

Abstract

Dijkstra was once asked ‘who would make a good programmer’? He said that a person who knew his language well and could express himself clearly and effectively has skills needed by a good programmer! That would mean all those Indians who are adept at expressing themselves well in their native mother tongues, vernacular Indian Languages, are suitably skilled for programming. It would be indeed satisfying if they could program in corresponding vernacular languages. Coming from another dimension, is zero (0) the only conceptual offering from India to the world of computing? Is there nothing else from ancient Indian intellectual traditions? This inspires us to look further within. On another count, is it not possible to communicate completely in an unambiguous language? In other words, is it possible that the intent of the expression and its comprehension are identical? This is belied by the fact that program maintenance is a huge market concern: legacy programs that work, but require change due to changed circumstances, are a big outsourcing business! Clearly, Program Understanding is a good practical avenue for applied research. An aspect of Program Understanding was identified as a Grand Challenge by British Computer Society, by Prof. Tony Hoare, FRS. He called for a Verifying Compiler, one that would mechanically verify that the intension of the program and its comprehension are identical, before undertaking its mechanical translation for execution by a computer. These are our motivations in designing a new language:

- 1.Design a vernacular Programming Language so as to make it easy for native Indians to program in a familiar language;
- 2.Bring value by applying Panini’s insights in linguistics, by focusing on communication and discourses;
- 3.Try our hand at a first attempt in finding a solution to Hoare’s Grand Challenge

Brief Bio of the Speaker: Prof. Nori is an alumnus of IITK and IITB, was a faculty member at the Dept. of CSE, IITK, and Executive Vice President at TCS. He is a Distinguished Professor at the Software Engineering Research Centre (SERC), IIT Hyderabad. He is also an adjunct faculty member with the CSE Dept at IITH.