MINUTES: 1/17/2012

There were 12 IEEE members, 37 Students, and 5 guests present

Location: University of South Florida, 4202 E. Fowler Ave. Tampa, FL 33620;  Engineering II, Third Floor, Room ENB 313
Date: January 17, 2012
Time: 6:10pm to 8:50pm

The January 2012 Meeting of the RAS Society was called by Chairman George Schott at the University of South Florida. There were a total of 54 people made of 12 IEEE members, 37 Students, and 5 guests present.

OFFICER ROLL CALL:

o       Chairman – George Schott-Present

o       Vice-Chairman – Ken Fiallos-Present

o       Treasurer - George Schott acting-Present

o       Secretary – Sean Denny-Present

o       WEB Master – Victor Basante-Excused

o       Membership coordinator –Jim Anderson-Excused

o       Facilities Coordinator – Robert Franklin-Present

o       Publicity coordinator – Jim Melton-Not Present

o       Programs coordinator – Jim Melton-Not Present

o       Chapter Photographer – Everyone Acting

The Minutes were approved by Bob Franklin; Seconded by Ken Fiallos.

The RAS Treasury has $1025.52 on hand as of December 2011.

 No special recognition.

     Ken Fiallos'  "Rudiments of the Arduino and Zigbee" topics included:

**Topic 1)** The Open Source Arduino Microcontroller  and Available Shields

Ken provided an introduction to the large number of Arduino Microcontrollers

available and the  shields available for the UNO. Shields are essentially plug

in daughter boards for enhancing the Arduino  in various applications such as a

GPS, Data storage etc.

**Topic 2)** A Comparison of the Italian built original Arduino UNO and the newer

(32) bit American made UNO32 Arduino clone was given.  Both cost the same but the UNO32 is (4) times faster, has 42 I/O pins compared to 14 I/O Pins of the Italian UNO. Plus, Ken outlined a host of other features that the UNO32 has that makes the UNO32 a superior choice in any application.

**Topic 3)** V/I Characteristics of Microcontroller Digital Input and Output Pins, Analog Inputs and PWM Pins and pseudo-Analog Outputs.

To properly apply a microcontroller, Ken gave an explanation of the volt/amp characteristics of how the digital, analog and PULSE WIDTH MODULATIONS pins of UNO32 can be understood and applied.

**Topic 4**) Hardware Interfacing

Ken went over the basics of Voltage Dividers Resistor Networks, Relays, Transistors, MOSFETs (needs a MOSFET Drivers), Hall Effect Current Sensor and Diodes which can be used as external interface hardware when applying the UNO32

**Topic 5)** Arduino Software Apps and using the Multi-platform Integrated

Development Environment (MPIDE)

Ken reviewed some of the basics of the MPIDE and went over how a typical

software application called a sketch in the Arduino world is written and  using

a Demo of an Automated Battery Test Circuit powered by an UNO32 to demonstrate a simplified PI loop sketch.

**Topic 6)** Basic Software Interfacing

Ken demonstrated how a serial communications package called "TeraTerm" might be used to gather time stamped data and imported into MS Excel for subsequent analysis.

**Topic 7)** Discussion of PC Front End Software

Ken mentioned several software interfaces/applications that are available for

Arduino: LabView, Fritzing and how Visual Studio could be used to provide a front end to the Arduino.

**Topic 8)** Lastly Ken talked about the benefits of Zigbee Radios (IEEE 802.4.15)

over Bluetooth and Ethernet in  sensor networks in embedded applications.

ANNOUNCEMENTS:

1)    Engineering Expo is February 18th, 2012.

2)    ROBOFEST:    George Schott, Sean Denny, and Bill Waggener discussed Pinellas County Schools Robofest competition and how mentors are needed.  The Competition is March 10th.  A schedule of building dates was announced all at the St. Petersburg Main Public Library.

We will return to DeVry University for the February 21st RAS Meeting.

Adjourned at 8:50pm.  Felipe was applauded for assembling a record setting attendance of students.

Respectfully submitted by

Sean Denny,

Tampa Bay IEEE RAS Chapter Secretary

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