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V-IDE: Voice controlled IDE using Natural Language Processing and Artificial Intelligence

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Abstract - *In today's fast world we notice the problem in the field of software development and all tools we are using in the development of software specially for coding purpose are based on the keyboard input which is too time consuming. In this paper, we present the first IDE (Integrated development Environment) which is controlled by voice. In this application we provide the large no of commands which is design by us which is used as input by voice commands and after processing is done this tool writes the code and compile is using online compiler. Basic idea behind this is get the input as a voice natural language and output is the proper code and file saved with the proper extinction. And give the result after compilation.*

Key Words: Android, V-IDE, AI, Natural language processing, mobile application, software, IDE.

1. INTRODUCTION

There is number of applications available on the various app stores (play store, app store and many more). In the lots of different category. Data provided by google about play store there is 2.6 billion applications are available on google play till December 2018. In this application nearly 23% application are in category of Tools out of this only 2% application provide the service of code editing and code compilation. We see that there not a single application which is provide the voice oriented natural language processing in the code development filed. In the VIDE which is we are presenting today is work on Artificial Intelligence and Natural Language processing.

In this application we gate the input as audio commands which is provided in user guide and as par command given by user is process and write the code for the particular command. For example, if we are working on java code and user wants to write the any statement on the editor like code for printing string as an output is need to write "System.out.println("This is test");" instead of that we need to give the voice command "print This is test" by this command application identifies the word print and for print it write syntax which is require for printing and the string which is after print key word is write inside the syntax as see above. So for this simple task normal machine require at list 30s but in VIDE this task is doing in just 5s that means the application proposed by us improves the efficiency 83%. This IDE is not only efficient it provides the facility to non-programing person or the not technical person they can also code in java without any extra skill set using user manual provide by us.

1.1 Commands set

Table -1: Commands table

Commands	Description
Import 'package name'	By this voice command we import the packages required for us in proper syntax
Class 'class Name'	It builds the class with the name given by user
Print 'string'	Writes the code for printing string given by user
Scanner	Makes the object of scanner class
Main method	Writes the code for main method with required syntax
Try catch	Add the try catch block for whole code
If else	Adds the if else loop block
While	Add the while loop with condition
For	Add for loop with condition
Dot	Add the "." Character instead of 'dot' string
Curly0	Add the opening curly bracket '{'
Cury1	Add the closing curly bracket '}'

This is some basic commands in our IDE which is for the java programming language. Like that we are adding the all commands required for the full core java as well as for other languages also.

2. PROPOSED FRAMEWORK

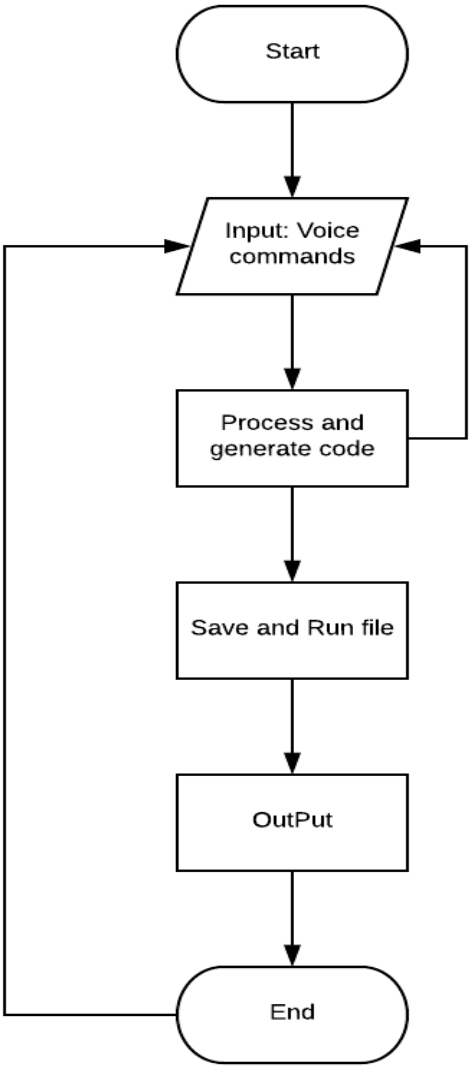

Fig -1: Flow chart

After the writing code in the editor we can save it with .java extension as a java file after that user can able to compile the code using online compiler provided by V-IDE

3. LITERATURF SURVAY

Using voice control Integrated Development Environment, we have proposed a frame work named (V-IDE) which is able to process on voice commands and perform the respective operation. In which using V-IDE library system can detect the real time operation. In which voice commands by using serval commands we can develop or program the system using voice.

All are commands are system define by V-IDE library this library is open source library develop by our team once we develop the code using voice control then we can store the program in file system. Now we can execute the code using related programming technology compiler. We design this whole system under multiple environment. In which multiple technologies and languages are supported. When we are introducing V-IDE application for single editor and multiple technologies.

3.1 Existing System

The Existing IDE are the one which is very time consuming for example online compiler, text editor and many more which are very time consuming for the youth. If someone want to get it output in quick time so it will be very difficult for the person to type the large code and get it executed. Now in this the type of editors the probability of getting executed is very low because it will generate some king of errors

3.1 Proposed System

We proposed the IDE which provide the lots of the advance features including voice control and artificial intelligence. In this IDE we incudes some programing language using the voice commands which is provide by us in the user manual using these commands non-technical peoples can also able to code in the particular language which is they want and after coding phase we provide the facility to save and run the code using the online compiler. Along with this all technology's we also provide the text editor also for general purpose use or note some extra information

3.2 Advantages

1. Fully controlled by voice commands.
2. Increases the productivity of developer.
3. Work on number of different technologies at a time.
4. Code is generated and compile on the IDE

4. PROPOSED SYSTEM

We are going to proposed the V-IDE which is increase the productivity of the developers and efficiency of IDE's. In this IDE as per name Voice IDE controlled by voice commands which is provided in the user manual. User manual is in the application in this IDE input voice string matches with commands and generate the code for particular command. Basically this IDE work on the Nature Language Processing and the principals of Artificial Intelligence.

4.1 Advantages

This IDE in our primary model provides the code generation, file saving and compile the code using online IDE in future we can increase the set of languages in the IDE. All object oriented as well as core java can be cover in this IDE throw voice commands. And other languages like java, python, C, C++, HTML, CSS those will be on one platform for edit or generation of the code and compile on online platform so by that way this IDE will work in all filled of programming using fully voice control.

4.2 User class and characteristics

1. **User**: User use the IDE for coding efficiently using voice commands provided in user manual.
2. **Development team**: Update and manage the all process in IDE
3. **Database**: Will be update the data as par requirement

4.3 Assumptions and Dependencies

Assumptions

1. User should be install application.

2. Use it for the coding or text editing.

3. Store or save the file in the local storage.

4. Compile and run the code.

Dependencies

1. Download and install application.

4.4Future Scope

1. Using same IDE, we can code in different language.
2. Provide the facility to non-technical people can also code.
3. It can be store the file in local as well as in cloud storage.
4. After compilation generate the report in huge projects**.**

5. CONCLUSION

The survey of existing IDE's, we analysis the number of them are based on the normal keyboard inputs and its lots of time consuming. By concluding this IDE, we increase the productivity and reduce the time as well and the process on the particular commands also and with the lots of various technology's. In this IDE work on the natural language processing and artificial intelligence properties.

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REFERENCES

[1] B. Bhagavathsingh, K. Srinivasan, M. Natrajan, "Real Time Speech Based Integrated Development Environment for C Program" vol. 7 no 3, March 2016, Kalavakkam India.

[2] Y. Memon, I. Motan, M. Akbar, S. Hameed, M. Hasan, "Speech recognition system for a voice controlled robot with real timr obstacle detection and adoidance", vol. 4, 9 Sep 2016,.

[3] F. James, J. Roelands, "Voice over Workplace (VoWP): voice navigation in a complex business GUI" DOI 11.1145/638249.638285, Scotland, UK;

[4] D. D. Langan, T. F. Hain, T J Hubbeli, J Freseth, "A voice-Activated Integrated Development Enviroment for manually disabled programmers", 3(1):82-93 Feb 2008.