

Extending Language Functionality

Problem:

It often happens that a scripting language does not contain all of the functionality needed by a developer. A developer may require the functionality of several different scripting languages to achieve a certain desired result. The problem of using multiple languages is that they may not integrate very well. The flow of a solution may go through several files containing code written in different languages all of which may have different programming conventions. The method and system described below can be used so that a developer can use a single scripting language and files of a single type while still having access to the functionality of the other scripting languages.

Solution:

The Method:

1. The solution proposed makes use of special markup, called 'tags' in the rest of the document. These tags are used in the source code file to indicate to the compiler or interpreter that the code in between the tags is written in another programming language.
2. The compiler/interpreter can take a specific action (generating object code, launching another interpreter) whenever it encounters these tags.

Using this method allows a developer to code using a single file type and a single set of conventions.

Prior Art:

As an example, JavaServer Pages (JSP) is a web-based technology that helps developers dynamically generate web pages using HTML, XML, and injected scripting functions. JSP uses the special tag “<% ... %>” to enclose “scriptlets”, which are pieces of Java code that will run when a user requests the web page. This technology allows developers to create web pages using HTML with embedded Java code.

Example:

<HTML>

```
<BODY>
Hello! The time is now <%= new java.util.Date() %>
</BODY>
</HTML>
```

Here is an example of a JSP file using HTML with embedded Java. Each time this page is loaded from a request, it will display “Hello! The time is now “, and the current time. The tag “<%...%>” encloses the Java code required to access the current time which will execute when the page is loaded.

Diagram of Solution:

