

- 2) have fewer children,
- 3) when children are older they start working again,
- 4) while they bring up their children they get help from senior members of the family or refer to support of professional consultants.

Organizational strategies: The existence of specific workplace culture may break the glass ceiling for female managers who wish to develop further. Appropriate strategies should be implemented in order to help women to have balance between work and family. Therefore in many countries there are day care centers at workplaces and maternity and family leaves are legalized and flexible working hours are offered.

There should be special career programmes for women who want to succeed in their career and have potential to do that.

If in the country there is no equal status at workplace for both men and women this country is not considered to be civilized. If the amount of women is not increased on administrative posts in companies and governmental institutions, the welfare level in society will not increase.

If the women are offered opportunities even the ones who do not have proper education and skills are able to achieve impossible. By creating barriers for women man in fact create glass ceiling for their future.

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**ИНЖЕНЕР ФАКУЛЬТЕТИ
«АҚПАРАТТЫҚ ЖҮЙЕЛЕР» ЖӘНЕ «КОМПЬЮТЕРЛІК ИНЖЕНЕРИЯ»
КАФЕДРАЛАРЫ**

**“ЕСЕПТЕУ ЖҮЙЕЛЕРІН ҚҰРЫЛҒЫМЕН ҚАМТАМАСЫЗ ЕТУ ”
СЕКЦИЯСЫ**

УДК 62-501

**Bayekeyeva A
Supervisor:**

MULTI-FUNCTIONAL PROGRAMMABLE LED CUBE (WITH ARDUINO)

Abstract

In 2011, in his message to the nation, the head of state Nursultan Nazarbayev, said that it is necessary to introduce new technologies in the educational process and to give a more time-consuming for the further development of the latest technologies in Kazakhstan. So, Arduino is one of them

If I'm not mistaken, Arduino microcontroller is used in KZ, only the second year. Arduino -an electronic designer, with an open architecture for easy prototyping devices and programs for them. It is designed for professionals, inventors, hobbyists, and for anyone who wants to create an electronic device.

Introduction:

Nowadays, a lot of time is spent for creating and using new technologies. One of them is the Arduino microcontroller .This microcontroller designed to make the process of using electronics in projects more accessible. One of the advantages of this microcontroller, that it is not expensive and can be easily programmed.

Before taking this kind of diploma thesis, I have read many articles about projects Led Cube, many of them controlled by Arduino, the rest of them not. There is no a big differences between them. The main difference is of course – Arduino. And also some differences in component list.

Materials and methods:

- The main material is Arduino Uno microcontroller.
- resistors, many leds
- Integrated Circuit
- wires
- PCB or breadboard
- capacitors
- terminal pins

Firstly, I replaced microcontroller to Arduino, mainly to Arduino Uno

Second, I decided to use bread board instead of PCB board. Because, it is more comfortable to work with it.

Conclusions:

As I said before, our country starting to use new technologies in creating new products. Last year, in our university, in SDU, some students taked Arduino, to make their diploma thesis. But this year, number of students increased. This shows that, students are interested on it. It is good.

For me with Arduino we can gain more skills that will be useful in the future date. I think that in the future , there will be developed Arduino based controllers. Arduino and this is only the beginning, and every engineer should try to learn it.

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Electronic educational board for learning Kazakh alphabet

Aminova Zhanargul

Abstract

Everyone knows that in order to speak any language fluently and express own thoughts, we must learn the alphabet firstly. Consequently, everybody tries to learn it from kinder garden ages. My project generally devoted to children and purpose of Interactive talking poster "Әліппе" - to allow the children to learn the Kazakh alphabet faster. Kazakh language consists of 42 letters. And my project consists of many songs and different patters which can make interest the children. It can be also helpful for kids to distinguish the colors and pictures.

Introduction

What is Alphabetic Knowledge?

- Letter shape recognition
- Letter name knowledge
- Letter sound knowledge
- Ability to print letters
- Rapid letter naming

Why is the alphabet important?

• Letter-name knowledge before formal reading instruction is one of the strongest predictors of children's reading ability.

Interactive talking poster "Әліппе" will helps your kids to learn letters, numbers, colors, new words, 3 patters and cheerful song. Features: 1. clicking the button "Үйрену", it allows child to learn the alphabet and says its entire letters in order and they can call the each figure by clicking them. When you press the button "number", you can see the different numbers which are represented by colors. 2. Next feature named "Сынақ" will allows for kids pass the exam to check how they revise it. If child gives a correct answer "Әліппе" will praise them, otherwise, gives second chance for try again. Finally if they didn't give right answer, they will automatically be transmitted to the next question. Third feature "Ойын" helps to recognize the different images. In case they answer correctly, "Әліппе" will praise your child, otherwise, asks them to try once more. 4. When you press the button "Ән айтайық", "Әліппе" suggest child sing cheerful songs. But when they press the "Жаңылтпаштар", it proposes for child to learn three funny patters. Poster can be placed on a table or on the wall. There have other buttons like a volume control, which you can turn it off to save the battery.

I will do this project using Arduino. Arduino is an open-source electronics prototyping platform based on flexible, easy-to-use hardware and software. It's intended for artists, designers, hobbyists, and anyone who is interested in creating interactive objects or environments [2].

Conclusion

I think this "Interactive talking poster" will be useful for all parents who want to teach their children. Since, it is a poster which you can drag around and stick on the wall easily.

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