Biz bugun tavsiya etmoqchi bo'lgan Proteus VMT – virtual modellash tizimi «Algoritmlash va dasturlash» fanidan mikrokontrollerli qurilmalarning elektr zanjirlari, sxematik echimlari va dasturiy vositalari to'liq tekshirish, sozlab bo'lingach, komplyatsiya qilingan dastur faylini mikrokontroller xotirasiga doimiy saqlash, ishlatish uchun kiritib qo'yish fnksiyalarini bajaradi [1]. Talabalar «Algoritmlash va dasturlash» fanini o'rganish jarayonida algoritmlarni tasvirlash usullari va ularning strukturalari, MS VIRSUAL STUDIO 2010 integrallashgan muhiti C++ dasturlash tili asoslari, operatorlari hamda ob'yektga yo'naltirilgan dasturlash asoslari kabi mavzularining chuqur o'zlashtirib quyidagilarni bajarish ko'nikmalariga ega bo'ladi.
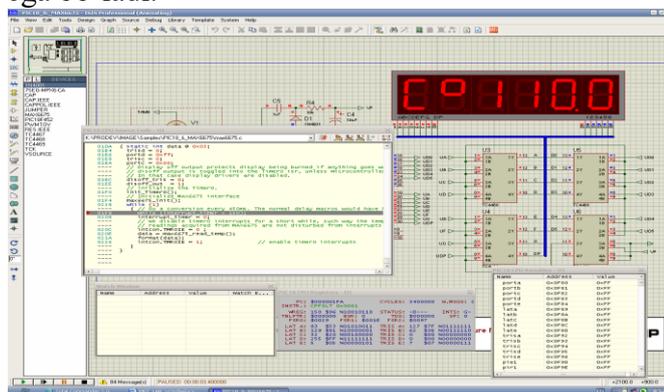
1-rasm

«Algoritmlash va dasturlash» fanidan laboratoriya darslarini Proteus VMT – virtual modellash tizimi dasturi yordamida har bir dars mavzusida berilgan topshiriqlarni bajarish imkoniyati mavjud (1-rasm). Bu dasturda ishlash bilan talabalar quyidagi bilim va ko'nikmalar ega bo'lishadi: Algoritmlash va dasturlashning zamonaviy holatini, zamonaviy mikrokontrollar va mikroprotsessorlarning ishlash kodlarini yozilishi, mikrokontrellar va mikroprotsessorlarning elektr sxemalarini birgalikdagi sxemasi va ularga programmalar yozishni, texnologik jarayonlarni mikroprotsessorli boshqarishning algoritmini tuza olishni, C++ tilida mikrokontrellar va mikroprotsessorlar uchun programmalar yoza olishni, mikrokontrellar va mikroprotsessorlarning elektr sxemalarini o'qiy olishni va ularga programmalar yozishni, xotiraga yuklashni, tekshirishni va eksperimentlar o'tkaza olishni, dasturlash tillarida programmalar yozishni, ularni sinashni va tekshirish kabi bilimlarni oson amaliy shaklda qisqa vaqt ichida o'rganib olishlari mumkin.

Mamlakatimizda oliy ta'lim sohasiga berilayotgan etibor yosh ilmiy izlanuvchilarga o'zining keng imkoniyatlarini ochib bermoqda, bundan oqilona foydalanish ta'lim sohasi va o'qitishda virtual darslarni keng joriy etish o'ylaymanki kadrlarning saviyasini yana bir pog'onaga ko'tarilishiga turtki bo'ladi.

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CREATION OF A MODERN ELECTRONIC EDUCATIONAL-MATERIAL BASIS OF TRAINING SPECIAL OBJECTS WITH THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES

M.Khusanova[1], Z.Asqarova[2]
[1]Fergana branch of the Tashkent University of Information technologies named after Muhammad Al-Khwarizmi, [2]Fergana Professional College of Transport and Service

As a result of the reforms in our country in the sphere of education, we managed to strengthen the education system financially. Providing all educational institutions with educational supplies, the latest models of technical means of information, the use of effective

teaching methods, and the introduction of all means of information and communication technologies are considered at the state political level.

The use of ICT is a daily, urgent requirement for learning and plays an important role in the continuous assimilation of everyday news in the field of science and technology. In this sense, the system of higher education pays serious attention to the creation of electronic teaching materials on subjects, the continuous improvement and wide use of these materials. At a time when the flow of information in the field of science is constantly updated and updated, the Internet systems are being improved and extensive information is being exchanged, one can not limit oneself to information from textbooks and other literature on a certain subject, since this method does not allow the formation and development of knowledge, skills and Skills, provide comprehensive knowledge relevant to the present time.

As a result of the well-established mechanism of work in the field of continuous improvement of the knowledge of the teaching staff of educational institutions in the assimilation of computer technologies and foreign languages in recent years, the results have been achieved in providing the necessary skills and skills to create and implement electronic teaching materials on subjects based on modern knowledge of subjects . Despite the fact that higher education institutions based on copyrights created electronic textbooks that provide extensive information, the constant updating and implementation of them in practice requires some time. To this end, the teaching staff of educational institutions must independently create an electronic educational and material base for subjects, improve it on the basis of the latest news, and enrich it with new concepts specific to special subjects.

In the process of explaining special subjects in textbooks, in particular the subject "computer science and information technologies", difficulties arise in explaining the general structure of computer technology, individual parts and their functions, individual difficulties are created. But a virtual presentation or animation, showing a computer in a three-dimensional dimension, for a long time and can remain firmly in the memory of students. As you know, the subject "computer science and information technology" is studying the structure of the computer, the principles of its operation, and studying special intersubject communications. If you use visual images, animations or virtual presentations in parallel with tutorials, the presentations will be more vivid and understandable. Students should not simply accumulate theoretical knowledge, but first of all they must understand the material, acquire skills and skills in the past - this is the most basic and most important task facing teachers. In the process of teaching special subjects, teachers are given the task of making extensive use of electronic teaching materials. In accordance with the model program of special subjects, it is necessary to use ICT (MS Word, MS Excel, MS Power Point, Photoshop, Flash, etc.) on the themes of theoretical and practical studies, as well as create a modern electronic educational and material base in the following stages:

Stage 1. Using the Internet and other resources to gather the latest stories, color photographs, videos and animations.

2-nd stage. If the collected material is in Russian or English, it is translated into Uzbek, and then an analysis is done (if necessary, translators specializing in foreign languages or subject specialists are involved).

3-rd stage. The MS Word program is used and annotations are developed. It is advisable to prepare annotations in English and Uzbek.

4-th stage. Using the program MS Excel, taking into account the specifics of the subject, charts are drawn up.

5-th stage. Using Photoshop, using the necessary photo and video materials, high-quality images are created, and with the help of Flash animation.

6-th stage. Using all the information collected photographic material with the help of Power Point (or other new software) prepare thematic presentations.