Stepping into the Map: Using Virtual Reality and Digital Mapping to Increase Experiential
Learning Across Disciplines

Grant Application Addendum

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I: Student Learning Outcomes

This project will help students achieve a number of learning outcomes in our courses.

Surveillance Culture

In Com 174, the map produced by students (and their group presentations about their work on the map) are directly connected to learning outcomes in the course. Below are specific course outcomes and an explanation of how this project relates to them:

Students will demonstrate self-knowledge, including knowledge of their own biases and perspectives, and be able to evaluate the strengths and weaknesses of varying points of view.

> In developing a map of campus surveillance, students situate their own lived experience in course content. The map should evidence various perspectives on the value of the types of surveillance students locate. In sum, the map helps students identify common types of surveillance in their own lives and apply different perspectives on the value of those surveillance techniques.

> Artifacts of Student Learning:
> - Surveillance Map
> - Group Presentation
> - Written Justification of Contribution to the Group
> - Surveillance Log Essay 1

Students will evaluate and critique ideologies of social differentiation and the way systems of relative power and privilege are (or have been) reinforced.

> At its surface, campus surveillance appears to be overwhelmingly controlling. Ideally, the map will allow students to recognize Creighton's surveillance regime. However, students and parents covet these forms of campus surveillance to watch and protect primarily white wealthy students. On the one hand, campus surveillance is a system of power. On the other hand, it is a product of student privilege, especially given Creighton's geographic location in the city of Omaha. The map provides context for students to begin to recognize their own privilege and show how different surveillance technologies enable unequal expressions of power.

> Artifacts of Student Learning:
> - Surveillance Map
> - Group Presentation
> - Surveillance Log Essay 2

Mapping History

In HIS 317, the map produced by students is directly connected to learning outcomes in the course. Below are specific course outcomes and an explanation of how this project relates to them:

Students will use technology effectively for research, analysis, communication, and collaborative work

> Students will collaboratively produce a unique cartographic product that highlights land use change on Creighton's campus. This will consist of historical research with primary sources on Creighton's historic development as well as field research and ground truthing to produce photospheres of key changes over time. Student will embed short written descriptions and publish their final product to a public site.

> Artifacts of Student Learning
> - Land use map
> - Blog posts on finished mapping product

Students will recognize that technology and the digitization of knowledge are powerful tools and will identify potential dangers concerning reliability, privacy, security, and equity

> Dr. McHendry and Sundberg will prime students on issues of cartographic privacy, reliability, and security of digital information and the moral implications of cartographic silences. Students will produce blogs elaborating on their understanding of these issues.

> Artifacts of Student Learning
> - Blog post of digital privacy, security, reliability and equity.

II: Making Student Involvement Meaningful

We envision this project as a student-led endeavor with faculty supervising and evaluating student work. The maps created in these classes are first, and foremost, student projects. The maps are products of their labor and learning. The grant helps us to provide the structures that enable students to explore course content in interesting and innovative ways.

Surveillance Culture

The labor of cataloging, photographing, mapping, analyzing campus surveillance will be completed entirely by students. This is fundamentally their project. I will provide instruction on locating surveillance technology, types of surveillance used on campus, and instruction in using various camera technologies (drones, 360 cameras, and cellphones) to capture these locations. Professor Sundberg will assist students with learning to use one of several interactive mapping platforms (Leaflet, Mapbox, Google Streetview, ArcGIS online), so that they can plot surveillance locations, add photographs (including immersive 360-degree photographs) and explain forms of campus surveillance by embedding course content on the map. A description of

student working groups is attached to the end of this document. Through their work, students will identify, explain and analyze a variety of surveillance technologies connected to their everyday lives.

Mapping History

Virtual Reality will be one of several tools that students will learn in Mapping History. Students will be tasked with developing a mapping product that combines VR with several other mapping techniques discussed in class. Students will be tutored in previous weeks on the required mapping technologies used in this project and the ethical and cartographic implications of mapping "silences." Students will then be tasked with map development, which includes project design and implementation. Students will then embed the finished map in their group capstone project. Drs. McHendry and Sundberg will be on-hand to assist with conceptual and technological questions.

III: Moving Beyond the Pilot

The funds provided by the grant provides equipment that we can reuse in future semesters. Surveillance Culture and Mapping History are offered regularly and we will have the opportunity to repeat the project beyond the pilot in future semesters. As we repeat the project in future semester we plan to refine our assignment instructions, use of mapping technologies, guidance to students, and grading expectations. Each time our courses are offered new groups of students can repeat the assignment, achieving course objectives, and learning course content.

IV: Technology Needs

We understand that a dedicated laptop cannot be provided. The source of our request was to have a machine for student use throughout the project. We are investigating alternative solutions at this time.

Appendix
Surveillance Map Group Project

Group 1: Location Mapping & Scouting:
This group is responsible for locating as many forms of campus surveillance as possible. Your job is to locate, plot, and categorize campus surveillance. Members of this group should submit a catalog of all surveillance types and locations to the other groups early in the semester. Additionally, this group is responsible for identifying locations of intense/interesting forms of surveillance that are good candidates for image capture.

Group 2: Image Capture:
This group is responsible for producing immersive 360-degree images of sites of significant surveillance. This group will take, curate, and organize photos for the final campus map. The group is also responsible for recording areal views of the campus to embed into the map website.

Group 3: Map Content & Analysis:
This group is responsible for creating concise annotations of the forms of surveillance identified by Group 1. These annotations should draw on course content and analyze the types of surveillance present on campus. These annotations will be included on the final map to help explain campus surveillance.

Group 4: Map Creation:
This group is responsible for creating the final map. This group will add locations, images, and annotations need to the final map. This group is responsible for publishing the map online. Experience working with computers and/or coding may be helpful.

Appendix
Land Use Map Group Project

Group 1: Image Capture
This is the field ground truthing team. This group will be tasked with collecting images/video/photospheres to be embedded in the finished storymap. Students will assist in map design/creation upon completion.

Group 2: Map Design/Creation
This group will be tasked with developing a useful template for the embedding of data, whether geographic or narrative.

Group 3: Historical Research
This group will gather necessary primary source information to construct the historical question(s). Students will decide on an historical question and develop the maps historical argumentation.