ҚАЗАҚСТАН РЕСПУБЛИКАСЫ БІЛІМ ЖӘНЕ ҒЫЛЫМ МИНИСТРЛІГІ
Л.Н. ГУМИЛЕВ АТЫНДАҒЫ ЕУРАЗИЯ ҰЛТТЫҚ УНИВЕРСИТЕТІ

ЕУРАЗИЯ ҰЛТТЫҚ УНИВЕРСИТЕТІ

ЖАС ҒАЛЫМДАР КЕҢЕСІ

Студенттер мен жас ғалымдардың «ҒЫЛЫМ ЖӘНЕ БІЛІМ - 2016» атты XI Халықаралық ғылыми конференциясының БАЯНДАМАЛАР ЖИНАҒЫ

СБОРНИК МАТЕРИАЛОВ XI Международной научной конференции студентов и молодых ученых «НАУКА И ОБРАЗОВАНИЕ - 2016»

PROCEEDINGS of the XI International Scientific Conference for students and young scholars «SCIENCE AND EDUCATION - 2016»

2016 жыл 14 сәуір
Астана

ҚАЗАҚСТАН РЕСПУБЛИКАСЫ БІЛІМ ЖӘНЕ ҒЫЛЫМ МИНИСТРЛІГІ
Л.Н. ГУМИЛЕВ АТЫНДАҒЫ ЕУРАЗИЯ ҰЛТТЫҚ УНИВЕРСИТЕТІ

Студенттер мен жас ғалымдардың «Ғылым және білім - 2016» атты XI Халықаралық ғылыми конференциясының БАЯНДАМАЛАР ЖИНАҒЫ

СБОРНИК МАТЕРИАЛОВ XI Международной научной конференции студентов и молодых ученых «Наука и образование - 2016»

PROCEEDINGS of the XI International Scientific Conference for students and young scholars «Science and education - 2016»

2016 жыл 14 сәуір

Астана

ӘӨЖ 001:37(063)
КБЖ 72:74
Ғ 96

Ғ96 «Ғылым және білім – 2016» атты студенттер мен жас ғалымдардың XI Халық. ғыл. конф. = XI Межд. науч. конф. студентов и молодых ученых «Наука и образование - 2016» = The XI International Scientific Conference for students and young scholars «Science and education - 2016» . – Астана: http://www.enu.kz/ru/nauka/ nauka-i-obrazovanie/, 2016. – .... б. (қазақша, орысша, ағылшынша).

ISBN 978-9965-31-764-4

Жинаққа студенттердің, магистранттардың, докоранттардың және жас ғалымдардың жаратылыстану-техникалық және гуманитарлық ғылымдардың өзекті мәселелері бойынша баяндамалары енгізілген.

The proceedings are the papers of students, undergraduates, doctoral students and young researchers on topical issues of natural and technical sciences and humanities.

В сборник вошли доклады студентов, магистрантов, докторантов и молодых ученых по актуальным вопросам естественно-технических и гуманитарных наук.

ӘОЖ 001:37(063)
КБЖ 72:74

ISBN 978-9965-31-764-4

Возможность функциональной перестройки микропроцессоров или МК изменением внешней программы является принципиальным отличием их от других типов электронных схем и приборов. Основной частью микропроцессорной системы ПАКБМИ является типовой микропроцессорный комплект (МПК или МК), включающий в себя собственно микропроцессор – центральный процессорный элемент (ЦПЭ), реализующий вычислительные процедуры, постоянное (ПЗУ) и оперативное (ОЗУ) запоминающие устройства для хранения как обрабатываемых данных и команд, так и информации, связанной с адресацией устройства ввода-вывода (УВВ). УВВ служат для связи через аналого-цифровой преобразователь с датчиками, через цифро-аналоговый преобразователь с самопишущим устройством, а также с устройством визуального отображения (УВО) – портативным осциллографом и АЦПУ для протоколирования результатов исследований и передачи в информационные центры.

Выводы. Резюмируя вышесказанного, следует отметить необходимость реализации устройств на основе МК. Выбирая реализацию аппаратной части комплекса, необходимо учесть, что аппаратная часть устройства должна осуществлять стыковку датчиков, выполнять обработку сигналов на низком уровне и передавать полученные данные в ПК для дальнейшей обработки. Естественно, можно предложить несколько вариантов реализации аппаратной и программной части устройства.

Список использованных источников

1. Функционально-диагностические исследования в пульмонологии. Методические рекомендации. Санкт-Петербургский медицинский институт имени академика И. П. Павлова, Медико-технический центр “Аэромед”, 1993.
2. Г. А. Вечерский, Л. Г. Баранов, В. Г. Лисютин. Справочник по клинической электрокардиографии. – Мн.: Беларусь, 1985.
3. http://www.cnt.ru/~stt/smartsensors.htm

Подсекция 2.2 Информатизация образования и проблемы обучения информатике

UDC 004

ARTIFICIAL INTELLIGENCE AS FORM OF TEACHING COMPUTER SCIENCE

Toktarkhanova Samal Maulenkyzy
Student (undergraduate), Faculty of information technologies,
L.N. Gumilyov Eurasian National university, Astana
Supervisor – G.B. Balgozhina

The process of interdependent development of science and technology has led to the emergence in the XX century in new social regularity scientific and technical progress. Scientific and technological progress is a common, progressive, interdependent development of science and technology.

In our time, the role of engineering and technology in the development of different spheres of activity is increasing. Achievements of scientific and technological progress aimed at meeting the diverse needs of the people. One of the achievements of science and technology is the emergence of artificial intelligence.

Artificial intelligence (AI) is the intelligence exhibited by machines or software. It is also the name of the academic field of study which studies how to create computers and computer software that are capable of intelligent behavior. Major AI researchers and textbooks define this field as "the study and design of intelligent agents", [1] in which an intelligent agent is a system that perceives its environment and takes actions that maximize its chances of success. John McCarthy,

who coined the term in 1955, defines it as "the science and engineering of making intelligent machines

AI research is highly technical and specialized, and is deeply divided into subfields that often fail to communicate with each other.[2] Some of the division is due to social and cultural factors: subfields have grown up around particular institutions and the work of individual researchers. AI research is also divided by several technical issues. Some subfields focus on the solution of specific problems. Others focus on one of several possible approaches or on the use of a particular tool or towards the accomplishment of particular applications.

Themain goals of AI research include reasoning, knowledge, planning, and learning, natural language processing (communication), perception and the ability to move and manipulate objects. Currently popular approaches include statistical methods, computational intelligence and traditional symbolic AI. There are a large number of tools used in AI, including versions of search and mathematical optimization, logic, methods based on probability and economics, and many others. The AI field is interdisciplinary, in which a number of sciences and professions come together, including computer science, mathematics, psychology, linguistics, philosophy and also inthe field of education. One of the waysto createlearningobjectswith the elements ofAIis avariety of programming languages. Let's consider some of them which are more effectiveand interesting inlearning for school agechildren.

Scratch is a visual programming language. It is currently free. Scratch is used by students, scholars, and teachers to easily create games and provide a stepping stone to the more advanced world of computer programming. It can also be used for a range of educational and entertainment constructionist purposes from math and science projects, including simulations and visualizations of experiments, recording lectures with animated presentations, to social sciences animated stories, and interactive art and music. Also scratch has modified versions like BYOB (now more known as Snap!), Panther, and Slash.

BYOB (Snap!) Developed at the University of Berkeley. The major expansion of the language, which was introduced in the BYOB, was the ability to build custom composite units - analog conventional programming languages procedures. It supports recursion, closures and lambda expressions. Also added to the debugger and the ability to compile into executable files attached to sprite, multidimensional lists, improved scrolling and compile executables. Starting with version 3.1 adds support for the PLO BYOB - sprites BYOB now allow inheritance based on prototypes. To do this in the language, in particular, introduced sprites cloning mechanism.

Some of them additionally introduce shifts in underlying approach to computing, such as the language Snap!, featuring first class procedures, first class lists (including lists of lists), and first class truly object oriented sprites with prototyping inheritance, and nestable sprites, which are not part of Scratch. Snap! (its previous version was called BYOB) was developed by Jens Mönig with documentation provided by Brian Harvey from University of California, Berkeley and has been used to teach "The Beauty and Joy of Computing" introductory course in CS for non-CS-major students.

Educational uses of these programs are the same, that's way we can define Scratch as a main program. Scratch was made popular in the UK through Code Clubs. These use Scratch as the introductory language because of its relative ease to make interesting programs and because skills learnt through Scratch can be applied to other basic programming languages like Python and Java.

Scratch is not exclusively for creating programs, since it provides a lot of visuals; programmers can create animated stories such as "The Pizza Dude", "Haiku", or "Gemclan". For older students, they can use Photo Journalism that teaches the basic background of journalism. Students that want to specialize in math can use Lemonade Stand, "Dino Odd and Even", "Data Workshop", or "Ellipserator" that mainly focuses on geometry. Scratch flexibility allows teachers to create conceptual and visual lessons and science lab assignments, as Scratch is a useful tool to create animations that help visualize difficult concepts such as plant cell mitosis, water cycle, Galileo Thermometer and Hooke's Law Experiment. Within the social sciences, instructors can create quizzes, games and tutorials that stimulate the mind and interact with the student. Using

Scratch allows young people to understand the logic of programming and how to creatively build and collaborate.[3] Scratch lets students create "meaningful personal as well as educational projects" which allows students a "practical tool" to express themselves after learning to use the language.

Harvard University lecturer Dr. David J. Malan prefers using Scratch over commonly used introductory programming languages, such as Java or C, in his introductory computer science course. However, there is a limited benefit in a college level education. Malan switches his course's language to C after the first week.https://en.wikipedia.org/wiki/Scratch_(programming_language)#cite_note-12[4]

Artificial intelligencein education,namelythe use ofprogramslikeScratch, BYOB -is a cycleof activitiesin school oreducational institutions of additionaleducation,in which theprogrammingand design ofcombining, allowto formtechnical creativityskills, motivating studentsto the study ofthe exact sciencesand ensure theirearlyprofessionalorientation.

At present thiseducational programwithartificial intelligenceelementsare increasinglygaining momentumin the world.Given thegrowth in demand forIT-specialists, this approach to theeducational programis becoming increasingly popular-not onlyintroducehishigher educationin theschool,but also ordinaryteacher. Unfortunately, this educational programhas not yet beendeveloped inour country.

Literature

1. Russell & Norvig (2003) (who prefer the term "rational agent") and write "The whole-agent view is now widely accepted in the field" (Russell & Norvig 2003, p. 55).
2. Pamela McCorduck (2004, pp. 424).
3. Kids' Programming Tool Scratch Now Runs In The Browser, TechCrunch, May 2013.
4. Young, Jeffrey R. (July 20, 2007). *"Fun, Not Fear, Is at the Heart of Scratch, a New Programming Language"*. The Chronicle of Higher Education. *ISSN 0009-5982*. Retrieved 2015-05-09.

UDC 004.853

ADVANCE OF THE HUMAN CONDITION VIA EXPERT SYSTEM

Sharip Ongarbek
Student of Faculty of IT, Eurasian National University
Supervisor – Kuzar Zh.N.

As we know there is a wide range of different technological achievements that are very useful for human daily necessities. Particularly the process whichcontains a lot ofdevelopment of software is sharply increasing day by day so that people absolutely try to make an opportunity on every area of life.On this occasion the concept of the artificial intelligence was established in previous century in order to suggest actual solutions for special kinds of social problems.

Artificial intelligence is the branch of computer science concerned with making computers behave like humans. The term was coined in 1956 by John McCarthy at the Massachusetts Institute of Technology[1]. At first its primary concerns were centered on game playing, planning, and problem solving. In the environment of that era, it would have been very difficult to predict that three decades later the most important application areas of AI would be centered on knowledge engineering and, more particularly, on expert systems(also called intelligent systems).

Expert Systems make extensive use of specialized knowledge to solve at the level of an expert person who has expertise in a certain area. That is, the expert has special skills that are not known or available to most people and can solve problems more efficiently than many people [2].