AOC SUSQUEHANNA TECHNOLOGY CHALLENGE

INNOVATION: MORE FOR LESS, ALL FOR FUN

WHO IS AOC?

AOC = Association of Old Crows (usually just called Old Crows)

"The Association of Old Crows (AOC) is a not-for-profit international professional association with over 13,500 members and 180+ organizations engaged in the science and practice of

Electronic Warfare (EW), Information Operations (IO), and related disciplines."

Susquehanna Chapter is focused on the Aberdeen Proving Ground (APG)

OUR CHAPTER

APG is the new home to I2WD and PEO IEW&S Program Managers

I2WD is the Intelligence and Information Warfare Directorate

Component of US Army RDECOM/CERDEC tasked with R&D in SIGINT, IMINT, MASINT, EW, CNO (mostly CNA/CNE), RCIED defeat/protection, Cloud and Radar

PEO IEW&S is the Program Executive Office for Intelligence, Electronic Warfare and Sensors

Program Managers for Electronic Warfare (PM EW), Airborne Reconnaissance and Exploitation Systems (PM ARES) and Distributed Common Ground System – Army (PM DCGS-A) are headquartered at APG

The Susquehanna Chapter draws many of its members from, and in turn supports, these two key communities at APG.

WHY A TECHNOLOGY CHALLENGE?

Innovation doesn't always require high complexity, high specialization or high cost

"More with Less" is the name of the game in the current economy

Shrinking hardware is enabling off-the-shelf solutions for problems previously addressed in larger form factors

Inspire the community to bring innovation in the AOC, I2WD and PM EW areas of interest using commercially available hardware and software, with a focus on low cost and streamlined specifications.

A FEW OTHER REASONS WHY

The Susquehanna Chapter is still growing; a competition such as this will raise awareness for AOC in the Aberdeen community, bringing several communities together.

The Challenge provides a creative outlet for teams to learn something new, work outside their occupational "box" and foster a fun and competitive, but impactful experience.

HOW WILL IT WORK?

The Chapter will provide a Raspberry Pi development kit to each team

Teams must use the Raspberry Pi to create an innovative solution to a problem which they also devise upon registration

Judging will be based upon each team's ingenuity in their approach and design to achieve their goal

MILESTONES

At the time of team registration, each must have a formulated goal, an initial approach; late registration will be accepted, though a late fee may be incurred.

For the mid-challenge assessment, each team will deliver a report capturing their evolving design, expenses, demonstration needs and other details.

Final demonstration includes complete documentation and sharing of resources with the judges to enable review and sharing with the broader community.

Thorough completion of each milestone factors into the final selection of the winning team!

SCHEDULE

Milestone 1:

15 July 2013

Teams must be registered with their chosen design challenge in order to be guaranteed a Raspberry Pi kit.

Milestone 2:

15 September 2013

Teams deliver a qualifying assessment for judge review.

Final Demonstration

Late October 2013

Teams demonstrate their solution for judging and award.

RULES

The Raspberry Pi must be the focus of the innovation, though may interface with other hardware (control system, laptop for command/control)

Software must purchased for the project, developed by the team, available as free and open source software (FOSS) or is included with an operating system

All expenses must be documented to determine “bang for buck.”

All teammates and outside support must be documented, for appropriate credit.

No use of corporate IP, government IP or classified techniques not available for legal use through public channels.

All designs, software and SD card images shall become hosted by the Chapter, but made freely available as open source materials for future Challenges as well as the APG, DOD and Raspberry Pi communities.

JUDGING CRITERIA

Execution of goal set by team at registration

Creativity and innovation specific to use of Raspberry Pi as part of the design

Overall design ingenuity in accomplishing the goal

“More with less / bang for buck” assessment to balance expense against capability

Documentation at each milestone, include full disclosure of expenses, designs and software written as part of the Challenge.

Judges will represent cross-section of industry, government and academia.

WHAT ARE SOME EXAMPLES?

Leave-behind Sensor: Use the Raspberry Pi to create a small but capable sensor for inconspicuous, autonomous information collection (biometrics, signals procesing, etc).

Aerial/Vehicular ISR: Use a Raspberry Pi to enable unique signal processing or target tracking on an aerial or mobile ground platform.

Air Gap Cyber Enabler: Tailor a Raspberry Pi to enable bridged access between a command/control network and a vulnerable network accessibly only via a wireless interface.

Coordinated Raspberry Pi Computing: Develop a system of systems where each node is a Raspberry Pi.

Or anything else within the technology interest areas previously described…