

From: Director, Marine Corps Forces Pacific Experimentation Center
To: Distribution
Date: 5 April, 2004

**Subj: LETTER OF INSTRUCTION (LOI) FOR MARINE CORPS FORCES PACIFIC
EXPERIMENTATION CENTER'S CONDUCT OF LANGUAGE TRANSLATION TOOL
ASSESSMENT DURING EXERCISE COBRA GOLD '04**

Encl: (1) MEC Language Translation Tool Assessment Plan
(2) VRT Feedback Form
(3) Phraselator Feedback Form
(4) FALCON Feedback Form
(5) TrIM Feedback Form
(6) SpeechGear Express Powerpoint Translator Feedback Form
(7) Defense Language Institute/Interpreter Call Center Feedback Form

1. Situation

The Language and Speech Exploitation Resources (LASER) Advanced Concept Technology Demonstration (ACTD) is a five-year (FY02-06) program to identify, integrate, test, demonstrate and assess the military utility of language technologies for text-to-text translation, speech-to-speech translation, optical character recognition, training tools and cross-language information retrieval (data mining and management) in military user assessments (MUAs).

A primary LASER ACTD program objective is to provide and assess leading-edge technologies and concepts to reduce the language barriers experienced by operational and intelligence personnel. The LASER thrust is to improve interoperability, accuracy, and timeliness of translation for speech and documentation. Both Operations and Intelligence communities require speech and text processing capabilities in a wide range of foreign languages to support coalition/joint task force headquarters and field operations. Language related technology is a fundamental enabler in collection, processing, and exploitation of foreign language materials and sources.

The Marine Corps Forces, Pacific (MFP) Experimentation Center (MEC), under the direction of COMMARFORPAC, serves as a focal point for MFP transformation and experimentation throughout the Pacific and Central theaters. The MEC is co-Operational Manager (OM) of the LASER ACTD and as such is required to employ and evaluate language technology tools in controlled and uncontrolled environments and joint/combined exercises within the USPACOM. Use of these in exercises will provide realistic estimates of the usefulness of state-of-the-art tools under operational conditions. In-garrison use of the tools on a routine basis will permit users to become more familiar with the technology prior to assessment, assist them in bridging the language barriers encountered in the course of their daily duties, and will afford a mechanism for users to provide regular feedback to the MEC.

The overall intent of the MEC with respect to language translation technology is to:

- Introduce/socialize language technology (LT) / machine translation (MT) tools to operational units and use these tools in conjunction with unit level and MAGTF operations in both garrison and field domains.

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- Assess, develop, and/or revise TTPs to support the introduction of useful LT/MT tools into the Operational Architecture (OA).
- Engage the warfighter with developmental systems/tools/TTPs earlier and often.
- Develop and refine LT/MT requirements and capabilities (or required capabilities) as experience is gained from usage by operational forces.
- Develop and refine TTPs or concepts that enable LT/MT exploitation in both a garrison and field environment (Practice how you play).
- Provide operational user assessment and feedback to MFP, OSD, and the development community.

The expected outcome is to blend re-engineered processes with enabling technology in a spiral development process.

2. Mission

During FY04 (and potentially FY05) the MEC, with support from USA/BCBL (TM), USAINSCOM, and the LASER IPTs will conduct a series of MUAs. Familiarization briefings and user training for selected members of HQ III MEF, 3rd MARDIV, HQ MARFORPAC (deployed), I CORPS, other participating units, and foreign nation partner personnel (as applicable) will be conducted on specific language technology tools selected for particular exercises in the USPACOM. Training will be accomplished both in-garrison and at the deployment location as needs dictate. Subsequently, the MEC will provide more extensive training for users, and system administrators when needed, for the broader range of tools expected to be employed over the course of the ACTD.

3. Execution

A. Commander's Intent

To assess the viability of leading edge language translation/ machine translation (LT/MT) tools in operational environments and to support the transition of promising systems and application software to funded acquisition programs.

B. Concept of Operations

Limited user evaluations (LUE) for language translation tools will be limited in scope and focus on employment venues, training, and socialization of the system but will also provide basic qualitative and quantitative measures of performance. The intent is for users to gain experience and familiarity with the tools/systems and to begin to discover, through operational use, the potential benefits and/or operationally significant constraints. On conclusion of a LUE, further plans and/or decisions will be made to determine what should be used in follow-on, more rigorous, MUAs; what improvements need to be made; what integration work is required; and to initiate TTP development for assessment in follow-on operations. It's understood that time and funding will be a constraining factor, however, the intent is to capture maximum user input and feed that back to the development/sponsoring agencies for decisions on enhancements and/or integrations. TTPs that result from initial assessments and language technology use will be refined and codified for further evaluation in subsequent assessments.

1. Exercise COBRA GOLD '04 (CG04) is a joint and combined CPX and FTX held annually in Thailand and consisting of armed forces units from the United States, Thailand, and one or more additional foreign partner nations, some as full participants, others as observers. For CG04, the

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additional full participant nations are Singapore, the Philippines, and Mongolia. The primary locations for the CG04 Language Translation Tool LUE are as follows:

Korat – Combined Task Force (CTF), I CORPS – U.S. lead
Sattahip – Combined Exercise Control Group (CECG), III MEF – U.S. lead
Samaesan – CMARFOR, 3rd MARDIV

2. The language tools proposed for this LUE are as follows:

SpeechGear Express Powerpoint Translator: Bi-directional Thai/English machine translation (MT) (with translation memory (TM) assist) of Powerpoint slides (also does Korean/English). Best used by an individual, or a U.S. and foreign counterpart duo, with some knowledge of the other's language to edit the translated briefing into final form.

Translingual Instant Messaging (TrIM): Multilingual MT'd computer chat. Includes Thai, English, Russian and several other languages (CJK, European, etc.). Each user sees and enters messages in his/her own language. Will be implemented as an unclassified capability accessible via the NIPRnet (for U.S. staff) and internet. Applications such as general coordination or those specific to C7, C4, C1, and Rear Ops may be best suited for TrIM on the unclassified networks.

Note that for effective use of TrIM, your Thai counterparts must be identified (for account creation) and contacted to coordinate use of TrIM in CG04. Potential for use with Russian speaking Mongolian counterparts also.

Suparsit.com: Web-based, uni-directional English to Thai machine translation for text (cut and paste) and web pages. Accessible via the APAN virtual CMOC (internet).

Forward Area Language Converter (FALCON): Standalone PC-based, uni-directional Thai to English machine translation for text files. Best used by an individual, or a U.S. and foreign counterpart duo, with some knowledge of the other's language to edit the translated file into final form.

Phraselator P2: Upgraded version of the PDA style English to foreign language speech translator. Linguist produced foreign language output phrases include Thai, Tagalog, Russian, and several other languages. Best used in structured or repetitive situations such as applications in humanitarian assistance, medical interviews, travel, force protection, etc.

IWT Voice Response Translator (VRT): Smaller, hands-off, version English to foreign language speech translator. Unit must be trained to a specific user's voice and each unit can accommodate eight users. No display. Linguist produced foreign language output phrases include Thai and several other languages. Best used in structured or repetitive situations such as applications in humanitarian assistance, medical interviews, travel, force protection, etc.

Defense Language Institute (DLI) Interpreter Call Center (ICC): Live access to qualified interpreters, by language and areas of specialization, 24/7/365 from anywhere in the world via cellular/satellite phone. Connection to interpreter is usually made within 60 seconds through a central operator. Over 140 languages available. This is a commercial service and is **not to be used for the discussion of classified information**.

3. The Language Translation Tool LUE will consist of 3 exercise-specific phases. For exercise COBRA GOLD '04 they are:

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Phase I, Training. User training will be provided by MARFORPAC/MEC personnel or the product vendor reps during the months of February, March and April 2004, prior to the exercise where possible, and during the exercise training window by MARFORPAC/MEC personnel on site as follows:

- 18-20 Feb MEC sponsored Phraselator P2 and VRT training (Hawaii)
- 16 Mar Phraselator P2 Trainer Training and User Training for SpeechGear (SG) Expres (Ft Lewis, WA)
- 22 Mar-30 Apr Remote training for Okinawa based Marine Corps Forces, as available
- 22 Mar-30 Apr Training for PACAF/56AOS (FALCON and, if available, SG Expres)
- 6-11 May Training for CECG and CMARFOR at Sattahip and Samaesan
- 13-18 May Training for CTF units at Korat

Training will encompass, but not be limited to, the following, as applicable:

- Phraselator P2 and Voice Response Translator (VRT)
- Forward Area Language Converter (FALCON)
- Translingual Instant Messaging (TrIM)
- SpeechGear Expres Powerpoint Translator
- Suparsit.com
- Defense Language Institute/Interpreter Call Center (DLI/ICC)
- Installation instruction
- Phrase addition for speech-to-speech tools
- Identifying/reporting problems/issues
- Troubleshooting

Phase II, Deployment, System Set-up, Execution, and Data Collection. The language tools will be used, on a not-to-interfere basis, during the normal execution of this exercise. The principle goal will be to provide a baseline assessment of the military utility of the candidate tools under realistic conditions, and to collect user/administrator feedback. See the enclosures included herein for assessment performance objectives and feedback forms. The following significant events schedule is provided for planning purposes for this exercise.

- 5 May Arrival of MEC/Language Translation Tool personnel in Thailand
- 6-11 May On-site tool installation, setup, and training for CECG and CMARFOR at Sattahip and Samaesan
- 13-18 May On-site tool installation, setup, and training for CTF units at Korat
- 19-27 May Language tool employment and evaluation
- TBD Tentative dates for VIP demos
- 28 May departure of MEC Language Translation Tool personnel

At a minimum, language technology tools will be deployed as follows.

Note that **for effective use of TrIM, your Thai counterparts should be identified (for account creation) and contacted to coordinate use of TrIM in CG04.**

- **CTF, Korat**

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- SpeechGear Express Powerpoint Translator
 - I CORPS/C2, C4, C7 +
 - 9thTSC (CTSC)
 - PACAF/56AOS (CAOC)
 - Translingual Instant Messaging (TrIM) (uncl – NIPRnet and internet)
 - I CORPS/C2?, C7
 - 9thTSC (CTSC)
 - Suparsit.com
 - I CORPS/C7
 - 9thTSC (CTSC)
 - Forward Area Language Converter (FALCON)
 - I CORPS/C2, C4, C7
 - 9thTSC (CTSC)
 - PACAF/56AOS (CAOC)
 - Phraselator P2
 - I CORPS
 - J332
 - Defense Language Institute/Interpreter Call Center (DLI/ICC)
 - TBD
- **CECG, Sattahip – III MEF**
 - SpeechGear Express Powerpoint Translator
 - Translingual Instant Messaging (TrIM) (uncl – NIPRnet and internet)
 - Suparsit.com
 - Forward Area Language Converter (FALCON)
 - Defense Language Institute/Interpreter Call Center (DLI/ICC) – TBD
 - **CMARFOR, Samaesan – 3rd MARDIV**
 - SpeechGear Express Powerpoint Translator
 - Translingual Instant Messaging (TrIM) (uncl – NIPRnet and internet)
 - Suparsit.com
 - Forward Area Language Converter (FALCON)
 - Phraselator P2
 - Voice Response Translator (VRT)
 - Defense Language Institute/Interpreter Call Center (DLI/ICC) – TBD

Phase III, Data Analysis and Out Brief. Prior to conclusion of the exercise, all data sheets will be collected and subsequently analyzed by the MEC Assessment Team. The MEC team will provide a report to the Director of the Experimentation Center, members of the LASER ACTD, and participating units as to the results of the LUE, and make recommendations for further LUEs and/or MUAs.

C. Tasks

- (1) Pre-Phase I: Planning and Logistics

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1. Provide centralized coordination for MEC personnel participating in the assessment in relation to site access, clearance requirements and POC information for transmittal of same, and other coordination to assist the MEC in the insertion of language technology tools into the exercise. It is planned to have MEC personnel at the following locations:

- Sattahip, Samaesan, Korat
 - Ray Leblanc (MEC)
 - Christian Breault (MEC)
 - MGySgt Martha Lively (or alt) (MCLCAT, Cp Butler)
 - MSgt John Craig (or alt) (MCLCAT, Cp Butler)

(2) Phase I: Training Period

MARFORPAC Experimentation Center:

1. Provide centralized coordination for all activities participating in the assessment.
2. Develop and publish Letter of Instruction for the LUE to be conducted during this exercise.
3. Provide user training as indicated above.

HQ III MEF:

1. Provide personnel to be trained in accordance with this LOI.
2. Assist with the installation of any additional systems (i.e. TrIM/FALCON on additional laptops, as desired; Phraselator/VRT phrase additions, as needed; etc.) that will support the exercise.
3. Assist in conducting operational checks of systems prior to use.

3rd MARDIV: Same as for HQ III MEF above.

HQ MARFORPAC (deployed): Same as for HQ III MEF above.

ICORPS: Requested to provide same as for HQ III MEF above.

9th TSC: Requested to provide same as for HQ III MEF above.

PACAF/56AOS: Requested to provide same as for HQ III MEF above.

PACOM/J332: Requested to provide same as for HQ III MEF above.

(3) Phase II: Deployment, System Set-up, Execution, and Data Collection

MARFORPAC Experimentation Center:

1. Provide centralized coordination for all activities participating in the LUE.
2. Provide appropriate personnel to assist with language tool installation, set-up, and data collection.
3. Coordinate and provide ad hoc visitor demonstrations. Prepare related briefings and handouts as required.

HQ III MEF:

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1. Provide appropriate personnel for training, as needed, at mutually agreed times at the deployment location.
2. Assist with any residual language tool installations. Provide at least one copy of the Windows 2000 Operating System CD(s) at each deployment site, since adding new language settings to PCs running Win2K will require these disks.
3. Utilize the LASER tools and provide appropriate feedback.

3rd MARDIV: Same as for HQ III MEF above.

HQ MARFORPAC (deployed): Same as for HQ III MEF above.

I CORPS: Requested to provide same as for HQ III MEF above.

9th TSC: Requested to provide same as for HQ III MEF above.

PACAF/56AOS: Requested to provide same as for HQ III MEF above.

PACOM/J332: Requested to provide same as for HQ III MEF above.

(4) Phase III: Data Analysis and Outbrief

MARFORPAC Experimentation Center:

1. Collect all data sheets and record feedback (formal and informal) and analyze the data.
2. Prepare and provide a report to the Director of the Experimentation Center, members of the LASER ACTD, and participating units as to the results of the LUE, and make recommendations for further LUEs and/or MUAs.

D. Coordinating Instructions

Enclosures (1) – (7) provide the MEC's Language Translation Tool Assessment Plan and pertinent feedback Questionnaires. Users are urged to review these prior to the exercise in order to get a better understanding of what will be required of them in the way of feedback which is needed by the MEC to evaluate tool performance.

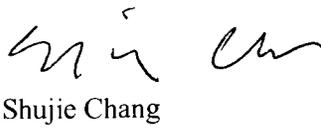
Travel, messing, and billeting arrangements for military, government civilian, and contractor personnel assigned to support the Language Translation Tool assessments will be the responsibility of respective parent units.

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4. Points of Contact

The points of contact for this LOI are as follows:

MEC: Mr. Chris Breault, 760-476-1415
Mr. Ray LeBlanc, 808-473-6439
IIIMEF: Maj Frank Kolbe (TECG), DSN 622-7115
3MARDIV: MgySgt John Armet (G2), DSN 622-9385
I CORPS: LTC Maureen Vanek (G2), 253-968-9001
MAJ Rod Cromwell, roderick.cromwell@us.army.mil
USPACOM: Mr. John Osborne (J376), 808-477-8266



Shujie Chang

Director

MARFORPAC Experimentation Center

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MEC Language Translation Tool Assessment Plan

Exercise COBRA GOLD '04

1. Introduction

This document describes the evaluation plan for the use of several speech-to-speech translation aids, as well as the Forward Area Language Converter (FALCON) and the Translingual Instant Messaging (TrIM) service, both sponsored by the Army Research Lab (ARL), during Exercise COBRA GOLD '04. This exercise involves U.S. and foreign partner forces with expected participant units from:

- III MEF
- 3MARDIV
- I CORPS
- HQ USPACOM
- Other in-theater service components
- Royal Thai Armed Forces (RTARF), other foreign partner nations

Trained personnel, sponsored by the MARFORPAC Experimentation Center (MEC) will perform the evaluation, soliciting the participation of other personnel as appropriate.

2. Objectives

While current Machine Translation (MT) is an imperfect technology, it can still be used to expedite and facilitate the work of skilled human translators. In the case of pre-programmed speech translators, accurate translations of stock phrases are possible thereby enabling an English-only speaker to effect some level of communication with foreign language speakers. The prototypes fielded in this exercise are intended to provide warfighters with state-of-the-art, language technology tools to aid in the performance of certain classes of tasks. The fundamental goal of this evaluation is to see if the prospective tools (Phraselator P2, Voice Response Translator (VRT), Visual Language Translator (VLT), SpeechGear Express Powerpoint Translator, FALCON, and TrIM), in their current state, can effectively support operations, i.e. can the warfighter successfully use these tools, in spite of their shortcomings. A secondary goal is to establish a baseline for subsequent experiments, in a rapidly evolving field, within future exercise environments.

The objectives of the Language Translation Tool assessments are to:

- Determine suitability of the tested tools for particular classes of military tasks.
- Assess the utility and usability of the tools in an exercise context.
- Perform task-based evaluations of the tools used for the relevant language pair(s)
- Provide a baseline for system performance, for comparison with later systems.
- Observe and gauge the impact of inserting this technology into the operational environment.

The evaluation effort will be carried out in three phases:

1. Collect both quantitative and qualitative data across groups of users over time in operational environment
2. Analyze the data focusing on several levels of interaction
3. Report and distribute results

3. Methods

A. Task-based Evaluation

Language technology (LT) / machine translation (MT) systems are usually assessed based on their utility in the performance of particular tasks. It is typically counterproductive to attempt to analyze LT/MT systems in a vacuum, for example, by counting the number of correctly translated words in a document. The general approach is to employ the technology for a defined task, and then apply various measures (e.g., could the reader of a translated document correctly answer questions about the document) that determine the fitness of the technology in the context of the task.

The following provides a list of potential tasks where the tools may be employed in this exercise:

- Speech-to-Speech Translation Aids (Phraselator, Voice Response Translator (VRT), Visual Language Translator (VLT), and Speechgear voice translation tools):
 - Interrogation of enemy prisoners and other potential hostiles
 - Interview of friendly parties and neutral non-combatants for humanitarian and peacekeeping purposes
 - Coordination of civil-military operations

Evaluation of speech-to-speech aids, which are generally hand-held devices, will focus on device durability and ease of use, understandability by the target individual (translations and vocalization, where applicable), sufficiency of the pre-programmed information, and cultural and other human response issues. VRT will be used and evaluated within the constraints of the exercise. Other speech tools will be demonstrated as time permits, and may be employed (within the constraints of the exercise) if requested by the users, and evaluated accordingly.

- FALCON:
 - Translation of briefings, assessments, personnel related documents, point papers, and orders (bilateral)
 - Translation of other foreign language documents for intelligence purposes

For these document translation tasks, evaluation (both quantitative and qualitative) will focus on what the user was able to derive from the translated texts, what the user felt was missing from or uncertain in the translated texts, whether the user felt the text, as translated, was usable for the particular task, what deficiencies in the translation were felt to be critical, and whether the user would seek human translation based on the machine translation.

- TrIM:
 - Bilateral/Multilateral staff/operator coordination, e.g.
 - for verification/notification of locations of tactical units/other organizations
 - for coordination of briefings, meetings, and other administrative actions to include personnel issues and political/military issues
 - for coordination in the preparation of orders (ops, frag, warning)
 - Joint Targeting Boards
 - for coordination in defining unit boundaries
 - in determining unit capabilities (combat strength, weapons systems, etc.)
 - in determining battle damage assessment (red/blue)

- for coordination and dissemination of intelligence reports
- Coordination of exercise control issues across all battle operating systems
- Establishment and maintenance of group cohesion/understanding in a coalition setting
- Sense-making: the development of group consensus

In evaluating translingual communication tasks mediated by TrIM, attention will be paid to: the efficiency of discourse (amount of time spent in repair sub-dialogues); the ability of the participants to make themselves understood and to understand others; terms or concepts that were particularly difficult to convey in this medium (and that may be helped by additional resources; such as domain-specific dictionaries); overall success or failure of task performance; modes of use of the tool; and user discourse behaviors that effectively compensate for deficiencies of the technology.

- Powerpoint Translators

- Translation of briefings, bilateral coordination for production of briefings

For Powerpoint translation tasks, evaluation (both quantitative and qualitative) will focus on what the user was able to derive from the translated slides, what the user felt was missing from or uncertain in the translation, whether the user felt the text, as translated, enabled more rapid production of a coordinated bi-lateral briefing, what deficiencies in the translation were felt to be critical, and whether the user would seek human translation based on the machine translation.

- MS Office Product Translators

- Translation of briefings, bilateral coordination for production of briefings
 - Translation of documents, bilateral coordination for production of documents

For Powerpoint translation tasks, evaluation (both quantitative and qualitative) will focus on what the user was able to derive from the translated slides, what the user felt was missing from or uncertain in the translation, whether the user felt the text, as translated, enabled more rapid production of a coordinated bi-lateral briefing, what deficiencies in the translation were felt to be critical, and whether the user would seek human translation based on the machine translation. A similar rationale will be used for the evaluation of document translation.

B. Data Collection

The team will gather information using both quantitative and qualitative methods as the tools under evaluation and circumstances permit:

Quantitative data will be collected from both automatic data capture and from user questionnaires. Automatic data capture includes actual content of the logs, such as text entries with associated timestamps and user screen names. In the case of TrIM, this automatic capture also includes an instrumented capture of events from the TrIM server, such as navigation from window to window, or use of a feature. If properly employed, TrIM logging permits the reconstruction of collaboration from the point of view of any participant. Survey questionnaires will be used to gather background information about the users, such as rank, specialization, and experience using computers and collaborative tools, as well as to elicit data about the features and overall user reactions to the language translation tools.

Qualitative information about usage will be gathered through user-written comments in the questionnaires, interviews with the users, and notes taken by the observers. Open-ended interviews will be conducted to gather contextual information about the situations in which the tools are used and how they fit into a

larger picture of what users are trying to accomplish during the exercise. The emphasis of the observations will be on how people interact with the technology and with each other, and on operational processes surrounding the use of these language technology tools. Daily field notes will be taken, and recorded interviews will be transcribed. An attempt will be made to correlate time-stamped field notes and server/device logs where applicable.

C. Analysis

Analysis will be carried out to gain knowledge in a number of areas, across several levels of analysis:

- Technical behavior of the systems
- Human-computer interaction
- Human-human interaction
- Social and organizational processes
- Users' ability to adapt to tool
- Tool effectiveness against task

Analysis is expected to provide useful insight into a number of issues related to the tools, and technology in general, and its introduction among a sample group of users. Much will be learned about usage patterns and how to introduce the tool to new users. Suggestions will be made for design improvements. A list of problems specific to the translator and lexicon(s) will be compiled.

The genre approach will be used to identify and illustrate how participants use TrIM to establish and extend social relations in preparation for and along with their more formal tasks. Genre analysis results from this data will be compared with those from other contexts of usage to identify larger patterns of generality and specialization. Comparisons across different styles of use (such as demos, usability tests, and military scenario exercises) will also lead to increased understanding of the social aspects of collaboration. As insights are gained from these studies, they may also be used to contribute to improvements in machine translation.

D. Reporting of Results

Evaluation results will be provided to participants in the LASER ACTD and other organizations as applicable as determined by the MEC.

The results of this evaluation are expected to serve four primary purposes:

1. Establishing a baseline for future language technology assessments under the LASER ACTD in the USPACOM
2. Familiarizing military users with the technology in terms of its current state of the art and ability to support particular tasks/missions
3. Assembling data for developers to use in the refinement of the products being tested
4. Aiding the formulation of near- and medium-term transition and deployment strategies

4. Personnel

Members of the evaluation team include the following personnel:

- Ray LeBlanc – MITRE Systems Engineer supporting MARFORPAC/MEC
- Chris Breault – Battelle Corp Operations Analyst supporting MARFORPAC/MEC
- MGySgt Martha Lively (or alt) (MCLCAT, Cp Butler)
- MSgt John Craig (or alt) (MCLCAT, Cp Butler)

IWT Voice Response Translator Questionnaire

Unit: _____ Years in Service: _____

Job Function: _____ Years in current job function: _____

Usefulness of translator: High Medium Low

Assisted in accomplishing mission: Somewhat
Not at all
Increased effectiveness

Scenario:

Force Protection Interrogation of Hostiles Interview of Friendly
Logistic Support Medical Assistance Other: _____

Brief Description of Scenario: _____

Operation:

Was the translator durable: YES NO
Was it intuitive/self-explanatory to use? YES NO
Did you receive user training? YES NO
If so, how much training? (days, hours, minutes) _____
Did you train the unit? YES NO

Accuracy:

Estimate percentage of missed phrases: _____
How many different people did you try this device on? _____
How many days have you been using this device? _____
Did local nationals understand the speech produced easily? YES NO
Phrases/scenarios consistently missed: _____

Recommendations:

Phrases/scenarios to be removed: _____

Phrases /scenarios to be added: _____

Languages to be added: _____

Usability

Please circle one choice in each row. 1 means "I strongly disagree with this statement" and 5 means "I strongly agree with this statement".

	Strongly Disagree					Strongly Agree		Not Applicable
	1	2	3	4	5	N/A		
The system was highly effective.	1	2	3	4	5	N/A		
The system contained appropriate material.	1	2	3	4	5	N/A		
The system effectively conveyed the interrogator's needs/questions.	1	2	3	4	5	N/A		
The system effectively conveyed the local national's response	1	2	3	4	5	N/A		
The system was reliable and stable.	1	2	3	4	5	N/A		

General Translation

	Strongly Disagree				Strongly Agree	
	1	2	3	4	5	
I could overcome deficiencies in the translation by using my own knowledge of the original language.	1	2	3	4	5	
I was so confused I gave up.	1	2	3	4	5	
The translation misled/confused the local nationals.	1	2	3	4	5	
The pronunciation was clear.	1	2	3	4	5	
Phrases were correctly translated.	1	2	3	4	5	

Overall Experience

Please answer the following questions to the best of your knowledge. Use the back of the page if you need more space. Feel free to speak openly – your comments will be pooled with those of others, with no attribution to you personally. Remember: we are evaluating the system, not you. Thank you.

- 1) What did you like most about the VRT?

- 2) What did you like least?

- 3) What did you find easy to use?

- 4) What did you find hard to use?

- 5) What were the translation errors that seemed operationally important?

- 6) Was there something you wanted to do with the VRT but couldn't?

- 7) What would you change about the VRT?

- 8) Would you use the VRT as part of your daily job if it were available? YES NO
Why or Why not?

- 9) Additional Comments?

Phraselator (PDA) Questionnaire

Unit: _____ Years in Service: _____

Job Function: _____ Years in current job function: _____

Usefulness of translator: High Medium Low

Assisted in accomplishing mission: Somewhat
Not at all
Increased effectiveness

Scenario:

Force Protection Interrogation of Hostiles Interview of Friendly
Logistic Support Medical Assistance Other: _____

Brief Description of Scenario: _____

Operation:

Was the translator durable: YES NO
Was it intuitive/self-explanatory to use? YES NO
Did you receive user training? YES NO
If so, how much training? (days, hours, minutes) _____
Did you train the unit? YES NO

Accuracy:

Estimate percentage of missed phrases: _____
How many different people did you try this device on? _____
How many days have you been using this device? _____
Did local nationals understand the speech produced easily? YES NO
Phrases/scenarios consistently missed: _____

Recommendations:

Phrases/scenarios to be removed: _____

Phrases /scenarios to be added: _____

Languages to be added: _____

Usability

Please circle one choice in each row. 1 means “I strongly disagree with this statement” and 5 means “I strongly agree with this statement”.

	Strongly Disagree			Strongly Agree		
	1	2	3	4	5	
Overall, the user interface made sense.	1	2	3	4	5	
The system responded in a timely manner.	1	2	3	4	5	
The system displayed data clearly.	1	2	3	4	5	
The system contained appropriate material.	1	2	3	4	5	
The system effectively conveyed the interrogator's needs/questions.	1	2	3	4	5	
The system effectively conveyed the local national's response	1	2	3	4	5	
The system was reliable and stable.	1	2	3	4	5	
The menu options made sense.	1	2	3	4	5	

General Translation

	Strongly Disagree			Strongly Agree		
	1	2	3	4	5	
The translated phrases made sense.	1	2	3	4	5	
The pronunciation was clear.	1	2	3	4	5	
I could overcome deficiencies in the translation by using my own knowledge of the original language.	1	2	3	4	5	
The translation misled/confused the local nationals.	1	2	3	4	5	
I was so confused I gave up.	1	2	3	4	5	

Overall Experience

Please answer the following questions to the best of your knowledge. Use the back of the page if you need more space. Feel free to speak openly – your comments will be pooled with those of others, with no attribution to you personally. Remember: we are evaluating the system, not you. Thank you.

- 1) What did you like most about the Phraselator?

- 2) What did you like least?

- 3) What did you find easy to use?

- 4) What did you find hard to use?

- 5) What were the translation errors that seemed operationally important?

- 6) Was there something you wanted to do with the Phraselator but couldn't?

- 7) What would you change about the Phraselator?

- 8) Would you use the Phraselator as part of your daily job if it were available? YES NO
Why or Why not?

- 9) Additional Comments?

FALCON: Post-Evaluation Questionnaire

Please take a moment to answer the following questions. Your help is greatly appreciated.

Unit: _____ **Section:** _____ **Duty Title:** _____

For the following two sections, please circle one choice in each row. 1 means “I strongly agree with this statement” and 7 means “I strongly disagree with this statement”.

I. Usability

	Strongly Disagree						Strongly Agree
	1	2	3	4	5	6	7
The user interface made sense.	1	2	3	4	5	6	7
The system responded in a timely manner.	1	2	3	4	5	6	7
The system displayed data clearly.	1	2	3	4	5	6	7
The system was reliable and stable.	1	2	3	4	5	6	7
The system was able to handle the formats of the original documents.	1	2	3	4	5	6	7
The menu options made sense.	1	2	3	4	5	6	7

II. General Translation

	Strongly Disagree						Strongly Agree
	1	2	3	4	5	6	7
Translated documents made sense.	1	2	3	4	5	6	7
Sometimes the translation misled me or others.	1	2	3	4	5	6	7
Sometimes, I was so confused I gave up.	1	2	3	4	5	6	7
I could have read the document without the translation.	1	2	3	4	5	6	7
I used my knowledge of the other language to clarify document translations.	1	2	3	4	5	6	7
In general, words were correctly translated.	1	2	3	4	5	6	7

III. Translation of Operational Language

This section asks you about how FALCON handled specific types of operationally significant messages. If you did not send or receive message of this type, circle “Not Applicable”.

Instructions: For this section, please circle one choice in each. 1 means “Not Useful” and 7 “Very Useful”.

	Not Useful						Very Useful	Not Applicable
	1	2	3	4	5	6	7	
The translations the system provided of <i>Order of Battle</i> information (unit names, etc.) were:	1	2	3	4	5	6	7	N.A.
The translations the system provided of <i>Maneuver information</i> (direction, distance, time, area names) were:	1	2	3	4	5	6	7	N.A.
The translations the system provided of <i>Tasking information</i> (who does what, when, etc.) were:	1	2	3	4	5	6	7	N.A.
The translations the system provided of <i>Commander’s Intent</i> (operations goals and constraints) were:	1	2	3	4	5	6	7	N.A.
The translations the system provided of <i>Logistics</i> information were:	1	2	3	4	5	6	7	N.A.

Instructions: For this section, please circle one choice in each row. 1 means “Strongly Disagree” and 7 “Strongly Agree”.

	Strongly Disagree						Strongly Agree	Not Applicable
	1	2	3	4	5	6	7	
I was able to work around any deficiencies in translation of <i>Order of Battle</i> information.	1	2	3	4	5	6	7	N.A.
I was able to work around any deficiencies in <i>Maneuver information</i> translation.	1	2	3	4	5	6	7	N.A.
I was able to work around any deficiencies in <i>Tasking information</i> translation.	1	2	3	4	5	6	7	N.A.
I was able to work around any deficiencies in <i>Task organization</i> information translation.	1	2	3	4	5	6	7	N.A.
I was able to work around any deficiencies in <i>Commander’s Intent</i> translation.	1	2	3	4	5	6	7	N.A.
I was able to work around any deficiencies in <i>Logistics</i> message translation.	1	2	3	4	5	6	7	N.A.

IV. Overall Experience

Please answer the following questions to the best of your knowledge. Use the back of the page if you need more space. Please be candid—we need your insights to improve the system. Remember: we are evaluating the system, not you. Thank you.

- 1) What did you like most about FALCON?

- 2) What did you like least about FALCON?

- 3) What did you find easy to use?

- 4) What did you find hard to use?

- 5) Were there translation errors that seemed operationally important? What were they?

- 6) Was there something you wanted to do in FALCON but couldn't?

- 7) What would you change about FALCON?

- 8) Would you use FALCON as part of your daily job if it was available? Why or Why not?

- 9) If known, please describe the computer on which you ran FALCON:
Make/Model: _____
CPU Speed: _____
Operating System: _____

- 10) Is there anything else you think we should know about FALCON?

TrIM: Post-Evaluation Questionnaire

Please take a moment to answer the following questions. Your help is greatly appreciated.

Unit: _____ **Section:** _____ **Duty Title:** _____

Instructions: For sections I-II, please circle one choice in each row. 1 means “I strongly disagree with this statement” and 7 means “I strongly agree with this statement”.

I. Usability

	Strongly Disagree						Strongly Agree
	1	2	3	4	5	6	7
The user interface made sense.	1	2	3	4	5	6	7
The system responded in a timely manner.	1	2	3	4	5	6	7
The system displayed data clearly.	1	2	3	4	5	6	7
The menu options made sense.	1	2	3	4	5	6	7

II. General Translation

	Strongly Disagree						Strongly Agree
	1	2	3	4	5	6	7
Translated messages made sense.	1	2	3	4	5	6	7
I could understand what others were saying to me.	1	2	3	4	5	6	7
I could make myself understood by others.	1	2	3	4	5	6	7
A confusing message translation could be clarified by additional chat.	1	2	3	4	5	6	7
Sometimes the translation misled me or others.	1	2	3	4	5	6	7
Sometimes, I was so confused I gave up.	1	2	3	4	5	6	7
I could have read all the messages without the translation.	1	2	3	4	5	6	7
I used my knowledge of the other language to clarify message translations.	1	2	3	4	5	6	7
In general, words were correctly translated.	1	2	3	4	5	6	7

III. Translation of Operational Language

This section asks you about how TrIM handled specific types of operationally significant messages. If you did not send or receive message of this type, circle “Not Applicable”.

Instructions: For this section, please circle one choice in each. 1 means “Not Useful” and 7 “Very Useful”.

	Not Useful						Very Useful	Not Applicable
	1	2	3	4	5	6	7	
The translations the system provided of <i>Order of Battle</i> information (unit names, etc.) were:	1	2	3	4	5	6	7	N.A.
The translations the system provided of <i>Maneuver information</i> (direction, distance, time, area names) were:	1	2	3	4	5	6	7	N.A.
The translations the system provided of <i>Tasking information</i> (who does what, when, etc.) were:	1	2	3	4	5	6	7	N.A.
The translations the system provided of <i>Commander’s Intent</i> (operations goals and constraints) were:	1	2	3	4	5	6	7	N.A.
The translations the system provided of <i>Logistics</i> messages were:	1	2	3	4	5	6	7	N.A.

Instructions: For this section, please circle one choice in each row. 1 means “Strongly Disagree” and 7 “Strongly Agree”.

	Strongly Disagree						Strongly Agree	Not Applicable
	1	2	3	4	5	6	7	
I was able to work around any deficiencies in translation of <i>Order of Battle</i> information.	1	2	3	4	5	6	7	N.A.
I was able to work around any deficiencies in <i>Maneuver information</i> translation.	1	2	3	4	5	6	7	N.A.
I was able to work around any deficiencies in <i>Tasking information</i> translation.	1	2	3	4	5	6	7	N.A.
I was able to work around any deficiencies in <i>Task organization</i> information translation.	1	2	3	4	5	6	7	N.A.
I was able to work around any deficiencies in <i>Commander’s Intent</i> translation.	1	2	3	4	5	6	7	N.A.
I was able to work around any deficiencies in <i>Logistics</i> message translation.	1	2	3	4	5	6	7	N.A.

IV. Overall Experience

Instructions: Please answer the following questions to the best of your knowledge. Use the back of the page if you need more space for your answers. Please be candid—we need your insights to improve the system. Remember: we are evaluating the system, not you. Thank you.

- 1) What did you like most about TrIM?

- 2) What did you like least about TrIM?

- 3) What did you find easy to use?

- 4) What did you find hard to use?

- 5) Were there translation errors that seemed operationally important? What were they?

- 6) Was there something you wanted to do in TrIM but couldn't?

- 7) What would you change about TrIM?

- 8) Would you use TrIM as part of your daily job if it was available? Why or Why not?

- 9) What else do you think we should know about TrIM?

Expres PowerPoint Translator: Post-Evaluation Questionnaire

Please take a moment to answer the following questions. Your feedback will help guide the continued development of this system.

Name: _____

Unit: _____

Section: _____

Duty Title: _____

I. Need for a PowerPoint Translation System

- During the exercise, I was involved in translating approximately _____ PowerPoint briefings.
(enter a number)
- This is [*far less, less, same, more, much more*] than I have done in the past or to my knowledge others have done in the past in similar exercises.
- The translation needed to be completed [*immediately, within 1-2 hours, within 3-8 hours, within 9-24 hours, by next day or longer*].
- Typically, the amount of slides contained in each briefing that I was involved in translating was _____ slides.
(enter a number)
- Prior to having this PowerPoint Translation system, the amount of time it took to translate **each** slide was approximately _____ minutes.
(enter a number)
- The number of team members involved in translating the slides during this exercise was typically [*just myself, 2-3 members, 3-4 members, 5 or more*].
- If there was more than one team member, these members were [*all in the same location; in different geographic locations*].

For the following, please circle one choice in each row. **1** means *I strongly disagree with this statement* and **7** means *I strongly agree with this statement*. If you do not have an opinion on the question, select N/A.

	Strongly Disagree						Strongly Agree	Not Sure
	1	2	3	4	5	6	7	
I often need to integrate multiple slides from several users to generate the complete briefing	1	2	3	4	5	6	7	N/A

There is significant reuse of phrases in the briefings.	1	2	3	4	5	6	7	N/A
There is significant use of acronyms in the briefings	1	2	3	4	5	6	7	N/A
Translating acronyms is not a problem for me – I know what all the acronyms mean.	1	2	3	4	5	6	7	N/A
Once I was given slides to translate, their content was not changed until after the translation process was completed (i.e., the authors did not keep modifying the slides).	1	2	3	4	5	6	7	N/A

Please briefly describe the process you previously have been using to generate translations of PowerPoint briefings (e.g., just sit down with a computer and type them up manually, ...).

II. User Interface Design

For the following, please circle one choice in each row. **1** means *I strongly disagree with this statement* and **7** means *I strongly agree with this statement*. If you do not have an opinion on the question, simply select N/A.

	Strongly Disagree						Strongly Agree	Not Sure
	1	2	3	4	5	6	7	
The user interface made sense.	1	2	3	4	5	6	7	N/A
It was easy for me to move from one slide to the next.	1	2	3	4	5	6	7	N/A
Having the ability to view both the original and the translated documents was very helpful.	1	2	3	4	5	6	7	N/A
The ability to resize each of the screens was very useful.	1	2	3	4	5	6	7	N/A

Selecting the text to be translated was straight forward and easy.	1	2	3	4	5	6	7	N/A
The approach for handling acronyms works well.	1	2	3	4	5	6	7	N/A
The layout for editing the acronym database was easy to use.	1	2	3	4	5	6	7	N/A
I made extensive use of the program's user customization features (e.g., selecting the color of the modified text).	1	2	3	4	5	6	7	N/A

Please add any additional comments you have with respect to the system's user interface.

III. System Performance

For the following, please circle one choice in each row. **1** means *I strongly disagree with this statement* and **7** means *I strongly agree with this statement*. If you do not have an opinion on the question, select N/A.

	Strongly Disagree						Strongly Agree	Not Sure
	1	2	3	4	5	6	7	
The system responded in a timely manner.	1	2	3	4	5	6	7	N/A
It properly displayed the <u>layout</u> (e.g., location of text boxes and figures) contained in the original slides.	1	2	3	4	5	6	7	N/A
The system did a good job of transferring the <u>layout</u> of the original slides into the translated slides.	1	2	3	4	5	6	7	N/A
The program properly displayed the <u>figures</u> contained in the original slides.	1	2	3	4	5	6	7	N/A
The program did a good job of transferring the <u>figures</u> of the original slides into the translated slides.	1	2	3	4	5	6	7	N/A

It was able to handle any text contained in the <u>notes section</u> (i.e., speaker's notes) of the original slides.	1	2	3	4	5	6	7	N/A
The system properly displayed text contained in the <u>text boxes</u> of the original slides.	1	2	3	4	5	6	7	N/A
The program provided suggested translations that made sense and were helpful.	1	2	3	4	5	6	7	N/A
In general, the system was reliable and stable.	1	2	3	4	5	6	7	N/A

Please add any additional comments you have with respect to the system's performance.

IV. Translation Performance

For the following, please circle one choice in each row. **1** means *I strongly disagree with this statement* and **7** means *I strongly agree with this statement*. If you do not have an opinion on the question, select N/A.

	Strongly Disagree						Strongly Agree	Not Sure
	1	2	3	4	5	6	7	
The suggested translations made sense.	1	2	3	4	5	6	7	N/A
The Machine Translator (suggestions denoted with the label "MT") worked well.	1	2	3	4	5	6	7	N/A
The system handled acronyms properly.	1	2	3	4	5	6	7	N/A
In general, the system helped me to identify an appropriate translation	1	2	3	4	5	6	7	N/A

Please add any additional comments you have with respect to the performance of the translation engines.

V. Overall Experience

Please answer the following questions to the best of your knowledge. Use the back of the page if you need more space.

- 1) What did you like most about the PowerPoint Translator?

- 2) What did you like least about the system?

- 3) What did you find easy to use?

- 4) What did you find hard to use?

- 5) Were there translation errors that seemed operationally important? What were they?

- 6) Was there something you wanted to do in the system but couldn't?

- 7) What would you change about the PowerPoint Translator system?

- 8) Would you use the system as part of your daily job if it was available? Why or why not?

- 9) Is there anything else you think we should know about the PowerPoint Translator?

VI. Continued Feedback

Thank you for providing us with your feedback. Please provide us with your contact information in case we need to clarify any of your responses .

Name: _____

Mailing Address: _____

Telephone: _____

Email address: _____

Interpreter Call Center Questionnaire

Unit: _____ Years in Service: _____

Job Function: _____ Years in current job function: _____

Usefulness of Interpreter Call Center

High Medium Low

Assisted in accomplishing mission:

Somewhat Not at all Increased effectiveness

Scenario:

Force Protection

Interrogation of Hostiles

Interview of Friendly

Logistic Support

Medical Assistance

Other: _____

Brief Description of Scenario: _____

Operation:

Did you receive user training?

YES

NO

If so, how much training? (days, hours, minutes)

Did the training enable you to use the system?

YES

NO

How many different people did you try this system on? _____

How many days did you use this system? _____

Please circle one choice in each row. 1 means “I strongly disagree with this statement” and 7 means “I strongly agree with this statement”.

Usability	Strongly Disagree				Strongly Agree	Not Applicable
	1	2	3	4	5	N/A
I was able to use the cell phone/satellite phone easily.	1	2	3	4	5	N/A
I had no problem connecting with the Language Line call center.	1	2	3	4	5	N/A
The connection was reliable.	1	2	3	4	5	N/A
I was able to get an interpreter on the line quickly.	1	2	3	4	5	N/A
I was able, through the interpreter, to convey my information/ questions.	1	2	3	4	5	N/A
The interpreter effectively conveyed the local national's response.	1	2	3	4	5	N/A
The interpreter was able to handle the content of the dialog with ease.	1	2	3	4	5	N/A

Overall Experience

Please answer the following questions to the best of your knowledge. Use the back of the page if you need more space. Feel free to speak openly – your comments will be pooled with those of others, with no attribution to you personally. Remember: we are evaluating the system, not you. Thank you.

1) What did you like most about the Interpreter Call Center?

2) What did you like least?

3) What did you find easy to use?

4) What did you find hard to use?

5) Were there translation errors that seemed operationally important?

6) Was there something you wanted to do with the Interpreter Call Center but couldn't?

7) What would you change about the Interpreter Call Center?

8) Would you use the Interpreter Call Center as part of your daily job if it were available? YES

NO
Why or Why not?

9) Additional Comments?

