



SNAK – An Application for Chat and Learn

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Abstract: The purpose of the project is to learn a programming language included with a chat department where you can have people who have already created an account in the application, which can be useful to clarify the doubts and also to develop a friendly environment. The chat application will be written in Angular js. In the Chat department, you can send pictures and there is a voice converter that will convert your commands into words. And it will be easy to learn other coding languages while chatting with different people who may be an expert in that language, so basically, it provides a platform to learn coding with ease. When the application is done, more testing is done to make it less buggy or more users friendly. The app has been designed using the Ionic framework that is because of the free open-source, mobile UI toolkit for developing the high-quality cross-platform app for native iOS, Android and the web all from a single codebase. Ionic also has a free inbuilt database called firebase, which is also an independent platform especially for creating mobile and web applications. Taking feedback from customers who tried to build mobile apps, the team decided to build their own framework that would focus on performance and be built to modern Web standards. The framework based on the **HTML5** programming language. The **HTML5** framework always works with the help of Cordova or PhoneGap.

Keywords: Chat application, Secure chat, Android, iOS, programming language learning, voice to word conversion.

I. INTRODUCTION

Discourse is quite possibly the best types of trading data between people; henceforth, it is the researchers "The goal in the human-PC connection research field to improve discourse association between the human furthermore, the PC to imagine human-human discourse interaction." The capacity of a visit application to empower voice-based informing helps this significant highlight in the PC world. As of late, the headway of portable correspondence and Mobile

terminal, particularly the arrival of the Android cell phone stage has embedded new imperativeness to the portable space. Android is a publicly releasing versatile working framework in view of Linux which is altogether open and coordinated a stage for cell phones. The android stage comprises of the working framework, middleware and UI and application programming. As for IOS, it brought many user interface changes, including the ability to place widgets on the home screen, a compact UI for both Siri and

phone calls, and the ability to change both the default web browser and email apps. Firebase's first item was the Firebase Realtime Database, an API that synchronizes application information across iOS, Android, and Web gadgets, and stores it on Firebase's cloud. The item helps programming engineers in building ongoing, collective applications.

The Firebase stage has 18 items split into three gatherings:

- Develop
- Quality
- Grow

Advantages of using firebase for Application Development:

- The Firebase is a Backend-as-a-Service (BaaS) that offers the designers a wide range of apparatuses and administrations to grow excellent applications at a lot quicker speed.
- Firebase aids the execution of backend code reacting to occasions actuated by information bases
- It is optimized for offline use too.
- Firebase Offers Facility of Crash Reporting to Fix Bugs Quickly
- Fast and Secured Web Hosting

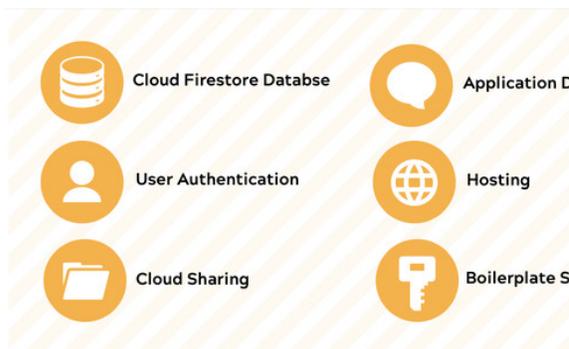


Fig.1. Firebase application development

Cross Platform - The application expands on the Ionic structure can send across different stages, like Android, local iOS, Desktop, and the web as a reformist web application and all with one codebase.

Framework Compatibility - The previous arrivals of Ionic were firmly coupled to Angular. Be that as it may, the new form of Ionic, i.e., v4 was re-designed to function as an independent web part library, with reconciliation for the most recent JavaScript systems. We can likewise utilize it in the majority of the front-end structure, like React.js and Vue.js.

Angular – It is liable for making the Ionic extraordinary. While the center parts fill in as an independent web segment library, the angular bundle makes the mix with a precise environment a breeze. The precise bundle incorporates all the usefulness that angular engineers would expect and coordinates with Angular center libraries.



Fig.2. Primary use of Ionic

Angular JS - AngularJS is a JavaScript-based open-source front-end web structure primarily kept up by Google and by a local area of people and enterprises to address a significant number of the difficulties experienced in creating single-page applications.

A portion of the primary reason for angular js are:

- Improved Design Structure
- Code Re-Usability
- Faster Application Development
- Allows parallel Development

II. EXISTING SYSTEM

From the diary distributed in 2010, at the International Conference on Computer Engineering and Technology, they proposed a methodology to make a discussion room using connection subject to Client Datagram Protocol (UDP) which enables the component of attestations after each message sent. It is tantamount to a submitted talk labourer having a Server and n number of Customers. After the client and specialist set up to interface, you can achieve various machines to pass on through dispersed correspondence, multicasting and File sending. During correspondence happening there might be a particular structure what's more, network frustrations occurring, which we have inspected and proposed a supportive response for that. This structure arranged with Java achieves a fabulous and beneficial correspondence between the customers by text affirmation. However, in the snak application, we added a despot which will promptly change your words over to text and it likewise has a ready, wherein the content will happen just if the sound is exchanged which is to affirm your content is articulated accurately. There we likewise have a stage to get the hang of coding dialects. The expansion in the utilization of cell phone and talk application Indic Mobile App Usage Statistics 2018 | November 2020ates us that individuals are more inspired by an online world which prompts an abatement on schedule for different purposes. The more we use innovation, the additional time will be devoured by them. In this way, it is insightful to learn things in innovation that

will be simple considering investing additional energy learning disconnected.

This idea gives us getting the hang of coding on the web which likewise remembers a talk climate for which you can explain the questions in regards to those code dialects with any individual (who can say for sure that language well).

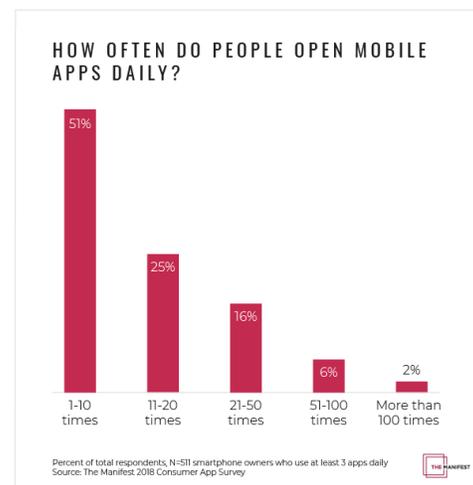


Fig.3.Usage of chat application

68% of the all-out populace utilize advanced cell and talking application. The study investigation showed 85% and 86% of the family individuals utilize advanced cell and versatile talk application individually.

From the diary that was distributed as a professional chat application dependent on language handling in 2018, an arising pattern of a tremendous number of visit applications which are available lately to assist individuals with associating with one another across various mediums, similar to Hike, WhatsApp, Telegram, and so on Since the Bluetooth innovation burns-through minimal effort and force, they joined a framework that empowers the client to visit with one another over a Bluetooth association. But with the Bluetooth

connection, you won't be able to get a secured exchange of messages, so the use of Ionic framework will give you the most secure with a free source and a database.

"The Chat applications provide basic functions that allow users to insert textual comments by being interactive "provided from the journal of Ginga middleware technology using a second screen in 2016, which can make the mistake of entering wrong comments, but from the snak application, the textual comments can be more interactive and mistake-free, if they have the voice to words conversion technique which was being checked if we the text formation of having an alert system, which will only allow the formation complete only if the audio button is switched off. So that we can check whether we have the same words as we dictated. If the Ginga middleware have these facilities then it will be easier to have the right comments.

Since 3DES symmetric encryption calculation is moderately sluggish and square size of 64 digits are not viable furthermore, secure, there is a need for an encryption calculation in bigger size. In this way, NIST settled on a decision for an Advanced Encryption Standard (AES) in 1997. AES symmetric calculation proposed by Rijndael was chosen after the evaluation and this calculation utilizes a block size of 128 digits and the key length of 128, 192 or 256 cycle. Though they are secure around that time, it still has issues that need to be done to have a secure and safe chat. So, with the help of Ionic we can have the safest conversation ever.

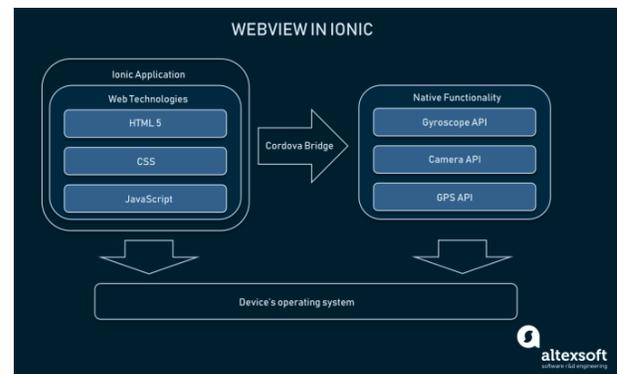
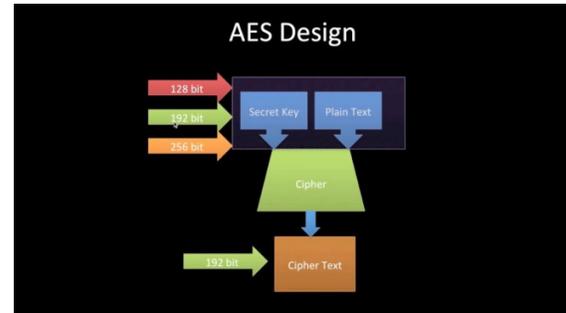


Fig.4. Difference between the security of AES and Ionic framework

Passwords sent over the organization make weakness assault. Against this weakness, a Kerberos personality control framework planned by MIT. Still the cross-platform in the Ionic makes it easy to safeguard the conversations. From the majority of the current frameworks, the most widely recognized need is the wellbeing of the discussions and different subtleties that are utilized in the application. As per Snak Application, the in addition to point is it has two essential supplies. They are the security and the space that need for the entire application and the cycle.

III. PROPOSED SYSTEM

The Application is an illustration of a talk worker. It is comprised of 2 applications,

- The Client application
- The Server application



Client Application: runs on the client's Pc and worker application

Server Application: runs on any Pc on the organization.

The first tab in the app consists of the login page, in which you can create your new account by entering a mail (which can be anything to your consent) and a password, whereas the old user can sign in with their respective id and password. And also, there is an auto sign-in available. There will be an error notification if you logged in with some other id that are not registered. When the client is signed in, he/she will see every one of the clients online in the first of the three tabs on our landing page. The subsequent tab will comprise of the talk history, a rundown of clients the current client has occupied with discussion with. Furthermore, finally, the third tab will comprise of coding page in which you will come to know the various topics in those coding. And finally, the fourth tab contains the settings, profile page and logout. The chat can be done with the persons who are all already logged in. The second tab will consist of the registered person's id. The fourth tab has your page in which you can add your information such as display picture, name, email and the logout option.

The app can be shared via .apk and their link through which you can send them to the persons you want to learn languages and to chat with. The designation type in this app is URL. The display picture can be only accepted in the jpeg format. At the user tab, the user's id will be shown with their name on the top, their id below and on the left their profile picture will be present. If we use the same id for another account there will be an error showing

"The email address is already in use by another account". Applications can be worked with these Web headways and a short time later appropriated through neighborhood application stores to be presented on contraptions by using Cordova. Ionic Creator is an instinctive interface building gadget. In the Snak Application, to save time, we can utilize the sound alternative to change over your words or voice into composed content. It will save you time and furthermore it will be simple to pass on your message without including the console. The alternative will be utilized when you direct your words and it will be in the content organization for your discussion. To utilize this mode, there will be a mic image, by clicking that button you will actually want to talk the message. An ever-increasing number of individuals are learning new things for more extensive educational encounters furthermore, to improve their range of abilities. You can exploit this by making an application that can assist clients with learning the A, B, C, Ds of new dialects and afterwards progress according as far as anyone is concerned level. This new application thought in 2020 can even encourage sound highlights for clients to become familiar with the right way to express words.

The requirements in the application are,

Hardware requirement: In hardware requirement we require all those components which will provide us the platform for the development of the project. The minimum hardware required for the development of the project is as follows:

- Ram – Minimum 1GB
- Space required – Minimum 10MB
- Any latest processor



Software requirement: Software can be defines as programs which run on our computer. It act as petrol in the vehicle. It provides the relationship between the human and a computer. It is very important to run software to function the computer. Various software are needed in this project for its development which are,

- Operating System – Android 7.1
- Others – Android as our front hand because it is easier to use and provides features to the users which is used for the development of the project.

Methodology

- `ionViewWillEnter` - Terminated when the segment steering to is going to enliven into see. Since `ionViewWillEnter` is considered each time, the view is explored to (notwithstanding whenever instated or not), it's a decent technique to stack information from administrations.
- `ionViewDidEnter` - Terminated when the segment steering to has got done with vitalizing. On the off chance that you see execution issues from utilizing `ionViewWillEnter` when stacking information, you can do your information brings in `ionViewDidEnter` all things considered. This occasion will not fire until after the page is obvious to the client, be that as it may, so you should utilize either a stacking pointer or a skeleton screen, so content doesn't streak in un-normally after the progress is finished.
- `ionViewWillLeave` - Terminated when the part directing from is going to vitalize. Can be utilized for clean-up, such as withdrawing from information

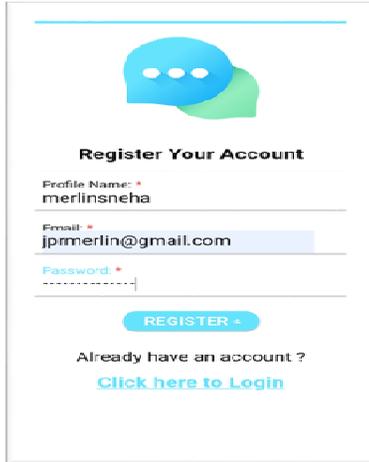
sources. Since `componentWillUnmount` probably won't fire when you explore from the current page, put your clean-up code here on the off chance that you don't need it dynamic while the screen isn't in see.

- `ionViewDidEnter` - Terminated when the part directing to has got done with invigorating. At the point when this occasion fires, you realize the new page has completely changed in, so any rationale you may not ordinarily do when the view is noticeable can go here.

Steps of our proposed system is as follows:

1. Snak application is available only through the link that can be shared via link with .apk extension.
2. The first step in the application is to create an account with an ID and a password. The login page contains two lines for mail and password.
3. If you are a new user then you have to create a new account with your profile name, id and a password.
4. Two users cannot use the same name or id which will result in error.
5. In case of error, it will notify "Error: The email address is already in use by another account."

Login Page



The registration page features a blue speech bubble icon at the top. Below it, the text "Register Your Account" is displayed. The form includes three input fields: "Profile Name" with the value "merlinsneha", "Email" with the value "jpmerlin@gmail.com", and "Password" which is currently empty. A blue "REGISTER" button is positioned below the fields. At the bottom, there is a link that says "Already have an account? Click here to Login".

Fig.5.Registration page

After completing the registration process, the page will lead you to the first tab where you will have all the users in the application who are already registered and using it. The icon will be consisting of their name with their name on the top followed with their id and their profile at the left. The following page will have the chat history, in which you have performed the chatting with other persons in the application.

List of Chat Users

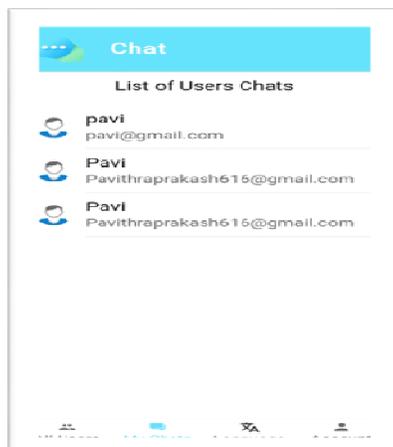


Fig.6.History of chat

The List will be requested by the time from the visit you had performed last to the first. The application likewise has the element of exchanging pictures and reports to a specific chosen individual. The messages can also be transferred by only dictating them to the application. The word to text conversion takes place when you click the mic button present on the bottom left corner of the page of the person you have selected to send a text to. The next thing you will get to know is that the dictated words will be shown as written texts on the screen. Before sending them, you have to switch off the mandatory mic button. This developed like in this to check your words are accurate or not. A simple design to avoid mistakes in case. To use the audio option, the first step is you should allow permission for this application to record audio.

Audio to Video

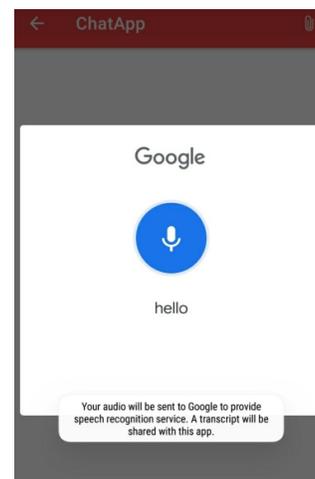
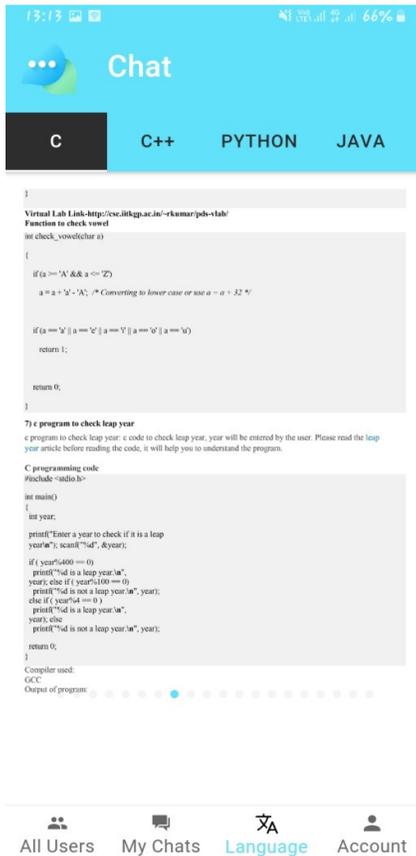


Fig.7.Dictation of words

The next step is the learning stage, where you have the four different programming languages c, c++, python and java. The four of the languages have different pages, in which each of them has group of questions with their

answers in codes and also a URL link which can be used for further reference from another website. If you copy and paste the link in the browser you will be able to reach that particular webpage. They not only have the questions, but also their explanations.

Code page



The screenshot shows a chat application interface with a blue header and a white chat area. The chat area displays a code editor for C++ with the following code:

```

}

Virtual Lab Link-http://scikitgpa.ac.in/~rkumar/jobs/lab/
Function to check vowel
int check_vowel(char a)
{
    if (a == 'A' && a <= 'Z')
        a = 'a' - 'A'; /* Converting to lower case or use a = a - 32 */

    if (a == 'l' || a == 'v' || a == 'y' || a == 'w' || a == 'r')
        return 1;

    return 0;
}

7) c program to check leap year
c program to check leap year: c code to check leap_year_year will be entered by the user. Please read the leap_year article before reading the code, it will help you to understand the program.

C programming code
#include <stdio.h>
int main()
{
    int year;
    printf("Enter a year to check if it is a leap year\n"); scanf("%d", &year);
    if (year%400 == 0)
        printf("%d is a leap year.\n", year); else if (year%100 == 0)
        printf("%d is not a leap year.\n", year); else if (year%4 == 0)
        printf("%d is a leap year.\n", year); else
        printf("%d is not a leap year.\n", year);
    return 0;
}
Compiler used:
GCC
Output of program:

```

At the bottom of the chat area, there are navigation buttons: All Users, My Chats, Language, and Account.

Fig.8.C language

We have pages for the other three dialects as fig.8. The chat environment is added in the application with an aim to explain the questions and to know more data from different people who have to share the information concerning your intrigued field and vice versa. The more the date will be shared the more the knowledge will be gained.

IV CONCLUSION

This paper exhibits that with the utilization of the Ionic system we can make a versatile application with a few executions. One of the executions is the learning of coding language, all things considered, we effectively built up an application called Snak - An application for visit and discover that can have the option to send messages, exchange pictures and archives, changes over the directed words into messages, acquire some coding information and furthermore to share them. As future work, new situations can be imagined where greater usefulness can be executed in the Snak - An Application for chat and learn. Our plan is to develop new similar applications where we can add some of the problems and their answers with a score board, a detailed explanation of each and every topic included with a video. Also, in the Chatting side, we can implement dynamic subscription of the client at the server, i.e any new client would send a request to become part of chatting group, which would be accepted/rejected by the server.

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