INTRODUCTION

Energy management is a significant focus in modern technological research. Household energy usage can be decreased by allowing the customer to control certain appliances with the Home Management System (HMS) testbed.

Previously, the Home Management System (HMS) testbed allowed certain appliances to be always turned on, always turned off or to be turned on and off depending on the price per kilowatt hour ($/kWh).

METHODS

Disassemble the water re-heater and locate the relevant switches and mechanisms. Two printed circuit boards were determined to be important to our particular project.

PROJECT GOALS

• Continue research from previous semesters
• Improve the ability of the current available Home Management System (HMS) testbed.
• Determine how a two-state push button controls the multiple states of heating resistance.
• Prepare for the development of multi-state, remote controlled water re-heater.
• Replace external switch with a wireless option to obtain remote controllability.

CONCLUSION

This project allowed me to become more familiar with the operation and functionality of the water re-heater, as well as general electronic functions. Specifically the operation of the four pin, two state push button and how it is used to control the multiple settings. In addition, I learned about various wireless options currently available.