Planne: Hoden, Kritha Ph.D. Project Title: Rescrine Procedures for Crowed Missions Reyouf Low Farth Orbit (L.F.O.) Division Name: Human Research Program.Dicipline:				
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Task Description:	 The concept of operations in today's spacecraft cockpit is one in which virtually all tasks are driven by procedures. In addition, crewmembers have near constant access to ground resources and information in the performance of their tasks. As NASA once again prepares for manned spaceflight beyond low Earth orbit (LEO), future spacecraft will require automated systems that will allow the crew to perform procedures without assistance from the ground. This change threatens to increase astronaut workload, decrease efficiency, and increase the risk of inadequate task execution if electronic procedures are not designed with proper research-based guidance. We propose 2 ground-based investigations that will lead to guidelines for designing and using electronic procedures. We will leverage and extend existing electronic procedures for obstware and spacecraft simulations for these dises, to include the PRocedure Integrated Development Environment-PRIDE procedure authoring and execution software developed to model ISS procedures, and the Orion electronic procedures guidelines to contribute to the Space Human Factors Engineering (SHE) gap SHFE-HCI-06 closure via the following specific aims: Mi 1: Determine the effect of level of automation of procedure step execution on Situation Awareness, and other fuman-system performance metrics. Min 2: In a complex, multiple-procedure scenario, determine the effect of procedure management aids (e.g., availability of task allocation information) on Situation Awareness and other human-system performance metrics. Min 3: Determine the effect of the level of integration of system and procedural information on Situation Awareness and other human-system performance metrics. Min 3: Determine the effect of the level of integration of system and procedural information. Subjects will perform the system system tasks, including nominal and off-nominal time-critical scenarios, using prototype displays and becorbite sof automation: 1) no automati
Rationale for HRP Directed Research	:
Research Impact/Earth Benefits:	Results from these studies will be applicable to a variety of domains that use electronic procedures, including space vehicles, habitats, oil and gas refineries, and power plants. The project includes a university collaborator who will serve as liaison to an industry consortium focused on studying and improving procedure design.
Task Progress:	New project for FY2016.
Bibliography Type:	Description: (Last Updated: 10/29/2023)