



A programming language for novice users to easily generate HTML forms

PROJECT PROPOSAL

Vinay Ahuja  
[va2199@columbia.edu](mailto:va2199@columbia.edu)

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### **Language Description:**

The goal of the Bridge programming language will be provide an ability for novice users to develop web pages without necessarily being familiar with any HTML syntax. As the name implies, the language will provide novice users a *bridge* to web based applications. It will do so by providing users an intuitive and easy to learn syntax which will be simple enough to read and understand, but at the same time powerful enough to create complex HTML pages. The language is also intended to be used by student developers as a tool for quickly creating prototypes. While HTML is certainly the most fundamental and simple building block of any web based application, it is tedious, time consuming and error prone to write manually.

Bridge will make a quality attempt to address these issues by providing a fairly concise set of keywords. From the perspective of novice users, the language will allow them to be shielded from all of the underlying HTML and from the perspective of student developers, the language will allow them to focus on their application code, for example web services running on a java backend, and use Bridge to quickly validate and demonstrate web service calls with a web page.

Programs written in Bridge will be all one-file programs, identified with a .brg extension and will result in one .html file after compiling. In the process if the Bridge compiler comes across any errors, it will inform the user of the problem with user-friendly error messages and when possible, a recommended way of solving the problem, similar to how common programming languages do. Once compiled, the .html file can be opened in any browser.

### **Language Motivation:**

The idea for developing the Bridge programming language stems from two main motivations. First, it will provide me an opportunity to learn how to build a compiler for a language and in the process, understand the many intricacies involved with which I am largely unfamiliar as of now. While the idea of a programming language to generate HTML code is simple, it will nevertheless provide me ample challenges to work my way through the concepts learned in the class and to apply them in the form of an elegant, concise language and its compiler. The second motivation comes from having felt the need of such a language as a student developer myself in the past semesters – a language which would allow me to quickly prototype a web page to demonstrate or simply test some of the backend application features. Having a concise, yet robust language that will help me accomplish this will be useful for me in my other classes in the upcoming semesters as it will save me the time of developing a test user interface for the application, time that I can then use for focusing on the backend application features.