

Requirements

- ~~1. The system shall work with the 2008 Nissan Altima OBD-II protocol, ISO15765-4 (CAN-BUS.)~~
 - ~~a. Other vehicles that use the same protocol may work with the system, however it is not required.~~
2. The system shall be able to read and clear diagnostic (trouble) codes.
 - a. The user interface will display the diagnostic codes in list form with buttons to scroll up and down through the list.
 - i. The list will display the diagnostic codes (e.g. P0011) only.
 - ii. The user must touch one of the diagnostic codes to read the description or possible cause.
 - b. The user interface will provide a button to clear all diagnostic codes.
3. The system shall have the ability to read sensor data at minimum 30 times per second including speed, coolant temperature, and oil pressure.
 - a. The user interface will display the data in decimal format.
 - i. The option for digital gauges may be implemented.
 - b. The data will be displayed *by default* in units of miles per hour for speed, Fahrenheit for temperature, and pounds per square inch for pressure.
 - i. The option for metric units shall be implemented.
- ~~4. The system shall use Bluetooth 4.0 or greater for data transfer.~~
 - ~~a. The Bluetooth version shall be 4.0 or greater because previous versions do not support Bluetooth Low Energy (BLE.) The range of the connection is also improved with newer versions.~~
5. The Bluetooth transceiver circuit that interfaces with the OBD-II port shall be powered by the OBD-II port.
 - ~~a. A power circuit will be designed to ensure power from the port is reliable.~~

- ~~6. The handheld unit shall use a touchscreen to display information and receive user input.~~
 - ~~a. The touchscreen of the handheld unit shall be 3.5" or greater diagonally.~~
 - ~~b. The touchscreen of the handheld unit shall operate at a resolution of at least 320 x 480 pixels.~~
7. The user interface shall not require multi-touch or swiping.
 - a. Operation with single presses simplifies the user interface and is more accessible to those with disabilities.
 - b. The option to scroll through a list by swiping up or down may be implemented.
- ~~8. The rechargeable battery shall be recharged via a USB-C port.~~
9. The rechargeable battery shall power for the handheld unit at full load for at least 2 hours.
 - a. The rechargeable battery must include protection and charging circuitry.
10. The charge level of the rechargeable battery shall be displayed on the user interface.
 - a. The charge level will be displayed as a percentage, 100% being fully charged.
11. The brightness level of the touchscreen shall be adjustable in the user interface in 10% increments, 100% being maximum brightness.
12. The housing of the handheld unit shall include a magnet.
 - a. The magnet will allow users to easily mount the device on the various magnetic dash mounts available (or any other magnetic surface.)
- ~~13. The handheld unit shall include a physical ON/OFF power switch.~~
- ~~14. The system shall use a single board computer or microcontroller.~~
- ~~15. The code and documentation developed shall be open source.~~