Introduction

The GLIFOS - media toolset automates the production, cataloguing, digital preservation, access, and delivery of rich-media over diverse data transport platforms (Web, CDs, DVDs) and presentation devices (PCs, PDAs, Tablet PCs).

Rich-Media Content (gmPlayer, gmPocket, gmNotes)

A rich-media content must integrate video, text, and images to such an extent, that it should be able to transmit the richness of video (a manufacturing process, a doctor’s bedside manner, the passion of a lecturer) without losing the functionality of a book: finding a word, studying a diagram in detail, making annotations, bookmarking specific sections, and extracting references.

gmPlayer synchronizes video and audio content with an unlimited number of tables of content, transcripts in one or more languages, references, slides, and student notes (gmNotes):
Production (gmCreator)

gmCreator automates the production of rich-media content, to the point where it is faster, less costly, and more effective to create a complete course using rich-media than it is to create the equivalent course materials in print form.

It is generally easier to videotape an excellent professor while he or she teaches a course, that it is to have this busy professor take time off to write a textbook or an academic paper.

At the same time, less effort is needed to explain and learn visual and auditive concepts, or manual procedures via rich-media than via elaborated textual descriptions.

Catalog and access (gmLibrary)

gmLibrary and gmPlayer mirror the traditional structure of library catalogs and indices in order to allow access to any video fragment, at any time, from virtually anywhere in the campus.

High speed networks (10/100 Mbps or faster) have become common on today’s university and corporate campuses. At such speeds, the quality of streamed video is equivalent to that of a VHS tape.

gmLibrary finds content by its bibliographic record, metadata description, and full-text from its tables of content and transcripts. And gmPlayer takes you directly to the part of the video that is related to a section, or even a word.

Unlike many closed courseware models, the digital library model makes it natural to reference and reuse content in part or as a whole.

Digital Preservation (GML, gmSkin)

The use of an XML-based open specification (GML), which is technology, platform, and format independent, guaranties content portability to diverse platforms in use today (PCs, PDAs, Tablet PCs), as well as those that will arise in the future (digital preservation), thus maintaining the usefulness of the contents even if technology changes, and even if institutional image or preferences change.

With gmSkin, the same content can be easily repurposed for various data transport platforms (Web, CDs, DVDs) and presentation devices.
**Academic Applications**

- **Support and reference materials for traditional education.**
  - At any time, a student (or a study group) can learn from the best professors at the University, repeating the difficult parts as often as needed, and at their own pace.
  - An excellent introduction to International Commerce can be used in several courses, such as economics, business, and international law.

- **Distance Education.**
  - The best teaching environment (with the exception of learning face to face with an excellent professor) is via rich media contents, which are accessible remotely (via Web, CDs, and DVDs), and at the student’s own pace.
  - Professors can refer students to specific parts as an aid to solve questions remotely. They can even develop specific Q & A contents.

- **Digital archive for events, lectures, and distinguished visitors.**
  - A conference taught by a visiting lecturer, who may never return to the institution, becomes an invaluable academic and historic resource. In a similar way, the institution can record events that are relevant for its community, such as: graduation ceremonies, seminars, etc.

- **Digital AV Preservation.**
  - When copyright laws so allow, GLIFOS - media offers the ideal platform to preserve, catalog and access the institution's AV collections.

**Configurations**

It is possible to implement GLIFOS - media in incremental steps, according to each institution’s needs:

- **Rich media content.** Acquire specific contents developed by other publishers for gmPlayer and gmPocket.

- **Basic configuration.** Develop rich media content for full featured presentation via gmPlayer and digital preservation via gmSkin.

- **Full configuration.** Systematize the production, cataloging, digital preservation, access, and content presentation via rich media (see diagram)
Platform independent rich-media production

**gmCreator**
- Interactive tool for rich-media production.
- Video and audio are easily indexed and synchronized with textual and graphical content: table of content, transcript, translations, slides, photos.
- Transcript machine functions: variable speed (+50%), adjustable short rewind.
- Captures Dublin Core metadata.

**GML**
- An XML-based open specification.
- Technology, platform, and format independent.
- Portable to current (PCs, PDAs, Tablet PCs) and future (digital preservation) platforms.

**gmSkin**
- From GML, generates the final look of the resource. Different skins can be defined for:
  - specific devices or platforms.
  - particular look & feel and institutional image.
  - user preferences and/or limitations.
- gmSkin uses XSLT to modify or define skins.

**gmPlayer**
- Presents indexed video (text ⇒ media), insynch (media ⇒ text) with tables of content, transcripts, slides, and user notes (gmNotes).
- Organizes media, metadata, GMLs, and skins.
- Cataloging based on Dublin Core descriptions.
- Fully searchable by catalog records and full text over tables of content, transcripts and translations.
- Automatic authority control (authors, descriptors, etc.).
- Hierarchical management of collections, e.g., the classes in a course.
- Generates "title pages" for access to contents.
- Keeps track of media versions (e.g., MPEG, Microsoft Windows Media®, RealNetworks RealMedia) and physical formats (e.g., CDs, miniDV, DVD).

**gmPocket**
- Mobile access to catalog content.

**gmLibrary**
- Cataloging, access and digital preservation