

# Electronics Project: The Use of Electronic Name Tag System

## ABSTRACT

This capstone project presents a general framework involved in project planning which may be used by students, as well as faculty advisors when it comes to outlining goals, as well as objectives involved in senior design. It also describes the nature of a capstone project which has acted as a pilot study for the course which will be used in the Department of Engineering for the Electronics Engineering majors (Carlisle, 2006).

The Electronic Name Tag system capstone project was developed with the purpose of familiarizing students with the different types of embedded systems which combine together computer hardware and software, as well as other mechanical and electronic parts, all designed to exhibit a dedicated function. A certain 3D modeling software, referred to as the Autodesk Inventor was used in order to assemble and design the case for this system.

## INTRODUCTION

Teaching the field of engineering design in capstone based courses has further been amplified during the recent years. The trend involves an increase in design component in the field of engineering technology. This project proposal was first established by the Department of Engineering under the recommendation of ABT (Adams, 2002).

Throughout the duration of the first few weeks of the current semester, the problem statement is created, while basic conceptual designs were also generated, and afterwards, analyzed. The conceptual design which solves the problem is then chosen, and a detailed design is then generated towards the end of the eight week period.



## **PROJECT PLANNING**

This project needs that right from the initial introduction, towards the final presentation, the students need to complete all necessary tasks for fabrication, design, documentation, as well as presentation of the project in a period of one semester. Thus, in order to make sure that all projects are attained in a timely manner, different students are being guided in order to prepare a well-detailed plan right after choosing the project (Ignatius, 2012).

## **PROJECT DESIGN**

The focus of this study is to develop a certain prototype for an Electronic Name Tag system. The project will focus on the creation of an ENT which may be used for visitor's badges, conferences and other forms of identification. The development of this ENT will eventually help in making the world more environment friendly. The projected ENT will then be composed of a microcontroller which will serve as the system's brain. This microcontroller is programmed through the basic stamp editor software. The microcontroller implements this program in order to display the details on the LCD.

The equipment is then placed inside a case. The case is designed with the use of a 3D modeling software. After completing the design, the process comes after. The files need to be formatted using sterolithography, which should then be compatible to the software used for the printer, in order to ensure rapid prototyping. After manufacturing the parts, they are assembled to the ENT. It is also expected that the concept will eventually save money since these ENTs may be used again.

## **PHYSICAL OVERVIEW OF THE SYSTEM**

Through the recent years, we have witnessed a tremendous amount of change when it comes to the evolution of microcontrollers and microprocessors. With all of these technological advancements, modern system designs need the use of more advanced microcontroller tools and

chips. New companies have been introduced in the market, offering their products as they continue to meet the design requirements. In order to achieve the demands of these new technologies, colleges and universities have diverted from teaching the standard microcontrollers to the PIC microcontroller. This is a single chip computer which is found commonly in daily products including cell phones, microwave ovens, alarm clocks, and others.

## **CONCLUSION**

The research has shown that this capstone project is currently being implemented in order to enhance the design skills in the field of engineering. Even though individual outlines involved in the capstone course are diverse, the objective of all courses is to offer students with design experience. Other course objectives include the development of communication and interpersonal skills, improvement of confidence among students, as well as an overall improved academic relationship within the industry.

## **REFERENCES**

Adams, D.V. (2002). Prototyping of electronic name tag systems: The Work Behind. *The World Computer Journal*, 45, 56-67.

Carlisle, H. T (2006). Integrated Learning and Teaching Program. In E. Elmers (Ed.) *Consumer advertisement advancement*: 40, 790, 792. Retrieved from: [http://www.worldvision.com/teaching techniques.html](http://www.worldvision.com/teaching%20techniques.html).

Ignatius, Y.U. (2012). Modern ENT systems. *The Modern Computer Society* Retrieved from: <http://www.sciencetoday.com/24235/35324642/3.html>

