Lab Assignment C/C++/Unix/Linux/Github

Dennis Ritchie's video interview June 2011 by DennisRitchie.in

UNIX is an early operating system that started in 1969. Dennis Ritchie, Ken Thompson, and many colleagues aimed to advance computers from the workplace to the home front. Mini computers in the late 60s and early 70s marked the beginning of the decentralization of computing, where there were massive multi million computers before. Many products run UNIX, which most people are unaware of. UNIX was awarded the prestigious Japanese prize for information and communications. Ritchie's, Thompson's, and their colleagues' left an impact on computers as it led the way for the development of many tech pioneers and products. It is so significant that it became a seamless part of our tech life today.

Bjarne Stroustrup: Why I Created C++ | Big Think

In the past, people had to write the code directly to work on the hardware. Then they realized they can make languages fit for humans for specific areas like FORTRAN and COBALT. In the 60s, Norwegians like Ole-Johan Dahl and Kristen Nygaard were asking why they could just find a language fit for all human remains, they built SIMULA where it introduced class. This is known as object-oriented programming. Bjarne stepped in and created C++ where it has classes like SIMULA but it can run as fast as C code. It is thanks to the ability to have abstractions and have them so efficient that you can afford it in infrastructure. You have access to hardware directly. Another thing is stability which is necessary. C++ is significant because it needs to run three decades old code where it would be too much time rewriting code as this is what happens with experimental languages and with proprietary commercials. People do not want their code to break, it will cost them a pretty penny.

AT&T Archives: The UNIX Operating System

UNIX has many properties that make a good coding environment. Software is constantly changing as there are always enhancements. new features that people find necessary. A system is sent out and it comes back for more demands. It is important to find ways to makes sure it is only need to change a few lines of code rather than thousands and thousands. UNIX founded by Ritchie and Thompson, help the interactions between computers and people. It is made of three layers. First, the kernel controls the resources of the machine. Second, the shell which is the interface between most users and the kernel. Third, the utilities like editors and compilers for programming

languages, document programs, and programs you write yourself. UNIX is very flexible. The system provides a pipeline so that you can take programs and stick them together one after another to get the job done. There are powerful pattern matching algorithms that are useful for locating patterns and texts where we can package it in the form of UNIX programs. UNIX makes things easier for programmers such as form atlas files, the hierarchical directory structure, the ability to pipeline the output of one command as the input of another, and device independent i/o. This make programming a lot easier. When you login into our UNIX, it opens with the home directory. It organizes information where you can go up and down and fins things quickly and easily. Any program can have its input or output redirected because the input and output redirection is handled not by the individual program but by the shell and so it applies to all programs with any exception at all. A good operating system is easiest for a programmer to use if the programming language fits the style of the system. Dennis Ritchie created the C language. It lets you avoid the details of the machine when you want to but when you need to get at the details of the machine and control everything. You're not forced to, which makes C very important. Many different languages exist on a UNIX system somewhere. The UNIX operating system is important to computer technology and the user's experience. It made things more flexible to program and til this day most modern operating systems have at least a conceptual foundation in UNIX.

The mind behind Linux

Linux is millions of computers as it powers much of the internet. Linus Torvalds software is in every single one of them. A working environment is important for one's needs where you need to find something that works for you to limit distraction. Torvalds started Linux as a personal project where open source was not really on his radar. As his project grows, he realizes he wants to show it off because he is proud. So, he made it publicly available, but there was no intention behind using the kind of open-source methodology today. He was looking for feedback instead. Open source was known as "free software" back then, where Torvalds was introduced to open-source. Git became his second big project to maintain his first big project. Linux and Git arose from his needs. Many people have different intentions and paths of using open-source software which makes it even more merrier. Good taste in coding is seeing the big patterns and kind of knowing the right way to do things. Torvalds contributions are crucial as it enhances the open source code and looks for something more incredible. There are about a billion and a half of active Android devices out there where his software is in every single one. He left a great impact on technology as Linux and Git are used today.