

Software Languages: The Linguistic Continuum (Invited talk)

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Abstract

While computers are linguistic machines moving symbols around, Informatics is BY and FOR people. I claim here that the gap between Computer Languages and Human Languages is, as a matter of fact, filled by a wide spectrum of Software Languages. My point is that the notion of Software Language goes far beyond Programming Languages; just like Informatics is indeed much more than Computer Science. After a very brief retrospective on the history of languages and Information Technologies, I show that nowadays nearly all kinds of languages are indeed amenable to be represented as software; at least to some certain extent. Software Languages include not only the languages used typically in Software Engineering (e.g. Modeling Languages, Specification Languages, Architecture Description Languages, Query Languages, and so on), but also all kinds of Domain Specific Languages that originate from all other areas of human activities. As a matter of fact, although Scientific Languages, Engineering Languages and Business Languages existed long before Computers we all witness today the progressive transformation of these languages into their counterpart as Software Languages. Software Languages can take many different incarnations such as grammars, ontologies, schemas or metamodels. Moreover, these descriptions are often missing as many languages remain "implicit" or just exist in the form of proto-languages. I do not claim here that the notion of "Software Language" is clear cut or well understood. I just advocate that since these languages could reveal to be fundamental in the context of the Information Age they should be (1) studied from a scientific point of view in an integrative approach, and (2) developed and evolved in principled ways. This leads the emerging fields of Software Linguistics and Software Language Engineering respectively.

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