EDES 301

Heads-up Display Proposal

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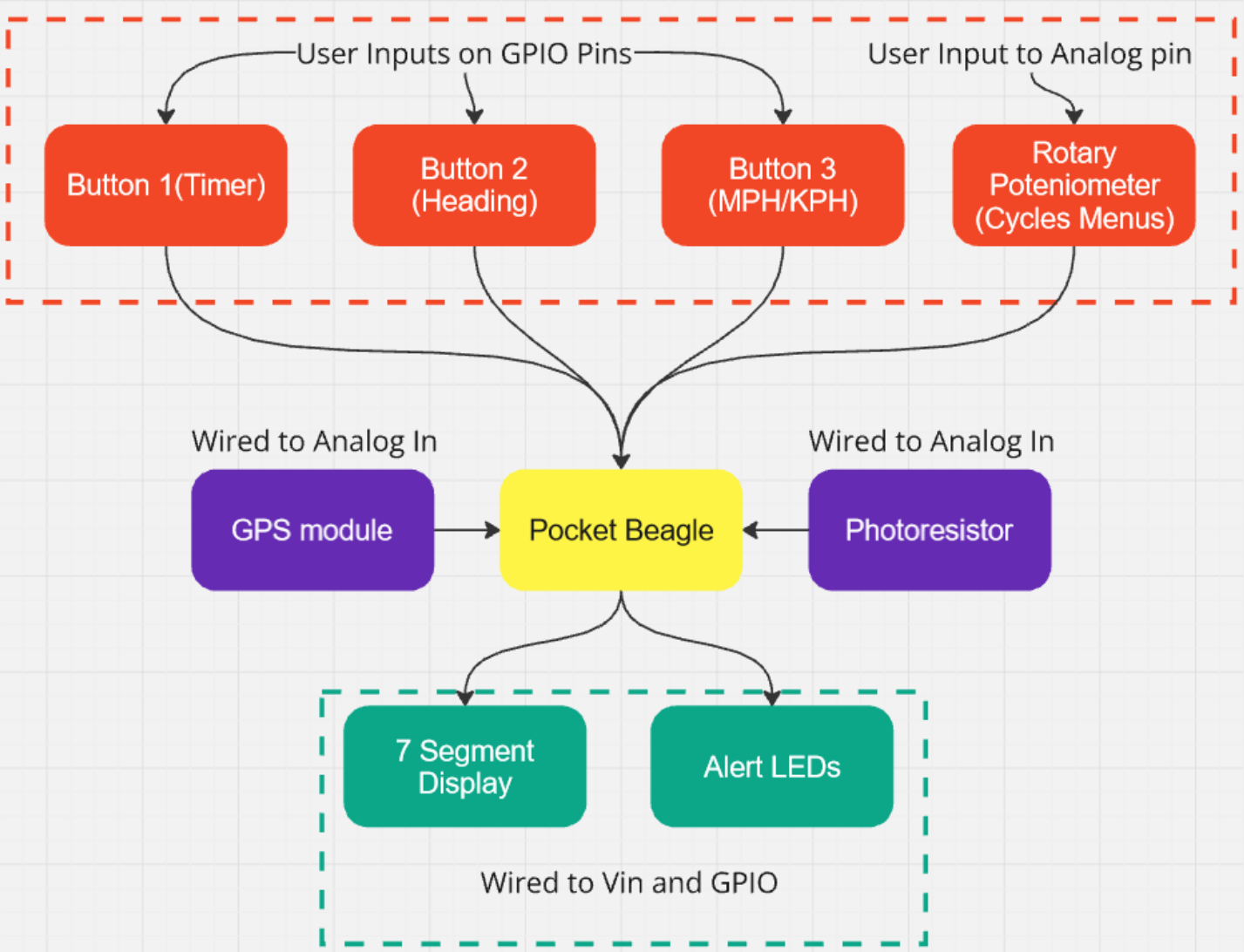
Background Information

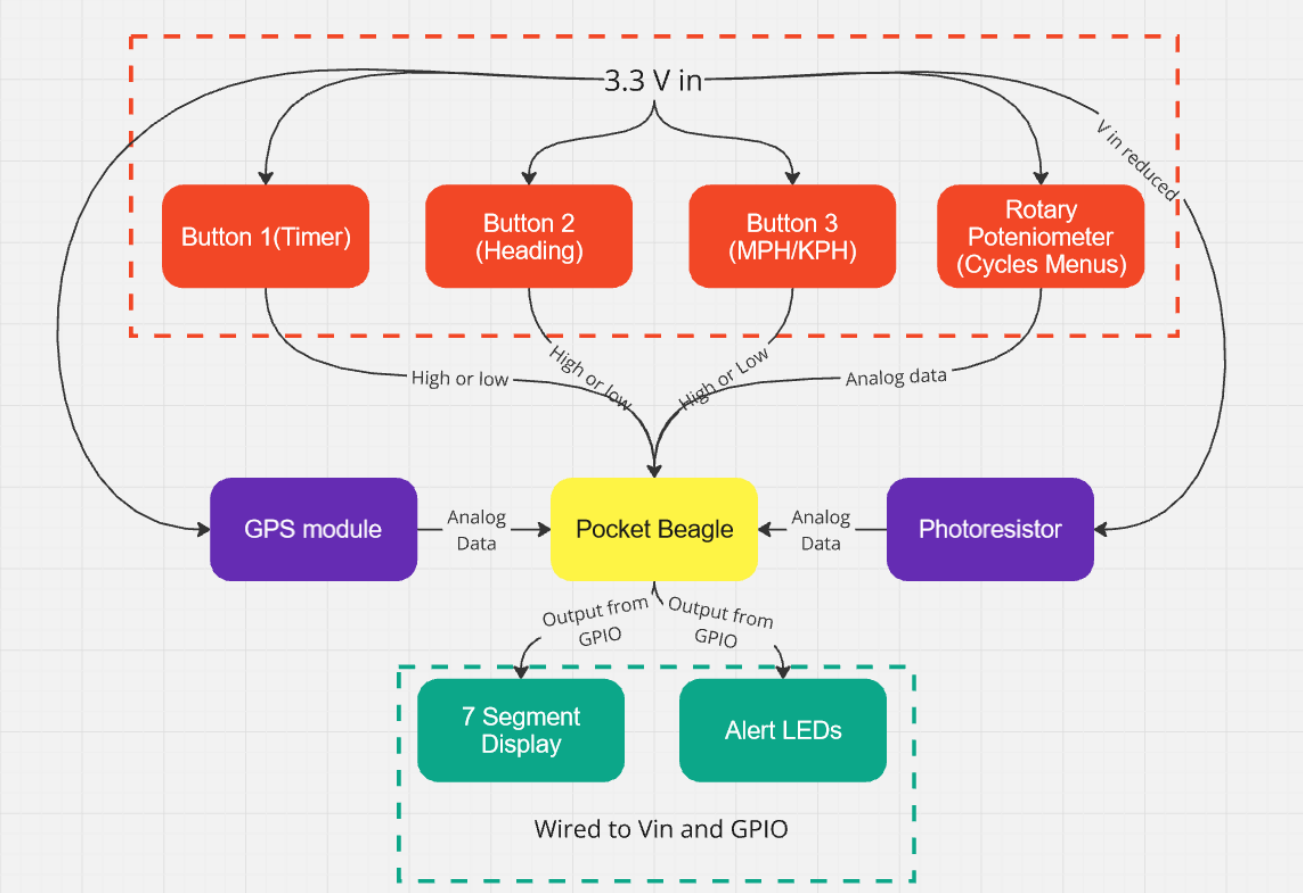
- The project focuses on creating a device that can accurately display vehicle speed, engine rpm, and timing of acceleration.

  - Libraries
    - https://github.com/adafruit/Adafruit_GPS
    - https://github.com/adafruit/Adafruit_LED_Backpack
  - https://www.hackster.io/john-bradnam/car-windscreen-hud-e10cbd https://www.hackster.io/marcozonca/car-hud-windscreen-display-for-speed-compass-alt-2d7f36

- My project improves upon previous ones by using an updated and more accurate GPS unit, buttons for UI elements (switching between live readout of speed, heading, and timing) and LEDs for additional system feedback. Rather than depending on the buttons alone, a rotary switch poteniometer (knob) will aid the user in navigating various menus within the system.

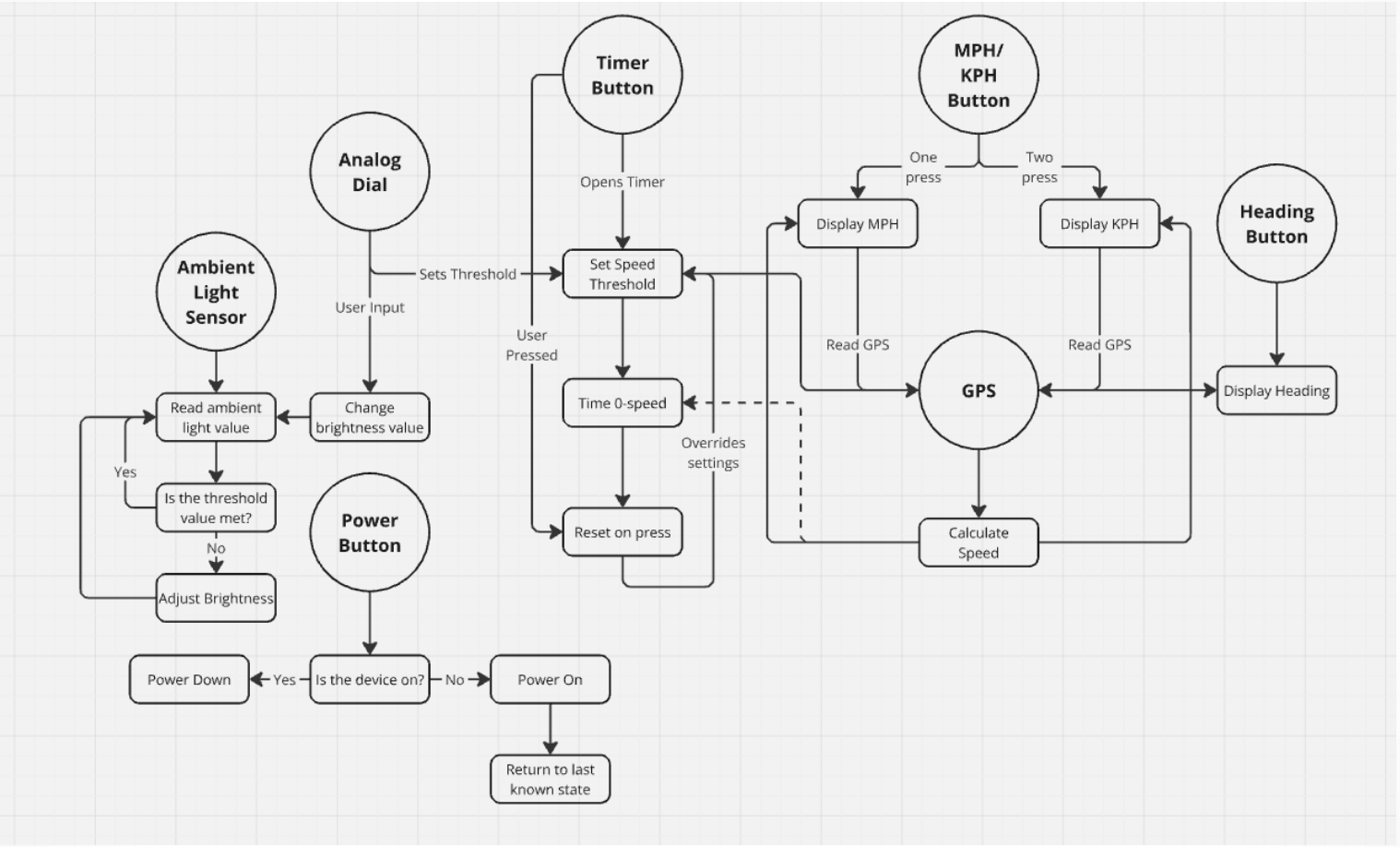
System Block Diagram





Power Block Diagram

Software Diagram



Components / Budget

Component	EDES301 to Buy?	Cost
Adafruit 0.56" 4-Digit 7-Segment Display w/I2C Backpack - White https://www.adafruit.com/product/1002	Yes	$10.95
Arduino GPS https://www.amazon.com/Navigation-Positioning-Microcontroller-Compatible-Sensitivity/dp/B0B31NRSD2	Yes	~$18 for two units
Buttons in the OEDK	No	Free
LEDs in the OEDK	No	Free
Photoresistor	No	Free
Rotary Switch Potentiometer	No	Free

See Next Slide for Instructions