ABSTRACT

Master Degree

on:

"Using sensors in software applications on Sensor and Location Platform in Windows 7"

by

Tkach Olga Volodymyrivna

The actuality

In connection with the development of computer devices and increase their level of mobility is increasingly face the task of creating context-dependent applications that would respond to environmental changes and facilitate the process for the user to adapt to these conditions. The use of sensors is one of the ways to implement quality applications such as optimization and standardization and works with them is an urgent task.

Using Sensor and Location platform in the development of context-dependent applications, which process data from sensors, the next step is to optimize the creation of programs. Viewed platform provides native support for sensors and provides a range of standard interfaces that are exempt developers from having to learn devices from different manufacturers simplify discovery, access and receive information from sensors.

The purpose

The objective is to study the potential for context-dependent applications using sensors on Sensor and Location Platform in Windows 7.

Problems that are solved

1. Studies principles of context-dependent applications.

2.	Study architecture Sensor and Location Platform in Windows 7.

3.	Research types of sensors supported by Sensor and Location Platform in Windows 7.

4.	Study feasibility of context-dependent applications on Sensor and Location Platform in Windows 7.

Achieved results

Having solved the problem that put in the work, the author defends:

1.	results of investigations of Sensor and Location Platform in Windows 7 architecture;

2.	results of investigations of sensor types supported by the Sensor and Location Platform in Windows 7;

3.	results of investigations of the feasibility of context-dependent applications on Sensor and Location Platform in Windows 7.

Scientific novelty

The scientific novelty of the work is that:

1.	studied architecture of Sensor and Location Platform in Windows 7;

2.	investigated types of sensors supported by Sensor and Location Platform in Windows 7;

3.	the possibilities of context-dependent applications on Sensor and Location Platform in Windows 7.

The practical value

The practical value of the work is that:

1.   investigated and systematic information about the architecture Sensor and Location Platform in Windows 7, interfaces, provided by it, the principles of working with classes;

2.   investigated and summarized in one table types of sensors, that supported by Sensor and Location Platform in Windows 7;

3.   investigated the examples of context-dependent applications on Sensor and Location Platform in Windows 7;

4.   provides guidelines on the use of light sensors in the development of context-dependent applications.

Conclusions

1.   This work investigated the possibilities of architecture of Sensor and Location Platform and feasibility of its use in creating context-dependent applications that use information obtained from sensors. Investigated architecture of Sensor and Location Platform in Windows 7. In the course of work were identified following advantages of the platform relative to how the previously underwent a process of interaction with sensors. They are:

• single model application programming interfaces to access devices;

• single model application programming interfaces for receiving information;

• the use of a wide range of physical and logical sensors;

• ability to customize the privacy protection of personal information;

• simultaneous access from multiple sensor applications.

2.   Investigated types of sensors supported by Sensor and Location Platform in Windows 7. Determined that the platform supports 16 categories of sensors and logical sensors.

3.   The possibilities of context-dependent applications on Sensor and Location Platform in Windows 7. Using Sensor and Location Platform in Windows 7 facilitates developers to solve problems arising in the transition from planning to practical implementation of context-dependent applications that use data from sensors. Also, increased productivity programs through access to multiple sensor applications. It allows developers to create applications that will respond to changes in environmental conditions and facilitate the users to work with computers.

The work contains 128 p., 43 figures, 12 tables, 16 sources.

Keywords: CONTEXT-DEPENDENT   APPLICATION,   SENSOR, SENSOR AND LOCATION PLATFORM