



Britannica and AMICO Collaboration Proposal: Confidential

I. Introduction

Purpose

Britannica would like to submit a proposal to the Board of Directors of the Art Museum Image Consortium (AMICO) to work together in a joint collaboration that shares one another's assets for increased educational potential. This partnership would enhance both products by developing a comprehensive arts-related curriculum, increasing distribution of digital multimedia documentation of works of art in the collections of AMICO members, and creating a virtual museum through the integration of AMICO's visual arts database into Britannica's knowledge base.

Scope

- AMICO and Britannica want to continue to expand and distribute their educational assets to the widest possible audience.
- Britannica currently maintains the largest user base in the educational market, while AMICO maintains the strongest high quality art image database in the country.
- Britannica is working to assume a primary position in both the educational and consumer markets in the global Internet community. AMICO is "in active discussion with several museums in Europe" to continue expanding its multimedia art library to include outstanding museums around the world.
- AMICO and Britannica would have international distribution of their curriculum-based educational materials in accordance with local and national standards.

Goals and Objectives

- Britannica would like to enter into a long-term partnership with AMICO that would be mutually beneficial.
- Britannica would like to establish a growing and evolving collaborative relationship with AMICO.
- A partnership would produce a set of educational products that act as a global synthesis of the arts.

II. Plan

Britannica would like to submit a four-part plan on how both entities would mutually gain from a relationship that would share each other's resources. This will involve the following four areas: (1) the K-12 education market, (2) the higher education market, (3) the systematic integration of our databases into the IMARS knowledge base, and (4) a virtual museum that would live on the Arts Channel of the Britannica site.

1. K-12 Education Market

Britannica would like to involve AMICO in the development and distribution of the Britannica products for the K-12 education market. This would make AMICO assets accessible to the K-12 market and would provide AMICO with access to educational buyers. The AMICO Library would be enhanced with content from Britannica Intermediate (formerly Compton's Encyclopedia), a comprehensive, age appropriate reference.

Current Status of Britannica

- Britannica has an established trustworthy brand name in the K-12 market.
- Britannica Online, our current subscription product, has the largest market penetration of the US institutional market, reaching 27,000 schools and 12 million students in the US. In markets outside the US, Britannica reaches approximately 20,000 schools in the UK; 8,000 in Australia; 150 in Canada.
- Britannica maintains the largest market share of number of US schools reached, as well as market share of state contracts (NY, OH, IL, TX, AL, DE, ...).
- Britannica has a number of multi-market consortium contracts in the US (Minitex with MN, MLC with MI, and WILS with WI,...).

Future Collaboration Potential

- Creation of arts-based curriculum Study Guides utilizing AMICO's content and images. (see Appendix B for Study Guides)
- Development of the Study Guides with the input of AMICO (and/or member institutions).
- Integration of works of art from the AMICO database into Study Guides for other academic disciplines. (see Appendix C for the current working plan for Study Guides)
- Enhancement of AMICO Library with content from Britannica Intermediate.
- Enhancement of Britannica Intermediate with content from the digital multimedia documentation of works of art in the collection of AMICO members.

Working Process

- Bundle digital multimedia documentation of works of art in the collection of AMICO members into Britannica educational products to be sold together by Britannica.
- Share resources for advisors and expertise in curriculum products.
- Resources would be mapped to the IMARS database to establish the Global Curriculum Index. (see Appendix A for the Global Curriculum Index)
- AMICO shares a percentage of all revenue generated from bundled products.

2. Higher Education and Adult Education Markets

In the higher and adult educational markets, Britannica will work to complement AMICO's assets and distribution through state library consortia and the Research Libraries Group. The AMICO Library would be enhanced with content from Encyclopaedia Britannica; and BritannicaU and our Britannica CD-ROM/DVD products (bundled with subscription) would likewise be enhanced with content from digital multimedia documentation of works of art in the collections of AMICO members.

Current Status

- Britannica is in the final stages of developing an initiative for the higher education community called BritannicaU. AMICO's educational involvement in this project can evolve as the project progresses. (For more on Britannica U, see Appendix D)
- The same processes of our K-12 products are also being applied at the college and university level to build a Discipline Index. This index will reflect the discipline and faculty organization within the tertiary education system. Academics and students will be able to focus on the information most relevant to their particular area of study without having to do extensive searches and filtering themselves.

Future Collaboration Potential

- Enhancement of AMICO Library with content from Encyclopaedia Britannica.
- Enhancement of BritannicaU and CD products with content from digital multimedia documentation of works of art in the collections of AMICO members.
- Integration of digital multimedia documentation of works of art in the collection of AMICO members into BritannicaU.
- Creation of arts community within BritannicaU to facilitate connections and communication among academics, professionals and students.

Working Process

- Bundle digital multimedia documentation of works of art in the collections of AMICO members into Britannica educational products to be sold together by Britannica.
- Share resources for advisors and expertise in educational products.
- Resources would be integrated into the IMARS database to facilitate association mapping.
- AMICO shares a percentage of all revenue generated from bundled products.

3. IMARS Indexing System and Integrated Search

Underlying the knowledge base of all of Britannica's products is the IMARS (Integrated Management and Retrieval System) technology. We have already mapped a number of indices with varying methodologies into our system, the largest being the Books in Print database with over one million topics correctly mapped and integrated. (For more about IMARS and Singulars, see Appendix E)

Collaboration and Processes

- Britannica would like to map the integrated classification system preferred by the Board of AMICO to our vast knowledge base.
- Britannica's expert team of indexers would be responsible for integrating AMICO's growing database of art and multimedia using our proven methodology.
- This would result in a two-fold relationship between Britannica and AMICO:
 1. AMICO could bundle their multimedia art library together with the Britannica content to provide greater context for the works of art.
 2. Britannica would use AMICO data and content in its search and retrieval system offered on the Britannica site.
- Britannica would be responsible for assuming the interface display of its related Singulars retrieval system, once all of the topic headings have been matched.
- Britannica will be responsible for all integration of whatever classification system is chosen to work best for AMICO into the IMARS knowledge base.
 - In a classification system, terms are assigned to images and objects
 - In AMICO's current system, users can choose from unintegrated fields to find data
 - IMARS integrates all fields into one knowledge base and allows the user to decide what combination of that information they want to know
 - The IMARS system acts as a bridge to all different classification systems to create an advanced and refined search and retrieval experience
 - AMICO members will have full supervision over this process

4. Virtual Museum on Britannica's Art Channel

After the completion of the integration of the AMICO database into the IMARS knowledge base, Britannica would like to offer users a way to experience the works of art in a virtual museum space. All of the current tools and technology, designed by MetaDesign [<http://www.metadesign.com/>], a leading Web design firm, were specifically created to be modular and scalable, so they can work with an ever-increasing size and scope of the database. (More can be read about the Virtual Museum / Story Telling Tool Kit in Appendix F)

Collaboration and Processes

- The AMICO database will be integrated along with other high quality databases of arts-related disciplines to give a more complete understanding of the visual arts in context (music, film, theater, dance, fashion, etc.).
- The end product will allow anyone, educator, student, or enthusiast, to create their own show that can be seen and interacted with by others.
- Capabilities of the user interface will include:

Timeline Tool

Visual-based timelines to compare timelines such as world events and art movements, all of which have hyperlinked data and information

Concept Browser

Visualizes the relationships and interconnections between articles of information; it explores the universe of knowledge, stimulating curiosity and offering orientation

Map Tool

Ability to visualize any information in terms of a map; depending on the context of the research, the map can take any of a variety of forms

Chart Tool

Ability to visualize any information in terms of a chart; featuring all common types of graphical representation of statistical data

Picture Annotation

Capability to create rollover components on specific areas of a picture

Audio and Video Players

Audio and video players usable with every element

Other Tools

Can be combined with a variety of applications including community, Knowledge Tools, interfaces, multimedia applications, interactivity, visitor spaces, etc.

- Britannica will be responsible for the implementation of the Virtual Museum.
- AMICO will receive a share of the revenue of such an initiative. Revenues will be derived from sources mutually agreed upon by both AMICO and Britannica.

III. Roles and Responsibilities

Britannica

1. Creation of content, user interface, community, knowledge tools, etc. will be done by Britannica, in cooperation with AMICO when desired, and in collaboration with an advisory committee of experts and educators in the field.
2. Both AMICO and Britannica would share each other's assets in a mutually beneficial relationship.
3. Britannica will designate an employee to serve as Project Manager to manage the relationship.
4. Britannica will provide the funding for a person at AMICO who will be dedicated to managing the relationship with Britannica.

AMICO

1. Responsible for requesting and securing all rights and reproduction permissions, especially with the Artists Right Society (ARS).
2. Responsible for gathering additional content from museums on a regular basis.
3. Responsible for coordinating efforts of AMICO and museum members who will be getting involved in working committees.
4. Continue to pursue relationships with major international museums.

IV. Branding and Exclusivity

AMICO, or its member institutions, will receive prominent branding and attribution wherever AMICO images and content are displayed.

Britannica will be the exclusive online or electronic distributor of Britannica/AMICO educational products.

Britannica will be the exclusive encyclopedia publishing partner of AMICO.

V. Business Relationship and Revenue

A Britannica/AMICO partnership would greatly enhance the revenue models of AMICO and its member institutions. The partnership will be expected to generate revenues primarily through the sale of products to educational markets and advertising and/or subscription revenue from the consumer Internet product. AMICO will be compensated through:

- A significant up-front cash payment offered by Britannica.com, partly offset by future payments.
- Ongoing revenue from royalties from the sales of educational products (K-12, higher ed).
- Share of revenues from the consumer online product and e-commerce.
 - Revenue from sponsorship and advertising – all advertising to be approved by AMICO
 - Publicity for upcoming shows and membership, tourism, and participation that results
 - E-commerce initiatives – driving traffic to museum stores
- All e-commerce opportunities will be developed with the approval of AMICO and its individual or collective member institutions.
- The initial term of the partnership will be five years.
- **Specific terms and conditions will be negotiated as specific details of the relationship between Britannica and AMICO are further developed.**
- **The specific compensation plan will have to be approved by the Board of Directors of Britannica.**

VI. Timeline

January – February (Next Steps)

- **The Board of AMICO will issue a directive outlining the scope of the relationship and giving the approval necessary to proceed to the negotiation of detailed terms and conditions.**
- **Britannica and AMICO will reach accord on specific terms of the relationship.**
- Staff of AMICO and Britannica will meet to decide on relevant working committees (for educational, classification, and technical issues).

March – April

- A project plan is in place and all specific initiatives can be developed.
- AMICO and Britannica decide what additional help is necessary to manage the Britannica relationship and make appropriate hiring decisions.
- Work begins with design and technical groups.
- Study Guides are commissioned and created.
- Committee has decided on classification system and methodology; Britannica coordinates indexing responsibilities with IMARS.
- Virtual Museum technology is in place; content information is connected to topic headings.

May – August

- Second phase of indexing begins, followed by corrections and testing.
- Betas for educational products are in production stages.
- First Beta of Virtual Museum; additional refinements are made, content continues to be added.

September

- Deliverable products are ready for distribution in the K-12 educational market.

After September

- Phased rollout of other initiatives and products.

Appendix A: Global Curriculum Index

Teachers and students in K-12 want to get to relevant information fast. When they search the Internet today they have to search through long lists of sites to find information appropriate for their curriculum lesson planning or assignment. They are looking for the sites that will deliver them relevant, quality information and tools, fast.

Britannica mapped the curriculum in the USA, UK and Australia to produce a list of topics taught at grades 5 through 12 (up to grade 13 in the UK) for two purposes: first to create a list of the topics for which we are now creating Britannica Study Guides and second so that users can quickly reach information relevant to them. The Global Curriculum Index (GCI) enables Britannica subscribers to search by topic listings relevant to their local needs and the appropriate grade level -- for example, California High School Science. We are also creating a 'curriculum-on-a-page' matrix so that users can find information through a graphical interface. That is a significant value-add for teachers and students facing increasing time pressures and public accountability.

Schools today are accountable to state and national curriculum standards. The GCI is mapped against the US state and national standards so that teachers can be sure they are covering the appropriate content and skills.

The GCI is also mapped against Britannica's IMARS database so that it delivers the full richness of the Britannica and other mapped databases.

The AMICO project would accelerate the development of the GCI for the Arts subject channel and, as the content was developed, would index the AMICO content against curriculum topic, standards and grade level. This is an enormously valuable tool for teachers and students.

Appendix B: Britannica Study Guides

For a demonstration of an early prototype, go to www.sausageinteractive.com/britannica; Guest password: world. Note that we are initially focusing on High School (grades 8/9-12). The design will change for middle and elementary schools and will vary for each subject.

Click on the first Flash version - you will need Shockwave on your machine to show the activities. This prototype is being revised but gives an idea of how the Study Guides will work. The toolbar (top left) shows you the kinds of links that will be included in addition to the most relevant articles from Encyclopaedia Britannica and Britannica Intermediate. The illustrations (current style too junior for High School and missing full captions) in the new version open up alongside the text so that the user can view both at once. We are keeping the various icons as they make the Study Guides less static than a textbook and more interesting for the user, particularly the student. The activities are indicated by the arrow icon near the bottom of the page. Each screen and Study Guide module includes a glossary which will be compiled into a fully searchable subject glossary available independently of the Study Guides. Each Study Guide has a Teacher's version which includes notes for the teacher on approaches in the classroom and which will be expanded over time with selected good ideas submitted by other teachers.

In the Britannica Study Guides you get a coherent focus wrapped around the foundation body of knowledge and skills within the curriculum. Because our list of topics emerged from the GCI, we will provide a comprehensive coverage of the curriculum in a coherent way. We could work with AMICO's education advisors and teachers to refine the Study Guide design to be appropriate to the subject matter and the grade level. We are also building a network of Partner Schools who will give us feedback and test the Study Guides in the classroom with students. We value the students' input - as the key end user we want to make sure their ideas are incorporated.

Appendix C: Working Plan for Study Guides

A key platform of the Britannica School site is the development of a new body of Britannica content designed for use in the everyday curriculum, both at home and in the classroom. We are planning to release at least 250 Study Guides in Science, English and Math for High School in April.

This is a global content development model. We expect authors to be working in the three launch countries – USA, UK, Australia – and also India where we understand there is a pool of inexpensive talent. For each country outside the US, we assumed that a further percentage of the content development costs would be invested in specific local content and versioning of existing content.

The first batch of Study Guides are being written under the management of Curriculum Corporation Australia who have been provided with US and UK curriculum and textbooks. The initial contract is worth around US\$750k at a basic cost of \$80 per Study Guide, much cheaper than we can achieve in the US. Two levels of review are taking place in the US – an initial teacher response, checking for classroom relevance in the US curriculum, and an academic review to ensure Britannica standards are maintained in terms of authority and accuracy. Initial US feedback has been extremely positive and very little versioning of content for the US, other than spelling and measurements, will have to be done.

We are using the Mathematics in Context team to assist in the review of the Mathematics modules and to make suggestions for links to Math in Context content.

Sausage Software has a contract to format the Study Guides into HTML/Flash – see the site at <http://preview.creativeaccess.com.au/britannica/#> with user name Britannica and password Flash. The current demo on this site has been superseded to avoid the need for Shockwave and includes features such as a Glossary and a different illustration style, but it gives you a good idea. The Sausage contract also includes building an Author input template and workflow system. In summary, authors will be able to submit Study Guide manuscripts to a template format; editorial control can be applied to determine who can make changes and the whole process can be shared around the world via the Web. This tool is to be integrated into the BritannicaU site for submission of academic work to the Discourses (Faculty Web). The USWeb site only allows links to URLs at this point.

Indexing

All the Study Guide content, and the links to the Britannica articles, approved websites and third party content, will be indexed both to the Global Curriculum Index build by Curriculum Corporation and to IMARS. Paul Cranmer spent 10 days in Melbourne training the CC indexers for this purpose and verifying their work which passed all scrutiny. We are using the Mediaseek databases to provide the mapping to the US state and national standards.

Market Imperative

To deliver 'teachable' and 'learnable' online content that is relevant and appropriate for the user's grade level and curriculum

Commercial Imperative

To drive users to the site and to lead them to multiple page views and downloads.

Vision

Britannica Study Guides present 'the information you need to know now' and lots of ways of learning it, to acquire skills, knowledge and insight.

Value for Britannica

Britannica Study Guides strengthen the Britannica brand beyond the library and home reference market into the heart of the everyday curriculum. They build a database of flexible new content which itself draws on the existing Britannica databases to reinforce the value of the Britannica assets.

Features and Benefits

Britannica Study Guides have the following features and benefits:

- Modular, to enable users to quickly access the precise topic they need with the option to expand out from the topic as they choose
- Each Study Guide covers a curriculum topic to provide the basic framework and understanding necessary to explore the topic further through links
- This framework is what makes Britannica School different – the user no longer gets lost in lists of web sites of variable quality and relevance
- Designed for screen delivery first, so one screen gives the core information and one click takes the user to linked information
- Interactive design and multimedia formats make use of different learning styles to develop and test understanding
- Are also designed for effective print delivery unlike most web pages and recognizing that print still has a valuable place in teaching and learning
- Carry the high standards of Britannica with the confidence that the information is relevant, up-to-date and accurate
- Include links to directly relevant articles and web sites from the Britannica databases (EB, EBI, Spotlights) to present information in context and reinforce Britannica as the first source of reference
- Glossary of new terms
- A teacher's edition of the Study Guides includes classroom ideas and will be expanded to include Lesson Plans and a Britannica set of Learning Activities encouraging different models (small group work, library research, brainstorming, etc)

Proposed Development Process

Advice is sought from the Britannica Editors on the appropriate processes for the development of Britannica Study Guides to the standards required and leveraging existing processes wherever possible.

The following process is suggested as a draft for comment. Given the tight timeline, most processes will operate in parallel.

1. Establish the author base

The author base will come not from professional writers, but from practicing teachers who are qualified in the required subjects. Some will be existing educational authors but all will need to go through an approval process and all will work to given guidelines and templates.

The Subject Team Leaders

- A. A Subject Team Leader for each of the three launch subjects – English, Science and either Social Science or Math – will be selected in each of the launch countries (US, Australia, UK).
- B. Team Leaders will be well known and well qualified in their subject and will be spokespeople and 'evangelists' for Britannica.edu.
- C. Their first task will be to assist in the confirmation of the topic headings based on the international curriculum index (see below).

Authors

- A. The Team Leaders will assist in the commissioning of authors to write pages under the topic headings which will be grouped into modules or units.
- B. An initial selection and approval process will need to be developed to ensure that authors can deliver content to the required standard and formats. We would welcome input on the current selection processes for Britannica contributors.
- C. We have worked on a costing assumption per author per 100 pages which allows not only for the writing of the text but for the addition of links and activities and an illustration brief.
- D. All authors will need access to the Britannica Online and website directory and to any other relevant databases to which we have access.

The authoring process

- A. Each author will be given the following:
 - A content brief, based on the subject headings
 - An editorial style guide
 - A design template
 - A technology brief
 - A brief on the use of links
 - A schedule for initial delivery and the revision process
 - Access to the appropriate databases for reference and links
- B. First drafts will go to the Team Leader for review.
- C. Revised drafts will go to the Team Leader and then to the appropriate Editor.

2. The development of a Global Curriculum Index

Curriculum and subject headings

- A. An immediate priority is the collection of all the appropriate curriculum guidelines and district, state and national standards for each of the launch countries. This process is underway and in most cases electronic versions are available.
- B. A brief will be developed for an organization such as Curriculum Corporation (Aus.) or MediaSeek (US) to develop a Britannica global curriculum index against which all content will be indexed.
- C. This index will lead to a list of Subject Headings which will be used by the Subject Team Leaders to develop a list of named modules/units for each Subject at a global level and with local modules where required.
- D. This list will be used to commission authors.
- E. Authors will use the global curriculum index to tag/index their pages.

Readability and grade levels

- A. All content needs to be indexed not just by topic but by grade level. This is a difficult area in that different topics are taught at different levels not just at a country level but across schools.
- B. A broad grade level system is therefore appropriate, ideally with the ability for users to allocate their own grade level if desired.
- C. Automatic readability indexes are already available (MS Word grades this document as 11.8 on the Flesch-Kincaid Readability Level for example). We will need to do some more research on the most appropriate indices and methods.

3. The editorial process

- A. The Managing Editor will draft a list of Editorial Guidelines for consistent and high standards of editorial work.
- B. Final drafts will go to the Britannica editorial team, which may be outsourced or internal, depending on logistics and availability.
- C. Editors will need to check not only the core text but also the links.
- D. It may be appropriate to employ fact and link checkers on a freelance basis. We could work with partner schools on this as this would also give us useful feedback on student and classroom use and relevance. We would appreciate input on the guidelines and processes for the existing fact checkers.

4. The global approval and versioning process

- A. The Managing Editor will also draft a list of guidelines regarding the development of global standards wherever possible.
- B. Where versioning is necessary, for example in the use of American and British spelling and metric versus imperial units, we will develop automatic versions via search and replace, etc. This will be part of the technology brief.
- C. All content will need to be reviewed by Subject Team Leaders to establish whether further country versioning is necessary or whether an appropriate module has been commissioned at a local level where the existing module is not appropriate.

5. The Britannica Quality Standards process

Advice is sought on the most appropriate and efficient way to bring Britannica Study Guides within the QS process.

6. The design process

A. Britannica Study Guides will be built to one or more template designs. An initial design was built for the prototype.

B. The aim is to maintain a clear and simple screen page which is much more attractive than many existing web pages and which attracts users to use the content in their learning and teaching.

C. The design template will allow for the author to perform as many of the links and design features, such as the inclusion of images, wherever possible.

Formats

A. The Study Guides are intended to be as flexible as possible, allowing for future formats and versions. At the same time, it is important that we deliver something above standard HTML to recognize the needs of the market and to establish a leading position.

B. A document on possible development and delivery formats will be available shortly.

Illustrations

A. We would like to use existing material in the Britannica archives wherever appropriate and achievable.

B. We will need to commission new illustrations which will themselves form a useful database for repeat use and other Britannica content.

C. We will be partnering with some photolibraries to index available images within our curriculum indexing system to make photos available to users for their own assignments.

7. The production workflow and management process

A. The aim is to produce Britannica Study Guides within a workflow system which allows content at various stages of the process to be sent to the appropriate people with the right level of access (e.g. view only vs. edit), to be tracked against schedule and to incorporate the global development process.

B. We will have a suggested process for review next week but need input to ensure that we leverage existing Britannica processes and standards.

8. Technology issues

Development of an appropriate database

A. The aim is to build a database which allows for indexing against the global curriculum index via a simple attributes selection so that it can be done both by authors and by external indexers if required with no room to move outside the standard.

B. The database should allow for flexible format delivery and ensure that the appropriate format and version is delivered to the user depending on their profile and stated requirements.

Development of multimedia applications

A. Given the current state of technology infrastructure in the education system and in most homes, we are mindful of the need to keep module sizes small and keep download times to a minimum.

B. We may initially develop a standard set of templates for animations and interactive activities. Guidelines will then need to follow for where these should be used and how authors, who may be separate to the core author team, should present the content to be animated, etc.

9. User testing

We will develop a model of frequent, ongoing user testing in small groups to run alongside the content development.

Appendix D: BritannicaU “Connecting Academic Minds”

BritannicaU is a new initiative presently being developed that puts together a hierarchical disciplines index where papers from academics and students and other relevant and educational materials can be posted. This space becomes an active source for connecting and interacting with others involved in a particular field.

Designed specifically for the needs of academics and researcher, BritannicaU will draw together comprehensive, innovative, and reliable resources, along with the expertise of leading scholars, to offer an unparalleled Internet-based tool for conducting research, preparing lectures and creating knowledge.

Access

Academics have virtually no extra time on their hands. BritannicaU recognizes this by bringing together a wide range of resources in an easy to use format that saves time while helping users to produce the highest quality work. This includes:

- Full-text scholarly journal articles
- Multimedia reference materials
- Powerful search, annotation, and archiving tools
- Discipline-specific full-text content

Reliability

Access to information is not enough. Academics need trusted, high-quality, and usable information. Building upon our 232 years of editorial excellence, BritannicaU weeds out all the clutter on the Internet and provides information that has been editorially approved by our award-winning editors and leading academics. This includes:

- Websites and articles reviewed and rated by our award-winning editors
- Advice and recommendations from academic experts from every discipline

Innovation

Technology can help academics do things faster, better, and more creatively than ever before, but only when used wisely. BritannicaU is committed to this concept, and offers innovative ways for academics to streamline their existing tasks in research and writing while creatively undertaking new ones. This includes:

- A next generation Java-enabled reference tool kit for searching, indexing, annotating, and archiving information
- Unique online forums and debates with leading thinkers
- Easy-to-use tools for creating, disseminating, and storing lectures
- An easy process for submitting work for publishing and review

Community

Knowledge does not exist in a vacuum. The best ideas develop through discussion, debate, and collaboration. BritannicaU provides academics with easy ongoing connections with leading scholars and academic peers within disciplines. This includes:

- A Discourse Web that brings scholars, students, and professors together through moderated discussion, online academic events, chat, and email
- Areas to post and share subject specific websites and resources, lectures, articles, working papers, syllabi, and CVs among peers and leading thinkers
- Tools for submitting work for publishing and review by leading thinkers, academic peers, and Britannica editors

Appendix E: IMARS and Singulars

Britannica's unique IMARS (Integrated Management and Retrieval System) technology underlies all the integrated databases that together inform the search and retrieval process for Britannica. This unique set of information-management (IM) assets draws dynamic connections and relationships among topics and provides compelling visual navigation environments to display these connections. At a broad level, the IM databases in Britannica are centered on three components: Thesaurus, Singulars, and Index.

The Thesaurus is a semantic network of general encyclopedia topics. For example, "canvas" and "Pop Art" are Thesaurus entries. Under "canvas" we have a connection to the broader term "cloth" and the narrower terms "sailcloth" and "scrim" (among others). Under "Pop Art" we have connections to the broader term "visual art" and the more specific terms "soft sculpture" and "Sots art" (among others). This allows the user to navigate among related topics.

The Index is derived from the print index to Encyclopaedia Britannica. It includes about 250,000 topics along with references to the places in Britannica where each of these topics is discussed. For example, the Index entry for "Pop Art" includes links to the EB article on the topic, links to the points in the articles "Abstract Expressionism" and "Dada," and to the artists "Marcel Duchamp," "Andy Warhol," "Roy Lichtenstein," "Claes Oldenburg," "George Segal," and so on.

Most importantly, the Singulars database is a list of people, places, and events with vocabulary-controlled related information that allows the user to query and associate data in a potentially infinite number of ways.

This data structure allows any number of interesting user-experience combinations:

- Search for Italian painters born between 1450 and 1460
- Search for artists who were painting during the Early Renaissance
- Search for artists who used religious themes in their work
- Search for da Vinci, then click for a list of other artists associated with the Italian Renaissance
- Browse dynamically generated slide shows based on time period, movement, nationality, or other criteria

In previous collaborations, we have been able to successfully map other indices to the IMARS system, such as the Books in Print database. For this, we matched more than one million headwords to our database based on our classifications. IMARS enables us to offer an infinite number of interconnections between relevant topics across all types of media that extends beyond any one subject area.

We would like to use our refined methodology specifically designed for works of art to map all the various data sets from the member organizations of AMICO to one fully integrated system into our knowledge base. Britannica would supply the resources to catalog AMICO's current 50,000+ art objects database.

Appendix F: Virtual Museum Tools

AMICO's current database of more than 50,000 world-class works of art will create the underlying structure for the information framework that Britannica can apply to it. Our vision of a truly virtual museum extends beyond the traditional walls of an art museum and the relationships between works of art to each other. The depth and breadth of the AMICO collection can be collaboratively combined with the educational products of Britannica to produce an even richer educational experience for the user that draws upon a multitude of contextual relationships for each of the objects.

A layered approach to knowledge building has always been the primary mission of Britannica's products. Although AMICO will have a substantial amount of information on the works of art and their ethnographic context, Britannica's vast resources could be used to supplement this in terms of historical, biographical, cultural and other contexts. In this way, users can customize their individual experiences to their own level of learning and knowledge seeking. Beginning with the scholarship and information surrounding each art object, a user can easily interact with other works, artists, movements, etc. and from there to a variety of people, places, and ideas that relate to their initial concept. A fuller understanding created through a connection of relationships is key to the learning process.

Another way in which this virtual museum would function is as an area of exchange of information, materials, ideas, opinions, or thoughts between people with common interests. Britannica is striving to develop a level of engagement and exchange that extends beyond the traditional channel of interaction between one person and a knowledge base. We are working to build a level of active community connection previously not found on other sites or educational institutions.

To accomplish this, Britannica has engaged in an ambitious development program to create front-end interface solutions to display interdisciplinary encyclopedic data. This effort is intended to complement the unique abilities offered by the IMARS database system by coupling it with a dynamic publishing environment.

We have partnered with the design firm MetaDesign to create a visual system to display rich media content using the Story Telling Tool Kit (STTK). The technology is already finished, with the end result to create engaging multimedia experiences that stimulate our users' curiosity and encourage discovery. The design approach is very recessed and focused on showcasing the content.

The primary tool in this environment is the Image Gallery and Timeline Tool. Within a graceful and elegant interface, we have developed easy-to-use tools that are modular and infinitely scalable. By using this tool, anyone can create their own show or story, from editors, curators, and academics, to graduate students, art enthusiasts and senior citizens.

Each topic page (based on IMARS) has a selection of content associated with it that the user can choose to view and interact with: Britannica articles, videos, maps, audio, timelines, scholarly essays, Web links, and potentially AMICO content. In addition, each topic has a series of images related to it that will be linked through IMARS to the AMICO database.