

A. An explanation of how the project supports one or more of the eFellows program goals.

The Rivertown Online Simulation was developed for a graduate course in Downtown Revitalization and Planning. Its purpose was to promote discussion of downtown issues by having students engage as members of the community of Rivertown, a fictitious smaller city located "somewhere in Michigan." The simulation has been used for many years to improve instructional practices. It utilizes problem-based learning to facilitate student involvement and interaction with topics relating to city planning. The fictional online city of Rivertown presents a rich small town environment for students to respond to issues of downtown revitalization. It has been used for many years in the Urban and Regional Planning curriculum at EMU, as well as being utilized by planning programs at other universities (including in Australia).

The project has an impact of student learning outcomes by developing critical learning skills. As students take on roles in the Rivertown community, they learn by making decisions similar to those made by local leaders in a real city. Learning is not graded through testing, but by evaluating the level of participation in the fictional community's issues and activities—issues such as establishing a historic district, finding funding for a homeless shelter, determining the best location for a new parking lot, or dealing with the opening of an adult book store in the downtown.

This project is excellent at giving students skills in building community, since the project's purpose is to evolve, over the course of a semester, an improved downtown and its surrounding community.

The project as it now exists can be viewed at the following web site:
<http://webpolis.us/rivertownintropage.html>



Sketch of downtown Rivertown

**B. A Project Description that describes:
How technology will be effectively integrated into the course(s) with an
emphasis on student-centered learning**

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Simulations and active learning techniques offer an invigorating way for students to practice "social imagination," a hallmark of human social intelligence that allows us to grasp other points of view, explore different ways to respond or behave in a situation, and apply information to realistic scenarios. Playing a role in a good simulation generates empathy in most players. Consequently, players develop insights about a problem because they see it through the eyes of others. This is especially important in the training of planning students. Properly designed and administered simulations are slices of life presented in a "safe" environment within a compressed time frame. They create experiential "hooks" upon which to hang cognitive information and encourage multidisciplinary thinking. They accomplish a number of learning goals, including—promote long-term retention; demand team work, compromise and negotiation skills; expose students to many points of view; help bridge the gap between knowledge and experience. Use of an online simulation can allow non-linear learning, when one begins understanding a subject from its middle, and expanding out from that point in all directions. It means releasing control and responsibility from the teacher to teach, and endowing it on the learner to learn.

The Rivertown Simulation relies heavily on online conferencing, which has been found to promote more diverse thinking among students. It can empower students who might not readily participate in classroom discussions, including women and minorities. As described by a student who just had completed an online course:

"It has definitely made me think more critically. Sometimes when talking in small groups it is hard to get your opinion stated... because your thoughts just get stirred up in your head and you cannot verbally say what you are thinking. It is much easier to write down my thoughts because I can type as I think....It helps to have it right there in front of you because I can always go back and refer to someone else's statement as well as my own." (Pugh, Sharon L. "Using case studies and collaborative computer-assisted communication to support conceptual learning in a teacher-education course on critical reading." *Educational Technology*. Vol. 33, No. 11. pp. 30-38.)

The Rivertown Simulation project has been developed over many years and includes many online resources. The use of the simulation as a component of a classroom course allows for asynchronous learning—that is, learning outside the strictures of time and place. Initial evidence indicates this may be, for students, the most important advantage of an online component for a course, for they are able complete their work when they want, from wherever they are located. Studies have shown students working online tend to work later in the evening, with the typical log-on time being 9 p.m., which is especially important to older students who have schedules for jobs and families to accommodate.

Courses using online technologies must go beyond technological issues to important pedagogical issues. Instructors must look at and better understand how learning is happening at the other end of this link, and create teaching methods that lend themselves to this new reality.

The purpose of this eFellows grant is to complete the Rivertown Simulation project through the programming of two critical elements yet to be fully developed. The first is named the "Consensus Builder" application, which allows students to develop consensus on an issue through online discussion and weighted voting (survey). The second component is an Instructors Link that provides best practice solutions for the project's many student exercises. The grant will be used in large part to pay for a programmer to develop software for these two components, to be integrated with the existing Rivertown online resources—programming that is beyond the expertise of Dr. Tyler.

- ***How the project contributes to the scholarship of teaching***

The Rivertown Simulation represents in simplified form the process community leaders go through in deciding on various revitalization strategies for their city and shows the outcome of decisions in a condensed time period. Players can see the results of the decisions over a span of "years" (each week represents about one year). Students make individual decisions, such as investing in individual buildings by buying and renovating them, but also take on community roles such as serving as city council members, city planners, merchants, or residents.

Opportunities for interactivity abound in the online environment. This was explored further when the Rivertown Simulation was used concurrently in three separate courses. Students in each course brought varying perspectives to the exercise. Students in the graduate Downtown Revitalization and Planning course took on the role of merchants and property investors, and were primarily concerned with the economic development of Rivertown's downtown. Students in an undergraduate Historic Preservation course became members of Rivertown's Historic District Commission, whose goal was to protect Rivertown's historic heritage. Students in an on-line graduate course in Historic Preservation assumed the role of residents, who were concerned about quality-of-life issues. Although the students never saw each other in reality, they met in the cyberspace world of Rivertown and dealt with a number of planning issues shared in common.

- ***How assessment and evaluation will be used to measure project outcomes***

Assessment will take the form of the level of student participation in use of the Consensus Builder software over previous attempts at developing consensus through less sophisticated means, such as online forums and email. The level of participation has been diligently measured by Dr. Tyler for his courses over many years, and improved interaction will be straightforward in its evaluation.

The success of the Instructors Link will be assessed by determining the number of instructors who have requested the password required to gain access to the link. The link is promoted online through relevant web sites and through Dr. Tyler's recent textbook on planning, *Planning and Community Development: A Guide for the 21st Century* (W.W. Norton and Company, 2011)

- ***How assessment will be analyzed, reported, and disseminated to the university and/or larger community?***

The assessment will be reported through articles submitted on this project to relevant publications, including EMU resources, university planning publications, and technology literature in general.

- **Timeline**

Because this is an ongoing project, there will be immediate movement toward developing the software required to meet the goals outlined above. Much of the work will be completed during the Winter semester 2013, with the completion of all work prior to Fall semester 2013 to be used in Fall courses.

C. A description of your background in utilizing technology in teaching and learning. What type(s) of technology have you already used in your courses?

Norman Tyler has been an innovator for many years in the use of technology in teaching. He taught EMU's first online course in 1998 and had to create his own course shell for this experimental course. He remained active for a number of years with the development of online courses in general.

Dr. Tyler has been developing the Rivertown Simulation since beginning teaching at EMU in 1988, gradually shifting its elements to an online environment as technologies became readily available to students. He developed the WebPolis Consortium project, a series of software applications useful to local governments and funded through the U.S. Department of Commerce and other sources. These applications are utilized in the Rivertown Simulation. Currently, he is adapting the Rivertown environment through Google SketchUp software to present the community in three dimensions and allow participants to "walk through" the city's downtown district.

D. A description of how you will promote the use of technology with other faculty and opportunities for other faculty members to benefit from your project.

This project has the potential not only to be used by instructors at EMU who have courses that included urban topics, but of being a resource for urban planning courses throughout the country. Because of its online nature, there is no disadvantage at being at a distance from Ypsilanti.

The Consensus Builder application will be useful to any instructor who wishes to have students build consensus on an issue through an online environment. The application will include a discussion forum, survey form, weighted voting, image download capabilities, and GIS mapping for spatial analysis. These various functions will be fully integrated and used as needed for any particular issue. This is the core application for successful use of the Rivertown Simulation.

The project is closely tied with his book, *Planning and Community Development: A Guide for the 21st Century*. The book includes an exercise in each of its chapters based on the Rivertown Simulation, with connections to its many online resources. Faculty will benefit from the Instructors Link application, which provides best solutions to all the Rivertown exercises, of which there currently approximately eighteen, located both online and in the book.

E. A Statement of Commitment to comply with the conditions of the eFellows Program. Include in this statement your preferred method for dissemination of the results of your project to the University community. The preferred methods include: journal publications, workshops or presentations to the EMU community, and similar programs. Additional methods for dissemination may be discussed with the eFellows Program

Committee Chair or the Director of the FDC. Your project must include a specific method for dissemination.

The dissemination of the work for this project will be through a variety of methods, including educational and urban planning journals; presentations to academic groups within EMU, as well as to state and national levels; and integration to the applicant's book that utilizes the exercises related to this project.

- ***A signed Letter of Support from your department head or school director that indicates support of this proposal and the willingness to receive into the department or school any equipment purchased through this award, as appropriate to your project.***

All equipment purchased through eFellows funds remains the property of Eastern Michigan University. Upon completion of your project, and as a means to effectively utilize equipment purchased with eFellows funds, you and your department head or school director may receive a request to transfer it to another department or school for use by another faculty member.

This project requires no additional equipment. The Information Technology expert listed in this application is Professor Yichun Xie of EMU, who is very familiar with the Rivertown Simulation and was co-PI for its original funding support.

- ***A Detailed Budget with projected costs of any materials that will be purchased using eFellows funds, and whether or not matching funds from other sources will be made available to support this project. Please make sure that ALL shipping and warranty costs must be included in the budget (e.g. Apple Care for iPads).***

Budgeted costs are for the project's programmer, Mike Ludlum of Useful Solutions LLC of Canton, Michigan, who is familiar with the project's existing software. Previous programming was done by students and staff at EMU, but the code has developed beyond their capabilities. The services of Mr. Ludlum, a professional programmer, have been used over the past year with very satisfactory results and he is the best choice of someones to complete work on this project. The anticipated time for development is 30 hours for the Consensus Builder application and 16 hours for development of the Instructors Link, based on a fee of \$75.00 per hour.