Speed Skating (ELEC 49X) Software Documentation

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Contact: [megangardner14@gmail.com](mailto:megangardner14@gmail.com) – I will answer questions as best I can, but some code was before my time and poorly documented (I’ve tried to fill in the gaps where possible), hence this documentation I’ve created. Make sure to add your documentation too when you transition this project!

Preparing Qt GUI

1. Retrieving previous 490
   1. Do a fork of Megan’s ELEC 490 Git (<http://www.github.com/mgardner99/490>)
   2. Take this copy and do what you will with it – my personal suggestion is Git for version control
2. Download MinGW
   1. Check to see if you have MinGW installed already (most likely in C:/MinGW)
   2. <http://www.mingw.org/> and click the button in the top right that says “Download Installer”
   3. Let the installer download, then run
   4. Set location to C:/MinGW
   5. When you get a screen where you select packages add MinGW base, MinGW for C++, and MSYS packages
   6. Add C:/MinGW/bin to system PATH. To get to PATH:
      1. Computer -> System Properties -> Advanced System Settings -> Environment Variables. Then add to system or user.
      2. You may need to restart for this change to take effect
3. Download Boost Libraries (Version 1.52)
   1. Download from <http://www.boost.org/users/history/version_1_52_0.html>
   2. Unzip and save in a logical place like C:/boost
   3. Go into folder and then Ctrl + Shift + Right Click -> Open Command Prompt here
   4. In the prompt type “bootstrap.bat mingw”
      1. If this does nothing try “boostrap.bat gcc”
      2. If this doesn’t work and you get something about finding pre-compiled binaries, then your MinGW path isn’t set or MinGW isn’t installed (most likely)
   5. Type “bjam toolset=gcc”
   6. Building will take about 30-40 minutes and should say how many targets will built and skipped. You may get some errors and warnings but those are okay
4. Qt Download
   1. <http://qt-project.org/downloads>
   2. Select the version for Windows 32-bit for MinGW (it might also come with OpenGL or something else, but download this version anyway)
      1. **DO NOT** select the Online Installer for Windows – this may default you into a MSVC2010 build which will result in the program not compiling or building. Save yourself the headache
   3. If the version of MinGW is different than your version and you get compile/build errors, try downloading the specified MinGW version
5. Qt Configuration
   1. Add to your System PATH variable should be C:/Qt/{versionNumber}/{compilertype}/bin. This path will allow for a proper compiler build
      1. {versionNumber} is what you installed, {compilertype} should be mingwXX\_32 where XX is your version of MinGW
      2. You may have to restart your computer for this to take effect
   2. When the configuration screen pops up, configure for MinGW
   3. Build
   4. If errors occur, correct them as needed. If everything has been built and paths have been added, there should not be any issues
6. 490UIAPP.pro Project File
   1. Line 24: Change include path for boost location
   2. Line 26: Change lib path for boost and change the number in mingwXX\_32 to whatever version of MinGW you have installed
   3. Line 27: Change lib path for MinGW to match your location, but keep the file name the same

**NOTE:** Do **not** try to build the 490UIAPP.pro file directly – it will throw an error about not having a target. As long as you save and build the entire project, your changes will be reflected.

1. Foot picture location
   1. Line 88 and 89 has LFootmask.load(“C:/…”) and RFootmask.load(); Change the location to wherever the picture has been saved.
2. Log locations
   1. Line xxx in Communications.cpp – change the file output to where you want it to go
   2. Line xxx in MainWindow – change file output location

Using the GUI

Setting Loop

Click set to set time for loop start, click set to set time for loop end. To start looping check the box next to “Loop”.

Test Data

1. Sample output data is available in the .log files
2. Sample output data also in some .xls files

Trouble-shooting

1. Build doesn’t seem to reflect changes
   1. Super simple: delete make folder – not the best, but requires rewrite of makefile