# Oct. 11th

## John T. Parsons

### Born: Oct. 11, 1913;

Detroit
Died: April 18, 2007

Parsons, in collaboration with Frank L. Stulen, pioneered the numerical control of machine tools in the 1940s. In particular, they were the first to use computers to solve the problem of accurately machining the curves for helicopter rotor blades.

Initially, the results of their calculations were given to operators who manually operated the tools, but they later developed a machine to perform the work. As a result, they were granted a patent for a "Motor Controlled Apparatus for Positioning Machine Tool" (US 2820187) in 1958 (which had been filed way back on May 5, 1952).

Parsons had worked with the Servomechanism Lab at MIT to design the machine, and that involvement led to the development of the APT numerical control language [Feb 25] by Douglas Ross [Dec 21].

## Dana Stewart Scott

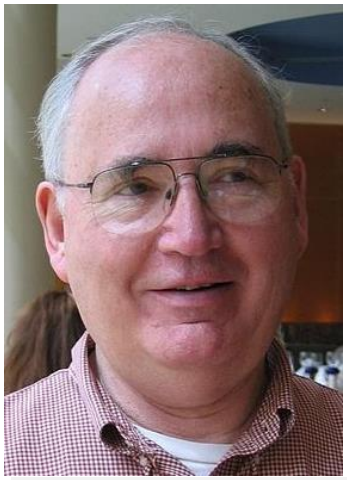
### Born: Oct. 11, 1932;

Berkeley, California

In 1959 Scott and Michael O. Rabin [Sept 1] published the paper "Finite Automata and Their Decision Problems" which introduced the idea of nondeterministic machines, and led to the concept of computational complexity

His work with Christopher Strachey [Nov 16] in the 1970's laid the foundations for the denotational semantics of programming languages, while his LCF (Logic for Computable Functions) was employed for automated theorem proving [Jan 13].

He was also interested in modal logic (i.e. the addition of qualifiers such as "usually" and "possibly" to logic), and category theory (a way to simplify mathematical structures through abstractions).



Dana Scott (2007). Photo by Andrej Bauer. CC BY-SA 2.5 si.

A quote: "Learn as much as you can while you are young, since life becomes too busy later."

## Jack Elton Bresenham

### Born: Oct. 11, 1937;

Clovis, New Mexico

Bresenham's line algorithm, one of the earliest in computer graphics (1962), determines which points should be drawn on a raster screen to form a good-looking line. He developed it while at IBM's San Jose lab, which had recently attached a Calcomp plotter to an IBM 1401 [Oct 5], necessitating a line drawing routine.

He was also responsible for the midpoint circle algorithm, which solves a similar problem for drawing a circle. As you might expect, it's often called the Bresenham's circle algorithm.

## Michael Stonebraker

### Born: Oct. 11, 1943;

Milton, New Hampshire

Stonebraker and Eugene Wong's INGRES (Interactive Graphics and Retrieval System) was one of the first systems (along with System R from IBM [Jan 12]) to demonstrate that it was possible to build a practical and efficient implementation of the Edgar Codd's [Aug 19] relational model.

Stonebraker and Larry Rowe's [April 11] POSTGRES was a "post-Ingres" project which supported an object relational programming model for complex datatypes.

A quote: "Knowing what I know now, I would never have started building INGRES, because it's too hard. So I think my advice to my younger self would be to suspend your disbelief and just do it anyway. The way you climb Mt. Everest is one step at a time."

## Eric Haseltine

### Born: Oct. 11, 1951;

Death Valley, CA

In 1992 Haseltine joined Walt Disney Imagineering to help setup its Virtual Reality Studio, and in the aftermath of 9/11, joined the National Security Agency (NSA [Oct 24]) to run its Research Directorate. One commentator remarked that he was "moving from one top secret organization to another."

His NSA work has included the development of technologies for countering cyber threats and terrorism. In an interview, he remarked, "You can think of me as the CTO of the intelligence community".

IARPA [Oct 1] was founded during his tenure, modeled after DARPA [Feb 7] but focused on national intelligence needs.

His Ph.D. was on the sensory neurophysiology of the brains of snakes (boas and pythons) that

"see in the dark" via heat sensors around their lips.

## Pipes

### Oct. 11, 1964

Douglas McIlroy [April 3] published a memo describing pipes, which eight years later would become an important part of UNIX (some would argue for "most" important).

In the article, he stated: "We should have some ways of coupling programs like a garden hose – screw in another segment when it becomes necessary to massage data in another way."

McIlroy finally persuaded Ken Thompson [Feb 4] to add them to UNIX during 1972 despite Thompson labeling them as being too Rube Goldberg-like. It was accomplished in just three nights — Thompson alone on night one, then joined by Dennis Ritchie [Sept 9] on the next two. "Those were probably three of the greatest nights of my life," Thompson later observed.

It probably happened during the second half of 1972, since pipes weren't mentioned in the 2nd edition of the UNIX manual (June 1972) but were present in the 3rd edition (Feb. 1973).

## OS/2 Warp

### Oct. 11, 1994

OS/2 [Dec 4] version 3.0 was announced, but with a new name, OS/2 Warp, to highlight its performance boost, and to freshen up its somewhat tired image.

"Warp" had been the release's internal name, and fitted in nicely with the development team's liking for all things "Star Trek" [Sept 8], as other codenames such as "Borg," "Ferengi," and "Klingon" attestify.

This encouraged the marketing people to construct a large campaign around a "Star Trek" theme. Unfortunately, while it was true that Paramount pictures (the owner of "Star Trek") had no right to "Warp"– SF writers had been using that terminology since at least the 1930's, "Star Trek" was another matter. After some sharp legal correspondence, IBM dropped the Trek branding, which only left the traditional definitions of "warp" (i.e. "bent", "twisted") and/or the 1960's slang term related to drug use.

## GeForce

### Oct. 11, 1999

The GeForce 256, the first Nvidia [Feb 17] GeForce graphics processing unit (GPU), was released.

The inclusion of transforms and lighting processing in hardware set the 256 apart from older 3D accelerators which relied on the CPU to perform those calculations. In particular, this led to a 50% improvement in frame rate refreshs in some games.

The 256 and other early GeForce products were intended for high-end PCs, but later versions became affordable enough to appeal to the entire PC graphics market. The technology was eventually even added to Nvidia's line of embedded processors.

The GeForce name came from a "Name That Chip" contest held in April-May 1999. There were over 12,000 entries, and the seven winners each received a RIVA [June 15] TNT2 Ultra graphics card.

## Shogi Winner

### Oct. 11, 2010

The Akara 2010 system defeated the women's Shogi champion, Ichiyo Shimizu, in 86 moves at the University of Tokyo.

It was the first time a computer has beaten a professional Shogi player, and Shimizu was no lightweight, having previously won titles at 45 competitions, the most of any female player.

Shogi is sometimes called Japanese chess but western chess is quite simple in comparison, offering only about $10^{123}$ possible games. Shogi tops out at around $10^{224}$, beating even Go which has $10^{170}$ board configurations [Oct 5].

The competition system ran four different Shogi applications (Bonanza, Gekisashi, GPS Shogi, and YSS), and then used the move chosen by the majority of the programs.

The contest was organized by the the Information Processing Society of Japan and the Japan Shogi Association. This was quite a change for the association who had formerly prohibited professionals from playing against computers in public without their explicit permission.

A game of Shogi. Photo by Oliver Orschiedt. CC BY-SA 3.0.

Shimizu stated afterwards: "It made no eccentric moves, and from partway through it felt like I was playing against a human."

## Windows Phone

### Oct. 11, 2010

Microsoft's Windows Phone 7 (WP) was developed as a replacement for the Windows Mobile/PPC [Jan 4] and Zune [Nov 14], as an attempt to better compete with Android [Nov 5], Blackberry [Jan 19], and the iPhone [Jan 9].

At its unveiling in Chelsea, New York, Steve Ballmer [March 24] proudly enunciated, "We have built a different kind of a phone. We set out to build a phone that was thoroughly modern."

For example, WP featured a new user interface derived from Windows 8 [Oct 26], supporting touch rather than stylus input. Eventually, Dell, HTC, LG, and Samsung released phones using the new OS.

However in 2015, WP was replaced by Windows 10 Mobile, part of a move to unify the company's phone and PC OSes. It lasted until the end of 2017, when Microsoft largely abandoned its mobile business