WEB BASED INTERACTIVE FM

[1]Mrs.T. Nithya, [2]Mrs. K. Vijaya, [3]S. Deepika & [4]B. Dhimple*.
[1&2]Assistant Professor & [3&4]Final Year Students,
[1,3&4]Department of Information Technology & [2]Department of Computer Science and Engineering,
Velalar College of Engineering and Technology, Thindal,
Erode, Tamilnadu, India, Pin Code: 638012.
** Corresponding Author Email: dhimplebalakrishnan99@gmail.com*

Abstract: *A web-based application for the interaction of communication between the FM service providers, advertising people and public. It is an automated online system where all the participants, program advertising and employees of the FM could able to communicate through this automated system itself to the all participants of the system. Currently the system is running on manual request from the users, sending messages via mobile phone. The current process needs the presence of people via message or call to request a song or convey the special wishes for the festival occasions. Certain times due to the busy schedule or held up people could forget to convey the wishes to their family members and friends. So, in this newly implemented system people can post the request in upfront so as per the date the information or messages or wishes will be conveyed by the FM to the user requests.*

Keywords*: FM-Frequency Modulation Radio station, FM Service Provider, For Conveying Wishes, Posting Requests, Web Based Application.*

1. INTRODUCTION

This is a web-based application for the interaction of communication between the FM service providers, advertising people and public. It is a web-based online system where all the participants, program advertising and employees of the FM can communicate through this automated system itself to the all participants of the system. The GUI's top level has been categorized as follows:

1. Administrative UI Design.
2. The Operational and Generic UI Design.

The administrator UI focuses on the compatible information that is, a part of the organization activities and which needs proper authentication process for the information collection.

The operational and generic UI helps the users upon the system in transactions through the existing information and required services. The operational UI also helps the standard users in managing their own information in a customized manner as per the assisted flexibilities.

2. RELATED WORKS

Various mobile applications and web applications have been proposed for internet-based radio systems with each having its respective pros and cons as any of the application systems does not provide interface for users to interact and participate events conducted by FM radio systems through online.

In [5] explains that DAB (Digital Audio Broadcasts) by default provides almost deterministic QoS guarantees, by fully exploiting its design objectives and specifications. As far as other forms of digital audio broadcasting are concerned though, providing deterministic or even statistical QoS is not always achievable. Using an appropriate signal management system, a minimum level of QoS can be guaranteed.

By enhancing the original DAB system's facility of one-way, high bandwidth, downlink broadcasting in the logic level in [6] provides any radio station with a powerful software tool that exploits all available resources with the minimum possible cost. It presented an interactive multimedia platform capable of analogue, digital and/or Internet broadcasting.

In [2], Radio station website provides functions of audio listening, including additional and differentiated music offer with disrupted listening formats. The website also has an informative function and exhibits a lot of multimedia content and diverse music element that create overall editorialized environment online, where listeners navigate and in which their music listening practices are altered. The author also mentioned in the paper that the study concentrated merely on the producer's perspective. Therefore, to further investigate radio stations online, future studies should focus on radio listener's behaviors in order to not only account for what a radio station intends to do online, but rather on what it actually achieves.

3. PROPOSED SYSTEM

The proposed system implements an online system based on the programs, public or users could able to request the songs, wishes etc., through this system itself. As per the request of the user the songs or the wishes will be conveyed on the FM. The proposed system has following advantages:

1. Web Based Automated system, so it maintains centralized access.
2. More user friendly.
3. Easy to convey the wishes even if its future dated.

3.1 SDLC Methodology

Software Development of life cycle (SDLC) plays a significant role, because it describes the whole requirement of the system. It is used by developers and can be the essential during testing phase. Any changes made to the requirements in the future have to undergo formal change approval process.

The methodology followed in the proposed system has been explained in terms of diagram is shown in Fig.1.

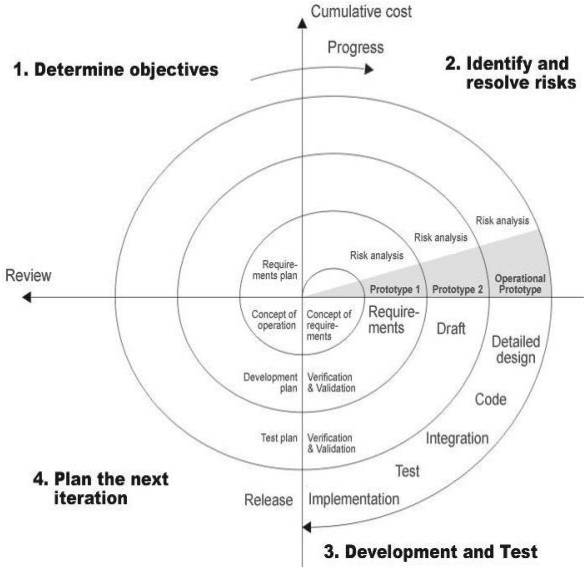

Fig.1.Spiral Model for Implementation of the Proposed System

The methodology followed in the implemented system has following advantages.

- As important issues are discovered earlier, estimates (i.e. budget, schedule etc.) become more practical as work progresses.
- It is more able to deal with the changes that are software development generally entails.
- Software engineers can get their hands in and start functioning on the core of a project earlier.

The proposed system consists of four basic modules which are explained below.

3.2 Admin Module

Admin is the complete controller of this system. Admin is the only person who is going to add all the events, participants of the events (Employee-Anchor), accepting advertising from advertisers, change of timings of the events, editing events, new events and maintaining the data of the employees etc. Admin could able to allot and create the user name and password of the applications for the all the employees of the FM station.

TABLE-1. Admin Module Values

S.No	Int(10)	Checked
Events	Varchar(50)	Checked
Devotional speech	Varchar(50)	Checked
Breakfast show	Varchar(50)	Checked
Actor interview	Varchar(50)	Checked
Afternoon show	Varchar(50)	Checked
Game show	Varchar(50)	Checked

3.3 Employee Module

Every employee could able to view the entire request from the users for the request of the songs or wishes. Employee also could able to view their schedule of events as announced from the admin of the system. Employee could able to login and view about their general information about their holidays, news etc.

TABLE-2. Employee Module Values

Id	Int(10)	Checked
Employee Name	Varchar(50)	Checked
Employee Id	Int(10)	Checked
Position	Varchar(50)	Checked

3.4 User Module

User must register and login for requesting any kind of events participation, wishes etc. Only registered users could able to login into the system for requesting it. Every user detail will be authenticated for accessing this application by the admins.

TABLE-3. Employee Module Values

ID	Int(10)	Checked
User Name	Varchar(50)	Checked
Email-ID	Varchar(50)	Checked
Phone Number	Int(10)	Checked

3.5 Advertiser Module

Advertiser is the person who wants to promote their business by giving advertising on different FM Programs. Once the new events have been added, advertiser will get the notification on his profile, so accordingly advertiser can contact or request the admin for their advertisement promotion also. Advertiser can also be able to withdraw their advertisements whenever required on this application. Advertiser can view the status whether the request has been accepted or not through this system itself.

TABLE-4. Advertiser Module Values

Id	Int(10)	Checked
Advertiser Name	Varchar(50)	Checked
Event Name	Varchar(50)	Checked
Number of Ads	Int(10)	Checked
Ads Description	Varchar(50)	Checked
Payment	Int(10)	Checked
Date	Date	Checked
Time	Time	Checked

4. SYSTEM DESIGN

The design of the implemented system has been demonstrated in the form of architecture diagram is shown in Fig.2.

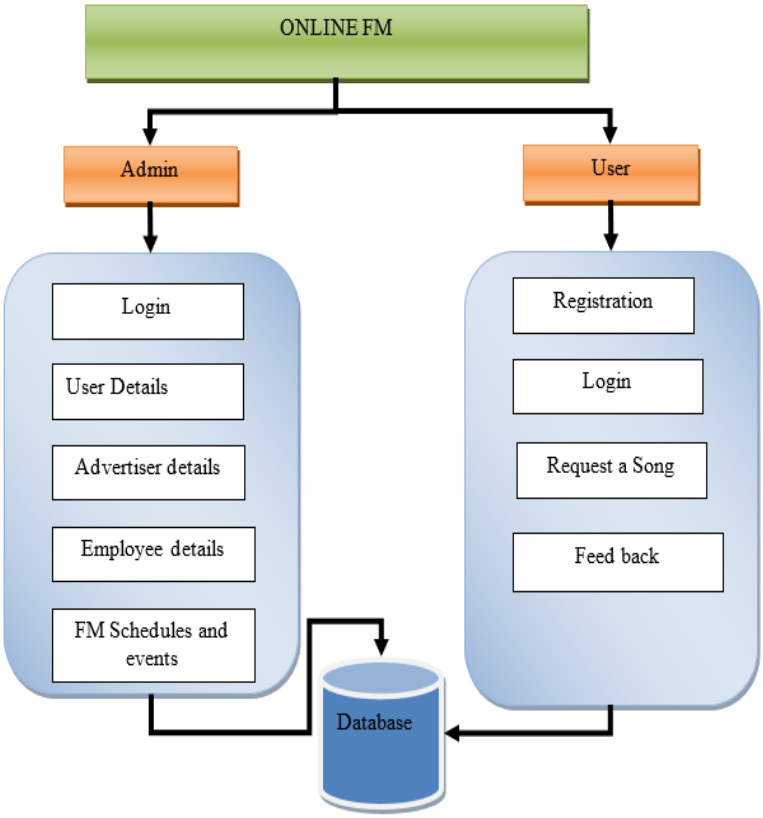

Fig.2. Architecture Diagram.

5. EXPERIMENTAL RESULTS

The purpose of testing is to find errors. Testing is the process of discovering every possible fault or weakness in a work product. It provides a way to check the performances of components, assemblies, sub-assemblies, and a finished product. It is the process of utilizing software with the aim of ensuring that the software system meets its requirements, user expectations and does not fail in an inadmissible manner. There are various types of test. Each test type addresses a specific testing requirement.

5.1 Unit Testing

Unit testing includes the plan of test cases that properly validate the functioning of internal program logic and the inputs and outputs produced by the program. All internal code flow and decision branches should be validated. It is the testing of discrete software units of the application. It is done after the completion of a discrete unit before integration.

This is a structural testing, that depends on knowledge of its construction and is invasive. At component level unit tests performs primary tests and test a business process, application, and system configuration. Unit tests makes sure that each individual path of a business process executes exactly to the required specifications and contains clearly defined inputs and expected results.

5.2 Integration Testing

Integration tests are used to test integrated software components to discover if they run as one program. Testing is event driven and is more concerned with the primary outcome of screens or fields. Integration testing is specifically focused at revealing the problems that arise from the combination of components.

Integration testing technique is the incremental testing technique processing of two or more than two integrated components on a single platform to produce failures caused by interface faults.

The duty of the integration test is to examine that software components or software applications, e.g. components in a software system or – one step up – software applications at the company level – interrelate without error.

5.3 Acceptance Testing

Acceptance Testing is a critical stage of any system and needs significant participation by the end user. It also ensures that the system encounters the functional requirements.

5.4 White Box Testing

White Box Testing is a testing technique in which the software tester has awareness of the internal workings, structure and language of the software system, or at least its purpose. It is used to test scope that cannot be reached from a black box level.

5.5 Black Box Testing

Black Box Testing is a testing technique the software system without any awareness of the internal workings, structure or language of the module being tested. Black box testing technique tests, as most other kinds of tests, must be written from a decisive source document, such as specification or requirement document. It is a testing technique in which the software system under test is treated, as a black box. The testing technique provides inputs and responds to outputs without considering how the software system works.

Test Results:

All the test cases mentioned above passed successfully. No defects encountered.

6. CONCLUSION

As per this web based online FM application, users get more benefited. It is a user friendly and very less time-consuming application. It provides the users an interactive way of communication in which there is no limit and control. It is fully functioned based on the user's request and on their willingness. In this busy schedule this implemented system is a powerful one for the future dated events and it keeps the user free and in the relaxed manner. Users need not required to call or wait for participating in any events or conveying their wishes. Since time does not play a major role and it is not limited, users can feel free and it provides them a comfortable manner to participate in any events in FM. It is maintained in a centralized access so it will be easier to access from any part of the place.

REFERENCES

[1] Chris Priestman, 'Web Radio: Radio Production for Internet Streaming', published by Focal Press, 2002.

[2] Jakob Svensson and Nicolas Ignatiew, 'Music radio stations from the "On Air" to the Online, uppasala university, p. 99, 2017.

[3] Luke Willing, Laura Thomson, 'PHP and MySQL Web Development', 1st Edition, March 2001.

[4] Matt Zandstra, 'Teach yourself PHP in 24 Hours', 1st Edition, June 2000.

[5] N. Manouselis, P. Karampiperis, I. O. Vardiambasis, A. Maras and G. Liodakis, 'Digital Audio and Internet Radio Broadcasting Systems under a QoS Perspective', 4th WSEAS Conference on Telecommunications and Informatics, ISBN 960-8457-11-4, pp. 284-289, March 2005.

[6] Nikos Manouselis and Pythagoras Karampiperis, 'Digital Audio Broadcasting: An Interactive Services Architecture', IEEE Conference on Communications, Computers and Signal Processing, 2001.

[7] Roger Pressman, 'Software Engineering', 5th Edition. July 2008.

[8] http://developer.com/guide/webapps/webview.html.

[9] http://www.developphp.com/

[10] https://azure.microsoft.com/en-us/develop/php/

[11] http://www.radio.gov.pk/fmstations

[12] www.fontawesome.com

[13] www.w3schools.com