

SOCOM232-002: Hokkien Low Density Language System

ADDITIONAL INFORMATION

N/A

TECHNOLOGY AREAS:

Human Systems | Information Systems

MODERNIZATION PRIORITIES:

Advanced Computing and Software | Integrated Network Systems-of-Systems | Trusted AI and Autonomy

KEYWORDS:

Language; Translation; Device, Software, Taiwan, Hokkien, Low Density Language

OBJECTIVE:

The objective of this topic is to develop applied research toward an innovative capability to allow US SOF to communicate effectively with the Partner Forces in many Low Density Languages starting with Taiwan Hokkien. The develop a Low Density Language development, for the Taiwan Hokkien Language, is a Voice to Voice communication capability that is 100% disconnected from the cloud in a portable form factor.

IMPORTANT: For SOCOM instructions: please visit: <https://www.defensesbirsttr.mil/SBIR-STTR/Opportunities/>. Go to the bottom of the page and click the "DoD SBIR 23.2" tab. Once there, go to the SOCOM SBIR 23.2 document.

DESCRIPTION:

As other High Density Languages are being developed, there is a need to develop a Low Density Language Capability. The start point for these LDL's is Taiwan Hokkien. As a part of this feasibility study, the proposers shall address all viable overall system design options with respective specifications as this solution may be incorporated into the current model or could be a standalone option.

PHASE I:

Conduct a feasibility study to assess what is in the art of the possible that satisfies the requirements specified in the above paragraphs entitled "Objective" and "Description."

The objective of this USSOCOM Phase I SBIR effort is to conduct and document the results of a thorough feasibility study ("Technology Readiness Level 3") to investigate what is in the art of the possible within the given trade space that will satisfy a needed technology. The feasibility study should investigate all options that meet or exceed the minimum performance parameters specified in this write up. It should also address the risks and potential payoffs of the innovative technology options that are investigated and recommend the option that best achieves the objective of this technology pursuit. The funds obligated on the resulting Phase I SBIR contracts are to be used for the sole purpose of conducting a thorough feasibility study using scientific experiments and laboratory studies as necessary. Operational prototypes will not be developed with USSOCOM SBIR funds during Phase I feasibility studies. Operational prototypes developed with other than SBIR funds that are provided at the end of Phase I feasibility studies will not be considered in deciding what firm(s) will be selected for Phase II.

PHASE II:

Develop, install, and demonstrate a prototype system determined to be the most feasible solution during the Phase I feasibility study on a handheld, zero cloud, Fluent Taiwan Hokkien capability. The responsible program office uses the Defense Language Institute's (DLI) Defense Language Proficiency Test (DLPT) Rating System with 3 Levels as established by the International Language Roundtable (ILR). Level 1 roughly equates to basic proficiency, Level 2 is conversational proficiency and Level 3 is Professional Proficiency.

PHASE III DUAL USE APPLICATIONS:

This technology could be used by All DOD and Civilian Support to translate lost languages utilizing the principle of machine learning. AI can use statistical models to correlate words in one language with words in another. This

technology can handle vast amounts of content very quickly to aid communications with other countries to help bridge the gap in understanding one another.

REFERENCES:

1. Conversational demonstration of ILR DLI DLPT Levels: <http://vimeo.com/showcase/139578>; History of the process: <https://govtilr.org/Skills/IRL%20Scale%20History.htm>

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