

# AI Radio App



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**Abstract:** We present a live streaming app for Android And iOS devices and Web using URL. The app is useful for three reasons first, all your favorite radio stations will be grouped in one place, and hence, you can easily play and switch from one station to another without any hassle. Second, it is an app that turns your device into a radio setting you listen to live streaming stations while in the office, on the road, or in any other setting. Third, it is the Voice assistant-based app that takes input from the User command and plays channel according to the command. The app is similar to Spotify but on a smaller scale. This application provides a facility to listen to your favorite music anytime, anywhere. It provides live streaming from radio stations all around the globe. It is distinct from on-demand file serving. Internet radio is also distinct from podcasting, which involves downloading rather than streaming. Many Internet radio services are associated with a corresponding traditional (terrestrial) radio station or radio network. Internet using radio stations are independent of such associations. Internet radio services are usually accessible from anywhere in the world. The app has two main contributions:

- 1) We describe all the steps and components needed to develop such an app.
- 2) We also discuss the functionality and the trade-offs using different components and approaches. Radio audiences will be formed of all segments of society even people who are handicapped.

**Keywords:** Mobile Application, Android, Media Player, Digital Streaming, Web radio, net radio, internet radio streaming radio, and e-radio.

## I. INTRODUCTION

The radio is a "voice" that arrives without obstacles or barriers or physical means and is a means of mass communication described as a means of communication. The listener receives media messages through the radio, received by the ear as voices, and is affected by the performance of voice and the unique spontaneous. We can hear the radio anywhere, there is no compulsion that person should be educated. Here, research focuses on Radio as a

media station may be difficult to some people to imagine that the tremendous changes in the radio industry. Thus, if we prove that on the radio then it reflects all other media stations. However, The implementation of artificial intelligence has become mainstream in the development of social media due to its advantages of automatic data processing, content generating, and efficient interaction with customers, AI has become the main factor especially when we know the recent statistics, according to Statistic (2017), the number of smartphone users in the world is around 2.3 billion, and this number has been increased to 5 billion in 2018 according to the global digital report 2018 (digital report, 2018). Another global survey stated that half of the world's population (around 4.6 billion out of 7 billion people) is using smartphones (Statistic, 2019). The use of smartphones has become a ubiquitous and constant part of people's lives. Furthermore, a statistical survey (Hoot suite, 2019) showed that the total number of people using social media on their phones has increased over the years

## II. LITERATURE SURVEY

Dr. Hassan Mustafa has proposed a paper called with project Rodriguez del as "Impact of Artificial Intelligence on Smart Media Stations (Smart Radio)". In that author has to tell the advantage of the radio in old age. the development of Artificial Intelligence and its influences in the communication technology industry generally. This paper presents a technical innovative platform that reflects media integration in one screen instead of multi-platform screens. The paper handles the Implementation of A I and how may help the audience to interact with smart media stations, addressing the challenges and concerns about new jobs than the new features and characteristics of the future and the experience of smart radio as a concluding business model. The radio will not be a blindly listening device anymore. Radio audiences will be formed of all segments of society even those who lost the blessing of hearing. The AI will play a massive role in taking participation decisions. The audience is not only receivers anymore; they are senders and producers as well. All audience Social Accounts will be implemented together when start using smart radio. AI will replace the Gatekeeper. The author has just given an idea of the implementation of AI in radio app. The author has not implemented this project. [1] The author develop an FM Radio App located in the city of Indonesia which has the motto "Information and Solution" The broadcast signal has limited covered areas because of the geographical condition of the city. Then, the other media is needed to solve a problem. This research aims to expand the broadcast area using Android radio streaming apps. Tools in this research are using computer hardware and software such as Java language programming, Android Studio, and XML language.

Manuscript received on March 17, 2022.

Revised Manuscript received on March 24, 2022.

Manuscript published on May 30, 2022.

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This research used the waterfall steps. The test using the black box shows that the apps running well and have no errors. The drawback of the app is it is available only for android users. And this app is developed for only one city in Indonesia. [2] Abdul-Rahman Milwood-Yunis has proposed an application name as A Live Streaming App for Android devices. This application was developed only for android using URL. This application is useful for two reasons. First, all your favorite radio stations will be grouped together in one place, and hence, you can easily play and switch from one station to another without any hassle. Second, it is an app that turns your device into radio and lets you listen to live streaming stations while in the office, on the road, or in any other setting. In this application, they have to use the media player component to live stream the radio station using any URL. This application has many drawbacks to playing the radio station we have to click on the URL then only it can play the live streaming radio. The user cannot customize the application. The framework or user interface is not user-friendly. The Prepare () method runs in the UI thread and thus it takes a long time. It will block your UI thread and a user might get an ANR (Application Not Responding) message. on the other hand, runs in a background thread and thus your UI thread is not blocked. However, the Media Player object might not be prepared instantly so you want to set it on Prepared Listener to available know when the Media Player is ready for use. So, this stops the app from working and drains the battery life also. And the app also stops working. This application is not a crass platform. [3] Edison Jimenez et al develop the system for the smartphone app named smartphone radio app. It has many features such as playing news along with Jazz, Blues, Soul, Bluegrass, Folk, Americana, and Latin Jazz music to an audience of over forty thousand. The user can listen to music stream with device music also. Therefore, the goal of this project was to develop a native mobile application for the Android Operating System that would feature live radio streaming capabilities, display parts of the station's website in a mobile-friendly format, alarm functions, and donation capabilities. The research gap is that the framework used in the app is not user-friendly. Half of the features are not working that the time of production. The app takes a significant amount of time to load. [4] Cheng-Pei LIN et al have proposed a system called mobile radio app based on the kano model. The k model is used to satisfy the user of the mobile application. The kano model has five types (1) Necessary demand (2) Expected demand (3) The charm demand (4) There is no differential demand (5) Reverse demand. The kano model is used to explore the needs of the elderly for mobile station APP. The kano model takes the requirement from the elderly people. The developer takes the analysis from the kano model takes that radio station. After that final prototype of the mobile app is proposed. The key design elements. Finally, the interactive prototype of the mobile station APP is proposed. The application research of mobile station APP for the aged integrated with the Kano model not only provides a good user experience for the aged users. To provide the elderly with a good user experience of mobile radio products, this paper uses the Kano model to analyse the needs of elderly users and apply it in design practice. The main drawback of the system is that this app is

developed for the elderly people of China. This app framework designed is according to the old radio app design. The main disadvantage is that every time it takes the requirement from the user when a user opens the app that Therefore Kona model used in-app is very slow due to which the mobile radio app work slow. [5] Utkarsh Goel et al have proposed a system called an "E-Radio" or "Internet radio". This app provides the facility to listen to radio over 80 radio stations around the earth. The application is an audio service transmitted via the Internet. The application involves a web-based application so connect the radio station we need to connect to the internet. This application cast Music streaming on the Internet is usually referred to as webcasting since it is not transmitted broadly through wireless means only. Internet radio involves activities such as streaming media, presenting listeners with a continuous stream of audio. Many Internet radio services are associated with a corresponding traditional (terrestrial) radio station or radio network. Internet- only radio stations are independent of such associations. Internet radio services are usually accessible from anywhere in the world. The research gap is that to connect the internet radio there should active internet connection to connect to E-radio. There is no feature such as podcast, favorite, it also used data to transmit audio radio to the E-Radio application. It required minimum internet bandwidth of 128kbps. [6] Sajan das have proposed the software system name as a radio app for iOS devices. The app is coded in the swift language using a swift, swift kit, this app has the inbuilt audio player that can play device songs only. The user has to download songs to the device and play the song to the radio app. The radio has only one feature i.e. it has a share option to various social media links. The limitation is that it is available App store only and can be downloaded on iOS devices only. The main limitation is that is not a proper radio app because the app plays the songs from the device only. [7]

### III. PROPOSED SYSTEM

Ai Radio App Use Flutter Technologies to develop the smart radio app that can take the input from the voice and also takes the text input. The Voice input is taken by Alan AI which is a Smart Api that can record the user voice and performs that command for the users. The Alan AI also has inbuilt voice filter so it can filter unwanted noise of the user from the Background. The Ai Radio App also has the Radiopage in it. The user can listen the radio using the internet URL. The Ai radio also has inbuilt weather app that helps the user to check the current location weather in Fahrenheit format. The user can check the weather of any location around the globe. The Weather page work with help of [openweathermap.org](https://openweathermap.org) Api which can call one lakh Api call per second to check the weather data if it is correct or not. AI Radio App also has the Inbuilt Podcasts page in it. The podcast page has the podcast player which can play the podcast of any registered user.

The Podcast player has the Api called as Spotify Api. It can also call the fifty Thousand Call per second so as to load the data instantly.

- A. Splash Screen: -
  - On this app page, the logo of our app will be displayed in the form of animation in that time the shared preference package will be initialized and load the app.
- B. Shared Preference: -
  - In the shared preference Block it will check the user is a new user or not if the user is an existing user, then it will take the user to the login screen. Else to the registration page.
  - If the user is already login to the account and if the user does not log out of the app., then the next time the shared preference will check whether the user logged in to that out or not on the last time.

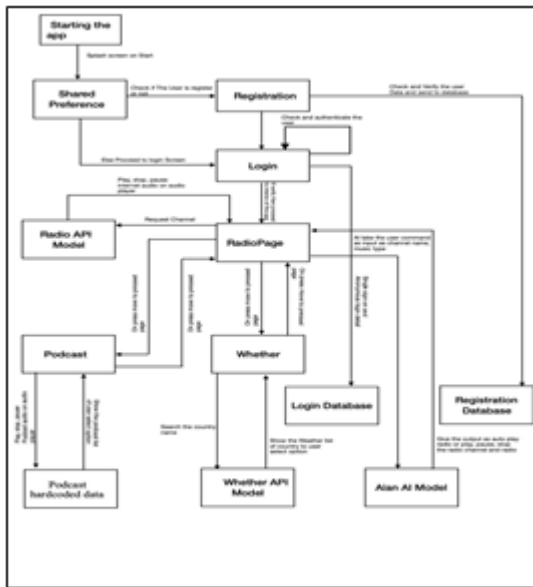


Fig 1. System Architecture of AI Radio App

- C. Registration Screen: -
  - When the new user uses this app first time. he has to verify register himself on the app. then it will redirect the app page to the login screen,
  - Another way to register the user to the app is using the single sign-on method. This way the user will create directly through single sign-on
- D. Login Screen: -
  - The user has to log in himself and verify that the user authenticates the user then the app will take the user to the next page.
- E. Radio Page with AI Screen: -
  - The Radio page has a manual button that can play the audio on our internet using internet audio player integration in our app. Or it can play, pause, stop and play the next radio channel or all these commands can be operated by our app AI called Alan AI
  - This radio page has a button navigation bar that takes the user to the podcast page or to the weather page according to the user's wish and command
- F. Alan AI API Model: -
  - In API Modal the code will be written on that basis the AI Will take the action on the input command.
  - In this API model, the Alan AI has all the privileges to access all the commands.
- G. Podcast Screen: -

- The Podcast Screen has the podcast of all the user following user list of all the podcast will display on the screen when it is there otherwise it will show no podcast found.
- The Podcast screen has the like, unlike, favorite button show that the user gets easy access to a favorite podcast.
- When the user sends a podcast request through the play button. The play button requests the Podcast API model through HTTP. The HTTP sends the requested podcast to the podcast API model and this audio is sent to the podcast audio player.
- H. Podcast hardcoded data: -
  - The working of the podcast hardcoded data is that when it received a request from podcast player it model send this request to HTTP package and this package find the podcast name in a database and then find it send to HTTP and from HTTP to model and from model to podcast audio player.
- I. Weather Screen: -
  - In weather, a page is prefetched the current location of the mobile device and it displays the weather of the area/region.
  - Working of weather page is that it asks the user for current location permission and location is searched in the weather database if the location is found it sends the weather output to the weather page.
- J. Weather API Model: -
  - When the weather Api received a request for the weather check it check in the database and search for the result and found it send the data to the API model and from there to display page of the app screen.
- K. Alan AI API Model: -
  - When the AI received the request from the user through a voice it takes it as input and finds the result and gives it an accepted command as output.
- L. Login Database: -
  - It Stores the Login detail of the user when it signs in or uses a single sign-on feature.
- M. Registration Database: -
  - It stores the Registration detail that is manually entered by the verify. Once it is verified then it is stored in the database and is in an encrypted format.

#### IV. RESULT AND DISCUSSION

This chapter includes the snapshots of the actual outputs that were seen by the user and this chapter also contains the results of the proposed system. The existing system that is implemented will help users to listen to their favorite radio channels from any location. It also contains weather and podcast features. On the Weather page, we can see the weather of any location from anywhere. On the podcast page, users can listen to any available podcast. Figure 2 shows the GUI of the Login Page of the AI Radio App which has the functionalities of registering or login into our app.

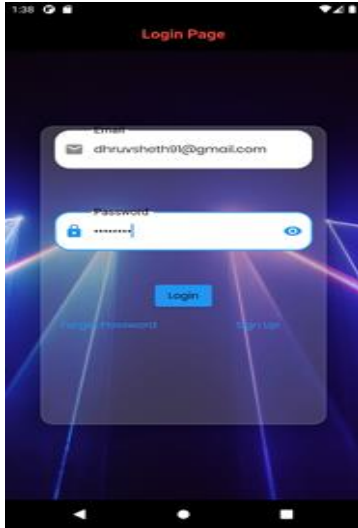


Fig 2. Output Response 1

Figure 3: shows the GUI of the Menu Page of the Ai Radio App which has all our Menu page

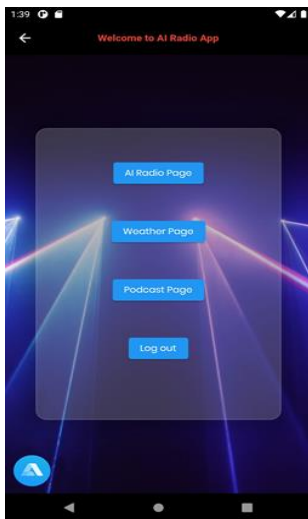


Fig 3. Output Response 2

Figure 4: shows the GUI of the Home Page of the AiRadio App which has all our radio channels and voice assistant Alan



Fig 4. Output Response 3

Figure 5 shows the GUI of the Weather Page of the AI Radio App which shows detailed information about the weather of different cities or countries.

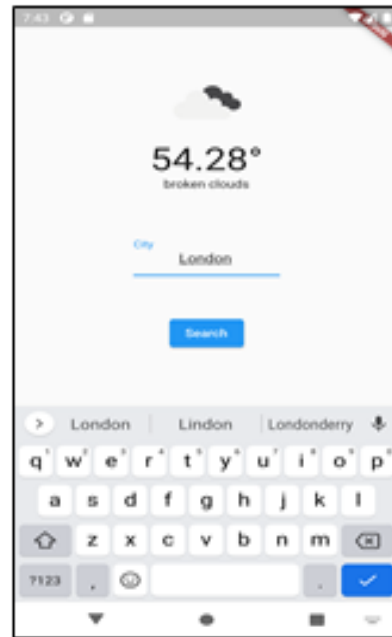


Fig 5. Output Response 5

Figure 6 shows the GUI of the Podcast Home Page and Currently playing podcast of Sundar Pichai

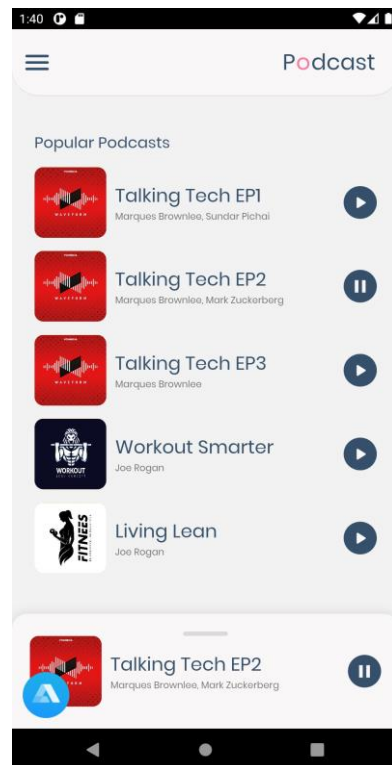


Fig 6. Output Response 5

Figure 7 shows the GUI of the Podcast Page and showing the Owner name of podcast.

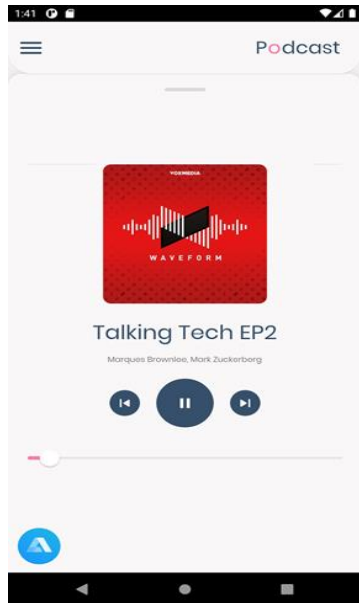


Fig 7. Output Response 6

Fig 7. Shows the Comparison Between the Proposed System And Existing System In The Form Of Table Comparison.

Parameter	Existing System	Proposed System
AI Assistant	Doesn't have an AIAssistant	Ai Assistant helps us to play the radio of the user's choice.
Channel	Few number channels available(i.e. 3 or 4)	A sufficient number of channels are available
Bandwidth	The bandwidth required is more	The bandwidth required is less than Existing System.
Range (Region)	It applies to a certain area	It is an Internet radio so it can be fetched from any part of the country.
GUI	Low Quality	User friendly
Application deployment	Either built for iOS or Android, not both	Build for both IOS, Android, and also for Chrome
Location	They does not have location service from where the request is coming	We have that service in back hand that collect the location service request

V. CONCLUSION

Kano model attracts a large no of users. Because of the radio streaming app, apps are working fine in various highland and mountains AI and smart radio or any other smart media station which could be any of TV or Radio or even publication are strongly related and will help producer and audience together to have the right content. Listeners that have access to a faster internet connection would possibly want to listen to the station's broadcast at a higher quality if they were given that option. In general we can conclude that there are a lot of disadvantages present in a research paper that we try to overcome and also this research challenged us with new features that we try to add to our project. Our future work will be adding the location service in the front-end part so that the user gets the location radio station in the top.

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