Alex Mahlmeister

Dr. Arias

Software Development I

16 February 2017

Project Proposal: iTraceIP

For my Java proposal, I am doing a network-based project that deals with the traffic flows of website requests and the server IPs the packet goes through to carry out the request called iTraceIP. What the project will accomplish is it will take a website address, such as “www.Google.com,” and do a domain name server (DNS) and trace the various router hops the request goes through to fulfill the user request. The IP addresses are then documented and run through a database to match locations with the respective IP addresses. The project would then; in return, mark where the router locations are on a map so the user can visualize what route the request took.

As for the coding aspect, the project will be written using a JavaServer Page (JSP) and an application server (Java EE) so the Java program can run the dynamic code. Initially, the user will be prompted to input a web address that they would like to track. From there, the web address is then entered into a traceroute command that tracks the movement of the requested packet through the various servers. As the packet goes through the servers, the command displays the IP addresses of the servers. Next, the IP addresses will be parsed from the traceroute API and checked against a database of IP address locations to find out the latitude and longitude of each IP. The latitude and

longitude are then parsed from the database and then stored in an array. Finally, the project will call a Google Maps API to display an interactive map the user can scroll through. The coordinates of the IPs are then rendered on the map using pins to mark the various locations of the servers. Consequently, the pins, in conjunction with polylines, will depict the route the packet took to reach its destination.

As of right now, I am still tentative about specific services I am going to be using for this project. As for the traceroute command, I am still doing research on two possible ways to execute the command. I would either use a processing API or use borrowed code from GitHub, with a citation to the source. In addition to that, I have a couple of IP databases in mind to use, but I am still doing research on what database has the most information available for free. All the specific details should be taken care of within the next couple of days.