June 29th

First Classical Music Recording

June 29, 1888

Thomas Edison's [Feb 11] energetic foreign sales agent, Colonel George Gouraud, organized a performance of Handel's "Israel in Egypt" by a four thousand person choir at the Crystal Palace [May 1] in London. Crucially, he recorded the recital on one of Edison's patented wax drums, making it the first "field" recording outside a studio, as well as the first classical music album.

At a press conference on Aug. 14, Gouraud played the phonograph publicly for the first time, along with Arthur Sullivan's "The Lost Chord", one of the first musicals.

Gourard was also responsible for organizing several early spoken recordings, including:

- Lord Tennyson reading his poem "Charge of the Light Brigade" (May 15, 1890).
- Florence Nightingale addressing her "dear old comrades of Balaclava" (July 30, 1890).

As a enthusiastic lover of electric gadgets, Gouraud's house at Beulah Hill in South London became known as "Little Menlo" named after Edison's Menlo Park lab [March 25].

Coding under a Waterfall

June 29, 1956

The first public presentation of the waterfall software model (but without using that name) was given by Herbert D. Benington while describing SAGE [June 26]. It views progress as flowing steadily downwards (like a waterfall) through analysis, design, construction, testing, and maintenance.

The first formal description of the model appeared in a 1970 article by Winston W. Royce, but he didn't utilize the "waterfall" metaphor either, which was probably just as well since he considered it a flawed approach.

The earliest use of "waterfall" may have been in a 1976 paper by Thomas E. Bell and T. A. Thayer.

IBM MT/ST

June 29, 1964

IBM marketers started to popularize the phrase "word processing" when they launched the MT/ST (Magnetic Tape/Selectric Typewriter). The term was a translation of the German word *textverabeitung*, dreamt up in the late 1950's by former Luftwaffe pilot Ulrich Steinhilper. IBM also hired a young Jim Henson (later of "Sesame Street" fame [May 00]) to make a short movie about the device called "The Paperwork Explosion" (1967).

As the MT/ST initials cunningly suggested, the device linked a tape drive to a Selectric [July 31], which meant that text could be edited without having to retype it, or by chopping up a coded copy. The machine was about the size of a small filing cabinet, and could store a mere 24,000 characters. Nevertheless, it sold well until the 1970's when it was replaced with typewriters that included cassette tapes and floppy disks.

The MT/ST employed banks of relays rather than electronics. The first electronic word processor was probably the "Data Secretary" [April 12].

Thriller writer, Len Deighton [Dec 20], was the first person to compose an entire book on the MT/ST – his WWII novel "Bomber", published in Aug. 1970. To be precise, the machine's intracies were actually mastered by his secretary, Ellenor Handley.

Apple I Prototyped

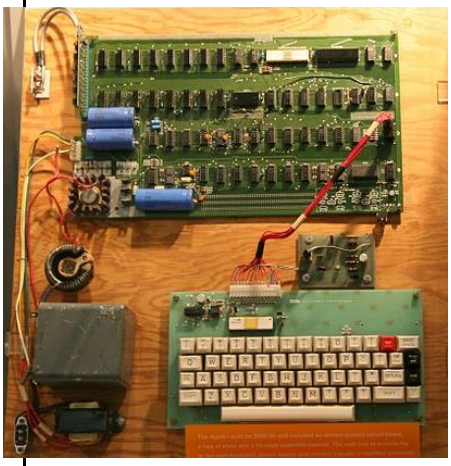
June 29 ??, 1975

Next: [April 1]

On [March 5], 1975, Steve Wozniak [Aug 11] attended the first meeting of the Homebrew Computer Club, and went away inspired to start working on what became the Apple I [July 00]. He completed the prototype on (or around) this day.

Steve Jobs [Feb 24] and Wozniak demoed it at the club in July, handed out schematics, and later helped some of the members to build their own machines. In Nov., Jobs suggested that he and Wozniak should start selling the design, and a bare printed circuit board without components.

First Wozniak checked with HP to see if it wanted to claim the design since he had created it while working for them. HP said it wasn't interested in the hobby market, and signed a release form.



Apple I at the Computer History Museum. Photo by Todd Dailey. CC BY-SA 2.0.

A crucial moment came when Jobs arranged to sell fifty built boards to "The Byte Shop" [Dec 8] at $500 a pop. The purchase order allowed Jobs to persuade Cramer Electronics to supply them with parts which Jobs and Wozniak only paid for once "The Byte Shop" had paid them. The deal also persuaded Jobs that

selling built Apple I boards might be worthwhile.

To fund the work, Jobs sold his VW Microbus and secured a $5000 loan, while Wozniak parted with his beloved HP-65 calculator [Jan 19].

At around this time, the team's "production division" moved out of the spare bedroom in Job's parent's house (11166 (now 2066) Crist Drive, Los Altos), into the garage. Next came the creation of the Apple Computer Company [April 1].

FreeDOS Manifesto

June 29, 1994

FreeDOS (aka Free-DOS and PD-DOS) was designed for IBM PC compatibles, but unlike MS-DOS [Aug 12] was proudly composed of free and open-source software.

The project was born on this day after Microsoft announced that it would no longer be selling or supporting its MS-DOS. Jim Hall posted a manifesto proposing the development of an open-source replacement, and soon likeminded programmers, including Pat Villani and Tim Norman, joined the crusade. For some time, the project was maintained by Morgan "Hannibal" Toal, and "Blinky the Fish", designed by Bas Snabilie, is its mascot. (It's purely coincidental that penguins [May 9] eat fish.)

Spielberg's A.I.

June 29, 2001

The movie "A.I" was first conceived by director Stanley Kubrick [April 2] based on the short story "Super-Toys Last All Summer Long" by Brian Aldiss. The project languished for many years, partly because he felt CGI wasn't good enough to do justice to the story's main character, a humanoid robot called David [Dec 6].

After Kubrick's death, Steven Spielberg [June 9; June 19] took over the venture, and the moribund movie was rapidly reenergized. Although David was eventually portrayed by an actor (Haley Joel Osment), the film also pioneered several CGI techniques, including the virtual studio which allowed Spielberg to walk through a scene and select camera shots.

Southbound A1 at Sawtry, Cambridgeshire, UK. Photo by John Webber. CC BY-SA 2.0.

The movie was originally entitled A.I., but a questionnaire revealed that too many people read it as A1. Consequently, the full title was changed to "A.I. Artificial Intelligence".

Operation Site Down

June 29, 2005

"Operation Site Down" involved seventy raids in the US and twenty overseas conducted by the FBI and agents from ten other countries. The target was "warez" groups which specialized in distributing pirated games, movies, music, and software over the Internet.

Ten filesharing networks were closed down, including eight servers. Around 120 PCs, 13 laptops, and 4,500 disks were seized.

The Chicago arm of the operation was called "Operation Jolly Roger".

For more operations, see [March 1; May 7; Sept 10].

First iPhone

June 29, 2007

Steve Jobs [Feb 24] had unveiled the iPhone on [Jan 9], 2007 at Macworld 2007, but the first two models went on sale on this day.

It was powered by an ARM processor [April 26] and a graphics chip, utilized 128MB of RAM, and 4GB or 8GB of flash memory. There was a rear-facing two-megapixel camera, an accelerometer, a proximity sensor, an ambient light sensor, and was one of the first phones to offer a multi-touch screen [July 14]. Early prototypes employed ordinary glass screens, but after Jobs scratched one with the keys in his pocket, Corning came up with Gorilla Glass.

A more serious drawback was that the iPhone lacked network support for two of the big four US phone carriers, Verizon and Sprint. Of course, Jobs pitched this as the iPhone being exclusive to AT&T.

The device also lacked GPS [Feb 22], a user-replaceable battery, and SD card support [Nov 20]. The file system was hidden, there was no support for copy and paste, no MMS [June 11], and no support for third-party apps.

Competitors dismissed the phone, with the media dubbing it the "Jesus Phone" because of the religious overtones prevalent in Apple's advertising. Despite all that (or because of it), long lines formed outside Apple Stores around the US, especially at Apple's flagship glass cube in NYC.

During the first weekend, Apple sold 270,000 units, hit 1 million by Labor Day, and had shifted over 6 million by the end of the first year.

In August, 17-year old George Hotz was the first person to remove the SIM lock on the phone, which he exchanged for a Nissan 350Z sports car and three 8 GB phones.

Notable later iPhone releases:

- 3G / July 11, 2008. GPS and a 3G connection were addded, and the App Store [July 10] debutted.
- 4 / [June 24], 2010. The Retina high-resolution display was introduced, as well as a front-facing camera and an awkwardly placed wireless antenna [June 24].
- 4S / Oct. 14, 2011. The camera was upgraded to 8 megapixels, and Siri began speaking [Oct 4].
- 5 / Sept. 21, 2012. The display grew to 4" and the 30-pin connector was replaced with the lightning port. The new device came dressed in aluminum instead of stainless steel, making it lighter. Just don't mention Apple Maps [Sept 18].
- 6 / Sept. 19, 2014. The display grew to 4.7", and NFC was supported.
- 8 / Sept. 9, 2014. Wireless charging became a thing.
- X / Nov. 3, 2017. The home button was ditched, and facial recognition added (since no home button meant no touch ID sensor).
- 12 / Sept. 12, 2018. The A14 Bionic chip, 5G support [Oct 13], a triple-lens cameras, LiDAR scanning [March 18], and a 6.7" Super Retina display in the Pro Max version.
- 14 / Sept. 16, 2022. A 48-megapixel camera, bumping up the resolution by a factor of four.

Current iPhones are reputed to contain 75 elements from the the Periodic Table (about 2/3rds of the total).

Incidentally, there was never an iPhone 2 or 9.
