

2017 Innovation Mini-Grant Application



Shasta College is committed to supporting innovation ideas that enhance student learning and success. As a result of the 2015 Governor’s Innovation Award, there is now a designated fund (up to \$100,000 per year for the next four to six years) to support faculty and staff projects that ultimately result in increased goal attainment for students. In accordance with the criteria for the Innovation Award, practices that enhance transfer and four-year degree completion while reducing time to degree are the highest priorities.

Please complete this application and submit it to the Innovation Office by February 28, 2017. For questions, please contact Theresa Markword, Director of Innovation and Special Projects, at tmarkword@shastacollege.edu or 242-7699.

Submitted by:	Dan Scollon, Charles Shoemaker
Division/Dept. Name:	SLAM, Geography and Geospatial Technologies
Project Name:	GeoApp – Phase 2
Project Overview	
Please provide a brief overview of the project.	
<p>The objective of this initiative is the continued development of a GIS-based geo application (GeoApp) that will be accessible to students, staff and community members through cell phones, tablets and other mobile devices, as well as through online, Internet browsers. This GeoApp will provide an interactive map of the Shasta College - Redding campus including buildings, facilities, recreational assets, and related features. This GeoApp will use the embedded location capability of mobile devices to “place the user on the map.” This tool will help students and others locate essential features of the campus, while demonstrating the power and excitement associated with geospatial technologies. In addition to regular campus users, the GeoApp will be designed to allow for customization in support of outreach activities and events, allowing participants to easily locate event venues. Some of the example uses include: 1) N.E.W. Workshop for non-traditional employment for females, 2) 8th Grader Day, 3) Geography/GIS Week Outreach to area schools, 4) Earth Day, 5) Harvest Fair, and 6) FFA Field Day. Through the development of this campus-wide GeoApp, GIS program outcomes are supported. Selected GIS Program students and/or graduates will be part of a design and implementation team, working under the direction of a project leader. Documentation of software procedures used to design the GeoApp will be used to create teaching modules in support of existing GIS courses, such as GEOG 24 (Customizing GIS). Furthermore, this project is already underway, through an initial Mini Grant award. This application is for what we will refer to as “Phase 2” of the ongoing project. Leading up to this point, the project team has already completed a number of different goals that were set forth for the initial body of work. Such goals include the development and implementation of a user needs assessment; the development and submittal of various geospatial data to Peter Griggs, for use in an ongoing Shasta College student-centered application, via DubLabs (a third-party contractor); the development of a new GIS-based geodatabase, for use on all GIS projects and courses in the college Geospatial Technologies program; and an ongoing development of the online, Internet-based mapping environment mentioned above. Phase 2 of the project will largely involve the transition of the online, Internet-based mapping product into a separate product that will be housed and function on mobile smart devices. Currently, the project team’s focus is on campus security- and hazmat-related issues and needs for the entire project effort.</p>	

<p>Student Impact</p>	<p>The main focus of the Innovation Award funds is to positively impact student learning and success. Please describe how your project will:</p> <ul style="list-style-type: none"> • Improve one or more Student Learning Outcomes (SLOs) • Increase student engagement and/or success • Reduce the amount of time for a student to complete a Certificate, Associates Degree or Bachelor's Degree • Document measurable results (consult with the Research Office)
<p>This GeoApp project is designed in such a way to where two GIS-based student workers are continually involved in the overall progress of the project. The project is intricate as well, meaning that it has a lot of moving parts that are associated with the world of GIS. In the GIS program at Shasta College, a student is subjected to a wide array of topics that fall underneath a more global umbrella known as geospatial technologies. Such technologies include, but are not limited to, GIS, GPS, CAD, and remote sensing. Furthermore, specialized topics are embedded within each of the core technologies just mentioned, such as mobile data collection, database design, data integration, customization, spatial analysis, etc. This GeoApp project provides a substantial and fundamental mechanism for the students involved with it to directly apply the skills learned in the GIS program to something that largely mimicks a real-world project scenario, as though the project were taking place in the professional workplace. In addition, the team is led by a GIS program faculty member, who has also been working in the GIS-based professional workplace for decades. Short of already being integrated into the GIS-based professional workplace, this GeoApp project serves as an "ultimate endeavor" to greatly enhancing the students' knowledge and practices to support their newfound, theoretical foundation in geospatial technologies. The overall benefits of this approach are many, including vastly enhancing the SLOs students are subjected to in normal coursework, increased and thorough engagement in project work outside of normal coursework, and an enhanced sense of self-confidence and professionalism that will propel the students through future GIS-based endeavors with more ease and certainty.</p>	
<p>Collaboration</p>	<p>Mini-grant projects often involve collaboration between multiple divisions/departments and/or outside entities (K-12, CSU/UC, or community partnerships). Please:</p> <ul style="list-style-type: none"> • List any internal and/or external collaborative partners • Confirm that the partners are aware of the project
<p>At this point in time, the GeoApp project is largely focused on the development and integration of geospatial tools and information that will benefit the Shasta College campus security- and hazmat-related programs. Under the initial phase of the project, a user needs assessment was implemented. From that endeavor, discussions and an in-person meeting have taken place between all members of the GeoApp project team and campus security (Lonnie Seay) and hazmat (Gregg Wood). Both Lonnie and Gregg are in working relations with the GeoApp team, and each have provided data/information and feedback to assist with moving the project along. In addition, the project will continue to strive to further outreach endeavors in the realm of GIS at prospective students and local schools. As an example, a large component of the GeoApp project involves mobile GIS and in-field data collection. Phase 2 of this GeoApp project strives to further develop the smart devices component of the plan, which also largely supports such mobile GIS applications.</p>	
<p>Future Possibilities</p>	<p>The Shasta College mini-grants initiative provides the testing ground for innovative ideas to determine successful outcomes that may be used on a broader scale. Please discuss if the project is:</p> <ul style="list-style-type: none"> • Replicable (easily shared with other campus programs) • Scalable • Cost-Effective (e.g., through number of students served; through District efficiencies increasing service to students; or if scaling up will prove cost-effective)
<p>The current GeoApp project plan and development has the potential for many future possibilities. As far as replicability is concerned, it is even better than that. The foundation is already all-encompassing, by definition and nature. Therefore, it would be fairly straightforward to expand the project to include a number of other</p>	

departments or programs, as deemed appropriate or necessary. Mainly, all that would be needed in order to achieve this would be a culmination of necessary data and information, and then the integration of the expansion into the core foundation of the ongoing geodatabase and mapping applications. With that said, there is no doubt that the GeoApp project could definitely be considered scalable as well. As an example, discussions with campus security have already eluded to a potential future enhancement to the project that could expand its development and use to all of the Shasta College campuses, rather than just the main Redding campus. The payoff for the GeoApp project is tremendous as well. Already, the tool can be accessed in an online browser, and a user can click on a desired campus building and instantly view the inside floor plan of said building with only another mouse-click. From a security standpoint, that type of feature alone is fantastic. Imagine being able to do it on a smartphone, too. A student coming from offsite would be able to access and review the floor plan – its rooms, doorways, restrooms, fire extinguisher locations, fire alarm pull stations – all from a smartphone or tablet, before ever even stepping foot inside said building for the first time.

Logistics	<p>The mini-grant cycle—to include planning, implementation, and evaluation—is a maximum of 18 months (Fall-Spring-Fall), and all funding sources should be considered. Please confirm that:</p> <ul style="list-style-type: none"> • The project phases can be completed within an 18-month cycle • No other funding sources are available for the project • A Budget Proposal form has been completed and is attached.
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The GeoApp project will continue to be evaluated in terms of meeting “user needs” for navigating around campus, locating campus facilities and buildings, and ease of use. To do so, we will conduct product testing at various step completions and at routine intervals, and ask users to evaluate the functionality, usability, overall effectiveness, and likelihood of future use. This will be conducted during intermediate steps of the app development, allowing for refinement of the final product in the end. The main plan of action steps under this Phase 2 application include: 1) Complete and finalize all online, Internet-based mapping environments, 2) Transition the online mapping environments to applicable smart devices, 3) Conduct final QA/QC on all developed products, 4) Test all final products, and 5) Make any necessary revisions.