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AR TECHNOLOGY IN THE EDUCATION

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Augmented reality is a modern technology that augments physical environments on a mobile device screen by overlaying them with additional computer-generated data like animation or three-dimensional objects.

How does augmented reality work? An AR solution captures a part of the environment using a camera. Then it scans the captured piece of the environment to identify a point where it is possible to overlay additional information using markers or trackers like infrared, laser, GPS, or sensors. As soon as this point is determined, an augmented reality solution requests predefined content to overlay further environmental footprint with additional information. Once the necessary content is requested, the solution forms a complete image consisting of the real-world background and overlaid AR data.

Integrating mobile devices into the education process is a key to advancing modern pedagogy, because almost all students have and use mobile devices, but these devices are not adopted in the education process. One major benefit of introducing the wide use of mobile technology to educational practices is the ability to personalize the learning process. A personal computer allows the student to choose when, where, and how they consume and produce information.

One way to implement mobile devices is to use AR applications. Much of the AR applications are produced for marketing and commerce purposes, but this technology is not widely used in the educational area. Some examples of AR projects in education are as follows: vocabulary quizzes in language, AR tours of campuses of universities, remote assistance by seeing a live view and drawing objects in another user's environment, an opportunity of add virtual furniture to a real-world room to see how it looks, a dialog with a virtual learning tutor by using quick response codes.

In my research, an application for chemistry lessons for high school students is being developed. This application makes it possible to push atoms and molecules together to see how they interact with each other.

By using augmented reality in educational environment, students can see phenomena under study in real physical space and not only in their textbooks, which leads to faster acquisition of information. AR technology increases student motivation, facilitates learning and improves performance through increased involvement and interactivity. In general, technology innovations can improve educational process and lead to better learning outcomes.