File Extensions

- brd
  - Eagle board diagram file.
- sch
  - Eagle schematic diagram file.
- epf
  - Eagle generic configuration file.
  - Always created in the same directory as other files that Eagle saves.
- sxc
  - OpenOffice spreadsheet
- sxd
  - OpenOffice diagram
- sxw
  - OpenOffice word processing document

Terminology

- *Module* refers to a device that is connected to the CAN bus.

Layout

- **out**
  - **elec** - Schematics and documentation for all the hardware components on the IGVC robot
    - **analog** - Designs/schematics for the *analog interface*
    - **doc** - System-level documentation for the hardware
    - **joystick** - Designs/schematics for the *joystick*
    - **laptop_can** - Designs/schematics for the *laptop CAN bus interface*
    - **mdif** - Designs/schematics for the *motor driver interface*
    - **pcb_panel1** - Files that were sent out to the fabricators build the circuit boards
    - **sonar** - Designs/schematics for the *sonar*
  - **software** - All the code!
    - **laptop** - Code that runs on the laptop
      - `readme.txt`
        - Describes the libraries required by the laptop code.
        - Describes how to build the source code files.
      - `1394_setup.txt`
        - Filename refers to IEEE 1394 specification, which is the Firewire specification
        - Describes how to install the dv1394 Linux kernel module, which allows the laptop to talk to the Firewire port (and thus the camera connected to it)
      - `config.xml`
        - Configuration file for the laptop software.
      - `gpstest.txt`
        - Test input for the GPS data parser.
      - `remake`
        - Script to regenerate the `igvc.pro` and `Makefile` files.

- Run this every time the dependency tree for your source code changes. In others words:
    - Run this whenever the set of #includes for a source code file changes
    - Run this whenever a source code file is added, removed, or renamed
  - How the script works:
      1. The first line rebuilds the `igvc.pro` file
      2. The second line rebuilds the `Makefile` from the `igvc.pro` file
- `igvc.pro`
  - Project file made by the `remake` script (using `qmake`)
  - Do not edit this file manually.
- `Makefile`
  - Makefile made by the `remake` script (using `qmake`)
  - To build the program using this Makefile, run `make` after this Makefile has been generated
  - Do not edit this file manually.
- `sac_raw_1.png, sac_raw_2.png, sac_raw_3.png, sac_raw_4.png`
  - Pictures of whites lines on green SAC fields
- `sac_white_3.png`
  - Pictures of white line on green SAC field, reduced to grayscale
- `test.png, test2.png`
  - Test camera images - from the DCAMs (expensive webcams that we had last year)
- `83_small.png`
  - Typical image of orange barrels with white lines on grass field at IGVC competition
- `534_small.png`
  - Image of orange barrel beside an artificial incline at the IGVC competition
- `536_small.png`
  - Image of orange barrel beside an artificial incline at the IGVC competition
  - Has an *insanely* dificult line to detect on the grass near the ramp
  - The washed out line was caused by rain
- `pl_raw_1`
  - Picture of an orange construction barrel in a parking lot (that has white lines)
- `pl_white_1`
  - Grayscale version of `pl_raw_1`
- **control** - Higher-level judgement-type code
  - ...
- **gui** - GUI code for the program
  - ...
- **hw** - Hardware interfacing code
  - ...
- **mcu** - Code that runs on the microcontrollers for each of the modules
  - `readme.txt`
    - Describes the libraries required by the laptop code.
  - **joystick** - Code to talk to the *joystick* (only one) - This joystick was on a Playstation 2 controller
    - ...

- **mdif** - Code to talk to thew *motor driver interface*
  - ...
- **sonar** - INCOMPLETE! Intended to talk to the sonars, when the code is finished.
  - ...