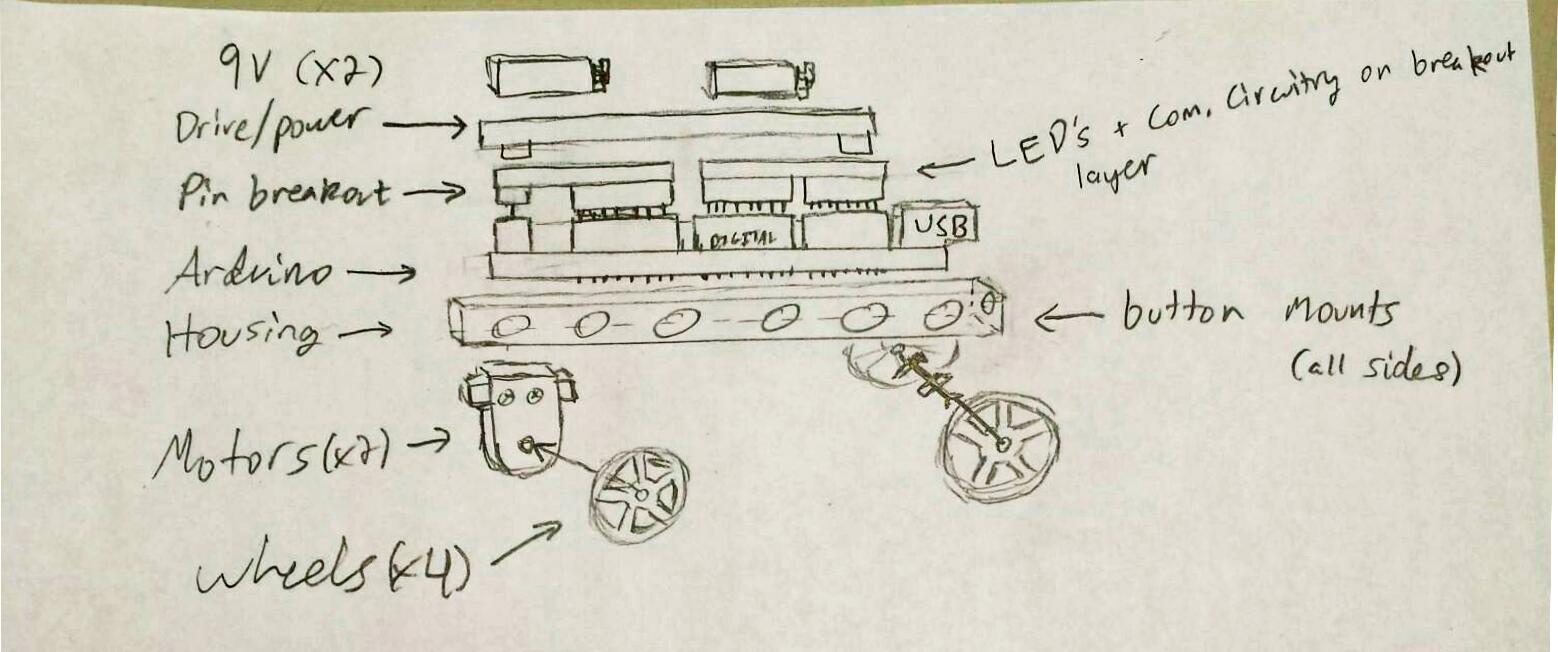
Phase 01B - Bot Technical Specification

**System Overview:**



The above figure details the overall layout for the bot. Two 9 volt batteries interface with a drive/power circuit via housing (for easy access/replacement). These batteries connect to a conditioning/isolation circuit which separates two power nets (for the digital logic and motor drive system respectively). These power nets then interface via header pins to a pin breakout which is shown above to rest atop the Arduino. One benefit of this plug-and-play design is the ability for users to easily program/debug and prototype various modules with ease.

This pin breakout board connects drive/power nets with the Arduino. Additionally, it connects LEDs, sensing systems, and communication hardware to the Arduino. All of these circuits are mounted in an insulating housing. The Arduino connects to this housing via mounting screws, and multiple button cutouts are implemented within the housing such that a collision detection system may surround the entire bot.

Below this housing, two electric motors are attached via glue (and/or proper mechanical means) such that two back wheels can actuate the bot. Two front wheels interface via a freely-rotating fixed common axle to allow the bot to maintain proper balance and freedom of movement. The bot rotates via software control of the drive system (in which both motors are controlled independently).

**Drive System:**

Get into details/schematics etc

**Deliverables:**

Have a timeline here