

Week4 Paper Summary——Smalltalk

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This week's paper introduce us to the history of Smalltalk which is an object-oriented , dynamically typed and reflective programming language. Although, few of us hear of such language today, it is considered to be the ancestor of some popular languages such as Javascript, Java and some prevalent programming style.

The author Alan C. Kay was one of the central developers of Smalltalk. He divided the programming language into two classes "agglutination of features" and "crystallization of style", Smalltalk belongs to the second class. Alan Kay designed most of the early Smalltalk versions, Adele Goldberg wrote most of the documentation, and Dan Ingalls implemented most of the early versions. The first version, which was called Smalltalk-71, was developed by Kay in a few mornings on a bet that a programming language based on the idea of message passing inspired by Simula could be implemented in "a page of code". A later variant used for research work is now termed Smalltalk-72 and influenced the development of the Actor model. Its syntax and execution model were very different from modern Smalltalk variants. Smalltalk-80 was the first language variant made available outside of PARC.

From my perspective, in Smalltalk, everything is an object and everything happens by sending messages which is letterbox style in this week's assignment. There is no denying to say that Smalltalk is the fundament of modern OOP languages in which we can change everything and change things without restarting our system. According to the paper, Smalltalk based on such an insight that everything we can describe and be represented by recursive composition of a single kind of behavioral building block that hides all the details. What different parts can do is just exchange messages. Such insight is quite intuitive and effective which , as far as I am concerned ,may reflect the essence of the real world, and could be considered as some types of philosophy