THE ISLAM HYPERTEXT:
A HYPERCARD CLASSROOM APPLICATION

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INTRODUCTION

Among the wide variety of computer applications available to educators is the hypertext. For the uninitiated, hypertext is "text composed of blocks of words (or images) linked electronically by multiple paths, chains, or trails in an open ended, perpetually unfinished textuality described by the terms link, node, network, web, and path . . ."[1] That is to say that hypertext is a large database (library) containing note cards with text, pictures, maps, sound, animation, or anything else one might wish to include on a card with all the cards linked electronically in such a way that the user can begin at virtually any specific card (beginnings are flexible) and progress to an end point (again, end is relative) by an almost limitless number of intermediate points. It is the computerized equivalent of picking up a book and deciding that you wish to read only the material on a particular individual and then going to the index and skipping from page to page, reading some text here, a note there, then looking at a picture of your subject, reading some more text, referring to a map, and then back to text. You might begin on page 45 and end with a map on page 5, having looked at pages 103, 56, 6, and 148 in the interval. The advantage of a hypertext is that you do not have to shuffle pages.

The theory behind hypertext dates to the 1960s,[2] and it became generally available for the personal computer with the publication of *Hypercard* (for the Apple) and *Guide* (for IBM) in the late 1980s. An early discussion of its possible use by historians is given in James Schick, *Teaching History with a Computer*,[3] while more recent developments are presented by Robert Jensen in "The Technology of the Future is Already Here."[4]

Although we may not be aware of it, most of us have probably been exposed to the technology. One widespread application is to produce various kinds of interactive self testing and review materials whereby a question is given and the responder chooses from among several choices and the computer tells the responder whether the answer is correct or not. Various kinds of hypertext "textbooks" have also been produced, most notably *Perseus*, a massive computerization of virtually all available textual and photographic material on ancient Greece.[5] Also, many computer games, such as *The*

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[1] George Landow, *Hypertext* (Baltimore: Johns Hopkins, 1992), 3.

[2] Landow, 4.

[3] James B.M. Schick, *Teaching History with a Computer* (Chicago: Lyceum Books, 1990), 63-64.

[4] Robert Jensen, "The Technology of the Future is Already Here," *Academe*, 79 (July-August 1993), 8-13.

[5] Gregory Crane and Elli Mylonas, *Perseus* (Washington, D.C.: Annenberg Corporation for Public broadcasting Project, 1990).

Oregon Trail, are based on the technology.[6] Hypertext can also be a powerful active learning tool. This article presents an example of how hypertext technology was used in a history class on Islam to achieve both content and pedagogical goals.

THE COURSE

The specific use to which I put hypertext technology was a seminar on Islam. The content goals of the course were to have students develop an understanding of the religious beliefs and practices of Islam and to examine how they had developed over time. In addition to these content goals, I also had several pedagogical goals. These included the following:

1. The students would be active rather than passive participants.

I did not want another lecture course. While I knew that the students had little or no background on Islam, I still thought that it was possible to have them learn about Islam by reading and discussing. I was resolved to serve mainly as a resource.

2. The course was going to be based on primary sources.

My goal here was to promote critical reading and thinking. While texts provide expert opinion, students are inclined to read them as gospel rather than as interpretation. As a result, texts rarely encourage thought or discussion. Furthermore, I wanted the students to deal with the messiness and inconsistencies of the sources and try to work the religion out for themselves. Finally, the sources provided a better sense of the historical development of the religion. I did not use a text book; the students read the Koran, Hadith (traditions), Tafsir (commentary), and Fiqh (law).

3. The course was going to promote cooperative learning.

I wanted the students to work together and to learn from each other. I thought that the lack of a textbook would encourage this as no one student would be able to read all of the source material.

4. The course would be writing intensive.

I expected students to write a great deal and to share their writing with their colleagues.

These goals were established before I had determined to use hypertext, but my planning for the seminar and reading about hypertext did coincide and eventually converged. Accordingly, before the semester began, I added a fifth pedagogical goal, to make the course computer intensive and require that the students master *HyperCard*. This was to be accomplished by having students create a hypertext on belief and practice in Islam. The decision to make the hypertext the focus of class activity actually served to pull together the other goals; the students, as a class, would use the primary sources to determine the beliefs and practices of Islam and then write their own electronic textbook.

ORGANIZATION

The course was divided into two general sections, Articles of Faith (belief) and Pillars of Worship (practice). Faith was then divided into five topics (unity of God, belief in prophets and scriptures, belief in angels and jinn, predestination, and final

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[6] Joan Clarke et al., *The Oregon Trail* (Minneapolis: MECC, 1993).

judgment) and worship into four (prayer, pilgrimage, charity, and fast of Ramadan). Each topic became the subject of a classroom meeting. For each topic one student was appointed to serve as facilitator. That individual was assigned secondary reading materials and was expected to lead discussion of the topic. A second student was appointed to serve as secretary. That individual was responsible for taking notes and then writing a narrative about the topic for entry into the hypertext. Readings from the sources were divided among the remaining students, who were to bring specific references related to the topic to the discussion.

Before proceeding with the subject matter, the students had to learn the basics of *HyperCard*. This was one of my major concerns going into the semester as I feared that this requirement might deter otherwise interested students. I had spent a weekend teaching myself *HyperCard*, using George Beekman, *HyperCard 2 in a Hurry*,[7] and found it to be relatively easy, and had also set up the general format of the hypertext. Students had to learn how to get into the hypertext, get to the file containing the subject to be discussed, make entries into that file, and link their entry with others in the file. One student did decide that discretion was the better part of valor and dropped the course, but the remaining eleven were able to learn enough to get started in a class session that ran one hour and twenty minutes. From that introduction they learned as they went, receiving help from each other and from the staff at the writing center at the college. The technology alone turned out to be a good exercise in cooperative learning.

Once the technology was mastered, we then proceeded to the content. Each class proceeded in the following manner—here using the topic prayer as an example. The facilitator began by explaining the general concept of prayer in Islam. He then called upon the students who had read the Koran to present the scriptural basis of prayer. This usually resulted in the students who had read the commentary and the traditions jumping in to explain or elaborate on specific points. The secretary would usually be scribbling furiously, often asking for clarification and correcting the narrative as the class arrived at a consensus about the how many, when, where, and how of Muslim prayer. My function was to serve as time keeper and to push things along when the students either got bogged down or moving in the wrong direction. The discussion ended with the secretary giving a quick summary of the narrative.

This could often become quite detailed discussion. For example, the prayer facilitator explained that Muslims prayed five times a day, but the Koran readers could find specific reference to only three prayers. So we had to go to the commentators on those passages, and then on to the Hadith, to discover the source of the five prayers. Students also discovered that such things as the direction of prayer and the way by which people were summoned to prayer had changed over time. This was all worked out in the discussion. I had loosely scheduled one one-hour twenty-minute class period per topic. That length of time was generally insufficient for the topics related to worship, so we often carried these over two sessions.

Once discussion ended, the class would meet to enter material into the hypertext. Just as discussion involved all the students, the hypertext was very much a collaborative

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[7] George Beekman, *HyperCard 2 in a Hurry* (Belmont, CA: Wadsworth Publishing, 1992).

effort. The secretary was responsible for entering the narrative discussion of the topic. Each student had access to this narrative and was free to make suggestions to the secretary. In addition, each student was responsible for entering textual source material relating directly to the narrative and linking that to the narrative. For example, our narrative gives a summary explanation of the number of prayers. This narrative is linked to the specific Koranic texts as well as explanations in the Hadith and Tafsir relating to the numbers of prayers required. Similarly, the direction of prayer is explained in the narrative with links to textual sources, and so on. Each student initialized her/his entry so as to establish authorship.

EVALUATION OF STUDENT PERFORMANCE

A problem that I wrestled with in originally organizing the course was how to evaluate student learning. The structure of the course, particularly the emphasis on writing, seemed to render the traditional essay exam redundant; my students were writing far more detailed essays that I would ever expect on an exam. My assumption was that it if the students did the reading, came to class, and did their writing, they would have learned about Muslim belief and practice. I explained this assumption to the class and did not give exams. What I did grade them on was the quality and applicability (although not necessarily the accuracy as it is not difficult to misinterpret religious texts and I did not want to discourage contribution) of their classroom discussion and contributions to the hypertext. I discovered in a hurry whether or not an individual understood Muslim prayer by the comments that were made in class and, most especially, by the material included in the hypertext, be it narrative or source references. My evaluation counted for only forty percent of the final grade.

An additional fifty percent of the grade was determined by a combination of peer and self-evaluation. Students were initially uncomfortable with the prospect of evaluating each other, and we ended up spending one class period working out the guidelines for this evaluation (participation, applicability, contribution to the hypertext). The students did finally agree to the peer evaluation.

The final ten percent of the grade was the successful completion of a short project using the hypertext, which demonstrated each student's mastery of *HyperCard*. This was given during the scheduled final exam.

There was general agreement about grades. As a rule, I gave the highest grades, followed by peer evaluation, with students being most difficult on themselves. There was never more than a single grade deviation.

PROJECT EVALUATION

My overall reaction to the project was very favorable; I will certainly use hypertext as a learning tool again. What was most satisfying about the experiment was that for perhaps the only time in fifteen years of college teaching, I did not revert to the easy out of lecturing or even faculty-directed discussion. This was truly the students' course, and they taught themselves quite well. By the way of anecdote, I did schedule a lecture for myself to discuss the general themes of Islamic practice. Most of the class did not show up. This was somewhat of a surprise, and a bit of a shock to my ego, so I commented about it at the next session. The general response of the students was that they did not need for me to spoon feed the material to them. Attendance was not a

problem otherwise, and when one of the students did miss a couple of classes, a delegation of colleagues came to me and asked me to deal with that individual.

As far as the more specific goals: Did the students learn about the beliefs and practices of Islam? Based on the material in the hypertext, they did. In fact, the students who completed the course probably have a better understanding of Islam than most Muslims because they have read and discussed the textual sources of the religion.

With regard to the pedagogical goals, I am reconsidering using only primary source material. Although discussion generally went very well, it probably would have been more efficient and the use of texts more focused had the students possessed a better factual background. I did provide secondary source material to the facilitators as I wanted them to have a framework for leading the discussion. I know that many of the students, on their own initiative, made use of secondary sources as they, too, wanted some guidelines. I will assign a general text the next time.

The greatest discovery that I made in relying only on primary texts was that it required much greater preparation on my part. I can offer a lecture course on Islam with minimal preparation and handle with little difficulty the technical questions that usually arise. My graduate training was also in Islamic religious literature. However, when it came to playing the role of resource person and, especially when trying to get discussion steered back on course when it was going astray, I found myself scrambling for the proper Koranic text or the proper section of the Hadith. All too often I found myself simply shrugging my shoulders in ignorance. I need to know my sources better next time!

The greatest success of the project was the collaboration. The students had no choice but to work together, and work together they did. The discussions moved along quickly and most everyone participated in most classes. The most common reason for non-participation was that the particular source a student had read contained nothing on the topic, again, a failing on my part in assigning the readings. The biggest problem was that some students were a little slower than others to enter written material into the hypertext, and I was not always sure that everyone was reading what their colleagues had written. We also occasionally had some technical glitches as students would link entries, or at least thought that they were linking them, and then the entries would disappear. I did spent a few sessions reconstructing text and getting linkages sorted out.

As for the hypertext itself, while we did an adequate job of using the textual applications, there were three areas of disappointment:

1. We did not make full use of the linking possibilities.
HyperCard enables one to make as specific a link between and among texts as one desires. Returning to the prayer example, we could have made a specific link between the narrative on the number of prayers and the primary texts explaining that practice. What students tended to do was to make more general kinds of linkages between prayer and the Koran or Hadith, so that the reader of the hypertext had to search through text rather than being linked to a direct reference.

2. Insufficient use of graphic capabilities.
HyperCard has the capacity to include all sorts of graphics, from those created individually using the built-in drawing and painting program to photographs, maps, or even moving images entered through a scanner or, on the newer Macintoshes, a

CD-ROM. I used the draw program to create calligraphy for the introduction and individual topics in the hypertext. A couple of my more artistic students also generated some clever "buttons" (the icons that are used to link texts), including a passable representation of the Muslim scholar Ibn Taymiyyah. We could and should have done such things as including a map showing the location of Mecca or another map of Mecca itself including the stages of the pilgrimage. I had encouraged students to locate graphic materials but to no avail. In defense of the students, they were busy enough keeping up with the reading and entering text. Next time I will either assign a student the task of collecting graphics or work on that part of the hypertext myself.

3. No use of the sound capabilities.

HyperCard can also incorporate sound. From the start, I had intended to include a glossary that would have given the proper Arabic pronunciation of every term in the text. All the user had to do was "click" on the word and the reader would hear the word pronounced. One student did make several efforts to accomplish this goal, but we could never coordinate with the campus's one native speaker of Arabic. We could also have included something like the call to prayer. Again, one student should be assigned to this area or the instructor might make it his or her contribution.

CONCLUSION

James Schick wrote that hypertext technology "may prove the first key intellectual and educational advancement of the computer age."[8] I agree. Hypertext is a powerful learning tool for history. In creating the Islam hypertext my students were not just learning a finite number of facts about a religion; they were involved with primary research, they were interpreting their material, they were writing narrative, they were supporting that narrative with specific references to the sources, and they were working together to solve problems. My students were doing history and using the latest technology to do it. It was all very exciting.

Now, does it have universal application? Probably, although in the World Civ or American history survey the principal application will remain creating interactive study guides or review hypertexts. However, in smaller, upper-division offerings it has unlimited possibilities—a colleague and I are in the preliminaries of discussing its use in a course on the Crusades, and I am already contemplating having a class do a more limited and specialized hypertext on the city of Cairo when I teach a course on the history of Egypt. It is also dynamic. If I teach a course on Islam again, I can improve upon and add to the hypertext created by my previous class. Unlike a traditional book, the hypertext can grow and change very easily, thereby providing another practical historical lesson to the students—history can and does change.

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[8] Schick, 64.

actively assisting me throughout this project; to Mr. Leonard Gittinger for his generous financial support that made it possible for the college's library to purchase translations of primary source materials; and, most importantly, to the very gifted and dedicated groups of undergraduates, including Sonya Engleking, Stephen Hall, Ken Hoerning, Winnie Kimata, Heath Kirkpatrick, Amy Rayl, Jason Ruff, Rhonda Smithwick, Warren Soper, Shane Spangler, and Carissa Wentz, who put a great deal of time and effort into the project and who are the actual authors of the Islam hypertext.

Card 1
This is the title page for the Islam hypertext. The Arabic graphic was done by the author with the draw option in Hypercard. The entire card is a "button," so clicking the mouse anywhere advances one to the next card.

Introduction

Islam is the fastest growing religion in the world today, and by the year 2000 will have surpassed Judaism as the second largest religion, after Christianity, in the United States. As Americans will find themselves coming into more and more direct contact with Muslims, both at home and abroad, it is incumbent upon them to understand the basic beliefs and practices of the Islamic religion.
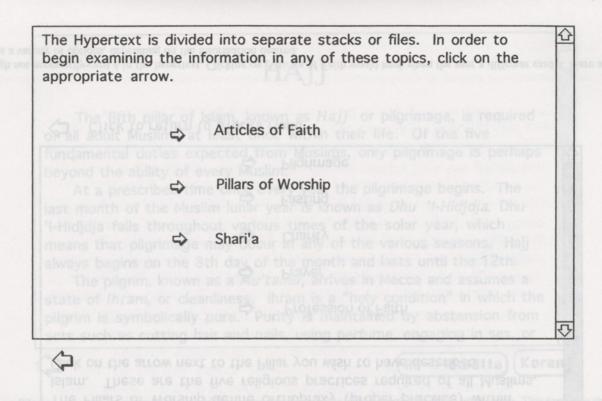
This Hypertext is designed to provide that information. In order to proceed through the text, one need only to "click" on arrows or bold type words. The Hypertext also includes a pronunciation guide for all Arabic terms included in the text. Again, simply clicking on an italicized word will cause the computer to pronounce it.

Card 2
This introduction provides the basics of getting through the text. Turning pages is simply a matter of "clicking" on the buttons, in this particular application identified as either arrows, bold type words, or italicized words. The arrow at the lower left o teach page takes one to the previous page (screen).

The Hypertext is divided into separate stacks or files. In order to begin examining the information in any of these topics, click on the appropriate arrow.

⇨ Articles of Faith

⇨ Pillars of Worship

⇨ Shari'a

The Stacks Menu Card. From this point on the user of the hypertext proceeds at will simply by clicking on one of the options. A menu option at the top of each screen (not printed on the following cards) returns the user directly to this menu from anywhere in the hypertext.

PILLARS OF WORSHIP

The Pillars of Worship define orthopraxy (proper practice) within Islam. These are the five religious practices required of all Muslims. Click on the arrow next to the Pillar you wish to have described.

⇨ Profession of Faith

⇨ Prayer

⇨ Charity

⇨ Fasting

⇨ Pilgrimage

⇦ Click to return to Stacks Menu

Card 4

Although not necessarily card 4 in the hypertext. Clicking on Articles of Faith would have given the user a different card 4. Here again, the user has a variety of options, depending on the information desired.

HAJJ

The fifth pillar of Islam, known as *Hajj* or pilgrimage, is required of all adult Muslims at least once within their life. Of the five fundamental duties expected from Muslims, only pilgrimage is perhaps beyond the ability of every Muslim.

At a prescribed time once every year the pilgrimage begins. The last month of the Muslim lunar year is known as *Dhu 'l-Hidjdja*. Dhu 'l-Hidjdja falls throughout various times of the solar year, which means that pilgrimage may occur in any of the various seasons. Hajj always begins on the 8th day of the month and lasts until the 12th.

The pilgrim, known as a *Mu'tamir*, arrives in Mecca and assumes a state of *Ihram*, or cleanliness. Ihram is a "holy condition" in which the pilgrim is symbolically pure. Purity is maintained by abstension from acts such as cutting hair and nails, using perfume, engaging in sex, or

(Al - Muwatta) **(Koran)**

Card 5

Clicking on Pilgrimage brings up a screen that provides a narrative description of this particular Pillar of Worship. This card also shows the variety of buttons: the arrow at the lower left returns the user to the previous screen; the italicized words can be clicked on and the word will be pronounced (see text); and the bold words at the lower right will allow one to proceed to source materials (see card 8).

acts such as cutting hair and nails, using perfume, engaging in sex, or hunting animals.

Preparation for pilgrimage begins the evening before the 8th. Usually there is a type of sermon preached in the Mosque near the Ka'aba. On the 8th, *yawm al-tarwiya* or the "day of moistening" begins. Pilgrims start with a ritual circling, or *tawaf,* of the Kaaba seven times while reciting prayers that signify their submission to Allah. After this the *Sa'i* is performed. Sa'i is the act of running between the two hills of Safa and Marwah, which represent the struggle that Hagar and her son Ishmael experienced while searching for water. Pilgrims also use this day to gather the water provisions which will be necessary for the pilgrimage. Next, pilgrims will set out fot the plain of Arafat in caravans which follow two *Mahmals.* These mahmals are regarded as the caravan's sanctifying elements.

On the 9th the *Wukuf* proper begins. This period begins at noon, or high sun, and lasts until its setting. Wukuf means that the pilgrims "halt" at any particular spot of choice within the plain of Arafat and

(Al – Muwatta) (Koran)

Card 6

The narrative on pilgrimage extends beyond the on-screen capabilities of the Hypercard display. No problem as one can scroll down the screen without leaving that card. Please also note the bold word Ka'aba in line 5 of the text. This is a button, and clicking on it reveals further description.

Ka'aba

The ka'aba is the cube shaped building which houses the sacred "black stone" found in the Mosque in the center of Mecca. The Ka'aba holds special significance in the eyes of Muslims because of its history and origin. The Ka'aba was originally built by Adam, but was distroyed. Later, when Abraham submitted to Allah and became the first Muslim, he and his son Ishmael rebuilt the Ka'aba. The black stone which rests inside the cube is a sign of the covenant Allah made between Abraham and Ishmael. The stone is traditionally viewed as a crystal which was given by Allah to man. Originally the crystal was clear, but turned black due to the sin of humankind. Muhammad made it a practice to kiss the stone, and to this day Muslims follow the same practice.

Card 7

If the user clicks on Ka'aba, this card comes to the screen. This particular contributor favored a different font than had been used previously, so we have a different font. We could also have provided a picture of the Ka'aba as well as a map of Mecca showing the location of the Ka'aba. These can be added in later editions as well.

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Fulfill the Pilgrimage and the Visitation unto God; but if you are prevented, then such offering as may be feasible. And shave not your head, till the offering reaches its place of sacrifice. If any of you is sick, or injured in his head, then redemption by fast, or freewill offering, or ritual sacrifice. When you are secure, then whosoever enjoys the Visitation until the Pilgrimage, let his offering be such as may be feasible; or if he finds none, then a fast of three days in the Pilgrimage, and of seven when you return, that is ten completely; that is for him whose family is not present at the Holy Mosque. And fear God, and know that God is terrible in retribution.

Tafsir

Card 8

Refer to the buttons at the bottom of card 5; Clicking on Koran provides the following quotation (actually one of several) which provides primary source material about the pilgrimage. If one wished to go to yet another level of understanding, the Tafsir button provides commentary on this particular Koranic text. If you've had enough about the source of pilgrimage, click on the arrow to return to the narrative. If you've had enough about pilgrimage, click on the Stacks button.