Lit Bike Project

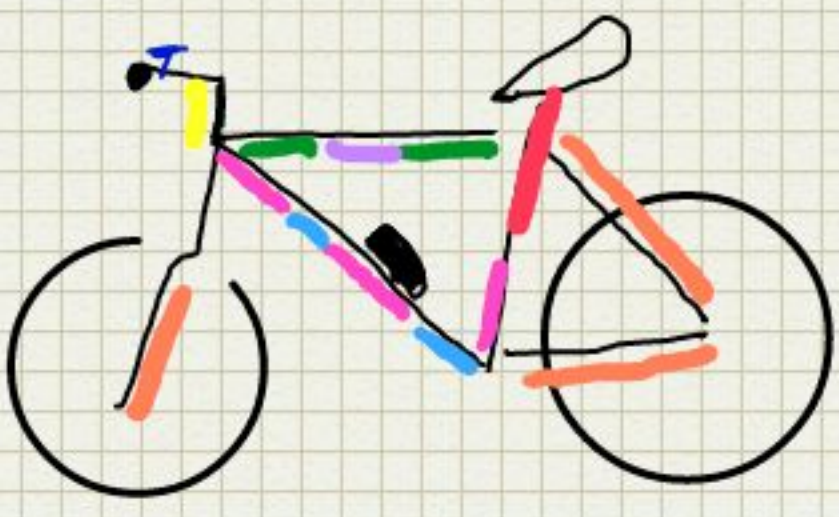
Reason: Sweden - gets dark very soon in the winter.

Cycle is the best transportation.
↳ Lacks visibility in traffic!

Solution: A lit Bike!
LEDs all over the bike

Innovation: - Modular Solution
- Turn Signal indicators
- IoT remote control.

LED Placement & functions



Turn Signal indicators (pulsating)

Front headlamp (Static, bright)

} Static/pulsating, varying colours

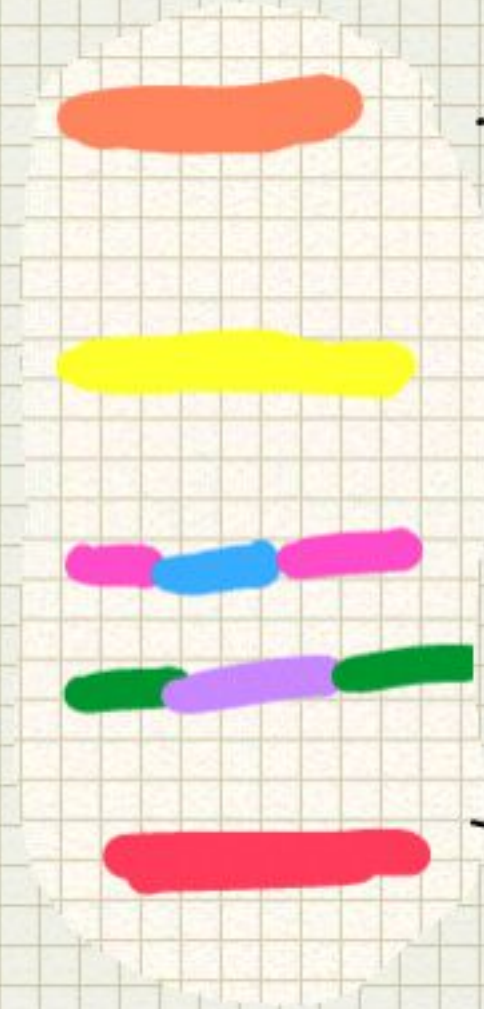
Rear caution lights (Static)

Turn Signal switch (momentary)

Node MCU with 3S Li-Ion Power Bank

Electronics Requirement.

1 type of control = 1 set of drivers = 3



1 set each (2 sets)

3 transistors will drive R, G, B strips at different duty cycles.

1 set

1 set [connect only RED for rear. All LEDs are at 100% duty cycle]

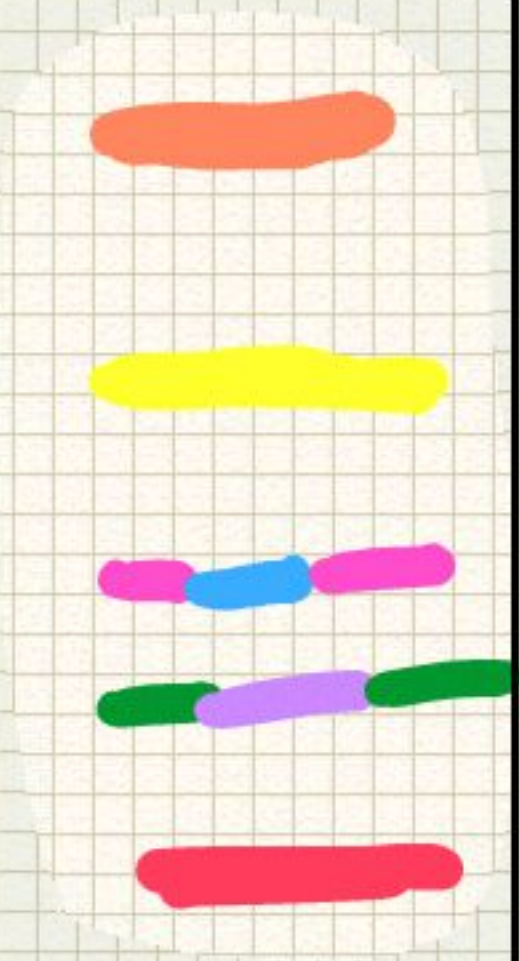
Total = 3 X 4 sets

= 12 transistors

Maybe (compact PCB?

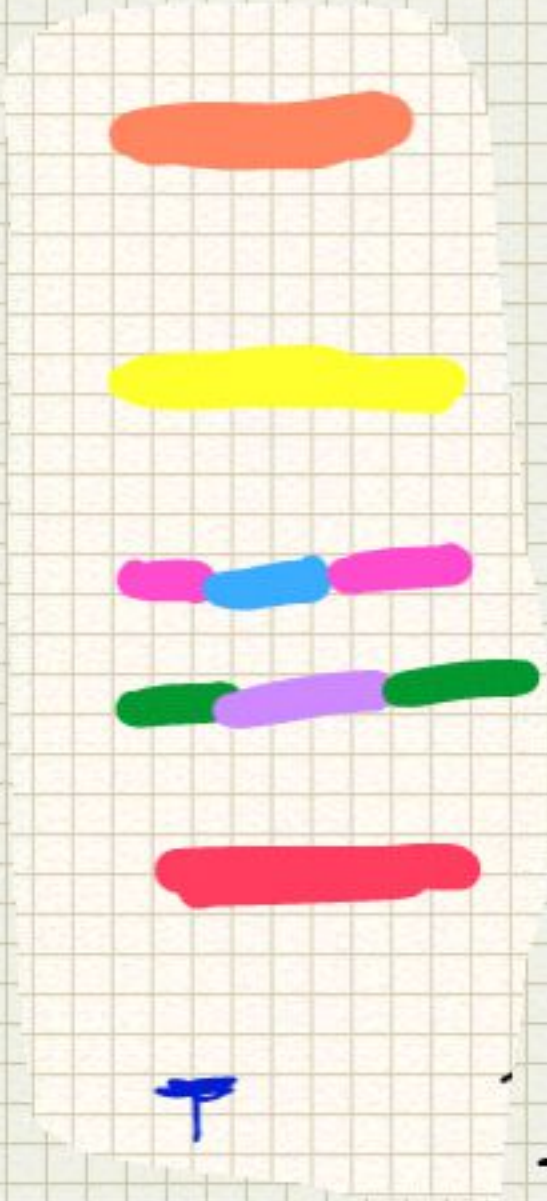
Current draw calculation.

1 segment at 100% duty cycle consumes ____ mA. @ 12V

Segments	Numbers	Current Draw
	34 3 9 9+4 2	
Total =		

PWM pins requirements.

Total available on Node MCU = 17



3+3

3

3

1

2

15

15 < 17

Yay! We're good!

Control Sequence

T — has 3 states
- ↳ Left
- ↳ Right
- ↳ Nothing

— depending on the state, engage pulsation for t = 10 seconds

Jai Karnataka!

— basic ON/OFF

— Take input from app for [colour / state — ON / OFF]

— App based colour picker

Ambitiousness Check

Basic Tier – min requirements:

- Turn signal indicators
- Front & rear caution lights.
- Master ON/OFF Switch.

Middle Tier – better requirements:

- App control for basic ON/OFF
- Middle Section LEDs.
- PCB

Higher Tier – awesome if achieved.

- Full app control (colour picker)
- Full modular Power Supply
- Water proofing (Li-Ion battery)

GOD Tier – not yet formed.

