MEMORANDUM

DATE : Tuesday, January 15, 2013
TO : Mr. Asumu Takikawa, Manager, Aquire Development Team
FROM : Joshua Caron and Jeffrey Wallace, Software Developers
SUBJECT : Acquire Project- Language and IDE Selection

The upcoming Acquire project necessitates the careful selection of its programming language. The chosen language must support modularity and automatic unit testing. It has to provide interfaces for reading and writing XML, handling TCP/IP sockets, and creating graphical user interfaces. The language must be supported on Linux machines in the Northeastern labs, but the project should run on other systems with little to no changes to the codebase. Finally, the IDE should facilitate easy exploratory coding in the chosen language.

The language we have selected is Java. As an object oriented language, Java was designed with modularity and reuse in mind via the use of classes. It provides further modularity through packages, which group similar components together. The JUnit API provides a platform for automatic unit testing. Built-in libraries, such as the *javax.xml* and *javax.swing* packages, provide the required functionality for reading and writing XML and creating graphical user interfaces. The *java.net* package allows management of TCP/IP sockets. Java runs on a virtual machine (JVM), which is already installed and available to users on the Northeastern lab computers. Other machines that meet the minimum requirements for Oracle's JVM can install it to become capable of running the Acquire project.

We have selected to use the open-source Eclipse IDE for Java Developers (version 1.5.1). It provides support for debugging, package management, and project compilation. Additional features such as syntax highlighting, auto-completion, and inline error checks will increase the speed and ease of development.

In summary, we believe that Java and the Eclipse IDE best fit the requirements of the Acquire project.