Internet Radio: A web application for live event streaming

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Abstract: **Internet is nowadays a very useful technology available for everyone. By using technologies like internet, android and radio management suites we are going to implement an internet radio which overcomes the limitations of traditional radio system. For broadcasting the signal, we are going to use radio management suites like Azuracast and Icecast which are open source that is freely available and user modifiable content, which reduces the high infrastructure cost of installing the antennae, base stations. These technologies broadcast the radio channel services all over the world. For client side, we are going to develop an android application that enables you to receive the broadcasted signals.**

Index Terms: **Android, Azuracast, Icecast, Shoutcast**
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I. INTRODUCTION

Internet is nowadays a very useful technology available for everyone. By using technologies like internet, android and radio management suites we are going to implement an internet radio which overcomes the limitations of traditional radio system. Internet is a widely used technology and a nowadays a lot of projects have been developed using internet. Android SDK (Software Development Kit) enables you to create and deploy android applications. This application enables user to access services provided by radio stations with the help of internet. For server administration, we are going to use Azuracast and Icecast. Using this technology, radio jockeys can manage their schedule of programs they are going to broadcast.

II. LITERATURE REVIEW

Vasantrao Chandorkar is Smruti Pratishthan's reputed organization in Jalgaon. In the past 19 years they have been working with full potential in Classical music and other related genres. "Balgandharva" a one of the most famous and one of the Top 10 music festivals in India that is organized by Chandorkar Prathisthan Vaantrao Chandorkar is Akashvaani Radio's 'A grade' artist. The Cassettes here are digitalized instead of traditional. Yearly they organize 8 to 10 programs where "Vasantotsav" is the mainstream program they organize.

We have studied following paper:
1) An Introduction to Internet Radio
2)   Internet Radio Advertising impact study
3)   Internet Radio
4)   Internet Radio: A new Engine for Content Diversity?
5)   Digital audio and Internet Radio broadcasting system under a QoS perspective

III. PROBLEM STATEMENT

While considering traditional radio systems, the audio quality is quite low which is unpleasant to frequent listeners, the range of the frequency is limited to one particular city or town that is they cover less distance, the installing and maintenance cost of the radio towers is very expensive. Radio stations have to buy frequency to broadcast their shows over radio. Some of the internet radios use Shoutcast as a streaming server, but there are problems with Shoutcast as the user has to pay money to get access to the Shoutcast features, supports only MP3 audio format and Shoutcast does not support "https" protocol.

IV. PROPOSED SYSTEM

The aim of the project is to provide radio service through the internet. This project will be useful for providing radio service because the traditional radio has low sound quality and it always buffers. Compared to traditional radios, we are going to use internet to help broadcast the shows according to radio jockey's schedule. As internet is available all over the world you can access the radio services anytime providing high quality audio. The technologies such as Azuracast and Icecast are open source in nature. You don't have to enter URL in particular to search any channel as all channels are browsed through android application. For storage purpose we are opting for cloud storage. The technologies such as Azuracast and Icecast are used for server administration. To overcome the limitations of Shoutcast provided in the problem statement we use Icecast.

I.   **Icecast:**

Icecast is a streaming media server which currently supports Ogg vorbis and MP3 audio format stream. It can be used to create an internet radio station or a privately running jukebox and many things in between. It is very versatile in that new sformat. It supports open standards for communication and support. It also supports 'https' protocol. Icecast is a streaming media project released as free software maintained by the Xiph.

II.   **Azuracast:**

Azuracast is a self-hosted all in one web radio management suite which is easy to use and has powerful in-built interface. Using it is very easy and powerful with built-in web interface; you can start up fully working web radio station in few minutes. AzuraCast works for web radio stations of all types and sizes, and is built to run on even the most affordable VPS web hosts. AzuraCast is currently in Beta. Many web radio stations already run AzuraCast, but keeping your server up-to-date with the latest code from GitHub repository is strongly recommended for security, bug fixes and new feature releases.

III.   **Shoutcast:**

SHOUTcast radio is a streaming audio solution which permits anyone to broadcast audio to listeners across the internet. You basically become your own radio station, but instead of broadcasting through radio waves, you broadcast through the internet. Your listeners can tune in through any supported media player, such as Windows Media Player, Winamp, iTunes, RealPlayer, etc.

V. FUTURE ENHANCEMENT

1)   Podcasting option can be implemented.
2)   Scheduling of Program option can be implemented for future enhancement.
3)   The playing information can be shown as notification on status bar.

VI. CONCLUSION

We studied research papers of this topic that gave us many ideas and guidelines. We also discovered that we can increase the audio quality of the radio signals that is to make the radio sound better. The system is highly flexible and well efficient.

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