MEMORANDUM

TO: Ms. Janice Foo

FROM: Lydia Auch & Jake Campolo

DATE: January 17, 2016

SUBJECT: Programming Language Choice for Super-hot Project

The purpose of this memo is to justify the choice of using Python 2.7 as the selected programming language and the IDE PyCharm 4.0 for the upcoming Super-hot project. This language and the subsequent IDE meet all the presented constraints as described in the rest of this document.

Python 2.7 (referenced as simply Python from this point forward) is a widely used and maintained programming language and because of this, there is ample, up-to-date documentation available. As far as modularity is concerned, Python has an extensive list of built in modules which are easily imported into a file. These modules are available to any user and are not specific to a certain environment. For example, support for higher order functions and callable objects is provided via the 'functools' module. In addition to these modules, there exists 72860 packages in the Python package index for added support.

Automatic unit testing is achieved in Python through the 'unittest' module which provides a framework for test cases, test suites, and test runner components. Similarly, support for reading and writing JSON files is contained in the 'json' module. This module allows encoding, decoding, and pretty printing among other usages. Once again, Python provides a module for tcp/ip sockets through the 'socket' and 'SocketServer' modules allowing for interactions with sockets as objects. All of these modules add to the versatility and ease-of-use of Python, making it a strong candidate for use in the Super-hot project.

Python is used by a large audience and therefore not only has the ability to create graphical user interfaces through the built-in package Tkinter, but also through various cross-platform frameworks such as Kivy and PyForms, that are well maintained and documented.

Finally, it should also be noted that Python is able to be deployed on any OS without requiring changes to the machine that the project is deployed or run on.

The IDE PyCharm is specifically developed to provide extensive error checking, support Git and allow terminal commands. These features greatly benefit ease-of-use for this project.