

Young surgeons, before performing operations, usually train on corpses or assist more experienced physicians. Virtual reality allows you to practice on real patients without any risk. With the help of VR-glasses, surgeons can observe operations as if they really manipulated a scalpel. Using a headset instead of the four walls of the hospital ward, patients can see an amazing scenery of Iceland or swim with dolphins in the ocean.

VR can be a useful tool for studying cancer. Developing a human model in VR, using the latest scientific data, microscopic images and animation, now they can immerse in the human body at the cellular level, simply by wearing a headset

Nowadays, in medical practice, pain is an ongoing problem. Specialists have developed the VR-game Snow World for distracting patients with burns and dull pain during the care of wounds. Supporters of VR-treatment claim that virtual reality can relieve the dependence caused by some pain medications.

Dementia is acquired dementia. It is common among the elderly people. A person with dementia is very difficult to learn new information and, moreover, he gradually forgets what he remembered earlier: the faces of relatives, important events of life, which determined his character, dates, even language. For such people virtual reality glasses are used to create a safe environment, where they can safely interact and reconnect to the world. In a quiet environment of virtual reality, they pass through various exercises in the form of "soft" games, the meaning of which is to use different cognitive functions such as memory and language. In addition, patients with dementia are re-taught to plan, organize and prioritize their daily tasks.

Psychiatrists use VR to help patients cope with flight-related fears or claustrophobia.

Thanks to VR people can provide a controlled environment in which patients can face their fears and even practice strategies to overcome them.

Moreover, there are experiments in the treatment of autism, addictions and various forms of eating disorders.

In addition to the advantages of virtual reality, there are some cons. Many people having experienced VR-world complain of dizziness, "seasickness", experiencing stress and anxiety. Permanent use of the headset can lead to a sense of disorientation when, after diving into a VR, a user can stumble upon walls and objects in the room. Virtual reality can lead to emotional and social problems.

There're a lot of opinions that virtual reality (VR) is just an entertainment, but it plays an important role in treating people and developing our world.

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## **ARTIFICIAL INTELLIGENCE IN ROBOTICS**

Mankind achieved ever greater results, because of the development of science, which led to new conclusions and new discoveries. Due to the latest achievements in

the field of artificial intelligence research, live and smart machines are widely believed to appear on the horizon. Machines understand voice commands, distinguish pictures, drive cars and play games better than we. We need more than teach machines to study but to overcome the boundaries that separate us. In the 20th century, we began to think about creating perfect robots that can not only perform the tasks of people, but also widen their knowledge. An example is the robots-masters from the fantastic movie "Teens in the Universe". They are so developed that decided to improve people, which led to the global catastrophe. Fortunately it is still far from real life.

If AI (artificial intelligence) systems really ever proliferate, they will have to understand what we think and feel, even at the level of assumptions to control their behavior.

Hanson Robotics develops and manufactures human-like robots and smart software that bring our robots to life. Hanson Robotics presents the world's first expressive two-legged robot, Albert-Hubo, and a small Zenon robot, a child robot that is brought up as a member of the family. Humanoid robots of Hanson address the psychological need for face-to-face communication, with applications for the family, therapy, scientific research, education and medicine. Albert HUBO is unique and fully battery operated. He is the first walking robot with a realistic, humanlike expression.

The robot with artificial intelligence ready to become your personal assistant, stylist, security guard, photographer and telepresence device was demonstrated at the Consumer Electronics Show (CES) in Las Vegas. The creators of Personal Robot call their product "revolutionary". Developers say the integration with mobile applications allows the machine with artificial intelligence to buy food for its owner, track the amount of consumed food and calories, it can call a taxi and take photos, and do many other things. The robot is not only able to understand speech, but also to see the surrounding objects as we see them. The recognition of faces and objects outside the house helps it to move along the street. Personal Robot supports Wi-Fi and Bluetooth, and also uses a variety of built-in sensors that help it to control the environment and perform complex tasks, for example, reading night stories to children.

Japanese engineers released an interactive android named Pepper. It is able to communicate with a person and interpret human emotions. The company-creators of Aldebaran Robotics and Softbank Mobile set itself up as a good comrade which is always close to you. If you smile, Pepper knows that you are in a good mood. If you frown, it realizes that something is bothering you, and tries to cheer you up. He can even joke in the same manner with its interlocutors and it can do it in several languages!

Microsoft has introduced an artificial intelligence program that can sort out thousands of applications for the New Yorker edition for the best comic book title, which will help to choose the winner. It is reported that the researchers at Microsoft worked with Bob Mankoff who is the editor of the comics of the American datebook. The computer was taught to understand humor in the comics of the New Yorker magazine, and the result was inspiring. A huge database with millions of comics was used while training, for which headings were sent as part of the competition. This allowed the computer to understand the similarities and differences of comics. In about 55.8% of cases, people agree with the choice of artificial intelligence.

From a technical point of view, it was not that computers suddenly learned a sense of humor. They have learned to imitate a special humorous style, but the fact is impressive, as learning to imitate something, unlike the execution of a clearly

formulated command, is an important improvement. Making the computer "understand" humor as well as translation is a significant breakthrough in many aspects of man-machine interaction.

For a relatively short period of time, humanity has developed a significant area of robotics. Still there is more to come, because the plans and prospects to make our life better are boundless.

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## **THE PROBLEM OF LOSS OF LUGGAGE AND ITS SOLUTION**

According to their statistics, every week 496,153 suitcases do not return to their owners after the flight. About 70 648 luggage are lost per day. In 2011, airlines lost 25 million bags, exceeding the number by 20% in 2010. At the same time, about 2.5% are lost or stolen on the ground. The reasons why is the baggage get lost are many, from the banal human factor to technical malfunctions in the electronic system of moving baggage.

Let's turn to the statistics because of what the luggage is lost:

1. Not docking on flights with transfers – 50%
2. The problem with tags is 15%
3. Was not taken away by the owners – 15%
4. Other reasons are 20%

Just a year ago, Apple introduced to the general public the latest in-house navigation development called iBeacon, where an interesting approach for using the new technology. Beacon in English means lighthouse. Like an ordinary beacon that sends light signals to ships so that they do not get lost, the iBeacon-beacon, which is a modern Bluetooth-device with reduced power, sends signals to smartphones that are nearby. In this way, indoor navigation, where the signal from GPS satellites is not available, is the arrangement of iBeacon beacons, and mobile applications by signal strength from these beacons accurately determine the user's location.

The Ran Mobile company, specializing in the development of mobile iBeacon applications, presented an interesting approach to using the new technology – the search for luggage. The idea is that the iBeacon beacon is placed in the luggage, and the mobile application, called the "Where Bag", informs the user when his luggage appears on the tape.

It is often possible to see a huge turn in front of the luggage delivery belts. And this is understandable, people, trying not to be late for buses and aeroexpress from the airport, try to get their luggage as soon as possible. To do this, it is necessary to break through the crowd of people and carefully watch at passing suitcases. This problem is in the first place. And this application "Where Bag" is intended to solve it and will tell you exactly whether your luggage has appeared on the tape or not yet.

Another problem is the identification of your suitcase on the tape. Most of the suitcases are very similar, especially if they are wrapped with the same packing tape. Often, only after