

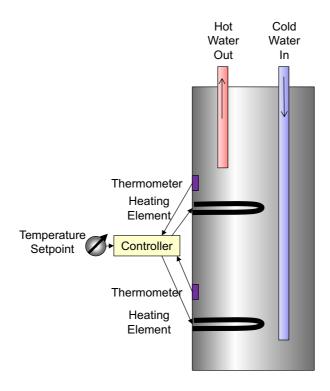
School of Electronic Engineering and Computer Science QMUL-BUPT Joint Programme

**EBU6475: Microprocessor System Design** 

**EBU5476: Microprocessors for Embedded Computing** 

## **Introduction to Embedded Systems Design - Exercise**

Consider a controller for an electric water heater (as shown below) as an embedded computer system.



- 1. What are the inputs devices?
- 2. What are the outputs?
- 3. Name at least two safety features to include, and specify what hardware and/or software is needed for each.
- 4. Describe a useful feature which could you add in software without requiring additional hardware.
- 5. Describe two useful energy-saving features which could you add in software if the controller could keep track the time of day.
- 6. Describe a useful feature which could you add in software if the water heater included an internet connection.

