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# AICC

## GUIDELINES and RECOMMENDATIONS

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VERSION  
1.0

### COURSEWARE INTERCHANGE AICC COURSEWARE TECHNOLOGY COMMITTEE

#### SCOPE

This document recommends guidelines for the interchange of the elements that occur in CBT courseware. These elements include:

- Text
- Graphics
- Motion (Frame-based)
- Audio
- Logic

These guidelines encompass:

- The major data components of CBT courseware
- Standard data formats for these components

#### PURPOSE

The purpose of these guidelines is to facilitate the movement of courseware content from one environment to another. This ability enables the courseware owner to do the following:

- Re-purpose: For instance move some training course content to a performance support system.
- Re-use: Use elements of an existing program that were developed in authoring system A to a new program being developed in authoring system B.
- Simplify maintenance: Move courseware into one or two authoring systems so that a staff with expertise in 5 or 6 authoring systems is not required to maintain a company's courseware. This is a typical problem in the airline industry where an airline may get courseware from several different aircraft manufacturers, all developed in different authoring systems.
- Migrate to new platforms: Move courseware from older hardware to new. For example from an 80286 DOS machine to a new DEC Alpha RISC computer running Windows NT, or from an Intel machine running Windows to a RISC machine running UNIX.

*Caveats...  
Review Cycle*

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**RECOMMENDATIONS**

The rationale, detailed descriptions and examples for the following recommendations can be found in AICC document CRS-003, *Guidelines for CBT Courseware Interchange*.

**R.1 The AICC recommends the use of authoring systems able to export and import courseware elements in standard formats. Specifically, the authoring system must be able to:**

- 1. Export all basic elements to individual files in standard industry formats**
- 2. Import all basic elements from individual files in standard industry formats**
- 3. Export lesson logic to an ASCII text representation**
- 4. Import lesson logic from an ASCII text representation**

**R.2 The AICC recommends the following standard formats for courseware elements:**

<b>Text</b>	<b>ASCII</b>	
<b>Graphics</b>	<b>CGM</b> <b>TIFF</b> <b>PICT</b> <b>WMF</b> <b>DIB (or BMP)</b>	<b>Computer Graphics Metafile</b> <b>Tagged Interchange File Format</b> <b>Macintosh Picture Format</b> <b>Windows Metafile</b> <b>Windows Device Independent Bitmap</b>
<b>Motion (Frame-based)</b>	<b>AVI</b> <b>MPEG</b> <b>QuickTime</b> <b>FLIC/FLI</b> <b>PICS</b>	<b>Audio Video Interleaved.</b> <b>Motion Picture Experts Group</b> <b>Apple format</b> <b>AutoDesk Animator format</b> <b>Apple format</b>
<b>Audio</b>	<b>WAVE</b> <b>AIFF</b> <b>AICC</b>	<b>MS Windows audio</b> <b>Audio Interchange File Format (Mac)</b> <b>Aviation Industry CBT Committee standard formats (DOS)</b>
<b>Logic</b>	<p>Logic elements can be stored in one or more ASCII text files per lesson. The text files may contain programming language code, a scripting language, or SGML tagged text.</p> <p>The content, in whatever format, must be comprehensive and clear enough to enable a person with a good understanding (of the scripting language or programming language, etc.) to reproduce (without any other information) the exported CBT completely.</p>	

**R.3 The AICC recommends authoring systems able to comply with one of four levels of compliance.**

**Level 1: Minimum Compliance**

At a minimum, an authoring system must be able to do the following :

- Export, in an automated fashion, all Graphic, Audio, Text, and Frame-based elements from a lesson.
- Export, in an automated fashion, an ASCII text file containing a list of all Graphic, Audio, Text, and Frame-based elements in a lesson including identification information and their filenames.

**Level 2: Basic Compliance**

In addition to Level-1 requirements, an authoring system must be able to do the following for Level-2 Compliance:

- Import all Graphic, Audio, Text, and Frame-based elements.

**Level 3: Intermediate Compliance**

In addition to Level-2 requirements, an authoring system must be able to do the following for Level-3 Compliance:

- Export, in an automated fashion, an ASCII text file(s) containing a description of lesson behavior in logic files.

**Level 4: Comprehensive Compliance**

In addition to Level-3 requirements, an authoring system must be able to do the following for Level-4 Compliance:

- Import, in an automated fashion, the logic contained in ASCII text files and all accompanying Graphic, Audio, Text, and Frame-based elements.