CSE 396 Project:
Ping Pong Ball Tracker and Bounder

The aim of the group project is to construct a ping pong ball bounder similar to that of the one given in the video file. The overall position on the plate (with respect to x and y coordinates) and an estimate of the height of the ball above the plate should be plotted in real-time both on a host computer and a remote mobile device (an android phone). The mechanism should also be able to move a ping pong ball placed on top of the glass table in a predetermined 2D trajectory.

Do not try to construct a mechanism as professional as the one given in the video file. You may use simple hobby servo motors for actuation and a plexiglass plate supported by four bars. We expect the strong part of the project on the embedded code, graphical user interface on the host computer and the android app displaying the position of the ball in real-time.

All codes (except for the android app) should be written using C or C++ with only using open source libraries and hardware.

Important Dates :

July 6, Initial documentation :
Divide the overall project into at least 3 sub modules and assign corresponding module group members according to the initial requirements (at least 3 sub modules and every group member should be working on at least 2 modules). Explain how do you plan to complete the project (maybe using a schematic diagram). The total budget of the project and details on your plans for the final look of the overall system (try to be creative, make sure the final product has different than what the other groups could have proposed).

August 3, Module Demonstrations :
On this report all the modules should be ready for an actual demonstration. Be sure all the individual modules are at least 90% complete. I want only the modules be ready by this date. DO NOT TRY TO COMPLETE THE WHOLE PROJECT . A documentation explaining the current state of the modules is a must!

August 31, Project Demo :
Combine all the modules (with the extra customer request, to be announced after the module demonstration) and show that all the requirements are fulfilled properly.

September 7, Final Project Presentation :
If the project demo is successful you will be asked to make a video presenting the final product, a web side showing the group members and the final product, and a user manual for the customer (that would be me) explaining how he can install the necessary software and use your hardware without needing any assistance from the group members.

Good Luck !!