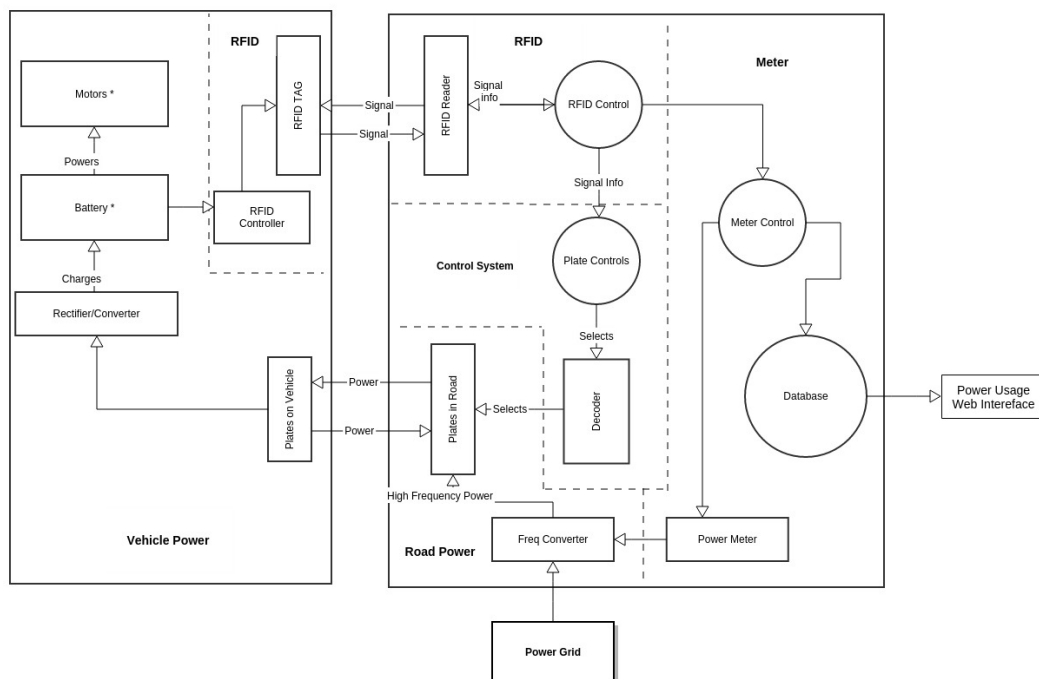


The League of Extraordinary Engineers Team
Responsibilities and System Diagram

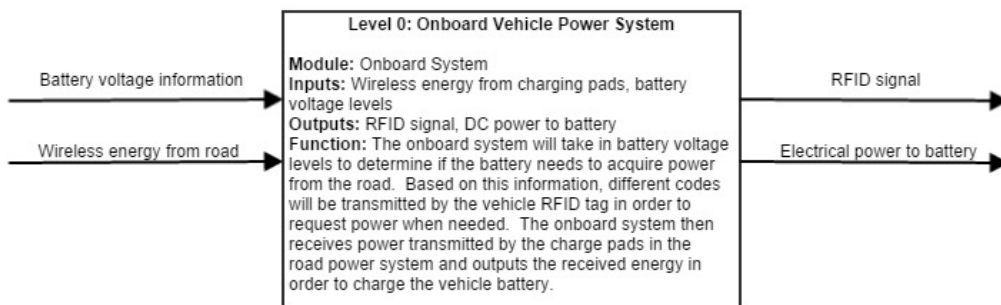
Responsibilities	Roles	Hardware	Software
Trigger Capacitor Plates When Car is Above	MotherBrain	Decoder and control bus	Plate Control Logic
Sense Car	RFID	RFID transmitter and receiver	RFID Controls on Vehicle
Transmit Power	Road Power	Freq Converter, plates, and connection to power grid	-
Recieve Power	Vehicle Power	Rectifier/Converter, battery, plates, and motors	-



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Functional Decomposition

1 Function Decomposition Level 0 - Part 1

Module	Onboard Vehicle Power System
Inputs	Wireless energy from charging pads Battery Voltage Levels
Outputs	RFID Signal DC power to battery
Functionality	The onboard system will take in battery voltage levels to determine if the battery needs to acquire power from the road. Based on this information, different codes will be transmitted by the vehicle RFID tag in order to request power when needed. The onboard system then receives power transmitted by the charge pads in the road power system and outputs the received energy in order to charge the vehicle battery.



2 Functional Decomposition Level 0 - Part 2

Module	Road Surface Power System
Inputs	RFID signal 120V/60Hz Electrical Power
Outputs	ISM-Band Wireless Power Power Metering Information
Functionality	The road surface power system is powered by mains power from the electrical grid. An RFID reader and control subsystem determines if power should be transmitted, based on the input RFID signal. Based on RFID readings the proper road-surface level charge pads are place in power transmit mode and output wireless power in an ISM band. The road system also meters power used by each vehicle and stores it in a database to be accessed on the web by users or power companies

