

Name:

Course: ECS 199, 3 Units, Spring 2014

Instructor:

## IDE PLUGINS FOR INTELLIGENT CODE COMPLETION

### **Objective**

When programming, the IDEs automatically generates possible completions to the code currently being written. The objective of the project is to extend both the Eclipse and Visual Studio IDEs to generate better completions using a post-doc's statistical models, and present the returned custom completions to the user.

### **Goal & Educational Objectives**

The project will allow for better completions to be served to the programmer and therefore make programming more efficient. By taking on this project, I will complete the work I began the previous two quarters and expand my work to Visual Studio, as well as writing a tool demonstration paper to submit to SIGSOFT FSE to demonstrate the usage of the tool.

### **Motivation**

For the previous two quarters I have taken ECS 199 for non-elective credit, and have largely completed an Eclipse-based version of the tool. This quarter, I would like to expand the work to Visual Studio, which would also require me to learn C#.

### **Project Plan**

I will begin by refining the Eclipse-based plugin that I have already completed. One of the main refinements I will make will be to incorporate Javadoc material into the generated completions, which would dramatically increase usability of the completions.

In order to expand to Visual Studio, I will need to learn a basic level of C#. As I have experience with Java, as well as C and C++ from my coursework, this should not be a major obstacle.

We had determined that the ideal way of computing the generated suggestions was for me to convert the post-doc's statistical model code, written in C++, to the native language of the IDE. Therefore, I will need to convert the library code to C#.

After the conversion is complete, I will need to write a plug-in for Visual Studio, incorporating the completion-generator library.

Finally, after extensive debugging and user testing, I will summarize both the Eclipse and Visual Studio tools into a tool demonstration paper for submission to SIGSOFT FSE.