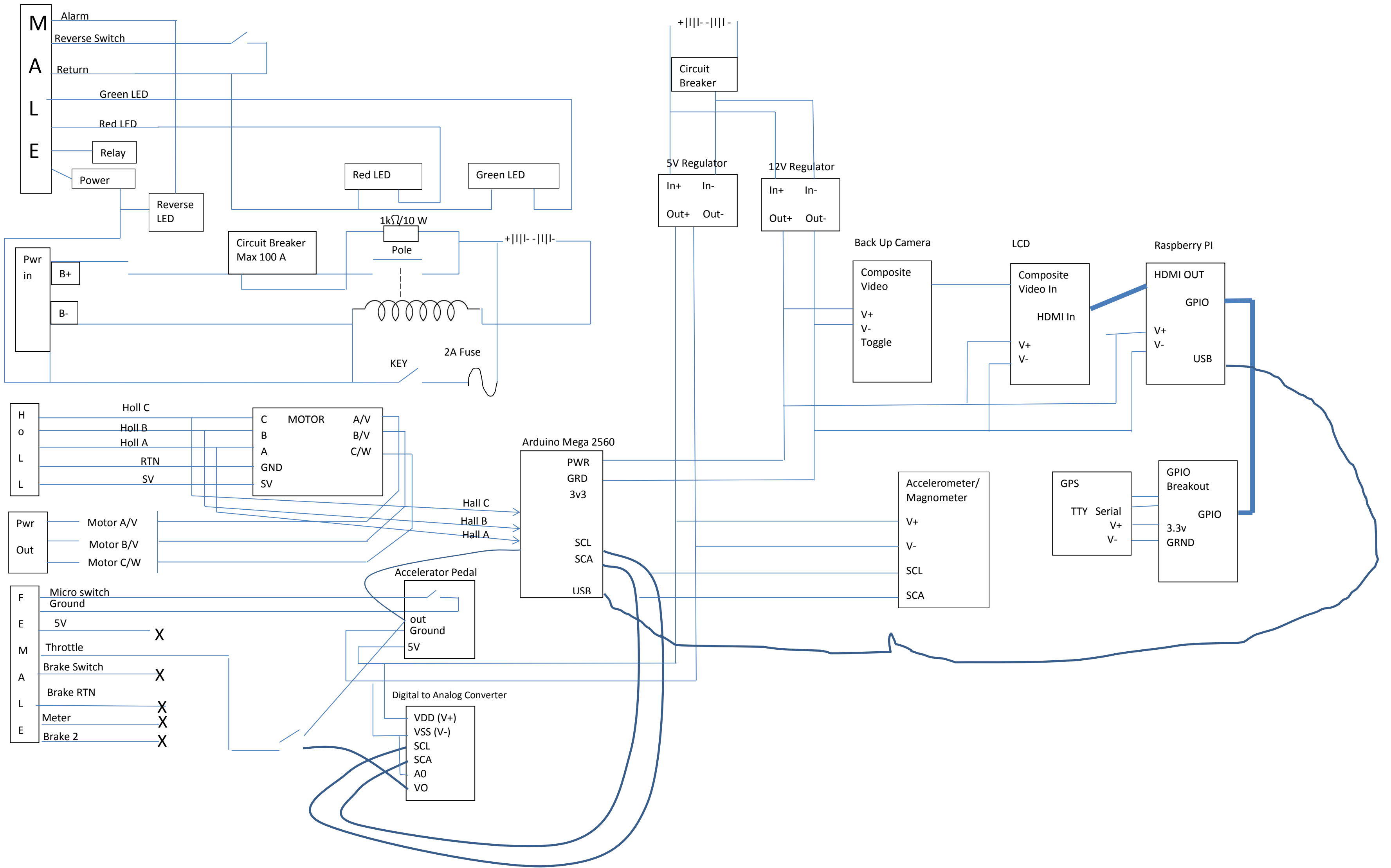


## IVD Electric Vehicle Schematic-Simplified v0.8

Avery Whitaker IVD Electric Vehicle Schematic-Simplified v0.8



## Youth Distracted Driving Challenge



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## Youth Distracted Driving Challenge

### General Description

The proposed system consists of three subsystems. The first is smartphone integration with automobiles. Using the smartphone to start the car differentiates between drivers. This interface also allows the car to communicate wirelessly and limit use of the phone, as well as access navigation and music. The second subsystem serves to provide the information to the driver using a display directly in front of the driver. This heads-up display would project information on the windshield or present info in some other way to minimize distraction. This display and steering wheel controls would assume the roles of traditional interfaces. The third proposed subsystem is a method for third parties to receive real time information regarding the driver's location and safety. This data would be transmitted by the driver's smartphone.

### System Objectives

- Limit dangerous electronic use by teen driver, without causing driver grief.
- Give parents and potentially other interested parties (i.e. insurance agencies) real time information regarding teen's status and skills.
- Extend features of automobile interface sufficiently to encourage driver's use, while still reducing distractions.

### Cell Phone Integration

Integrating smartphones into cars is a logical step for the young driver market, as most young drivers with new cars have smartphones. This system would use cell phones to start automobiles, play music, and navigation. Cell phone use would be limited during car operation. The driver benefits by integrated sound and navigation and enhanced safety by limiting use of the phone while the car is in operation.

### Heads-Up Display Interface

The HUD would provide the driver with information from the car and phone, as appropriate. When conditions are safe to do so, the display would show communication information from the phone, including texts, and allow hands-free calling. The HUD would be capable of displaying navigation information with minimal distractions. Control of said features would be through buttons on the steering wheel and potentially spoken commands as is already standard in many automobiles.

## External Information Provider

An Internet-enabled client would allow parents to access up-to-date information about the location and safety of their child with no disruption for the driver. Smartphone wireless would transmit data from the car. This system could be used to track safety habits and provide feedback to improve driving. Availability of reliable data would encourage insurance companies to provide rate incentives for safe driving.



*Illustration of proposed systems*