2014-06

NPS Naval Research Program USV ASW Employment, June 1 30, 2014

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NPS Naval Research Program

USV ASW Employment

June 1 – 30, 2014

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Sponsor: NPS Naval Research Program
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Other Participating NPS Faculty and their Department: none
NPS Students and their Department:

Bellili, Mongi	Computer Science
Branham, Andrew R	Computer Science
Galinski, Jonathan J	Computer Science
Gray, Matthew D	Computer Science
Johns, Seneca R	Computer Science
Korzatkowski, Jeffrey	Computer Science
Nelson, Sean M	Computer Science
Patterson, Isaac T	Computer Science
Taylor, Jay B	Computer Science
Alexander, Daniel R	Computer Science
Beachy, Alexander J	Computer Science
Carthon, Brian	Computer Science
Claflin, Jamie S	Computer Science
Corney, Joshua	Computer Science
Fortner, Scott T	Computer Science
Lukefahr, Joseph W	Computer Science
Mcbride, Daniel C	Computer Science
Miller, Paxton L	Computer Science
Rye, Erik C	Computer Science
Schnetzler, Aaron	Computer Science
Turner, Mark J	Computer Science
Woods, Clinton M	Computer Science

JON: W4V05

Purpose/Objectives: The objective of the study is to answer the following questions: 1) How might USVs be effectively used for ASW? What potential attributes of USVs (such as speed, low cost, stealth, endurance, expendability, no requirements for human access or support systems, etc.) contribute to their effectiveness? How can their relative advantage be measured and compared? 2) Are there ASW missions that lone or multiple USVs could accomplish with equal or greater effectiveness than other ASW platforms (manned surface or submarine, manned or unmanned air platforms)? ASW usually requires a coordinated team effort. How would the USVs need to interact with other platforms, and what kind of communications would be necessary? 3) To which aspects of ASW are USVs best positioned to make the greatest contribution? For example, a USV could be used for ISR, recovery of a UAV, or as a communication hub. What are appropriate measures of cost and value for answering this question? What kind of USV would be best for each aspect?

Accomplishments:

- Online and offline search, collected background documents
- Analyzed relevant background information and assembled reference list
- Read and reviewed the relevant documents
- Identified currently available or emerging technology for USVs and studied possible solutions
- Found external components that connect and communicate with the USV
- Identified stakeholders, mission contexts and relevant USV attributes
- Working on a draft USV model from its tentative initial requirements
- Telecon with sponsor to clear up the questions
- Proposal submission
- Construct USV modeling project and select references
- Arrange VTC rooms and conferences, coordinate the forms between NPS and sponsor
- Process the sponsor signed proposal and obtain signatures through the chain of command
- Telecon on USV requirements with sponsor and 30 NPS students
- Receive confirmation from Andy on the approved proposal.
- Revise the schedule/tasks for communicating with sponsor
- Working on the 90 questions to communicate with sponsor
- Scan and transcript the questions to sponsor
- Communicate with sponsor on VTC arrangements
- Communicate with CAPT Abbot & Jerry Ellis on the scoping of the study
- Write the references and detailed tasks for the Spring schedule
- Work with students on the 4/15 VTC schedule coordination
- 2 Telecons on USV requirements with sponsor and 26 NPS students
- Coordinating many VTC due to requests from student's schedule & CAPT's comments
- Inquiry on expectations for briefing and write out the document and evaluation form
- Quad chart inquiry handling and requirements communications and work out sample forms
- Search for answers to the questions from students on USV hardware software boundary
- Dialog on VTC arrangements with bridge, students and sponsor
- Developed evaluation criteria for briefings, USV requirement and answers to the questions
- Dialog & Invited a dozen of external reviewers
- Student outbriefs on initial study models for validation and review by sponsor and domains experts on USV and ASW

Upcoming events:

Reading and summarizing collected models and information in two feet of documents. Analyzing relevant classified sources of information and documents. VTC meetings for additional requirements and classified background material in the topic area.

Risks encountered and mitigation measures:

Students involved in the study did not all have background in the topic area. Mitigations included meetings, surveys, notes and VTC interviews with ASW experts from sponsor, NPS, and SPAWAR.

Period of Performance: 03/31/2014 – 4/01/2015

Financial information thru 6/30/2014:

	Amount Authorized	Expended to Date	Balance Available
Totals	$ 108,696.00	$ -	$ 108,696.00

This financial summary represents a burn rate of: 0%

Milestones and Deliverables:

ITEM	DELIVERABLE / EVENT	DUE BY
1	Summary	
2	Models	
3	IPR #1	Jun 2014
4	Solution Table	
5	IPR #2	Sep 2014
6	IPR #3	Dec 2014
7	Deliver Report	Mar 2015