Alex Mahlmeister
Dr. Arias
Software Development I
6 April 2017

iTraceIP Milestone

Abstract:

My final project, iTraceIP, is a networking geared program that enables a user to visualize the ping process and to check packet durations. Initially, the user inputs a web address they wish to process and ping. The program checks the validity of the address and then passes it to a ping command which displays information such as time-to-live (TTL) and the time duration of each packet. In addition to the ping, the program will produce a rendering of where specifically their request is going on a Google map. The map will show the location of the ping request in retrospect to the location of where the ping request was made.

Introduction:

My motivation to create iTraceIP was derived from when I did an internship at a technology company working with and managing routers, VPNs, and IPs in different company locations. One task I had to do was categorize a block of IPs and figure out what IPs belongs to what office locations as well as if they were being utilized. I thought it would be beneficial if I created a program that not only pings the address, but also maps out where the IP is located. This gives the user a visual of where the request is ending up. It can also be utilized as a learning tool to teach students about what a ping is and what it is supposed to accomplish.

Detailed Systems Description:

The system is geared to validate, ping, and visually map out details about a particular web address. The user inputs a web address they wish to learn more about and the program outputs ping requests in addition to checking the location of the IP with a geo IP database. The program then outputs the location of the requested IP on an interactive Google API map

UML Diagrams

Ping	runPing
-validateWeb:boolean	-IP: string
+ getvalidateWeb():boolean + getLocalHost(): string	+public static void runPing(String pingAdress):void +getIP(): string

Requirements:

The iTraceIP program is designed to make the ping command a more versatile and dynamic tool that can be utilized in a numerous amount of ways. Its application in the corporate setting is to have a more holistic image of a ping command and to offer more information about a web address or IP than what a traditional ping command would provide. The iTraceIP program in the academic setting could also serve as a learning tool, allowing the teachers to turn plain terminal data into a visual so the class can better understand the utility of a ping and what it is accomplishing and requesting.

Literature Survey:

There are other ways to achieve the same results that are outputted by iTraceIP, but it is more tedious and cumbersome to attain. The user can use the traditional command line and get the IP and packet information there, but then they would need to go to a geo IP website to look up the location of the IP. This methodology is inefficient when compared to that of iTraceIP because iTraceIP gathers and displays the information on a single page rather than having the user look up additional IP information externally.

User Manual:

iTraceIP is a user-friendly program and does not require a lot of technical knowledge to operate. The program will prompt the user to input a website or IP address that they wish to ping and render a map for. Once the user enters the desired destination in the format that the program expressed, the user should run the program, and the program will display the ping results and an interactive Google Maps API with the corresponding locations on it. From there, the user can interact with the map and analyze the ping information displayed by the program.

Conclusion:

Overall, iTraceIP is designed to be a multifaceted tool that can be used in a copious amount of places. It can serve as an efficient way to not only ping the desired address, but to learn more about said address and visually see the destination. The program can be used in the classroom or in a corporate setting, but it is not limited to there. It can ultimately be utilized by anyone who wants to learn more about the networking aspect of computers or just simply want to see where their request goes when they type 'www.google.com' into the search bar.

References:

https://gist.github.com/madan712/4509039