Review on Case Study of Radio Streaming Web App

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Abstract: *The purpose of Radio Streaming Web App is to automate the existing manual system by the help of computerized equipment's and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same. The required software and hardware are easily available and easy to work with.*

Keywords: Radio Streaming Web App.

I. INTRODUCTION

Internet radio was pioneered by Carl Malamud. In 1993, Malamud launched "Internet Talk Radio", which was the "first computer-radio talk show, each week interviewing a computer expert". The first Internet concert was broadcast on June 24, 1993, by the band Severe Tire Damage. In March 1994, an unofficial automated rebroadcast of Irish radio news was setup as the RTE To Everywhere Project, allowing Irish people across the World daily access to radio news from home until it was rendered obsolete in 1998. In November 1994, a Rolling Stones concert was the "first major cyberspace multicast concert." Mick Jagger opened the concert by saying, "I want to say a special welcome to everyone that's, uh, climbed into the Internet tonight and, uh, has got into the M-bone. And I hope it doesn't all collapse."

1.1 Objective

Internet radio services are usually accessible from anywhere in the world with a suitable internet connection available; one could, for example, listen to an Australian station from Europe and America. This has made internet radio particularly suited to and popular among expatriate listeners. Nevertheless, some major networks like TuneIn Radio, Entercom, Pandora Radio, iHeartRadio and Citadel Broadcasting (except for news/talk and sports stations) in the United States, and Chrysalis in the United Kingdom, restrict listening to in-country due to music licensing and advertising issues.

Internet radio is also suited to listeners with special interests, allowing users to pick from a multitude of different stations and genres less commonly represented on traditional radio. Internet radio is generally used to communicate and easily spread messages through the form of talk. It is distributed through a wireless communication network connected to a switch packet network (the internet) via a disclosed source.[2]

Internet radio involves streaming media, presenting listeners with a continuous stream of audio that typically cannot be paused or replayed, much like traditional broadcast media; in this respect, it is distinct from on-demand file serving. Internet radio is also distinct from podcasting, which involves downloading rather than streaming.

Internet radio services offer news, sports, talk, and various genres of music—every format that is available on traditional broadcast radio stations.[3] Many Internet radio services are associated with a corresponding traditional (terrestrial) radio station or radio network, although low start-up and ongoing costs have allowed a substantial proliferation of independent Internet-only radio stations.[citation needed]

The first Internet radio service was launched in 1993. As of 2017, the most popular internet radio platforms and applications in the world include (but are not limited to) TuneIn Radio, iHeartRadio, and Sirius XM. In the U.S., unlike over-the-air broadcast radio, a FCC license is not required to operate an Internet radio service.

II. LITERATURE REVIEW

In 2003, revenue from online streaming music radio was US$49 million. By 2006, that figure rose to US$500 million. A February 21, 2007 "survey of 3,000 Americans released by consultancy Bridge Ratings & Research" found that "[a]s much as 19% of U.S. consumers 12 and older listen to Web- based radio stations." In other words, there were "some 57

million weekly listeners of Internet radio programs. More people listen to online radio than to satellite radio, high-definition radio, podcasts, or cell-phone-based radio combined."[7][8] An April 2008 Arbitron survey[9] showed that, in the US, more than one in seven persons aged 25–54 years old listen to online radio each week.[10] In 2008, 13 percent of the American population listened to the radio online, compared to 11 percent in 2007.

Internet radio functionality is also built into many dedicated Internet radio devices, which give an FM like receiver user experience.

In the fourth quarter (Q4) of 2012, Pandora, TuneIn Radio, iHeart Radio, and other subscription-based and free Internet radio services accounted for nearly one quarter (23 percent) of the average weekly music listening time among consumers between the ages of 13 and 35, an increase from a share of 17 percent the previous year.

As Internet-radio listening rose among the 13-to-35 age group, listening to AM/FM radio, which now accounts for 24 percent of music-listening time, declined 2 percentage points. In the 36-and-older age group, by contrast, Internet radio accounted for just 13 percent of music listening, while AM/FM radio dominated listening methods with a 41 percent share.

As of 2017, 47% of all Americans ages 12 and older—an estimated 124 million people—said they have listened to online radio in the last month, while 36% (94 million people) have listened in the last week. These figures are up from 45% and 33%, respectively, in 2013. The average amount of time spent listening increased from 11 hours, 56 minutes per week in 2013 to 13 hours 19 minutes in 2014. As might be expected, usage numbers are much higher for teens and younger adults, with 75% of Americans ages 12–24 listening to online radio in the last month, compared to 50% of Americans ages 25–54 and 21% of Americans 55+. The weekly figures for the same age groups were 64%, 37% and 13%, respectively. In 2015, it was recorded that 53% of Americans, or 143 million people, ages 12 and up currently listen to internet radio.

III. MAIN FUNCTION

3.1 Listening
Internet radio is typically listened to on a standard home PC or similar device, through an embedded player program located on the respective station's website. In recent years, dedicated devices that resemble and offer the listener a similar experience to a traditional radio receiver have arrived on the market.

3.2 Streaming
Streaming technology is used to distribute Internet radio, typically using a lossy audio codec. Streaming audio formats include MP3, Ogg Vorbis, Ogg Opus, Windows Media Audio, RealAudio, AAC and HE-AAC (or aacPlus).[5] Audio data is continuously transmitted serially (streamed) over the local network or internet in TCP or UDP packets, then reassembled at the receiver and played a second or two later. The delay is called lag, and is introduced at several stages of digital audio broadcasting.

3.3 Simulation
A local tuner simulation program includes all the online radios that can also be heard in the air in the city.

3.4 Broadcasting Freedoms
Some stations, such as Primordial Radio, use Internet radio as a platform as opposed to other means such as FM or DAB, as it gives greater freedom to broadcast as they see fit, without being subject to regulatory bodies such as Of com in the UK. For example, Ofcom has very strict rules about presenters endorsing products and product placement; being an Internet radio station they are free of this constraint.

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