



FY11 Project Description and Budget Summary

(Cells will expand to accommodate content. Please limit total content to four pages or fewer.)

Project Title:	Creating Sustainable Industry Partnerships by Using Student Interns as IT Staff Augmentation
Who is involved in this project? <i>(names, role, organizations)</i>	<p>Dr. Michael G. Wells, Primary Investigator, Minnesota State Mankato</p> <p>Dr. Christophe Veltsos, Advisor, Minnesota State Mankato</p> <p>Dr. Milton Luoma, Campus Representative, Metropolitan State University</p> <p>Dr. Jim Chen, Campus Representative, St. Cloud State University</p> <p>Dr. Sudharsan Iyengar, Campus Representative, Winona State University</p>
What will this project accomplish?	<p>Create a sustainable partnership with industry partner(s) at St. Cloud State University, Metropolitan State, and Winona State University. These partnerships allow student interns to perform real world software development, software testing, and information assurance tasks for the industry partner(s) as an augmentation to their in-house development staffs. Students receive a minimum of one year of real world experience while continuing to pursue their degree. The employability of these students is dramatically increased.</p>
Who from above will serve as the Project Leader(s)? <i>(Name, Phone, Email Address)</i>	<p>Dr. Michael G. Wells, (507) 389-6659, michael.wells@mnsu.edu</p>

Narrative Description

(Please describe the overall project in terms of: A. What students will learn or gain from this effort B. Why and how you know outcomes are relevant to the IT workplace C. How students will become involved D. How students will acquire key competencies or outcomes E. How you will know to what extent this project is successful)

This proposal is to create opportunities for student interns to act as a staff augmentation for industry partners. It is modeled after the highly successful Project Maverick currently ongoing at Minnesota State Mankato. The configuration of this project involves four major constituents. Universities (St. Cloud State, Metropolitan State, and Winona State) supply student interns and faculty advisors. Each university will work towards having a contractual agreement with an independent consulting firm, Maverick Software Consulting (MSC). MSC supplies full-time employees to oversee the student interns' projects and act as a liaison with additional industry partners (MSC's clients) to gather project specifications. Student interns pursuing degrees in technology fields, i.e., information systems, information technology, computer science, computer engineering, etc., will work on real world software development, software testing, information assurance projects for an industry partner. Project Maverick began four years ago with nine student interns at Minnesota State Mankato. It has since grown to 82 student interns at four university locations. In August of 2009, MSC contractually committed in excess of \$3 million to Project Maverick over a five year period.

- A. Students will learn a variety of technologies, programming languages, and platforms based on the work the industry partner needs to accomplish. This is real work with real deadlines. Because each student will need to have at least one year until graduation when he/she is hired onto the project, they will acquire many more skills than a traditional summer internship or an in-class project. The students will be employees of the university and work twenty hours per week during the academic year and forty hours per week during the summer. They will be paid in the \$12/hour range depending upon other job opportunities in the area. Working a full schedule, these students will make enough in a year to pay for tuition, room, and board at their respective universities. Many students can use this project as their internship. The experience gained by these student interns makes them extremely employable. In fact, every student intern graduating from Project Maverick has procured a full-time position in industry or continued their graduate education.
- B. Outcomes are relevant to the IT workplace because all the projects students will work on are real world projects with actual deadlines coming directly from an industry partner. All projects will be software development, software testing, or information assurance in nature. You can't get outcomes any more realistic than ones that come directly from industry.
- C. Students will be the most critical part of the project resulting from this grant. Notification of the project will be advertised on each participating campus. The students will be required to have completed two semesters of introductory programming coursework in order to be eligible for employment on these projects. Resumes will be solicited from the current pool of students at each university. Students will be interviewed by a combination of Maverick Software Consulting, university industry partners, and grant participants. Students will be selected for employment from those having at least one year until graduation. Students will be hired, trained, and begin working on real world projects.
- D. Upon graduation, each student intern will have a minimum equivalent of 2/3 of a year of real world experience, i.e., approximately 1320 hours worked over the course of a calendar year. The work they perform on real world software development, software testing, and information assurance projects, directly provides them with many key competencies they will continue to utilize once they have entered the fulltime workforce.
- E. Success will be measured by getting each project up and running. Even if this grant doesn't result in an immediate project created at Winona State, St. Cloud State, and Metropolitan State; the grant should still be considered successful if a project is started at a later date. The educational process of learning about Minnesota State Mankato's Project Maverick and the industry contacts will be beneficial for each university. Sustainable project successes will include providing: students with real world experience; industry partners with a low cost pool of labor to complete software development, software testing, and information assurance projects; and universities with indirect cost recovery and a rich research environment.

Deliverables <i>(What will be produced to accomplish objectives?)</i>	Schedule <i>(Summary of milestones and completion dates)</i>
<p>Internal university agreement to allow project to be housed on campus, or a lease agreement for off-campus office space.</p> <p>Contract between MSC and the industry partner that will be providing software development, software testing, and information assurance work.</p> <p>Contract between university and Maverick Software Consulting (MSC) identifying the responsibilities of each entity.</p>	<ol style="list-style-type: none"> 1. Travel to Minnesota State Mankato to learn about Project Maverick. (June or July 2010) 2. Travel to Minnesota State Mankato for Project Maverick recruiting event. (September 2010) 3. Locate industry partners with a continuous flow of work. (Before January 1, 2011) 4. Find space on, or near, campus (St. Cloud, Metro State, and Winona) to house the project. (Before January 1, 2011) 5. Travel to St. Cloud, Metro State, and Winona to assist with project configuration. (January – March, 2011) 6. Negotiate a contract between universities and MSC. (Start immediately following the completion of schedule items 3 & 4)
Metrics <i>(How will each major outcome be measured?)</i>	Targets <i>(What are the target metrics for each outcome?)</i>
<ol style="list-style-type: none"> 1. Measured by the presence of an internal university or lease agreement for space. 2. Measured by the presence of a contract between an industry partner with Maverick Software Consulting (MSC) to provide a continuous work flow. 3. Measured by the presence of a contractual agreement between each university and MSC . 	<ol style="list-style-type: none"> 1. Target for space is between 1000 and 2000 square feet for each project. On campus space is preferred over near campus. 2. Target, for industry partner-MSC contracts, is sufficient to support each project with a continuous flow of software projects for ten students for at least five years. 3. Target, for university-MSC contracts, is for a minimum of ten students for at least five years.
How will this effort be sustained after completion? Or, what are the residual benefits going forward?	What are the three greatest challenges to be managed in this project?
<p>Each project (on its respective university campus) is completely self-sustainable without any additional funding due to the industry partners' contractual involvement. As long as the industry partners have a continuous flow of software development, software testing, and information assurance tasks, each project can continue indefinitely. Actually, each project will continue to generate indirect cost recoveries for each university for the duration of the project.</p>	<ol style="list-style-type: none"> 1. Locating space to house the project. 2. Finding an industry partner with a continuous flow of software development, testing, and information assurance projects that needs staff augmentation. 3. Negotiating the contract between the university and Maverick Software Consulting.

Other considerations

Each campus representative will receive one course of reassigned time during fall semester to locate space to house their project and to locate an industry partner to provide work. If by December 31, 2010 they have completed these two tasks, then they will receive funding for another course of reassigned time during spring semester to hire students, configure the space, and negotiate a contract. The project leadership, i.e., faculty from Minnesota State Mankato who have gone through this process, will receive one course of reassigned time to assist each campus representative with their tasks and be a liaison with Maverick Software Consulting. If any or all of the three campuses complete their tasks during fall semester, one course of reassigned time will be funded for the PI to assist with the additional tasks of getting each project up and running. Each campus representative will author a report due on December 31, 2010 identifying the industry partners approached about entering into an agreement with Maverick Software Consulting (MSC), and the potential locations identified for the project.

Due to staffing restrictions at each university, budget issues, and the availability of adjunct faculty; this application requests some flexibility in funding. It may be necessary for the project leadership and participants to be compensated using paid duty days instead of reassigned time. If so, the total pay days will be equivalent to reassigned time funding identified in the budget. However, reassigned time is the preference to allow faculty the time to complete their tasks.

Even though this proposal has gone slightly over the requested limit of \$50,000, it is possible that all three universities will not be successful in finding a project location and industry partner. If that occurs, the grant will be under the specified limit. We spoke with Bruce Lindberg of Advantage IT Minnesota and he indicated a proposal slightly over \$50,000 would still be considered without penalty. Also note there will be a correlated reduction in the matching funds by MSC if project locations and industry partners are not found.

The total benefits of a sustainable project are enormous. In the most recent five year contract that Minnesota State Mankato signed with MSC, MSC committed in excess of \$3 million dollars to Project Maverick. The university is expected to recover in excess of \$230,000 in facilities & administrative (indirect) costs over the contract. Maverick Software Consulting has been an outstanding university partner and recognizes that the students' first priority is still school. These students are highly sought after by organizations recruiting at Minnesota State Mankato. Research articles have been published examining the productivity of these interns.

When a project is started, MSC's contribution to each project includes full-time employees at each university space and each industry partner's location (Contracted Services). MSC may fund the cost to configure the space and continue to run the project. This may include items such as: rent, utilities, insurance, internet access, security system, access control, networking, build out, carpet, etc. (Space Config, etc.). MSC funds the equipment and software for the project. The amounts in the budget are if all three projects occur and take place at an off-campus location with ten student interns per university. If additional detail is needed on MSC's contribution, please contact the PI.

Budget Summary (Cash and in-kind if applicable. We need this info to document leveraged value of allocations, supplemental budget worksheet is available as Excel document.)

Line Item Category	Center Funding	Other Cash		In-kind Contributions	
		Source	Amount	Source	Est. Value
Project Leadership	\$18,000				
Other faculty compensation	\$36,000				
Other salaried compensation					
Contracted Services		MSC	\$1,020,000		
Equipment and Software		MSC	\$79,050		
Supplies and Other Materials					
Other: Travel	\$859				
Other: Space Config., etc.		MSC	\$341,400		
Totals	\$54,859		\$1,440,450		

Project Costs

Personnel

			Personnel Costs			Total Amt
	Personnel Type*	Number	Basis**	Rate	Quantity	
Project Leadership						
Michael Wells: MN State Mankato	IFO	2	reassigned time or duty days	\$ 4,800	1	\$9,600
Christophe Veltsos: MN State Mankato	IFO	1	reassigned time or duty days	\$ 4,800	1	\$4,800
Project Participants						
Milton Luoma: Metropolitan State	IFO	2	reassigned time or duty days	\$ 4,800	1	\$9,600
Jim Chen: St. Cloud State	IFO	2	reassigned time or duty days	\$ 4,800	1	\$9,600
Sudharsan Iyengar: Winona State	IFO	2	reassigned time or duty days	\$ 4,800	1	\$9,600
Fringe Costs (25% of total MnSCU salary)						\$ 10,800
Total MnSCU Personnel Costs						\$ 54,000

Contracted Services

Total Personnel Costs

Personnel Footnote references	
*Personnel Type	**
IFO	Duty Days
MSCF	Credits
Other MnSCU	Hourly

NonPersonnel Costs

Travel Costs:

Description	Quantity	Unit Cost	Total Amount	Miles	Rate
St. Cloud - Mankato	3	\$ 102	\$ 307	238	0.43
Winona - Mankato	3	\$ 115	\$ 346	268	0.43
Metropolitan - Mankato	3	\$ 69	\$ 206	160	0.43
			\$ 859		