



Use of Computer Graphics in the Educational Process, Project Training According to Construction Drawings

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Abstract: *From the first days after gaining independence, Uzbekistan began to realize the noble goal of establishing a free democratic state and ensuring a morally rich and dignified life of the people. The path of development that we have chosen is aimed at the renewal and development of the state and society, taking into account world experiences, as well as age-old national traditions, customs, and traditional lifestyle. During the 30 years of independence, there have been positive changes in almost all aspects of social, cultural and international life in the country. Active and effective steps have been taken regarding the integration of Uzbekistan into the world community, which is largely related to the level of creating opportunities for citizens of the country to freely access information.*

Keywords: *mausoleum, relevance, individual, measures, drawings, composition, engineering, computer, communication, monitoring.*

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In the age of rapid development of information and communication technologies, information policy is a part of cultural policy. Ensuring the population's full use of information resources, full cooperation of our country with the world information flow in the late 80s and 90s of the last century wide introduction of information and telecommunication technologies at the beginning has been developing since the period when the issues were resolved at the republican level. This not only scientific and technical information institutions, but also libraries, higher education, which have understood the relevance of the republic's entry into the global information system, are involved in the process institutions also entered.

As a result of this, the following laws and regulations were adopted: "On Information" (1993), "On Legal Protection of Computer and Database Programs" (1994) laws and "Informatization Concept of the Republic of Uzbekistan" (1994). Later, the following laws and documents were developed and adopted in order to meet the growing requirements for the formation of the national information system and the use of information: "On Electronic Commerce" (2003), "On Electronic Document Circulation" (2003), laws "On electronic digital records" (2004), Decree of the President of the Republic of Uzbekistan "On further development of computerization and introduction of information communication technologies" and "On further development of computerization and

information Decision of the Cabinet of Ministers of the Republic of Uzbekistan on measures to introduce communication technologies (2002). It is known from the history of our country Uzbekistan that we have beautiful cities and historical architectural monuments that delight people. For example: Bukhara, Such cities as Samarkand, Khiva, Termiz, Tashkent and historical monuments of Kalon Tower, Bibikhanim Madrasa, Pakhlavon Mahmud Mausoleum, Islamkhoja Tower, Ko'kaldosh Madrasa are examples.

Many of our cities were destroyed by foreign invaders, and the buildings were destroyed, and even the city itself became a burden. They brought the name Kum Tepa. Example: Chosh tepa in Tashkent, Afrosiyab in Samarkand, Varakhsha in Bukhara, Shahrivayrona, etc. It is known from these that our ancestors are beautiful and strong buildings were restored and this is shown by the example of Ismail Samani mausoleum. Our ancestors did great work and great scientific work. Inform our young people about these things and make them love the motherland in the same way it is necessary to educate in the spirit.

Building types and stages of their design.

Buildings are divided into 4 according to their function:

Community buildings. They have residential houses, buildings that meet the needs of the people - library, school, kindergarten, store, and buildings for repairing household items and others included.

Industrial construction buildings - manufacturer of production equipment

buildings are included. For example: factory, plant, power station, depot, garages and etc.

Agricultural buildings. Residents of the village to such buildings includes buildings that meet the needs of the population - a chicken farm, buildings for feeding cattle, a car tractor park, warehouses for preserving fruits and vegetables, buildings for storing chemical elements (fertilizers) and others.

Engineering facilities. These include bridges, tunnels, road overpasses, coastal structures, blast furnaces, reservoirs and towers. These buildings are usually one-story or multi-story.

Making a construction drawing consists of two stages:

Stage 1. The drawing of the area for the construction of the building that needs to be built on the given area for the use of additional constructions and landscaping. The architectural appearance is large, that is, the need for the main parts, such as a sketch of the place and size. The main project of the area allocated for the construction of the school and its distribution. In its continuation, general information is given about the internal distribution project of the educational building 1-2-3 floor plan, based on the size according to the requirements is drawn.

In the main project, the area of additional constructions around the building is drawn based on their functions and exact dimensions. Even about the necessary plants in the beautification gardens, a clear decision will be agreed upon.

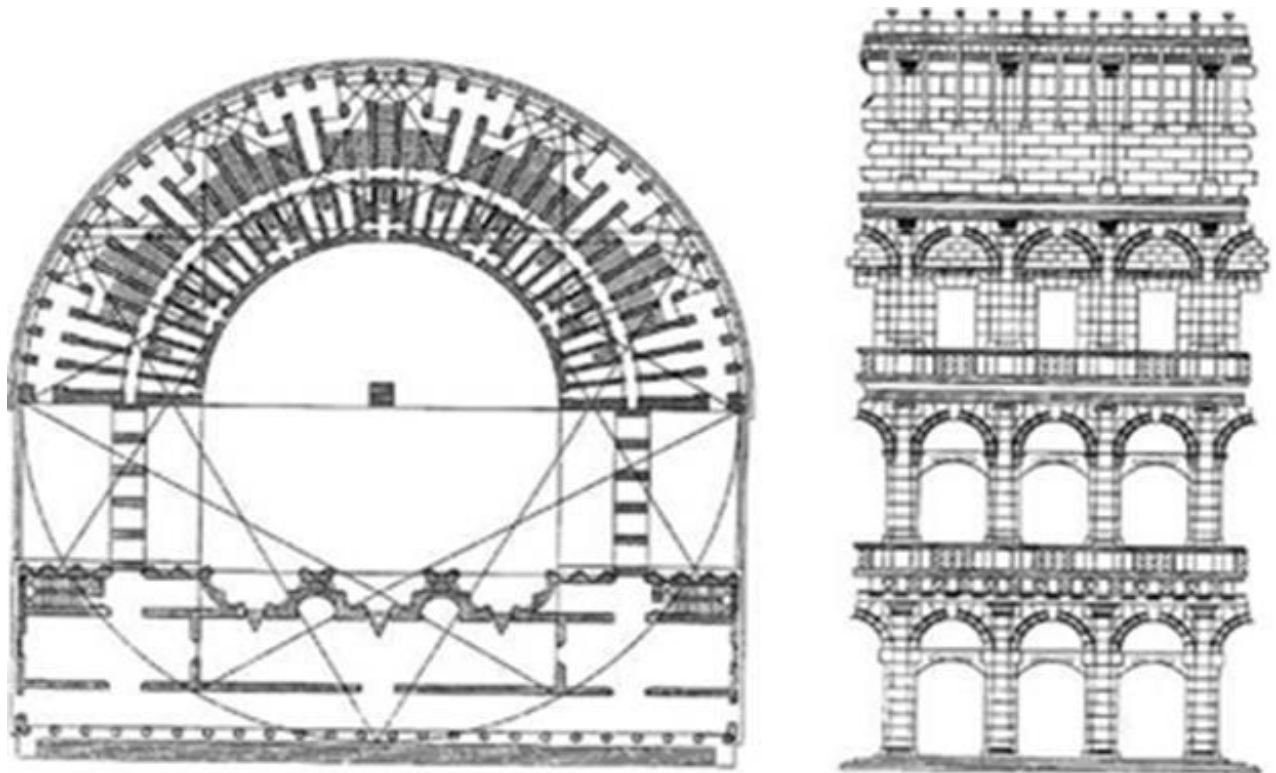
In the project of the main office building, the area of the rooms and the space for the stairs, windows and doors are allocated according to the same requirement. Smoke, air cleaner chimneys and floor plans are also provided.

Architecture-construction and engineering structures are viewed based on the project and estimates. The project includes drawings, an explanatory letter and an estimate of the proposed structure. The work to be done is shown in the drawing, and the full price of the structure is shown in the estimate.

The historical date of the birth of architectural drawing does not exist, as do the exact dates of the creation of majestic structures that have survived to this day, such as Stonehenge in England, the

pyramids of Cheops and Khafre in Egypt, and the "master builders" in America - the temples and religious ritual buildings of the Mayans and Toltecs.

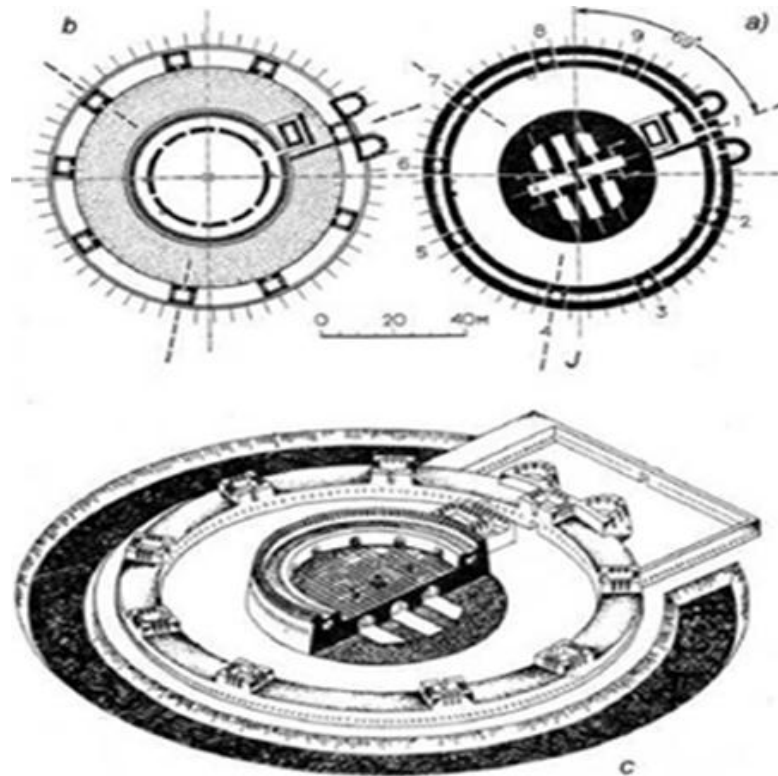
Today, according to archaeologists, the remains of the most ancient (detected by satellite) large cities are located in Syria. It is tentatively called "Khamukar" and is recognized to be around 6000 years old. Thus, some very ancient buildings survive, but their blueprints may have been written down on paper or skins, and the graphic models of the building disappear over the millennia. Even so, documents confirming the existence of construction drawings during the Roman Empire have reached our days. Copies of project drawings of a number of objects were cited by Palladio (16th - 17th centuries) in his comments on Vitruvius' scientific work "Ten Books on Architecture".



For example, in Rome alone, in addition to the Great Circus, which accommodates 150,000 spectators, three more: Flavian, Nero and Caracal circuses have been restored? These magnificent architectural ensembles corresponded to the important positions of the above-mentioned emperors in history.

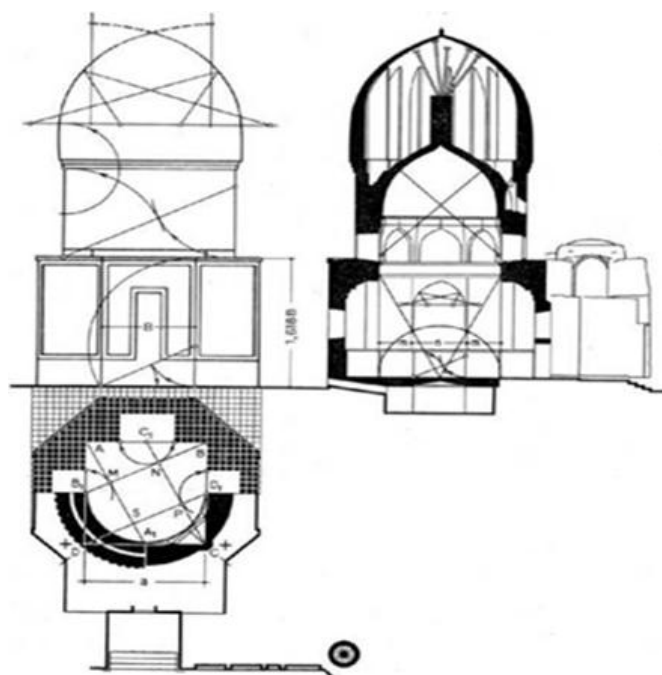
The drawings presented in Figure 1 confirm that during the Renaissance, the main images and their various views began to be used as project documents of construction objects. After Descartes and Dürer, first the mathematician Clairaut and then Monge in the 18th century perfected the system of orthogonal projections. This system of orthogonal projections with some small additions is still used in practice in our time.

Many magnificent architectural ensembles have been restored in the territory of Uzbekistan.



Remains of ancient fortresses, architectural monuments that have preserved their magnificent appearance to this day testify to the fact that construction and architectural works in the territory of Uzbekistan have risen to the level of art even several thousand years ago. A number of objects such as the Registan in Samarkand, the White Palace in Shahrizabz, and the Ichon-castle complex in Khiva can be cited as examples of historical architectural monuments preserved in our country.

As one of the masterpieces of ancient architectural art, it is possible to point out the altar where the sheep was slaughtered. This fortress, located in a circle with a diameter of 87 m, performed many functions at the same time, such as an observatory, a place for storing state treasures, and a burial place for famous people.



One of the magnificent buildings built by our ancestors, the Gori Amir mausoleum attracts everyone's attention with its strength and beauty (Fig. 3). Graphically analyzing the structure of these architectural monuments, one can make sure that they could not be restored without detailed drawings.

Nowadays, drawings occupy a very important place in human life. Everyone, regardless of their profession, should have some level of blueprint reading and drawing skills. Engineers, designers and technicians express their design and construction ideas through drawings. It is difficult to imagine the pedagogical activity of a teacher without drawings and various images. Architecture-construction (images of civil, industrial and other types of buildings) according to the form of the drawings, the field of use and graphic design techniques; It is divided into engineering and construction (such as various devices, bridges, hydrotechnical and road structures) and mechanical engineering (such as various mechanisms and machines and their details).

General information about building types. Different types of buildings and structures are designed and constructed to meet the production and social-life requirements of people. Their images, scales and conventional signs used in the drawings depend on the characteristics of the construction objects, as well as the fields of application of the drawings. Construction objects are divided into three main groups. Civil buildings - residential and public: schools, hospitals, palaces of culture, theaters, etc. Civil buildings are conditionally low-rise (1-2 floors), medium-rise (3-5 floors), high-rise (6-12 floors), high-rise (up to 25 floors) and high (skyscraper) (25 more than a floor) are divided into types. Production buildings are divided into industrial and agricultural buildings. Buildings of plants and factories, transport and energy enterprises, garages, etc. belong to the category of industrial buildings. Agricultural buildings are used in the form of barns, stables, chicken farms, and various warehouses. Engineering structures include bridges, tunnels, road overpasses, coastal and hydrotechnical earth structures, reservoirs, and blast furnaces. According to the type of material used in the outer wall, buildings are divided into stone (naturally or artificially obtained), concrete, reinforced concrete and wooden buildings. Buildings should have the necessary strength, stability, capital and cost-effectiveness. The capital of the building is determined by the level of durability and fire resistance of its main construction structures. The durability of the building is determined by the service life of its main structures. It also depends on the quality of the design and construction and compliance with the rules of use. Residential buildings are divided into the following five groups according to durability: the first - service life of 150 years; the second - 125 years; the third - up to 100 years; fourth - not less than 50 years; fifth - not less than 30 years. Fire resistance of the building is characterized by its resistance to fire. Non-flammable and difficult-to-flame constructions are shown in the drawings. The quality of use of the buildings is determined by the layout and area of the rooms, their size, interior equipment and decoration, finishing quality, and engineering equipment, which are reflected in the drawings.

Design stages. All buildings and structures are built on the basis of approved projects and estimates. The project includes drawings necessary for construction, special works and installation of equipment, as well as an explanatory letter and estimates that determine the financial value of construction and individual works. These documents are prepared in special design institutes or organizations based on the task of organizations. The Art of Gardening in the East p. The Greeks called the Iranian gardens built on the basis of their traditions "paradise" (heaven). In the middle of these gardens was a pond where geese and swans swam. Water flowed from the ditch crossing the garden into ditches, and artificial waterfalls were created in some ditches. Trees and flowers are planted in order. In ancient times, the most wonderful and peaceful gardens were created by the Arabs. They used mountain water in Sierra Neva (Spain) to turn stony land into a garden. They planted cypress, boxwood, sada, and palm trees with deep shade. There are carved chairs around the pools. Some flowers and green plants are planted in large stone pots. The corridors were higher than

the flower beds. The water in the ponds formed small waterfalls and fell into the ditches. At the bottom of the stream and ponds, patterns are made from tiles of different colors. Gardens such as Al Humro Palace and General if have been preserved.

In the Far East (China, Japan, Korea), ornamental gardens were a widespread phenomenon. In it, beautiful gardens are created with the help of natural landscapes, architecture of small forms, low bushes, round stones.

The art of gardening in Europe developed under the influence of Eastern traditions. During the Renaissance in Italy, statues, small forms of architecture, stairs, waterfalls, etc. were used in uneven places. The main building, which is the center of the sculpture, along with other regular gardens were established according to a clear plan (architects J. Viola, P. Ligorio, etc.). In the 17th and 18th centuries, landscaped gardens in France, England and other countries created regular garden ensembles (Versailles garden in France and others, architect A. Lenotre) according to a strictly geometric plan. In this case, the palace buildings are the center of the garden sculpture, a pool, canal and fountains, a statue, architecture of small forms, an avenue, a flower garden and tree groves are combined to create a whole architectural structure.

The Art of Gardening in Russia in the 18th and 19th centuries. rose. Especially the palace garden ensembles were widely developed: Yekaterina's garden in Letrodvorye, Sarskoye selo (Pushkin), ornamental gardens in Pavlovsk are among the best examples of the world garden art.

Since the 20th century, new types of gardening art have appeared (sports garden, recreational garden, exhibition garden, etc.). Urban parks were created for public recreation (Central Park in New York, Olympic Park in Munich, etc.); parks used for various purposes (children's, animal, plant, memorial complex park, etc.), parks in the forest (in the Holosiv forest in Kyiv, Vingis in Vilnius, Izmailov Park in Moscow, etc.), in artificial lakes and reservoirs ("Island of Youth" in Irkutsk, Dnieper hydropark in Kiev, etc.) established parks.

The first cultural and recreational park in Uzbekistan was established in 1882 in Tashkent (in later years, this park was transformed into a children's cultural and recreational park). Various exhibitions were held here: industrial, agricultural exhibition and scientific exhibition (1890), exhibition of Turkestan pictures (photography) (1899) and others. Botanic Gardens (1922) in the grounds of the former Governor General's Gardens. Babur Park (1932) was established by the initiative of the employees of the textile factory. The current Alisher Navoi Park in Andijan was built on the site of Roziokhunboy's private garden (1880). Cultural and recreation parks established in Uzbekistan in 1960-80 are mostly of the same pattern, long-lived ornamental trees, and public-political, cultural-household, physical education and health improvement activities were carried out in them. There was a summer cinema, theater, reading room, gaming machines, common dining rooms.

In 1991-96, cultural and recreation parks were specially designed according to the city's master plan. projects of reconstruction and creation of new ones were developed by institutions (Exhibition of National Economy Achievements in Tashkent, Independence Square, Navoi Park in Fergana, etc.). On the initiative of the President of the Republic of Uzbekistan Islam Karimov, taking into account the climate, scenery, urban development and economic conditions, plants, ornamental and fruit gardens, water construction facilities, artificial basins, canals, fountains, pools were built in the city centers of the country. is being built with the development of national traditions (see the National Park of Uzbekistan).

Interior (French interieur - interior) - 1) in architecture - the artistically decorated and equipped inner part of buildings and in-structures (residential, public and industrial). According to the task, it depends on the architectural solution of I. (appearance, size, shape, decoration, etc.), the

characteristics of the equipment (furniture equipment, etc.), the purpose of the building, its creation in a mutually compatible structure (see Sito-rai Mahi Khosa, Navoi Theater, People's Friendship Palace, Oliy Mazklis Building I.).

2) genre of painting, developed in Dutch and Flemish painting in the 17th century and in Russia in the 19th century. In Uzbek painting, I. appears as an integral part of works in the domestic-historical genre.

Interior (fr. in-térieur, Latin in-terior — interior, antonym fr. ex-térieur, Latin exterior — exterior) — Interior exists as an independent genre in fine arts. The interior can also be used as a background in historical, domestic and contemporary art works. Through the condition of the interior, we can draw conclusions about the taste of the owner of the apartment, or about the state of scientific progress depending on the equipment of the factory workshop. We can find out to which period the house belongs by the shape of the doors and windows, the size of the walls and ceiling, the decoration of the floor and the decoration of the furniture.

The interior in the theater is aesthetically different from the factory shop with its comprehensive internal equipment. Let's take a look at the metal sheeting shop of the factory. The huge slabs laid on the large workshop floor, the heavy cranes moving on the rails, the metallic cooking next to the artificial light pouring into the workshop through the silvery smoke, the red lava and blue smoke visible from the cauldron, the situation is lifelike. draws the artist involuntarily. In the genre of interterre, many artists created at different stages of their lives. Many such realistic works of art depict the rooms of writers, scientists and public figures. Among the artists are A. Venetsianov's interior in "Portrait of A. Nekrasov", I. Kramskoy's "Room under the Arch", I. Rep's "L. We can mention the works described by Tolstoy at work.

The interior of I. Repi's painting "Kutmagan edilar" shows the typical lifestyle of advanced intellectuals of the 1980s. All the laws of line and aerial perspective are observed in the interior compared to still life. This arranges the imager. The interior of the room differs from the still life in that many objects at different heights and distances are located on the horizontal floor and vertical walls (furniture, window, picture). The composition of the interior is influenced by the reduction of the perspective of the construction of the room and the object. At the same time, training is carried out on hue and "contrast" color solutions depending on the light and shadow conditions.

The theme can be deeply expressed even without the presence of a human figure in the interior. For example, composition topics such as "School library", "Sports hall" can be. In addition, topics such as "Artist's workshop", "Grandmother's room", "Machine tuning workshop" can be given as a final task. In both cases, it is advisable to first carefully study the existing objects in the interior, make rough drawings, and create an interior composition.

Conclusion

There are three main stylistic trends. Historical styles are styles that emerged in different eras and characterize one or another era, ethnic characteristics, individual culture and contemporary, which reflect new trends and tendencies of interior art. The 21st century is the time to combine trends in different areas of creativity. The stylistic directions in the design of interior design complement each other, enrich each other, take their own characteristics from each other, turning into a very colorful, but undoubtedly interesting picture.

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