

КЛУБ КОНТЕКСТ

TRENDS IN PC DEVELOPMENT

THE REVEALED FUTURE – 1971

- User as Consumer

- Interactive TV

- Home shopping
 - “See it, Touch it, Buy it!”

- Home Terminal

- “Information at your fingertips”
 - Telephone enhancement

- Telenet

- Through TV

- User seen as information consumer only

PROPOSED PERSONAL COMPUTER – 1971

- Digital Equipment Corp. (DEC)
- David Ahl, consultant, prototypes PDP-8 with display into a single housing
 - Presented to CEO Ken Olson
 - Educational, game usage
 - Rejected for lack of perceived market
- Ahl leaves DEC to start publication in educational computing
 - One of the first publications to support personal computing

COUNTERCULTURE AND TECHNOLOGY

- “Reversionary ↔ Utopian” dialectic (Roszak)
 - “From Satori to Silicon Valley”
- Synthesis: Whole Earth Catalog
 - Advocating familiarization with technology to reversionists
 - R. Buckminster Fuller
 - “Utopia or Oblivion”
 - “...the important decisions (defining the world in 2000) will all be made by 1985.”
 - Efficacy of design to affect human possibilities

WHOLE EARTH CATALOG

access to tools



Fall 1968

\$5

PERSONALITY TYPES

- Apollonian

I think, therefore I am

- Dionysian

I feel, therefore I am

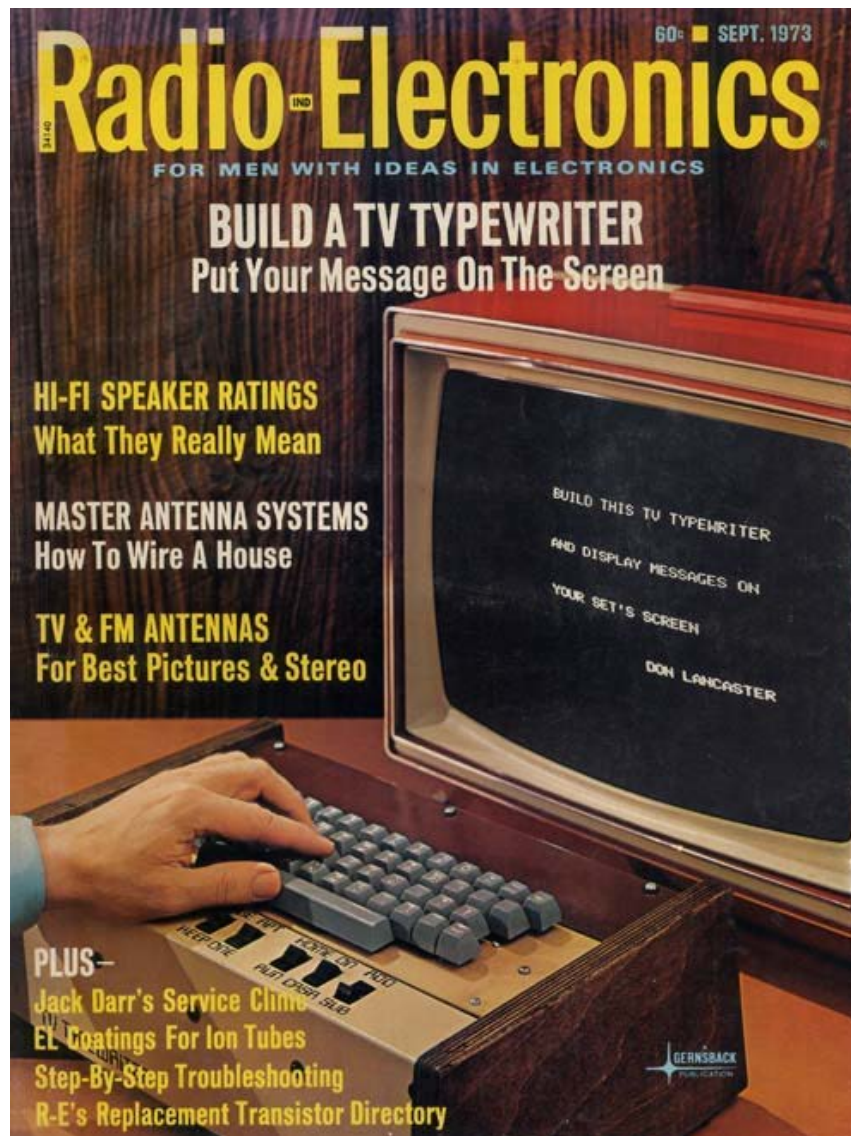
- Hephaestian

I make, therefore I am

(A. Miller)

HEPHAESTIAN BREAKTHROUGH – 1973

- Sept. 1973 “Radio-Television” magazine
- “Build your own TV Typewriter”
- “Put your message on the screen”
- Offered hands-on relationship with
 - Digital electronics
 - Television
- Expected paid response was 10-20
- Received 10,000 paid responses



MANIFESTO – 1974

- Ted Nelson - “Computer Lib/Dream Machines”
- “You can and must understand computers NOW”
- Nonlinear, hand-calligraphed, eclectic layout
- Dual book
 - Front: primer on software, sociology of computers
 - Reverse: primer on computer graphics
- Sold 50,000 copies

You can and must understand computers NOW.

COMPUTER



SEVEN DOLLARS.

PRODUCT – 1975

- January 1975 Popular Electronics magazine
- “Minicomputer” kit
- Company faced bankruptcy due to collapse of calculator prices
 - Estimated 400 orders needed to prevent collapse
 - Received 400 paid orders in the first week
- Product was not complete
 - Required plug-in enhancements
 - Created plug-in industry (against intentions)

HOW TO "READ" FM TUNER SPECIFICATIONS

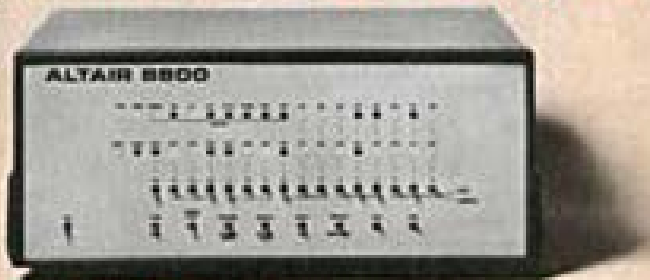
Popular Electronics

WORLD'S LARGEST-SELLING ELECTRONICS MAGAZINE - JANUARY 1976 / 75¢

PROJECT BREAKTHROUGH!

World's First Minicomputer Kit to Rival Commercial Models...

"ALTAIR 8800" SAVE OVER \$1000



ALSO IN THIS ISSUE:

- An Under-\$90 Scientific Calculator Project
- CCD's—TV Camera Tube Successor?
- Thyristor-Controlled Photoflashers



TEST REPORTS:

Technics 200 Speaker System
Pioneer RT-1011 Open-Reel Recorder
Tram Diamond-40 CB AM Transceiver
Edmund Scientific "Kirlian" Photo Kit
Hewlett-Packard 5381 Frequency Counter

ANALYSIS

- Marketing previously done by Whole Earth Catalog
 - Latent demand created for ways to control high technologies, especially communication
 - Demand situated within a societal context of urgency and significance
- Product contained its own invitation to users to configure and program it.
 - Multiple small companies created to provide missing plug-ins and software

BOOTSTRAPPING

- Difficulty of construction created market for compatible (IMSAI)
- Initial sales were only to hobbyists
- Copied BASIC software built Microsoft's market
- Lack of functioning add-ons created third-party providers' market
- Standardization effort improved the product
- Nelson: “Those Unforgettable Next Two Years”

APPLE'S MEDIA MACHINE

- Apple 1 was for practice – technically unremarkable
 - Text display only
 - Slow update rate
 - Required external keyboard, power
 - Built-in simple BASIC
- Apple][was a different breed
 - Remarkable engineering to keep cost low
 - Color graphics in the base product
 - Introduced with color video projector

APPLE'S MEDIA MACHINE – 2

- Appeal of Apple][was to end users as well as programmers
- Quickly became the game machine of choice
- Visi-Calc (1979) became first “killer app” and opened business market
- In retrospect, Jobs' focus on moving images becomes obvious
- Subsequent products (Macintosh, iPhone) incorporate media focus

PORTABLES / LAPTOPS

- Note Taker (1976) developed at Xerox PARC
 - GUI machine functionally equivalent to Alto
 - Mouse included
 - 18 Kg, 80 watts
 - Never offered for sale
- Specification for CP/M portable presented to Apple by Newman and Hawkins (1978)
- Osborne 1 (1981) implemented Newman/Hawkins specification
 - Commercially successful

IBM “PORTABLE COMPUTER”

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IBM “PERSONAL COMPUTER”

- 5150 introduced 1981
- Derivative of “Datamaster” office equipment line
- Developed in 1 year
 - Independent business unit
 - Team included computer hobbyists
 - Open architecture a fundamental requirement
- Unremarkable design, low quality graphic display
- Became predominant architecture
 - Attracted clone development

CURRENT STATUS

- Smart phones
 - OMAP architecture
 - IOS, Android operating systems
- Tablets
 - Ipad, Surface, Android
- Synthesis
 - Phone function entering pads
 - Cloud data storage
 - Increasingly becoming Apple's vision of “Media Machine”

FUTURE DIRECTIONS

- Wearable
 - Google Glass being released for developers
 - Body-area networks still in laboratories
 - Speech interface (SIRI) still in early days
 - Audible or gestural (or hybrid) input/control methods
- Automotive
 - CAN bus available since 1986
 - Most vehicles rely on CAN data bus for operation and monitoring

FUTURE DIRECTIONS – 2

- Data usage becomes essential element of ordinary life
 - Implications for solitude
 - Separation between individuals outside of data domain increases
 - Recording of experience for playback, transmission
 - Creation of synthetic personalities (masks)
 - Increase in available information reduces value
 - Selection of degree of availability

FUTURE DIRECTIONS – 3

- Technology for the next billion
 - Voice mobile phones already accepted
 - Economically important
 - Simplified subset of functions to be discovered
 - Numeracy outstrips literacy
 - Iconography to match localized mythology
 - Telemedicine and Tele-health
 - Government effectiveness
 - Family and tribe focus

FUTURE DIRECTIONS – 4

- Devices designed with personalities
 - Must fit within society of user
 - Not dominant
 - Equivalent to a semi-intelligent pet
- Golemic control
 - User in the feedback loop, unlike robotics
 - Augmentation of user's senses
 - Accommodating user's perceptual metaphors
- Optional wilderness always available