



Nature Discovery with Virtual Reality

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Abstract

Industrial and commercial developments have led people to urban life from rural areas. Especially in developed and big cities, people live a life away from nature. Green areas are transformed into urban areas in order to meet the increasing population needs of housing. This transformation alienates urban people and especially children against nature. Children can only know the potted flowers grown at home and the plants in the park nearest the area where they live, many plants can only be seen in the pictures. For these children who do not know whether their favorite fruit grows in a tree or a seedling, the related activities in their schools are not enough. Increasing agricultural activities in the greenhouses in our country and importing of various foods cause the children to be confused about knowing which fruits and vegetables they are growing in which season. Technology can be used to help solve these issues.

In order to make life easier, advanced technology devices are developed and offered to our service. These devices, which are integrated with software technologies, are now called "smart". Virtual reality glasses from these devices are integrated with other devices such as smart phones and have software support. Applications developed for smartphones that can now be found in every home can be used for both entertainment and education. Especially, it is possible through virtual reality applications that the training activities which can not be done due to the high cost, the preparation of the necessary environmental conditions and the difficulties like security. The combination of entertainment and education is important for attracting children. Virtual reality technology can also be used to help children who are growing up in city life to better understand nature.

The virtual reality application in this study has offered the opportunity to make virtual nature trips that allow people to meet plants in different species such as trees, mushrooms and flowers. Informations such as the types, leaf forms and fruits of trees seen during the trip are given visually. Informations such as fruit-giving periods and regions commonly seen in our country are given as audibly. With this application, it is possible to learn the names of flowers as well as health-related information such as how to distinguish edible and poisonous plants such as mushrooms. It will be very helpful to know this information especially on real trips with children.

In order to increase the interest of the children to application and to keep their motivation at a high level, tasks have been placed where they can play games while performing. Children can travel in a virtual forest we model for this purpose. They try to do a mission at the same time during the trip. When the trip is completed, they may encounter puzzles that they can solve using the information they have learned. This makes it possible to make information more permanent.



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Children will learn the names and species of these plants in the easiest and fun way, by modeling the nature in the virtual environment, in the scout clubs, nature trip clubs, schools and even at home. The information obtained in a fun way will increase children's interest in nature. As a result, children can realize that life is not just about the city, because they are interested in activities such as scouting, camping activities, nature observation teams, etc. which can be intertwined with nature. In further studies, we can further improve the virtual forest environment and enrich it with different applications so that children with disabilities who are unable to leave the home environment can do nature explorations.

Keywords: Virtual Reality, digital game, game software development, nature discovery