Boston University
Electrical and Computer Engineering
EC463 Senior Design Project

First Prototype Test Report

VETCON
BADGE

By

Team 32

Team Members

Derek Barbosa, dbarbosa@bu.edu
John Kirche, kircherj@bu.edu
Carlos Ortiz, cartex10@bu.edu
Ryan Sullivan, ryanbs@bu.edu
Julian Padgett, jpadgett@bu.edu

Equipment & Setup:

The equipment used for our prototype testing followed the hardware and software specifications listed below.

Hardware:
1. Texas Instruments (TI) MSP430FR2433 LaunchPad™
2. Computer/Laptop
3. Micro USB Cable

Software:
1. Visual Studio Code
2. PlatformIO

The setup for our prototype testing was very simple. One of our team members, (in this case, Ryan S. team-lead 2) cloned our Github repository with our prototype code from the testing branch. The project was then opened with PlatformIO on the Visual Studio Code IDE. Following this, the MSP430FR2433 was connected to the computer with the micro USB cable. Using PlatformIO, the project was built and flashed onto the board ready for demonstration.

Measurements Taken:
1. VETCON BADGE displays on startup
2. Main menu displays in terminal
3. User can select from given options
4. User can enter name to nametag
5. User's name can be displayed
6. Game link can be retrieved
7. Online game runs
8. Secret phrase can be retrieved on winning the game
9. User can reset badge
10. User can select to abort / continue with reset

Upon startup, VETCON text was displayed correctly alongside the menu of options in the terminal. All options were able to be selected by the user during the demonstration. These options included the ability for the user to enter a username, change their username, display their username, and obtain a link to a short game. We demonstrated that attempting to enter a new username when one had already been set would correctly return the error that a username had already been set. We then demonstrated that the badge could be reset and a new username could then be set for the badge. Alongside regular usernames, we also demonstrated two "secret" usernames that would have a unique text output if the user entered them correctly. The game link functioned correctly and allowed the user to play a dino game. Completion of the game allowed the user to discover another "secret" hidden in the developer console of the end screen. This secret code could then be entered in the fifth secret option of the program, and upon being entered "SUCCESS" was displayed. Upon trying to reenter the secret code, the device did not allow it and instead again displayed "SUCCESS". Finally the reset functionality was shown, with the user able to cancel the reset if need be.

Conclusions:

The first prototype testing was a complete success. The game ran well on the browser, but there were small issues with lag during gameplay. Other than that, all of the ASCII graphics displayed fine, and so did the menu. There was an issue discovered during testing where the user did not have enough time to input a specific easter egg name, so that is an important issue that will need fixing. Due to this, the group is ready to begin implementing an LCD screen into the next prototype. According to Professor Osama's request, we will continue to "rotate through" different tasks on the team to prevent burnout and continue "having fun."