## **Charles Csuri**

Charles Csuri is best known for pioneering the field of computer graphics, computer animation and digital fine art, creating his first computer art in 1964.[2] Csuri has been recognized as the father of digital art and computer animation by Smithsonian, and as a leading pioneer of computer animation by the Museum of Modern Art (MoMA) and The Association for Computing Machinery Special Interest Group Graphics (ACM SIGGRAPH). Between 1971 and 1987, while a senior professor at the Ohio State University, Charles Csuri founded the Computer Graphics Research Group, the Ohio Super Computer Graphics Project, and the Advanced Computing Center for Art and Design, dedicated to the development of digital art and computer animation. Csuri was co-founder of Cranston/Csuri Productions (CCP), one of the world's first computer animation production companies.[3] In 2000 Charles Csuri received both the 2000 Governor's Award for the Arts for the best individual artist,[4] and The Ohio State University Sullivant Award, that institution's highest honor, in acknowledgment of his lifetime achievements in the fields of digital art and computer animation.[4] His current exhibition "Beyond Boundaries" is a retrospective of seventy of his most groundbreaking works of computer art.

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Painting and teaching, Csuri became interested in the digital computer as a means of imaging in 1964, when he saw a computer generated face in a publication from the Department of Electrical Engineering. This started Csuri down the path which made him a Computer Graphics Pioneer.

-http://www.siggraph.org/artdesign/profile/csuri/

# **Donald Peter Greenberg**

In 1971, Greenberg produced an early sophisticated computer graphics movie, Cornell in Perspective, using the General Electric Visual Simulation Laboratory with the assistance of its director, Quill and Dagger classmate Rodney S. Rougelot. Greenberg also co-authored a series of papers on the Cornell Box.

An internationally recognized pioneer in computer graphics, Greenberg has authored hundreds of articles and served as a teacher and mentor to many prominent computer graphic artists and animators. Five former students have won Academy Awards for Scientific or Technical Achievements, five have won the SIGGRAPH Achievement Award, and many now work for Pixar Animation Studios. Greenberg was the founding director of the National Science Foundation Science and Technology Center for Computer Graphics and Scientific Visualization when it was created in 1991. His former students include Robert L. Cook, Marc Levoy, and Wayne Lytle.

Greenberg received the Steven Anson Coons Award in 1987, the most prestigious award in the field of computer graphics. -wikipedia

## **Aaron Marcus**

From 1968 to 1977, in the School of Architecture and Urban Planning and in the Visual Arts Program, he taught at Princeton University: color, computer art, computer graphics, concrete/visual poetry, environmental graphics, exhibit design, graphic design, history/philosophy of design/visual communication, information design, information visualization, layout, publication design, systematic design, semiotics/semiologie, typography, and visual design.

In 1969-71, he programmed a prototype desktop publishing page-layout application for AT&T Bell Labs. In 1971-73, he claims to have programmed some of the first virtual reality art/design spaces ever created while a faculty member at Princeton University.

In the early 1980s, he was a Staff Scientist at Lawrence Berkeley Laboratory in Berkeley, as well as a faculty member of the University of California at Berkeley's College of Environmental Design.[3]

In 1982, he founded Aaron Marcus and Associates, Inc. (AM+A), a user-interface design and consulting company, one of the first such independent, computer-based design firms in the world.

Mr. Marcus has written over 250 articles, some of which have been published in trade journals.Mr. Marcus has written/co-written six books.

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## A.Michael Noll

He was a very early pioneer in digital computer art and 3D animation and tactile communication. Bell Labs in the early 1960s was extremely pioneering in the beginnings of digital computer art (A. Michael Noll), digital computer animation (Edward E. Zajac, Frank Sinden, and Kenneth C. Knowlton), and digital computer music (Max V. Mathews and John R. Pierce).

Noll spent nearly fifteen years performing basic research at Bell Labs in Murray Hill, New Jersey in such areas as the effects of media on interpersonal communication, three-dimensional computer graphics and animation, human-machine tactile communication, speech signal processing, cepstrum pitch determination, [2][3] and aesthetics.

Noll used a digital computer to create artistic patterns and formalized the use of random and algorithmic processes in the creation of visual arts.[4] His initial digital computer art was programmed in the summer of 1962 at Bell Telephone Laboratories in Murray Hill, NJ, making him one of the early innovators of digital computer art. In the late 1960s and early 1970s, Noll constructed interactive three-dimensional input devices and displays and a three-dimensional, tactile, force-feedback ("feelie") device (US patent 3,919,691 "Tactile Man-Machine Communications System" filed May 26, 1971, issued November 1, 1975). This device was the forerunner of today's virtual-reality systems, and Noll suggested its use as a way for the blind to "feel" computer graphics. He also demonstrated the potential of scanned raster displays for computer graphics.[6] He was an early pioneer in the creation of stereoscopic computer-animated movies of four-dimensional hyperobjects, of a computer-generated ballet,[7] and of computer-animated title sequences for TV and film.[8]

His experiment comparing a computer-generated pattern with a painting by Mondrian was an early implementation of the Turing Test and an example of the use of digital computers in investigations of aesthetics.[9][10]

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## Pierre Bézier

Pierre Étienne Bézier (September 1, 1910 – November 25, 1999; ['pjɛʁ e'tjɛn be'zje]) was a French engineer and one of the founders of the fields of solid, geometric and physical modeling as well as in the field of representing curves, especially in CAD/CAM systems.[1] As an engineer at Renault, he became a leader in the transformation of design and manufacturing, through mathematics and computing tools, into computer-aided design and three-dimensional modeling.[1]

Bézier patented and popularized the Bézier curves and Bézier surfaces that are now used in most computer-aided design and computer graphics systems. Bézier popularized but did not actually create the Bézier curve — using such curves to design automobile bodies. The curves were first developed in 1959 by Paul de Casteljau using de Casteljau's algorithm, a numerically stable method to evaluate Bézier curves. The curves remain widely used in computer graphics to model smooth curves. Bézier developed the notation, consisting of nodes with attached control handles, with which the curves are represented in computer software. The control handles define the shape of the curve on either side of the common node, and can be manipulated by the user, via the software.[2]

Bézier began researching CAD/Computer-aided manufacturing in 1960 while at Renault,[4] focusing on the UNISURF system he developed for use with drawing machines, computer control, interactive free-form curves, surface design and 3D milling for manufacturing clay models and masters. UNISURF debuted in 1968 and has been in full use since 1975.[4]

In 1985 he was recognized by ACM SIGGRAPH with a Steven A. Coons Award for his lifetime contribution to computer graphics and interactive techniques.

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# John Carmack

Carmack has pioneered or popularized the use of many techniques in computer graphics, including "adaptive tile refresh" for Commander Keen, raycasting for Hovertank 3-D, Catacomb 3-D, and Wolfenstein 3-D, binary space partitioning which Doom became the first game to use, surface caching which he invented for Quake, Carmack's Reverse (formally known as z-fail stencil shadows) which he devised for Doom 3, and MegaTexture technology, first used in Enemy Territory: Quake Wars.Carmack's engines have also been licensed for use in other influential first-person shooters such as Half-Life, Call of Duty and Medal of Honor. In 2007, when Carmack was on vacation with his wife, he ended up playing some games on his cellphone, and decided he was going to make a "good" mobile game.[5][6]

On August 7, 2013, Carmack joined Oculus VR as their CTO. On November 22, 2013, he resigned from Id Software to work full-time at Oculus VR.[1][7] Carmack's reason for leaving was because Id's parent company ZeniMax Media didn't want to support Oculus Rift.[8]