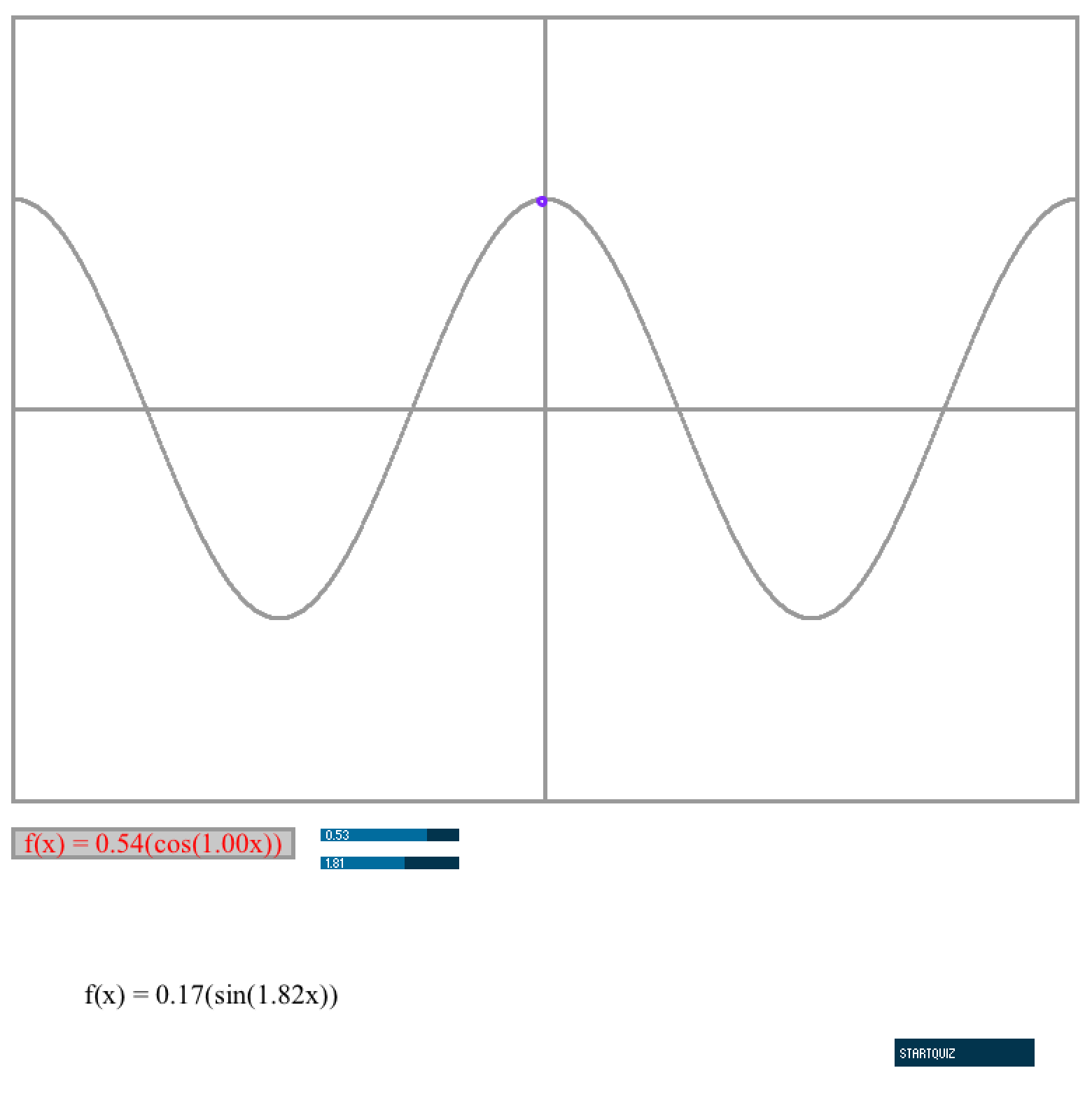
Hapkit function GENIE!



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# Description:

Hapkit function GENIE is an App meant to be used as a teaching tool in a math class about functions.

The teacher should first describe functions to the students, their mathematical properties and show the students in play mode how to use the app and change function properties.

After the leasson, the teacher should instruct the students to change the mode to Quiz mode in which the students will learn by exploring and answering Quiz questions that the program will give them.

## Program Structure:

There are two main pieces to this App. The Arduino program which needs to be installed on the HAPKIT and the processing part which needs to run on a PC.

# Installation instructions:

## On Hapkit:

Please download the program ArduinoWaves to your HAPKIT. Without this program running on your hapkit and your hapkit connected to the PC, the Processing portion of the App will not run. For best performance, your hapkit should be calibrated. Instructions on how to do so are in:

<https://lagunita.stanford.edu/courses/SelfPaced/Haptics/2014/courseware/>

in the lab of Module 3.

## On PC:

Please open your processing App using the Processing software. The only thing you have to modify here is tell your PC, which serial port your hapkit is connected to.

There are several ways of finding this out. We will explain one of those.

In Arduino, click on the Tools Tab, and then Serial Port. A drop down list will pop up showing the list of components your computer has connected to its serial ports. Look at the one that says something like:

dev/tty.usbserial-A007282

Please note which number in the list it is.

Then, in the tab of your processing App called FunctionWindow, modify the serial communication variable SerialPort, to indicate that order number:

//Serial communication variables

import processing.serial.\*;

int serialPort = 5; // modify this variable

And that is it! You should now be able to run your Hapkit Function GENIE!