

Guido van Rossum – A Software Engineer

Guido van Rossum is a computer programmer born in the Netherlands on 31 January 1956. He graduated from the University of Amsterdam with a master's degree in mathematics and computer science in 1982. He has worked on projects in Unix and on The ABC programming language and worked in many research institutes and multinational companies such as Google and Dropbox. However, he is undoubtedly best known for being the author and creator of the programming language Python.

He started developing Python in December 1989. He described his reasoning for starting work on the project as him looking for “a ‘hobby’ programming project that would keep him occupied during the week around Christmas” as his office was closed. He decided to write an interpreter for a new scripting language he had been thinking about which would be a descendant of ABC and he had hoped would appeal to Unix/C hackers.

He chose the ‘Python’ for his language as he was self-proclaimed big fan of Monty Python’s Flying Circus and according to himself, was feeling “in a slightly irreverent mood” when choosing the name. The language is also known to use Monty Python references in its example code. His project would eventually turn into one of the most widely used programming languages worldwide.

As his language began to grow and develop further, van Rossum wanted to define his vision for Python in the future. In 1999, he submitted a funding proposal called “Computer Programming for Everybody” to the Defense Advanced Research Projects Agency (DAPRA) in which he outlined his goals for what he wanted the language to be. There were four main goals which were as follows:

- An easy and intuitive language just as powerful as major competitors
- Open source, so anyone can contribute to its development
- Code that is as understandable as plain English
- Suitability for everyday tasks, allowing for short development times

His goals have been recognized as Python is renowned today for being completely open source and for its speed, readability and simplicity.

Nowadays, Python has evolved to be one of the most popular and influential programming languages in the world. On Github, a popular software version control website, Python was the second most popular language only losing out to JavaScript. Python is included in top 10 languages in the ‘TIOBE’ community index, which measures the popularity of programming languages, and often finds a place on the top 10 most mentioned languages in job-posts. Python and its philosophy has also influenced many other programming languages, e.g. Cobra, Julia and CoffeeScript. All this while maintaining its core principles defined by van Rossum himself of being open source, intuitive and simple.

Guido van Rossum’s other work includes his contribution to the glob() routine to BSD Unix while working at Stichting Mathematisch Centrum (CWI) in 1986. Here, he also helped develop the ABC programming language with which he credits a large portion of his inspiration for writing Python. His work also includes the web browser ‘Grail’ which was first released in 1995 and he also participated in discussions associated with the HTML standard.

He joined Google in 2005 and worked there until late 2012. Here he spent a large portion of his time creating the interpreted, high-level, general-purpose versions of Python. As well as this, van Rossum developed Mondrian, which was a web-based code review system written in Python that was used within in Google. In January 2013, he joined the cloud file storage company Dropbox.

As well as the wide acknowledgement of his achievements and impact on the software engineering world, Guido van Rossum has also received many accolades in recognition of this. At a 2002 FOSDEM conference in Brussels, he received the 2001 Award for Advancement of Free Software from Free Software Foundation (FSF). He received the Netherlands Local Unix User Group (NLUUG) Award in 2003 and in 2006, was recognized as a Distinguished Engineer by Association for Computing Machinery. He was also made a Fellow of the Computer History museum in 2018.

Another accolade of his, although not quite as official, is the origin of the phrase 'Benevolent Dictator for Life' (BDFL) which was coined in 1995 in reference to him. The term refers to the person who has the final say in any arguments or disagreements in the community of a programming language. He was, unsurprisingly, awarded this title for the language Python and was the first person with this title for any language. He stepped down from the role of 'BDFL' for the Python community in July 2018.

Guido van Rossum has also released some books relating to Python. These include 'An Introduction to Python' (2003), 'The Python Language Reference Manual' (2003) and 'Internet Programming with Python' (1996) which he co-authored with Aaron Watters and James C Ahlstrom. These books were released with the intention of introducing Python to more people as well as providing reference and insight to the development and capabilities of the language.

Personally, I find Guido van Rossum to be a fascinating and inspirational figure. I truly admire the principles he set out for Python. The idea for it to be open source so it can be developed and accessed by anybody is both selfless and revolutionary. As we have seen in the past 20 or so years, open source code is without question the way for the programming community to advance and grow and van Rossum was one of the first pioneers of this approach.

His strive for simplicity in coding could yet be another revolution in the making with the average person being more inclined to approach and understand programming. If this idea could begin to introduce programming to even more people worldwide, advancements in the community will only continue.

I chose to write this biography on van Rossum for my assignment, because I strongly believe he has helped software engineering to evolve to a new age. His goals for his language were before his time and define the programming world we live in today. Speed, simplicity and being free to everyone. In my opinion, this is the direction software engineering should and will continue to go, only making things faster, easier to understand and of course, accessible to anyone and everyone.

Guido van Rossum's impact and influence on the computer science world is indisputable. The reach of his main project Python is worldwide and ever growing as well as his involvement in many different projects in several institutes being crucial. His beliefs have impacted many different people and languages of today and have changed the way we see coding. His legacy in the software engineering history books is secured and will last forever.

