## Joseph Marie Jacquard

### Born: July 7, 1752;

Lyon, France
Died: August 7, 1834

In 1801, Jacquard exhibited his new invention, the "Jacquard loom", at the Exposition des Produits de l'Industrie Française in Paris, where it was awarded a bronze medal. The device used punched cards to specify the pattern that the machine weaved. Needles connected to the warp (the length-wise) threads pushed against the



Joseph Marie Jacquard. Drawn by Ephraïm Conquy.

cards. If a needle hit a hole, its thread was raised and appeared on the top of the fabric. If there was no hole, then the thread remained at the bottom.

Although the loom didn't calculate anything, it was an important step for computing because it showed how information could be stored on punched cards.

The introduction of the loom faced strong opposition from traditional silk-weavers who feared that their jobs would be automated away. For example, when Jacquard exhibited the device in Lyon, the weavers mobbed him and smashed the machine. Jacquard described the outcome: "The iron was sold for old iron, the wood for fuel, while

I was delivered over to universal ignominy."

Matters took a turn for the better in 1805 when the loom was declared public property, which meant that Jacquard received a state pension. By the time of his death there were some 30,000 Jacquard looms installed in Lyon alone [March 00], although some historians argue that its success was due to improvements by Jean Antoine Breton.

Jacquard's punched card technique was subsequently employed by Charles Babbage [Dec 26] in his Analytical Engine [Dec 23] and by Herman Hollerith [Feb 29] for his tabulation machines [Aug 16].

## Glen Jacob Culler

### Born: July 7, 1927;

Savonburg, Kansas
Died: May 3, 2003

Culler and Burton Fried developed the Culler-Fried Online System in the mid-1960s, one of the first interactive computer systems, including a novel use of a oscilloscope to present graphical information. It was also one of the first systems to use an object oriented approach to structuring its elements, by providing a predefined set of mathematical objects (scalars, vectors, arrays, and matrices) with associated operations (e.g., add, subtract, display, multiply, sine, exponent).

A colleague at UCLA, Roger Wood, later recalled Culler "walking around the building like a pied piper with a group of grad students trailing along behind him."

## Lawrence A. (Larry) Welke

### Born: July 7, 1931; USA
Died: March 3, 2012

In January 1967, Welke became the first publisher to get involved with the software

industry when he began printing "ICP (International Computer Programs) Quarterly", a catalog of software for sale; the first issue listed 50 vendors and 110 products. It was marketed to data processing managers, and became a way for small software vendors to compete against giants like IBM. As a consequence, Welke has been called "The father of the software industry".

In 1970, ICP begins sponsoring the annual *Million Dollar Awards* for products that had sold in excess of that amount. The press coverage of the "black-tie" awards ceremony helped increase awareness of the fledging software products industry.

By 1975, the renamed "ICP Software Directory" listed 800 vendors and 3,000 product. A decade later there were 10,000 software products.

In April 1979, the 8080 version of Microsoft BASIC [Nov 18] became the first product for microprocessors to win a *Million Dollar Award*.

## Adele Goldberg

### Born: July 7, 1945;

Cleveland, Ohio

Goldberg began working at PARC [July 1] in 1973 where she became a member of the Smalltalk language project.

Smalltalk extended Simula 67's [Jan 5] object-oriented approach, and its programming environment introduced the WIMP interface (windows, icons, menus, pointers), the cornerstone for today's GUIs [March 1]. Smalltalk went on to influence virtually all later object-oriented languages – CLOS, Objective-C, Java [Feb 23], Python [Jan 31], Ruby [Feb 24], and many more.

Alan Kay [May 17] designed most of the early versions of Smalltalk, Dan Ingalls [Oct 12] implemented them, and Goldberg wrote much of the documentation. In particular, Kay and Goldberg wrote the

influential article "Personal Dynamic Media" (1977), which outlined the Dynabook concept, a fictional tablet computer which closely resembles modern tablets such as the iPad [April 3].

According to Goldberg, she initially refused to give a detailed demonstration of the Xerox Alto [March 1] to an Apple team led by Steve Jobs [Dec 00], but senior Xerox management ordered her to, a decision she likened to "giving away the kitchen sink".

## Rosenblatt Speaks to the Press
### July 7, 1958

Frank Rosenblatt held a press conference to describe his work on the perceptron. Subsequently, *The New York Times* loudly reported that the perceptron would be "the embryo of an electronic computer that [the Navy] expects will be able to walk, talk, see, write, reproduce itself and be conscious of its existence."

Rosenblatt had developed the perceptron algorithm at the Cornell Aeronautical Lab in 1957 with funding from the Navy. While his first implementation was in software running on an IBM 704 [May 7], he later implemented it in custom-built hardware as the "Mark 1 perceptron". The machine consisted of an array of 400 photocells, randomly connected to "neurons". Each neuron summed its weighted inputs to produce an output. The weights were implemented using potentiometers which could be adjusted during a learning phase by electric motors.

After the newspaper hype came the inevitable fall – it was quickly shown that perceptrons couldn't be trained to recognize many classes of patterns. In 1969, the book "Perceptrons" by Marvin Minsky [Aug 9] and Seymour Papert [Feb 29] showed that it was impossible for perceptrons to learn something as simple as an XOR function. The oft-misquoted Minsky/Papert text effectively killed off neural network research for nearly ten years before it experienced a resurgence [July 15].

Rosenblatt had been a schoolmate of Minsky's at the Bronx High School of Science.

## Infosys
### July 7, 1981

Infosys is an Indian multinational that provides IT and outsourcing services. It was established by seven engineers, led by Nagavara Ramarao Narayana Murthy with initial capital of just $250 (Rs 10,000), provided by his wife Sudha.

In 1999, Infosys became the first Indian company to list on the NASDAQ. Over the next ten years, the company's revenue grew by more than 50% per year.

Infosys is often credited with transforming the image of India, and most definitely enhanced Bangalore's reputation, which had previously been known as the "pensioner's paradise".

Murthy is known for his adages, that have been collected in the book "The Wit and Wisdom of Narayana Murthy". Two examples:

"Let the bad news take the elevator; let the good news take the stairs."

"In God we trust; everyone else brings data."

## The Canon Cat
### July 7, 1987

Canon released the Cat, a PC / electronic typewriter hybrid largely designed by Jef Raskin [March 9], and close to his original vision for the Apple Macintosh [Jan 24] as an inexpensive "people's computer"

BYTE magazine [Sept 3] described the Cat as "a spiritual heir to the Macintosh", although it utilized a unique text-based 'Leap' interface built around a pair of dedicated keys near the space bar, so made no use of icons, graphics, or a mouse. All the data was manipulated as a long "stream" of text divided into pages.

An extensive range of application software was included in its 256 K of ROM: a standard office suite, communication tools, a 90,000 dictionary, and Forth [Nov 13] and assembly language.



The Canon Cat. Photo by Grant Hutchinson. CC BY-SA 3.0.

The system was discontinued after six months even though over 20,000 units had been sold.

## Rust
### July 7, 2010

Graydon Hoare announced Rust at a talk on "Project Servo" at the Mozilla Summit [Jan 23] in Whistler, Canada. He had been working on it since 2006.

Rust is a concurrent language supporting both the functional and imperative paradigms. It's syntactically similar to C++, but with better memory safety.

As a result, Rust won first place for "most loved programming language" in the Stack Overflow Developer Survey in 2016 and 2017.

In 2018, Hoare wrote: "25 years ago I got a job at a computer bookstore. We were allowed to borrow and read the books; so I

read through all the language books, especially those with animals on the covers [June 6]. Ten years ago I had a little language of my own printing hello world [July 21]."

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