The history of computing

A timeline compiled by Mark C Baker

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Introduction

I liked the idea of presenting my students with a timeline, showing the development of computing, to put their studies into an historical perspective. The following is a collection of key events that I have assembled over the last few years. I have used a variety of mainly internet sources and whilst I have tried to be accurate, there may be some minor errors.

The original internet page can be found on the MarkChrisSoft website.

This article has been translated into **Serbo-Croatian** *by **Jovana Milutinovich** from* Geeks Education*.*

The Abacus The abacus was invented at some point somewhere (probably China)! If anyone has more detail of when and by whom then I would like to hear from you. This device, which is still in use today in certain parts of the world, can be used by an experienced person to calculate more quickly than is possible with an electronic calculator.

3500-3000 B.C. The Wheel The wheel was invented by Sumarians in Mesopotania during this period, which allowed machinery to be developed.

3400 B.C. Egyptian numbers The Egyptians started using a special symbol for the number ten.

200-300 B.C. Arabic numbers Arabic numerals, which developed into the system we use today, were first developed by the Hindus in India. The system was in use during the third century BC, later spreading to the Arab world.

1623 Schlckard's Calculating Clock A 6-digit adding machine.

1644-5 Blaise Pascal's "Pascaline" Not as good as Schlckard's, but it establishes the idea of a computing machine.

1674 von Leibiz's "Stepped Reckoner" Able to multiply, answers up to 16 digits long, not always reliable.

1775 Charles, 3rd Earl Stanhope Makes a successful multiplying calculator.

1770-6 Mathius Hahn Also makes a successful multiplying calculator.

1786 J H Mueller Comes up with the idea of the "Difference Engine".

1820 Charles de Colmar's "Arithmometer" The first mass-produced calculator.

1822 Charles Babbage (1791-1871, UK) Starts trying to build a difference engine.

1836 Charles Babbage Designs his "Analytical Engine".

1843-53 Scheutz and Scheutz Complete the first difference engines, both include printers.

1890 Herman Hollerith Produced punch card tabulators to help process the US census results.

1892 William Burroughs (US) Invents a machine that starts the office calculator industry.

1937 Alan Turing (1912-1954, UK) Publishes his paper on "computable numbers".

1938 Konrad Zuse (Berlin) Makes a prototype mechanical, programmable calculator.

1942 Atanasoff and Berry (US) Build a calculator with 300 bits of memory and a clock speed of 60Hz.

1943 Colussus Alan Turing and team (UK) build the Colussus decryption machine.

1946 ENIAC Eckert and Mauchly (US) build the first electronic programmable calculator. Weights 30 tons, covers 1000 sq ft and consumes around 190kW. Clock speed 100kHz, capable of 6000 additions per second.

1948 Transistor invented

1948 Mark I Newnam and Williams at Manchester University (UK) complete the first computer with stored program capability. It uses CRT memory.

1949 EDSAC Wilkes and team (Cambridge University, UK) build the first non-prototype stored program computer. It used paper tape I/O.

1952 EDVAC John von Neuman and team (US) built a stored program computer first described in von Neuman's famous 1945 report.

1958 Integrated circuit developed

1964 DEC PDP-8 Mini Computer

1965 Commercial timesharing begins in the UK

1969 ARPANET Started by the US Dept. of Defense for research into networking.

1971 i4004 Intel's microprocessor launched

1972 Burrough's ATM (Automatic Teller Machine) appears

1973 First international connections to ARPANET

1974 i8080 The first general purpose microprocessor.

1978 i8086 A 16-bit microprocessor.

1978 Commodore Pet introduced With 8K RAM, cassette deck and 9" monitor.

1978 Microsoft Bill Gates and Paul Allen found their software company.

1979 VisiCalc The first spreadsheet is launched taking personal computers forwards from being "toys for techies", to serious business tools.

1980 Sinclair ZX-80 computer The first computer for under GBP£100. It had 1Kb RAM, which could be expanded to 16kB, a processor that ran at 3.25MHz and used a TV for display and a cassette drive for storage.

1981 The first 32 bit microprocessors

1981 DOS 1 The original PC operating system.

1981 IBM PC launched

1982 The first BBC micro produced

1983 Commodore 64 launched One of the best-selling home computers.

1984 DOS 3

1984 Apple Macintosh launched

1985 Intel's i80386 chip launched

1985 DTP Aldus PageMaker launched for the Apple Mac, marking the birth of DTP.

1989 Intel's i80486 chip launched

1990 Windows 3.0 launched

1991 Anatoly Karpov beaten at chess by a computer

1991 World Wide Web WWW released by CERN.

1991 Ban on business use of the Internet is lifted

1991 Psion 3 Psion 3 handheld computer launched.

1993 Intel's Pentium chip launched

1993 DOS 6 launched

1994 Kodak digital camera Kodak demonstrates a digital camera based around a Nikon P90 and costing in excess of GBP£8000.

1995 Windows95 launched

1996 Windows CE The first hand-held computers with this cut-down Microsoft operating system are launched.

2000 USB flash memory drives commercially available

2001 Windows XP launched

2003 First BlackBerry smartphones released

2007 First Apple iPhone released

2009 Windows 7 launched

2010 Apple iPad released

2010 Most computer motherboards no longer support floppy disc drives

2011 Researchers set a new record for the rate of data transfer using a single laser of 26 terabits per second. At those speeds, the entire Library of Congress collections (USA) could be sent down an optical fibre in 10 seconds.

2012 First Raspberry Pi device released. A computer for under $40

2012 Hard disc drives with a capacity of 1-2TB commonplace