CBT and integration with RDC for real-time application testing, Using UPK with SCORM2004 compliant LMS development environments.

Kish Cachola DBMS Consulting, Inc.

10 October 2010



Acknowledgements

- Many thanks to the OHSUG for this opportunity to present for the OHSUG Template Focus Group.
- Many thanks to the OHSUG Planning and Review Committee and OHSUG Template Focus Group Chairs for their infinite patience in receiving and expeditious review of this presentation
- Many thanks to everyone who participated in the development of presentation.



- SCORM
- SCORM Versions and Editions
- Oracle UPK
- LMS Technology
- Advantages of using LMS for RDC Training
- RDC Content Development
- Sample RDC Slides
- Benefits to Organization
- Q/A
- Biography



Sharable Content Object Reference Model (SCORM)

- It is a collection of standards and specifications for web-based <u>e-learning</u>. It defines communications between client side content and a host system called the run-time environment, which is commonly supported by an <u>LMS</u>.
- SCORM is a specification of the <u>Advanced Distributed</u> <u>Learning</u> (ADL) Initiative, which comes out of the <u>Office of the United States Secretary of Defense</u>.



SCORM Versions

- SCORM 1.1-SCORM 1.1 is the first production version. It used a Course Structure Format XML file based on the <u>AICC</u> specifications to describe content structure, but lacked a robust packaging manifest and support for metadata. Quickly abandoned in favour of SCORM 1.2.
- SCORM 1.2-This was the first version that was widely used. It is still widely used and is supported by most Learning Management Systems today.



SCORM Versions (Contd.)

SCORM 2004-This is the current version. It is based on new standards for API and content object-toruntime environment communication, with many ambiguities of previous versions resolved. Includes ability to specify adaptive sequencing of activities that use the content objects. Includes ability to share and use information about success status for multiple learning objectives or competencies across content objects and across courses for the same learner within the same learning management system. A more robust test suite helps ensure good interoperability.



SCORM 2004 Editions

- 3rd Edition (October 2006) clarification of various conformance requirements and of the interaction between content objects and the runtime environment for sequencing; some new conformance requirements to improve interoperability.
- 4th Edition Released (March 31, 2009) more stringent interoperability requirements, more flexible data persistence.



Oracle User Productivity Kit (UPK)

- Oracle UPK is a software tool that can capture all the steps in a system process. It records every keystroke, every click of the mouse, each menu option chosen and each button pressed. All this is done in the UPK Recorder by going through the transaction and pressing "print screen" after every user action. From this, without any further effort from the developer, UPK builds a number of valuable outputs.
- UPK outputs, nowadays, are SCORM 2004 compliant and thus can run on any LMS with SCORM 2004 compliance.



LMS Technology

- LMS is usually web-based, built using a variety of development platforms, like <u>JAVA/J2EE</u>, <u>Microsoft.NET</u> or <u>PHP</u>.
- Usually employ the use of a database like <u>MySQL</u>, <u>Microsoft SQL Server</u> or <u>Oracle</u> as back-end.



Advantages of using LMS for RDC Training

- Create e-learning course to RDC specialized training requirements.
- Can be Uploaded in Existing Learning Management System.
- With a custom built courses, we can have our specific RDC material presented in accordance to our live environment.
- Easily distributed to a wide audience at a relatively low cost once the initial development is completed.



RDC CBT Development

- Content slides similar to RDC screens are developed.
- Addition of interactive elements to make simulation close to a live RDC application.
- Detailed descriptive navigational steps are created which helps the user to understand the significance of each step and perform the action.



Roles based RDC CBT Development

- CBT may be developed based on RDC roles.
 - a) Site Coordinator
 - b) Investigator
 - c) CRA
 - d) Data Manager



Some Examples

- Login to RDC
- Significance of icons/fields in RDC
- Performing a patient search
- Discrepancy management based on the user roles
- Verify CRFs by CRA
- Approval of CRFs by Investigator

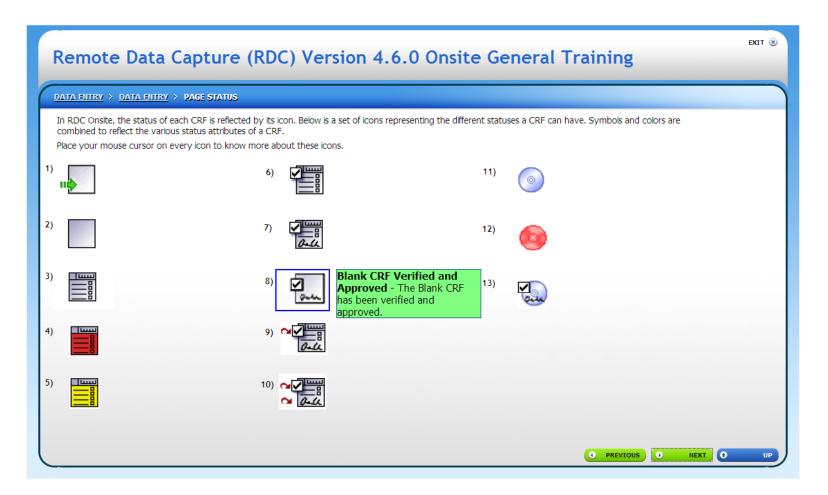


Sample Screenshots



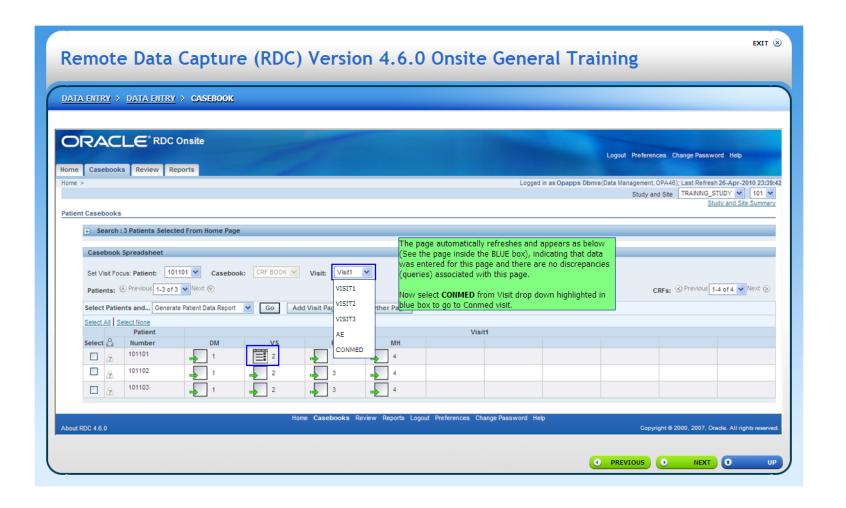


Sample Screenshots





Sample Screenshots



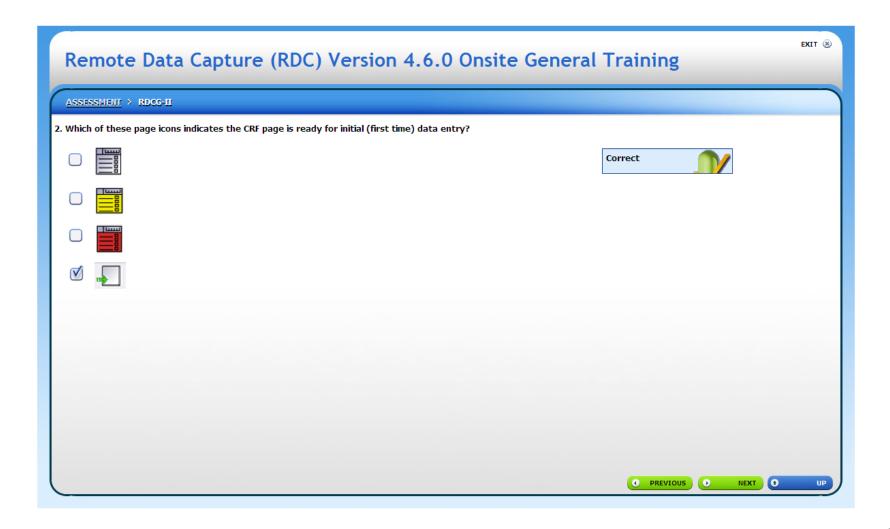


Tests/Assessments

- Designed using interactive elements such as Drag drop, fill in the blank, multiple choice etc.
- Allows the users to test their knowledge.
- Cut off marks can be assigned to test the users competency of the course.



Sample Screenshot





Actual RDC Environment integrated with CBTs

- Users will experience and learn live production environment:
 - VPN login process
 - Protocol specific information
 - Entering data in CRFs
 - Business Process and workflow



Benefits to Organization

Benefits to Organization

- Centralized learning environment to ensure consistency.
- Tracking and reporting for enhanced performance.
- Immediate capabilities evaluation.



CBT for RDC and UPK with SCORM2004 compliant LMS development environments

Kish Cachola

kish.cachola@clinicalserver.com

+1-973-477-7855



Kish Cachola, DBMS Consulting, Inc.

Kish Cachola is an Oracle Health Sciences functional specialist for DBMS Consulting. He has over 8 years experience in clinical trials and data management working for CROs, Biotech and Pharmaceutical.