

# **V-12 Database Engine Xtra**

## **The standard for data driven multimedia creation**

### **Introduction**

Director is a powerful tool for the authoring of multimedia graphical user interfaces for a wide variety of applications. However, a truly robust program is going to require the integration of hundreds or thousands of individual pieces of information and media. It is also going to require that the users be able to interact with the program by inputting their own data that can then be stored and used by the program. Whether the goal of the program is to allow the user to directly select which media and information they want, or if the program is designed to deliver and collect information and media in a sequence designed by the author, this information must be well organized and readily accessible. Director is not designed to do this. Databases are. The V12 database by Integration New Media is a database specifically designed for Director as an Xtra. It overcomes the limitations that Director has with manipulating and storing data.

### **Significance of V12 to the Educational Multimedia Developer**

Without the ability to dynamically present and update large amounts of data, multimedia programs are essentially flashy shows that are only well suited for direct delivery of discrete pieces of information and concepts. Skill and drill programs and interest catching introductions to concepts are easily created with Director, but many of the more student centered education models which current learning theories espouse are not as easily accommodated by the “movie” metaphor of the program. Even the powerful navigation tools and Lingo based functionalities that Director provides do not allow the developer to easily create a learning environment that enables discovery, problem based inquiry, group interaction, constructivist learning, and authentic assessment.

The V12 Xtra provides the developer with many possibilities for building aspects of these current learning theories into Director programs. Imagine that a developer is producing a CD-ROM intended to be used in a classroom setting with 8<sup>th</sup> graders studying the Holocaust. The instructional designer might want to activate the students’ prior knowledge by presenting a series of photos, videos, newspaper headlines, and audio selections from the time period. Director is perfectly suited for this. The next logical step would be for groups of students to brainstorm about very open ended questions such as “What is the most important event associated with the Holocaust that future generations should remember?” At this point the natural inclination would be to have students stop using the multimedia tool, and to discuss the topic as a group and as a class. However, the students could produce a text file by typing into a field in Director. These text files could then be saved on a network computer or server and referenced by the V12 database engine. The student’s data can now be accessed by other students and the teacher thereby leading to a social construction of ideas without leaving the multimedia environment. As students decide what they will focus on in their investigation, the V12 database can customize the content that they have access to by allowing for searches and queries and

dynamically organizing the media elements that they are presented. The students can use the V12 database to save notes and media clips as they progress through their research, and the teacher can access these for use in formative evaluation in order to determine where scaffolding may be needed. This saved data can be from prompts built into the program, purely from the students, or even from prompts which the teacher makes up as the students use the program. Other students can also search and access what their group members or other groups are working on thereby creating many opportunities for group knowledge construction. These externally saved pieces can then be brought together to produce a final multimedia “Time Capsule” presentation which can be published in a variety of forms.

Clearly V12’s ability to save, organize, update and dynamically access information facilitates the incorporation of modern learning theory based activities into director movies. In the previous example, Director is essentially being used as a front-end shell for a database that the students know that they are interacting with. The database can also be effectively used in a less transparent way. Individual director movies and other media can be referenced by the database to enable simulation experiences. As the user makes decisions within the simulation, they are essentially querying the database which then loads whichever section of the simulation is appropriate. The database engine is therefore acting as an advanced navigational tool.

Both of the above scenarios could be accomplished with Director itself by creating thousands of character, advanced Lingo scripts and lists, but the task would be quite onerous for the multimedia developer. Director simply is not designed primarily as a database tool. Applications such as FileMaker Pro, MS Excel, MS Access, FoxPro 5.0 or earlier files, 4th Dimension, and Dbase V are specifically designed for the relational data manipulation tasks described above. All of these applications can create files which can then be imported into the V12 engine and seamlessly integrated into Director. This is why the V12 database engine has become the industry standard tool for the creation of data driven multimedia products.

## Major Uses of the V12 Database

**Program Media and Resource Management-** The V12 database can be used as a true back-end to a director movie. Complicated programs with hundreds or thousands of different subsections, pieces of media, and characters can be called up from the database as needed instead of all being loaded at once.



<http://www.integrationnewmedia.com/gallery/item.asp?id=1084>  
Producer- Zenda Studio

### **Wacky Jacks - The Family Game Show**

Wacky Jacks is a CD-ROM game show for all ages. It contains five fun-filled games, from a race-against-the-clock matching game to a new trivia twist on tic-tac-toe. With a colorful game show host and featuring TV's Don Pardo as the announcer, the game stimulates and challenges both young and old. It involves skills and knowledge: geography, animals, history, puzzles, matching, memorizing. The game can be played alone or with family and friends. The Wacky Jacks CD-ROM has won these prizes: Silver Medal for Consumer Games at the NewMedia INVISION Multimedia Awards, Top 50 CD-ROM Titles and Top 5 Children's Games from Mac User Magazine, Silver Medal for Consumer Games at the AVC's Interactive CINDY Awards, Finalist for Interactive Games at the International Film and TV Festival of New York.

**User Controlled Database-** The graphical user interface for an extensive V12 database can be authored in director. The user can make queries and call up data, information and media from the database without having to directly interact with the database itself.



<http://www.integrationnewmedia.com/gallery/item.asp?id=1074>  
Producer- Fox Interactive

### **James Cameron's Titanic Explorer**

A Historical Journey on the Ship of Dreams - a 3 CD-Rom set. The program chronicles the hubris and optimism of the Gilded Age that produced this great ship, the sailing of her full-steam into disaster and the aftermath which produced many conflicting accounts of her sinking.

## V12 Specifications

From - <http://www.integrationnewmedia.com/products/v12director/>

- ❖ V12 Database Engine lets you quickly and easily add powerful, scalable databases to your Macromedia Director projects. Now includes Japanese sort order and MacOS X playback support!
- ❖ V12 Database Engine is implemented as a Director Xtra, is Shockwave-safe, is 100% Mac-Win compatible (even on MacOS X), requires no DLL installation and no advanced database development skills.
- ❖ Genuinely cross-platform - V12-DBE scripts and databases are 100% MacOS and Windows compatible. Develop your project on your favorite platform and it will automatically be compatible with the other one.
- ❖ No installation required - enjoy permanent hassle-free installation! V12-DBE projects require no messy DLLs to install on your client's machines.
- ❖ Shockwave compatible - can download V12-DBE to the client automatically, download V12-DBE databases, Verisign-approved.
- ❖ Multiple data types - store, index, sort, search and retrieve any type of data (strings, integers, floating numbers, dates). Can also store and retrieve any type of media (pictures, sounds, palettes, etc.) that can be stored in a Director cast member.
- ❖ Easy database creation - easily build new databases and import data from your favorite database programs. Export data from FileMaker Pro, MS Excel, 4th Dimension, etc., as TEXT or DBF files and import into V12 databases. Data can also be directly imported into V12 databases from MS FoxPro, MS Access, MS SQL Server or MS Excel files via an ODBC driver (Windows only).
- ❖ Powerful search functions - allows you to use operators such as =, <>, <, <=, >, >=, starts, contains, wordStarts, and wordEquals.
- ❖ Full-text indexing - can individually index words to enable quick searches even in very large databases.
- ❖ Full international support - designed to support all single-byte languages. Sort and search data in English, French, German, Italian, Dutch, Spanish, Swedish, Hebrew, etc. V12-DBE now supports Japanese (Yomigana and shift-JIS sorting standards).
- ❖ Fully scriptable - all features can be used both at runtime and authoring time, including database creation and data importing.
- ❖ Multimedia file format - file format is specifically adapted for multimedia applications, such as variable record-lengths and real-time indexing.
- ❖ MacOS X support - first fully carbonized database Xtra available for MacOS X Shockwave playback. No modification required in your movie; automatically downloads the carbon version if required.

## Major Characteristics of Regular and Light Editions

<b>V12 Regular Edition</b>	<b>V12 Light Edition</b>
<p><b>Pricing</b>  V12-DBE 3 Regular Edition for Director (32-bit)- \$US 469  V12-DBE 3 Regular Edition for Director (16-bit)- \$US 769  V12-DBE 3 for Director (32-bit Educational)- \$US 269</p>	<p><b>Pricing</b>  V12-DBE 3 Light Edition for Director- \$US 199</p>
<p><b>Database Structure:</b>  Can handle up to 128 tables. The number of fields is only limited by the amount of RAM available. The number of records is only limited by the storage media.</p>	<p><b>Database Structure:</b>  Limited to one table with up to 16 fields. The number of records is only limited by the storage media</p>
<p><b>Custom Full-Text Indexing and Search Criteria:</b>  Words Delimiters, Stop Words and the minimum length of words to index are customizable. Handles up to 100 search criteria.</p>	<p><b>Custom Full-Text Indexing and Search Criteria:</b>  Comes with predefined full-text indexing features (minimum word length is set at 4 letters). Enables you to define up to 3 search criteria, which is generally sufficient for simple applications.</p>
<p><b>Custom International Support:</b>  Comes with predefined and custom string types with sorting/searching rules defined by you.</p>	<p><b>Custom International Support:</b>  Comes with predefined string types only with sorting/searching rules.</p>
<p><b>Downloadable V12 Database:</b>  Possibility to download distant V12 Databases from the web or network.</p>	
<p><b>Multi-user connectivity :</b>  up to 128 LAN users can access information simultaneously from a database.</p>	
<p><b>MacOS X support:</b>  Fully Carbonized Xtra supports Macromedia Shockwave playback without modifying movie.</p>	

### Useful Links

#### Integration New Media

<http://www.integrationnewmedia.com/>

“Using the V12 Xtra”- a useful set of articles

<http://www.director-online.com/accessArticle.cfm?id=987>

<http://www.director-online.com/accessArticle.cfm?id=990>

<http://www.director-online.com/accessArticle.cfm?id=953>

<http://www.director-online.com/accessArticle.cfm?id=959>

<http://www.director-online.com/accessArticle.cfm?id=260>

This paper is written by Matthew Connolly for the course EDC385G Multimedia Authoring at the University of Texas- Austin