

Second String Samurai

warming the bench on the battlefield of life

Arduino Powered Model Rocket Launcher

Having recently gotten back into model rocketry, which I originally started while in boy scouts, I found myself wishing for a more sophisticated launch system. I wasn't able to find many options available commercially, and nothing with all the features I wanted, so I decided this would make a perfect first "largish" arduino project for myself. The main things I wanted were:

- Launch via app on smartphone
- Use powerful battery for many reliable launches
- Configure countdown and igniter burn times on the fly
- As many safety features as I could cram into it

If you don't want to read through, and you want all the relevant project files in a single archive, [click here](#).

I was inspired by a couple other projects. [This one](#) by robot room, and [another](#) by arduining.

Since this is a large write-up, I'll be breaking it down into sections.

Arduino Code

Android App

Physical Construction

Electrical Diagram

This first version, which I will probably be making revisions to as I use it and discover things that bother me, more or less meets the above requirements. Safety was the top priority, due to the intent to use automotive batteries as the ignition power source, and the fact that the hobby involves the use of some relatively potent pyrotechnics. The main area that is lacking currently is the smartphone app. I have base functionality but I'd like to improve it visually and add a few features. Before I get into the technical details, here's some pictures of the finished unit.

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Main launcher unit powered off



Rocket Launcher unit powered on and ready



Handheld wired remote for launcher

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