The goal of our project Serulian is to simplify the web application development process. Our initial aim was to develop a C#-like language which would be compiled to JavaScript. To this end, we designed a simple but powerful language named BlueSource, created a compiler for this language, and constructed a presentation layer for interfacing with the end user.

Overview
Serulian provides a complete framework for developing a web application.

- **Language: BlueSource**
  - Defines execution behavior for both the client side browser and the server side executable.
  - Fully typed, object-oriented language with syntax similar to C# and Java.
  - Supports major object-oriented features such as generics, function overloading, and iterators.
  - Automatically handles packaging and transfer of data between client and server.
  - Built-in database access syntax.

- **XML Presentation Framework: SIML**
  - Defines client-side visual layout.
  - Directly integrates with BlueSource, linking template designs with underlying classes.

- **Compiler: SourceBuild**
  - Utilizes ANTLR to generate a LL(k) lexer and parser for the entire BlueSource language.
  - Creates an intermediate AST representation in C#, then uses recursive descent for static typechecking and compilation.
  - Compiles into JavaScript to deliver code that works across major web browsers.

Abstract
The goal of our project Serulian is to simplify the web application development process. Our initial aim was to develop a C#-like language which would be compiled to JavaScript. To this end, we designed a simple but powerful language named BlueSource, created a compiler for this language, and constructed a presentation layer for interfacing with the end user.