Anthony James Barr

Overview

Software Engineer Anthony James Barr, born 1940, New York has spearheaded a number of hugely impactful developments not only to computer data analysis but also to ‘industry, government and education’ [1]. Barr is best known for his creation of the Statistical Analysis System (SAS): a revolutionary advanced data analytics package. In addition, Barr boasts pioneering work in developing the IBM mainframe, the creation of the ACME software for US mortality statistics and probability calculations relating to four deck Blackjack.

Early Life and Education

Anthony James Barr, commonly known as “Jim” left his New Jersey home in 1958 to study Applied Physics at North Carolina State University; During his tenure in North Carolina Barr studied physical oceanography at the ‘Woods Hole Oceanographic Institution’[2]and became a graduate fellow of the National Science Foundation. Barr later completed a Masters in Physics in 1968; it was during Barr’s time at North Carolina State that he began his initial development of the SAS program.

Birth of SAS: *"SAS offers an extraordinary range of data analysis and data management tasks,"- Alan C Acock*

Barr, alongside James Goodnight, John Sall and Jane Helwig conceived SAS in a reaction of frustration to N.C State’s Agriculture classes; the group felt ‘an enormous brainpower waste’ [3] each time they wished to analyse data as this involved repeatedly writing new programs. With the early intentions of making his college life less stressful Barr began working on a uniform program that could be used continually for an array of analysis problems and by 1970 Barr had successfully pencilled a functioning program: SAS. Barr’s work was made possible through a series of USDA grants and funds made available by the National Institute of Health; to this day SAS has ‘never borrowed a dime’ [5] existing through grants and the recycling of profits.

The practicality of SAS was soon recognised by other analysts and thus Barr and Goodnight started leasing the package to agriculture schools in the surrounding area, shortly after Barr’s scope expanded to include a number of pharmaceutical companies who noted the value of SAS in analysing clinical research data. The growth of the program continued exponentially and by 1976 had accumulated over 100 external clients [6]. In 1976 Barr et al separated the company from N.C State and formed SAS Institute Incorporated in which Barr was the largest shareholder (40%); The firms developments were immediately acknowledged with SAS claiming a spot on Datamation’s ‘Software Honor Roll’ within a year of its conception.

Departure from SAS and Legacy

In 1979, SAS made its first ventures outside America, agreeing a deal with The Databank of New Zealand to use their software, however ’79 also saw Barr move on from SAS Inc. selling his shares for $340,000. The progress of SAS after Barr’s departure was somewhat bittersweet; SAS continued to grow and as of September 2019 is the largest privately owned software firm in the world [7]. In line with the growth of SAS the program is now used by 92 of the Fortune 1000’s top 100 companies and the 40% shares sold by Barr would currently hold value in excess of $1 billion had he held onto them.[8]

Barr Systems

Anthony Barr currently operates as the President and CEO at Barr Systems [9], a firm founded in1978 working out of Gainesville, Florida. The company specialises in queue management software and printer servers alongside developing the Barr Enterprise Model [10]. Barr focused on developing an agile language that used the principles of management science to improve productivity and efficiency of large scale host file transfers to optimise price and performance [11].

Another of Barr’s most successful developments came in the furniture industry; Barr produced a Lumber Yield program designed to increase the efficiency of lumber use in furniture production. Coined the ‘Yield-A-Matic’ the program scanned lumber for manually labelled faults and then calculated an optimal cutting pattern. The device was first released in October 1972 and was to claim the Special Challenger Award for innovation in woodworking machinery design [12].

One of Barr’s earliest and most significant achievements came during his work with the US National Centre for Health Statistics; for decades the World Health Organisation and government bodies had struggled to analyse and compare mortality statistics due to their complex nature. Previously when assigning a cause of death there was potential for differing interpretations making analysis difficult, however with the development of the ‘Automatic Classification for Mortality Entry’ (ACME) authored by Barr this problem was overcome. ACME operates around decision tables comparing different mortality causes and suggesting a single cause of death [13]. The ACME program is very highly regarded due to its simple ability to be visualised allowing international practice and simple training purposes. ACME has been widely implemented in the US since 1968 and has expanded across the globe in the present day; Barr’s system was so influential that it is frequently referred to as the “de facto international standard” for assigning a mortality cause [14].

Awards and Publications

* Distinguished alumni N.C State, Physical and Mathematical Sciences College
* National Science Foundation Fellowship, N.C State
* Author: “The General Analysis of Variance and Multiple Regression Programs”
* Special Challenger Award for Innovation in woodworking machinery design
* Series of workplace awards for SAS as detailed in the following:

<https://www.sas.com/en_th/news/awards.html>

Sources

<http://www.barrsystems.com/about_us/the_company/professional_history.asp>

[1] [12]

<https://www.forbes.com/2007/11/08/sas-corestates-goognight-biz-cz_rl_1108sas.html#216fb45866ca>

[3] [5] [8]

<https://www.sas.com/en_ie/company-information/profile.html>

[4]

<https://www.wikiwand.com/en/Anthony_James_Barr>

[2]

<https://www.sas.com/en_us/legal/editorial-guidelines.html>

[7]

<https://www.linkedin.com/company/barr-systems>

[10]

<http://www.barrsystems.com/Barr_Host_communications_suite.asp>

[11]

<https://jech.bmj.com/content/57/6/470>

[13] [14]