

**МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ  
СУМСЬКИЙ ДЕРЖАВНИЙ УНІВЕРСИТЕТ  
КАФЕДРА ІНОЗЕМНИХ МОВ  
ЛІНГВІСТИЧНИЙ НАВЧАЛЬНО-МЕТОДИЧНИЙ ЦЕНТР**

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**“TO LIVE IN A SAFER WORLD”**

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## **СЕКЦІЯ 6 ІНФОРМАЦІЙНИЙ ПРОСТІР, ПРОБЛЕМИ ЗАХИСТУ ІНФОРМАЦІЇ, ЇЇ ДОСТОВІРНОСТІ ТА БЕЗПЕЧНОСТІ**

### **TECHNOLOGY OF KINECT**

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Kinect (codenamed in development as Project Natal) is a line of motion sensing input devices by Microsoft. Based on a peripheral addition, it enables users to control and interact with their computer without the need for a game controller, through a natural user interface using gestures and spoken commands. The first-generation Kinect was first introduced in November 2010 in an attempt to broaden Xbox 360's audience.

Kinect was first announced on June 1, 2009 at E3 2009 under the code name "Project Natal". Following in Microsoft's tradition of using cities as code names, "Project Natal" was named after the Brazilian city of Natal as a tribute to the country by Brazilian-born Microsoft director Alex Kipman, who incubated the project. The name Natal was also chosen because the word natal means "of or relating to birth", reflecting Microsoft's view of the project as "the birth of the next generation of home entertainment".

Kinect builds on software technology developed by Rare, a subsidiary of Microsoft Game Studios owned by Microsoft, and on range camera technology by Israeli developer PrimeSense, which developed a system that can interpret specific gestures, making completely hands-free control of electronic devices possible by using an infrared projector and camera and a special microchip to track the movement of objects and individuals in three dimensions. This 3D scanner system called Light Coding employs a variant of image-based 3D reconstruction.

Kinect sensor is a horizontal bar connected to a small base with a motorized pivot and is designed to be positioned lengthwise

above or below the video display. The device features an "RGB camera, depth sensor, multi-array microphone and proprietary software", which provide full-body 3D motion capture, facial recognition and voice recognition capabilities. At launch, voice recognition was only made available in Japan, United Kingdom, Canada and United States. Mainland Europe received the feature later in spring 2011. Currently voice recognition is supported in Australia, Canada, France, Germany, Ireland, Italy, Japan, Mexico, New Zealand, United Kingdom and United States.

The depth sensor consists of an infrared laser projector, which captures video data in 3D under any ambient light conditions. The sensing range of the depth sensor is adjustable, and Kinect software is capable of automatically calibrating the sensor based on gameplay and the player's physical environment, presence of furniture or other obstacles.

Described by Microsoft personnel as the primary innovation of Kinect, the software technology enables advanced gesture recognition, facial recognition and voice recognition. According to information supplied to retailers, Kinect is capable of simultaneously tracking up to six people, including two active players for motion analysis with a feature extraction of 20 joints per player. However, PrimeSense has stated that the number of people the device can "see" (but not process as players) is only limited by how many will fit in the field-of-view of the camera

During Kinect's development, project team members experimentally adapted numerous games to Kinect-based control schemes to help evaluate usability. A lot of sport games were made special for Kinect to combine sport and game process. Run games for Kinect are also in great demand.

Price of this device is not very high only 150\$ in the USA and 300\$ in Europe , so it can be available for everyone.