

Automatic water control system thesis proposal examples

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Design of an Automatic Water Control System for a Bathroom

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1. 0 Problem Statement

This proposal is about the design of an automatic water control system for residential bathrooms. The goal of the design system will be to reduce wasted water and the time that is required to achieve a desired water temperature, and, to protect children from hot water injuries.

2. 0 Background

Qatar is facing a scarcity of water resources. In the online journal “ The Edge”, Barry Mansfield states that Qatar pays approximately \$6. 9B USD on sea water desalination to produce clean water due to the lack of natural water resources available to Qatar (Mansfield, 2012). Statistics show that the percentage of water consumption per capita in Qatar is very high. Dr. Adil Sharif states that daily water usage in Qatar is “ four times higher than most European countries and 10 times higher than many other countries around the world” (Gulf Times, 2013). There are many reasons for this high usage of water. One of the reasons is the inability of consumers to achieve the desired water temperature during summer and winter. It takes approximately 30-60 seconds of running water to reach a desired temperature, and, this wastes large amounts of water.

Also, Children around the world below the age of four are at risk of being scalded by hot tap water in the bathroom. Some children reach the water taps and open them without realizing the danger they face from hot water.

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This scenario occurs due to a lack of control by their parents or nannies.

What results from this lack of supervision are burns that range from simple to serious. These burns can cause severe damage to the skin due to children's sensitive skin, and, require long periods of treatment (Feldman, 1998).

3.0 Objectives and Criteria

This project will start in the fall semester. The goal is to begin on September 12, 2014 and conclude on December 7, 2014. To ensure the quality of the project it was determined that the methodology required four main phases.

The following is a description of each phase with its timeline:

Phase 1:

Planning and developing: Identify the parts that are required for the project and choose the suitable control strategy that fits the design. This phase will start on September 12, 2014 and end on September 22, 2014 (10 days)

Phase 2:

Cost estimates and parts recommendation: do the required research and recommendation for each part of the design, and, get cost estimates for each part. This phase will start on September 15, 2014 and end on October 15, 2014 (30 days)

Phase 3:

Calculating and testing: take the temperature measurements of two households; calculate the thermodynamic value of the new system and compare it with old system. This phase will start on October 15, 2014 and end on November 7, 2014 (24 days)

Phase 4:

Designing: use AutoCad software to design the system and summarize the findings in the paper. This phase will start on November 4, 2014 and end on December 7, 2014 (34 days)

A Gantt chart illustrating this timeline is available in the appendix.

5. 0 Resources Required

This project will require many calculations and resources, and, these are required to complete the project on time. This project needs the following: Get access to laboratory 9. 254 to use AutoCad software program. This is an important component in the design phase.

6. 0 Conclusion

This project aims to design an automatic water control system for residential bathrooms. The system will reduce the amount of wasted water, and, the time required to achieve the desired water temperature. The design will also aim to protect children from being scalded by hot water. This water efficient design can be used by those people who are looking to apply modern technology in their homes. Today's existing technology wastes water; takes too much running water to achieve the desired temperature; and is a hazard to children who get scalded by water that is too hot.

Overall, this project is beneficial to consumers. The consumer benefit is that the design reduces the time required to achieve a desired water temperature in bathrooms. This will ultimately use less water, and protect the scarce resources. Also, consumers will be able to regulate water temperature to a safe range, by using a digital water proof touch screen that will be provided with the system. Additionally, all parents who seek to protect their children

from hot water scalding will be able to control water temperature in bathrooms.

This project supposed to start in September 12, 2014 and finished on time in December 7, 2014.

We would like to ask for your authorization for us to go forward and start this project.

References

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