6. Narrative

Background

The Collaboratory for GIS and Mediterranean Archaeology (CGMA) was established at DePauw University in 2002 with the help of a grant from the Andrew W. Mellon Foundation. That grant had two goals: to create a functional GIS (Geographic Information System) of archaeological survey metadata from the Mediterranean that would allow archaeologists and historians to ask large-scale questions about human antiquity, and to introduce undergraduate archaeology and history students to the methods employed in the spatial analysis of archaeological data using digital technologies. The two components of the original CGMA project were designed to meet these goals: we have created an operational on-line Mediterranean Archaeology GIS (MAGIS) -- the main research component of CGMA --, and an inter-institutional undergraduate seminar that has been conducted for the past five years. The undergraduate seminar has now been adopted as one of the initiatives of the National Institute for Technology and Liberal Education (NITLE), which will continue to support and maintain the course (http://sunoikisis.nitle.org/ICC/CGMA.htm). For details on the educational initiative, see Section 10, Optional Appendices, Part B. Now that the educational portion of the project is secure, we are seeking a Digital Humanities Challenge Grant in order to develop further the breadth and utility of the research side of the MAGIS system (http://cgma.depauw.edu/MAGIS/) and ensure its future sustainability, in particular by establishing a visiting graduate internship program at DePauw.

The original CGMA project was conceived as a result of what we perceived as two separate but complementary needs in archaeology. The first problem is the lack of comparable data in what is accessible to scholars about the work of individual groups in landscape

archaeology. Since the 1950s thousands of hectares in Europe and the greater Mediterranean

have been surveyed, and evidence and artifacts of ancient civilizations have been documented in

some form, from extensive projects recording the locations of visible monuments, to the

intensive collection of artifacts from a proscribed area, and many other methodological

variations. These individual projects have created many patches of knowledge about the ancient

users and occupants of those landscapes, but they have largely been conducted and studied in

isolation from each other. In the mid-1990s, however, archaeologists began to discuss the

possibilities of comparing data from different projects in order to answer broader questions about

ancient history.[1] Examples included the similarities and differences in the intensification of

agriculture, urbanization and population growth in the wake of Alexander the Great's conquest

of the Persian Empire, or the later Roman take-over of the Eastern Mediterranean. The problem

is that there has been no consistent application of survey methodology across these projects,

particularly during the development of survey techniques, making the comparison of actual data

to answer these regional questions very difficult.[2] In fact, until now, we have not even been sure

of the scope of the problem.

     Through the Collaboratory for GIS and Mediterranean Archaeology we have begun to

address this. MAGIS is the first attempt to catalog survey *metadata* such as: project name,

researchers, methodologies, geographic coordinates, chronological coverage, special studies

(e.g., lithics or epigraphy), bibliography, and the environmental characteristics of the study area.

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[1] S.E. Alcock, *Graecia Capta: the landscapes of Roman Greece*, Cambridge, 1993; S.E. Alcock, J.F. Cherry and J.L. Davis, "Intensive survey, agricultural practice and the classical landscape of Greece," in I. Morris (ed.), *Classical Greece: ancient histories and modern archaeologies*, Cambridge, 1994, 137-70; S.E. Alcock, "Breaking up the Hellenistic world: survey and society," in Morris (op cit.), 171-90.
[2] S.E. Alcock and J.F. Cherry (eds), *Side-by-side survey: comparative regional studies in the Mediterranean world*, Oxbow, 2004.

The compilation of this information from distinct field projects, and the study of their

development over time, makes possible the construction of larger historical, cultural, economic

and artistic narratives about the ancient cultures of Europe and the Mediterranean based on

archaeological evidence.

The MAGIS system was designed, built, implemented and tested by faculty members, staff

members and students at four liberal arts colleges in the Midwest (DePauw University, Rhodes

College, Millsaps College, and The College of Wooster). This addressed a complementary goal

of the Principal Investigators,[3] which was to get more undergraduate students involved in

archaeological research. Each fall semester from 2003-2007, we have taught an inter-campus

course on archaeological field survey and GIS. As part of the seminar, students on each campus

have designed and carried out a local survey project using GIS to map their results. Students who

participated in the fall course then became eligible for summer research internships. It is largely

due to the efforts of those research interns that MAGIS is as complete as it is today. Students

have spent four summers looking up survey projects from across the greater Mediterranean

world (including Europe, the Near East and North Africa[4]), reading archaeological reports,

collecting metadata, and entering that information into the MAGIS database.

We publicly released MAGIS in January 2007. Our programmer, M. Beth Wilkerson, built

it using Open Source tools such as MapServer, PHP, and MySQL. To date, 321 projects have

been entered in MAGIS, representing archaeological work in 27 countries. The MAGIS database

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[3] The PIs of the CGMA project are Rebecca Schindler and Pedar Foss of Classical Studies at
DePauw University; the co-PIs are Mike Galaty in Anthropology at Millsaps College, Kenneth
Morrell of Greek and Roman Studies at Rhodes College, and P. Nick Kardulias in Anthropology
at the College of Wooster.
[4] For the purposes of MAGIS, as classical archaeologists, we define the greater Mediterranean as
anywhere Greek or Roman influence reached in the ancient world, though the projects we
include go well beyond (both before and after) the chronological limits of those civilizations.
Projects in the database study material from the Paleolithic to the present.

can be accessed via the Internet through a simple browser (Internet Explorer, Firefox, or Safari)

in two ways. The "Database Search" feature allows users to either browse projects by region or

to request project subsets using Boolean logic. The "Spatial Search" allows users to view and

then select projects through a basic map (GIS) interface. Researchers can also enter new projects

through the "Data Entry" function. A detailed Help Page provides instructions and examples

(http://cgma.depauw.edu/MAGIS/Help/help.php) of how to operate both kinds of searches, as

well as carry out data entry.

Future Development of the CGMA Project[5]

In the spring of 2007, during sabbaticals, Drs. Foss and Schindler demonstrated the

MAGIS system at major archaeology programs in the United Kingdom, having given

presentations in previous years at conferences and universities in the United States, Britain,

China and Turkey.[6] Over three months, we presented and discussed the system with faculty

members, graduate students and technical staff members at the following thirteen universities:

Glasgow, Newcastle, Durham, Liverpool, Bradford, York, Sheffield, Birmingham, Bristol,

Leicester, Southampton, Oxford and Cambridge.

These visits accomplished several things. First, we introduced the system to colleagues and

future colleagues who can add or edit project entries in the database. Second, these colleagues

are well connected with scholars and antiquities departments of the countries in which they

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[5] Sarah Craft, fifth-year GIS intern at DePauw University, assisted with the writing of this portion of the application.

[6] These presentations include: The Department of Archaeology and History of Art, Bilkent University in Ankara, Turkey (2002), The XVIth International Congress of Classical Archaeology, Boston, MA (2003); AIA Annual Meeting, San Francisco, CA (2004) -- the CGMA project won the AIA's best poster award --; The Theoretical Roman Archaeology Conference, University of Birmingham, UK (2005); and The 3rd International Conference on Ancient History, Fudan University, Shanghai, China (2005).

work, and so can spread news of MAGIS both laterally and vertically, through the university and

governmental systems that constantly carry out archaeological fieldwork. Significant survey

work has been carried out for purposes of rescue in advance of development or because of

looting problems, but it is often published only in reports to government agencies, and is known

as 'grey literature' for its partial availability to the academic world. We would like to incorporate

such projects into the MAGIS database in order to provide a deeper and more complete picture

of what surveys have been done at all levels of research, not just the large projects supported by

major institutions that tend to get published, reviewed, and used by scholars. In that way,

MAGIS can help bridge the gap between 'academic' and 'governmental agency' archaeology.

Many scholars responded to this tour by entering their projects into MAGIS, correcting

project data already in the system, and complimenting us on the usefulness of the system (see

Section 9, Letters of Support). As supporting letters attest, MAGIS has now become a valuable

tool for archaeologists, ancient historians, anthropologists and sociologists interested in

comparing long-term historical trends and research techniques over broad areas of the ancient

Mediterranean and Europe. MAGIS is also increasingly used in the training and thesis work of

graduate students in archaeology. MAGIS, therefore, already represents a significant step

towards the ultimate goal providing the full set of resources that would allow comparisons of

actual survey data.

Also in the Spring of 2007, we asked two outside experts, Aaron Fuleki of Denison

University and Scott Simmons of Technigraphics Incorporated, to carry out a technical audit of

the programming infrastructure and interface design (see Section 10, Optional Appendices, Part

C). Based on that audit, and the forty-one helpful comments we collected during the U.K. tour,

we have compiled an annotated list of the most pressing items for improving the usability of the

current version of MAGIS (1.1), and a further list of desired functionality to add in future

upgrades. These are specific improvements we would make with the assistance of the Challenge

Grant. The majority of agenda items fit into three general categories: 1) collection, display and

output of metadata; 2) interface; and 3) metadata and source-code consistency to ensure smooth

operation and maintenance of the system.

1) The collection, display and output of metadata, and new categories of metadata:

• Enable users to collect the results of multiple different searches in 'shopping-cart' fashion, and

   output the results in both XML and tab-delimited formats, so users can work with the

   exported metadata in external GIS, database or statistical analysis programs.

• Add the ability to map search results (and perhaps, eventually, individual field contents) as

   collected in a 'shopping-cart' *back* into the spatial interface for feedback or output purposes.

• Add new categories of metadata. This is an area to which graduate interns could particularly

   contribute. Students working on urban surveys, underwater surveys, landscape feature

   surveys, or remote sensing -- categories that are currently under-developed in MAGIS --

   could develop metadata fields appropriate to those categories, and fill them out. The resulting

   additions to the database could further their thesis work, while benefiting other users at the

   same time. We see this as an open opportunity, since we cannot anticipate all the possible

   useful categories of metadata that could be appended to the system. However, we would like

   to add certain fields that have been suggested by our audiences (see the next bullet item).

• Add new metadata fields, such as:

   - Container fields (holding .pdf or .jpg files) for: the recording sheets used by individual

      projects (terribly useful in ascertaining how any project conceived of and carried out their

data collection), and project area maps (showing sites, sampling strategies, chronological

period distributions, etc.). We cannot post these items unilaterally ourselves, out of respect

for copyright protection, but if the project leaders provide them to us, the visual

information they provide would be immensely useful.

- The number of sites (however they are defined by that project) discovered by a survey,

    which, combined with overall survey area, could provide a rough index of the density of

    ancient activity in an area. More refined indices are also possible.

- The site hierarchies used by individual projects, to see how they organize and classify their

    sites (e.g., farmsteads, hamlets, villas, villages, towns, cities, etc.).

- The percentage of the survey area walked intensively.

- Whether and how a project measures ground surface visibility.

- Carbon-14 dates as an alternate or addition to individual project chronologies.

- The length and intensity of field seasons.

- The state of completion for a project (Just started? In progress? Partially published? Writing

    the final publication? Completely finished?).

- Links to excavations that have been conducted within the survey area.

- Links to a project's fieldwork method handbook, or its online GIS, if they exist.

2) Interface:

• Provide front pages and help pages in non-English languages, first: French, German, Italian,

    Spanish, and Arabic, and eventually Dutch, Greek, Turkish, Bosnian-Croatian-Serbian,

    Bulgarian, Romanian, and Russian. The metadata pages will remain in English, but it will be

    important to reach out to students and staff members in the constituent nations, and involve

them in metadata-entry and the use of that metadata. 'Internationalization' is one of the current

Strategic Initiatives of DePauw University (see below), and the internationalization of

communication is an initiative that DePauw is committed to supporting.

• Re-design the Spatial Search interface. Both users on the U.K. tour and the tech auditors (see

Section 10, Part C, pp. 7-8 and Figure 1) suggested ways in which tools, layers and feedback

information (such as the name and number of the survey project when mousing over its

boundaries) might be better organized and implemented.

• Add an option on the Spatial Search page to download a self-updatable .kml folder with project

boundaries drawn in GoogleEarth. Users will then be able to navigate in GoogleEarth, view

project boundaries overlaid upon satellite-image landscapes, and jump directly to the specific

MAGIS database records with a simple click. We have already begun making .kml files for

the boundaries of individual projects, but many more hours are required. This interface will be

optional and complementary to the MAGIS spatial search, enhancing viewing of the data,

while always retaining browser-based, non-proprietary access to it through the Spatial Search.

• Improve the Database Search interface (see Section 10, Part C, pp. 9-10). This requires less

work than the spatial interface, but this interface is used more often for complex searches.

• On the Search Results page, provide an inset map that cartographically displays the found set of

records.

• Make improvements to the bibliographical database to permit corrections, deletions, and

independent searching, browsing and output of bibliography, linked to the individual projects

under which they were originally entered.

• List the dates of operation on the Search Results page so users can immediately see when the

   survey was carried out. Remove the 'Country' column, as the country code is already

   embedded in the CGMA ID number for each project.

• List all Principal Investigators on the Search Results page. Currently the search returns one PI

   randomly from the full list (scholars often feel slighted if they feel they have not properly

   been acknowledged, and we must retain their good will towards the project).

3) Metadata and code consistency and accuracy:

• When projects are entered and edited over time by many different individuals (a process which

   will continue, especially if we can convince more scholars to take responsibility for

   maintaining their own projects), errors and inconsistencies are inevitable. Even principal

   investigators on the same project may not agree on how to characterize certain metadata. It

   will be the responsibility of the MAGIS PIs, through their supervision of undergraduate and

   graduate research interns, as well as correspondence with individual survey project directors,

   to enhance procedures for maintaining consistency in metadata characterization and entry,

   including the extensive online Help File (http://cgma.depauw.edu/MAGIS/Help/help.php).

• MAGIS would like to establish regular communication with foreign schools and national

   government antiquities agencies to share information about what surveys have been done and

   where information about them can be obtained (for rescue projects, the above-mentioned

   'grey literature' is usually inaccessible outside of the country in question). Having a multi-

   national database of survey projects could benefit not only university-affiliated scholars, but

   also national and international agencies charged with the management, protection and

   development of their cultural heritage. We need to liaise with those agencies to help them

enter metadata into MAGIS about projects otherwise unknown to us. If we are able to offer

graduate internships to students from countries within the MAGIS study area, their personal

and institutional contacts could significantly aid this process. Ultimately, we would like to be

able to query and link to national monuments databases, to further integrate the various

research databases that any given scholar might need to use for their research. We believe that

this effort ties into two important DePauw Strategic Initiatives: Internationalization, and

Ethics (the responsibility to publish and provide access to reports on cultural heritage projects

in a timely fashion).

• To facilitate the presentation of different language scripts, both for the metadata, and for the

planned translation of front and help material in various languages (see above), it will be

important that encoding for all the text in MAGIS is done in Unicode (UTF-8).

• The technical audit (Section 10, Part C, pp. 2-4, 6) made various suggestions to clarify and

smooth out the source code and presentation code using style sheets and debugging functions

which would facilitate automation of some maintenance and trouble-shooting issues. We

should consider these seriously and see what can reasonably be accomplished, understanding

that a ground-up re-write of the technical code would be a formidable task for our

programmer.

Many of the suggested additions, such as visibility, remote sensing techniques and site

hierarchy classification, would be particularly important and helpful additions for researchers

seeking data about theoretical and methodological issues (as opposed to data relevant to a

particular historical period or specific geographical location). The collection and presentation of

this type of metadata facilitates the development of archaeological theories, approaches, and

models which move classical archaeology away from being a discipline governed by classes of material and toward a branch of scholarship with the potential for stirring up the wider intellectual community, particularly in such disciplines as art history, anthropology and sociology.[7]

Because the immediate goal is to make the project invaluable to students and researchers, encouraging the latter to use MAGIS and update their metadata, some of the most important suggestions to implement first are those concerning interface. Scholars comfortable with the system can contribute metadata as their projects develop, instead of waiting for a third party to glean the metadata after publication. An effective and enjoyable visual interface will help colleagues 'buy into' the system and recommend it to others; clicking on a map is a much more straightforward initial way of finding desired information than learning how to search the database (even with the detailed Help page). It is easier to *see* that projects are in a position for comparison (at least regarding geographical location), than to pull up a list of projects and search for a specific geographic location (i.e., other than country or province). The case for the interface update is made thoroughly in the technical audit of the MAGIS system (Section 10, Part C), but the specific suggestions listed above highlight those of immediate concern.

The final important issue at hand is the accuracy of information: because we want the database to reflect the work that is being done in the field clearly and accurately, it is necessary that the information in MAGIS be correct. This is why the presence of an intern is so critical: a dedicated individual who is trained to determine whether the metadata extraction by undergraduate students has been properly done, and able to make necessary revisions to projects in the database.

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[7] A. Snodgrass, "What is Classical Archaeology? 1a) Greek Archaeology," in S.E. Alcock and R. Osborne (eds.), *Classical Archaeology*, Malden, MA, 2007.

While we have gathered a whole host of helpful suggestions on how to improve the

usability of MAGIS, and wish to implement as many of them as possible, we also want to retain

the present system's primary strengths: simplicity and reliability. Our mantra will always be to

do fewer things consistently well and robustly, rather than to clutter up or slow down the system

with distracting, fragile, or faddish features.

Explanation of Challenge Grant Expenditures

The original CGMA project was supported by a four-year $197,000 grant from the Andrew

W. Mellon Foundation. As of the summer of 2007, we have accomplished what we set out to do

under the parameters of our original proposal for CGMA: we have taught the undergraduate

seminar five times (2003-2007), we have trained undergraduate students in the research

techniques used in archaeology, and we have built a web-based GIS of archaeological survey

projects in the Mediterranean (MAGIS). NITLE (The National Institute for Technology in the

Liberal Arts) has taken over the administration of the CGMA course; it is available to students

and faculty members at any of the 91 colleges and universities in the NITLE consortium. It is the

future of MAGIS about which this application is concerned.

M. Beth Wilkerson continues to serve as the project programmer and database

administrator for CGMA. She is now a full-time employee of DePauw University and is the

director of our GIS Center, part of our Faculty Instructional Technology Support (FITS) services.

As part of her position with FITS, about a quarter of her time is spent on the CGMA Project. The

CGMA lab and the GIS Center both have lab facilities in the Julian Science and Math Center

(see Section 10, Part D). Currently the CGMA lab is equipped with four desktop computers; two

of them are five years old; two of them are new. DePauw is committed to providing periodic

upgrades (as needed) for the desktop computing facilities. Ms. Wilkerson has a laptop computer

for MAGIS programming, and Schindler and Foss share a laptop computer for development and

demonstration purposes. The University provides space for the CGMA server (a 2-terabyte

Apple Xserve system with RAID; five years old) in its secure server facility. In addition, we

have access to a 24" printer and the GIS Center will be purchasing (in the current AY 2007-2008

budget) a large-format scanner.

Undergraduate involvement in CGMA has been critical to the success of the project thus

far. There are several mechanisms available at DePauw for continuing that involvement.

DePauw's internal faculty development programs offer collaborative summer faculty-student

research grants that can be used for addressing specific aspects of the CGMA project. We also

have a program for students in all majors who want to develop their technology skills. The

Instructional Technology Associates Program (ITAP) allows departments and programs to hire a

well-trained (apprenticed) student for a specific technology project or program for a semester or

for the academic year. Some of the initial programming was done by an ITAP student; future

programming and interface modifications could also be accomplished by ITAP students. We

have also made use of DePauw's 5th-year intern program. Three times in the past four years we

have hired recent DePauw graduates to work either directly for CGMA or as interns in the GIS

center where they also have provided support for CGMA. All three of these interns have been

majors in Classical Studies and all have pursued or are pursuing graduate work in Classics or

Classical Archaeology. See Section 9 for a letter of support from the current intern.

In order to sustain and further develop the CGMA Project, Challenge Grant endowment

income would be used to support the following initiatives: 1) a graduate intern in archaeology to

work on MAGIS development; 2) funds for outreach and training of current faculty and staff;

and 3) monies to replace hardware and software on a regular schedule. Direct funds would be

expended initially for fundraising operations ($4000).

1) Graduate Intern:

The bulk of the earnings from Challenge Grant funds invested in an endowment, $15,000

per annum, are to support graduate interns in archaeology who will come to DePauw University

specifically to work on the CGMA Project. We will offer one internship each semester ($7500).

The funds will be used for a stipend ($4500), university housing ($2000), and a travel budget

($1000). The graduate intern is an integral part of the future development of the CGMA Project,

not only with respect to the continual development of MAGIS but to the project's interaction and

accessibility to the wider intellectual community at DePauw and other institutions. The position

emphasizes the interdependence of the intern's own ongoing research and the intern's

contributions to building MAGIS. The intern will come into the project for a four-month period

with a specific research plan to utilize the CGMA Project's resources in a way that will enhance

the scope of the MAGIS project, contribute to its functionality and/or add to the existing

database, while giving the intern an opportunity to pursue personal research interests in a serious

intellectual environment. In addition to his or her research activities, the intern will be expected

to spend approximately eight hours per week on administrative tasks for MAGIS (see Section 8,

Graduate Intern Job Description).

We will advertise the position openings nationally at academic conferences, through email

distribution lists and personal contacts, and on the CGMA web pages. We predict and hope for

graduate project proposals that focus on aspects of survey which are not yet included in the

MAGIS database, due to language barriers or the lack of publication. Desiderata include: urban

surveys, underwater surveys, surveys in the Balkans or other areas where data has not yet been

published or made available in a language accessible to previous CGMA interns, theoretical or

methodological issues, or the politics of survey archaeology in the 21st century. These projects

will not only greatly add to the scope of the CGMA Project, but will require the collection of

data which can then be added to the MAGIS database for access by other researchers, and more

often than not have the potential to make direct contributions to other humanities disciplines that

use case-studies from ancient Europe, the Mediterranean, and the Near East.

In addition to furthering research related to the CGMA Project, we foresee the graduate

intern playing a significant role in the CGMA Project's outreach to faculty members and students

of all disciplines at DePauw. Expectations include: 'before' and 'after' presentations of their

particular research project, and discussions of the role of survey archaeology in its discipline and

in wider intellectual inquiry. During the fall term, the intern would conduct one of the on-line

lectures for the undergraduate CGMA seminar by discussing how their own thesis uses survey

data. Undergraduate students might wish to collaborate with the graduate intern in working on

research papers or senior theses. Informally, the intern can prove an invaluable resource to the

undergraduate population, as a mentor to junior and senior majors seeking advice and

information about what it takes to get into, and succeed in, graduate school, and as a complement

to the expertise of members of the current faculty and staff.

The intern will have personal research space in the CGMA lab (Section 10, Part D, top),

which includes up-to-date computers and software, and convenient access to printers and

DePauw's GIS Center, which is just down the hall (Section 10, Part D, bottom).

2) Outreach and Training:

The success of the CGMA project depends on its users. International conferences on archaeology and ancient history provide ideal venues not only for promoting the CGMA project to other scholars but also for getting feedback and ideas on ways to improve the resource. Foss and Schindler have presented CGMA at a number of such meetings since 2002 (see above, n.6). Our programmer will also need to keep abreast of developments in Open Source and Web-based GIS programming. We have allocated $1800 per annum in endowment income for these activities.

3) Computer Maintenance:

We calculate that we need approximately $3000 per annum to upgrade and replace software and hardware on the server (currently a 2-terabyte Apple Xserve with RAID back-up), and to maintain service and support. As the database grows, the server will need increased capacity and speed to meet anticipated demand. The funding will also be used to test new interfaces and software. The server should be replaced with an upgrade every four years; income can accrue and will be sufficient at that interval for replacement. In order to ensure that present MAGIS availability, reliability and functionality are not impaired by an overly long initial replacement cycle, DePauw will replace the present server within the next three years.

The CGMA Project and the Humanities at DePauw University

DePauw University is a Liberal Arts College with a School of Music. The Humanities are an integral part of every student's experience at DePauw, as there are separate graduation requirements in humanities, literature, and the creative and performing arts. In 2005 the

University released its strategic plan for the following five years. We believe that the CGMA

project as we plan to develop it fits well within two of the three objectives for learning and

research as outlined in the strategic plan (http://www.depauw.edu/univ/Securing-Our-

Legacy.asp). Those objectives are:

1) "To provide an outstanding learning and living environment that encourages academic

excellence and the formation of intellectual communities, using innovative programming, such

as the use of technology across the curriculum." The CGMA Project was an early example of

such a multi-disciplinary, collaborative (even inter-institutional) effort, and continues to

exemplify the synergy between traditional classroom instruction, internships and research

training, and student participation in a large-scale research effort. GIS is a technology applicable

to any academic discipline, and can serve to bring disciplines together. Furthermore, the

underlying MAGIS Open Source code could be adapted to any field's need for a web-based

database, and we will make the code publicly and freely available.

2) "To prepare students to make a positive difference in the diverse and interconnected

world in which they will live and work." As an institution, DePauw is developing a global

perspective through course offerings, as well as the recruitment of international students and

faculty. The CGMA project is a global initiative, bringing together researchers from the

international archaeological community. The CGMA project directly connects students and

faculty to scholars working at all levels in archaeology across the greater Mediteranean, and it

has helped to develop DePauw's reputation as a center for archaeological research in the United

States. Many students who have worked on the CGMA project have gone on to apply their

expertise in overseas archaeological fieldwork.

This strategic objective also has an *ethical* component. Archaeological research is essentially a destructive operation (though survey less so than excavation); much work that is done is never published, and much work that is published is not widely known or distributed. By providing a free, internationally accessible database of regional studies fieldwork, we can bring attention to small rescue projects as well as large well-funded expeditions, helping to discharge our discipline's responsibility to organize, preserve and provide access to the reports that stand in for the archaeological materials once they have been recorded and studied. The ethical implications of the CGMA project can also contribute to the dialogue of DePauw's new Janet Prindle Institute for Ethics (http://prindleinstitute.depauw.edu/index.asp). With support of funding drawn from the Prindle Institute for Ethics, Dr. Schindler has a DePauw Faculty Fellowship from 2006-2009 to develop a new upper-level seminar entitled "How Do We Let the Past Lie? The Ethics of Cultural History."

In sum, the CGMA project, by training students in library skills, research project design, and collegial communication, all for a real-world cause, stands together with field training and classroom work as the three pillars of preparation necessary for future scholars in the field.

DePauw University's leadership on the CGMA project has led to several ancillary benefits to the university's humanities programs. The first has been to introduce GIS to the larger DePauw faculty as a useful tool in the analysis of historical and cultural data. Until the CGMA project was started, no one outside of the Geosciences department was using analytical mapping tools. CGMA was the first humanities-based project at DePauw to take advantage of this technology and, as a result, DePauw University now has a GIS center with a full-time director. Faculty projects in the GIS center have included (for example): "Socioeconomic Development of Tampico, Mexico (1870-1910)" by Dr. Glen Kuecker, History; "Ancient Chinese Dynasties" by

Dr. Sherry Mou, Chinese and Asian Studies; "The Distribution of Greek Sanctuaries" in

Southern Italy by Dr. Rebecca Schindler, Classical Studies, and the creation of illustrative maps

for *New Perspectives on the Sierra Leone Krio* by Dr. Mac Dixon-Fyle, History. Faculty

members in a variety of departments also ask the GIS Center staff to do presentations in their

classes, teaching them basic GIS skills (often using CGMA as an example), and thus

encouraging students to use GIS technology as a method of analysis and presentation in their

individual and group work.

Archaeology is by its nature an interdisciplinary subject. Thus CGMA has provided a

forum for both students and faculty members from different disciplines to work together. In

addition, CGMA is a collaborative project that operates across disciplinary and institutional

lines. We have brought groups of outside scholars to the DePauw campus to discuss the initial

creation of the system and strategic planning for its future. Undergraduates attended these

conferences and were directly involved in our discussions, providing a unique opportunity for

them to engage in the intellectual discourse of project development. Now that MAGIS is

recognized as a resource that has attracted the attention of archaeological professionals from

around the world (see Section 9, Letters of Support), we hope to continue this intellectual

engagement by bringing graduate scholars interested in contributing to the system to DePauw's

campus to meet with students and faculty members as well as with the project directors and

MAGIS staff members. Finally, the MAGIS database is now large and detailed enough to

provide example datasets for exercises or research projects in the CGMA undergraduate seminar,

bringing the impact of the research side of the project back into the classroom.

Our Goals:

Many archaeological web-based projects have come and gone, appearing with great promise but not enduring. Sustainability and viability are critical concerns for MAGIS and the future of web-based archaeological research tools. As part of our effort to improve and ensure continued viability and collaboration, we have organized a workshop for the 2008 annual meeting of the AIA -- the Archaeological Institute of America (see Section 10, Optional Appendices, Part A). Having invited an international group of scholars to present and discuss their projects, we intend to establish not only an ongoing dialogue about how to make our individual projects stronger and more useful by interweaving them, but also how to maintain them and continue their development.

For MAGIS in particular, this grant would provide an income stream by which we could continue to respond to the changing research needs of our constituents and ensure the regular upgrade and replacement of essential development and delivery equipment (the server). It would also help ensure that MAGIS data is safely and regularly backed up (see the concerns noted in the tech audit, Section 10, Part C, p. 4).

Essentially, we are looking to secure the long-term operation of MAGIS, while constantly working to improve and enhance its capabilities and meet the needs of its users: the local and international communities of scholars and students in archaeology, anthropology, art history, history, and sociology. In order to achieve these goals, we plan to:

1) Bring in two graduate interns per year (each for one semester) to advance their own research projects while they help build MAGIS, provide brown-bag talks for the DePauw community at the start and end of each term, and mentor junior and senior majors seeking advice and

information suceeding in graduate school, enhancing the developmental pathway for the next

generation of scholars.

2) Implement the specific technical and content-related improvements we wish to make to

MAGIS (detailed above).

3) Continue to present, at conferences and workshops, the dual research-teaching mission of

MAGIS and CGMA: how they bring together students and scholars in the humanities, social

sciences and sciences, not just at DePauw or the other three original project institutions, but

also throughout the NITLE consortium -- and internationally.

4) Lead the group of existing web-based research groups to support each other and support new

initiatives to share data within archaeology, and across national and disciplinary lines. This

will begin at our workshop during the 2008 AIA meetings (see Section 10, Part A).

Assessment of the Project:

When CGMA was formed with initial funding from the Mellon Foundation, we established

a Board of scholars, both from within and outside of the project, to advise on the planning,

development, operation and distribution phases of the project. That 'CGMA Board' (members

are listed below) has provided invaluable guidance to the project, and we shall continue to

request their oversight. Our plan for regular assessment of the progress and direction of the

CGMA project is as follows:

1) Internal assessment. Each year, Drs. Schindler and Foss shall provide a narrative evaluation of

the project to the Vice-President for Academic Affairs of DePauw University (this will be

submitted as part of the annual report on teaching, research and service required of all faculty

members). That evaluation will contain a summary for the previous calendar year of activities

associated with the project, a report on technical progress by the programmer, a written

assessment of the program by the graduate interns for that year, and a financial summary of

fund-raising activities and progress during that phase of the grant, and of endowment

expenditures in years following.

2) External assessment. Drs. Schindler and Foss shall continue to present and discuss the project

at national and international academic venues, meetings, workshops and conferences. Every

four years, in advance of the hardware/software replacement cycle, they shall request that the

external members of the CGMA Board prepare an evaluation of the goals and progress of

MAGIS, how well it is serving the academic community, and what areas of the project need

attention or development. For instance, they may advise that we advertise for particular needs

in the call for graduate interns for a series of years. In this way, the project can stay attuned to

the needs of its users: established figures as well as young scholars who will define the field

in future. This external evaluation will be presented to the PIs and the Vice-President for

Academic Affairs of DePauw University for consideration and implementation.

The current list of CGMA Board members is: Neal Abraham, Vice-President for Academic

Affairs, DePauw University; Suzanne Bonefas, Director of Special Projects, Rhodes College;

Jack L. Davis, Director of the American School of Classical Studies in Athens; Owen Doonan,

Assistant Professor in Art History, California State University Northridge; Tom Elliott, Pleiades

Project Director, Ancient World Mapping Center, University of North Carolina; Hugh Elton,

Chair, Ancient History & Classics, Trent University (Canada); Pedar Foss, Associate Professor

of Classical Studies, DePauw University; Aaron Fuleki, Web Services Manager, Denison

University; Mike Galaty, Associate Professor of Anthropology, Millsaps College; Mark B.

Garrison, Chair, Art and Art History, Trinity University; Timothy E. Gregory, Professor of

History, The Ohio State University; Hal Haskell, Professor Classics, Southwestern University;

Sebastian Heath, Research Scientist, American Numismatic Society; P. Nick Kardulias,

Professor of Anthropology, College of Wooster; Kenneth Morrell, Associate Professor, Greek &

Roman Studies, Rhodes College; Nick Rauh, Professor in Foreign Languages and Literatures,

Purdue University; Rebecca Schindler, Associate Professor of Classical Studies, DePauw

University; David Stone, Assistant Professor of Classics, The Florida State University; Luann

Wandsnider, Associate Professor of Anthropology, The University of Nebraska-Lincoln, Beth

Wilkerson, GIS Specialist, DePauw University.