**NASA-KSC/EX-E High Education
Internship Project & Abstract Form**

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Funding Source:	KSC FO
Name of Branch or Division:	Application & Simulation S/W Engineering Branch
Desk Location:	OSB II, 3113Q2
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Degree of Study:	BSE Aerospace Engineering
Expected Graduation:	04/2015
Project Title:	Display Developer for Firing Room Applications

Project / Abstract Summary: (Approximately 300 words)

One complete paragraph in itself (not an introduction). It should indicate subjects while also stating objectives of the project. Newly observed facts and conclusions of project discussed must be stated in summary form. Readers should be able to understand your project and what you completed in your abstract.

This project involves creating software for support equipment used on the Space Launch System (SLS). The goal is to create applications and displays that will be used to remotely operate equipment from the firing room and will continue to support the SLS launch vehicle to the extent of its program. These displays include design practices that help to convey information effectively, such as minimizing distractions at normal operating state and displaying intentional distractions during a warning or alarm state. The general practice for creating an operator display is to reduce the detail of unimportant aspects of the display and promote focus on data and dynamic information. These practices include using minimalist design, using muted tones for background colors, using a standard font at a readable text size, displaying alarms visible for immediate attention, grouping data logically, and displaying data appropriately varying on the type of data. Users of these displays are more likely to stay focused on operating for longer periods by using design practices that reduce eye strain and fatigue. Effective operator displays will improve safety by reducing human errors during operation, which will help prevent catastrophic accidents. This report entails the details of my work on developing remote displays for the Hypergolics ground system. Before developing a prototype display, the design and requirements of the system are outlined and compiled into a document. Then each subsystem has schematic representations drawn that meet the specifications detailed in the document. The schematics are then used as the outline to create display representations of each subsystem. Each display is first tested individually. Then the displays are integrated with a prototype of the master system, and they are tested in a simulated environment then retested in the real environment. Extensive testing is important to ensure the displays function reliably as intended.

If you are writing a paper for school or specific internship program, provide the following:

Paper Title:	Design and Development of Functionally Effective Human-Machine Interfaces for Firing Room Displays
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