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ЛІНГВІСТИЧНИЙ НАВЧАЛЬНО-МЕТОДИЧНИЙ ЦЕНТР

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“TO MAKE THE WORLD SMARTER AND SAFER”

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GLOBAL POSITIONING SYSTEM

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Space exploration has a great meaning for mankind. There are many space technologies that have been explored for space, but then transformed for human everyday use. One of such technologies is GPS navigation.

Global Positioning System (GPS) is a satellite-based navigation system that consists of 24 satellites in six orbits. Satellites rotate around the earth at an altitude of about 17 000 km above the Earth. Each satellite makes two complete revolutions in less than 24 hours.

One of the major advantages of GPS is the all-weather capability. Satellite navigation system measures distance and time and determines your place in the global coordinate system WGS 84.

The basic principle of GPS devices is positioning by getting the signal from the navigation satellite. GPS-receivers get the signals and compute the location. The receiver compares the time distance between signal sending and receiving. The difference between these values allows a receiver to calculate the distance to the satellite. Knowing the distance from several satellites, GPS-receiver can determine its location and display it on the electronic map. Constantly tracking the location for some time, the device can also calculate the speed and direction of movement.

GPS was designed and built for military purposes. In the early 1980s Ronald Reagan announced the GPS to be available for everyone but the best accuracy only for the military purposes. That restriction was achieved by using so-called Selective Availability. SA – a special algorithm – decreases the accuracy of civilian GPS-navigators for 100 meters. Later there appeared an information about deciphering of algorithm by some companies and in 2000 Bill Clinton cancelled SA.

So, we can conclude that GPS is useful for mankind technology. Many sides of human life can't exist without GPS nowadays.