Supporting Unit Training Management Through Mobile Performance Assessment Tools

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ABSTRACT

The Marine Corps Training Information Management System (MCTIMS) warehouses performance information regarding all mission essential tasks Marine Corps units must perform in order to execute across the full range of military operations. MCTIMS currently has a requirement for a mobile application. This application enables Marine leaders to collect unit performance data digitally in the field and quickly upload those data into MCTIMS, avoiding laborious manual input of each result. The application's concept of operations is as follows: 1) download performance evaluation criteria from MCTIMS; 2) provide leaders with inputs to capture performance ratings; 3) display results immediately following an exercise to enable After Action Reviews (AARs) and; 4) upload results to MCTIMS to support tracking of trends across the force. A prototype application, MCTIMS Mobile, was developed for testing and feasibility assessment. The application was tested in two live-fire exercises where usability and utility metrics were captured. The goals of the field tests were to informally evaluate, with Subject Matter Experts (SMEs) and proposed users, the ability of the MCTIMS Mobile tool to support productive trainee assessment and efficient data collection and measurement. The field study demonstrated support for the tool, with clear directions for improvements. The results show that the tool works as expected, but certain features can be made more intuitive and easier to use. The quantitative results were interpreted very strictly and users provided substantial constructive feedback. Consideration of the feedback received from the users led to redesign and modification of the mobile tool. MCTIMS Mobile is intended to capture more data concerning Marine performance, better data (because it is captured in real time), and data that persist in MCTIMS to improve assessments of Marines and the training the Marine Corps provides.

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A CASE FOR DIGITAL SOLUTIONS TO ENSURe INTEGRITY OF CRITICAL DATA

The Marine Corps Training Information Management System (MCTIMS) is the Marine Corps' enterprise training management system. The MCTIMS program of record is responsible for warehousing performance information regarding all mission essential tasks (METs) Marine Corps units must perform in order to execute across the full range of military operations. The MCTIMS system offers functions to support unit training management (UTM), allowing leaders to plan and schedule training exercises to expose their units to required Training and Readiness (T&R) Events. However, this digital tool is not designed to support units once they depart garrison for the field to conduct live training. Unit leaders currently evaluate training using pen and paper checklists, even if the events are planned and scheduled on MCTIMS' digital interface, and they must manually enter the training assessments into MCTIMS for management and documentation when they return from the field. What is lacking is a digital tool with which leaders can efficiently assess the T&R events they plan on MCTIMS. This could reduce workload, reduce the risk of data corruption and loss, and potentially improve the volume and quality of the assessments on which readiness is reported.

With mobile technology becoming increasingly prevalent, it makes sense to leverage digital tools to collect and compute performance ratings in the field, enabling automatic and error-free uploading of results. To test these assumptions, MCTIMS Mobile, mobile application was developed and tested in two live training exercises.

Concept of Operations (CONOPS)

Figure 1 illustrates the process of event preparation, performance assessment and performance management as envisioned by integrating MCTIMS with the MCTIMS Mobile application. (1) Leaders prepare for a training exercise by specifying which Marine Unit(s) will perform which T&R Events and tasks on a specific date. (2) A configuration file containing the data is then wirelessly transmitted to the mobile application. (3) The application can then be used to capture performance for Marines conducting T&R tasks independently, without a wireless signal. (4) Immediately following an exercise, the application supports After-Action Review (AAR) with instant results displayed. (5) Upon completion of a training exercise, the results captured in the application are uploaded to the MCTIMS server at home station wirelessly, where they are used in readiness assessment and other analyses. In the remainder of this paper, we describe the development and evaluation of this system.

DEVELOPMENT

The case for development of a mobile application was quite clear – there is actually a requirement for an accompanying mobile tool in the MCTIMS program of record. That requirement also provides specifications for much of the CONOPS described above. As such, the requirements for the tool were identified more so through elicitation of capabilities from the system's developers than from traditional requirements analysis or needs assessment workshops with anticipated end users. That does not mean that the end user was disregarded as a critical stakeholder - or ignored during the development process. It was simply a circumstance that the requirements for the tool and the use case were already implied, and so the challenge was to elicit them, rather than to create them.

MCTIMS Data Analysis

A critical step during the course of the project was to analyze both the 2012 Marine Training and Readiness (T&R) Manual, and the MCTIMS Oracle database, in order to understand relationships between and among training events

as well as how the Marine Corps evaluates performance for these events. Our research effort to develop the measurement framework for this tool specifically utilized existing task/measure linkages in MCTIMS as the foundation. The 2012 T&R Manual and associated publications were examined, with the primary goals being to: (1) develop a complete understanding of the Marine Corps performance assessment and rating system; (2) identify relevant task/measure mappings and linkages; and (3) integrate the measurement framework and capabilities into a usable and useful mobile interface.

2012 Training & Readiness Manual

The 2012 T&R Manual (Department of the Navy, 2012) is a primary tool used for planning, conducting, and evaluating training for Marine units; it is also used to assess training and readiness. The events contained in the T&R Manual are derived from mission essential task lists (METLs) and other Marine Corps task lists (MCTLs), which provide the individual and collective training requirements to prepare units to accomplish their combat missions. Essentially, the T&R Manual identifies the minimum standards that must be met by Marines in order to succeed in combat. The T&R Manual is based on a hierarchical structure, where 1000 and 2000-level events represent individual training events, and 3000-level (Fire team) to 8000-level (Regiment) events represent collective training events. Events at each of these hierarchical levels can be directly linked in some way to other events at: the same level (sibling events), one level below (child events), and two levels below (grandchild events). There are different types of events, which are identified in Table 1. Our research effort focused primarily on how the events contained within the T&R Manual correspond with the data collected by the MCTIMS rating system and database.

Table 1. Description of different types of events, as defined by the 2012 Infantry T&R Manual.

Type of Event	Definition
Chained Event	A process that enables unit leaders to effectively identify subordinate collective events and individual events that support a specific collective event.
Related Event	Events that are linked to each other can also be related, meaning that those events indirectly support the completion of the main event.
E-Coded Event	Evaluation-Coded (E-Coded) are critical or key events designated in the T&R Manual as critical components of a MET. They are used to generate a combat readiness percentage (CRP) for a MET. Formal evaluation of unit performance in these events is recommended because of their value in assessing combat readiness.
Prerequisite Event	Academic training or other T&R events that must be completed prior to attempting the task. They are lower-level events that train the skills required to accomplish larger task.
Waived Event	An event that is waived by a commanding officer when in his or her judgment, previous experience or related performance satisfies the requirement of a particular event.

The identification of requirements triggers an initiation of interface design work. Often requirements will dictate critical necessary or unusable interface elements. In the case of MCTIMS Mobile, the structure of T&R Events (e.g., chained events constructed of hierarchical and subordinate tasks) provided a good foundation for design.

Interface Design

Interface design adopted a top-down design philosophy where all levels of interaction were researched beginning with a broad level of abstract detail funneling toward precise design attributes, interactions, and consistent design style. One approach is to follow three design phases in the development of the user interface (UI): conceptual design, behavioral design, and interface design.

During the Conceptual Design phase, functions were identified that would allow the user to fulfill data collection requirements specified by MCTIMS leadership. UI requirements were extracted from the use case scenario to meet these functions. UI requirements include three types: the function requirements, information requirements, and interaction requirements.

The function requirements encapsulate the functional purposes of the user interfaces, and answer the question, "what does the user seek to accomplish?" The functions, extracted from the outputs of previous tasks, guided the design of each interface component. The information requirements regroup the data essential for the user to achieve the functional purposes specified by the function requirements. They were largely derived from the T&R Manual and the use case. The information requirements answer the question "what data is necessary for the user to perform the

required functions?" Lastly, interaction requirements operate as links between the function and information requirements, and answer the question "what interaction mechanisms are needed for the user to employ the information and achieve the functions?" The interaction requirements were constrained by the likely interface apparatus, such as visual displays, mobile form factor and other equipment available to the end-user, the operational setting in which it will be used, and the system capabilities. Table 2 features the function requirements identified for MCTIMS Mobile.

Table 2. Identification of requirements for MCTIMS Mobile App

Function	Information	Interaction
Identify performers • Identify teams • Identify individuals (Marines)	• MCTIMS hierarchy • Marines' demographical data	• Select, add, remove, edit • Browse in list or tree • Link elements in hierarchy
Record performance • Record performance at a global level (pass/fail) • Record performance at a detailed level • Qualify performance • Quantify performance	• Performance outcome levels • List of events • Available qualifying artifacts • List of questions • Assessment target •	• Select, highlight, pair • Browse in list • Input artifact (e.g., notes, photo, video) • Input responses to questions • Representation of assessments
Analyze training results • Identify training gaps • Understand "overall picture" of training status • Browse notes • Drill down on results • Provide feedback based on results • Discuss results and feedback with trainees	• Performance outcome levels • Performance outcome ratings • List of events • Available qualifying artifacts • List of responses • Assessment target (performer / event) •	• Select analysis target • Visualize actual status in relationship with expected / desired status • Explore "up and down" the training data • Browse gallery of artifacts •
Define training outcome • Decide on pass/fail • Decide on trained/untrained	• List of items to rate • List of rating outcomes	• Browse items • Select outcome for each item

During the Behavioral Design phase, UI requirements were aggregated to define specific and logical procedural steps for the user to employ the interface. Five high-level, behavioral steps were identified: 1) Event selection, 2) Assign roster, 3) Rate an event, 4) Review event results, 5) Score event.

Event selection scales down the greater list of T&R Events planned for in the MCTIMS system to those that will be performed by the unit, or by smaller teams, which are part of the greater unit. Roster assignment corresponds to when the user specifies who the trainees are within the MCTIMS hierarchy. This setup step is mandatory, as all subsequent data generation refers back to the teams and Marines identified in the roster. Event rating corresponds to the main data generation step in the process, where the user dynamically assigns training characteristics, events, or measures to elements in the MCTIMS hierarchy. Event review consists of an interactive, qualitative analysis of the data generated in the previous step. The UI is employed, at that point, to trigger higher cognitive processes for the user, such as an appreciation for overall performance and the rapid identification of training gaps. Event scoring marks the conclusion of the data gathering and analysis phase when the user makes a pass/fail decision and passes that decision back to MCTIMS as the formal assessment outcome.

With these five steps identified, initial wireframes were designed. The process of wireframing consists of putting together a rough draft of what the UI might look like; the objective being to render tangible the function, information, and interaction requirements previously identified. Figure 2 features a sample of the MCTIMS Mobile interface.

Through an iterative software development process, and a close collaboration between designers, human systems engineers and software engineers, the research team was able to iterate multiple times on the interface implementation and perform on-going feasibility testing. Once a software sprint was finished, it was reviewed at a usability and usefulness level: typical UI design gaps were identified (e.g., legibility, contrast, alignments and arrangements, reach, or interaction overhead) and refined in the subsequent sprint.

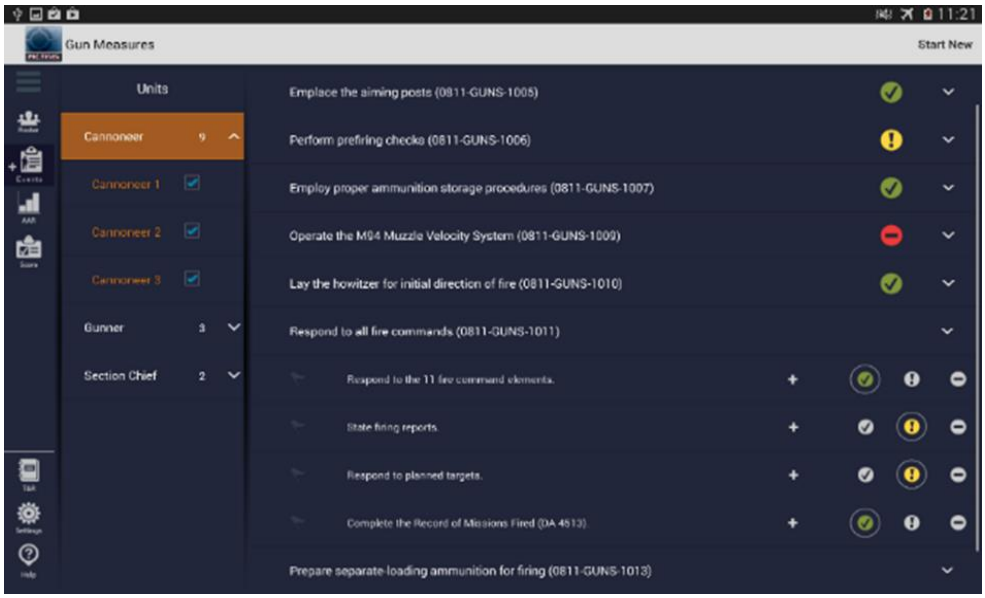

Figure 2. Example of the MCTIMS Mobile App Interface

FIELD TESTS OF USABILITY AND UTILITY

The goals of the field tests were to informally evaluate, with SMEs and proposed users, the ability of the MCTIMS Mobile tool to support productive trainee assessment and efficient data collection and measurement. In order for an assessment system to be usable, an instructor/unit leader must be able to use the system in an intuitive and easy manner while observing the exercises and actions of the Marines he is responsible for instructing/commanding. For the purposes of the study usability was defined as a "measure of the effectiveness, efficiency, and satisfaction with which specified users can achieve goals in a particular environment." The term effectiveness refers to the utility of MCTIMS Mobile in collecting, summarizing, and reviewing measures during training. Efficiency and satisfaction were operationalized in the users' ability to perform these tasks quickly and relatively error free.

Participants

The participants in the test of MCTIMS Mobile were Marine leaders from the training support battalion at The Basic School, aboard Marine Corps Base Quantico, VA. The Subject Matter Experts (SMEs), five in total, were from the field artillery battery that supports TBS, and served as users of the tool. This group included two Battery Officers-in-Charge (OIC), a Battery Gunnery Sergeant, a Staff Sergeant (Operations Chief) and a retired Major who served as a Battery Commander.

Procedure

The field evaluation occurred over two live training events, the first a live fire event. The objective of the evaluation was to gather usability and utility ratings from SME users in a realistic setting. Testing therefore mimicked the use case commonly applied during previous performance assessment efforts. SMEs and unit leadership used the tool to evaluate performance of Marines performing their respective duties in support of live-fire and preparation for live-fire events.

Prior to the start of the exercises, SMEs were given access to the tool and brief instruction. The instruction pointed out the intended use of the tool and identified the main operations and features that facilitate its use. Researchers encouraged the users to familiarize themselves with the functions of the tool prior to using the tool in the exercise. Once familiar, the SMEs were asked to use the tool to rate their unit's performance. During the exercise, Marines on the gun line serviced M777 155mm towed howitzers from laying the guns to firing live ammunition in support of a

demonstration for visiting Naval Academy Cadets. Marines at the Fire Direction Center identified fire missions and computed firing solutions for those fire missions. The SMEs followed the operations and rated performance using the Performance Evaluation Checklists (PECLs) and rating scales embedded in the tool. User support was kept to a minimum to ensure that any areas of struggle would be adequately represented in the usability feedback received.

Shortly after the conclusion of the events, the SMEs were asked to complete several assessment instruments: a usability questionnaire, a set of usability and utility statements and a five-item structured interview, aimed at identifying the extent to which MCITMS Mobile sufficiently meets a set of key design principles, and thus achieves the usability goals of effectiveness, efficiency, and satisfaction. Table 3 features a set of 12 heuristics derived from research by Jakob Nielsen and Rolf Mack (Nielsen & Mack, 1994) and Bruce Tognazzini (Tognazzini, 2003) that represent tool usability. Collectively, these heuristics or design principles were applied to develop a set of 21 probes. These probes were structured as statements that were framed positively or negatively for the MCTIMS Mobile tool, and were grouped into three key areas of discussion. Participants were provided a document with the probes and asked to check agree or disagree with each of the statements. They were also asked to provide rationale for their responses.

Table 3: Usability heuristics derived from the research of Nielson & Mack (1994) and Tognazzini (2003)

1. Visibility of system status: The system should always keep users informed about what is going on, through appropriate feedback within reasonable time.
2. Match between system and the real world: The system should speak the user's language, with words, phrases, and concepts familiar to the user, rather than system-oriented terms. Follow real-world convention, making information appear in a natural and logical order.
3. User control and freedom: Users often choose system functions by mistake and will need a clearly marked "emergency exit" to leave the unwanted state without having to go through an extended dialogue.
4. Consistency and standards: Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions.
5. Error prevention: Even better than good error messages is a careful design, which prevents a problem from occurring in the first place.
6. Recognition rather than recall: Make objects, actions, and operations visible. The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.
7. Flexibility and efficiency of use: Accelerators – unseen by the novice user – may often speed up the interaction for the expert user to such an extent that the system can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.
8. Aesthetic and minimalist design: Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.
9. Help users recognize, diagnose, and recover from errors: Error messages should be expressed in plain language (no codes). Precisely indicate the problem, and constructively suggest a solution.
10. Fitt's law: This law of usability states that the time to acquire a target is a function of the distance to and size of the target. As a result, information or actions that are needed together should be collocated to reduce time. Buttons or interactions points that where the user will travel from long distances should be larger.
11. Learnability: Ideally, products should have no learning curve. In practice, all applications and systems will have some learning curve, though this curve should be small.
12. Explorable interface**:** Systems and displays should provide users with landmarks to support navigation, as well as clearly defined navigational paths.

RESULTS

The two live training exercises produced both quantitative and qualitative data. Survey responses were recorded quantitatively and computations looked at means and percent agreement. Qualitative data were lifted from interview responses and were analyzed to identify specific limitations to the tool and opportunities for improvement.

Quantitative results

Responses to the usability statements were largely positive, with numerous exceptions. Users were provided with three options for responding to usability statements (Agree, Neutral, Disagree). Percent agreement was calculated at Agree, with both Neutral and Disagree scoring as no agreement. With five users responding, "Passing" was set at 80% agreement. Anything less than 80% agreement was deemed "Fail." Many of the failing statement nearly passed and a less aggressive interpretation (e.g., 60%) may have resulted in more passing statements. However, this strict evaluation of the results promoted greater scrutiny of the tool and led to the identification of better interactions and interface elements in the final iteration. It is important to note that of the 21 statements, five are negatively oriented (e.g., "At times, I had trouble remembering where I was in the system"). For these statements (italicized in the table below) low, or no agreement is desired (e.g., 20%). Results of the usability statements are featured in Table 4. Note that a mapping of the statements to the Usability Heuristics appears in the second column of Table 4.

Table 4. Quantitative results of responses to usability statements

Statement	Usability Heuristics	% agree
I knew exactly where to go to enter a performance measure.	6	100%
It was easy to tell if I had completed a performance measure.	1	100%
At times, I had trouble remembering where I was in the system.	*1*	*40%**
I knew when all of the measures had been entered.	1	40%*
Sometimes, it was hard to remember how to use the tool.	*11*	*80%*
The MCTIMS Mobile tool used the same language we use during exercises.	2	60%*
The terms were used consistently throughout the MCTIMS Mobile tool.	4	100%
I understood how the measures would be applied to collect information about trainee performance.	2	60%*
The user interface supported my work style and allowed me to enter measures in the way that I think is most effective.	2, 3	20%*
It was easy to navigate to different measures.	12	60%*
Sometimes, I wanted to go back to a measure to change my entry, but it was difficult to find it.	*3, 7*	*60%**
When I made a mistake, it was easy to undo my error.	5, 9	20%*
I found that I made many errors when I…	-	-
Used the roster screen	*5, 9*	*60%**
Rated T&R Events	*5, 9*	*80%**
Entered additional media (notes/pictures)	*5, 9*	*40%**
Was navigating to different events	*5, 9, 12*	*40%**
Used the AAR	*5, 9*	*80%**
Conducted final scoring	*5, 9*	*80%**
I hardly ever made an error when using the MCTIMS Mobile tool.	5. 9	20%*
When I made an error, I always knew it.	1, 5	40%*
It didn't take me long to learn how to	-	-
Use the roster screen	1, 3	80%
Rate T&R Events	1, 2, 3	100%
Enter additional media (notes/pictures)	3	60%*
Navigate to different events	12	80%
Use the AAR	1, 9	80%
Conduct final scoring	1, 2, 3	80%
I was able to enter assessments quickly, even when I was using the MCTIMS Mobile tool for the first time.	7, 11	80%
The interface was easy to read.	8, 10	20%*
The interface had too much information on it.	*8, 10*	*60%**
The information shown on the display was helpful.	1, 8, 9	80%

I thought the interface was organized well.	8, 10	40%*

*Item failed 80% criteria and was considered for interface revision.

Figure 3 presents a descriptive summary of the ratings on usability statements. (Ratings on negatively framed questions, italicized in Table 3, are inverted here, such that a raw rating of 80 (strong agreement with a negative statement) becomes an inverted rating of 20 (equivalent to strong disagreement with a positive statement)). Of the four usability heuristics with the lowest ratings, two (5 & 9) represent error handling issues, and two (8 & 10) reflect issues with the appearance of the interface. These received attention in modifications of the tool.

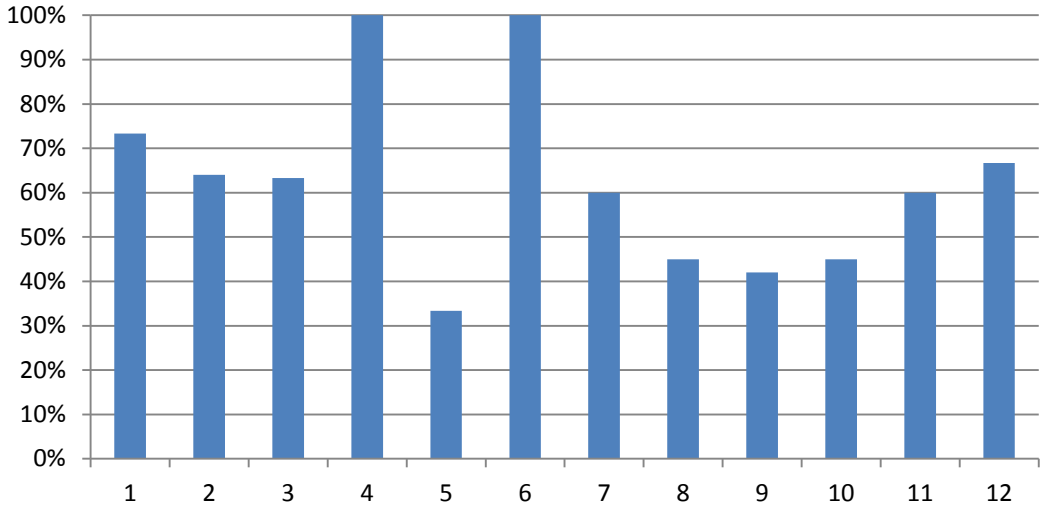

Figure 3. Mean agreement among users of 12 usability heuristics.

Responses to the standard usability scale indicated support for the tool. Table 5 features these statements and the calculated results. Users were provided a 5-point Likert-like scale to select from, ranging from Strongly Agree (5) to Strongly Disagree (1). Half of the items (even numbers) were framed negatively, which should elicit a "Strongly Disagree" response from users if the tool is meeting expectations.

Table 5. Quantitative results of responses to standard usability questions

Statement	Mean	Median	Mode
1. I think that I would like to use these display concepts frequently.	3.4	4	4
2. I found the system to be unnecessarily complex.	2.2	2	2
3. I thought the system was easy to use.	4	4	4
4. I think that I would need the support of a technical person to be able to use this system.	1.2	1	1
5. I found the various functions in this system to be well integrated.	3.2	3	4
6. I thought there was too much inconsistency in this system.	2	2	2
7. I would imagine that most people would learn to use this system very quickly.	4.6	5	5
8. I found the system to be very cumbersome to use.	2	2	2
9 I felt confident using the system.	4.6	5	5
10. I needed to learn a lot of things before I could get going with this system.	1.8	2	2

The responses to the usability statements were strongly positive. This is striking in part because users were only given a single exposure to the tool following a brief instructional period. The tool was developed with usability as a priority, and the results suggested this objective was met.

Qualitative results
Following completion of the usability probes, SMEs were engaged in a brief discussion about the tool. Researchers asked the SMEs for their impressions of the tool using the structured interview format. These questions focused on specific positives and negatives of the tool and on desired features or enhancements not currently available. The SMEs offered a number of suggested enhancements, many of which demonstrate a high level of understanding of the tool's application and intended function within the context and constraints of Marine Corps T&R events. These descriptions of limitations and feature requests, while not listed in this paper, provided useful guidance in the refinement of the mobile tool.

Post Field-Study Refinements
Feedback from users and subsequent discussions with TECOM representatives indicated that a missing feature that would address a training need would be a roster management feature that could assign performance measures with specific Marines. When integration with MCTIMS beyond a sandbox test environment is achieved, the ability to align actual Marines from a selected unit with specific performance measures will become possible. Assigning tasks completed, and performance measures, to teams and specifying individuals would enable Marine leaders to document their unit's and Marines' readiness and push individualized results back to MCTIMS in support of certification, maintenance and pre-deployment requirements for Marines of different military occupational specialties (MOS).

Thus, the primary modifications to the tool include a modification of the roster. Working with the developers of the MCTIMS system, the MCTIMS Mobile developers identified strategies to support better roster management. Specifically, the refined tool permits users to select a subset of Marines from the unit (recall that MCTIMS allows a user to set up an exercise by selecting a Marine unit at the Battalion, Company, etc. level) to evaluate with the mobile tool. This was accomplished simply by developing interface structures to provide an alphabetized list of participating Marines (the list coming from MCTIMS in the configuration (see Figure 1). The user can select Marines that form a Fire Team, Squad, or Platoon, or tap the select all box if there is no need to review a smaller team. This approach offers two benefits: 1) it allows for different observers to observe subsets of the greater unit (e.g., a squad), and 2) it allows observers to adapt to changing conditions such as loss of personnel to leave, injury, etc. immediately before, and during the training event.

Additional primary refinements include structuring T&R Event task selection in a way that allows users to quickly navigate through the larger list. Users begin by making a selection at the event level (e.g., 100, 2000, 3000), then selecting from the list of events at that level, ordered numerically by E-Code. Users can select one or more event from any, or all levels contained within the exercise configuration. Similar to the second benefit described above, giving users the ability to select and deselect T&R tasks empowers them to fit the assessment to the conditions of the day. As an example, planning for and executing a live fire exercise often illustrates how much conditions can change over the course of a short period of time. Weather, air traffic, safety considerations and other factors can shut down ranges, large equipment breakdowns can undermine live fire training, and VIP visits and annual training requirements can constrain or postpone live fire training. Consequently, a live-fire exercise may regress to a prep-for live fire. Such was the research team's experience during the second field test of MCTIMS. The oft used Helmuth von Moltke observation "no battle plan survives first contact with the enemy" often applies to routine training.

DISCUSSION

This effort demonstrated that the MCTIMS Mobile tool offered a useful and usable mobile application to support performance measurement and assessment of mission essential tasks during T&R events. The tool is the product of a longstanding research effort that began with the investigation of more effective means of gathering, ingesting and relaying performance data for Marines conducting mission critical training in readiness and pre-deployment events. The results of this research provided an understanding of how to develop a widely applicable, highly usable tool to improve the quality of Marine Corps training assessment and feedback. Development of the tool involved targeted users and incorporated user feedback at every stage of development. This high degree of interaction contributed to a widely applicable, highly usable and useful tool that boasts features that enhance the user's experience and add value to the training experience of Marines.

The field study concluded with the identification of a plan for enhancement of the tool. The quantitative results were interpreted very strictly, thus a number of good features were marked for further scrutiny. This does not suggest that

those features are completely unusable or that the tool lacks utility. Rather, the results show that the tool could be improved. Consideration of the qualitative feedback received from the users will go into redesign and modification ideas for the next version of the mobile tool.

CONCLUSIONS

MCTIMS warehouses information related to mission essential tasks, and the nested T&R events, that Marine units must perform to execute their organizational missions. Commanders document their command warfighting operational abilities as METs, which are the foundation for measuring operational mission readiness in compliance with Department of Defense/Joint Staff mandates for all Military Services readiness reporting implementation. Marine leaders currently access MCTIMS in garrison, and use it to manage their respective unit's training schedules. But leaders do not have direct access to MCTIMS when they take their units to the field for live training events. They must print training tasks before an event, capture their unit's observed demonstration of proficiency on paper, then key in training outcomes after the event.

The MCTIMS Mobile app allows leaders to download performance evaluation criteria from MCTIMS for training evaluation during field exercises, and access those criteria in the field during the execution of T&R events. The app enables unit leaders to capture critical performance metrics for Marines at the team and individual level for certification and readiness assessment. MCTIMS Mobile also provides instant access to performance ratings in roll-up enabling unit leaders to conduct AARs before units depart the field. This application will not only enable unit leaders to accurately evaluate training performance and provide critical feedback to their units in the field, but it will also provide a service-wide capability to capture, manage and track force readiness trends related to METs.

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