

A virtual reality game to explain the efficiency of the emergency plan safety protocols.

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Keywords: Power Plants, game, VR.

With the growth and expansion of Brazilian nuclear plants, it is important to emphasize the benefits and safety of this type of energy. Among the positives, the following can be highlighted: the generation of electric energy, the inspection and non-destructive tests of various types of materials in industries, the dating of fossils and nuclear medicine. However, even with all these benefits, the population, due to lack of knowledge, does not associate them as the result of nuclear energy. Therefore, it is necessary to increase the load of information that all citizens have available and it is necessary to facilitate access to it, clarifying what nuclear energy really is, as well as all its processes and tasks. Following that, digital games can be a form of awareness for the population, since more and more people live in a connected world, where these solutions are very well accepted by the general population. As an example, computer games, created using Virtual Reality (VR) techniques. VR is a term used to describe a set of techniques and methods dedicated to advanced interfaces, capable of allowing sensory integration between users and machines, generating a greater sense of immersion in the virtual world, allowing one to explore and interact in one virtual world [1]. In this context, this work plan, aims to use virtual reality technology to illustrate, inform and clarify the population in a playful and interactive way all the security protocols provided by nuclear power plants in case of an eventuality. This project aims to use virtual reality in its essence, to assist in the development of a digital educational game for mobile computing (smartphones and tablets), where it will be taught how a nuclear plant works. The educational game was developed using the programs: SketchUp Make and Unity 3D. The first was responsible for modeling all the buildings presented in the scenario, such as houses and their objects. The Unity 3D game core was used to create the virtual environment, allowing all the actions, movements, controls

and interaction of the character with the scene. Figure 1 shows a boy turning on a light switch with energy brought by the nuclear power plant. Figure 2 shows the player with a tablet playing the game. This project focuses to become a strategic option to disseminate important information about Brazilian's nuclear safety protocols and answer questions to the general public. The digital game proved to be a great tool for the dissemination of information, due to its great appeal, especially in younger age groups, such as children and young people. It is expected that this educational game turns itself in a powerful tool to make people growing up, knowing all the benefits that nuclear energy can bring them, with all the safety of Brazilian nuclear power plants.



Figure 1. Playing turning on the light switch



Figure 2. Tablet running the application

References

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