

S-LINQ
DDR



Brendan Liao, Chase Zimmerman



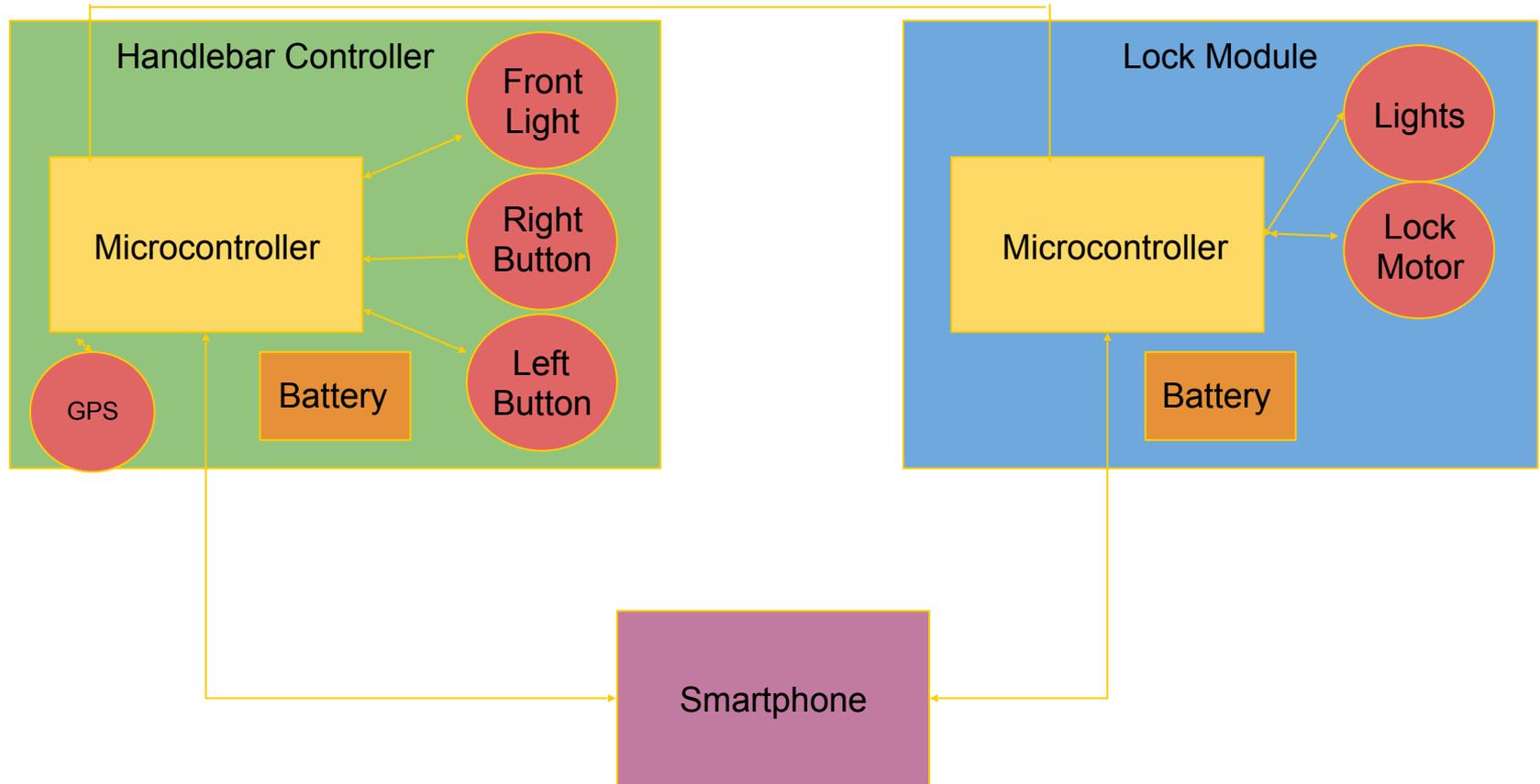
Product Features

Handlebar Controller

- › Left and right buttons to control lights
- › LED Headlight

Lock Module

- › Left and right LED panels
- › Smartphone-enabled locking mechanism



Microcontroller and Bluetooth Module

ATmega328P



EMB1061



Battery

Li-Polymer 803860 2000mAh



Handlebar Controller

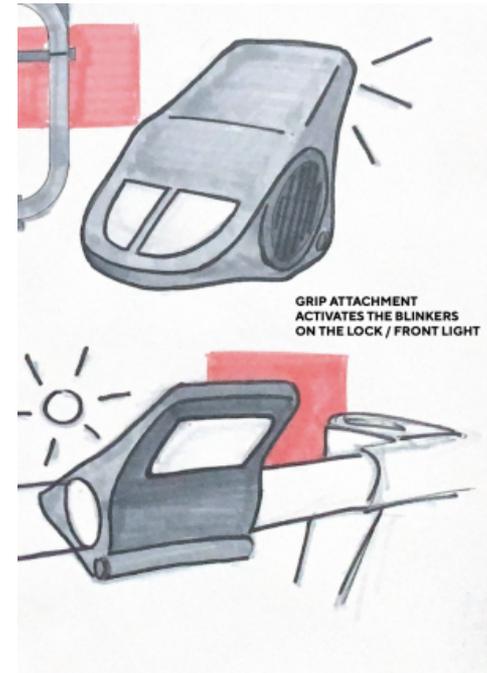
Microcontroller

- › Communicates user commands (via buttons) to Lock Module

Button Mapping

- › Left and right buttons control their respective blinkers

LED Headlight is always on



Lock Module

Microcontroller

- › Uses bluetooth chip to interface with both handlebar controller and smartphone
- › Uses GPS module to track bike

LED Panels

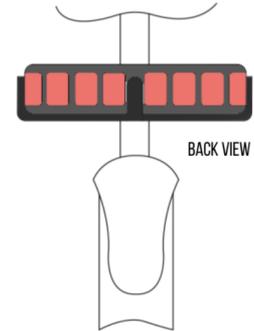
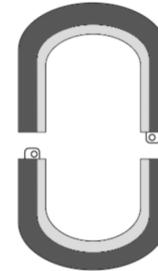
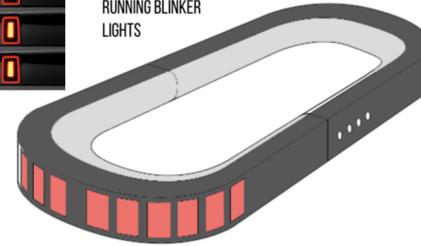
- › Left or right LED panel will light up based on button input from handlebar controller

Lock

- › Can unlock from smartphone, otherwise will remain locked



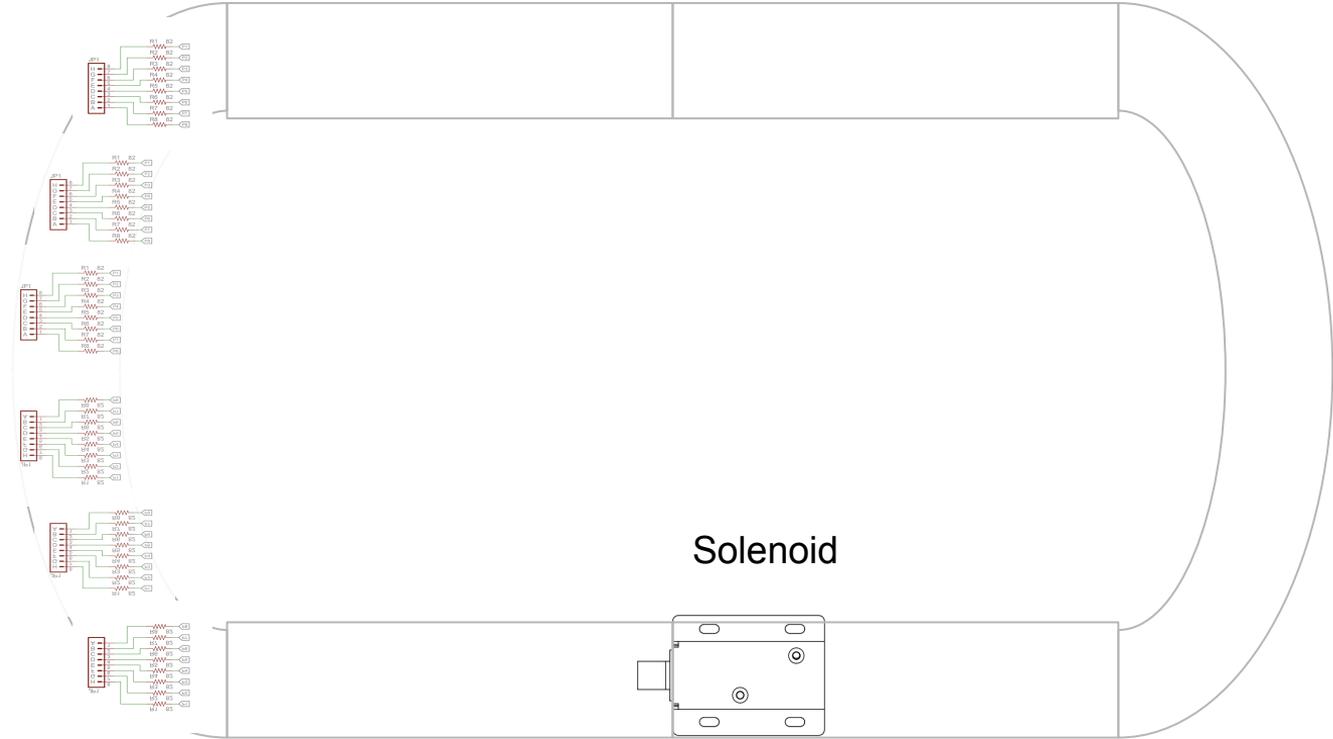
RUNNING BLINKER
LIGHTS



BACK VIEW

Lock Module

LED Panels



Solenoid

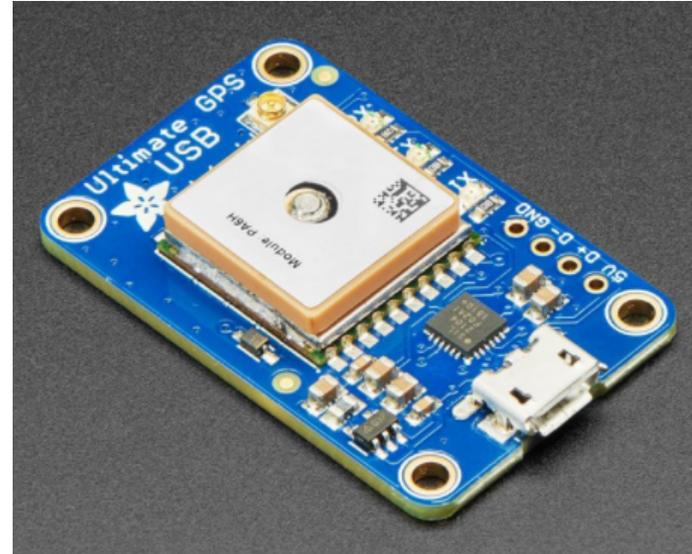
Smartphone Integration / GPS

Main Functions

- › Monitor equipment battery life
- › Remote unlocking
- › GPS Monitoring

GPS Functions

- › Monitor position of bike
- › Metrics such as speed and distance travelled





Costs

	Price	
Microcontroller		
ATmega328P x 2	\$4.10	Total: \$123.20
Bluetooth Module		
EMB1061 x2	\$5.25	
Handlebar		
White LED Panel		
Pushbuttons x2	\$6.00	
Lithium-ion Battery	\$0.80	
Lock	\$12.50	
Lock type solenoid		
Red LED Panel x 6	\$12.10	
Lithium-ion Battery	\$30.00	
GPS module	\$12.50	
	\$39.95	