David Hammond Shepard

Born: Sept. 30, 1923;

Milwaukee
Died: Nov. 24, 2007

Shepard was a prolific inventor who shortly after WWII developed an early optical character recognition (OCR [Aug 31; April 29]) device, called the "Gismo," with Harvey Cook Jr. After a year of work (in Shepard's attic) and a cost outlay of $4,000, the machine could realiably recognize 23 letters produced by a typewriter. After another year's fine tuning, it could recognize 26.

In the 1950s, Shepard developed the Farrington B numeric font, which is still used to print the boxy numbers seen on credit cards [Sept 14]. His wife, Joyce, recalled that he first sketched the design on a cocktail napkin while staying at the Waldorf-Astoria Hotel in NYC.

In 1964, his "Conversation Machine" was the first to provide telephone-based voice access to computers with the aid of speech recognition. The first words successfully recognized by the device were "yes" and "no". In later years, Shepard jokingly apologized many times for his part in forcing people to converse with machines instead of human beings on the phone.

Mauchly Writes to Atanasoff

Sept. 30, 1941

A few months after John Mauchly's [Aug 30] visit to John Atanasoff [Oct 4] on [June 13], he wrote to Atanasoff:

"A number of different ideas. have come to me about computing circuits – some of which are more or less hybrids, combining your methods with other things, and some of which are nothing like your machine. The question in my mind is this: Is there any objection, from your point of view, to my building some sort of computer which incorporates some of the features of your machine?"

The two would later have a bitter dispute about who should receive credit for the first computer. Eventually, the matter ended up in court where a judge ruled in favor of Atanasoff on [Oct 19] 1973.

Report on the EDVAC

Sept. 30, 1945

J. Presper Eckert [April 9] and John Mauchly [Aug 30] published "Automatic High-Speed Computing. A Progress Report on the EDVAC", with parts 5, 6, and 7 written by Harry Huskey [Jan 19].

EDVAC's (Electronic Discrete Variable Computer) stored-program capabilities were clearly stated: "An important feature of this device was that operating instructions and function tables would be stored exactly in the same sort of memory device as that used for numbers."

This was the first detailed *engineering* report on the EDVAC after John von Neumann's [Dec 28] mostly theoretical "First Draft" that appeared on [June 30].

It seems quite apparent that Eckert and Mauchly intended this write-up as a rebuke to various claims that von Neumann had developed the EDVAC. For example, they dated the decision to embark on the EDVAC project to July 1944, before von Neumann even joined the group, and explicitly described the "First Draft" as a summary of earlier discussions.

Andreas Maria Maximilian Freiherr von Mauchenheim genannt Bechtolsheim

(the longest name in computing)

Born: Sept. 30, 1955;

Bavaria, Germany

During his Ph.D. at Stanford, and inspired by the Xerox PARC Alto [March 1], Bechtolsheim designed the SUN workstation [May 00] for the Stanford University Network (SUN) communications project. Coincidentally, he was a "no fee consultant" at Xerox at the time, and was familiar with PARC's research.

Andreas Bechtolsheim (2012). Photo by Norbert Stuhrmann. CC BY-SA 3.0.

DARPA [Feb 7] had expressed a wish to use Altos, but Xerox set their price too high. Having heard of Bechtolsheim's design, they were interested in obtaining a commercial version.

Bechtolsheim tried to interest 3COM and IBM in manufacturing the workstations, but he was turned down. On [Feb 24] 1982, he decided to co-found his own company, Sun Microsystems, to build them, along with Vinod Khosla [Jan 28] and Scott McNealy [Nov 13].

In August 1998, as a tech investor, he provided Sergey Brin [Aug 21] and Larry Page [March 26] with their first round of funding. The $100,000 cheque

was made out to "Google Inc.", which motivated the pair to have the company legally incorporated [Sept 7].

When Bechtolsheim was 16, he designed an 8008-based controller for numerically controlled machines manufactured by a local company. He programmed the device in binary, which required him to write his own floating point library. The business paid him with royalties on each controller sold, which supported much of his education.

His great-great-uncle was also an engineer – he invented the milk centrifuge in the late 1800s.

Digi-Comp I
Sept. 30, 1963

The Digi-Comp I was a mechanical toy computer sold in kit form by E.S.R., Inc. for $4.99. It consisted of three mechanical flip-flops that could be connected with wires that were either pushed, or blocked from moving, by cylindrical pegs. Different peg configurations caused the Digi-Comp to compute different Boolean logic operations. This in turn let it perform operations such as addition and subtraction, and to play some simple logic games such as Nim.

The Digi-Comp I. Photo by Pterre. CC BY-SA 3.0.

It was about 12" long and 4" high, came with coding sheets, a manual explaining binary arithmetic, and a dozen or so experiments. Sales passed 100,000 units within a few years of its release on this day. A patent (US 3273794) was

granted to Irving J. Lieberman on Sept. 20 1966.

E.S.R was founded by William H. Duerig and Lieberman, who had previously been involved in missile research, and C. David Hogan, an engineering student at Stevens Institute of Technology. They had brainstormed Lieberman's original concept, and had a prototype ready for a 1962 toy fair in NYC.

According to Duerig, E.S.R didn't stand for anything; they had wanted to name the company "Electronic Systems Research" originally, but that name was already taken.

After Digi-Comp's success, E.S.R began making and marketing products supplied by outside inventors. John Godfrey, an engineer at General Electric, contributed Dr. NIM and the Digi-Comp II [April 30]. Joseph Weisbecker, from RCA, came up with the Think-a-Dot [Sept 4].

However, the maestro of early educational computer kits was undoubtedly Edmund Berkeley [Feb 22].

The Ice Bucket Challenge
Sept. 30, 1970

John Burlingame, general manager of General Electric's computer department, invited his staff to lunch. At the event, he presented each person with a beautiful ice bucket, engraved with a tombstone and the words "I.S.E.D., 1.1.68 - 9.30.70, RIP."

The next day, the Information Systems Equipment Division (ISED; the department's formal name), became a part of Honeywell Information Systems.

General Electric was one of the original "Snow White and the Seven Dwarfs" [Dec 21].

Blue Book Ethernet
Sept. 30, 1980

DEC, Intel, and Xerox released version 1.0 of the Ethernet specification [May 22], better known as the "Blue Book" or the "DIX standard". Blue because each of the companies had blue logos at the time, and DIX after the companies' initials.

DIX defined a "thick" Ethernet system based on using bulky coaxial cable to connect the devices.

The first Ethernet controller boards based on the standard were released in 1982, but it wasn't until 1983 that the IEEE 802.3 committee approved Ethernet as an official standard [June 23]. In fact, by then the specification had moved onto Blue Book 2.

Of course, Ethernet has kept changing; for instance, coaxial has latterly lost out in favor of unshielded twisted pair cables [Sept 28].

POSIX
Sept. 30, 1988

The Portable Operating System Interface (POSIX) is a family of standards for software compatibility between UNIX-like OSes [Oct 15]. It includes an API that extends ANSI C with features for file manipulation, processes, threads, networking, memory management, regular expressions, and more. It also lays down requirements for command line shells and utility interfaces.

The specifications originally consisted of a single document (released on this day), but has grown considerably over the years into a library of 19 reports.

The POSIX name was suggested by Richard Stallman [March 16], and should be pronounced "pahz-icks", as in positive, not "poh-six". The pronunciation has been widely publicized in a

(somewhat vain) attempt to encourage a standardized way of referring to the standard.

Notable POSIX certified OSes include: OS X [March 24], AIX (IBM), HP-UX, and Solaris [Sept 4]. Most Linux distributions are POSIX compliant, but not certified due to the cost.

FreeCell
Sept. 30, 1991

FreeCell is a solitaire-based card game, popularized by its inclusion in MS Windows [May 22]. Its original progenitor is probably "Eight Off" by C. L. Baker, which was described by Martin Gardner [Oct 21] in the June 1968 edition of *Scientific American*.

Paul Alfille (then a medical student) implemented the first version on PLATO in 1978 [July 00], but the game's massive popularity is probably due to Jim Horne, who wrote a version for MS-DOS [Aug 12] as a pet project at Microsoft, and later ported it to Windows. The latter was released on this day in Microsoft Entertainment Pack 2.

The Internet FreeCell Project attempted to play all of the deals possible in the game by crowdsourcing the work. After a year of arduous investigation, only one game proved to be unwinnable.

DirectX Introduced
Sept. 30, 1995

Microsoft DirectX is a collection of multimedia APIs especially aimed at games programming on MS Windows [Aug 24], and primarily developed by Craig Eisler, Alex St. John, and Eric Engstrom. The team's nickname was the "Beastie Boys".

Originally, its APIs all had names that began with "Direct", as in Direct3D, DirectDraw, and DirectMusic. In addition, the product logo resembled a radiation warning symbol,

perhaps because its codename was "The Manhattan Project."

St. John staged an elaborate Roman-themed product announcement at the 1996 Computer Game Developers Conference (March 20 - April 2), including lions and an indoor carnival. The rumor that Bill Gates [Oct 28] appeared dressed as Nero is untrue.

Bust of Nero at the Capitoline Museum, Rome. Photo by cjh1452000. CC BY-SA 3.0.

At the time, MS-DOS was still seen as a better platform for gaming than Windows because it allowed direct access to video cards, the mouse, the keyboard, and sound devices. The protected memory model employed by Windows 95 [Aug 24] made this level of access problematic. There was also a trail of earlier disappointing attempts by Microsoft to attract game developers to Windows, included WinG for Windows 3.1 [April 6] and WinToon for animations.

The X of "DirectX" was later adopted in the Xbox [Nov 15] name to indicate that the console used DirectX technology. Indeed, that device's codename was DirectXbox, but was shortened before its release.

IE 4
Sept. 30, 1997

Microsoft released version 4.0 of Internet Explorer [March 18] for Windows 95 and NT. It added

support for Dynamic HTML, inline PNG images, and parental guidance ratings. It was also much more closely integrated into Windows. Its marketing slogan was "The Web the Way You Want It!"

During the first 24 hours, it was downloaded once every six seconds, and by March 1999, it had grabbed a 60% share of the browser market, at the expense of Netscape [March 25]. However, time would reveal it to have multiple security problems, and be offering a non-standard version of Java [Oct 7]. The closer integration with Windows would also trigger an antitrust suit [May 18] in 1998.

The release party in San Francisco featured a ten-foot-tall letter "e" logo. Netscape employees showed up at work the next morning to find the giant logo deposited on their front lawn, with a sign attached that read "From the IE team … We Love You".

Netscape sent back a modified version – a Mozilla dinosaur standing atop the "e", holding a sign that said "Netscape 72, Microsoft 18" representing their browsers' market shares.