

Transformational Technology

Presented by Jax Deluca

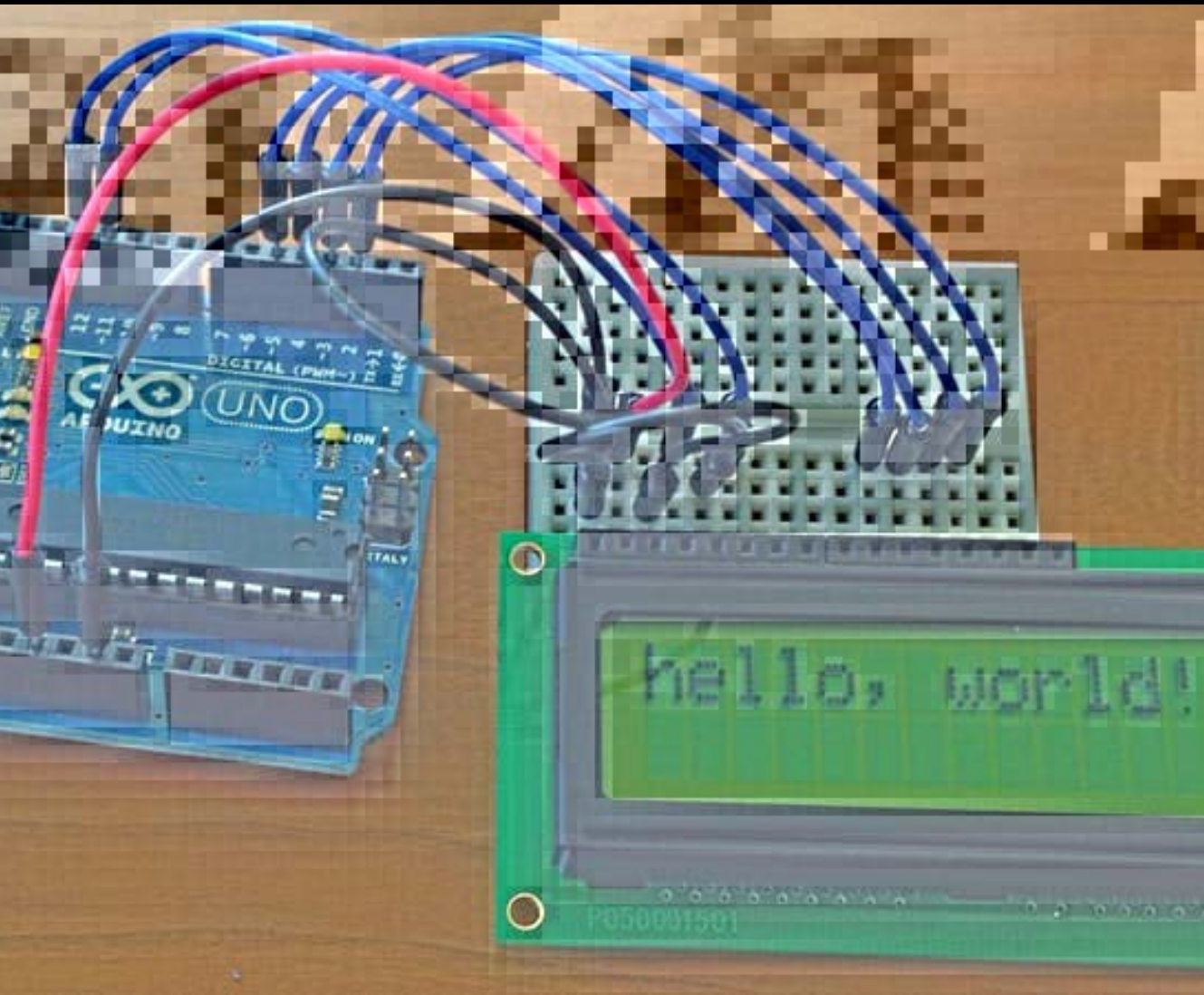
Media Arts Director

National Endowment for the Arts



ART WORKS.

**National
Endowment
for the Arts**
arts.gov



Presentation Overview

- Introductions & Group Exercise
- Intro to Art + Technology Ecosystem
- Group Discussion

Art and technology are intrinsically linked and both continue to shape and redefine the world in which we live.

It's a relationship that is continually evolving.



- Freya Murray, Google Art & Culture Institute

Video Removed

Follow this link to:

<https://www.youtube.com/watch?v=n3zBEh3heal>

Title: Google Arts and Culture Lab - Freya Murray & Mario Klingemann

ART & TECHNOLOGY in four “bins”:

- **Creative Technologists/Artists** developing digital tools for artists and individuals to create, access, share work
- **Artists** using digital tools for the creation and distribution of art work
- **Arts Programming** that supports research, creation, education, exhibition highlighting the intersection of art and digital technology, across all disciplines
- **Organizations** using digital tools for audience engagement, marketing, and interpretive programs

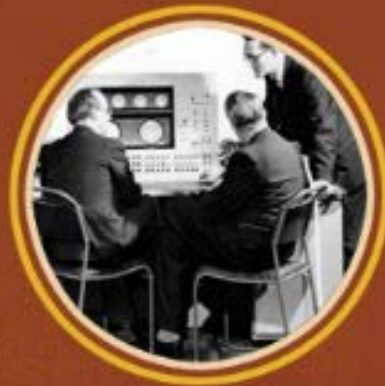
DIGITAL TECHNOLOGY MILESTONES

OF COMPUTING & THE INTERNET: 1940-1999



1947

ENIAC, one of the world's first digital computers, is first turned on



1951

Release of the **Ferranti Mark 1** (The world's 1st commercially available computer)



1956

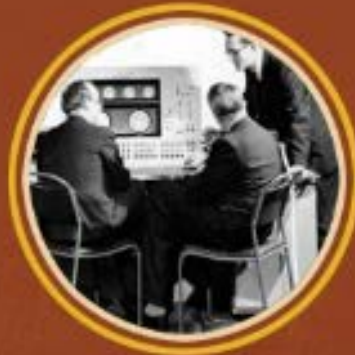
IBM creates **IBM 305**, the 1st production hard disk. It stores 5 MB

5MB? Oh, it's on now!



1947

ENIAC, one of the world's first digital computers, is first turned on



1951

Release of the **Ferranti Mark 1** (The world's 1st commercially available computer)



1956

IBM creates **IBM 305**, the 1st production hard disk. It stores 5 MB



1971

Intel releases 4004, the very first microprocessor



1969

Creation of **ARPANET** (Advanced Research Projects Agency Network)



1964

BASIC programming language is introduced



1971

Intel releases 4004, the very first microprocessor



1969

Creation of ARPANET (Advanced Research Projects Agency Network)



1964

BASIC programming language is introduced



1975

Microsoft founded by Bill Gates and Paul Allen. Heard of this company?



1976

Apple founded by Steve Jobs and Steve Wozniak. Another brand you may know.



1977

Apple II computers debut and are made available to the public

Stan VanDerBeek (1927-1984)



Movie Mural (1965-68)

Video Removed

Follow this link to:

https://www.youtube.com/watch?v=mg_DowyLuT8

Title: Stan Vanderbeek: The Computer Generation, part 1

Video Removed

Follow this link:

<https://www.youtube.com/watch?v=V4agEv3Nkcs>

Title: Visualing Poetry With 1960s Computer Graphics - AT&T Archives

Video Description: From 1964 through around 1969, artist Stan VanDerBeek worked with computer scientist Ken Knowlton on a series of films using BELFLIX, one of the first computer languages for animating digital graphics.

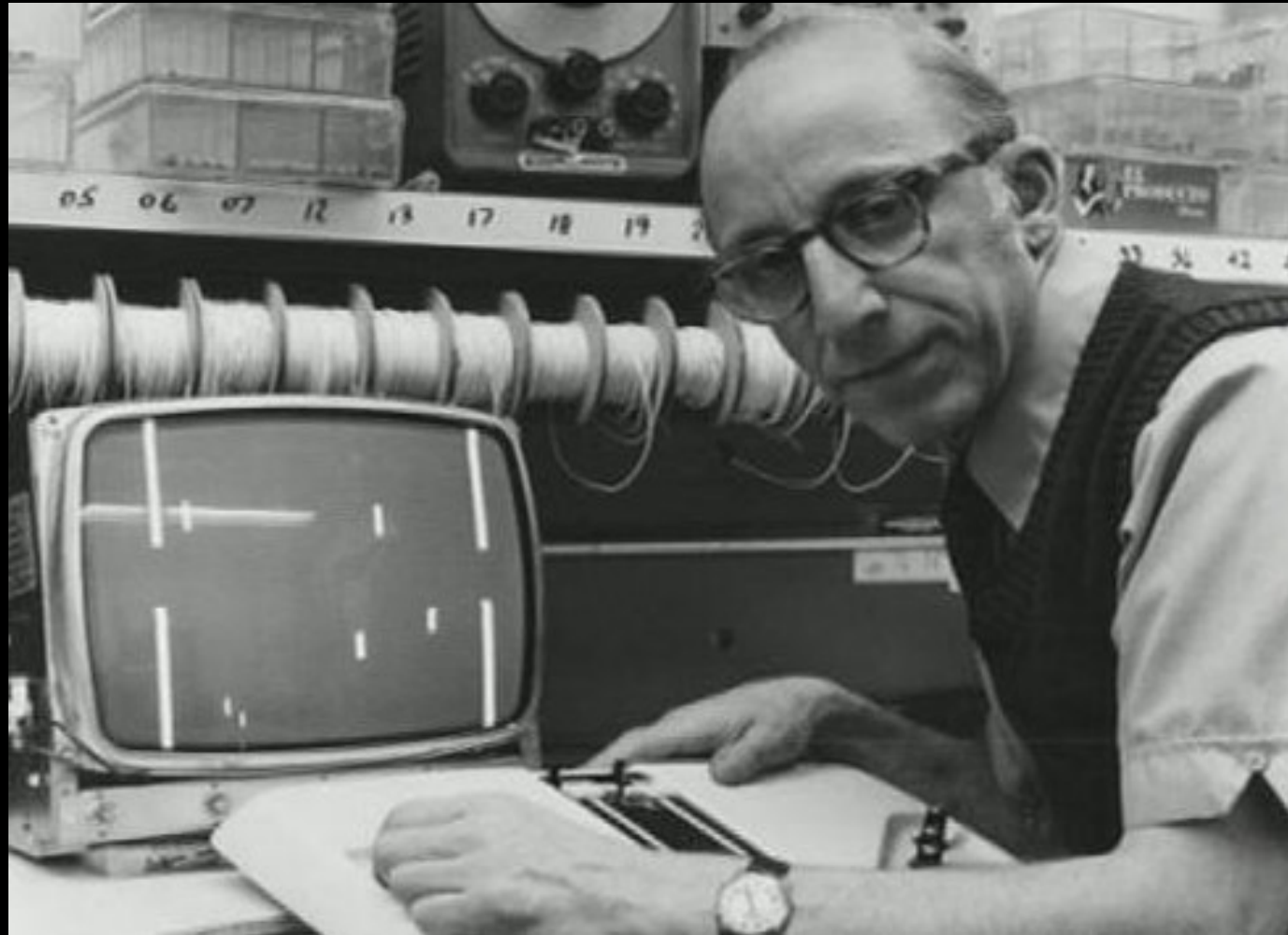
NOTE: THIS SLIDE WAS NOT PART OF PRESENTATION (added for context)

I know the look of the POEM FIELD is a bit challenging due to its abstract nature, but I can say it's existence represents a significant contribution to the realm of digital animation and the tools we use today.

What is actually happening here is that the images seen are the visual manifestations of poems, which were written in digital text using the **BEFLIX computer language** (which was then processed by an IBM 7094). The image was output onto the surface of a cathode ray tube on a screen and filmed (on film). Because at that point, there really wasn't a process for SAVING files. In short, at the time, this was quite a laborious process!

To give you a sense of where we are at in the timeline of digital tools, at this time the first video game console had just come out, a few years earlier in **1968**.

Ralph Baer (1922-2014)



“The Brown Box” 1968

NOTE: THIS SLIDE WAS NOT PART OF PRESENTATION (added for context)

The previous slide holds an image of Ralph Baer, often referred to as **the grandfather of video games**, because of his vision to bring the gaming experience to the public. His invention of the Brown Box, allowed users to play a game called “tennis for two”.

The invention of this paved the way for Nolan Bushnell to develop the game PONG and create Atari. As you can see, the late 60s/early 70s was a breakthrough time for innovations for moving image on a screen. Stan, Ralph, Nolan – each had a vision.

I want to take a moment to point out the difference between a video game console and this animation software:

- A video game console is a consumer device that is meant for the consumption of a **contained** experience of a video game product.
- The digital animation software Stan and Ken engineered are open ended tools that can be used by consumers to **PRODUCE** their own content. Therefore, it becomes **a tool for creation versus consumption** – and became a valuable part of culture for both personal and professional components of our lives.

Tools for creation versus consumption:

- The video game console is a consumer hardware device that is operated by consumers to **CONSUME** content created via a video game product.
- The digital animation software Stan and Ken engineered would eventually allow consumers to **PRODUCE** their own creative content, for personal or professional purposes.





Question to the group:

**What commonalities exist between
BEFLIX and TiltBrush?**