Conclusion for project PyroOrganizer

The objective to be reached during the project was to build a wireless and programmable ignition system for fireworks with modular expandability. Based on a self-made ignition system, which only used wired communication and could only ignite four pieces of firework at the same time, due to its limited channels, drafts for a new version were made. The new version uses a web server controlled relay kit which enables the ignition system to start up to 16 pieces of fire work at the same time. Connected to a wireless router the relays are controllable via a wireless network.

Also by connecting another relay kit the usable channels of the ignition system will go up to 32 and so on, as long as you can connect relay kits to the router or to a switch connected to the router. So based on these facts a modular expandability was achieved. The ignition system is easy to use and control because an application for iOS, running on an iPad, was developed during the project. The mobile device will connect wirelessly and can then send requests to the web server connected to the router, which will switch the relays on hence ignite the firework connected to them. The whole system is powered by an external source.

By constructing the current version of the ignition system the project can be considered a success since its possible to fire up 16 pieces of firework separated to each other, a few grouped up or all together at once, while even controlling the moment to ignite them, with a timer for each channel, and if needed, at the same time playing music, all operated from an iPad.

Albeit to make the ignition system suitable for daily use it will be necessary to rework it with smaller components for construction and an integrated power source to make the whole system fit in an encasement.