Design and Development of application for programming in natural languages as the resource of rural development facility

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Abstract— The application is built to help us and make a sense of what we have written. This means that programming in our own language is very much possible but to that need a method of translating the language to the appropriate bit-string. So this technique precisely use for the purpose of teaching programming to students who do not know the English first. Some technological languages which has good Unicode support throughout its inherent nature so it is sure that student who has the potential to program does not miss out simply because language barrier.

Keywords: **Python, PyTongue, Bit-string, Unicode, Mapping.**

I. INTRODUCTION

Python is a general-purpose interpreted, interactive, object-oriented and high-level programming language. It was created by Guido van Rossum during 1985- 1990. Like Perl, Python source code is also available under the GNU General Public License (GPL)[9].

Programming language is what you write down to tell a computer what to do. The computer don't read the language directly , there are hundreds of programming languages and it couldn't understand them all , so when someone writes a program , they will write it in their language of choice and then compile it so that it turns into lots of 0s and 1s that the computer can easily quickly understand .

Python is a language which is never actually compiled in full instead of interprets each line of code into 0s and 1s that your computer can understand [5]. It compiles the bits of the program you are using as you are using them. If you were to quit the program and come back another day, it would compile the bits you are using, as you are using them, again. It seems a waste of time? But the fact is that when you come back another day, you might be using a Windows instead of a Mac. You might send the program to a friend, who uses another type of computer. Or you might post your program on the internet, where everyone using all different types of systems might download it [7]. That is the wonder of an interpreted programming language - it is like a language that everyone can understand.

Every program needs to be converted to a string of bits in order to run. This has been so ever since the inception of programmable computers. Actually we are not writing bit-strings but are writing text based programs. The bit-strings are all that a computer needs to run [6]. Programming languages are used to help us make sense of what we have written. It means that programming in our own language is very much a possible. All that is needed is a method of translating the language to the appropriate bit-string and this is possible by PyTongue. Thus we can develop the application by using PyTongue for those students who do not know English. We can teach them python without knowing English.

II.OBJECTIVES

The main objectives of the application development is as follows

1. To provide program development skills in their natural languages and to overcome the gap developed between students comes from different native places.
2. To avail awareness program /training center and get benefited at secondary and higher secondary schools from various cities and villages of Maharashtra state.
3. To educate all government and government aided secondary and higher secondary schools by giving main priority in educationally backward blocks and in area having concentration of other category students and weaker section.
4. This application will be collaborated with MHRD -ICT Program and it provides opportunities to secondary stage students to mainly build their carrier in IT with the essential capacity through the computer aided learning process.
5. In educational sectors, it could be really useful who teach programming at various levels and who are general programming enthusiast's.

6. It shows programming can be taught without the use of English, making it easy to program in vernacular languages.

II. METHODOLOGY

Now a days in all higher secondary schools from Maharashtra state one IT subject is involved , but because of less computing facilities or facilitators, students from villages or somehow from cities are not able to gain proper basic knowledge of programming . Language barrier is still there, so to overcome this, if we implement proposed applications in all schools from all over the Maharashtra state, It is going to be benefited for the overall growth of the IT industry by the best programming skilled and passionate student.

The application is built to program in our own natural language, means in order to create program in any certain language, need to mapping for it by PyTongue –mapgen --, the mapping is held for each word to word translation for all its basic keywords and built-ins [8].

This research is clearly emphasis on applications of Science and Technology for socio-economic development. This activities need to be commenced and set clear mode to targets and time framed for the implementation to different higher secondary schools from various cities and villages of Maharashtra State. This design and application can generate the awareness and training frameworks to educate and implement the program towards all places.

This design is undertaken and aimed at both those who teach programming at various levels and general programming enthusiasts. Programming in our own language is very much possible but to that need a method of translating the language to the appropriate bit-string. So the PyTongue precisely use for the purpose of teaching programming to students who do not know the English first. Python3 is the language which has good Unicode support throughout its inherent nature and it is sure that student who has the potential to program does not miss out simply because language barrier. For this application Ubuntu 14.04 is going to use [2].
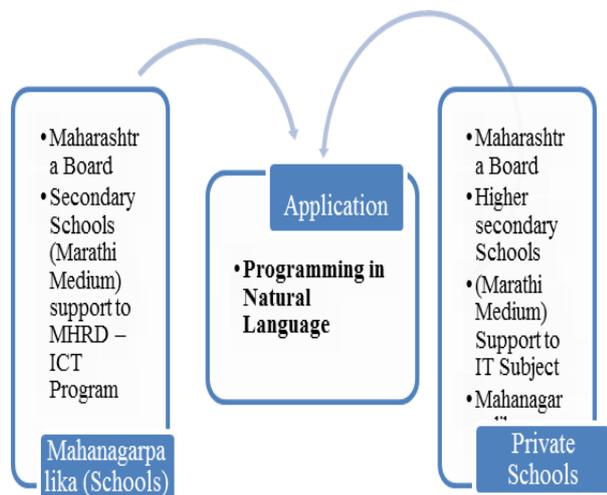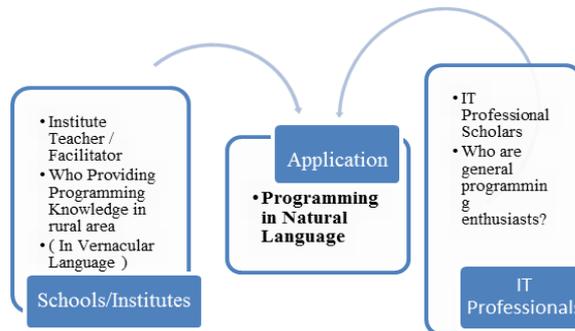

Fig.1 Application Model

Fig.2 Application Model

Fig. 1 and Fig. 2 is an application model to write python code in any language you deem fit and it is meant as a tool to teach programming those who enthusiast and more prone to learn programming. Python 3.x is going to support and the mapping is held for each word to word translation for all its basic keywords and built-ins [1]. The proposed application is being suitable for Secondary and higher secondary schools who have IT subject and basically they are from rural area. This application is usable from facilitator point of view who eager to learn programming language in their vernacular language.

IV. CONCLUSION

The application goes beyond the simply writing the program by using the IT technology and generally for those who passionate about programming and from rural area where language barriers are more. The application has an entire life cycle that it must pass through during its useful lifetimes. The objective of this paper is to propose an application model for programming in natural languages which will ensure comprehensive usage, generally from the higher secondary schools those who actively want to go and work in IT and Engineering fields. Natural language is basically used to express the views and so that it would be possible to acquire programming skills in their own language. Using the comprehensive application model as described here will provide a framework to help the organization/ institutes, facilitators and ensures that the necessary steps for learning to be performed continuously and consistently over the time . In this way the application model is not only the artifact but includes sustainability's and assurance that the made usable as the kind of language transfer.

V. FUTURE ENHANCEMENT

This application model/framework is going to be built and generally usable for the IT technologist for those who willing to do programming without any language barriers. By the way, the application model utilizes to produce and upgrade programming skills in natural languages and generally from rural area where higher secondary schools and IT professionals want to excel in their learning's and work.

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