

***Setanta* - Developing an Irish programming
language, learning environment, and an original
parser generator for TypeScript**

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Chapter 1

Abstract

The world of programming languages is one dominated by the English language, practically all major programming languages used in the world today are designed to be used in English. English is well established as the lingua franca of the programming world. Studies have shown that language can effect the thought patterns of the speaker[2]. How does it affect how we design our programming languages? In recent times Irish finds itself often thought of as an academic, historical language. However, Irish is a language that is used by 73,000 people on a daily basis[1]. Because of this there is a large contingent of fluent Irish speakers who, if they want to learn how to program, have no choice but to learn in English. This project is an exploration of the design and implementation of a programming language (*Setanta*) from the ground up to be written in a non-English language, namely Irish, and the effects that the "host" language has on it's syntax and semantics. We aim to create a novel modern, expressive language, and an online environment where the language can be used and learned. In this project we create a modern, powerful Irish programming language *Setanta*, and develop and launch an online learning platform (try-setanta.ie). In the process of creating the language, we find and fill gaps in the tooling available for creating a programming language to be executed in the browser. Specifically by creating a novel parser generator *tsPEG* for the language TypeScript.

Bibliography

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