3D MAP OF ISPSC CANDON CAMPUS

KURT JOHN ACE V. BAOIT
GEORGE G. SORIANO JR.
JOHN PAUL J. DALUPING
MARK C. GACUSAN

ILOCOS SUR POLYTECHNIC STATE COLLEGE
INSTITUTE OF COMPUTING STUDIES
STA. MARIA, ILOCOS SUR

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY
(GRAPHICS AND ANIMATION)

MAY, 2017

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Chapter I

INTRODUCTION

Various advancements in technology had sprouted out from the intelligible actions of man. It boosted out from the continuous researches and inventions of scientist to reach their goal and to bring honor to them. As they brought modernization to our society. Different machines, tools and devices had been invented and these had brought up a great help to facilitate the daily activities of people. Computers had become a major interface in advertising, film industry, entertainment, especially in public business and schools. The computer is most likely one of the great technological triggers for future change. Computer nowadays have infiltrated every aspect of our society, and now they do much more than simply compute, computers can now be an office tool and is now used in businesses. As technology rises, business and schools must be able to adjust with the demands of the manual way of processing their daily transactions.

Computer generated perspective view, are often simply referred to as "3D maps". Although this term is not found in the cartographic literature, there are specific reasons why it should be used. "3D", because it is perceive to present a landscape of human perception system in a three-dimensional perspective way, even when the landscape is depicted on two-dimensional media. And, "maps", because these products integrate and display specially-arranged phenomena on the

surface of a DTM in accordance with cartographic symbolization and generalization conventions. Nevertheless, although they possess cartographic characteristics, 3D maps should be considered as a map-related representation, not a map in a classic sense.

3D map, also known as video mapping and spatial augmented reality, is a projection technology used to turn objects, often irregularly shaped, into a display surface for video projection. These objects may be complex industrial landscapes, such as buildings, small indoor objects or theatrical stages. By using specialized software, a two- or three-dimensional object is spatially mapped on the virtual program which mimics the real environment. The software can interact with a projector to fit any desired image onto the surface with that object. This technique is used by artists and advertisers alike who can add extra dimensions, optical illusions, and notions of movement onto previously static objects. The video is commonly combined with, or triggered by, audio to create an audio-visual narrative.

Although the term projection mapping is relatively new, the technique dates back to the late 1960s, where it was referred to as video mapping, spatial augmented reality, or shaded lamps. One of the first public displays of projections onto 3D objects was debuted in 1969, when Disneyland opened their Haunted Mansion ride. The ride used fake disembodied heads as objects which had 16mm film projected onto them to make them appear animated. The next record of projection mapping

was the 80's. The first time the concept of projection mapping was investigated academically was at the University of North Carolina at Chapel Hill in the late 1990s, where scholars worked on a project called Office of the Future to connect offices from different locations by projecting people into the office space as if they were really there. By 2001, more artists begun using projection mapping in artwork, and Microsoft began experimenting with it as a means of technological advancement.

3D map of ISPSC Candon Campus is also important for the students especially the incoming students to see the Buildings, classrooms and location to explore. It also helps then to easily find location and to let other people see the contents of the school.

Statement of Objectives

The study aims to create and develop a 3D map for ISPSC specifically it bought to achieve the following;

1. To determine the necessary data that are needed in the 3D map.
2. To create and developed a 3D Map for ISPSC Candon Campus.
3. To test the usability of the developed 3D map.

Purpose and Description

The study aimed at developing a 3D Map for Ilocos Sur Polytechnic State College (ISPSC) Candon Campus.

This study benefit with the following:

Administrators– are in the charge in the maintenance of the system. They are the one who are authorized to make revisions on the system.

Researchers and Future researchers – the developers will be able to apply their knowledge on creating systems. Thus, it will enhance their skills in programming and editing. The result of this study can serve as their future basis for creating their own study or research too.

Scope and Limitation

The scope of this study covers the development of computer application that runs on PC and where the users easily can virtually tour around the campus. This "3D map of Candon campus is for all student in ISPSC CANDON Campus and other students that willing to explore the said school.

The Visual basic and the authoring tools Photoshop, sketch up, Lumion, Cinema 4D and Adobe Premiere were used in the development of the modules. The limitations of this study it does not include the outside surroundings of the school. It will not also cover the way/road going to ISPSC Candon Campus.

Chapter II

REVIEW OF RELATED LITERATURE

Three dimensional GIS browser

This Web based 3D GIS viewer allows user to experience the power and flexibility of desktop 3D GIS, using only their Web browsers and 3D video card capabilities. Six prototype 3D GIS maps will offered here, based on historic maps that have been combined with current digital elevation models (DEMS) of the same locations. The resulting solution combines the power and realism of historical maps, Geographic Imaging (GI), and Geographic Information Systems (GIS) technologies with the high performance, interactivity, ease-of-use, and overall visual engagement found in cutting edge online gaming and virtual reality simulations. Many of these maps may also be viewed in our Google Earth viewer.

David Rumsey and Telemorphic, Inc. created this unique browser-based interactive 3D visualization capability with support from Knight cap Productions, and ID8 Media, Inc.

The Wheeler Survey of the Territory of the United States West of the 100th Meridian made the first accurate map of Yosemite Valley in 1879 and published the map sheet to the left in 1883. In this 3D GIS version of the map, the scanned historic map image is combined with the modern day USGS DEM (Digital Elevation Model), allowing us to "warp" the historic map images into 3D.

Advantage of using Courseware

Scalable. 3D map enables a user to quickly create and communicate new politics, training ideas, and concepts. Be it for entertaining or formal education.

Capacity and Consistency. Using 3D map allows education to achieve a great degree of coverage for their target audience and it ensures that the message is communicated in a consistent fashion. This is all received in the same levels.

High Learning Retention. Blended learning approaches result in a higher knowledge retention rate. It also helps that coursework can be refreshed and updated whenever needed.

Time and Money savings. This one is pretty well known, and a staple of any well done 3D map. 3 map reduces time away from the workplace, eliminates the need for travel, and removes the need for classroom-based training.

Flexible. Using 3D map, employees and students are given the freedom to explore at their own convenience and at a place that is right for them. Staff can be trained in remote location and in a consistent fashion as anyone receiving on-site training.

Disadvantages of Using Courseware

Lack of Control. Learners with low motivation tend to fall behind when using 3D map as there are not set times to be doing it and are responsible for the organization themselves. A lack of routine or fixed schedule can mean 3D map becomes complicated with various deadlines often given to different people at different stages of their learning.

Learning Approach. It does not appeal to all 3D map styles so some learners will not enjoy the experience - especially strong activist and pragmatists. It is still a challenge to make 3D map appeal fully to these groups as different people learn better or worse using different styles. Some may prefer images, some prefer just reading words and some prefer to talk about or actually do a task in order to learn.

Technology Issues. With heavy reliance on computers that 3D map brings, comes a potential risks. Firstly, the user needs to ensure that all the device that is able to support the training modules. Some 3D map tools require software such as flash that devices like iPads do not support. So, all requirements need to be set out at the beginning. Poor internet connection and unavoidable genera random faults also can interrupt learning and so need to be planned around. This is especially true if it is a global roll out as internet connection and power reliability changes dramatically between countries.

Computer Competency. Some employees might not be too comfortable using computer, especially if their jobs don't require them to. Therefore, the software can be daunting and demotivating for some. Therefore, these employees are likely to learn a lot less than they would from a physical course.

According to Lewis and Clark Expedition, this map is a mosaic of several historical and modern maps of the area align the Lewis and Clark expedition route the 1814 original expedition covering the route itself, then just beyond it the US GLO maps from 1866-79, then the US national atlas map and 1970, and finally the entire map is bordered with current satellite imagery of the us west. In this 3D GIS version of the map the scanned historic map image is combined with the modern day USGS DEM (Digital Elevation Model), allowing us to "warp" the historic map image into 3D.

Rapid 3D Mapping is a stereophotogrammetry technology developed by the Swedish defence and security company Saab. The system generates three-dimensional maps by image captures of the terrain from a manned aircraft, helicopter and/or UAV. Rapid 3D Mapping makes it possible to generate a three-dimensional map within hours of the flight, the results depends on the existing sensors available on the aircraft. The typical coverage for an aeroplane is 100 square

kilometers per hour with a resolution of 0.1m at ground level. (https://en.wikipedia.org/wiki/Rapid_3D_Mapping)

Projection mapping, also known as video mapping and spatial augmented reality, is a projection technology used to turn objects, often irregularly shaped, into a display surface for video projection. These objects may be complex industrial landscapes, such as buildings, small indoor objects or theatrical stages. By using specialized software, a two- or three-dimensional object is spatially mapped on the virtual program which mimics the real environment it is to be projected on. The software can interact with a projector to fit any desired image onto the surface of that object. This technique is used by artists and advertisers alike who can add extra dimensions, optical illusions, and notions of movement onto previously static objects. The video is commonly combined with, or triggered by, audio to create an audio-visual narrative. (https://en.wikipedia.org/wiki/Projection_mapping)

Technology training help pictures make technology become a seamless part of the curriculum. Clapp states that most important thing remember when preparing to conduct technology training at the school is to conduct a survey of the teachers to find out their areas of strength and weaknesses. (clapp, 2005)

Technology training are execelent way to provide teachers with the confidence to incorporate technology into their school. Areas of training

can include anything from graphic organizing software, to presentation software to video and sound production software. Some pictures may also be interested in learning about data bases, spreadsheet, and word processing software. (Lacina, J., 2006).

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