5 Milestones in HCI

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1-) WWII and Aviation Safety

- Col. John C. Flanagan develops the Critical Incident Technique (CIT) - a set of procedures used for collecting direct observations of human behavior that have critical significance and meet methodically defined criteria. His research work was done for the Aviation Psychology Program of the US Army Air Force. He published his findings in 1954.
- Alphonse Chapanis is considered one of the founders of the field of ergonomics. One of his contributions was the shape-coding of cockpit controls so that they could be differentiated by touch alone. After a series of B-17 crashes, he determined that pilots were confused by the similarity and proximity of the flap and landing gear switches, so he proposed that a wheel be attached to the landing gear control and a triangle be attached to the flap switch.

2-) Whirlwind

Whirlwind was developed at MIT for the US Navy as a flight simulator system to train bomber crews. It was the first computer to operate in real time (using Direct Memory Access – DMA) and to use video displays (CRT's) for output.

It's development led directly to the US Air Force's SAGE system, and indirectly to minicomputers of the 1960's. Chief engineer Ken Olsen went on to become the founder of Digital Equipment Corp. (DEC).

3-) Sensorama

Morton Heilig was a cinematographer who patented a multisensory entertainment device called the Sensorama in 1962. Users were presented with a 3D movie, sounds, vibrations, and even smells from the short subjects stored on the device. It was a commercial flop, but many consider Heilig to be “the father of VR”.

4-) The Sayre Data Glove

Developed by in 1977 by Daniel J. Sandin, with Thomas DeFanti and Richard Sayre, at the Electronic Visualization Laboratory at the University of Illinois, the Sayre Data Glove was the first of its kind of input device. In 1991, Sandin developed the CAVE system that is a standard for Virtual Reality (VR) environments to this day.

5-) Very Nervous System

In 1991, David Rockeby introduced his “Very Nervous System”, in which a computer observes the gestures of a dancer through a video camera. The computer then translates those movements into improvised synthetic music in real time.