"RADYO KAILIAN ON-AIR ANDROID APPLICATION"

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Chapter I

INTRODUCTION

Project Context

Radio is the best source of entertainment for millions of people. There were big radio sets made with vacuum tubes. One should possess a big accumulator battery to power those machines. In its infancy, broadcasting was much less controversial. Experimental radio broadcasting began in 1910 when Lee De Forest produced a program from the Metropolitan Opera House in New York City. Other experimental radio stations were started at the University of Wisconsin in Madison in 1915 and another in Wilkinsburg, Pennsylvania, a suburban of Pittsburgh, in 1916. Detroit radio station WWJ is considered the first commercial radio station in the United States. It began broadcasting on August 20, 1920. Pittsburgh station KDKA grew out of the Wilkinsburg experimental station. Its broadcast of the 1920 presidential election results on November 2, 1920, is generally considered to be the beginning of professional broadcasting. Although fewer than one thousand receivers were tuned in, the excitement of the event created great publicity. Stations soon started appearing in all parts of the United States. By the end of 1924, 583 radio stations were transmitting and more than 3 million receivers were tuned in. The success of radio produced problems as

well. There was competition for frequencies and increased transmission power.

The period from 1925 to 1950 has been called the "Golden Age of Radio." During this period radio was a major source of family entertainment. Every night families would gather around the radio and listen to news, music, comedies, and adventure dramas. Serialized stories aimed mainly at women, dubbed "soap operas," became popular. They were called soap operas because they were initially sponsored by soap companies. President Franklin Roosevelt became the first president to understand the power of radio. He regularly conducted "fireside chats" over the radio between 1933 and 1945. These informal talks helped Roosevelt gain support for his policies. The popularity of radio continued into the late 1940s until the beginning of television signaled radio's rapid demise as the major source of home entertainment. Music stations began to specialize in top 40 hits in popular music, country music, and rhythm and blues music. By the 1990s, talk radio had become a popular and profitable format, making national celebrities of political commentator Rush Limbaugh and "shock jocks" Howard Stern and Don Imus. Stern and Imus received the shock jock designation as a result of their raunchy and outrageous behavior on the air. Pacifica challenged the FCC's actions. Radio broadcasting experienced new growth in the 1960s and 1970s with the licensing of many FM radio stations. FM stations

transmit radio signals by frequency modulation, hence the initials, FM. FM waves do not travel as far as AM waves, but FM waves are not affected by static as much as AM waves. In addition, FM signals produce a much truer reproduction of sound. Since the late 1960s FM stations have had the ability of broadcasting in stereo. This development was a factor in the growth of the popularity of FM stations. Music from records and compact disks can be transmitted in high fidelity. West's Encyclopedia of American Law. (2005).

Advantages and Benefits of Radio Stations with Android Application

Mobile Apps is the perfect complement to any broadcast radio station. Loyal followers can now take your voice to the beach, their office, their computer, or across the country. Listeners are able to listen live andbe tuned- in with events .This application allows the station to be with their listeners everywhere they go. Jack of Trade Apps.(n.d.)

Radyo Kailian is the only Nutriskwela Community Radio Station in Region I started in the year 2010, it can only reach 15 kilometer radius signal within the province and because of this, the number of listeners is not quiet much. Based on the survey conducted last May 2013 by the Radyo Kailian staff, there were only 75 Barangays within the 15 **kilo**meter radius signal reach by the radio station. The proposed Radyo **Kai**lian Android would be a great help in widening the range not only in Region I but throughout the world.

Purpose and Description

Radyo Kailian Management. The output of this study will widen the range of the station and they can easily promote it in other countriesspecially for Filipinos abroad.

National Nutrition Council. The output of this study would be of significance to the National Nutrition Council in widening the nutritional information dissemination.

Radyo Kailian Listeners. The study will ultimately benefit listeners, through their android phones they will be able to listen to music, aired programs and news in real time.

The Researchers and future researchers. The researchers explore into a deeper knowledge and develop their multimedia skills. Furthermore, the result of this study will ignite the interest of the future researchers to dig more knowledge in the field that they may add more features of the said research.

Statement of Objectives

The aim of the study is to develop a Radyo Kailian On-Air Android Application.

Specifically, it aims to achieve the following:

1. to determine the existing system used by Radyo Kailian in broadcasting;

2. to design and develop Radyo Kailian On-Air Android Application;

3. to test the usability of the Radyo Kailian On-Air Android Application.

Scope and Limitation

The study focused in developing a Radyo Kailian On- Air Android Application which would somehow promote the radio station throughout the world especially Filipinos abroad. It allows users to listen to music, news, events, and aired programs. They can also leave their comments or suggestions in the comment area. Listeners can also review the top 10 most requested songs under the music tambayan page. They can watch radio announcers/dj's through RK stream, and even interact with the presenter during a live broadcast, providing broadcasters with chat and instant polling features, as well as allowing integration with Twitter and Facebook news feeds. Videos can be recorded and saved for future purposes.

The study is limited for android operating system only (2.3+). Without strong connectivity of internet they will not be able cannot access it.

Chapter II

REVIEW OF LITERATURE

Literature about Radios and How it Works

In the late 1800's radios were used as telephones. A radio needs an antenna, demodulator, tuner, amplifier and speakers to work. The antenna picks up radio waves from radio stations. The larger the antenna is the better the frequency will be. The tuner receives the frequency from the chosen radio station. The demodulator turns the radio waves into sound. The demodulator sends the waves to the amplifier which vibrates to make it loud and clear. The sound is vibrated through the speakers to allow the listener to hear the music. PowerShow.com (n.d).

According to Parker, R.(2007).FM radio signals are broadcast at high frequencies – 88.1 to 107.9 megahertz because these radio signals travel in relatively straight lines, FM reception is best when there is a 'line of sight' from the transmitting tower to the receiver. In the early days of radio, there were few regulations, and the broadcast landscape was a bit like the 'Wild West' – only the strongest survived. Before long, things got so crowded, and there was so much interference among stations, that the government stepped in to regulate frequency distribution.Sometimes it is possible to use directional transmit antennas to send the FM signal strongly in one direction, while restricting it in the other direction to keep

it from interfering with another station. If one is on the weak side of the antenna, reception will not be as good as reception in the strong signal area. VPR Classical's 88.1 FM WNCH and 90.9 FM WOXR use directional transmit antennas. They have strong signals in one direction and lower signal strength in others to protect other stations' signals. The FCC's allocation system determines the location and the output power, meaning that some stations are much more powerful than others. For instance, 90.9 and 88.1 are both located on high mountains, but neither of these 2 to 3 Kilowatt stations is as powerful as VPR's 107.9 FM WVPS signal from Mount Mansfield, at 50 Kilowatts. This complex and interlocking system of allocation means that VPR cannot simply increase power, move a station or build one in your area if it will interfere with another licensed station. Opportunities to acquire new frequencies do arise. VPR has recently applied for several frequencies and will keep you informed on the status of these applications. New technology has allowed them to expand our services in lieu of the limitations of traditional FM radio. In addition to Internet web streaming, new HD (Hybrid Digital) multicast broadcasting has given VPR the ability to provide two or three different program choices on our existing VPR stations. Listeners with an HD radio can hear these additional services, including VPR Classical, on all of our transmitters. While the HD signals are not always as strong as regular FM signals, they provide additional opportunity for our services

to be heard by the great majority of our listeners across Vermont. And best of all, the new HD radios will still pick up regular FM broadcasts.

Radio Stations with Android Mobile Application

Pandora Radio -is by far the best online radio around. It's been around for a while, and it's like the Stumbleupon of radios. Users type in what song or artist they like, listen to some songs, hit thumbs up or thumbs down if they like or dislike it, and Pandora adapts. After two or three times of hitting thumbs down on Justin Bieber they won't hear another little girls singing about babies.Pandora Radio gets a 5 out of 5. It is more that deserving judging by the fact that it's on my Top-10 App Essentials list, and the fact that it saves one from repetitive over-played songs. There are no bugs, no glitches, nothing but the occasional advertisement. As one listen, Pandora allows the user rate tracks up or down, or skip tracks at will. Your ratings here will help Pandora home in on exactly the types of music you like, so it is important to be an active listener. You can share what you are listening to via e-mail, Twitter, and Facebook, or simply post your track to your Pandora profile, which tracks one listens activity. Pandora profiles keep track of songs one Bookmarks and Likes. Moreover, they add another social element to the listening experience, as they enable other users to see what you're listening to (if you make your profile public), and you to see what they're listening to. One can even "follow" other users and get updates when they do things like create new stations. Altogether, it's a fantastic way of

discovering new music. Pandora Android app offers a phenomenal listening experience. Its user interface is slick, despite the pesky advertisements. Further, it features robust sharing features; control to edit one stations, and a nifty new way to wake up to your favorite tunes. If one likes listening to music on his Android phone or tablet.Pandora Radio Android.(n.d.).

Hagle, W. (2013) Earbits offers an expansive variety of unique radio stations, each crated from artist submissions. The app features genre-based stations as well as specialized channels built around events or activities. The app primarily highlights independent artists, showcasing the most talented musicians that otherwise might not receive radio play. The most attractive feature of Earbits' Android app is that everything is entirely free. There are absolutely no ads, skip-limitations or fees. The app's streaming services are also available worldwide.

Android An Operating System

Skogberg, B.(2010). Android is an open system, and is free to use by anyone. A handset manufacturer can use Android if they follow the agreement stated in the Software Development Kit. There are no restrictions or requirement for the handset manufacturer to share their extensions with anyone else,as there isopen source software, if they leave the Linux kernel as is. The Linux kernel is under a different and more restricted license than Android. Android is a software environment and

not a hardware platform, which includes an OS, built on Linux kernel8based OS hosting the Dalvik virtual machine. The Dalvik virtual machine runs Android Applications as instances on virtual machine. Android contains a rich user interface, application framework, Java class libraries and multimedia support. Android also comes with a built in applications containing features such as short message service functionality messaging, phone capabilities and an address book contacts.

Overview of an Android

Android was built from the ground-up to enable developers to create compelling mobile applications that take full advantage of all a handset has to offer. It was built to be truly open. For example, an application can call upon any of the phone's core functionality such as making calls, sending text messages, or using the camera, allowing developers to create richer and more cohesive experiences for users. Android is built on the open Linux Kernel. Furthermore, it utilizes a custom virtual machine that was designed to optimize memory and hardware resources in a mobile environment. Android is open source; it can be liberally extended to incorporate new cutting edge technologies as they emerge. The platform will continue to evolve as the developer community works together to build innovative mobile applications. Android does not differentiate between the phone's core applications and third-party applications. They can all be built to have equal access

to a phone's capabilities providing users with a broad spectrum of applications and services. With devices built on the Android Platform, users are able to fully tailor the phone to their interests. They can swap out the phone's homescreen, the style of the dialer, or any of the applications. They can even instruct their phones to use their favorite photo viewing application to handle the viewing of all photos.Android breaks down the barriers to building new and innovative applications. With Android, a developer can build an application that enables users to view the location of their friends and be alerted when they are in the vicinity giving them a chance to connect. Android provides access to a wide range of useful libraries and tools that can be used to build rich applications. Open Handset Alliance. (n.d).

The Android Project

According to Bedyńsk, P.(2011) Android is an open source project developed by the Open Handset Alliance and held by Google Inc. It is often wrongly attributed to the operating system based on Linux kernel alone, but in fact it contains a middleware and a variety of additional applications. For these reasons it is fairer to say that Android is a software stack for mobile devices. All phones running the Android system come with a range of pre-installed applications like Maps, Google Search, Gmail or YouTube. Users can easily download new

applications (also called apps) directly from their mobile devices, or by using the Android Market social web site (over 200.000 apps are available there). Both paths provide a very seamless experience and require only a little user interaction. The system takes care of the whole installation process in the background including finding a path for the new application. Users are only asked if they agree on the application's permissions which basically means a set of actions that the new app will be permitted to perform (like accessing resources or device's sensors). It is also important to mention that all applications within the Android system are equal. Regardless to whether it is a third party application or a core system application, they all run in the same environment and potentially have the same access rights to all phone resources. This way, for instance, new applications can easily replace the old ones if they have similar functionality. Android is based on an event-driven mechanism so it is all a matter of listening to specific system broadcast messages and acting accordingly. One of the most appreciated aspects of Android is its openness. The source code has been revealed to the public, enabling many developers around the world not only to have better understanding of what is happening in the background of the system, but also to actively contribute to the project.

Joe Hindy (2014) who was an android authority app guy introduced some of the best radio Android app which are the Pandora Internet Radio, iHeart Radio, Sky FM, and the Live365 Radio.

Web Analysis Measurement Inventory (WAMMI)

Claridge, N. (n.d). WAMMI is used in business sectors such as banking, finance, travel, telecom and IT, and all sizes of transactional (e-commerce) sites. It has also been applied to corporate intranet solutions.It is used in the public sector (e-government) and has been broadly recommended, for instance, by the UK guidelines for public sector websites.WAMMI measures user experience status of a website and provides with a clearer understanding of the types of visitors that come to your site, why they visit it and how they think it can be improved. The survey process is simple. Visitors to a site complete the WAMMI questionnaire including any additional questions they care to ask.

Chapter VI

SUMMARY, CONCLUSIONS, RECOMMENDATIONS

Summary

The main objective of the study is to develop a Radyo Kailian On-Air Android Application. Specifically it seeks to achieve the following: (1) to determine the existing system used by Radyo Kailian in broadcasting. (2) to design and develop Radyo Kailian On-Air Android Application (3) to test the usability of the Radyo Kailian On-Air Android Application.

The system made used of the Mobile-D Software Development Process. The method is based on agile practices, drawing elements fromwell-established agile methods such as Extreme Programming and Crystal Methodologies, but also from the "heavier" Rational Unified Process. Different data gathering procedures were employed such as interview and internet. The WAMMI questionnaire was used to test the usability of the application.

The study found out that Radyo Kailian transmits signals using frequency modulation, receives request of songs through text messages and record programs using gold wave a highly rated, professional digital audio editor.

The features of the system includes: RK streaming where it allows broadcasters to broadcast live streaming video on the Internet. The contact area where it is used to keep in touch with the management. The chat room page where it allows users communicates with each other through instant messaging. The music tambayan page where the top 10 most requested hits are listed and can be played in background. The comment page where criticisms, or illustration of something written is listed.The news page where information of current events are present.

The usability of the system along the areas is attractiveness (4.06), controllability (3.69), helpfulness (4.01), efficiency (3.86), and learnability (3.85) all of which were rated with a description of agrees.

CONCLUSIONS

Based from the findings the following conclusions were drawn:

1. Radyo Kailian transmits signals using frequency modulation, receives request of songs through text messages and record programs using gold wave a highly rated, professional digital audio editor.
2. The Radyo Kailian On-Air Android Application with the main feature of video streaming functioning well.
3. The usability of the system along its five areas was found to be of good ratings.

RECOMMENDATIONS

From the findings and conclusion drawn the following recommendations are offered:

1. There is a need to convert the manual to computerized operation of the Radyo Kailian in terms of broadcasting to improve the delivery of its services to the stakeholders of the community.
2. There is a need to maintain the main feature of the video streaming of the application and later on be improved to keep it abreast with the changing needs in technology.
3. There is a need to maintain and improve the features of the system along the low areas of its features.
4. The application can be replicated and new features can be added that suit the needs of technology in broadcasting.

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