

# **ENGI 301**

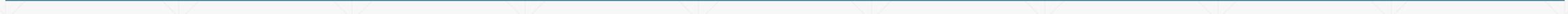
# **Perfect Coffee Project**

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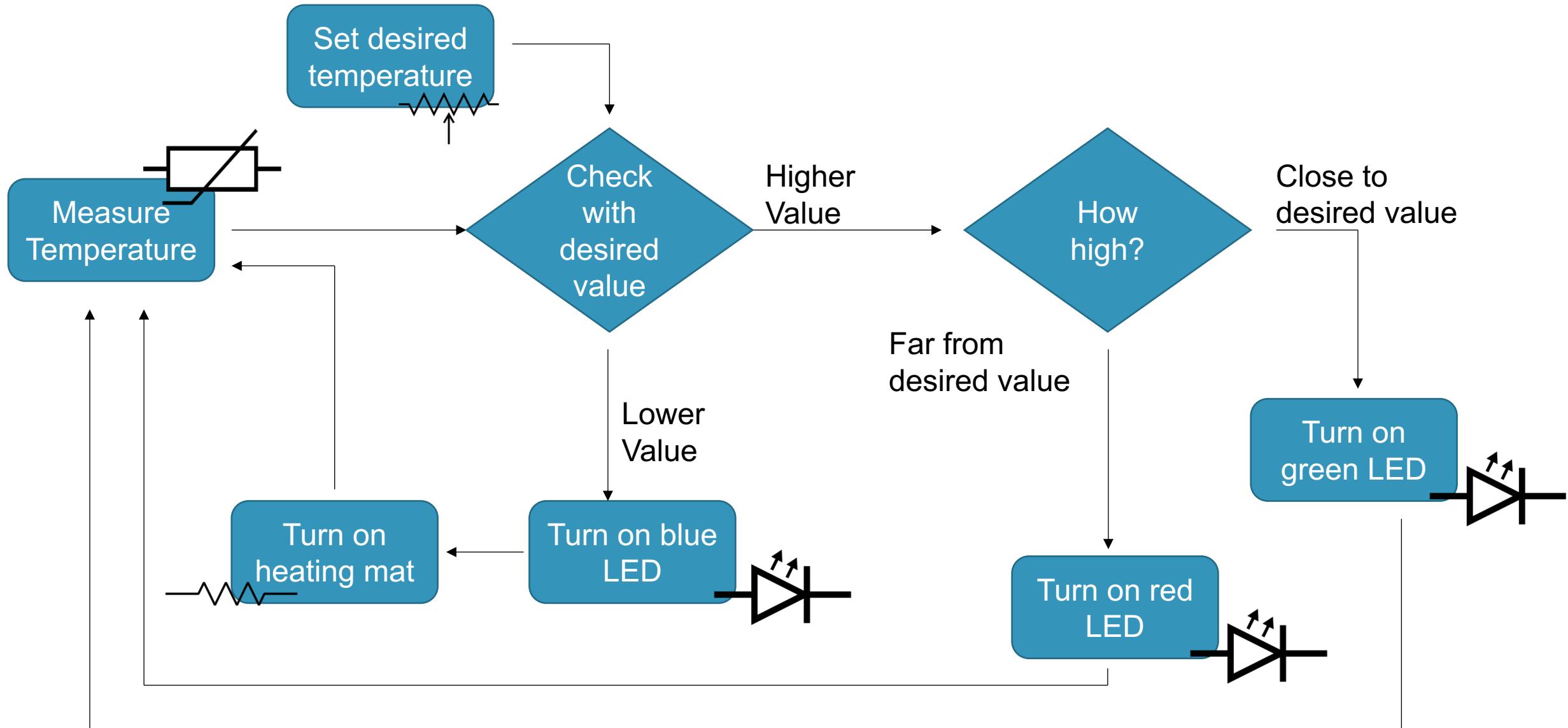
10/04/2018  
Alvaro Castillo

# Background Information

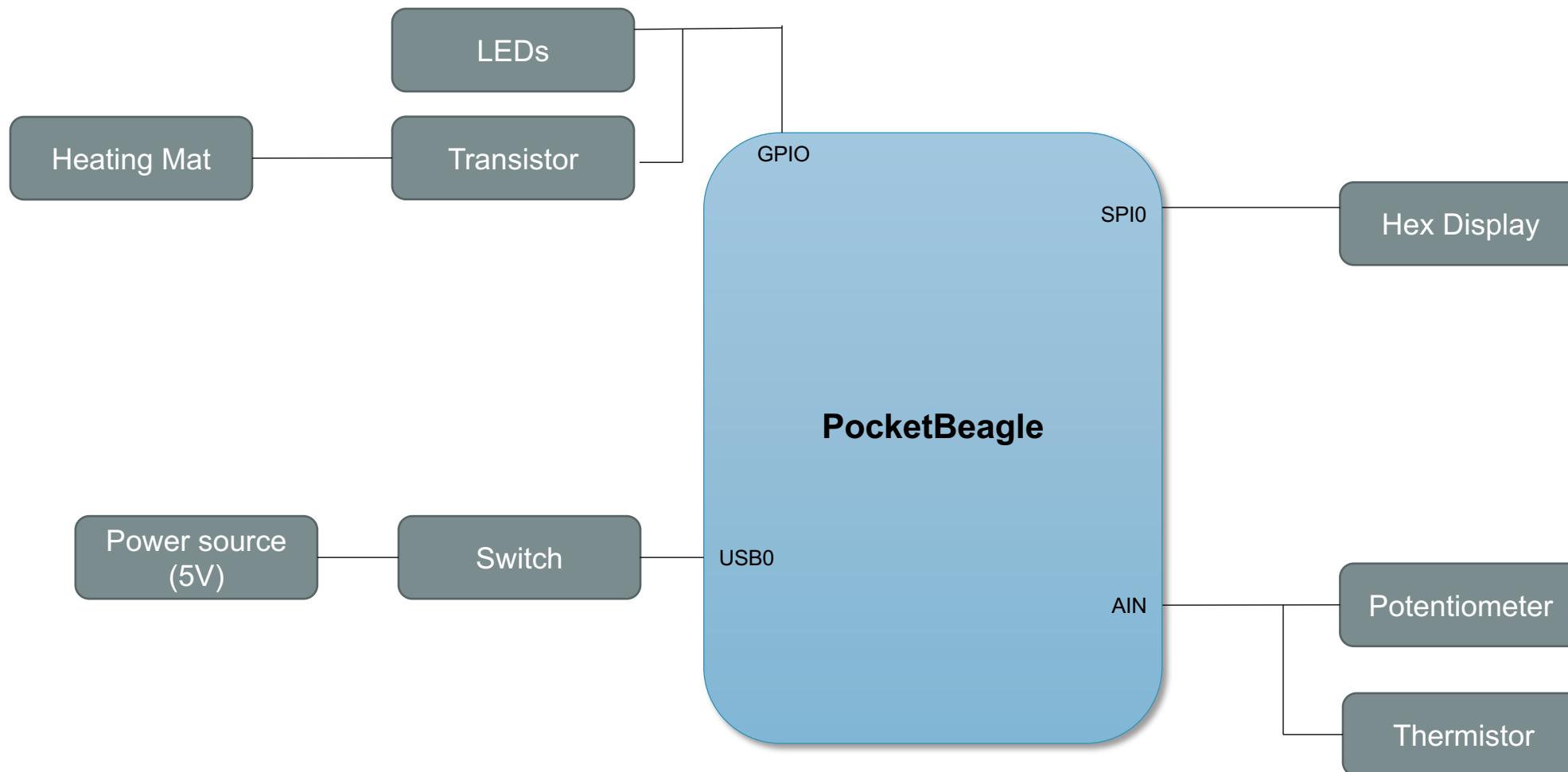
- One of the worst things that can happen to you while working is to realize that your coffee is either too hot or too cold.
- This project aims to solve this issue by letting the person know when the coffee is too hot and by heating the coffee in case it gets too cold.
  - LED lights that tell you if the coffee is too cold or too hot
  - Heating pad that warms the coffee up to a desired temperature
- Improvements over existing projects:
  - They don't tell you if the coffee is too hot or too cold
  - The user can't select a desired temperature, except for a very expensive Starbucks option (<https://ember.com/>)
  - <https://www.roastycoffee.com/keep-coffee-hot/>



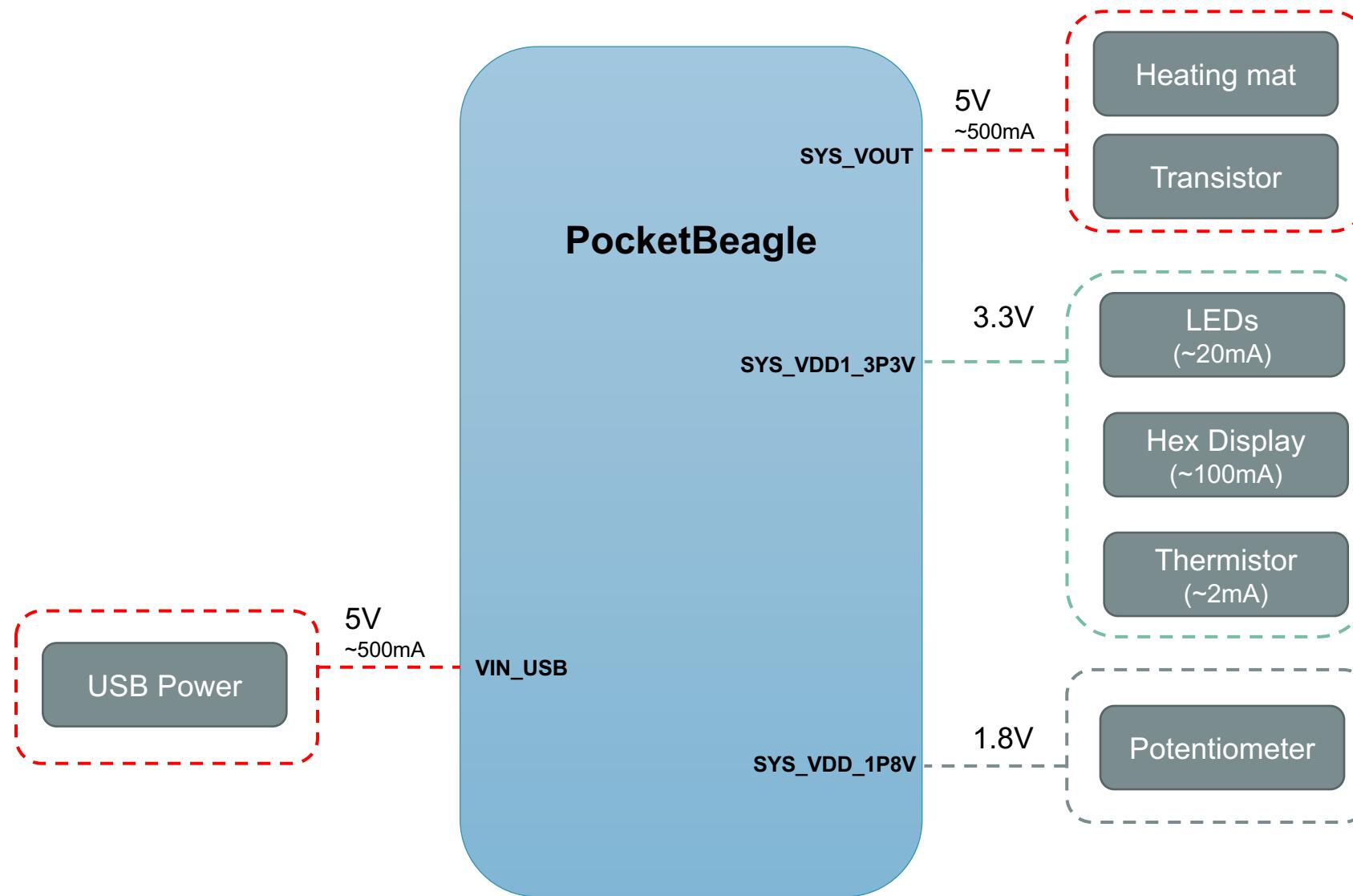
# Functional Block Diagram Option



# System Block Diagram

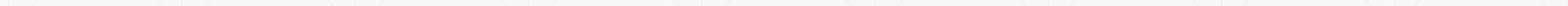


# Power Block Diagram



# Potential Improvements

- Use a LED Screen to show more information to the user and enhance the interphase
  - Show current temperature
  - Show desired temperature



# Components / Budget

Component	Need to Buy	Cost
Electric Heating Pad	Yes	\$3.95
Thermistor	Yes	\$2.26 - \$9.95
Red LED	No	
Green LED	No	
Blue LED	No	
Potentiometer	No	
Hex Display	No	
Wires	No	
PocketBeagle	No	
Breadboard	No	
Switch	No	
Transistor	No	

# Links for Purchases

- [Heating Bed](#)
  - [Water Resistant Thermistor \(Option 1\)](#)
  - [Water Resistant Thermistor \(Option 2\)](#)
  - [Water Resistant Thermistor \(Option 3\)](#)
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