

In the scope of this thesis, we designed a language for programming education. At first, we described eight existing tools for learning programming and identified key features in the learning process. Second, we designed an educational domain-specific language Eddie. Eddie is suitable for teenagers and adults who want to learn programming. It uses a domain based on Karel the Robot language, where users can control a robot character in a two-dimensional grid.

We implemented a prototype of Eddie using the MPS Language Workbench and its projectional editor. The Eddie language gradually introduces loops, conditionals, variables, functions, and objects. Eddie programs can be created, executed and visualized in the Eddie Studio IDE.