Verbal Coding

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Abstract: *Software development using programming requires keyboard for input and all programming languages are mostly text oriented. This text oriented nature of programming languages becomes barrier to persons suffering from arm disability and it is difficult to remember the proper syntax. A person having brilliant mind and potential for programming skills, but as suffering from arm injuries or being disabled cannot be a programmer. To be a good developer, a human must memorize the syntax and keywords of programming language. In this paper, we proposed a methodology for Java programming language where programmer will speak and code of Java will be written accordingly.*

I. Introduction

Speech Recognition is a process of converting an acoustic signal to a text form, in which the voice recognition program works to recognize the proper word related to each word of voice. Nowadays, Speech is one of the most important tools for communication between human to his environment. Java support has the latent to great helpful to the programmers who have difficulty using their hands. Programming languages were never supposed to be verbal, and mainly have a lot of punctuation, unusual spelling and capitalization (\println", \compute Length"), and non-standard symbols (\++"). As a result, standard speech acknowledgment software cannot be simply used to write programs. Again various existing methods and tools are used to aid in programming. These tools are designed completely sufficient when talking about textual programming, but, lack features when it comes to voice based design. Voice Based Code works with an open source speech recognition program CMU Sphinx and an editor Eclipse to be translate speech to code. Verbal Code supports Java programming language. The implementation consists mainly of adding commands (loop templates, etc.) and their spoken forms to the verbal code. Where possible, we have kept to the spoken forms for Java consistent with spoken forms in Java language. We built in extremely common command (println, main method etc.) and set them up to do a lot of automatic typing for the user.

II. Material And Methods

This prospective comparative study was carried out on databases, android application, and voice recognition application Sphinx for developing software in Java programming language by using IDE Eclipse.

Device used for Voice Recognition: Sphinx Voice Recognition
Database Used: MySQL.
Authentication Purpose: Authentication done by both sides i.e. on android application also and on developer site also. User or developer should have to login on both systems to authenticate the user.
Databases: Keywords, Syntaxes, packages.
Software: IDE Eclipse, Android application, Sphinx.
Algorithm: AES Algorithm for providing security.

Programming By Verbal Coding: The developer have to Login on android application first through which system will recognize voice command. For Voice Recognition Sphinx application were used in this article or study. It will recognize the voice or command given by the developer and convert voice into text message. Then text will get searched in the keywords database, if text present in database it will go to syntax database and it will redirect the syntax of that keyword on developers desktop. It also includes JVM functions to run and compile the code. Developer can see the output or errors if any on their window only. It includes packages, interfaces and keywords of Java programming language. Firstly, article proposes on few keywords from language, later it will get updated with all of the keywords in Java programming language.

Inclusion criteria:
1. Authentication (textbox1.username= username.person && textbox2.password=password.person)
2. Give command
3. Save the program
4. Compile the program
5. Run the program and observe the output.

Exclusion criteria:
1. Authentication Fails (textbox1.username!=username.person || textbox2.password!=password.person)
2. Keyword not found in database.
3. Syntax cannot redirect properly.
4. Lack of knowledge about how to handle system.
5. System Logout.

System Architecture:
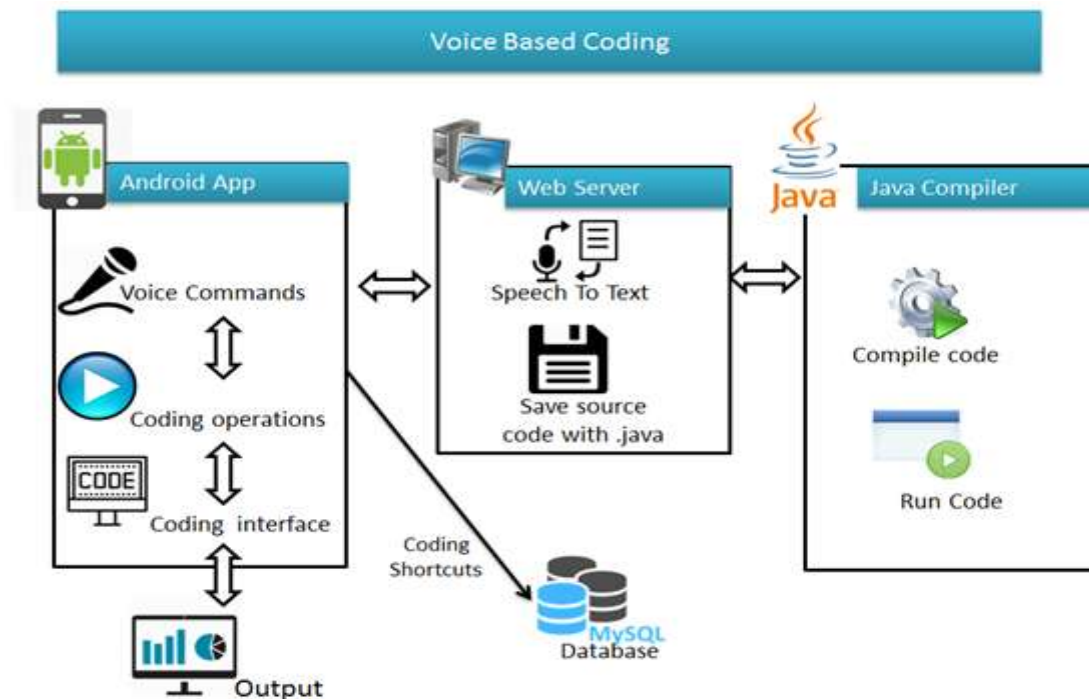
III. Result

It will result like syntax of specific keyword for e.g. If developer gives command of for loop, it will show syntax of for loop. In this way, development can be done by command only. When programmer calls for while loop or looping statements or any keywords, it will search the keyword in database and if it is present in the database then it will show the syntax for that specific keyword. This article contains three tables of persons (for authentication), keywords, syntax which follows searching the keywords and then display the syntax of that keyword. Developer can also compile and run the code by giving command of compile and run. With the help of JVM, system can compile and run the program. After compilation if there are no errors, run command will execute. If any errors are there in program then errors are shown on window.

Tables involved:
Persons

Name	Username	Password
Tejas Date	Tejas22	tejas@2234
Komal Vairagade	komal34	Komal23
Sushma Paimode	Sushma1	Sushma123
Yogesh Barvekar	Yogesh123	35.5±9.21

Keywords

Keywords
If
For
While
Switch
Main
Int
Float
Char
Long………

Syntax

Keyword	Syntax
For	For (;;){ }
If	If(){ }
While	While(){ }

IV. Discussion

It will helpful for persons facing arm injuries in action to develop software. Also it saves time and it doesn't require memorizing the syntaxes of programming languages.

V. Conclusion

It will helpful for persons facing arm injuries in action to develop software. Also it saves time and it doesn't require memorizing the syntaxes of programming languages.

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