EppaBasic Programming Language

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EppaBasic is a web browser based programming language especially designed for educational use. Our work consists of designing the language and writing a compiler, a runtime and an editor for it. The whole IDE (Integrated Development Environment) has been written in JavaScript which means it works on all modern browsers without installation of additional plugins. Compiler compiles EppaBasic code into asm.js code for fast execution. One of the core aspects of the language's design is that creating graphical application should be easy. Just an empty program opens a window and simple shapes can be drawn using a single command. There are commands for drawing for example rectangles, circles and triangles. This instant graphical feedback ensures learning programming stays interesting. Language is focused on game creation. This can be a great incentive to learn programming for young students. Compilation is nearly instantaneous which means fast iteration times. Syntax errors in code are shown immediately to the user as he's writing the code. This means finding and fixing errors is fast which further boosts learning process. Web browser based approach was chosen because it removes entirely the cumbersome process of installing the development environment. Installing development environment can be hard especially for beginners. With EppaBasic, you can just navigate to a web page. This and the built-in manual in the editor make it easy to get started. EppaBasic syntax is similar with other programming languages which makes it easy to later move to languages that can be used on a professional career.

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