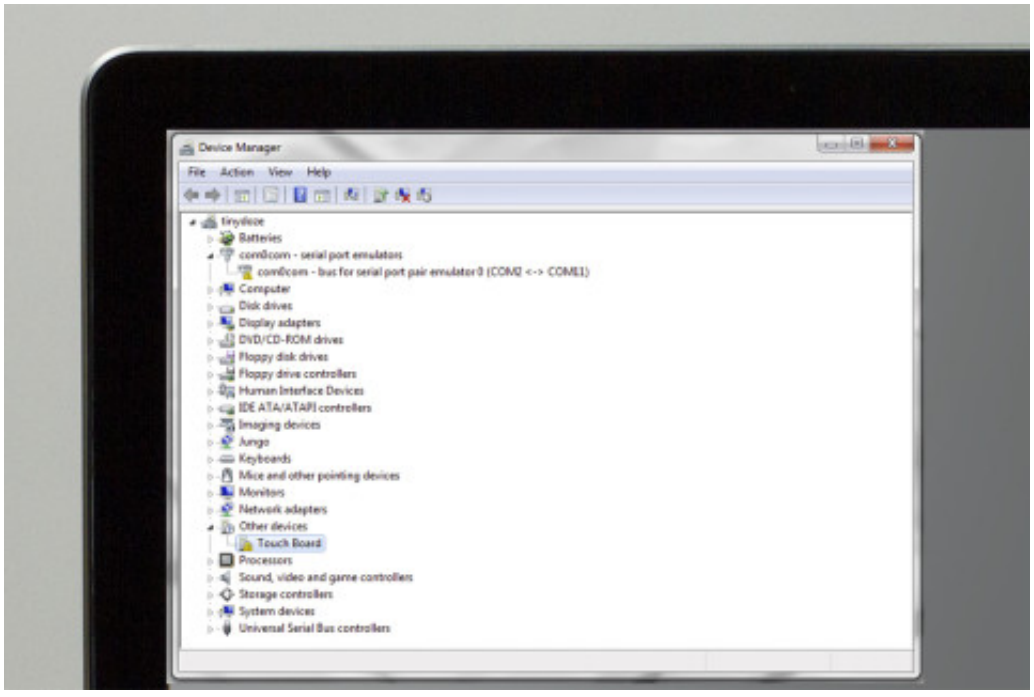
Step 14

Windows Users

If you are running Windows, we need to install the driver for the Touch Board before going any further. Click the appropriate link below for your version of Windows to be taken to a tutorial all about this!

Links

- Windows 7
- Windows 8



Step 15

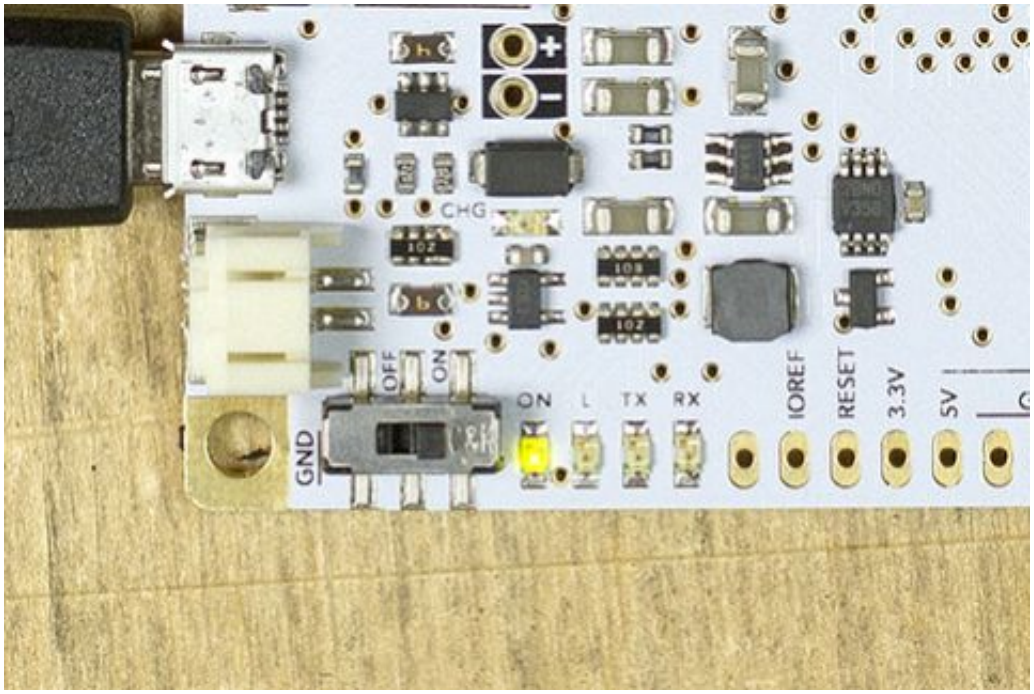
Attach your Touch Board

With the example code installed, we can now try uploading to the board.

Connect your Touch Board to your computer using the micro USB cable.

Make sure the switch on the bottom left hand corner is switched to ON.

A window may pop up asking for you to identify the new keyboard. Just click on cancel or close this window.



Step 16

Compiling the example code and uploading it to the board

Open the Arduino IDE, and select "Bare Conductive Touch Board" in the Tools -> Board menu.

In the Tools -> Port menu, search for the ports labeled "Bare Conductive Touch Board". In Linux and on Mac, there may be several options: choose the one that has TTY in the name (not CU). In Windows, there should be one COM port labelled "Bare Conductive Touch Board" - choose this.

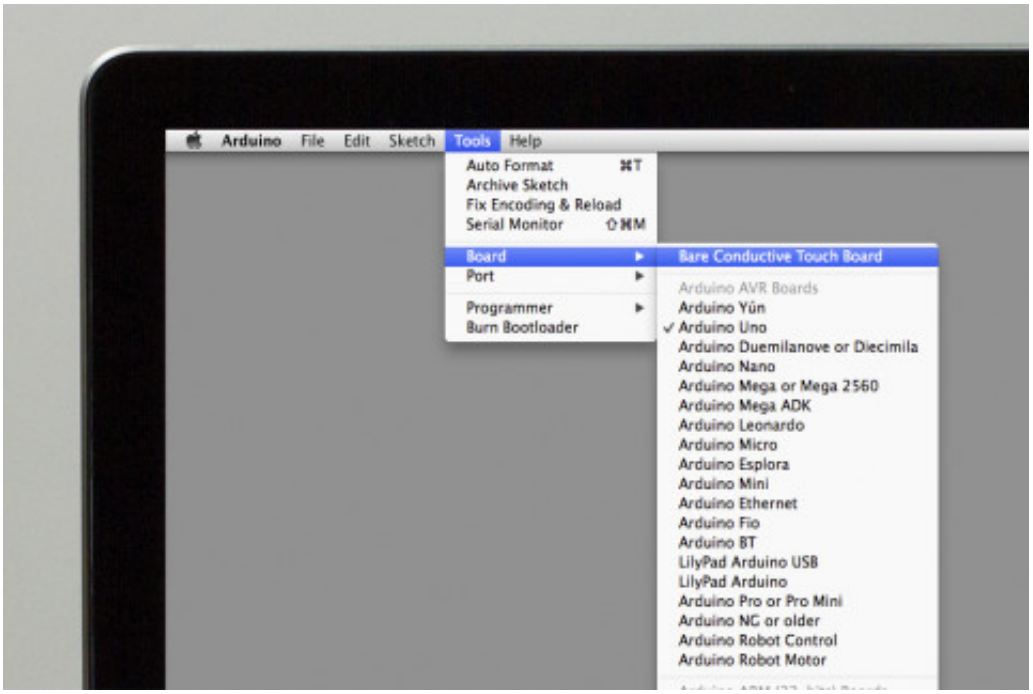
Now click the upload button. This is the circle with an arrow at the upper left hand corner of your sketch window.

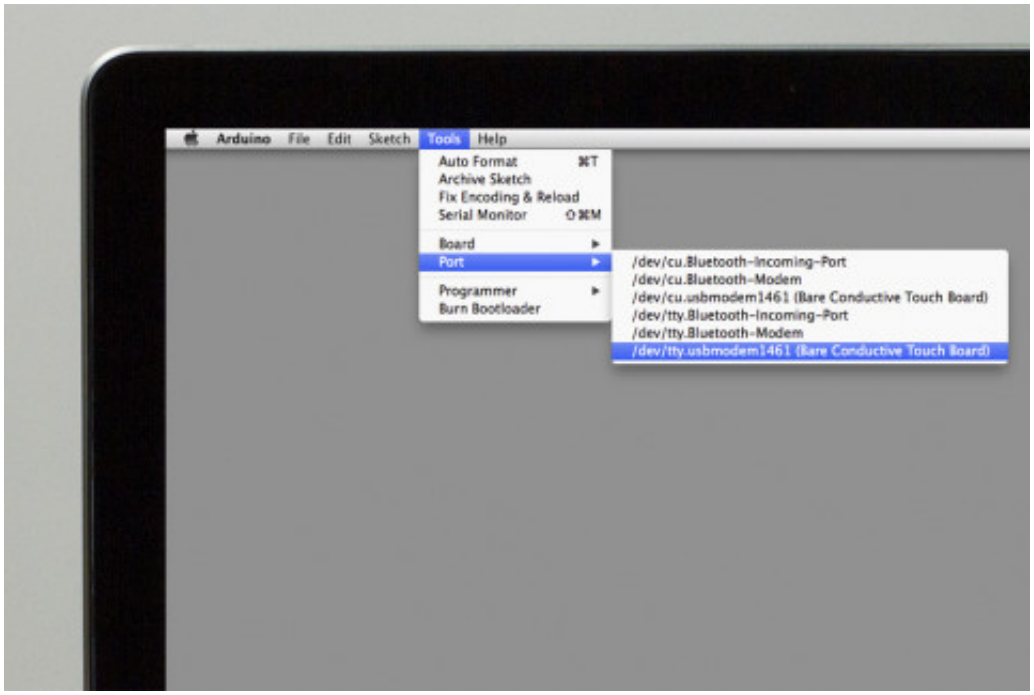
The RX and TX LEDs on the Touch Board should flicker and the Arduino IDE should then say Done Uploading - success!

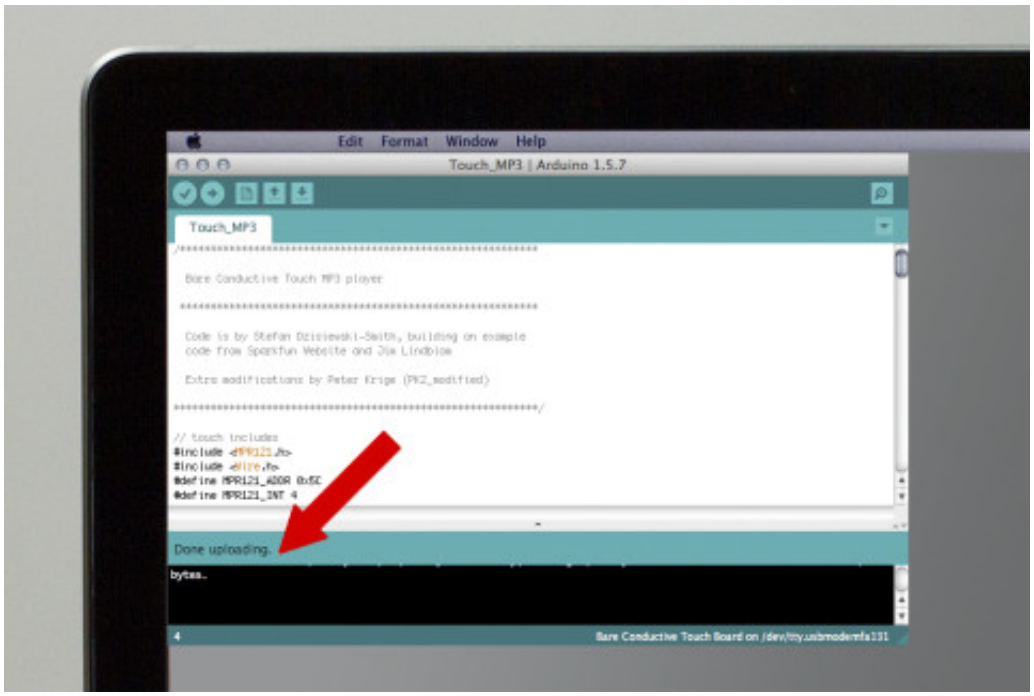
If you have difficulty uploading to the board, try the instructions from Arduino in the link below - they apply to the Touch Board too.

Links

- Fixing Arduino upload problems







Step 17

What next?

Feel free to have a play with the code!

Try changing the audio volume, or changing the audio trigger logic. Or throw it all out and start from scratch! The sky's the limit.

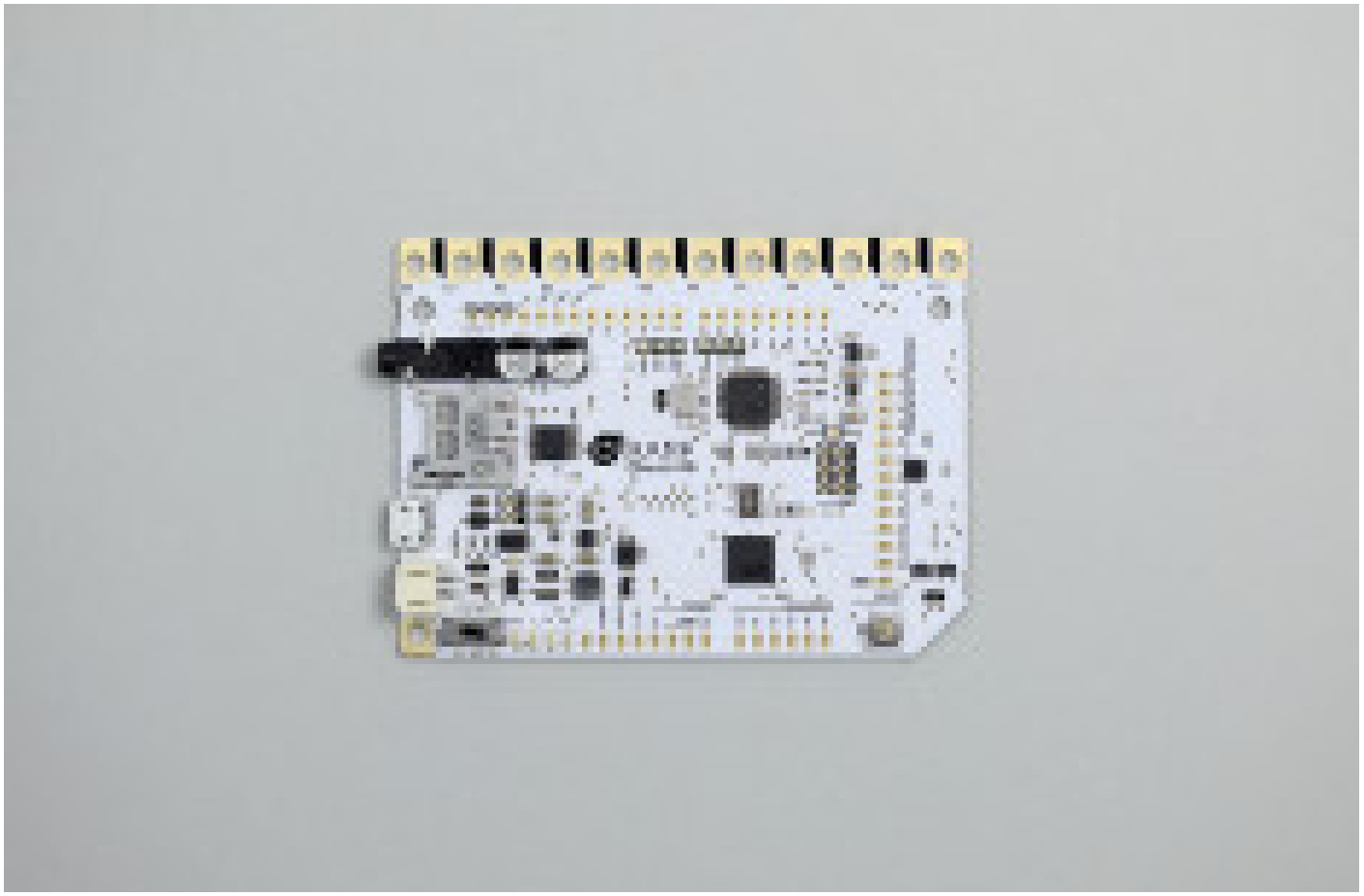
Step 18

Having trouble?

Things not going your way? Follow the links below for more tips.

Links

- Touch Board Upload Issues FAQ
- General Touch Board Troubleshooting FAQ



Touch Board

£55.00

The Touch Board is designed as an easy-to-use platform for a huge range of projects. Use the Touch Board to change...

BUY ▸

TWEETS

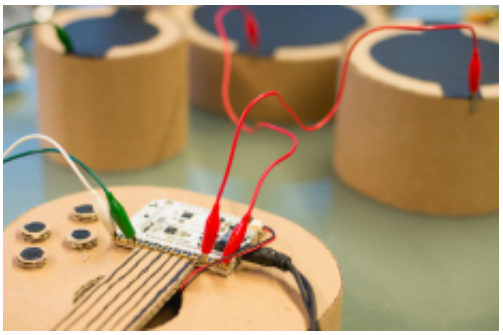
Bare Conductive
@BareConductive

@montezumas @stevematthewson @GdnSmallBiz @UPS_UK chili choc was amazing! Your spitalfields store is close to our office. So tempting...
15th January 2015

Bare Conductive
@BareConductive

Hello @DavidAGraham. Probably easier to have a convo over email- info@bareconductive.com. Cheers!
15th January 2015

NEWS



Music Magic with the Touch Board

Read article

FAQS

My Touch Board doesn't seem to be doing anything when I touch it.
If you have connected wires to your Touch Board, Messy and / or moving wiring can cause this problem. If...

I've connected Electric Paint to my Touch Board, but it is not detecting touches
Check the continuity of the paint to your electrodes. If you can trigger the Touch Board touching the electrode...

I've connected a very large pad of Electric Paint to my Touch Board, and it is definitely connected but it is not detecting touches
When you connect something new to the Touch Board you first need to reset it. When the board first turns...

See all FAQs

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Last Name

SUBMIT