**OCA PAD INITIATION - PROJECT HEADER INFORMATION**

- **Active**
- **Project #:** C-36-X98
- **Cost share #:**
- **Rev #:** 0
- **OCA file #:**
- **Center #:** 10/24-6-R0091-0A0
- **Center shr #:**
- **Work type :** RES
- **Contract #:** AGREEMENT DATED 960827
- **Mod #:**
- **Document :** AGR
- **Contract entity :** GTRC
- **Subprojects #:** N
- **Main project #:**
- **Project unit:** COMPUTING
- **Unit code:** 02.010.300
- **Project director(s):** KOLODNER J L
- **Contract value:**
  - New this change: 10,000.00
  - Total to date: 10,000.00
- **Fund:**
  - 10,000.00
- **Cost sharing amount:**
  - 0.00
- **Does subcontracting plan apply #:** N
- **Title:** LEARNING BY DESIGN: IMPROVING MATH & SCIENCE EDUCATION THROUGH INTEGRATION...

**PROJECT ADMINISTRATION DATA**

- **OCA contact:** Ina R. Lashley
- **Sponsor technical contact:** APRYL LANE
  - (408)974-1588
- **Sponsor issuing office:** APRYL LANE
  - (408)974-1588
- **Sponsor:** APPLE COMPUTER, INC.
  - MS: 301-4C
  - ONE INFINITE LOOP
  - CUPERTINO, CA 95014
- **Security class (U,C,S,TS) :** U
- **Defense priority rating :** NA
- **Equipment title vests with:** Sponsor X
- **ONR resident rep. is ACO (Y/N):** N
- **NA supplemental sheet**
- **NONE PROPOSED.**

**Administrative comments -**

INITIATION OF ONE-YEAR "COST-REIMBURSEMENT RESEARCH PROJECT AGREEMENT".

*NOTE: SEPARATE LICENSE & CONFIDENTIALITY AGREEMENT ARE IN PLACE.*
Closeout Notice Date 26-JAN-1998

Project Number C-36-X98

Center Number 10/24-6-R0091-0A0

Project Director KOLODNER, JANET

Project Unit COMPUTING

Sponsor APPLE COMPUTER/CUPERTINO, CA

Division Id 3625

Contract Number AGREEMENT DATED 960827

Contract Entity GTRC

Prime Contract Number

Title LEARNING BY DESIGN: IMPROVING MATH & SCIENCE EDUCATION THROUGH INTEGRATION

Effective Completion Date 31-AUG-1997 (Performance) 31-AUG-1997 (Reports)

Closeout Action: Y/N Date Submitted

Final Invoice or Copy of Final Invoice Y
Final Report of Inventions and/or Subcontracts Y
Government Property Inventory and Related Certificate N
Classified Material Certificate N
Release and Assignment N
Other N

Comments

Distribution Required:

Project Director/Principal Investigator Y
Research Administrative Network Y
Accounting Y
Research Security Department N
Reports Coordinator Y
Research Property Team Y
Supply Services Department/Procurement Y
Georgia Tech Research Corporation Y
Project File Y

NOTE: Final Patent Questionnaire sent to PDPI
TOOLS FOR CONSTRUCTION OF COMPUTER-SUPPORTED COLLABORATIVE LEARNING ENVIRONMENTS
Janet Kolodner
Mark Guzdial
Principal Investigators
EduTech Institute, College of Computing, Georgia Institute of Technology

FINAL REPORT
Our research over the last year has focused on both Computer Supported Collaborative Learning (CSCL) environments and tools for constructing such environments. We've explored a variety of options and have had several important successes.

We did explore use of SK8 for our environments and construction kits, but decided that the cost in memory and processing power was too great. While the cost of using SK8 is diminished by placing it only on the server, the schools we've been working with have little Internet connectivity, which requires us to play a server within the school. High-powered machines that can run SK8 are not frequently available to use as servers in our projects.

We instead used a couple of different paths:
- We made extensive use of a Macintosh-based tool called Frontier (http://www.scripting.com/frontier/) Frontier has allowed us to create a variety of Web-based CSCL environments quickly, such as Mac-based version of CaMILE (http://www.cc.gatech.edu/gvu/edtech/CaMILE.html) and Web-SMILE (http://www.cc.gatech.edu/gvu/people/Faculty/mark.guzdial/WStour/tour.html). These tools have been instrumental in helping us to understand how to scaffold collaboration by integrating process guidance.
- We have developed a new, cross-platform tool called the Pluggable WebServer (http://www.cc.gatech.edu/fac/mark.guzdial/squeak/pws/) which is based in Squeak, originally developed in Apple Research. The Pluggable WebServer has allowed us to very quickly create a variety of customized
collaboration spaces, including spaces for teachers, spaces for faculty, and domain-specific classroom spaces.

We've published extensively on this research, including the following:


