

Chapter 4

Constructing Virtual Radio Center: Providing Visuality to Sounds

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ABSTRACT

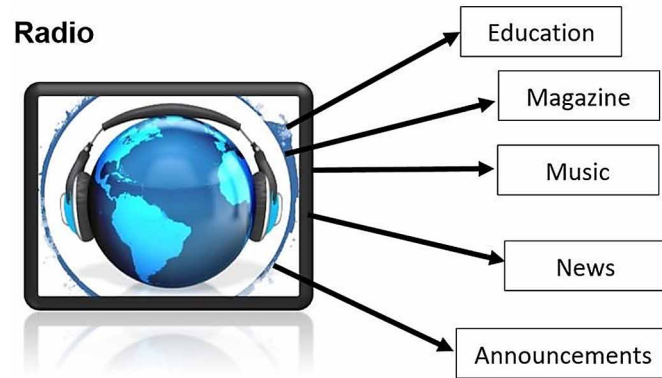
Radio channels lack visuality and virtual reality platforms are designed to overcome this problem. Virtual objects are very common these days and people get used to virtual platforms. Does this mean people are ready to be involved in such a system? Is this necessary? How to make sounds visible? Use of Virtual Reality is growing rapidly in industry as well as in education area. This chapter is about the virtual radio center construction necessities, usefulness, and its adaptability to real life and to courses.

Constructing Virtual Radio Center

This chapter provides information about the process of creating a virtual radio center and the experiences that the author had after delivering courses in the center. We are going to discuss virtual radio center construction necessities, usefulness of such centers and its adaptability of these to real life situations and to our courses. It's not very common to hear virtual centers being used even in this 21st century, especially in undeveloped or developing countries. Therefore, this chapter provides a different vision in the radio technology and offers visuality and even mobility to sounds. Making sounds visual is not providing visual scenes to them but providing visual platforms as an alternative to the real-world platforms. We are going to discuss **how, where and why** we should create virtual radio centers.

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Figure 1. Radio facilities



What is Radio?

It is a technology that delivers electromagnetic waves that passes through the atmosphere and helps communication. Since 1900s Radio is one of the simplest and most widely used technological invention for communication. It transfers sound or binary data wirelessly and it is a powerful machine that helps delivery of data to many people from all walks of life. In 21st century radio is used together with many Smart technologies. Non-verbal communication technological opportunities are very important for people's improving their imagination. Radio is essential for education, it is one of the earliest forms of distance education; it's a good source of magazine, its cheap and easy to reach to many audiences. Radio is one of the simplest and cheapest technologies for listening to music. It gives you the opportunity to listen to News around the world as well as making some announcements yourself with a very low price. Figure 1 illustrates some of the important usage areas of "Radio".

There are some software for virtualizing the monitoring and control of broadcast IP (AoIP) has become the standard for broadcast facilities, allowing broadcast plants to be more powerful, less expensive to buy and maintain, and faster to build (The Tellos Alliance, 2019). Although its not so common we have some researches in this area in the literature also. Virtanen and his friends wrote a paper about virtual version of audio installation in a historic building consisting of audio clips and creating a virtual radio (Virtanen, et.al., 2018). The external appearance in virtual worlds can change the brain mechanisms involved with the occasion and, ultimately, affect human behavior towards it. Virtual Radios are a way of simulating or replicating an environment and giving the user a sense of being there, taking control, and personally interacting with that environment with his/her own body. With the emergence of speech-controlled virtual agents (VAs) in consumer devices such as Amazon's Echo or Apple's HomePod, large public interest in related technologies is seen (Schmidt, et. al., 2019). Figure 2 shows an example of Virtual Radio Software.

Virtual reality makes reality more abstract and easier to be visually acceptable. Radio technology lacking visibility may be taken as an abstract resource for education. 3D interactive environments provide constructivist learning activities by allowing learners to interact directly with information from a first-person perspective (Dede, 1995). Virtual Radio Platforms may help sounds be "visible" and students more "creative"! Increasing one's imagination is sure to increase their involving in different activities

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