

Faculty Proposal for LSU CAPITAL

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## INTRODUCTION

In the arts, powerful digital technologies have created opportunities for new paradigms of expression and representation: visual artists work in virtual worlds of alternative dimensions and relationships; composers explore new instruments and interactions in acoustic spaces of limitless bounds and construction; writers create stories without end, plots with multiple paths, and profound connections that leap across time and space. Whole new forms of creative expression, completely within the digital domain, are revolutionizing the arts.

The impact of these developments and their underlying technologies has profoundly changed the science of information technology. New insight about how information can be represented and comprehended is dramatically changing the World Wide Web from a medium using pure text and photographs to one that integrates graphics, sound, and multiple layers of information.

This new digital art is neither multimedia nor interconnected media. Rather, it truly integrates different art forms into a singular object: collaboration between artists and scientists—a vision of the whole.

Integrated digital art takes many forms of presentation:

A hypertext enriched with images and sound, navigable through the World Wide Web or from a CD-ROM.

An opera created by performers playing computer instruments, whose instruments generated digital images projected on a screen with text generated by computer-based algorithm.

Virtual worlds of three-dimensional objects that respond to touch and context, delivered over the Internet.

Digitally rendered animation and sound as a short film or DVD video.

Digitally reconstructed and synthetic images derived from photographically captured imagery and computer algorithms.

This is the art of the twenty-first century. It requires the highest quality of technological support, and its practitioners are simultaneously artists, programmers, conceptualizers, and revolutionaries.

#### CURRENT STATUS

The technical infrastructure for research and instruction in the digital arts is largely in place. The Music & Art Digital Studio (MADstudio) was established through two LEQSF (now BOR) grants in 1995, and has received three subsequent BOR grants (two in 1998 and one in 2001). The MADstudio provides necessary technology to the Schools of Music and Art for their respective course offerings in computer music and art. But only two faculty, with no technical support, are on staff to teach six separate courses, limiting the opportunities and research interests available to students.

#### PROPOSAL

We propose adding two faculty positions, one specializing in Alternative Human-Computer Interfaces, the other in Visual Representation and Navigation. A technical staff position and several graduate assistantships will be needed as well. These additions will enable us to advance what has been our initial project (the MADstudio) toward a larger research collective that will be the basis for an interdisciplinary degree program along with a fully-fledged research center in the digital arts.

Such a technical center will leverage our expertise in digital audio, video, animation, and hypermedia. It will be a powerful force to attract research and development money in these areas. Such a center will also provide a link for students to work directly with contemporary technology in collaboration with corporate and governmental agencies.

Creating a job pipeline for graduates of the program will be an essential feature of the center. Students will be well positioned to move into corporate jobs with extensive experience in web media development, sound applications, digital video, and information design. In addition, the center will also facilitate work with other entities on campus that deal with multimedia development and related technologies (photography, printmaking, video, etc.).

There is much precedent for using research in digital arts as the basis of technical research with commercial applications. The MIT Media Lab has been a central hub of artistic experimentation in the visual, sonic and information arts, with the larger goal of deriving new methods of informational interaction using alternative human-computer interfaces. Centers at Bell Labs, Stanford University, and the University of California - Berkeley have all developed new IT technologies through arts-centered research which resulted in patents and licensing contracts.

## CONCLUSION

We are at the dawn of an information and communications revolution. Issues of content, rhetoric, and artistic expression are being reborn. Whole modes of creative and technical expression are experiencing profound paradigm shifts in terms of the artistic product, the role of the artist, and the role of technology. Exploring these new technologies for artistic expression, researchers will be developing software and utilizing hardware to design new curricular content to best prepare our students for the challenges of this age.