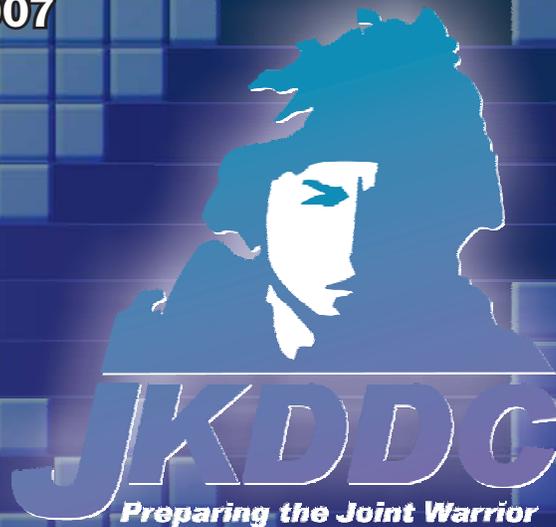


*Joint Knowledge Development and
Distribution Capability (JKDDC)*

***Knowledge Management
Content Design and
Development Guidelines***

Version 1.0

February 16, 2007



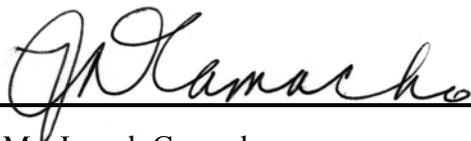
**United States Joint Forces Command
and Advanced Distributed Learning**

Joint Knowledge Development and Distribution Capability (JKDDC)

Knowledge Management Content Design and Development Guidelines

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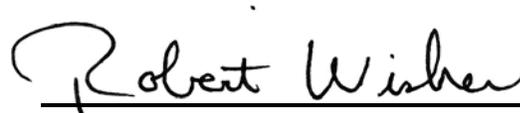


Mr. Joseph Camacho

Program Manager

Joint Knowledge Development and Distribution
Capability (JKDDC)

U.S. Joint Forces Command



Dr. Robert Wisner

Director

Advanced Distributed Learning (ADL) Initiative

Office of the Deputy Under Secretary of Defense
for Readiness and Training, Policy and Programs

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1. Introduction

1.1 Purpose

The purpose of the Joint Knowledge Development and Distribution Capability (JKDDC) Knowledge Management Content Development Guidelines (herein referred to as “guidelines”) is to provide content designers and developers with guidance for creating joint content to ensure the learner can discover, use, and reuse the content in a consistent manner.

These guidelines apply to JKDDC-developed content that is unclassified and will be deployed to the JKDDC Learning Management System (LMS), AtlasPro. The guidelines focus on providing the JKDDC-specific approach for how content is created to maximize reuse, tagged for ease of discovery, and displayed for consistent navigation across content.

In this document, “content” is defined as chunks of information, courses, games, collaborative tools, job performance aids, and other methods of information delivery.

1.2 Objectives

The guidelines are intended to meet the following objectives for JKDDC-developed content:

- ❑ Identify the process by which content requirements are submitted and approved. Refer to Section 2.
- ❑ Identify the process by which approved content is developed, reviewed, approved, delivered, and maintained. Refer to Section 2.
- ❑ Identify the information that the Content Development Team (CDT) must capture, track, and report with regard to JKDDC-developed content. Refer to Section 3.
- ❑ Identify the instructional and evaluation/test strategies for JKDDC content. Refer to Sections 4 and 5.
- ❑ Identify the common user interface “look” for navigation and branding to facilitate a common learner experience across JKDDC-developed content. Refer to Sections 6 and 7.
- ❑ Ensure the content output is conformant with the intended delivery mechanisms. Specifically, that the content is conformant with Department of Defense Instruction (DoDI) 1322.26, “*Development, Management, and Delivery of Distributed Learning*” for the Sharable Content Object Reference Model (SCORM), is deployable to AtlasPro LMS, and is registered in the ADL Registry (ADL-R) with the required metadata. Refer to Sections 8, 9, 10, and 11. DoDI 1322.26 is accessible from http://www.dtic.mil/whs/directives/corres/pdf/132226_061606/132226p.pdf.

1.3 Audience

These guidelines are written for content designers and developers. Generally, the content designers are Instructional Systems Designer (ISD) personnel with knowledge, skills, and abilities in e-learning instructional design methodology. Content developers include graphic artists, multimedia developers, and programmers who are experienced in creating, programming, testing, and loading SCORM conformant content.

1.4 Revisions

The guidelines will expand over time, consistent with the Training Transformation (T2) mission. T2 provides a global training and education capability dedicated to improving joint training and education for the Total Force of active forces, Reserve component, Department of Defense (DoD) civilians, and contractors. T2 uses a spiral development methodology for achieving agility in processes by concentrating on rapid, incremental changes to exploit improvements in technology, processes, and organization that contribute to larger jumps in concept and capabilities. Additional and revised content will be incorporated into subsequent revisions of this document based on new requirements and guidance, practical experience, stakeholder input, lessons learned, and state of the industry for best practice guidelines. You can find more information about T2 at <http://www.t2net.org>.

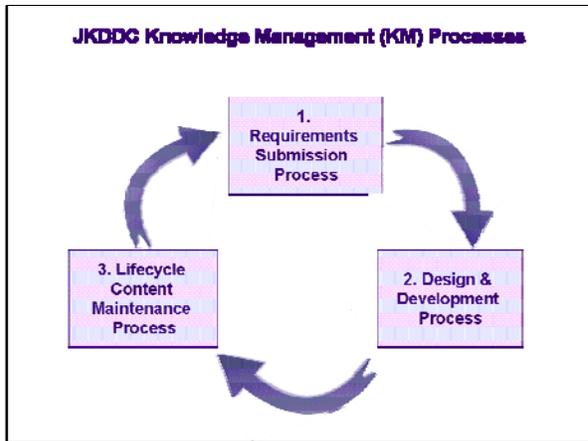
1.5 Reference Information

Additional relevant reference information that may be useful to content designers and developers is provided in Appendix J.

2. Content Requirements Submission, Design, Development, and Lifecycle Content Maintenance Processes

This section describes the processes for submitting and approving JKDDC content requirements and the processes approved content design, development, and lifecycle maintenance, as depicted in Figure 1.

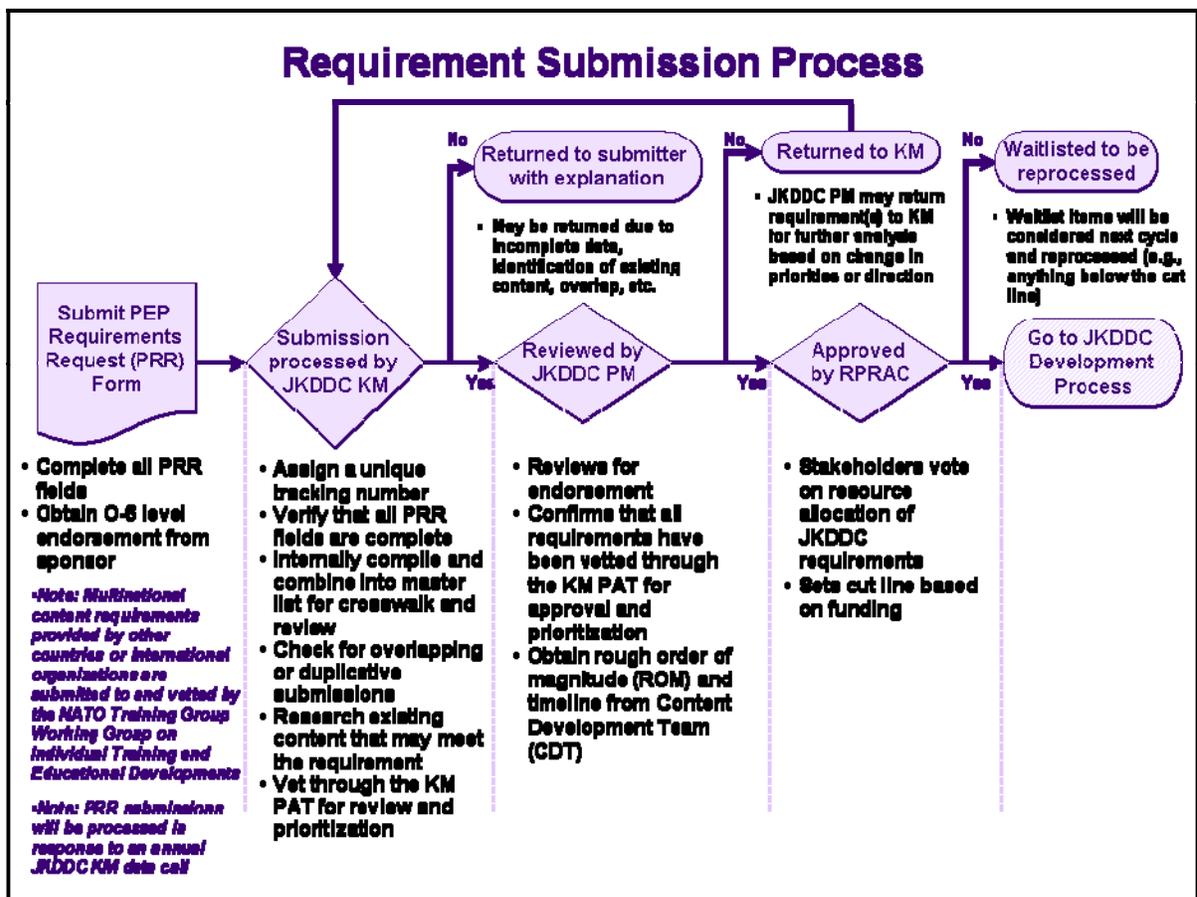
Figure 1. KM Process



2.1 Content Requirements Submission Process

On an annual basis, the JKDDC KM Division will send out a call for new submissions of joint content to be considered for creation. The stakeholder of the content initiates the process, as depicted in Figure 2.

Figure 2. Requirement Submission Process



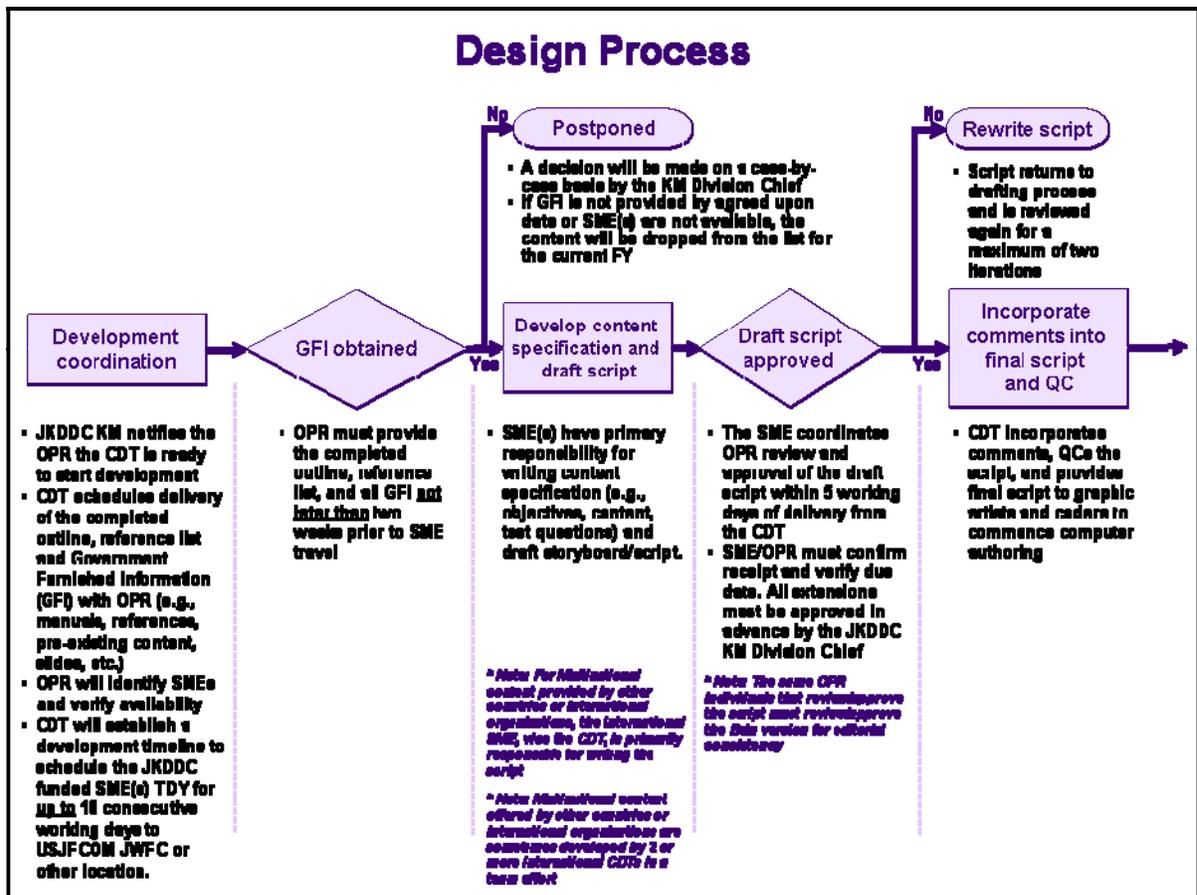
As depicted in Figure 2, the roles and responsibilities associated with this process are as follows:

- The **Stakeholder** submits the Program Execution Plan (PEP) Requirements Request (PRR) form to JKDDC Joint Management Office (JMO) KM Division for review and prioritization. The PRR identifies the Office of Primary Responsibility (OPR) for the requirement. The OPR serves as the Stakeholder's Point of Contact on matters pertaining to the requirement. The PRR requires O-6-level endorsement from the OPR organization. NOTE: Refer to Appendix B for a sample PRR form.
- The **JKDDC JMO KM Division** reviews the PRR, ensures all required information is provided, categorizes the requirement, and begins the approval and prioritization process.
- The **KM Process Action Team (PAT)** reviews all of the submitted requirements (that is, the PRRs). The KM PAT makes a recommendation for approval or disapproval to the JKDDC Program Manager (PM).
- The **JKDDC PM** determines whether a requirement is approved, disapproved, or delayed using the recommendation from the KM PAT as input for the decision. If approved, the PM obtains a Rough Order of Magnitude (ROM) and timeline of the project from the Content Development Team (CDT) who will develop the content.
- During the annual **Requirements Prioritization and Resource Allocation Conference (RPRAC)**, stakeholders vote on resource allocation of JKDDC requirements.

2.2 Content Design and Development Process

Figure 3 depicts the steps and actions that occur during part 1, Content Design of the Content Development Process.

Figure 3. Content Design Process



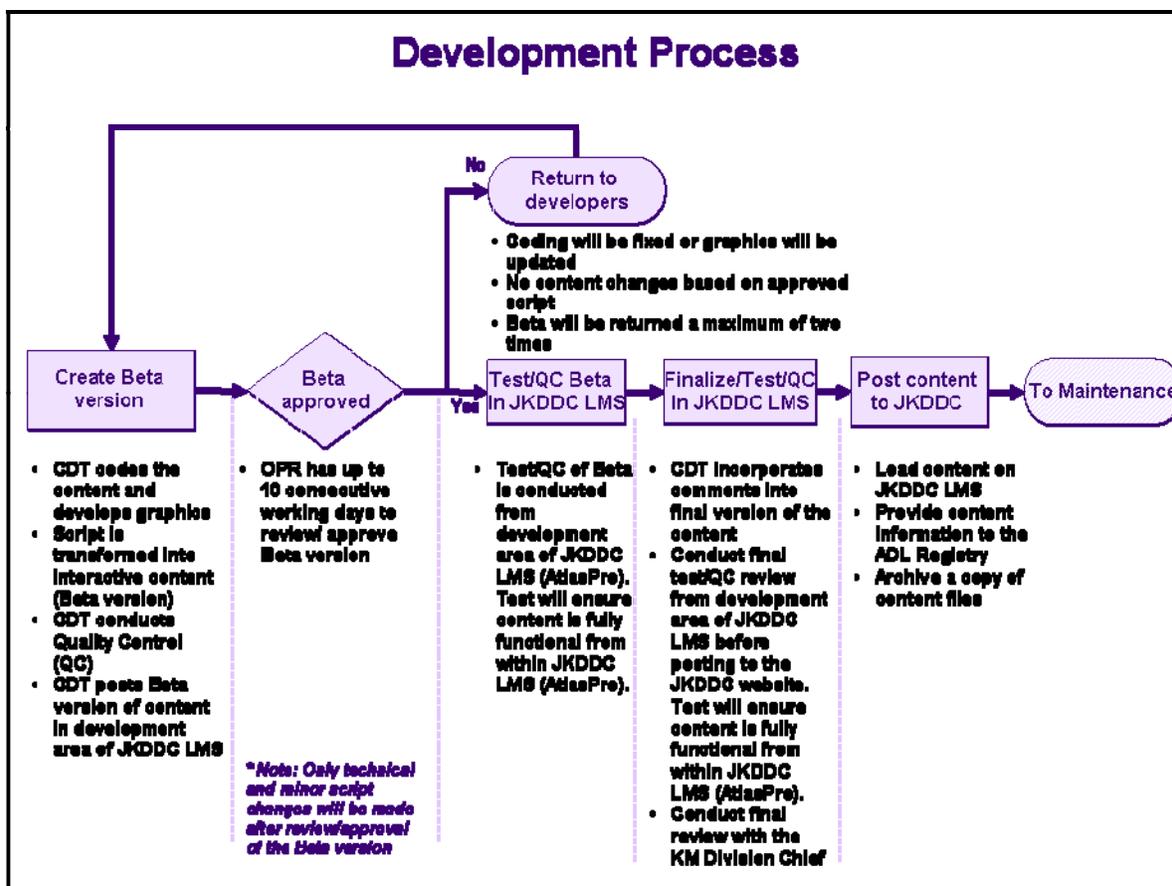
As depicted in Figure 3, the roles and responsibilities associated with the first portion of the process are as follows:

- The **KM Division Chief** notifies the OPR of the decision to progress with the development process, delay scheduling of development, or disapproval of the requirement for JKDDC development resources.
- The **OPR** identifies and verifies availability of Subject Matter Experts (SMEs) and provides all GFI (for example, manuals, references, pre-existing content, slides) by the agreed upon date. After the content has been created, the OPR reviews and approves the draft script within 5 working days of delivery from the CDT. NOTE: The same OPR individuals that review/approve the storyboard/script must review/approve the Beta version later on for editorial consistency.

- The **CDT** contacts the OPR to schedule delivery of the GFI. The CDT establishes the development timeline, including scheduling travel for the SME to US Joint Forces Command (USJFCOM) Joint Warfighting Center (JWFC) in Suffolk, Virginia.
- The **SME** develops the Content Specification (for example, writing objectives, content, and test questions) and drafts the storyboard/script. NOTE: The **SME** is funded by JKDDC for travel and per diem to USJFCOM JWFC in Suffolk, Virginia for up to 10 consecutive working days (based on content) to assist the CDT. The **SME** coordinates OPR review and approval of the draft storyboard/script within 5 working days of delivery from the CDT.

The second part of the Content Development Process involves the technical aspects of making content accessible. Figure 4 depicts the steps and actions that occur during part 2 of the Content Development Process.

Figure 4. Content Development Process (Part 2 of 2)



As depicted in Figure 4, the roles and responsibilities associated with this process are as follows:

- After the storyboard/script is approved, the **CDT** develops the code, conducts Quality Control (QC), and posts the Beta version of the content in the development area of the JKDDC LMS.
- The **CDT** then tests/QCs the Beta version (to include testing for SCORM 2004 conformance), incorporates revisions and/or comments into the final version and conducts a final test/QC

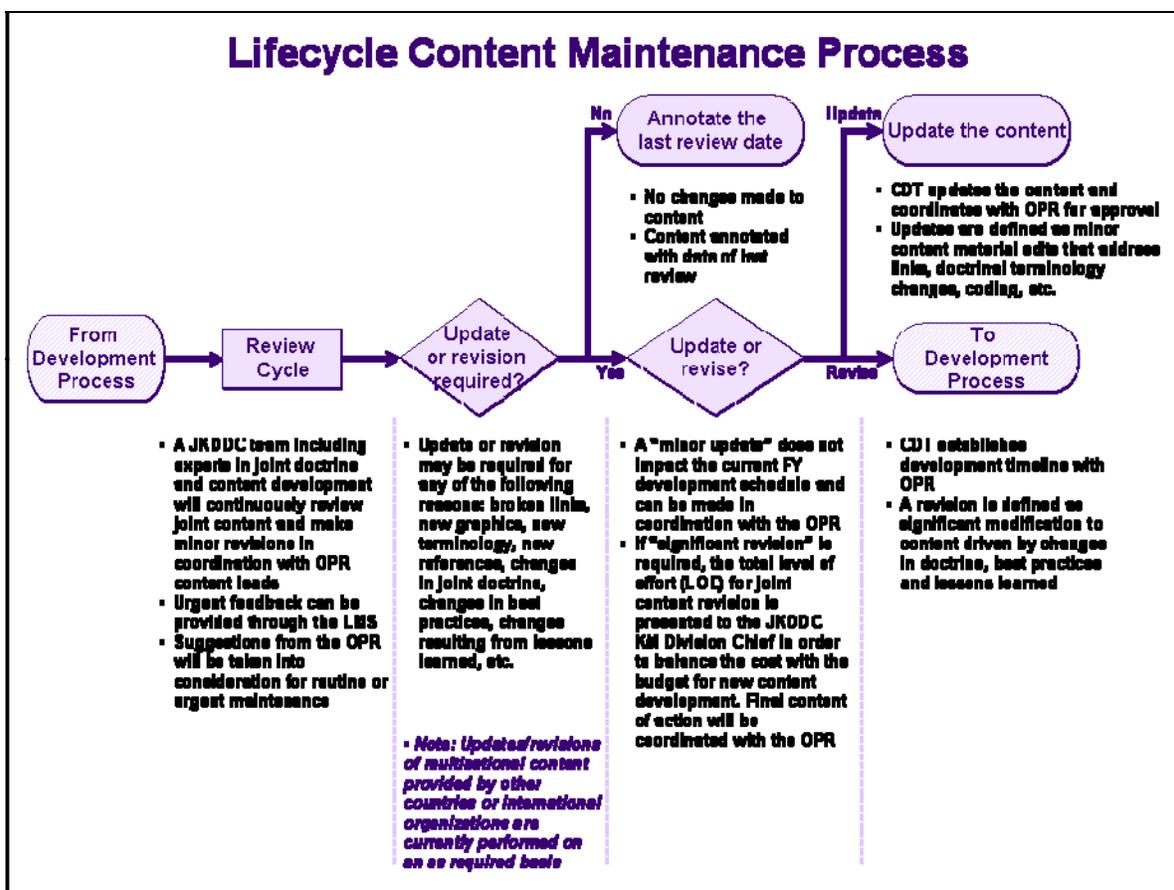
review from the development area of the JKDDC LMS. NOTE: Only technical and minor storyboard/script changes will be made after review/approval of the Beta version.

- The **OPR** has up to 10 consecutive working days to review/approve the Beta version. Changes to the Beta version can be made a maximum of two times. Changes at this point should be fixing coding and graphics. NOTE: No content changes will be made after approval of the storyboard/script.
- The **CDT** performs a final review of the content with the KM Division Chief prior to loading it on the JKDDC LMS for use.
- After the content is complete and approved, the **CDT** posts the content to the JKDDC LMS, submits it to the ADL-R, and archives the files.

2.3 Lifecycle Content Maintenance Process

Figure 5 depicts the steps and actions that occur during the Lifecycle Content Maintenance Process.

Figure 5. Lifecycle Content Maintenance Process



As depicted in Figure 5, the roles and responsibilities associated with this process are as follows:

- ❑ A JKDDC team will continuously review joint content and make revisions in coordination with the OPR. If a significant revision is required, the total Level of Effort (LOE) is presented to the **JKDDC KM Division Chief** in order to balance the cost with the budget for new content development.
- ❑ During the Lifecycle Maintenance Process, revisions will be coordinated with the **OPR** leads. Suggestions from the OPR will be taken into consideration for routine or urgent maintenance. The **CDT** will make all revisions and updates to the content. An update (minor edit) requires OPR approval, and a revision (significant modification) will be sent back through the development process. The CDT will establish a development timeline with the **OPR**.
- ❑ OPR SMEs are responsible for reviewing changes that may impact the accuracy of their content and advising the designated JKDDC CDT representative of any required content modifications. Likewise, the JKDDC CDT will notify the OPR SME of any changes they become aware of. The content will be updated or revised as needed.

3. Reporting, Deliverables, and Templates

This section describes the course deliverables, artifacts, and processes required of the CDT to ensure accurate tracking, reporting, and delivery of course information. Although the CDT is not required to use the templates provided through these guidelines, the CDT must capture the data identified in the templates as part of the development process milestone and artifact tracking.

3.1 Deliverables and Artifacts

A deliverable is defined as information, content, or files that the CDT will deliver to the JKDDC KM Division. Deliverables are submitted in electronic format. An artifact is information that the CDT collects and captures during the development and testing process. Artifacts must be made available to the JKDDC KM Division upon request, but are not required deliverables.

A CDT consists of personnel responsible for the design, development, test, and delivery of content for JKDDC. Although each CDT may use different toolkits to design, develop, and track artifacts, there are two critical common points:

- ❑ During the development, review, and approval of JKDDC content, the CDT must make the appropriate artifacts/deliverables and the content being developed accessible to stakeholders, SMEs, and the KM Division on request.
- ❑ The CDT must ensure the delivered content is conformant with the intended delivery mechanisms, specifically, DoDI 1322.26, SCORM, AtlasPro, and the ADL-R.

The Content Specification will identify how the CDT will make the content, deliverables, and artifacts available to the JKDDC KM Division. The CDT must ensure that artifacts are captured, tracked, and reported and that deliverables are produced as identified in Table 1.

Table 1. Artifacts and Deliverables

<i>Artifact/ Deliverable</i>	<i>Description</i>	<i>Category</i>
GFI	The CDT will configuration manage all content used as inputs for the content development process.	Artifacts
Storyboards/Scripts	The CDT will create Storyboards/Scripts consistent with the template provided in Appendix C. Refer also to Section 3.2.1.	Deliverables
Content Specification	The CDT will create the Content Specification consistent with the sample provided in Appendix E. Refer also to Section 3.2.2.	Deliverables
Comment Capture	The CDT will capture and track comments during the review and test of content.. Refer also to Section 3.2.3.	Artifacts
Source Files	The CDT will deliver source files (assets, Sharable Content Objects [SCOs], packages, manifests) and the SCORM Conformance Test Suite confirmation log to the JKDDC KM Division. Refer to Section 8 for SCORM information. Refer to Appendix I for a sample manifest.	Deliverables
ADL-R Confirmation	The CDT will provide confirmation of content registration with the ADL-R to the JKDDC KM Division. Refer to Section 9.	Deliverable

3.2 JKDDC Templates

Templates are provided for optional CDT use. For CDTs that have automated solutions for capturing, tracking, and reporting data described in Table 1 above are not required to use the templates provided in this section as long as the content is available when required or requested by the JKDDC KM Division. Refer to the Appendices for templates and samples.

3.2.1 Storyboard/Script

The Storyboard/Script documents the intended content design (that is, content, narration, graphics, any additional information) and communicates the requirements from the ISD to the content developer. One Storyboard/Script is developed for every Sharable Content Object (SCO). Thus, a “course” will have multiple Storyboards/Scripts referenced in the Content Specification. Refer to Appendix C for the template

3.2.2 Content Specification

The Content Specification documents the results of the analysis and describes the content design intent. The Specification provides background, purpose, learning objectives, instructional strategy, complexity and level of interactivity, design considerations, assessment approach, completion certification approach, content sequencing, feedback collection on exit, authoring software, technical standards, deliverables, schedule, Universal Joint Task List (UJTL), joint doctrine, GFI, classification, instructional hours, and development hours. The Content Specification, combined with the Storyboard/Script and Metadata Form, constitute the plan for designing and developing the final products. Refer to Appendix E for a sample specification.

3.2.3 Comment Capture

The CDT will capture and track all comments provided during the review of JKDDC-developed content and make the information available on request.

3.2.4 Additional Templates and Samples

In addition to the Storyboard/Script template and Content Specification sample, other JKDDC templates and samples are available to facilitate data collection, capture, and reporting. These templates/samples are found as Appendices as follows:

- ❑ Content Development Initiation Meeting Template (Appendix F).
- ❑ Content Development Milestone Checklist Template (Appendix G).
- ❑ Metadata Form Template (Appendix H).

4. Instructional Strategies

Instructional strategies are intended to prepare and motivate learners, enable them to apply and practice learning, and assist them in retaining and transferring information. This section describes the general strategies for learning objectives and level of interactivity.

4.1 Learning Objectives

JKDDC content will include the three types of learning objectives as described in Table 2.

Table 2. Learning Objectives

<i>Learning Objective Type</i>	<i>Description</i>
Course Objectives	States the general purpose or benefits of the course.
Terminal Learning Objective (TLO)	Describes the most important objectives of the course. Each lesson has a single TLO that provides the primary objective for the lesson. The learner must master the TLOs to gain competency in the course content. The TLO must state the objective and describe the intended exit competencies for the lesson. Generally, TLOs will be Sharable Content Objects (SCOs).
Enabling Learning Objective (ELO)	Supports the TLOs by breaking them down into more manageable chunks. ELOs are the building blocks that provide additional concepts or skills needed to meet the TLO.

4.2 Levels of Content Interactivity

Interactivity is the degree of learner involvement in the instructional activity (that is, in the content). The four levels of interactivity are:

- ❑ **Level I—Passive.** The learner acts solely as a receiver of information. The learner progresses linearly through the content by reading text from the screen, viewing video, or listening to audio.
- ❑ **Level II—Limited Interaction.** The learner provides simple responses to instructional cues; the responses may include answering multiple choice questions.
- ❑ **Level III—Complex Participation.** The learner makes a variety of responses using varied techniques in response to instructional cues. Techniques may include building a model/diagram from available parts.
- ❑ **Level IV—Real-Time Participation.** The learner is directly involved in a life-like set of complex cues and responses.

Decisions on the degree of interactivity in any e-learning content are based on the relative importance of the content, budget, timeline, shelf life, and audience size. Consider including a variety of interaction types to engage the learner throughout the content. A course may contain modules and lessons with a variety of levels of interactivity.

The level of interactivity to be provided in the content is agreed upon and documented in the Content Specification. JKDDC content for Fiscal Year 2007 (FY07) is planned for Level I and II

interactivity. Exceptions for Level III and IV interactivity will be reviewed and approved on a case-by-case basis by the KM Division Chief.

An example of Level I interactivity is represented in the Introduction to North Atlantic Treaty Organization (NATO) course (version 3.1). This content is accessible by registering and logging into the Partnership for Peace (PfP) LMS from <http://pfp.ethz.ch>.

4.3 Course/Content Hierarchy

The CDT will design and develop JKDDC content using a common framework in accordance with the following course hierarchy and vocabulary:

Program > Course > Module > Lesson

The “Program” is always “JKDDC.” The “Course” is identified and approved through the process outlined in Section 2. Courses are comprised of two or more “Modules.” A Module consists of two or more “Lessons.” Lessons are designed to be the SCOs. An example of the structure applied to an existing JKDDC course is as follows:

Program = JKDDC

Course = Joint Task Force Fundamentals (JTF 101)

Module = Forming a Joint Task Force Headquarters

Lesson = Functions

Lesson = Composition

Lesson = Boards, Bureaus, Centers, Cells, and Working Groups

Apply the following guidelines for creating the file structure and filenames associated with JKDDC content planning, design, and development. The file structure should look similar to the following example:

JKDDC/Course01/Module06/Lesson01/Topic01/Page100.filetype:

0506_m6_l1_t1_100.html

The filename conventions should be similar to the example provided in Table 3.

Table 3. JKDDC Frame Numbering

XX-	XX	_mX	_lX	_tX	_100
		(all letters must be lower case, separated w/ underscore)			
FY Ex. 07	Course # Ex. 15 (obtain from team lead)	Module # Ex. m2	Lesson # Ex. l3	Topic # Ex. t2 (if a lesson breaks down to topic level)	Page # Ex. 130 (this would be the third page of content)
Example: 07-15_m2_l3_t2_130					

First Module:

Course Overview XX-XX_mX_index
 Course Objectives XX-XX_mX_objectives
 UJTLs XX-XX_mX_ujtls

Subsequent Modules:

Module Overview XX-XX_mX_010

Lesson Overview XX-XX_mX_l1_010

Lesson References XX-XX_mX_l1_020
 Any additional that must precede the content pages, such as distribution statements, will follow on with _030, 040, etc.

Topic Overview XX-XX_mX_l1_t1_100
 (if you do not have topics, you will not use this level.
 First content page will still start with _110. If you do not have topics within your lesson, please continue to use the _t1_ notation.)

First Content Frame XX-XX_mX_l1_t1_110
 Topic 1 (increase by 10 frames; for example, if you have 13 pages in your topic – or lesson if you do not have topics – and assuming no checks-on-learning, your numbering sequence at the end of the content will be _230)

Check-on-Learning XX-XX_mX_l1_t1_col_XXX
 (next sequential frame number, increasing by 10s – numbered as any other storyboard)

Topic 1 Summary XX-XX_mX_l1_t1_XXX
 (next sequential frame number at the end of content)

Topic 2 Overview XX-XX-mX_l1_t2_100
 (each new topic will begin again with 100)

First Content Frame Topic 2	XX-XX_mX_11_t2_110 (First content frame will again begin with 110)
Check-on-Learning	XX-XX_mX_11_t2_col_XXX (increase by 10s)
Topic 2 Summary	XX-XX_mX_11_t2_XXX (next sequential frame number at the end of content)

5. Test and Evaluation Strategies

This section identifies the testing types, question test bank, rules for writing test questions, and course-level evaluation planned for JKDDC content. NOTE: Multinational content is not required to include the four learner testing strategies.

5.1 Learner Testing

JKDDC content will consist of four types of evaluation strategies, including comprehension checks “Checks-on-Learning (COL),” module tests, a pretest, and a posttest. Table 4 describes each evaluation strategy.

Table 4. Learner Test Types

<i>Evaluation Type</i>	<i>Content Level Applied</i>	<i>Function</i>
Check-on-Learning (COL) Test	Lesson/Topic	Assesses learning achievement that occurs within a module.
Module Test	Module	Assesses knowledge of the content after completing a module.
Course Pretest	Course	Assesses knowledge of the course material prior to taking the course; enables learners to “test-out” of the course.
Course Posttest	Course	Assesses knowledge of the course material after completing the course.

5.1.1 Check-on-Learning Test

All JKDDC content will include a Check-on-Learning (COL) evaluation embedded within a module, appearing at appropriate intervals throughout the module. After a learner completes a unit of instruction, COLs are provided to test learner achievement of the content at the lesson/topic level. Typically, a “unit of instruction” would be three to five pages of content. Although it is difficult to quantify a preferred number of questions, there should be a reasonable number of questions to reflect the material presented; this number is determined by the developer and SME. The learner is allowed one attempt to answer a COL. COLs provide immediate feedback to the learner on whether the answer was correct or incorrect and provide a remediation link to the location that contains the related information. COLs are not scored and learner responses are not tracked or recorded in the LMS. Appendix D provides sample COLs.

5.1.2 Module Test

All JKDDC content will include module tests, which test learner knowledge of the objectives within a module. They are administered after completing a module. Module tests are comprised of two to four questions from each ELO. Module tests are scored and learner responses are tracked and recorded in the LMS. The minimum passing score is 80%. Learners are allowed one attempt to pass a module test. If they do not pass the module test, they must retake the module. After completion of the test, a test summary page displays the test score, feedback on whether the answers were correct or incorrect, and remediation links to the location that contains the related

information. Reviewing the information is optional. If the answer is wrong, state: “Incorrect. The correct answer is ____.” Include a link for voluntary remediation to the page content. If the answer was correct, state: “Correct. Proceed to the next page.”

5.1.3 Course Pretest

All JKDDC content will include a pretest at the course level that will be administered prior to taking a course. Pretests are scored and learner responses are tracked and recorded in the LMS. The level of mastery is content-specific and will be identified in the Content Specification. Pretests consist of approximately 20 questions or as determined by the developer lead. The learner is allowed one attempt to answer a pretest question. After completion of the pretest, a test summary page displays the test score and feedback on whether the answers were correct or incorrect. No remediation is provided. The pretest identifies the learner’s current knowledge prior to taking a course and is used to enable learners to waive or “test out of” a course. To obtain a course waiver, a learner must obtain a passing score of 95%, at which time it is considered the course requirements have been met. If the objectives for a specific module within a course have been met (as determined by the LMS), that module will be considered “completed.” Learners may then bypass those modules; however, they must complete and pass the course posttest.

5.1.4 Course Posttest

All JKDDC content will include a posttest that will be administered after completion of a course. Posttests are scored and learner responses are tracked and recorded in the LMS. The level of mastery is content-specific and will be identified in the Content Specification. Posttests consist of approximately 20 questions or as determined by the developer lead. Upon completion of the posttest, the test score is displayed. The learner is allowed one attempt to answer each posttest question. After completion of the posttest, a test summary page displays the test score, feedback on whether the answers were correct or incorrect, and remediation links to the location that contains the related information. Reviewing the information is optional. The minimum passing score is 80%. Learners are allowed three attempts to pass a posttest. After the third attempt, if a learner does not pass the posttest, the learner is referred to the help desk for subject matter assistance.

5.2 Test Bank

All JKDDC test questions will be placed into a test bank that allows the questions to be pulled randomly from a “pool” of potential questions. For example, for every 20 posttest questions, there may be 50 potential questions within the bank. This allows learners to receive different sets of questions and helps to ensure questions and answers are not simply memorized.

5.3 Test Questions

Apply the following core rules when writing multiple choice stem questions:

- Write the stem so that the option falls at the end of the stem.
- The stem should be written in the form of a question or an incomplete statement.

- ❑ Punctuate a question with a question mark.
- ❑ Punctuate an open stem with a colon.

5.4 Course-Level Evaluation

Evaluation of learning is a multi-level, systematic method for gathering information about the effectiveness of learning. Results of the measures can be used to improve the learning, determine whether the learning objectives have been achieved, and assess the value of the learning.

JKDDC-developed content will include, at minimum, Level 1 evaluation for the course. A Level 1: Reaction evaluation focuses on the reaction of participants to the learning. Although this is the lowest level of measurement, it remains an important dimension to assess in terms of learner satisfaction.

5.5 Additional Test and Assessment Resources

Carnegie Mellon Learning Systems Architecture Lab provides additional learner test and assessment resources via <http://www.jointadlcolab.org/research/2005/>. These resources document the requirements, best practices, and examples for creating assessments within SCORM-conformant content.

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6. Common User Interface

This section provides guidelines for developing components of the Graphical User Interface (GUI) to facilitate a consistent learning experience. The interface is the combination of text, color, font, graphics, style, and layout of screens/pages across JKDDC content.

6.1 Standard Screen/Page Types

This section identifies the standard pages that comprise the Course, Module, and Lesson structure.

6.1.1 Course Overview Page

The Course Overview Page describes the course objectives and purpose. It provides a general introduction to the content. This page also provides instructions on how to begin the course.

6.1.2 Module Introduction Page

The Module Introduction Page should capture the learner's attention by introducing the content in a way that creates interest in the lesson. This page also provides instructions on how to begin the module (for example, click on a lesson title).

6.1.3 Lesson Introduction Page

The Lesson Introduction Page identifies the learning outcomes, indicates the estimated contact time (lesson duration), and provides instructions on how to start the lesson (for example, "Select the Next Button").

6.1.4 Test Pages

Checks-on-Learning, Module Test, Course Pretest, and Course Posttest Pages will follow the guidelines identified in Section 5.

6.1.5 Lesson Summary Page

The Lesson Summary Page summarizes the lesson by paraphrasing the learning outcomes. This page also provides instructions on how to continue (for example, "Select Another Lesson").

6.1.6 Module Summary Page

The module summary page will summarize the main points of the lessons therein, and provide brief instruction to continue to the module comprehension check and next module.

6.1.7 Course Summary Page

The Course Summary Page provides a review of the items covered in the course.

6.2 Navigation

JKDDC-developed content must be learner-friendly and apply the guidelines outlined in this section. Pages will:

- ❑ Provide learners with the ability to control all navigational activities.
- ❑ Provide clear instructions or cues for all required learner activities.
- ❑ Identify module and lesson titles and sequence page numbers, such as “Page 1 of 20.” Learners should be able to identify where they are within the courseware via a “breadcrumb.”
- ❑ Track which modules and lessons have been completed and provide a visual reference to the learner on their progress.
- ❑ Allow learners to bookmark their progress in a session.
- ❑ Ensure the buttons (for example, Submit, Play, Replay) should be consistent within each lesson; all buttons and icons should have a consistent and unique appearance.
- ❑ Label all buttons with text descriptions or with rollover text.
- ❑ Ensure visual cues, such as mouse cursor changes and rollover highlights, are consistent.
- ❑ Ensure buttons “gray out” or disappear when they are inactive.
- ❑ Ensure that all non-button graphics have design properties distinct from that of buttons.
- ❑ Display navigation buttons in exactly the same position across all screens/pages.

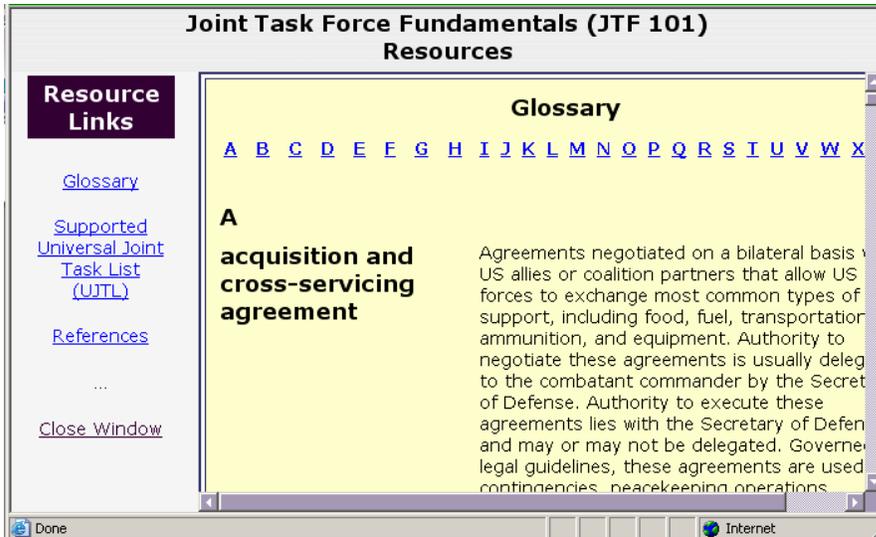
6.2.1 Navigation Button Design

Table 5. Navigation Buttons

<i>Navigation Buttons</i>	<i>Function</i>
Resources	Displays pop-up window with relevant reference resources for the lesson content (for example, UJTL, Mission Essential Tasks (METs), doctrine, web links). Displays the organization for the content (SME organization).
Script	Displays pop-up window with text-only version of the page content without images or animation.
Exit	Closes the learners’ content window and returns learner to the module Main Menu. <u>NOTE:</u> If the Exit button is not clicked, completion credit for that material may not be recorded within the LMS.
Select Page	Enables the learner to navigate to a specific page in the lesson.
Previous	Enables the learner to navigate to the previous page of the lesson.
Page Counter	Displays current page number and the total number of pages of the lesson.
Next	Enables the learner to navigate to the next page in the lesson.
Glossary	Displays the complete glossary of terms for the lesson.

Figure 6 depicts an example of a pop-up window (specifically displaying the Glossary).

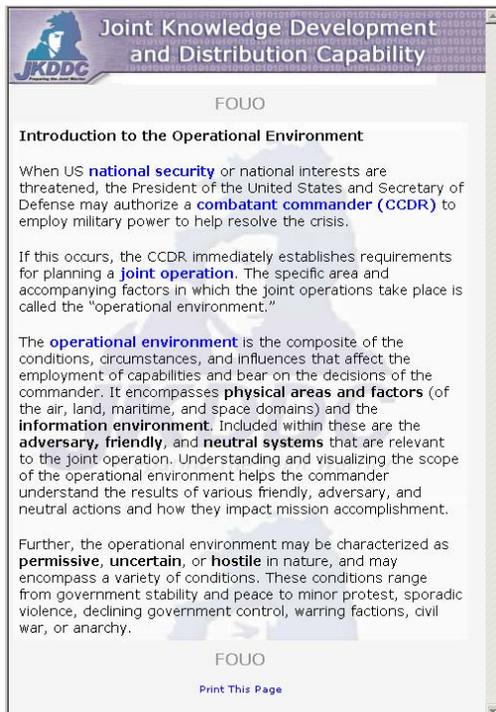
Figure 6. Sample Pop-Up Window GUI



6.2.2 Resources Button Sample

Figure 7 depicts how the learner will view content via a pop-up window when selecting the "Resources" button.

Figure 7. Sample GUI for "Resources" Button Pop-Up Window



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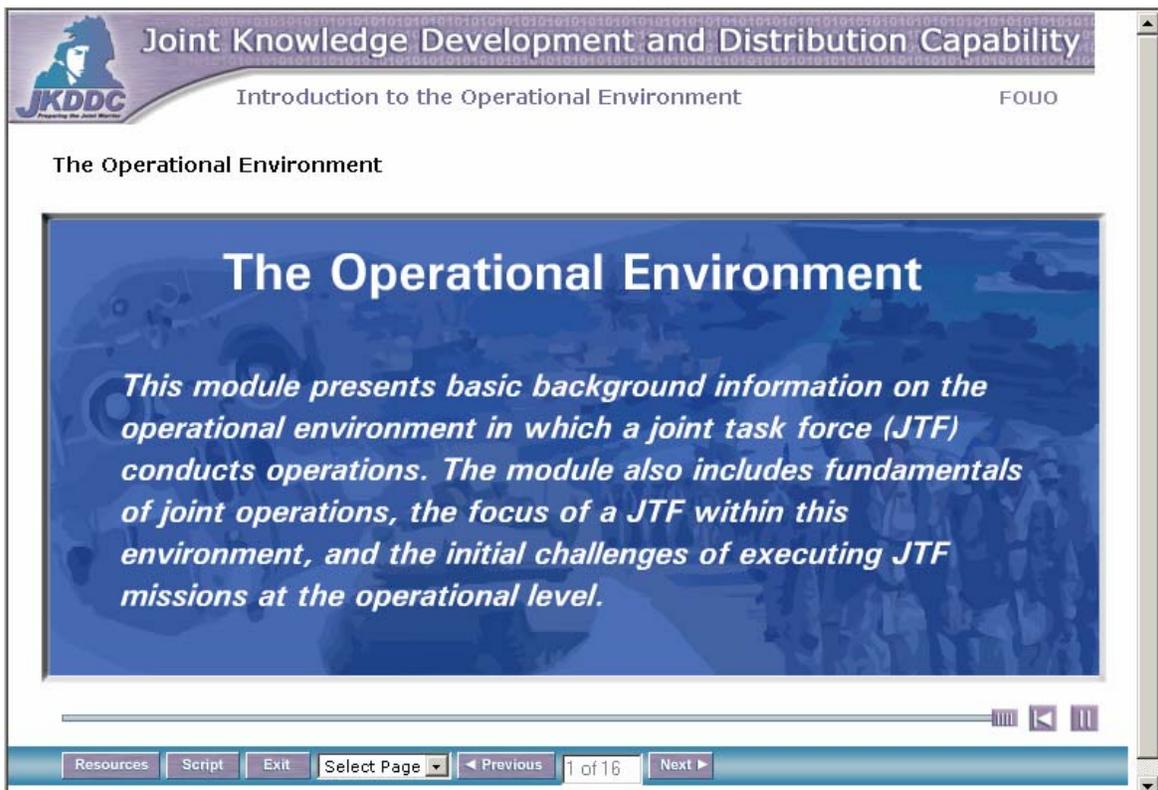
7. Media Guidelines

This section defines the standard appearance of JKDDC media objects to ensure consistency of style across JKDDC-developed content.

7.1 Screen/Page Design

The interface that learners will use to interact with the JKDDC content will be designed in a consistent manner with the JKDDC GUI Hypertext Markup Language (HTML) template depicted in Figure 8. Although it is not mandatory to use the template, it is required to adhere to the banner location and size, fonts, navigation menu location, and content area location and sizing specifications defined in Section 7. When developing content in technologies other than HTML, such as Flash, follow the same core design principles outlined in this document.

Figure 8. JKDDC GUI Template



JKDDC screens/pages will be developed using the format, layout, and text guidelines described in Table 6.

Table 6. Screen/Page Design Guidelines

<i>Category</i>	<i>Guideline</i>
Layout	Overall page layout is based on a 4-column grid.
Layout	The content area allows for 3 columns.
Layout	188-pixel width per column (minimum).
Layout	10-pixel gutter.
Layout	15-pixel margins.
Layout	Columns should widen proportionally to each other if the screen is re-sized.
Layout	Design all screens/pages for a resolution size of 800x600 pixels.
Layout	Present information in a top-down, left to right instructional format.
Layout	Avoid scrolling screens/pages when feasible.
Layout	Consider chunking splitting the information into small chunks/groups.
Layout	Use bullets, numbered lists, tables, and charts to break-up lengthy sentences.
Text	Text and graphics may span across multiple columns, but must fill the column width for which it occupies.
Text	Use no more than 60 characters per line.
Text	Text should not span the entire content area.
Text	Limit the amount of text on a page; use a Portable Document Format (PDF) to display long text segments.
Text	Use short lines of 40 to 60 characters; use a maximum of 60 characters per line.
Text	Design text layout in short segments or phrases.
Text	Align text under the first letter in a bulleted list, if the bulleted text wraps to a second line.
Text	Do not indent paragraphs.
Text	Left justify text.
Text	Use consistent color for text and graphics throughout the lesson.
Text	Break-up blocks of text to make it easier for the learner to scan the content.
Text	Underline hyperlinks only; glossary words should be hyperlinks.
Text	Use bold font to emphasize a word or phrase.
Text	Avoid using all capital letters or underlining to emphasize words or phrases.
Text	Use standard web conventions for hyperlinks (for example, not yet selected, currently being selected, already been accessed).
Text	Do not use blinking text or repetitive animation.

7.2 Style Specifications

Table 7 defines the styles with which JKDDC content should conform.

Table 7. Style Categories, Types, and Specifications

<i>Style Category</i>	<i>Style Type</i>	<i>Style Specification</i>
Body	Font-Family	Verdana
	Font-Size	36px
	Margin-Top	0px
	Margin-Left	0px
	Margin-Right	0px
	Margin-Bottom	0px
Body Text	Font-Family	Verdana
	Font-Style	Normal
	Font-Weight	Bold
	Text-Decoration	None
	Font-Size	14px
	Color	#000000
Body Text (Small)	Font-Family	Verdana
	Font-Style	Normal
	Font-Size	12px
Breadcrumbs	Font-Family	Verdana
	Font-Style	Italic
	Font-Weight	Bold
	Text-Decoration	None
	Font-Size	12px
	Color	#330033
Close Windows	Font-Family	Verdana
	Font-Style	Normal
	Font-Weight	Normal
	Text-Decoration	None
	Font-Size	14px
	Color	#330033
Content Navigation	Font-Family	Verdana
	Font-Style	Normal
	Font-Weight	Bold
	Text-Decoration	None
	Color	#FFFFFF
	Position	Absolute
	Width	85px
	Margin-Top	370px
	Margin-Left	694px
Content Table	Font-Family	Verdana
	Position	Absolute
	Height	348px
	Width	739px

<i>Style Category</i>	<i>Style Type</i>	<i>Style Specification</i>
	Margin-Top	60px
	Margin-Left	21px
	Margin-Right	0px
Main Menu Navigation	Font-Family	Verdana
	Position	Absolute
	Height	120px
	Width	30px
	Margin-Top	260px
	Margin-Left	0px
Page Title	Font-Family	Verdana
	Font-Style	Normal
	Font-Weight	Bold
	Text-Decoration	None
	Font-Size	18px
	Color	#000000
Prompt Table	Font-Family	Verdana
	Font-Weight	Bold
	Font-Size	12px
	Color	#FFFFFF
	Position	Absolute
	Width	450px
	Margin-Top	411px
	Margin-Left	172px
Prompt Text	Font-Family	Verdana
	Font-Style	Normal
	Text-Decoration	None
	Font-Size	11px
	Color	#000000
Question Text	Font-Family	Verdana
	Font-Style	Normal
	Font-Weight	Bold
	Text-Decoration	None
	Font-Size	14px
	Color	#000000
Text Version	Font-Family	Verdana
	Font-Size	xx-small
	Color	#FFFCC
Topic Crumbs	Font-Family	Verdana
	Font-Style	Normal
	Font-Weight	Bold
	Text-Decoration	None
	Font-Size	13px
	Color	#756C97
Topic Information	Font-Family	Verdana
	Position	Absolute

<i>Style Category</i>	<i>Style Type</i>	<i>Style Specification</i>
	Width	325px
	Margin-Top	5px
	Margin-Left	450px
Topic Title	Font-Family	Verdana
	Font-Style	Normal
	Font-Weight	Bold
	Text-Decoration	None
	Font-Size	14px
	Color	#330033
	Text-Transform	Uppercase
	Text-Align	Center

7.3 Graphics

When developing JKDDC content, apply the following guidelines for illustrations, photographs, and stock art (that is, “graphics”):

- ❑ Use colors that accommodate color-blind learners.
- ❑ Establish and maintain a convention for the use of color(s) to denote meaning.
- ❑ Maintain a constant perspective in a series of visuals.
- ❑ All text within the graphic must be readable. If the graphic needs to be scaled down, add a “Click to Enlarge” feature.
- ❑ Be consistent with all graphics (with the use of borders, effects, and quality). Do not use drop shadows.
- ❑ Full-width graphics or Flash animations should be 400 height x 695 width.
- ❑ Smaller graphics inline with text should be 270 height x 300 width.
- ❑ Use white background color for all graphics.
- ❑ Do not add decorative borders to graphics.
- ❑ Save graphic files at the highest resolution for maximum reusability. The file can be resaved to a lower resolution (and smaller file size) if needed.
- ❑ Do not stretch or enlarge images beyond the original size. Pixilation and distortion of image will occur.

7.4 Animation

When developing JKDDC content, apply the following guidelines for animation assets:

- ❑ Allow users to control the start of the animation.
- ❑ Avoid timed effects.
- ❑ When one or more events launch on a page, allow the learner to trigger the event.
- ❑ Do not use blinking graphics or text.
- ❑ Use special effects when required for emphasis or transition.
- ❑ Use animation to display concepts that are difficult to describe.
- ❑ Design Flash object size for 725 x 315.
- ❑ Use Arial font with minimum font size 18pt.
- ❑ The Frames Per Second (FPS) should be 24 FPS.
- ❑ Organize the library into folders (for example, images, symbols, button folders).
- ❑ Label all layers in the timeline (do not use simple labels such as Layer 1, Layer 2; rather, use identifying labels to describe the layer content).
- ❑ Images inside Flash should be 72 Dots Per Inch (DPI).

7.5 Audio

When developing JKDDC content, apply the following guidelines for audio assets:

- ❑ Use audio judiciously (for example, to demonstrate interpersonal skills, to demonstrate sounds, to engage the learner).
- ❑ Provide verbatim text that matches the audio script.
- ❑ Ensure that audio volume levels are consistent throughout the content.
- ❑ Provide ability for user to “replay” an audio clip.
- ❑ Use one audio talent throughout the course. If role-playing, multiple voice talent may be used, but roles must be consistent.
- ❑ Do not use sound effects unnecessarily.
- ❑ Audio file format should be .pcm (pulse code modulation format).
- ❑ Record narration as a .wav file (uncompressed audio).
- ❑ When recording audio, capture the highest signal-to-noise ratio possible to avoid “clipping” or “distorting”.
- ❑ Record each frame or page of audio narration as a separate .wav file.

- ❑ When processing audio, clean-up pops, crackles, audio artifacts (plosives or sibilance), and correct timing issues (add or subtract space between words and phrases, if necessary).
- ❑ Final audio file for inclusion in the content should be saved as an .mp3 file.
- ❑ NOTE: For Flash MX Pro 2004: Under File/Publish settings, "Formats" tab, check only "Flash." Under the "Flash" tab ensure the following options are selected:
 - ❑ Under "Version," select Flash 7.0
 - ❑ Under "Load order," select Bottom up (the default)
 - ❑ Under "Action Script version," select ActionScript 2.0
 - ❑ Under "Options," select the compress movie box
 - ❑ Under "JPEG quality," leave at default 80%
 - ❑ Under "Audio Stream," select "Set." Set Compression to "Speech" and Sample rate to 44kHz.
 - ❑ If an Audio event is used, the same settings apply as above.

7.6 Video

When developing JKDDC content, apply the following guidelines for video assets:

- ❑ Use video to reinforce, clarify, or emphasize a specific behavior or performance objective that cannot be effectively taught using graphics, stills, photographs, or animation.
- ❑ Limit continuous video clips to 20 seconds in length (recommended to keep file size manageable).
- ❑ Provide ability for user to "replay" a video clip.
- ❑ Use appropriate video (for example, talking head, show and tell, interview, panel discussion, simulation, or dramatization).
- ❑ Because buffering problems tend to hinder streaming media performance, where possible, avoid traditional techniques such as zooming, panning, transitional wipes, dissolves, and fast motion subjects.

7.7 Technology Specifications for Learners

Based on the classification level of the content, it will be accessible from both the JKDDC Non-Secure Internet Protocol Router Network (NIPRNET) and Secure Internet Protocol Router (SIPRNET). Currently, JKDDC content is developed in HTML and Adobe Macromedia Flash. The following minimum hardware and software is required for learners accessing the content:

- ❑ Windows 2000/XP
- ❑ Netscape 7.1+, Internet Explorer 5.0+, or Firefox
- ❑ Flash Player 6 plug-in for Netscape or Internet Explorer
- ❑ Connection to the Internet, NIPRNET, or SIPRNET via Local Area Network (LAN) or dial-up using 128-bit encryption

- ❑ Monitor resolution of at least 800 x 600
- ❑ Personal Computer (PC) audio capability and speakers or headphones.

8. SCORM

This section describes the JKDDC requirements for SCORM-conformant content.

8.1 SCORM Overview

SCORM is a collection of standards and specifications adapted from multiple sources to provide a comprehensive suite of e-learning capabilities that enable interoperability, accessibility, and reusability of web-based learning content. JKDDC content will be developed in accordance with DoDI 1322.26 “Development, Management, and Delivery of Distributed Learning”. JKDDC content will be designed and developed to meet SCORM conformance, currently SCORM 2004 3rd Edition. The CDT will use the Conformance Test Suite to validate conformance. The SCORM suite consists of:

- SCORM 2004 Overview— Provides a high-level overview of the SCORM 2004, the SCORM 2004 Conformance Test Suite and SCORM 2004 Sample Run-Time Environment. The technical details of SCORM can be found in three stand-alone documents, or books that cover the Content Aggregation Model (CAM), the Run-Time Environment (RTE), and Sequencing and Navigation (SN).
- SCORM 2004 Content Aggregation Model (CAM)— Describes components used in a learning experience, how to package those components for exchange from system to system, how to describe those components to enable search and discovery, and how to define the sequencing rules for the components.
- SCORM 2004 Run-Time Environment (RTE) Specification— Describes the LMS requirements for managing the run-time environment (that is, content launch process, communication between content and LMSs, and standardized data model elements used for passing information about the learner). The RTE Specification covers the requirements of SCOs and their use of the Application Program Interface (API) and the SCORM Run-Time Environment (RTE) Data Model.
- SCORM 2004 Run-Time Environment (RTE)— Provides a working example of the RTE described in the SCORM 2004 (for example, sequencing and navigation of content, standardized communication between content and LMSs, and standardized data model elements). The RTE is intended to provide an example implementation of the concepts described in the SCORM.
- SCORM 2004 Sequencing and Navigation (SN)—Describes how SCORM conformant content may be sequenced through a set of learner-initiated or system-initiated navigation events. The branching and flow of that content. The SCORM SN book also describes how a SCORM conformant LMS interprets the sequencing rules expressed by a content developer along with the set of learner-initiated or system-initiated navigation events and their effects on the run-time environment.

- SCORM 2004 Conformance Test Suite (Self Test)—Contains the conformance testing software, procedures, and supporting documents for organizations to perform self-testing on LMSs, SCOs, and Content Packages. The Suite has been developed to assess conformance of LMSs and learning content to the SCORM 2004.

Detailed information on SCORM is available from the Advanced Distributed Learning (ADL) Initiative web site at <http://www.adlnet.org>. DoD Instruction (DoDI) 1322.26 is available for download from http://www.dtic.mil/whs/directives/corres/pdf/132226_061606/132226p.pdf.

In general, most authoring tools and Learning Content Management Systems (LCMSs) will produce SCORM 2004 conformant content. Confer with ADL or the tool vendor for tool-specific confirmation of functionality.

8.2 Assets

Assets are electronic representations of media, text, images, sounds, web pages, assessment objects, and other pieces of data that can be delivered to a web client. Assets, like the SCOs in which they are referenced, should be designed for reuse. In order to be reused, assets are described (or tagged) using metadata so that they are both searchable and discoverable in repositories. Currently, assets are not planned for tagging with metadata.

8.3 Sharable Content Objects

A SCO is a small chunk of instructionally sound learning content. SCOs are the smallest logical unit of instruction you can deliver and track via a LMS. Each SCO should be able to stand-alone.

The optimal duration of a SCO should range from 2 to 15 minutes of instructional content. The duration of each SCO is defined by the chosen CDT and is based on the content, context, and audience. Some SCOs may be as long as 60 minutes in duration, but generally, shorter duration is preferred.

A SCO has a discrete start and finish. A well-designed SCO should serve numerous audiences in achieving multiple outcomes, making it ideal for reuse beyond the original design. There should be sufficient detail in the SCO for the learner to understand the information with some precision.

SCOs are tagged with metadata to facilitate search, discovery, use, and reuse. SCOs are generally aggregations or “content packages.” An aggregation of SCOs has well-defined completion and mastery conditions.

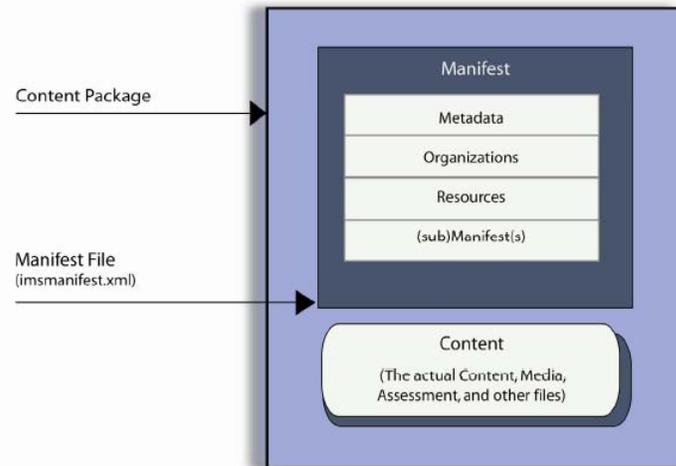
8.4 SCORM Content Package and Manifest File

A SCORM Content Package bundles content objects or aggregations of content objects together with a content organization. A SCORM Content Package may represent a course, lesson, module or may simply be a collection of related content objects.

The manifest, an essential part of all SCORM Content Packages, is similar in many ways to a “packing slip.” It lists the contents of the package and may include an optional description of the content structure.

Each SCORM Package must include a .zip extension file. The SCORM Manifest file must exist at the root of the content package. Figure 9, extracted from the SCORM documentation suite, depicts the contents of a SCORM Content Package and Manifest. Refer to Appendix I for a sample manifest file.

Figure 9. SCORM Content Package and Manifest File



8.5 SCORM Run-Time Environment Data Model

The SCORM Run-Time Environment (RTE) Data Model contains a set of data model elements that can be tracked by the SCO with an LMS during the run-time of the SCO. The data model elements facilitate tracking learner information and learner progress through the content during run-time while the learner progresses through the content. Some of the RTE data model elements impact each other or are used in coordination with other elements. Some of the data model elements, if used, impact the control and sequence of other SCOs that are being used in the same context (for example, lesson or course). The SCORM 2004 RTE provides a detailed description of the data model. Refer to <http://www.adlnet.gov/downloads/311.cfm> to obtain a free version of the book.

Table 8 identifies the required and optional elements for all JKDDC content. Optional elements can be added by the CDT and SME on a content-specific basis.

Table 8. SCORM RTE Data Model Elements

#	<i>RTE Data Model Element</i>	<i>SCORM RTE Data Model Element Description</i>	<i>Required/Optional</i>
1	Comments From Learner	Contains text from the learner. This could be an input by the learner during the interaction with the content.	Optional
2	Comments From LMS	Contains comments and annotations intended to be made available to the learner. The designer can set up comments to bet given to the learner during the interaction with the content.	Optional
3	Completion	Indicates whether the learner has completed the SCO. The completion level could be anything the instructional designer has set	Required

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#	<i>RTE Data Model Element</i>	<i>SCORM RTE Data Model Element Description</i>	<i>Required/Optional</i>
	Status	as completion, a test score, navigating through content or other aspect predetermined by the design.	
4	Completion Threshold	Identifies a value against which the measure of the progress the learner has made toward completing the SCO can be compared to determine whether the SCO should be considered completed.	Optional
5	Credit	Indicates whether the learner will be credited for performance in this SCO.	Optional
6	Entry	Contains information that asserts whether the learner has previously accessed the SCO.	Required
7	Exit	Indicates how or why the learner left the SCO.	Required
8	Interactions	Defines information pertaining to an interaction for the purpose of measurement or assessment. An example would be a test or quiz.	Required
9	Launch Data	Provides data specific to a SCO that the SCO can use for initialization.	Required
10	Learner Id	Identifies the learner on behalf of whom the SCO instance was launched.	Required
11	Learner Name	Represents the name of the learner.	Required
12	Learner Preference	Specifies learner preferences associated with the learner's use of the SCO.	Optional
13	Location	Represents a location in the SCO.	Optional
14	Maximum Time Allowed	Indicates the amount of accumulated time the learner is allowed to use a SCO in the learner attempt.	Optional
15	Mode	Identifies the modes in which the SCO may be presented to the learner.	Required
16	Objectives	Specifies learning or performance objectives associated with a SCO.	Required
17	Progress Measure	Identifies a measure of the progress the learner has made toward completing the SCO.	Required
18	Scaled Passing Score	Identifies the scaled passing score for a SCO.	Required
19	Score	Identifies the learner's score for the SCO.	Required
20	Session Time	Identifies the amount of time that the learner has spent in the current learner session for the SCO.	Optional
21	Success Status	Indicates whether the learner has mastered the SCO.	Required
22	Suspend Data	Provides information that may be created by a SCO as a result of a learner accessing or interacting with the SCO.	Optional
23	Time Limit Action	Indicates what the SCO should do when the maximum time allowed is exceeded.	Optional
24	Total Time	Identifies the sum of all of the learner's learner session times accumulated in the current learner attempt prior to the current learner session.	Required

8.6 Sequencing and Navigation

Sequencing and navigation under SCORM 2004 enables a SCO to influence at runtime which SCO is presented next to the learner. The SCORM 2004 Sequencing and Navigation model provides new SCORM functionality that developers should consider using when navigational complexity (for example, performance-conditional branching) is desired. The following text is an extract from the SCORM Sequencing and Navigation book, Section 5.6.4:

“A SCO may or may not contain user interface devices that allow the learner to trigger a navigation request. A SCO may wish to know if a given navigation request would result in the identification of a learning activity for delivery — is the given navigation request valid? The SCO can query the LMS for validity of various navigation requests. This information may be used to provide a more accurate set of enabled user interface devices. Regardless of whether a SCO provides user interface devices, a SCO can directly communicate navigation intentions to the LMS. A SCO can indicate one, and only one, navigation request for processing by the LMS upon the SCO’s termination.”

LMSs and authoring tools may automate some aspects of complex SCORM 2004 navigational behavior. The details for SCORM 2004 navigation behaviors include a SCORM data model that is separate from the data model contained in the SCORM 2004 RTE book. As introduced in SCORM 2004 S&N Section 5.6.5:"

“The following sections define the requirements for implementation of the SCORM Navigation Data Model. Each data model element is presented in a new section (that is, 5.6.6, 5.6.7, etc.). Each section contains a table that describes the requirements for a specific data model element. These requirements apply to both LMS and SCO implementations. Some requirements impact LMS implementations, some impact SCO implementations, and some impact both LMS and SCO implementations.”

Developers who need to understand or directly use the SCORM 2004 Sequencing and Navigation data model should refer to the tables and descriptions in SCORM Sequencing and Navigation book in Sections 5.6.1 through 5.6.5.

Table 9, extracted from SCORM 2004 Sequencing and Navigation Section 5.2, lists the key SCORM 2004 sequencing events. When in need of adaptive behavior at run-time, content developers should note the "Choose" row within this table. It is implied that a SCO can directly request the LMS to serve the next SCO to the learner. This does not mean that information provided in the SCORM manifest does not apply or influence navigation. Developers are advised to review Section 5 of the SCORM 2004 Sequencing and Navigation book for more details. Refer to <http://www.adlnet.gov/downloads/311.cfm> to obtain a free version of the book.

Table 9. Navigation Events and Descriptions

<i>Navigation Event</i>	<i>Behavior Description</i>	<i>Source</i>
Start	This event indicates a desire to identify the first or “starting” activity available in the Activity Tree. This event is typically generated automatically by the LMS when the learner begins a new attempt on the root activity of the Activity Tree. This event results in a Start navigation request.	LMS only
Resume All	This event indicates a desire to resume a previously suspended attempt on the root activity of the Activity Tree. This event is typically generated automatically by the	LMS only

<i>Navigation Event</i>	<i>Behavior Description</i>	<i>Source</i>
	LMS when the learner resumes a previously suspended attempt on an Activity Tree. This event results in a Resume All navigation request.	
Continue	This event indicates a desire to identify the “next” (in relation to the Current Activity) logical learning activity available in the Activity Tree. This event results in a Continue navigation request.	LMS or SCO
Previous	This event indicates a desire to identify the “previous” (in relation to the LMS or SCO Current Activity) logical learning activity available in the Activity Tree. This event results in a Previous navigation request.	LMS or SCO
Choose	This event indicates a desire to “jump” directly to a specific learning activity in the Activity Tree. This event results in a Choice navigation request for a specified target activity.	LMS or SCO
Abandon	This event indicates a desire to prematurely or abnormally terminate the current attempt on the currently delivered content object with no intent to resume later. This event ends the current attempt on the Current Activity. If the Current Activity has a parent, the attempt on the parent activity does not end. Further, Abandon has no immediate effect on any of the Current Activity’s ancestors. An abandoned attempt is counted as an attempt. In no case does Abandon mean that tracking information that has already been recorded should be rolled back. For example, if the activity was already recorded as passed or completed, then it does not become failed or incomplete. This event results in an Abandon navigation request.	LMS or SCO
Abandon All	This event indicates a desire to prematurely or abnormally terminate the current attempt on the root activity of the Activity Tree with no intent to resume later. This event ends the current attempt on the Activity Tree’s root activity and all active learning activities. All abandoned attempts are counted. In no case does <i>Abandon All</i> mean that tracking information that has already been recorded should be rolled back. For example, if the activity was already recorded as passed or completed, then it does not become failed or incomplete. This event results in an <i>Abandon All</i> navigation request.	LMS or SCO
Suspend All	This event indicates a desire to pause the current attempt on the root activity of the Activity Tree. This event suspends the current attempt on the Activity Tree’s root activity and all active learning activities. None of the attempts on the suspended activities end. If the next attempt on the root activity of the Activity Tree (beginning of the next sequencing session) is initiated with a Resume All event, attempts on all of the activities suspended by this event will resume. In no case does Suspend All mean that tracking information that has already been recorded should be “rolled back.” For example, if the activity was already recorded as passed or completed, then it does not become failed or incomplete. This event results in a Suspend All navigation request.	LMS or SCO
Unqualified Exit	This event indicates that the current attempt on the currently delivered activity has finished normally, and that termination was not triggered by LMS or SCO another navigation event, such as Continue, Previous, or Choose. This event ends the current attempt on the Current Activity. This event results in an Exit navigation request.	LMS or SCO
Exit All	This event indicates that the current attempt on the root activity of the Activity Tree has finished normally. This event ends the current attempt on the Activity Tree’s root activity and all active learning activities. This event results in an Exit All navigation request.	LMS or SCO

8.7 SCORM Rollups

Rollup rules within SCORM 2004 enable complex sequencing of content based upon learner performance. SCORM 2004 Sequencing and Navigation Section 3.7 provides detailed description of rollup rules and behaviors. Refer to <http://www.adlnet.gov/downloads/311.cfm> to obtain a free version of the book. For those who wish to reuse concrete examples of SCORM manifests utilizing rollup rules, refer to <http://www.adlnet.gov/downloads/321.cfm> for freely downloadable content.

8.8 SCORM Conformance Test Suite

After a course has been developed and packaged, the CDT will test content packages using the SCORM 2004 3rd Edition Conformance Test Suite. The Test Suite is available for download on the ADL web site, <http://www.adlnet.gov/>. The test log will be provided to the JKDDC KM Division when the source files are delivered.

8.9 SCORM Information, Best Practices, and Guidelines

There are many free resources available to instructional designers and content developers who are interested in learning more about ADL, SCORM, and Content Object Repository Discovery and Registration/Resolution Architecture (CORDRA). A few examples include the:

- ❑ ADL web site at www.adlnet.gov
- ❑ Joint ADL Co-Laboratory (Co-Lab) web site at www.jointadlcolab.org
- ❑ Academic ADL Co-Lab web site at www.academiccolab.org
- ❑ Learning Systems Architecture Lab (LSAL) web site at <http://lsal.org/lsal>.

Among the many relevant and helpful products available from the above web sites is *The SCORM Best Practices Guide* (produced by LSAL) which provides step-by-step processes and tips for content developers, instructional designers, writers, programmers, and subject matter experts tasked with creating new content that is SCORM conformant or converting existing content into SCORM conformant content.

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9. ADL Registry

This section describes the ADL Registry (ADL-R), along with the metadata schema for submission metadata and content metadata. The CDT will register all JKDDC-developed content with the ADL-R prior to delivery to the JKDDC KM Division.

9.1 ADL Registry Overview

The ADL-R provides a framework for establishing a federation of content repositories known as the Content Object Repository Discovery and Registration/Resolution Architecture (CORDRA). The ADL-R is the first operational implementation of CORDRA.

CORDRA is an open, standards-based model for the design and implementation of software systems for the purposes of discovery, sharing and reuse of learning content through the establishment of interoperable federations of learning content repositories. It is used to provide access to high-quality educational resources, training performance aids, and pedagogies that may be shared and tailored to meet individual learner needs.

Future LMSs and authoring tools may opt to extend the connection between SCORM conformant products and the ADL-R by enabling one-stop SCORM packaging, combined with automated ADL-R content registration. It is relevant to note the following information with regard to the ADL-R as of January 2007:

- ❑ The ADL-R registration processes is manual in nature (that is, person in the loop).
- ❑ The registration processes are continuing to evolve.
- ❑ CORDRA does not currently fully describe the required metadata for registration.

As the ADL-R continues to evolve, the JKDDC guidelines will be updated to reflect current guidance. Refer to <https://adlregistry.dtic.mil> for detailed information regarding the ADL-R.

9.2 ADL-R Metadata

Metadata is data about data or data that describes learning content. Metadata is collected during the creation of the Content Specification and is identified in the Storyboards/Script. The purpose of metadata tagging is to facilitate the search, discovery, use, and reuse of content.

A common set of information and metadata that describes content objects is needed to register content objects with the ADL-R. This common set of metadata will enable consistent and predictable discovery of registered content objects. Part of this information also deals with the actual submission to the ADL-R. This submission information allows for the ADL-R to perform appropriate actions to manage the registry. This submission process is often referred to as a Registry Transaction. There are two sets of metadata required to register content as follows:

- ❑ Metadata that describes the transaction to the ADL-R, known as Submission Metadata.
- ❑ Metadata that describes the content itself, known as Content Object Metadata.

9.3 Submission Metadata

The Submission Metadata is vital to the registry transaction process. This metadata describes the key information that allows the ADL-R to understand and process the submission. Refer to the ADL-R web site at https://adlregistry.dtic.mil/6/index2_3.htm for detailed information required for the Submission Metadata. These elements include:

- ❑ Submitter information
- ❑ Type of transaction
- ❑ Content object identifier
- ❑ Content object location
- ❑ Repository identifier
- ❑ Secondary content object location
- ❑ Content object metadata identifier
- ❑ Metadata conformance indicators
- ❑ Timestamp.

9.4 Content Object Metadata

The Content Object Metadata is information that describes the content. Refer to the ADL-R web site at https://adlregistry.dtic.mil/6/index2_3.htm for detailed information required for the Content Object Metadata. These elements include:

- ❑ Title
- ❑ Description
- ❑ Keywords
- ❑ Version
- ❑ Author
- ❑ Format
- ❑ Copyright and other restrictions
- ❑ Category of the content object being registered
- ❑ Status of the content object
- ❑ Security restrictions associated with content object
- ❑ Distribution requirements for the content object
- ❑ Content object conformance indicator
- ❑ Collection associated with content object.

10. AtlasPro LMS

JKDDC will deliver content via the AtlasPro LMS. This section provides instructions and best practices for preparing, testing, and deploying content to AtlasPro. If your organization is delivering content via an LMS other than AtlasPro, apply the appropriate requirements of your chosen LMS. AtlasPro supports SCORM 2004 conformant content, consistent with the JKDDC intent to develop content that is conformant with the specification.

10.1 AtlasPro-Supported Browsers

AtlasPro supports the following browsers and versions:

- Netscape 7.1+
- Internet Explorer (IE) 5+
- Firefox.

10.2 Uploading SCORM Packages to AtlasPro

Each SCORM package should include a .zip extension and the manifest file should exist at the root level of the content package. The course package should also include a “js” directory containing the appropriate API.

The course upload is comprised of two procedures. The first requires uploading the content (that is, the files that comprised the course) to the repository. The second requires parsing the SCORM Manifest file that is included in the SCORM Package. During the upload process, the LMS upload engine will create the necessary objects in the AtlasPro database that track learner progress for the lessons and tests within the course.

To upload a course to AtlasPro, perform the following steps:

- Login to AtlasPro with administrator privileges.
- From the main desktop, click Course Management Wizard.
- Select the Course Type for upload.
- Follow the prompts within AtlasPro to enter data associated with the package and all course level attributes (such as course description, duration, graduation type).
- When prompted, browse to locate the SCORM Package file and select for upload.
- After the upload is complete, create a course section. **NOTE:** Set “Track Enrollment” to “No” to block learners enrollment access; set to “Yes” to enable learner enrollment.

After the course is uploaded and the sections are created, enrollment can be turned “On” to allow learner enrollment. A student user type should enroll to validate the course content and navigation. Administrators can also validate the course content, but progress will not be tracked for the admin role type.

10.3 Course Management Wizard

The course management wizard is a tool that enforces users to enter the metadata for the course. It also enables users to upload the course content to AtlasPro content repository.

10.4 AtlasPro Help

AtlasPro provides online help via the Internet, accessible from within AtlasPro by selecting "Help-How to Use Atlas" from the Login Page left menu.

Joint Knowledge Development and Distribution Capability (JKDDC)

Knowledge Management Content Design and Development Guidelines

Appendices

Version 1.0

February 16, 2007

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A. Appendix A—Acronyms

Appendix Table 1 provides the acronyms identified referenced in the guidelines document and appendices.

Appendix Table 1. Acronyms

ADL	Advanced Distributed Learning
ADL-R	Advanced Distributed Learning Registry
API	Application Program Interface
CAM	Content Aggregation Model
CCJO	Capstone Concept for Joint Operations
CDT	Content Development Team
CENTCOM	US Central Command
CJCS	Chairman of the Joint Chiefs of Staff
COCOM	Combatant Command
COE	Centers of Excellences
COL	Check-on-Learning
CORDRA	Content Object Repository Discovery and Resolution Architecture
CSAs	Combat Support Agencies
DIA	Defense Intelligence Agency
DISA	Defense Information Systems Agency
DL	Distributed Learning
DLA	Defense Logistics Agency
DoD	Department of Defense
DoDI	DoD Instruction
DPI	Dots Per Inch
DTRA	Defense Threat Reduction Agency
ELO	Enabling Learning Objective
EUCOM	US European Command
FPS	Frames Per Second

FY	Fiscal Year
GFI	Government Furnished Information
GUI	Graphical User Interface
HTML	Hypertext Markup Language
IMI	Interactive Multimedia Instruction
ISD	Instructional Systems Design
ISD	Instructional Systems Designer
ISD/SAT	Instructional Systems Development/Systems Approach to Training
JKDDC	Joint Knowledge Development and Distribution Capability
JMET	Joint Mission Essential Task
JMETL	Joint Mission Essential Task List
JMO	Joint Management Office
JNTC	Joint National Training Capability
JPD	Joint Planning Document
JTF	Joint Task Force
JTS	Joint Training System
JTTP	US Joint Doctrine and Joint Tactics, Techniques and Procedures
JUO	Joint Urban Operations
JWFC	Joint Warfighting Center
KM	Knowledge Management
LAN	Local Area Network
LC	Joint Staff Office of Legal Counsel
LCMS	Learning Content Management System
LMS	Learning Management System
LOE	Level of Effort
LSAL	Learning Systems Architecture Lab
MDO	Missile Defense Organization
METs	Mission Essential Tasks
MIL-HDBK	Military Handbook

MIME	Multipurpose Internet Mail Extensions
MOU	Memorandum of Understanding
NATO	North Atlantic Treaty Organization
NETFs	NATO Education and Training Facilities
NGA	National Geospatial-Intelligence Agency
NIPRNET	Non-Secure Internet Protocol Router Network
NORTHCOM	US Northern Command
NPETN	NATO/PfP Education and Training Network
NSA	National Security Agency
OP	Operational-Level Tasks
OPR	Office of Primary Responsibility
OSD	Office of the Secretary of Defense
PACOM	US Pacific Command
PAT	Process Action Team
PC	Personal Computer
PCM	Pulse Code Modulation
PDF	Portable Document Format
PEP	Program Execution Plan
PfP	Partnership for Peace
PM	Program Manager
PRR	PEP Requirements Request
PTC	PfP Training Centers
QC	Quality Control
ROM	Rough Order of Magnitude
RPRAC	Requirements Prioritization and Resource Allocation Conference
RTE	Run-Time Environment
SCO	Sharable Content Object
SCORM	Sharable Content Object Reference Model
SIPRNET	Secure Internet Protocol Router Network

SME	Subject Matter Expert
SN	Sequencing and Navigation
SN	Strategic-Level: National Military Tasks
SOCOM	US Special Operations Command
SOUTHCOM	US Southern Command
ST	Strategic-Level: Theater Tasks
STRATCOM	US Strategic Command
T2	Training Transformation
TA	Tactical-Level Tasks
TLO	Terminal Learning Objective
TOR	Terms of Reference
TRANSCOM	US Transportation Command
UJTL	Universal Joint Task List
UI	User Interface
URL	Universal Resource Locator
USA	US Army
USAF	US Air Force
USCG	US Coast Guard
USJFCOM	US Joint Forces Command
USMC	US Marine Corps
USN	US Navy
XML	eXtensible Markup Language

B. Appendix B—Program Execution Plan (PEP) Requirements Request (PRR) Form

The Program Execution Plan (PEP) Requirements Request (PRR) form is used for JKDDC Stakeholders to document requirements for content design and development. One form per requirements is required. Each Stakeholder should limit form submissions to no more than five. The PRR submissions will be collected, merged, and validated by the Process Action Teams (PATs). The prioritization of requirements will be accomplished using the following general criteria:

1. Must address a solution for a joint individual (or small group) training or performance deficiency.
2. Should be linked to performance enhancement for the conduct of UJTL tasks.
3. Should have applicability to a broad spectrum of the joint training community.
4. Must be within the resources of the JKDDC program to reasonably support.

There are two options for form completion. Visit the JKDDC CIE to access the eForm.xls version that provides pull-down menus for input selection or the non-eForm.xls version that provides fields for write in/type in inputs. An example of the PRR is provided in Appendix Table 2.

Appendix Table 2. PRR

JKDDC Program Execution Plan (PEP) Requirements Request (PRR) Form		
FILL OUT BLOCKS 1 - 12 BELOW		
1	Stakeholder Sponsor / Office of Primary Responsibility (OPR)	NORTHCOM, SOUTHCOM, SOCOM, CENTCOM, TRANSCOM, PACOM, STRATCOM, EUCOM, JFCOM, USFK, NGB, Navy, Air Force, Marine Corps, Army, Coast Guard, OSD NII, OSD P&R, OSD TIM2, JS J7, NDU, DTRA, DISA, DCMA, NSA, DIA, DLA, NGA, DSCA
2	O6/GS-15 Endorsement Required (GO/SES Endorsement Preferred) (Endorsement signifies a valid organization requirement and commitment to provide resources as required. (i.e SMEs, etc.))	Name, Title, DSN / Phone, Email
3	Primary Government POC	Name, DSN / Phone, Email
4	Secondary POC	Name, DSN / Phone, Email
5	Title of Requirement	

6	Priority (1-5). (If more than one requirement is submitted, please indicate priority rank of this requirement against others.)	1, 2, 3, 4, 5
7	Submission Type	New, Update to existing requirement
8	Requirement Description (Describe the individual joint training deficiency (requirement) to be addressed and the proposed solution (requested JKDDC capability).)	
9	What is the origin of the requirement? (e.g., Exercise, Shortfall, Mission Need, Lessons Learned, etc.)	
10	How will this improve joint readiness?	
11	Which approved Universal Joint Task List (UJTL) task(s) does this requirement support?	https://jdeis.js.mil/jdeis/ujtl_demo/ujtlIntro.jsp
12	Provide a risk assessment. (What is the result if the requirement is not met?)	
IF THE REQUIREMENT IS FOR DEVELOPMENT OF DL COURSEWARE OR CONTENT, FILL OUT BLOCKS A - P BELOW.		
A	Which Combatant Command Mission Essential Task(s) (METs) does this requirement support?	
B	What are the Joint Doctrine references?	https://jdeis.js.mil/jdeis/browsePubs/pubSearch.jsp?pubOne=1&d=0
C	What Training Transformation (T2) Strategic Plan initiative does this requirement support?	Irregular warfare; Stability, security, transition and reconstruction operations (SSTRO); Combatting WMD; Homeland defense; Global strike; Shaping operations; BMD; IO; Urban operations; COP; Logistics; SO Training; AOR-specific training; Other
D	What joint billets does this content support? (Refer to the Joint Manning Document (JMD))	
E	Subject Matter Expert(s) (SMEs) (List the name, phone numbers, and email)	Name DSN / Phone Email

	address of any known SME(s) for the content.)	
F	What are the enabling objectives? (What lessons/topics will be presented in the course to support the purpose statement? What are the key take-aways?)	
G	Target Audience Access? (How many users will access this content on an annual basis (estimated)?)	>50, 51-100, 100-250, 251-500, 500-1000, >1000
H	Target Audience Description (What are the characteristics of the primary audience (e.g., rank, education level, years experience, etc.)? Is there a secondary audience? If so, what are their characteristics?)	
I	Who will the content need to be released to?	DoD, U.S. Government Agency, State and Local Governments, Non-Government Organizations, Australia-Britain-Canada, NATO, PfP, Other multinational (please specify)
J	What will be the primary means used by the target audience for accessing the content?	Internet, NIPRnet, SIPRnet, High-Bandwidth (Cable or DSL), Low-Bandwidth (Dial Up)
K	Which of the following media are possible methods for presenting this content to your target audience?	Job aid - online manual; Job aid - web page reference; Job aid - downloadable reference; Classroom training; Web-based training; Video; Other
L	Is this content Secret?	
M	Are there any prerequisites? If so, what?	
N	Has anything been done to develop this content? If so, what?	<i>Ability to upload any materials, cite URLs to existing content, etc.</i>
O	What is the anticipated frequency of required updates to this content?	<i>(e.g., quarterly, annually, quadrennial, etc.)</i>
P	What is the estimated instructional seat time (hours)?	
THIS SECTION WILL BE COMPLETED BY JKDDC JMO		
I.	Evaluation Method (What type of testing is used for this content?)	Pick all that apply: Pre-Test, Periodic Exams, Post Test

II.	Evaluation Type (What types of test questions are used?)	Pick all that apply: Matching, Fill in the blank, Multiple Choice, True/False, Essay, Practical, Ranking, Other
III.	Evaluation Standard (Under which standard are you evaluating student performance?)	Examples: Must score 80% overall, with no less than 70% for each lesson; Through repeated attempts at each question, must identify the correct answer; Must complete each practical within the allotted time for the task(s)
JKDDC Activity #		<i>Assigned by JKDDC</i>
Date/Time Submitted:		<i>Assigned by JKDDC</i>
PAT recommendation to stakeholders:		<i>Assigned by JKDDC</i>
Stakeholder's recommendation:		<i>Assigned by JKDDC</i>
PAT LOE recommendation:		<i>Assigned by JKDDC</i>
RPRAC recommendation:		<i>Assigned by JKDDC</i>
J7 LOE Decision:		<i>Assigned by JKDDC</i>

C. Appendix C—Storyboard/Script Template

Appendix Table 3 provides the Storyboard/Script template.

Appendix Table 3. Storyboard/Script Template

Storyboard/Script (Template)	
Module Title: (Copy from SCO Metadata Table)	Lesson Title: (Copy from SCO Metadata Table)
Module Number: (Copy from SCO Metadata Table)	Version: (Copy from SCO Metadata Table)
Classification: Unclassified	Location: (Copy from SCO Metadata Table)
<i>Page #1</i>	
Content Outline	
Page Title: (Title for the page will go here. For example: in a course about how to use a coffee maker, several page titles might be: “Objectives,” “Setting the Timer,” “Adding Water,” “Adding Grinds,” etc.)	Page Number: (These should be numbered in 10s: 0010, 0020, 0030; so that if a page is inserted later, renumbering will not have to occur.)
Page Content: (ISD insert text to be displayed on the screen: bulleted lists; list of steps in a procedure; brief content. This should NOT read verbatim, the narration text. As a rule-of-thumb, there should be no more than 6 bullets or items to a list and no more than 2-3 sentences on the content screen.)	
Content Narration	
(Insert any special consideration/pronunciations for the narrator)	
Graphics/Assets	
Name: (Insert file name)	Location: (Insert file location/path to directory)
Notes	
(List any special considerations/instructions for the CDT developers.)	
<i>Page #2</i>	
Content Outline	
Page Title:	Page Number:
Page Content:	
Narration	

<i>Graphics/Assets</i>	
Name:	Location:
<i>Notes</i>	

D. Appendix D—Check-on-Learning Samples

Appendix Table 4 and Appendix Table 5 provide samples Checks on Learning for multiple choice and true/false questions.

Appendix Table 4. COL Multiple Choice Sample

Check-on-Learning (COL): Multiple Choice	
Page Title: Check-on-Learning	Page # XXXXXXXX
Default Text: Select the best answer to the question.	
Question: Place question stem here.	<u>Reviewer Comments</u>
Correct Answer	
	<u>Reviewer Comments</u>
Distracter 1	
	<u>Reviewer Comments</u>
Distracter 2	
	<u>Reviewer Comments</u>
Distracter 3	
	<u>Reviewer Comments</u>
Notes	
	Storyboard/Script Reference #: XXXXX

Appendix Table 5. COL True/False Sample

Check-on-Learning (COL): True or False	
Page Title: Check-on-Learning	Page # XXXXXXXX
Default Text: Select the best answer to the question.	
Question: Place question stem here	<u>Reviewer Comments</u>
Correct Answer	
Indicate if the question/statement is TRUE or FALSE	<u>Reviewer Comments</u>
Notes	
	Storyboard/Script Reference #: XXXXX

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E. Appendix E—Content Specification Sample

Appendix Table 6 provides a sample Content Specification.

Appendix Table 6. Content Specification Sample

Content Specification (Sample)
<u>Classification Markings.</u> Red or Green per standard marking guidelines.
<u>Specification ID.</u> 00-00 JKDDC Course Number and Title
<u>Date.</u> YYYY-MM-DD
<u>I. Background.</u> The Joint Task Force Fundamentals (JTF 101) course is designed to provide basic background knowledge and comprehension of key joint tasks to prepare individuals assigned as members of Service Component, Functional Component, or supporting staffs to more effectively accomplish their assignments during Joint National Training Capability (JNTC) events, other joint exercises, and real-world operations. All content is based upon US Joint Doctrine and Joint Tactics, Techniques and Procedures (JTTP), enhanced with examples, lessons learned, and reference citations/hyperlinks for additional research and information.
<u>II. Course Purpose.</u> To provide basic background knowledge and comprehension of key Joint Urban Operations (JUO) tasks and to prepare individuals assigned as members of Service Component, Functional Component, or supporting staffs to more effectively accomplish their assignments during JNTC events, other joint exercises, and real-world operations.
<u>III. Objectives.</u> Upon completion of this module, the user will be able to: <ul style="list-style-type: none"> • Understand the current urban operational environment using the Urban Triad (complex terrain, infrastructure, and population) to identify the synergy created within urban scenarios and how to effectively use current capabilities to affect positive tactical and operational outcomes. • Explain how Urban Intelligence, Preparation of the Battlefield and Information Operations are used to shape the outcome of urban operations. • Describe how Full Spectrum Dominance and Joint Tactics, Techniques, and Procedures are used to identify, fix and engage adversaries in the urban condition. • Explain the implications of governance, interagency, security, and reconstruction in a Joint Urban Operation. • Describe historical urban operations, the current paradigm shift, and future JUO implications.
<u>IV. Instructional Strategy.</u> Complexity and level of interactivity. The module will be designed to Level 2/3 specifications, as defined in MIL-HDBK-29612-3A (DoD Handbook, Development of Interactive Multimedia Instruction (IMI), 31 Aug 01). This instructional self-paced product will focus on knowledge and familiarization training, with basic application and limited user interaction. There will be evaluation of student mastery of the subject matter with computer-based knowledge testing, to include feedback on responses.
<u>Course Design Considerations.</u> <ul style="list-style-type: none"> • All course tasks will be designed with a common graphical user interface to maintain a consistent “look and feel” among the tasks. This graphical user interface will be modeled after one of the current JKDDC courses. The Government will identify the interface before development commences on the first task. • Each task will be nominally equivalent to 1 hour of seat time for a learner progressing at a normal pace, and

will consist of approximately 60 to 75 web pages, including assessments.

- The course will be divided into modules, which will be divided into lessons. Each lesson will be divided into topics that consist of specified number of pages covering the content.
- The course will be self contained, presenting instructional content pertinent to the course and offering additional story elements or facts as needed to support the instruction.
- Un-graded practice questions will be offered after each topic. A final assessment of content will be provided at the end of the course, as determined by the Government, Government-identified subject matter experts (SMEs), and instructional designers developing the course. Questions for the course final assessment will be drawn at random from a bank of topic practice questions.
- A course completion certificate will be available to users that have successfully completed the course and final assessment. The pass/fail percentage for the course final assessment will be determined by the Government, Government-identified SMEs, and instructional designers developing the course.
- This course will bear overall classification markings for the highest level of classified material presented in the course, in accordance with DoD national security classification requirements. Individual classification markings will appear at the top and bottom of each html page.
- The Government will identify and/or approve a course development style guide that will be used to develop this course. If a pre-existing style guide is not approved for use, the management and content development teams will recommend a style guide and submit it to the Government for approval.
- Course SMEs will be responsible for ensuring that courses are based in US Joint doctrine and doctrinally accurate.
- This course will be minimally Section 508 conformant in accordance with JWFC interpretation of the Clinger-Cohen Act.
- This course will reside on a Government-provided SCORM 2004 conformant Learning Management System (LMS).

Content and Organizational Sequence.

- There will be a course introduction section that consists, at a minimum, of the following: Course title, purpose, and objectives.
- Course navigation will be developed in accordance with standards established for SCORM 2004.

Feedback form. When the user selects the “Exit Course” option, a prompt will request the user to choose one of two options: (1) exit the course immediately, or (2) complete a feedback form and e-mail the feedback form back to the JWFC. Once the feedback email is submitted, the user can select “Exit Course” to automatically exit the course. The feedback form will be sent to a shared mailbox. Feedback form addressees will be determined before the electronic version of this course is delivered.

Contact Us. “Contact Us” links to a page that allows the user to either: a) e-mail questions and comments concerning technical issues to the computer authoring team; or b) e-mail questions and comments concerning course content to the content development team. Depending on which type of e-mail is selected (technical or content-related), the e-mail will be sent to an appropriate mailbox accessible by that team’s members. Addresses will be determined before the electronic version of the course is delivered.

Glossary. A glossary of terms, abbreviations and acronyms used throughout the course will be developed. Glossary entries will be accessed from within the course using standards established for existing JKDDC courses.

V. Authoring Software. Authoring software will be in accordance with USJFCOM policies for authoring software. The Web-based interactive course will be developed in accordance with USJFCOM Web administration guidelines, policies, and procedures.

VI. Technical Standards. The course will be accessible on both the NIPRNET and SIPRNET Joint Knowledge Development and Distribution Capability (JKDDC) sites, as allowable by course classification levels. At a minimum,

<p>the user should have the software/hardware and computer settings listed below available to view the course:</p> <ul style="list-style-type: none"> • Windows 2000/XP • Netscape 7.1 or Internet Explorer 6.0 • Flash Player 6 plug-in for Netscape or Internet Explorer • Connection to the Internet, NIPRNET, or SIPRNET via LAN or Dial-up using 128-bit encryption • Monitor resolution of at least 800 x 600 • PC audio capability and speakers or headphones. 	
<p><u>VII. Deliverables.</u></p> <ul style="list-style-type: none"> • Course specification • Course storyboard/script with proposed imagery • Web-based course 	
<p><u>VIII. Plan of Actions and Milestones (POA&M) - Key Events.</u></p>	
<ul style="list-style-type: none"> • Course specification delivered 	YYYY-MM-DD
<ul style="list-style-type: none"> • Draft course storyboard/script to Government for review 	YYYY-MM-DD
<ul style="list-style-type: none"> • Draft course storyboard/script returned with comments to group 	YYYY-MM-DD
<ul style="list-style-type: none"> • Draft web-based course to Government for review 	YYYY-MM-DD
<ul style="list-style-type: none"> • Draft web-based course returned with comments 	YYYY-MM-DD
<ul style="list-style-type: none"> • Final course posted to the web on the JKDDC (NIPRNET/SIPRNET) 	YYYY-MM-DD
<p>Note: As the web-based course is authored, Government representatives will have access to the course for interim review and comment.</p>	
<p><u>IV. Sharable Content Object Reference Model (SCORM) Conformance.</u> This Web-based course will be developed in accordance with the Sharable Content Object Reference Model (SCORM). The interactive web-based course will be SCORM 2004 conformant with Sharable Content Objects (SCOs) created at the topic level within the course.</p>	
<p><u>X. Supported Universal Joint Task List (UJTL) 5.0 Tasks.</u></p> <ul style="list-style-type: none"> • First UJTL • Second UJTL • Third UJTL 	
<p><u>XI. Joint Doctrine References.</u></p> <ul style="list-style-type: none"> • First reference • Second reference • Third reference 	
<p><u>XII. Government Furnished Information (GFI)/Other References.</u></p> <ul style="list-style-type: none"> • First reference • Second reference 	

- Third reference

XIII. Course Classification. (Classified or Unclassified)

XIV. Course Level of Interactivity. (Level 1 or Level 2)

XV. Course Instructional Seat Hours.

- Number of hours (estimated):
- Course Development Hours:
- Storyboard/Script development (estimated):
- Computer authoring (estimated):
- Total development hours (estimated):

XVI. Miscellaneous.

- First item
 - Second item
 - Third item
-

F. Appendix F—Content Development Initiation Meeting Template

Appendix Table 7 provides the template for the Development Initiation Meeting. This template highlights the topics that the CDT should communicate during the Initiation Meeting. Meeting notes should be captured and kept as an artifact.

Appendix Table 7. Content Development Initiation Meeting Template

Content Development Initiation Meeting (Template)	
Course Title:	
Course ID:	
Date: DD MMM YY (Date checklist created or updated)	
Initiation Meeting Topics	
<input type="checkbox"/>	Define roles and responsibilities for each party (including individuals' deadline expectations)
<input type="checkbox"/>	Define course purpose
<input type="checkbox"/>	Define course objectives
<input type="checkbox"/>	Review/revise draft course specifications using CRSS documents
<input type="checkbox"/>	Obtain and review any Government Furnished Information (GFI)
<input type="checkbox"/>	Define/review Plan of Action & Milestones (POA&M)
<input type="checkbox"/>	Define/review intended interactivity levels (Category 1 or Category 2)
<input type="checkbox"/>	Insert additional items
Meeting Participants	
Insert	
Meeting Notes	
Insert	

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G. Appendix G—Content Development Milestone Checklist Template

Appendix Table 8 provides the template for tracking milestones and SME contact information associated with the development of the content. CDTs are required to notify the JKDDC KM Division Chief when any milestones are at risk for not being completed by the due date specified. This data should be captured and kept as an artifact.

Appendix Table 8. Content Development Milestone Checklist Template

Content Development Milestone Checklist (Template)				
Course Title:				
Course ID:				
Date: YYYY-MM-DD (Date checklist created or updated)				
<i>Milestones</i>				
<i>Task Description</i>	<i>Responsibility</i>	<i>Date Due</i>	<i>Status</i>	
<input type="checkbox"/> SME Identified	CDT Action			
<input type="checkbox"/> SME Scheduled	CDT Action			
<input type="checkbox"/> GFI Identified	CDT Action			
<input type="checkbox"/> GFI Delivered	SME Action			
<input type="checkbox"/> Content Specification Completed	CDT Action			
<input type="checkbox"/> Content Specification Approved	SME Action			
<input type="checkbox"/> Submit Storyboard/Script for Review	CDT Action			
<input type="checkbox"/> Reviewed Storyboard/Script Received from OPR	SME Action			
<input type="checkbox"/> Storyboard/Script Sent to CDT Developers for Development	CDT Action			
<input type="checkbox"/> Post Beta Version for Review	CDT Action			
<input type="checkbox"/> Beta Review Comments Received from OPR	SME Action			
<input type="checkbox"/> Metadata Collected	CDT Action			
<input type="checkbox"/> Post Final Version to JKDDC Web Site	CDT Action			
<input type="checkbox"/> Course Metadata Sent to ADL Registry	CDT Action			
<input type="checkbox"/> Archived All Files	CDT Action			
<i>SME Information</i>				
<i>SME Name</i>	<i>Arrival Date</i>	<i>Depart Date</i>	<i>E-Mail Address</i>	<i>Phone Number</i>
Insert				
<i>GFI Received</i>				
<i>Title</i>	<i>Location</i>		<i>Brief Description</i>	

Insert		
<i>General Notes</i>		
Insert		

H. Appendix H—Metadata Form Template

Appendix Table 9 provides the Metadata Form template with instructions for completing each field.

Appendix Table 9. Metadata Form Template

Metadata Form (Template)	
Module Title: ModuleX	Lesson Title: (Insert Title)
Module Number: (course #_module #_lesson #)	Security Restrictions: Unclassified
Location: (URL/Path to file location)	
ISD: (Insert Name)	ISD Email: (Insert Email Address of ISD)
<i>Metadata</i>	
Title:	
Description:	
Keyword(s):	
Version: (use numerical format; new content begins with 1.0)	
Author(s): (names of people or organizations)	
Format: (file format: Flash, Java, HTML, etc)	
Copyright: None	
Category:	
Status:	
Conformance:	
Collection:	
Distribution Requirements: <input type="checkbox"/> FOUO <input type="checkbox"/> NOFORN <input type="checkbox"/> Other _____	Interactivity Level: <input type="checkbox"/> Category 1 <input type="checkbox"/> Category 2
<i>Objectives</i>	
Terminal Learning Objective (TLO):	
Enabling Learning Objective (ELO):	
Objective Type:	

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I. Appendix I—SCORM Manifest File Sample

Appendix Table 10 provides a sample SCORM 2004 manifest that includes sequencing elements and calls to the AtlasPro LMS test engine.

Appendix Table 10. SCORM Manifest File Sample

```

SCORM Manifest File Sample

<?xml version="1.0" encoding="UTF-8"?>
<manifest xmlns="http://www.imsglobal.org/xsd/imscp_v1p1" xmlns:adlcp="http://www.adlnet.org/xsd/adlcp_v1p3"
xmlns:adlseq="http://www.adlnet.org/xsd/adlseq_v1p3" xmlns:adlnav="http://www.adlnet.org/xsd/adlnav_v1p3"
xmlns:imsss="http://www.imsglobal.org/xsd/imsss" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
identifier="SeqConTest_RU-4bb" version="1.3" xsi:schemaLocation="http://www.imsglobal.org/xsd/imscp_v1p1
imscp_v1p1.xsd http://www.adlnet.org/xsd/adlcp_v1p3 adlcp_v1p3.xsd
http://www.adlnet.org/xsd/adlseq_v1p3 adlseq_v1p3.xsd
http://www.adlnet.org/xsd/adlnav_v1p3 adlnav_v1p3.xsd
http://www.imsglobal.org/xsd/imsss imsss_v1p0.xsd">
  <metadata>
    <schema>ADL SCORM</schema>
    <schemaversion>CAM 1.3</schemaversion>
  </metadata>
  <organizations default="DEMO_1">
    <organization adlseq:objectivesGlobalToSystem="false" identifier="DEMO_1">
      <title>Demo Training</title>
      <item identifier="Module0">
        <title>Introduction</title>
        <item identifier="MOD0L1" identifierref="M0L1">
          <title>Welcome to Working with a Virtual Team</title>
        </item>
        <imsss:sequencing>
          <imsss:controlMode choice="false" flow="true"/>
        </imsss:sequencing>
      </item>
      <item identifier="PretestM1">
        <title>Certification Exam: Pretest</title>
        <item identifier="PreQuestion1_01" identifierref="PreQ1_01">
          <title>Pre-Test I</title>
          <adlcp:dataFromLMS>PRETEST</adlcp:dataFromLMS>
          <imsss:sequencing>
            <imsss:controlMode choice="false" flow="true"/>
            <imsss:objectives>
              <imsss:primaryObjective/>
              <imsss:objective objectiveID="objective1_1">
                <imsss:mapInfo targetObjectiveID="objective1_1"/>
              </imsss:objective>
              <imsss:objective objectiveID="objective1_2">
                <imsss:mapInfo targetObjectiveID="objective1_2"/>
              </imsss:objective>
            </imsss:objectives>
          </imsss:sequencing>
        </item>
      </item>
    </organization>
  </organizations>

```

```

        </imsss:objectives>
      </imsss:sequencing>
    </item>
    <item identifier="PreQuestion1_02" identifierref="PreQ1_02">
      <title> Pre-Test II</title>
      <adlcp:dataFromLMS>PRETEST</adlcp:dataFromLMS>
      <imsss:sequencing>
        <imsss:controlMode choice="false" flow="true"/>
        <imsss:objectives>
          <imsss:primaryObjective/>
          <imsss:objective objectiveID="objective1_3">
            <imsss:mapInfo targetObjectiveID="objective1_3"/>
          </imsss:objective>
          <imsss:objective objectiveID="objective1_4">
            <imsss:mapInfo targetObjectiveID="objective1_4"/>
          </imsss:objective>
        </imsss:objectives>
      </imsss:sequencing>
    </item>
    <imsss:sequencing>
      <imsss:controlMode choice="false" flow="true"/>
    </imsss:sequencing>
  </item>
  <item identifier="Module1">
    <title>Lessons</title>
    <item identifier="MOD1L1" identifierref="M1L1">
      <title>Lesson 1</title>
      <imsss:sequencing>
        <imsss:controlMode choice="false" flow="true"/>
        <imsss:sequencingRules>
          <imsss:preConditionRule>
            <imsss:ruleConditions>
              <imsss:ruleCondition condition="satisfied"/>
            </imsss:ruleConditions>
            <imsss:ruleAction action="skip"/>
          </imsss:preConditionRule>
        </imsss:sequencingRules>
        <imsss:objectives>
          <imsss:primaryObjective/>
          <imsss:objective objectiveID="objective1_1">
            <imsss:mapInfo targetObjectiveID="objective1_1"/>
          </imsss:objective>
        </imsss:objectives>
      </imsss:sequencing>
    </item>
    <item identifier="MOD1L2" identifierref="M1L2">
      <title>Lesson 2</title>
      <imsss:sequencing>

```

```

        </imsss:controlMode choice="false" flow="true"/>
        <imsss:sequencingRules>
            <imsss:preConditionRule>
                <imsss:ruleConditions>
                    <imsss:ruleCondition condition="satisfied"/>
                </imsss:ruleConditions>
                <imsss:ruleAction action="skip"/>
            </imsss:preConditionRule>
        </imsss:sequencingRules>
        <imsss:objectives>
            <imsss:primaryObjective/>
            <imsss:objective objectiveID="objective1_2">
                <imsss:mapInfo targetObjectiveID="objective1_2"/>
            </imsss:objective>
        </imsss:objectives>
    </imsss:sequencing>
</item>
<item identifier="MOD1L3" identifierref="M1L3">
    <title>Lesson 3</title>
    <imsss:sequencing>
        <imsss:controlMode choice="false" flow="true"/>
        <imsss:sequencingRules>
            <imsss:preConditionRule>
                <imsss:ruleConditions>
                    <imsss:ruleCondition condition="satisfied"/>
                </imsss:ruleConditions>
                <imsss:ruleAction action="skip"/>
            </imsss:preConditionRule>
        </imsss:sequencingRules>
        <imsss:objectives>
            <imsss:primaryObjective/>
            <imsss:objective objectiveID="objective1_3">
                <imsss:mapInfo targetObjectiveID="objective1_3"/>
            </imsss:objective>
        </imsss:objectives>
    </imsss:sequencing>
</item>
<item identifier="MOD1L4" identifierref="M1L4">
    <title>Lesson 4</title>
    <imsss:sequencing>
        <imsss:controlMode choice="false" flow="true"/>
        <imsss:sequencingRules>
            <imsss:preConditionRule>
                <imsss:ruleConditions>
                    <imsss:ruleCondition condition="satisfied"/>
                </imsss:ruleConditions>
                <imsss:ruleAction action="skip"/>
            </imsss:preConditionRule>

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        </imsss:sequencingRules>
        <imsss:objectives>
            <imsss:primaryObjective/>
            <imsss:objective objectiveID="objective1_4">
                <imsss:mapInfo targetObjectiveID="objective1_4"/>
            </imsss:objective>
        </imsss:objectives>
    </imsss:sequencing>
</item>
<imsss:sequencing>
    <imsss:controlMode choice="false" flow="true"/>
</imsss:sequencing>
</item>
<item identifier="PosttestM1">
    <title>Certification Exam: Posttest I</title>
    <item identifier="PostQuestion1_01" identifierref="PostQ1_01">
        <title>Post-Test I</title>
        <adlcp:dataFromLMS>POSTTEST</adlcp:dataFromLMS>
        <imsss:sequencing>
            <imsss:controlMode choice="false" flow="true"/>
            <imsss:sequencingRules>
                <imsss:preConditionRule>
                    <imsss:ruleConditions>
                        <imsss:ruleCondition condition="satisfied"/>
                    </imsss:ruleConditions>
                    <imsss:ruleAction action="skip"/>
                </imsss:preConditionRule>
            </imsss:sequencingRules>
            <imsss:objectives>
                <imsss:primaryObjective/>
                <imsss:objective objectiveID="objective1_1">
                    <imsss:mapInfo targetObjectiveID="objective1_1"/>
                </imsss:objective>
                <imsss:objective objectiveID="objective1_2">
                    <imsss:mapInfo targetObjectiveID="objective1_2"/>
                </imsss:objective>
            </imsss:objectives>
        </imsss:sequencing>
        <adlnav:presentation>
            <adlnav:navigationInterface>
                <adlnav:hideLMSUI>previous</adlnav:hideLMSUI>
            </adlnav:navigationInterface>
        </adlnav:presentation>
    </item>
    <item identifier="PostQuestion1_02" identifierref="PostQ1_02">
        <title>Post-Test II</title>
        <adlcp:dataFromLMS>POSTTEST</adlcp:dataFromLMS>
        <imsss:sequencing>

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        <imsss:controlMode choice="false" flow="true"/>
        <imsss:sequencingRules>
            <imsss:preConditionRule>
                <imsss:ruleConditions>
                    <imsss:ruleCondition condition="satisfied"/>
                </imsss:ruleConditions>
                <imsss:ruleAction action="skip"/>
            </imsss:preConditionRule>
        </imsss:sequencingRules>
        <imsss:objectives>
            <imsss:primaryObjective/>
            <imsss:objective objectiveID="objective1_3">
                <imsss:mapInfo targetObjectiveID="objective1_3"/>
            </imsss:objective>
            <imsss:objective objectiveID="objective1_4">
                <imsss:mapInfo targetObjectiveID="objective1_4"/>
            </imsss:objective>
        </imsss:objectives>
    </imsss:sequencing>
</item>
<imsss:sequencing>
    <imsss:controlMode choice="false" flow="true"/>
</imsss:sequencing>
</item>
<imsss:sequencing>
    <imsss:controlMode choice="false" flow="true"/>
</imsss:sequencing>
</organization>
</organizations>
<resources>
    <resource identifier="M0L1" href="Course_Content/Welcome_Main.html" adlcp:scormType="sco"
type="webcontent"/>
    <resource identifier="M1L1" href="Course_Content/Lesson1_Main.html" adlcp:scormType="sco"
type="webcontent"/>
    <resource identifier="M1L2" href="Course_Content/Lesson2_Main.html" adlcp:scormType="sco"
type="webcontent"/>
    <resource identifier="M1L3" href="Course_Content/Lesson3_Main.html" adlcp:scormType="sco"
type="webcontent"/>
    <resource identifier="M1L4" href="Course_Content/Lesson4_Main.html" adlcp:scormType="sco"
type="webcontent"/>
    <resource identifier="PreQ1_01" href="test/testengineTest.html" adlcp:scormType="sco" type="webcontent"/>
    <resource identifier="PreQ1_02" href="test/testengineTest.html" adlcp:scormType="sco" type="webcontent"/>
    <resource identifier="PostQ1_01" href="test/testengineTest.html" adlcp:scormType="sco"
type="webcontent"/>
    <resource identifier="PostQ1_02" href="test/testengineTest.html" adlcp:scormType="sco"
type="webcontent"/>
</resources>
</manifest>

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J. Appendix J—Reference Information

This appendix provides relevant reference information that may be useful to content designers and developers.

J.1 Section 508

Description of policy: In 1998, Congress amended the Rehabilitation Act to require Federal agencies to make their electronic and information technology accessible to people with disabilities. The law applies to all Federal agencies when they develop, procure, maintain, or use electronic and information technology. Under Section 508 (29 U.S.C. ‘ 794d), agencies must give disabled employees and members of the public access to information that is comparable to the access available to others.

JKDDC recommendation: CDTs use a blended testing approach to verify Section 508 compliance that includes human testing and technologies/tools. CDTs review the laws and regulations available on the official Section 508 web site, accessible from <http://www.section508.gov/>, to determine how to support its implementation.

J.2 DoDI 1322.26 "Development, Management, and Delivery of Distributed Learning"

Description of policy: This Instruction implements DoD policies, assigns responsibilities, prescribes procedures, and establishes information requirements to develop, manage, and deliver distributed learning for DoD personnel pursuant to DoD Directive 1322.18, "Military Training," September 3, 2004. This Instruction applies to the Office of the Secretary of Defense, the Military Departments, the Chairman of the Joint Chiefs of Staff, the Combatant Commands, the Office of the Inspector General of the Department of Defense, the Defense Agencies, the DoD Field Activities, and all other organizational entities in the Department of Defense. This Instruction excludes: (1) Full-scale simulators, part-task training aids and devices, unless there is a structured learning component. (2) Interactive Multimedia Instruction and courseware developed in a non-digital format or media (e.g., paper, film, and magnetic tape), according to DoD Instruction 1322.20, "Development and Management of Interactive Courseware for Military Training," March 14, 1991. (3) Those portions of instructor and faculty-led web-based instruction incorporating instant messaging, e-mail, live telecasts, webcasts, or interactive television.

JKDDC recommendation: JKDDC recommends that CDTs use the Advanced Distributed Learning (ADL) Initiative’s SCORM Test Suite to ensure our content complies with DoD Instruction 1322.26 "Development, Management, and Delivery of Distributed Learning" dated June 16, 2006, available from <http://www.dtic.mil/whs/directives/corres/html/132226.htm>.

J.3 DoD Directive 1322.18, "Military Training," September 3, 2004

Description of policy: This Directive applies to the Office of the Secretary of Defense (OSD), the Military Departments (including their Reserve components), the Chairman of the Joint Chiefs of Staff (CJCS), the Combatant Commands (COCOMs), and the Office of the Inspector General of

the Department of Defense, the Defense Agencies, the DoD Field Activities, and all other organizational entities in the Department of Defense

JKDDC recommendation: JKDDC recommends the CDTs understand the policies and responsibilities for training military personnel, units, and staffs; and for training DoD personnel and the DoD Components that support the operational needs of the COCOMs. This document dated September 3, 2004 is available at:

<http://www.dtic.mil/whs/directives/corres/html/132218.htm>

J.4 MIL-HDBK-29612 – Volumes 1 through 5

Guidance for Acquisition of Training Data Products and Services (Part 1 of 5 parts): This part of the handbook provides guidance to Department of Defense (DoD) personnel on the procurement of training data products and services. This handbook is intended for guidance only. This handbook cannot be cited as a requirement. If it is, the contractor does not have to comply.

Instructional Systems Development/Systems Approach to Training and Education (Part 2 of 5 parts): This handbook provides guidance that may be used by all Services and Industry on the Instructional Systems Development/Systems Approach to Training (ISD/SAT) process and the development of instructional materials. ISD/SAT process phases include: analysis, design, development, implementation, and evaluation. Additionally, ISD/SAT requires effort in the areas of planning and quality improvement. Training materials include an array of instructional documentation including, but not limited to, lesson plans, student guides, course control documents, and support materials.

Development of Interactive Multimedia Instruction (IMI) (Part 3 of 5 parts): This handbook provides background information for the planning, design, development, implementation, evaluation, and management of Interactive Multimedia Instruction (IMI) products. IMI products include electronic products used in the delivery of instruction or supporting the delivery of instruction. See 4.2 for a further breakdown of IMI products. This handbook (Part 3 of 5 Parts) also provides acquisition guidance unique to IMI products and supplements general acquisition guidance provided in MIL-HDBK-29612-1 (Part 1 of 5 Parts).

Glossary for Training (PART 4 OF 5 parts): This handbook provides acronyms, abbreviations, and definitions of key terms used in the analysis, design, development, implementation and evaluation of training and training data products. Key terms and acronyms used in MIL-PRF-29612 and MIL-HDBK-29612-1, -2, -3, and -5 are repeated in this handbook to provide a single comprehensive glossary of acronyms and definitions related to military training.

Advanced Distributed Learning (ADL) Products and Systems (Part 5 of 5 parts): The Advanced Distributed Learning (ADL) Initiative is a structured, adaptive, collaborative effort between the public and private sectors to develop the standards, tools, learning objects, and delivery mechanisms for the future-learning environment. The ADL Initiative supports the development of a system capable of delivering instruction to users anytime, anywhere. The Department of Defense (DoD) has outlined a strategy for implementing a DoD-wide Distributed Learning (DL) system. Its goal is to transition from the current "in-residence" focused education and training environment to a global DL system designed to deliver training, education, and information "on-demand" as a continuum to support DoD operational readiness.

JKDDC recommendation: JKDDC recommends the CDTs understand and follow the guidance provided in this 5 part Military Handbook, copies can be found in the KM reference section of the JKDDC CIE. All JKDDC development guidelines should be based on and support the concepts and theories defined within this document. To ensure concurrency of the reference material each of the documents and the supporting notations dated 08 June 2006 can be found at the following sites.

Guidance for Acquisition of Training Data Products and Services (Part 1 of 5 parts):

http://assist.daps.dla.mil/quicksearch/basic_profile.cfm?ident_number=207793

Instructional Systems Development/Systems Approach to Training and Education (Part 2 of 5 parts): http://assist.daps.dla.mil/quicksearch/basic_profile.cfm?ident_number=207794

Development of Interactive Multimedia Instruction (IMI) (Part 3 of 5 parts):

http://assist.daps.dla.mil/quicksearch/basic_profile.cfm?ident_number=207795

Glossary for Training (Part 4 of 5 parts):

http://assist.daps.dla.mil/quicksearch/basic_profile.cfm?ident_number=207797

Advanced Distributed Learning (ADL) Products and Systems (Part 5 of 5 parts):

http://assist.daps.dla.mil/quicksearch/basic_profile.cfm?ident_number=210538

J.5 NATO/PfP Guidance

The following guidance is provided for North Atlantic Treaty Organization (NATO) Partnership for Peace (PfP).

J.5.1 ACT Directive Number 75-3 “Course Development”

This directive coordinates the responsibilities, specifies the relationships, and establishes the procedures and documentation for the development of new courses, the revision of existing courses and the import of complete courses in NATO.

J.5.2 ACT Directive Number 75-8 “External Evaluation of Courses”

This directive is to establish a program for the external evaluation of courses within NATO.

J.5.3 ACT Directive Number 75-9 “Terms of Reference (TOR) for NATO/PfP Education and Training Network (NPETN)”

This directive outlines the structure functions and interoperability of the NATO/PfP Education and Training Network (NPETN). This document provides information on the NPETN for multinational co-ordination and harmonization of the individual military education and training among NPETN Members.

J.5.4 ACT Directive Number 75-11 “Joint Advanced Distributed Learning Directive”

This directive provides the policy framework for the use of ADL within NATO and promotes a set of organizational processes that Allied Command Transformation (ACT) would wish to see

NATO Education and Training Facilities (NETFs), Centers of Excellences (COE), PfP Training Centers (PTC), NATO and PfP Nations adopt. This directive offers guidelines that should be used in the creation, sponsorship, coordination, and conduct of ADL-based education and training.

J.5.5 Style Guide for Allied Command Transformation Advanced Distributed Learning

This guide defines the "look and feel" of web-based portions of content developed for ACT. It describes all aspects of the appearance and general functionality of the online content to be developed.

J.5.6 PfP Consortium of Defense Academies and Security Studies Institutes Switzerland – US Joint Planning Document (JPD), May 2002

The scope of the JPD is limited to an overview of plans, processes, and procedures necessary to develop and implement the envisioned knowledge portal. The JPD is a strategic planning document which defines the roles and responsibilities of the parties assigned to achieve the vision and strategic intent of the US – Swiss Memorandum of Understanding (MOU).

J.6 DoD Netcentric Policies on Metadata

The purpose of the SCORM 2004 Run-Time Environment Version 1.3.1 Data Model is to ensure that a defined set of information about Sharable Content Objects (SCOs) can be recorded by different Learning Management System (LMS) environments. For example, data can be recorded by the SCO about learner interactions with activities, such as an assessment or a quiz question.

However, keep in mind that the data model encompasses many other types of information from learner preferences to mastery of objectives.

Using the data model offers the following benefits:

- It can consistently track information between different LMSs
- It may impact the flow or sequence of other content
- It allows you to easily track information about an object on a per learner basis, which could be analyzed to improve the instruction.

Consult the SCORM 2004 documentation before making any changes not explicitly recommended by this document. By following these guidelines, the end product will be SCORM 2004 conformant metadata.

J.7 CJCSM 3500.04D “Universal Joint Task List”

The CJCSM 3500.04D “Universal Joint Task List (UJTL)” provides a map of the requirements to the Joint Competencies (when available) and a listing of the supported Joint Mission Essential Tasks (JMETs) linked to the appropriate UJTL. Dated 17 August 2006, accessible from: http://www.dtic.mil/cjcs_directives/cdata/unlimit/m350004.pdf.

J.8 CJCSM 3500.03 “Joint Training Manual for the Armed Forces of the United States”

This manual provides guidance to the combatant commanders when implementing CJCS policy for developing JMETL, Planning and conducting joint training, and assessing command readiness with regard to joint training. The combatant commands, Services, and combat support agencies (CSAs) will use this manual when using the Joint Training System (JTS) as specified in reference a. and b. This JCSM applies to the Joint Staff, combatant commands and service components, Services, CSAs, Defense agencies responsive to the CJCS, and other agencies as appropriate for matters relating to the joint training of the Armed Forces of the United States. Dated 1 June 1996, accessible from: <http://www.dtic.mil/doctrine/jel/cjcsd/cjcsm/m350003a.pdf>.

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