

ABSTRACT

Topicality: the need to increase the accuracy of positioning of the device and objects in augmented reality in a mobile application.

Purpose of the research: to optimize positioning methods for augmented reality applications.

To achieve this goal, **the following tasks** were formulated: research on existing methods of positioning objects in augmented reality, to identify their advantages and disadvantages; research marketplace for mobile app with augmented reality, analyze what methods are used in the app; create a method of positioning objects in augmented reality based on the methods most commonly used in AR applications; develop software that uses the created method of object positioning in augmented reality; compare the results of the developed positioning method with existing methods of object positioning in augmented reality.

Object of research: the process of positioning augmented reality objects for AR applications.

Subject of research: the effectiveness and accuracy of object positioning in augmented reality for playback of interactive scenes and routes in augmented reality mobile applications.

Research methods: research, analysis, experiment.

Scientific Novelty: the most significant scientific output of a master's thesis is the optimization of positioning in augmented reality applications through the use of combined positioning techniques such as GPS, visual markers, and SLAM

The practical value of the results is determined by the fact that the proposed positioning method can be used in augmented reality applications and to accelerate and increase the accuracy of tracking the position of the device, resulting in improved user experience.

Relationship with working with scientific programs, plans, topics: The work was performed at the Department of Computer-Aided Management And Data Processing Systems of the National Technical University of Ukraine «Igor Sikorsky Kyiv Polytechnic Institute» within the topic «Methods and technologies of high-performance computing and processing of large data sets». State Registration Number is 0117U000924.

Testing: The main provisions of the work were reported and discussed at the 3rd All-Ukrainian Scientific and Practical Conference of Young Scientists and Students "Information Systems and Management Technologies".

Publications: The scientific provisions of the dissertation are published in the materials of 2 and 3 all-Ukrainian scientific-practical conferences of young scientists and students "Information systems and management technologies".

Keywords: AUGMENTED REALITY, POSITIONING, GEOMARKER, MOBILE APPLICATION.