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Fintan's Reusability and Portability

Fintan is a TCP/IP Network Simulator created for CS390, Software Engineering. Fintan allows for different options to be select at the start of the program and then will run and output the results of the simulation as if the options were those of a network. Fintan is highly portable due to it being programmed in Java, however not very reusable due to the way the classes are designed.

Portability is a measure of independence of the individual system a program is programmed to run on. Fintan was implemented using Java and runs on the JRE 1.6. It has not been tested, but should also be able to run on JRE 1.5, and even 1.4 with very little work.. Java runs all of its programs inside the JVM or Java Virtual Machine. This is part of the JRE and is the reason the code is so portable. The Java JRE is built to run on Windows, Linux, OSX, and Solaris. This means that Fintan can run on any system with one of these operating system and the appropriate version of Java installed. All of this means that Fintan is highly portable.

Reusability is the likelihood that a piece of code or idea can be used again for another functionality. A great deal of the code in Fintan is not very reusable. Fintan is made up of 9 modules of code used for the program's execution. Of these I would say that only 2 are reusable. One is from another source that was found, and thus it is already being reused. This is the "random" number generator. It creates a uniform distribution of "random" numbers between 0 and 1. This module could be used anywhere you need a number generator. The other module that I would say is reusable is the Event Driver. This module is very generic and could be used anywhere that you need a time driven simulation that has events that occur and processes, though the processes aspect doesn't have to be

used. The basic concept of how Fintan runs can be used again for any sort of time driven simulation that has events occurring at certain times that are randomly generated. In general very little of Fintan as a whole is reusable.

Fintan is a very portable Network Simulator, however the code is not reusable in general, though the idea of how to run a simulation is very reusable. The portability is one of Fintan's assets, while the lack of reusability is probably a short coming, though it could be due to the specialized nature of the program. Portability and reusability might both be important aspects in software engineering, I think portability is a bit more important in the broad scope of things.