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Creating a Three-Dimensional Model of Objects of Cultural Heritage in a Modern Way

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Abstract: *This article provides information on the use of advanced technologies in the performance of Geodetic and geo informatic work, as well as the advantages of this software.*

Key words: *Field, GPS, reciever, application, technology, topography.*

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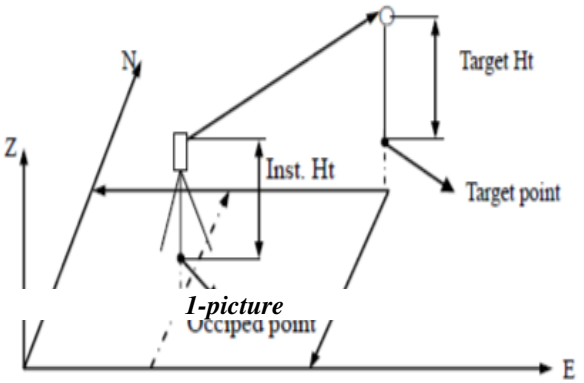
Geographic Information System, GIS database is developed as new modern technologies to organize multi systematical practices and approaches to help agriculture, architecture and construction of buildings and structures in Uzbekistan. Government carries out significant activities and measures to develop these type of databases in a three dimensional model in local and international level. So far, 3D models to develop in areas of topographic and geodesic surveys have been carried out using electronic tachometers or laser scanner surveys. New method to develop a three dimensional model of any place or object based on photographic images to study cultural heritages from architectural, archaeological findings and monumental arts. High resolution images and Photo Scane program are required to process the image.

The database of the geographic information system is being created using modern techniques and technologies in the issues of agriculture, architecture, construction of buildings and structures of the Republic, as well as Organization of work in a number of multidisciplinary areas.

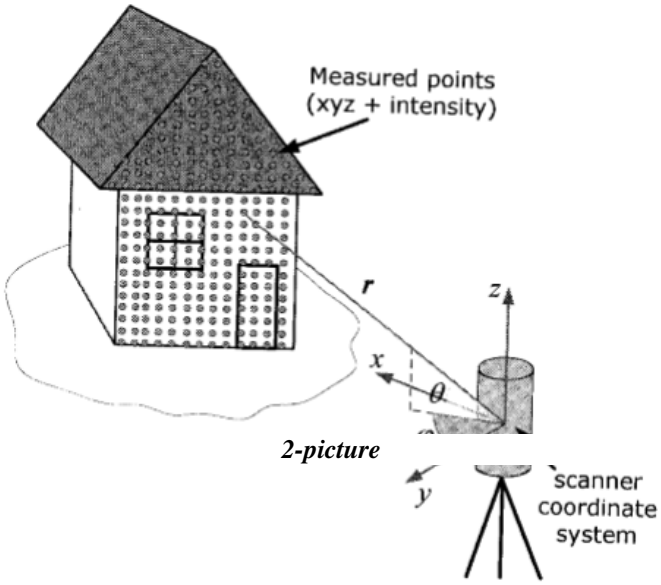
At present, the work on creating a three-dimensional model of the land, buildings and structures, as well as any other object, using modern techniques and technologies, is being intensified.

To date, in order to create a three – dimensional model of the object, topographic and geodetic search work has been carried out on the site, using an electron tacheometer or a laser scanner, the work is carried out.



1-picture

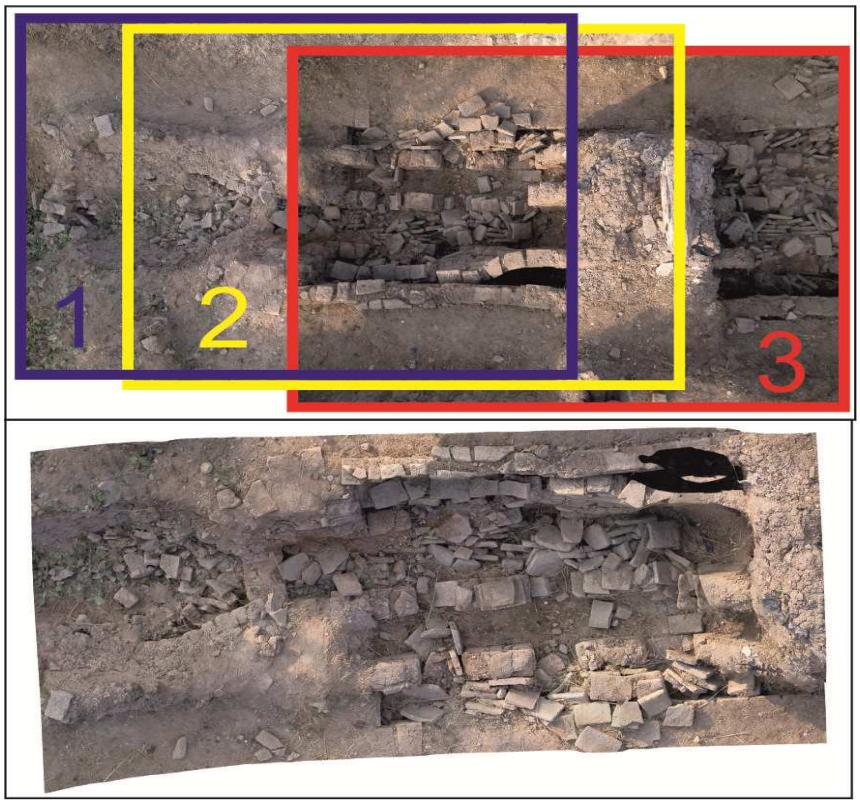
With the help of an electronic tachometer, the values lying on the X,Y, Z coordinate axes of the object are determined, and modeling work is carried out using the program (picture 1), using a laser scanner, the results of the simulation are obtained on the example of a cloud of object points with the base set in place (picture 2).



2-picture

With this method, it was possible to create a three-dimensional model of the territory by photographing the location on the basis of a new method, if it were to create a three-dimensional model of the territory by performing such actions as photographing the territory, performing topographic search work, processing values on the basis of coordinates.

To carry out this process, we are assisted by a high-quality photo shooting photo tape and Agisoft PhotoScan software This method is good if it is used to create a three-dimensional model of architecture, archeology, architectural monuments and landmarks, which are considered mainly objects of cultural heritage.

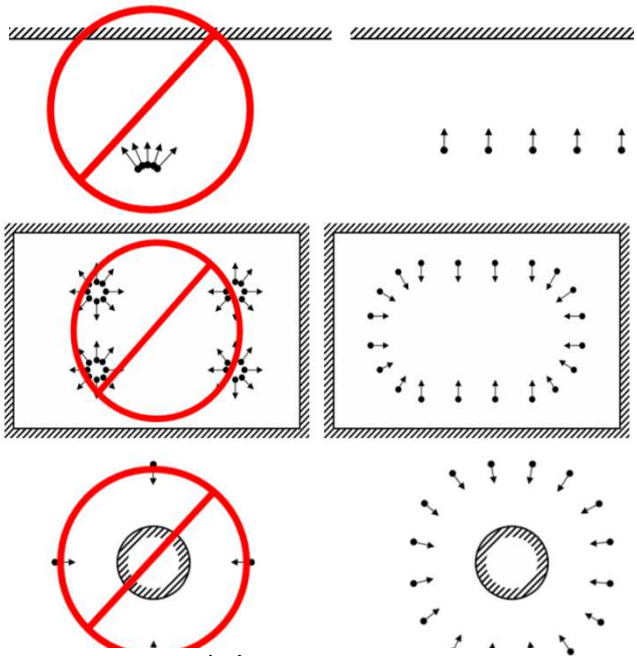


3-picture

This contributes greatly to the development of the tourism sector in the Republic. In the work on the archaeological finds, which are considered an object of cultural heritage, topographic works are carried out on the territory where the Earth was mined from the snow by a great personality or a large urban archaeologist, who mainly has an ancient history, and a rapper is thrown from the necessary places and photographing at the same distance, at the In the process of filming, at least 40% of the Series 1 and 2 pictures are photographed with the condition of coverage (picture 3).

The following rules were adopted in the order of taking pictures (picture 4).

According to the form of objects, photographing by the rules is mandatory. Otherwise, an error may occur in the program. Once the photo processing is completed, it will be uploaded to Agisoft PhotoScan and uploaded pictures the program will automatically perform longitudinal and cross-overlaying work. After the completion of the work on the cover, the coordinates are entered into the rappers (rappers mounted on the captured territory)and the photo is connected to the scale and the space in nature. Scale is given an order to create a 3D-dimensional model of the presented image, and a three-dimensional model of the archaeological find is created.



4-picture

It is possible to give the created model an appearance in different colors or in the case of a real one. In addition, it is possible to publish an object(find)with the help of printers, where it is possible to bring 3D into the Format unit of other software and produce a three-dimensional edition.

A three-dimensional model created through the PhotoScan program can be exported to the dae* format. It is possible to create a Geoinformation System database by opening the model in this format using ArcGIS program.

In the place of conclusion, we can say that through this method, research was carried out on all types of objects of cultural heritage, and if a three-dimensional model of the link was created, along with a great contribution to the tourism sector of the Republic, it was possible to convey the legacy of ancestors to the courtyards in the original.

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