

Dispenser Cup Design

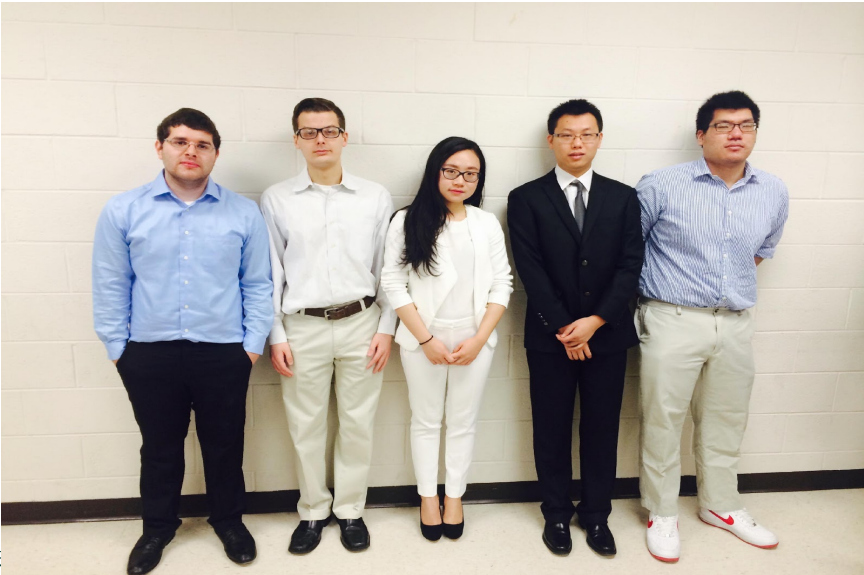
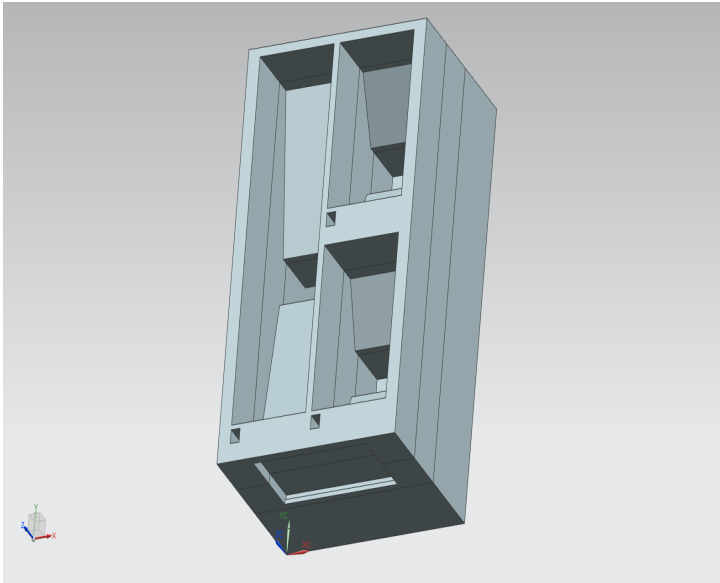
Whirlpool Cooperation

The aim of this project is to prototype a completely function, yet independent dispenser cup. The independence of this system means that no contact pads or harnesses can be used in between the appliance and the dispenser cup. Our design will not be streamlined into the market but rather it's a proof of concept that the requirements set by Whirlpool are feasible and can be used in future works relating to our project.

By combining an LED and a photo resistor sensor we can detect when a liquid is placed in one of the cups on the dispenser. A solar cell panel on the outside face of the dispenser will always be exposed to the environment and convert light in the surrounding area into energy used to charge a battery, which in turn, powers the system. The last feature of the system is user friendly LEDs to indicate which cups need to be filled depending on what cycle the user selects.

The Dispenser cup we designed has three layers with different functions. The first and second layers are designed to save more water and detergent that the customers use. In order to do that, we introduce tilted bottom with path in the middle of each cup for detergent/bleach/softener to go into the washer. LEDs will be added for indicating purpose for each cup and a solar cell will be used to power up the system.

There are three different choices of microcontroller that can be used for the initial and testing: EZ430-RF2500, MSP430-G2553 and CC2500. A 9V solar cell panel, Red LEDS and photo resistors will be used in this project.



Michigan State University

Team Members (left to right)

- Daniel Gomez
City, State
- Connor Grossman
City, State
- Gao Xin
Yichun, China
- Hongyi Shen
Shanghai, China
- Daniel Sun
Taipei, Taiwan

Whirlpool Dispenser Cup

Project Sponsors

- Jason R Savage
Benton Harbor, Michigan
- Basak Oguz
Benton Harbor, Michigan
- Jeff landrey
Benton Harbor, Michigan