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Screen shot of Kutta's working prototype on a COTS PDA

Title

Personal Issue Flight Test Data Recorder with Display

SBIR Topic Number

AF05-320

Summary Report Type

Phase I Summary

Summation

Kutta used proven methodologies and input from an impressive list of partners, including The Boeing Company, to define the functions and determine the specifications for a wireless Personal Flight Data Recorder with Display (PFDR-D). The company's iterative Rational Unified Process (RUP) identified, rationalized and detailed the system's functions. In the first stage of this process, Kutta identified and prioritized potential PFDR-D functions. In the second stage, Kutta rationalized the identified functions using a risk/benefit analysis. In the third stage, Kutta selected functions and developed detailed software specifications using its expertise in developing high-reliability certifiable avionics software. Kutta also delivered a wireless prototype device that contained a PDA and a commercial off-the-shelf autopilot system for the display of aircraft parameters. The prototype device displayed real-time flight test parameters on an easy to use graphical user interface which included dials, strip charts and gauges. The Phase I effort resulted in several patentable ideas and innovative ways to obtain aircraft data wirelessly.

Anticipated Benefits

Kutta builds a PFDR-D system that benefits military and civilian aircraft pilots. By identifying the needs of both sets of users, this product: (1) provides users with a light-weight PDA-like device to gather and assess real-time flight test data, (2) provides real-time in-flight playback capabilities, and (3) contains hands-free methods that allow use of the device on-the-fly. It is envisioned that this product: (1) enhances military value by including features useful in airworthiness testing, (2) captures the largest set of possible functions, and (3) addresses the needs of both civilian markets and military markets. Kutta will execute its business plan that it develops during the Phase II process. The company anticipates that its Phase II hardware and industrial design partner, ICS, will be the primary distributor because of their existing relationships with all major aircraft manufacturers and avionics service centers. Kutta will also partner with multiple existing UAV manufactures and exploit its relationships within the business jet markets to offer the product to its existing customers such as Boeing, Raytheon, Gulfstream, Honeywell, and Smiths Aerospace.

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