Dennis Ritchie

Introduction

Dennis Ritchie is a New York born Computer Scientist. Even though Ritchie graduated from Harvard with a BS degree in Physics and a PhD in Applied Mathematics he went on to become an incredible Software Engineer and shaped the software development landscape throughout the 1970's and onwards. Throughout his career he has won multiple notable awards in the field of computing such as the National Medal of Technology, Computer Pioneer Award and Harold Pender Award, etc.

C Programming Language

Dennis Ritchie is best known for the creation of the C Programming language alongside Ken Thompson in the Bell Labs back in the 1970's. The C Programming language has caused an everlasting impact on the computer industry ever since it's creation. The language was originally created to move the Unix Kernel code from assembly to a higher-level language in order to perform the same number of tasks using less lines of code but has been used in countless other projects which have changed the software landscape. It was used in the development of the Oracle Database, which was an extremely popular database at the time of its development and still used by 1.8% of the world in 2019. MySQl databases which are the most popular in today's world are written in C and C++.

Dennis Ritchie has had an influential impact in all areas of the computer market as a direct result of his software engineering from mobile computing to 3D Movies. His work is still being used and modified today 40+ years following its original creation.

The computing world is powered by the C language, Microsoft Windows kernel was written in assembly and C. Dennis Ritchie's greatest software creation was used for decades in the world's most used operating system.

Ritchie has also had an incredible influence on the supercomputer scene as the Linux Kernel was mainly written in the C programming language and is used in all 500 of world's most powerful supercomputers (as of 21st June 2019) based throughout the globe.

Mac computers are also powered by the C programming language. From programs to drivers, all Mac utilities are written in C. Even the Mac kernel is written in C.

Ritchie's Language has transformed the desktop OS creation and has an impact on all 3 of the world's most popular operating systems. All mobile kernels are adaptions of the Windows, Mac and Linux kernels. Ritchie's Language powers over 5.11 Billion mobile devices in 2019.

Embedded systems are one of the main areas in which the C language is used. Microwaves, alarm clocks and washing machines are included in the many household appliances included.

Another useful aspect of the C language is that it allows for these devices to retrieve user input and perform the appropriate task and output again to the user with minimal errors. Even though other languages have risen since C, many of which are easier to use with more built in functionality, there is a still a wide use for the C language because of its use on embedded systems which allows it to be used for years to come. The C language has also had a massive impact on the creation of today's most used programming languages such as Java, PHP, Python, Perl and Javascript which have all been influenced by the C language in some manner. Even though C is no longer the most used language of the modern software engineer, it has influenced most of the languages that are used being used today.

Unix Development

Dennis Ritchie and his colleague Ken Thompson created the Unix operating system in 19. This development has influenced the computer science world in many areas as it was one of the first operating systems that was not built for specific hardware in mind during its development process.

They both received the most prestigious computer science award, the Turing award for their development of the Unix operating system in 1983.
The Unix operating system was originally created using assembly language but was later rewritten by Ritchie and Thompson in C. Unix has had incredible impact on the way in which future operating systems were created as it was based on a much simpler file hierarchy.
Ritchie's Unix operating system influenced the software engineering scene as many early Unix developers were the first to bring about the concepts of modularity and reusability into the software engineering process, this is a skill that is still widely used among modern software engineers.
The Unix operating system is seen as a revolutionary operating system and has had a direct impact on the software engineering process. The development of Unix has created the largest impact on the computer science society as a result of its mindset and forward thinking rather than the actual finished product. It has been said by the ACM that "The model of the Unix system has led a generation of software designers to new ways of thinking about programming."
Unix was widely adopted and used in universities as it was easily modified and simple to use. However, Unix was later banned from being used in university for teaching purposes and as a result Minix was created which was a Unix clone running on the Intel 80286 microprocessor. Minix was an open source operating source and became the starting point in Linus Torvald's creation of Linux.
Many Software Engineers used the Unix operating system as a platform for their own projects, Bill Joy an American software developer used the Unix platform as a base to create a pascal compiler and text editor. This shows how influential Dennis Ritchie's work was as it created a new mindset and platform for upcoming developers to work on. This caused a wave of innovation in the software field in the 1970's.
One of the greatest advantages of the Unix operating system was that its source code could be easily accessed by software engineers and could alter it

to their own personal needs which was beneficial for the development of new software and popularised regular expression syntax which is still widely used.

Conclusion

In conclusion is evident to see that Dennis Ritchie has had an incredibly influential impact on software engineering over the years. The C programming language he created has impacted the software world from its many use cases throughout the world to its influence on modern day programming languages. Also, his work in regard to the development of Unix created a platform for new engineers to work among.