При использовании анимации в ЭУП повышается эффективность всей работы. Таким образом при помощи информационных компьютерных средств обучения достигается цель - помочь студенту глубже усвоить теоретические положения начертательной геометрии, приобрести практические навыки решения задач и выполнения графических работ.

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## DEVELOPMENT CENTRE KLIMATRON THE VILLAGE KYZYLGAR

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The Republic of Kazakhstan ...

To date, in Kazakhstan there are only four botanical gardens: the main botanical garden in the city of Almaty, as well as the Altai Botanical Gardens, Zhezkhazgan Botanic Gardens, Mangyshlak botanical garden. In

the capital of our country in the city of Astana is not a botanical garden. For a breakdown of the botanical garden must build klimatron. Klimatron only provides our harsh environmental conditions, the possibility of breeding plants germinating in all climatic zones of the globe. Modern botanical gardens in architectural planning for a complex and very specific subject. The complexity of its planning structure is determined mainly by the very essence and variety of forms of botanical gardens, which are research and at the same time cultural and educational institutions. Size of the modern botanical gardens, estimated in the tens and even hundreds of hectares, the presence of a large number of experienced and specialized collections areas, facilities for scientific, laboratory and maintenance purposes (greenhouses, greenhouses, houses and vegetation, etc.), as well as sophisticated engineering equipment (boilers, Network watering water, district heating, etc.) - all this makes it extremely difficult architectural and planning organization of the botanical garden, and thus sharply distinguishes it from the usual park.

There are other features that distinguish the botanical gardens from other objects of green building (gardens, squares, parks, etc.). Thus, in the botanical gardens placement of plants, grouping them on separate exposition areas and generally throughout the botanical garden should be in accordance with a particular scientific system adopted for the display of plants botanical garden. It can be, depending on the goals and objectives of the garden. It can be, depending on the goals and objectives of the exposure of plants, phytogeograficheoky, ecological, systematic and other principles of grouping plants. Finally, regardless of the profile and its kind of a botanical garden, frequented by many people, above all, a park and, therefore, resting place of people. Therefore, the botanical garden, with its territory to include parts and components devices obscheparkovogo nature: a place for leisure visitors, facilities maintenance purposes, etc.

Main an integral part of any botanical garden, regardless of the profile of its activities, are collections of living plants, or so-called botanical exhibition. Not all plantings must be regarded as the botanical garden displays. The latter will include plants that are in the open and closed ground (greenhouses, hothouses, greenhouses and so on.), Which are the direct object of research and teaching and demonstration activities. The division stands Botanical Garden at the exposition and the exposition is to some extent arbitrary, since any plant, located in the botanical garden, may have some cognitive value. This division stands garden follows only from a

different use in one or another part botanical garden. Exposure of plants of modern botanical gardens are extremely diverse. Some of them, as mentioned above, occupy in contemporary botanical gardens, a vast territory, such as parts of arboreta, showing the world the diversity of trees and shrubs. Other major exhibits include the botanical garden botanical and geographical or floral parts, giving an idea about the flora and vegetation of some areas of introduction (Caucasus, Altai, the Far East, etc.). Along with such extensive exposure of plants in the botanical gardens, there are numerous small areas of exposure: a systematic, educational rosaries, etc.

Exposure of plants in the contemporary Soviet botanical gardens are usually grouped into different thematic sections completed, which demonstrates: 1) plant wealth of local flora, as well as alien; 2) crop plants, their origins, global diversity, the scientific foundations of culture, etc.; 3) useful wild plants with economic value (technical, medical, etc.), as well as plant perspective; 4) ornamental plants, gardening techniques and decorative properties of plants; 5) the arboretum - a collection of living trees, shrubs and polukustarnikovyh plants from local and world flora.

The project idea is to create environmental and biological research center (botanical) sciences. Botanical garden should develop and disseminate knowledge about the plant world for personal full, inspiring scientific research, educational and aesthetic purposes of the general public. Acquire, grow and show plants interesting both from the standpoint of scientific research, and on the part of their value by demonstrating the principles of gardening. Study, manage and preserve the natural environment.

Goals and objectives is to ensure the dynamic development Klimatrona, as custodian of the gene pool of plant resources, a research center in bioobrazovaniya plants, scientific-educational and recreational facility. Systematic placement principle stands in the garden most helps the study of closely related species of plants. Geographical system underlying the grouping of exposures, facilitates comparative studies of plant species introduced from different countries. Therefore, it is very common in many botanical gardens in the world. Geographical principle crops also can be easily linked with landscape and systematic groups of plants within the area allotted for a particular geographic area, the plants can be arranged in a systematic manner or landscape. Each of the many exhibition sites garden presents its own special requirements for placement and arrangement of plant groups, methods for displaying plants and decoration of exhibition

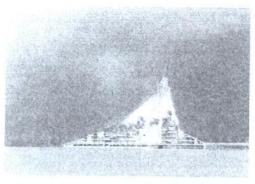
area in general, and these demands often can be quite different even for two adjacent-arranged exhibition groups of plants. In one case from parkostroitelya in arranging exhibition sites Botanic Garden and linking groups of plants you want in the first place to create only some general impression of a colorful display as a whole, for example in the area of the continuous blooming garden or a rose garden.

Problem proekta.1) Investigate and analyze the global and domestic experience in organization and design Klimatrona. 2) Choose the most appropriate and meets the objectives set for an urban setting klimatrona. 3) to develop functional zoning scheme and the object with all the necessary contacts both inside and outside. 4) Create a more harmonious, interesting and innovative way klimatrona, while taking into account global trends and national flavor.

The scientific novelty. Using the scientific and technical process, architects and heating engineers will create a special space-klimatron, for cultivation of any plant species in harsh environmental conditions.

For example, in the city of Astana city of the future built complex "Khan Shatir, where the principle klimatrona. Since the climate is continental Astana, +35' C in summer and in winter -35 'C and a large part of the year, all active and spare time should be conducted in enclosed spaces inside buildings. Therefore, the concept of creation for the residents of Astana, shopping and entertainment center on a broad scale, where climatic conditions are monitored throughout the year, is a practical and necessary task. In order to fully ensure a secure environment where posted as an inner city park and the retail shopping and entertainment points, was prepared against the unique building concept is unusual summer and winter climatic conditions.

Captured mast height of 150 meters, a huge, tent-like shape, the cable network structures covered with a special transparent material, which protects - the building of unusual atmospheric conditions, while allowing access to sunlight to interior spaces Designed for visitors to the center of social and commercial spaces and green areas are placed on stepped terraces, which are generally at a height of the building form the park.





Complex "Khan Shatir. Incision and an observation deck, which opens space for the whole park

Level 1.Glavny element - a central universal zone for events located in the center of the building. Level 2. Engaged in retail trade area covering 10 500 sq.m. includes mid-level shops. Upper levels of the building occupies a zone of rest and leisure, where various forms of entertainment. The main route of human flow from the park and recreation center on level 3 passes through a series of lush gardens and landscape compositions, following all the way upstairs to the viewing platform, located on level 6. On the beach at 5 is closed zone of tropical climate, where palms and other tropical plants. The highest terrace is a viewing platform, which opens space for the entire park. In the middle of the building is a spacious flexible platform where cultural activities are concentrated and where implemented a number of entertainment and exhibition activities. From the observation deck offers undisturbed views of the park terraces, balconies trade zone on the lower floors, as well as the central entertainment area [1].

Using klimatrona in architectural and engineering decisions in the future, more and more will take place in the construction of cities and towns, especially in areas with harsh climatic conditions.

The practical significance. Klimatron allows the use of modern techniques of landscape architecture, a botanical display of plants: the natural flora of Kazakhstan, former USSR, the arboretum, the exposure of tropical and subtropical plants, ornamental and cultivated plants. The territory is a kind of landscape ensemble, which will be decorated in the traditions of modern landscape architecture with the best images of the park design. Garden has a rich collection of plants representing a diverse flora of nearly all continents and climatic zones of the globe. Many areas of the

garden is impressive integrity, regularity of its three-dimensional composition, functional validity of the target and the architectural and aesthetic solutions Klimatrona territory. In the scientific department develops the protection of flora, liquid tight plants, park management and green building, phyto (indoor gardening and closed environments), herbal medicine. Exposure will be created on three principles: botany, geography, which reproduces the flora, landscape and some typical landscapes of botanical and geographical areas, the systematic collection of rare plants, Kazakhstan, arboretum, indoor, Collector-ornamental plants, perennials and annuals, fruit and drugs and others.

The practical significance of the work lies in the fact that Klimatron will create a flora of almost all continents and climatic zones of the globe, in harsh climatic conditions in the city of Astana.

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# ПОДГОТОВКА БУДУЩЕГО УЧИТЕЛЯ К ОРГАНИЗАЦИИ КОРРЕКЦИОННО-РАЗВИВАЮЩЕГО ОБУЧЕНИЯ

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Модернизация образования обоснована необходимостью решения социальной задачи воспитания всесторонне развитой личности, подготовки сознательных, высокообразованных людей, способных к активной деятельности в различных областях общественной и государственной жизни, сфере науки и культуры. Основным средством успешного решения задач современного