



Metamorphosis IT Document

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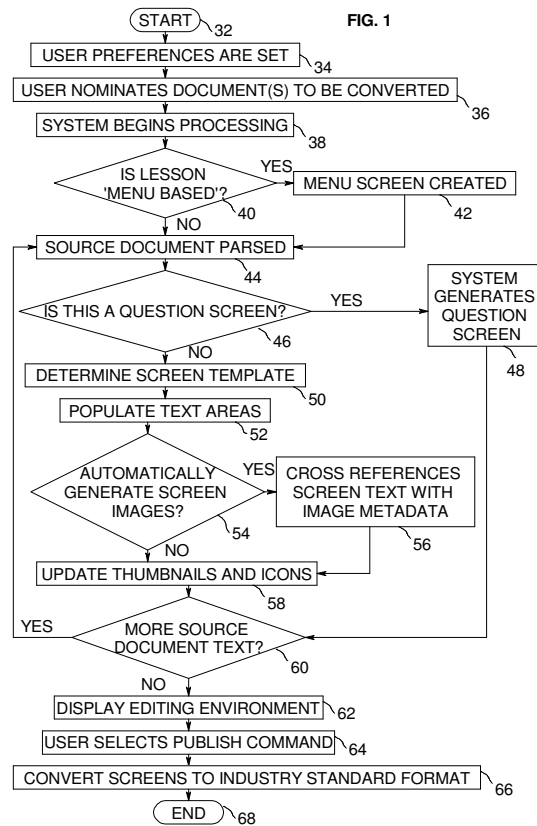
Introduction

Metamorphosis is a Windows-based application designed to automatically generate e-learning courseware ready for playback via modern web browsers.

Application specifics

Metamorphosis has been developed as a Visual C++ (MFC) application. When first installing Metamorphosis, the system launches a web page required to gain an activation code from the Apixel server. The activation code is recorded to the PC's registry and therefore administrator level access is required for initial installation. This activation code is based on the unique number from the user's PC and will only function on that PC. Subsequent launches of the software do not require administrator level access.

Metamorphosis can be used to import Microsoft Word documents and convert their content into discrete screens. When Metamorphosis is working in Import mode, it launches Microsoft Word and systematically copies and pastes content from the document to individual screens within the Metamorphosis editing environment. The diagram below illustrates the importation process:





Once importation is complete the resulting 'lesson' can be saved in Metamorphosis' proprietary format (as an .mph project file and associated project folder). At this stage, the project actually consists of the project file together with a collection of data files (rtf files for text, jpg and png files for images).

When the user has completed editing their project, they are ready to publish the lesson in its final format for the end user. This format is HTML with: JavaScript controlling interactivity; Cascading Style Sheets (CSS) controlling presentation; and, any media (graphics and/or video) the user may have also imported. Four output options are outlined in a separate section below. Metamorphosis lessons allow course administrators to track student performance and progress. This can be achieved in a number of different ways:

1. By emailing results directly to the course administrator (this basic approach launches the default email application on the PC and encrypts the performance and progress data for later decryption by the course administrator – a decryption tool is installed on the Authoring PC during installation and being an HTML file can be independently copied to wherever it is required). Note that most administrators do not use the email option and instead favour the database or LMS methods of tracking data.
2. By recording results directly to a database residing on the LAN or web server (in the case of the latter, communication is facilitated via either ASP or PHP).
3. By communicating results to a SCORM compliant Learning Management System (LMS). Both SCORM versions 1.2 and 2004 are supported.

Minimum System requirements – Authoring system

- 600MHz Intel Pentium II processor (Pentium IV or greater recommended)
- 256MB (1GB preferred)
- Microsoft Windows 2000
- 1024 x 768, 16-bit display (32-bit recommended)
- 150MB hard disc space (700MB is required if the graphics library is also installed)
- Microsoft Word 2000 or higher (only if taking advantage of automation features)



Output options

Metamorphosis allows designers to generate or publish their completed course for four different platforms as described in the table below:

Platform	Description	Output files
Standalone	Courseware published as standalone may be run across the internet, a LAN, or on a local computer. It does not allow for any data capturing. An Index.HTA file is provided for users who are running Microsoft Windows XP Service Pack 2 or higher and who intend to run the course locally (as their security may prevent active content, and hence Metamorphosis courseware, running on the local computer.) Typically users would run the Index.HTM file to launch the course.	HTML files image files (jpg and png) Media files (refer below) JavaScript files HTA launch file
LAN-based Database	This format allows tracking of data to a database over a LAN where there is no web server. The database link is first established using the Data Sources (ODBC) control panel on each delivery machine. It is appropriate only when users are running Microsoft Windows.	HTML files Image files (jpg and png) Media files (refer below) JavaScript files Database file (MS Access or other, see below)
Web-based Database	This option allows the courseware to communicate trainee results and progress over the internet or an intranet where the course and database reside on a web server. Metamorphosis supports both ASP and PHP server technologies for database communication.	HTML files Image files (jpg and png) Media files (refer below) JavaScript files Database file (MS Access or other, see below) ASP or PHP files
Learning Management	This option publishes the course in a format which can be incorporated within a SCORM compliant LMS (either SCORM 1.2 or 2004	HTML files Image files (jpg and png)



System	as required)	Media files (refer below) JavaScript files SCORM manifest and other support files.
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All published output (except for a JavaScript file that is used for communication with a LAN-based database) is open and unencrypted. All output conforms, as much as possible, to all relevant W3C standards.

Database files

When designers publish to either the LAN-Based Database or Web-based Database option, Metamorphosis generates a Microsoft Access (2000) compatible database file which may be used to record end user progress and results. This file can be substituted by a large number of other database formats including ADO, DB2, Firebird, FrontBase, Microsoft SQL Server, Microsoft Visual FoxPro, Informix, Interbase, MySQL, Oracle, PostgreSQL and Sybase.

Media files

Metamorphosis allows users to import a wide variety of media objects into their lessons. Audio file types include AIF, AU, MID, MP3, RM, WAV and WMA.

Video file types include AVI, MOV, MPG and WMV.

Flash-based SWF files are also supported.

When deploying courseware for the Internet it is recommended that “web safe” media formats such as MP3, WMV and SWF are used.

System requirements – Runtime courseware

Any PC or Mac with a modern web browser such as Internet Explorer 5.5+ or Firefox 1.4+. Additionally the browser must have JavaScript and CSS enabled.

A minimum display resolution of 1024 x 768 at 16-bit colour depth.

A sound card and speakers (if the courseware includes audio).



Drivers, software and/or plug-ins appropriate for any specific “non-standard” media format. For example, Apple’s QuickTime for the playback of MOV files. Metamorphosis does not attempt to load any “missing” software.

Lesson file sizes

Lesson file sizes will vary according to the number of screens and number of graphics and other media incorporated.

The initial download would be approximately 275KB. This includes the JavaScript files, the Cascading Style Sheets (CSS), and the graphical elements of the interface. After this initial download, which would be cached by the browser, a typical courseware’s screen would be around 15KB each, based on an expectation of 1.5 medium sized images per screen. Obviously a screens “weight” could increase dramatically if media such as audio and video are included.

Server specification

If deploying the ASP version of a Metamorphosis course then a server that supports ASP 3.0 (classic ASP) is required.

If deploying the PHP version of a Metamorphosis course then a server that supports PHP 5.0 is required.

The server requirement is dependent on the expected number of unique visitors per day. Typically for 5,000 unique visitors per day a 1GHZ machine with at least 1GB RAM should be appropriate.



Database Overview

When storing records, or when courseware requires a user to log in, a database must be used to store various records.

Database design (tables) MS Access

The following MS Access tables are used to store information required to run the courseware (when published for LAN or ASP Web-based database).

1. Table: Table1 (default table name)

Field name	Data type
KeyNum	AutoNumber
Name	Text
ID	Text
UserPwd	Text
CourseCode	Text
CoureName	Text
Progress	Text
Score	Number
CourseDay	Number
CourseMonth	Number
CourseYear	Number
CourseLimit	Number
CourseNotes	Text

Comments:

- To sign in a course requires at least one of Name, ID or UserPwd (as defined by the course's author).
- CourseCode is an optional code that a course author may give their course.
- CourseName is the name that a course author may give their course.



- Progress is a list of one or more numbers that indicate progress through a topic(s). A 0 would mean that the topic has not been started. A 1 would mean that the topic has been started. A 2 would mean that the topic has been completed. For example, 1,0,2 means that topic 1 has been started, topic 2 has not been started, and topic 3 has been completed.
- CourseNotes is a small repository for course specific runtime information.

2. Table: Table2

Field name	Data type
KeyNum	AutoNumber
Name	Text
ID	Text
UserPwd	Text
CourseCode	Text
CoureName	Text
Responses	Memo

Comments:

- Responses is a record of the user responses to short answer type questions.

3. Macro: Create one DATE column

This macro combines the three date-related fields (day, month, and year) into one field of data type DateTime. This macro is meant as an example to authors to show one way how the date-related fields can be manipulated.

Database design (tables) PHP

The following PHP tables are used to store information required to run the courseware (when published for PHP Web-based database).



1. Table: Table1

Field name	Data type
Name	varchar(50)
ID	varchar(50)
UserPwd	varchar(50)
CourseCode	varchar(50)
CoureName	varchar(50)
Progress	varchar(255)
Score	int(3)
CourseDay	int(2)
CourseMonth	int(2)
CourseYear	int(4)
CourseLimit	int(3)
CourseNotes	varchar(255)

Comments:

- To sign in a course requires at least one of Name, ID or UserPwd (as defined by the course's author).
- CourseCode is an optional code that a course author may give their course.
- CourseName is the name that a course author may give their course.
- Progress is a list of one or more numbers that indicate progress through a topic(s). A 0 would mean that the topic has not been started. A 1 would mean that the topic has been started. A 2 would mean that the topic has been completed. For example, 1,0,2 means that topic 1 has been started, topic 2 has not been started, and topic 3 has been completed.
- CourseNotes is a small repository for course specific runtime information.



2. Table: Table2

Field name	Data type
Name	varchar(50)
ID	varchar(50)
UserPwd	varchar(50)
CourseCode	varchar(50)
CoureName	varchar(50)
Responses	mediumtext

Comments:

- Responses is a record of the user responses to short answer type questions.

For any further queries please feel free to call us on

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