

Department of the Navy SBIR/STTR Transition Program

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Topic # N141-019

Intuitive User Interfaces for Task-Tailored Planning (INTUIT)

Charles River Analytics, Inc.

WHO

SYSCOM: NAVAIR

Sponsoring Program: Strike Planning and Execution Systems Program Office (PMA 281)

Transition Target: Joint Mission Planning System (JMPS)

TPOC:
(301)757-6179

Other transition opportunities: Any mission planning system, such as the Distributed Common Ground/Surface System (DCGS), the Global Command and Control System (GCCS), and other DoD mission planning systems.



Courtesy of US Navy 090406-N-7090S-402 APR 2009

WHAT

Operational Need and Improvement: Currently, the mission planning process is labor and time intensive, complicated, and requires considerable training and proficiency. Nearly every aircraft requires a digital mission plan to be completed prior to being able to launch. Current mission planning interfaces are difficult to understand and cumbersome to use, resulting in few operators utilizing the full power of advanced planning systems. Innovative workflows are needed to allow operators to tailor specific planning processes to optimize their output for the time and materials required.

Specifications Required: These interfaces must guide mission planners in a streamlined approach through highly complex and detailed mission planning procedures. The developed interface must also effectively simplify data entry and uploading process through intuitive human-computer interactions and visualization techniques. These interfaces should be highly adaptive to accommodate mission planning for new and enhanced weapon systems and platforms.

Technology Developed: INTUIT provides a set of efficient and effective mission planning user interfaces (UIs) for the U.S. Navy's JMPS. These interfaces are grounded in the development of operator, task, and workflow models to structure behaviors for tailored UIs. These interfaces provide targeted support to novice and expert mission planners by adapting to unique operator, task, and mission needs, as well as fluidly exposing opportunities for advanced planning functionality when appropriate.

Warfighter Value: INTUIT's role- and task- tailored UIs provide consistent and relevant structures for mission planning across contexts, effectively streamlines system presentation and accelerates the ability of novice operators to plan missions across a range of vehicles, mission contexts, and unique tasks. Expert operators are also supported through efficient interaction mechanisms. In addition to effectively increasing the usability of planning systems and efficiency of operators with varying skill levels, INTUIT also reduces cognitive workload and increases the efficiency of mission planning systems for manned and unmanned vehicles, such as the JMPS.

WHEN

Contract Number: N68335-15-C-0158 **Ending on:** February 1, 2017

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Integrate proof-of-concept component UI functions with JMPS	Low	Demonstration of technical integration approach within JMPS	5	February 2017
Release targeted component functionality with JMPS	Med	Deployed target component with JMPS	6	September 2017
Develop isolated software prototype of full mission plan functionality	Med	Demonstration of single mission planning workflow	6	August 2018
Demonstrate targeted mission planning functions through INTUIT interface integrated within JMPS	High	Interface subset integrated for mission planning within JMPS	7	November 2019

HOW

Projected Business Model: Charles River Analytics plans to develop the software and pursue either direct development for the government or license agreements with a Prime Integrator for the Program of Record.

Company Objectives: Charles River Analytics is seeking relationships with prime systems integrators for mission planning systems to support the transition of INTUIT to JMPS and other mission planning systems, as well as for opportunities to demonstrate INTUIT during live or training events to further support the value added of implementing this technology. In addition, Charles River Analytics is also seeking relationships with government and commercial developers of the Electronic Kneeboard (EKB) program efforts.

Potential Commercial Applications: Commercial applications of INTUIT include providing interfaces for flight planning systems, such as those developed by Jeppesen or Foreflight, to improve adaptive spatial, temporal, and relational visualization capabilities of mission planning awareness displays.

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