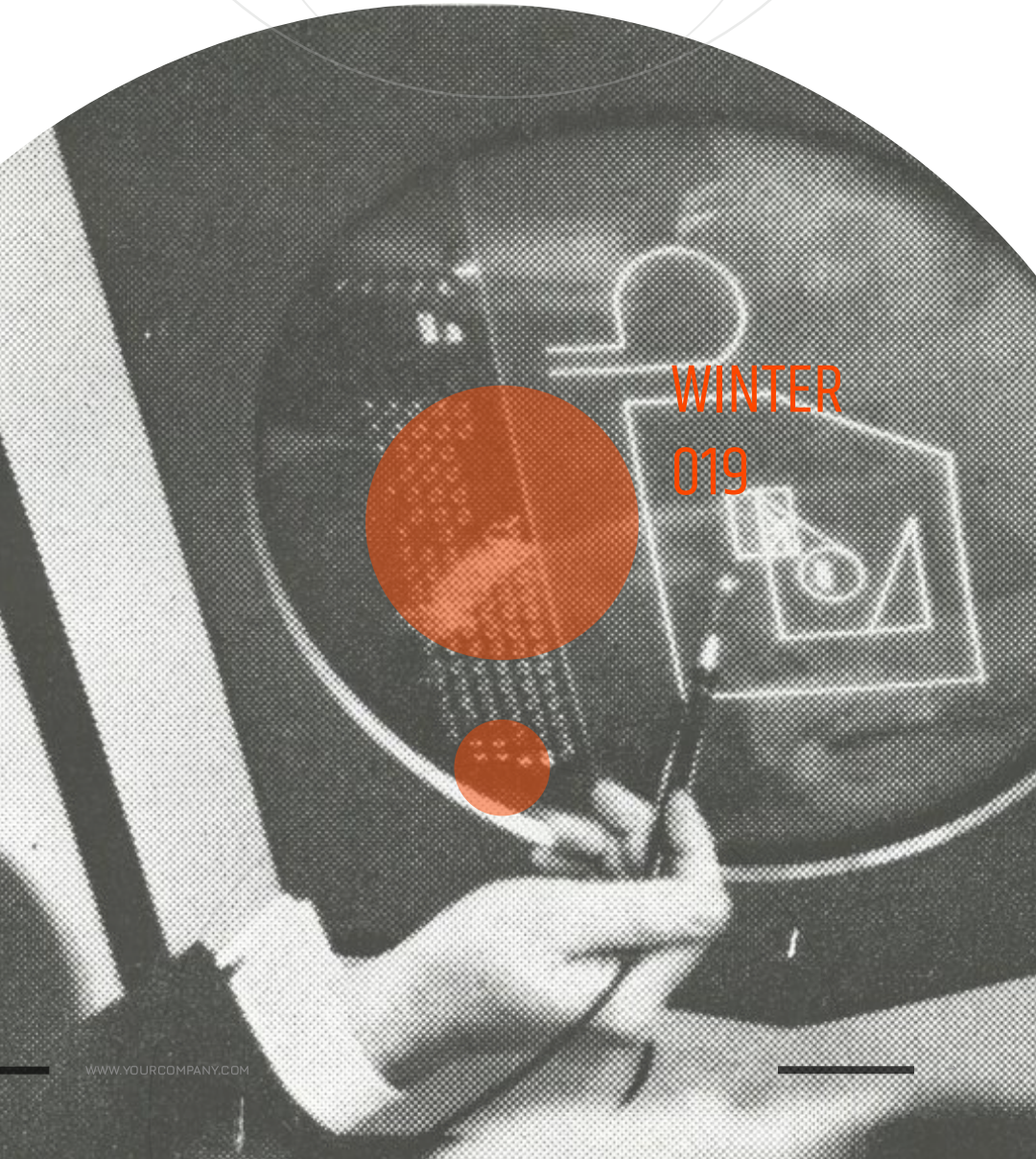
MEMENT.OS

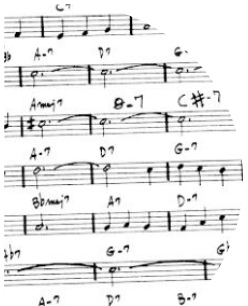


MEMENT.OS IS A VISION FOR AN EXPRESSIVE COMPUTATIONAL MEDIUM

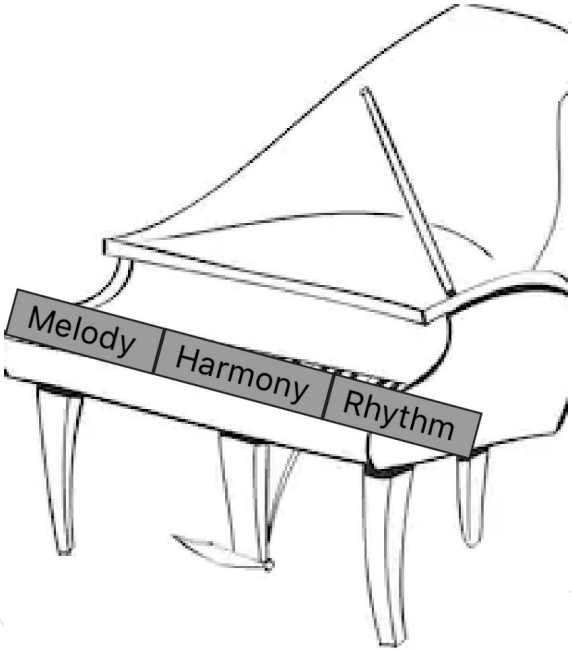
001

LET'S SAY YOU'RE A JAZZ PIANIST...

Imagine you're a jazz pianist who loves to improvise. You like to play what you feel as it comes to you in the moment, in real time. When you're improvising, you and the piano are joined as one in an expressive union. A sort of symbiosis is taking place - a type of cognition emergent of the feedback loop between pianist and piano.



002



PIANOS IN AN ALTERNATE UNIVERSE

But let's imagine for a moment you live in a world where pianos are built a bit differently than they are in ours. Instead of having keys that, when pressed by the pianist, directly strike the strings, our piano presents the pianist with three menu buttons titled "Melody", "Harmony," and "Rhythm."

Upon pressing one of these buttons, the pianist is taken to a sub-menu containing a list of options to choose from - in the case of "Melody", a list of every note on the piano, "Harmony" would be a selection of pre-set combinations of notes, etc.

This doesn't sound very appealing as a pianist. It feels like we're looking through the opposite end of the binoculars - why should we have to spell out specific instructions in full to be carried out, when we could simply play?

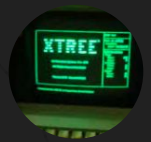
Nowhere in this alternate reality exists even the possibility of human-piano symbiosis.

No one person could possibly hope to understand everything involved in getting the piano to play a note, to have it become an expressive extension of themselves.

Computing is seen as an object for use, not a context for thinking and acting.

jf

PHILOSOPHY



USER INTERFACES AREN'T HUMAN-CENTRIC

The interface paradigms we use today aren't fundamentally different than those of 30 years ago. Metaphors like "desktop" and "file" were useful to folks in the 80s who had never used a computer, but they are now obsolete.

INTERACTIVITY ISN'T A FIRST-CLASS CITIZEN

Our computer architecture centers around CPU cycles and how operation count scales with dataset size. Real time is not a first-class variable - it is simulated after the fact. This means all "interaction" must be explicitly formulated in advance.

POORLY-DESIGNED MACHINE ARCHITECTURE

The bedrock abstraction of computers is far too low, leading to bloated architectures and impossibly complex programs.

Present-day computers are designed primarily to solve preformulated problems or to process data according to predetermined procedures. The course of the computation may be conditional upon results obtained during the computation, but all the alternatives must be foreseen in advance.

We must bring computing machines effectively into processes of thinking that must go on in "real time," time that moves too fast to permit using computers in conventional ways.

J.C.R. Licklider

Creator of ARPANET, the foundations of the Internet

Computation as Material

Computation will become a medium that is both as expressive and as inclusive as clay, pen, and paper.

Interactivity as First-Class Citizen

In order to achieve a truly expressive dynamic medium, computer architecture must be rebuilt from the ground up to include time as a first-class variable.

HARDWARE

Computer architecture must be built on new foundations in order to achieve an expressive computational medium. No black boxes, no endless layers of abstraction.

OS

Mement.OS's has completely re-architected the relationship between human and computation. Instead of relying on metaphors that reference the external world, Mement.OS embraces the new possibilities of dynamic mediums.

INTERFACE

A multiplicity of I/O possibilities means rethinking the concept of I/O itself. Instead of segmenting by the individual capabilities of various I/O devices, Mement.OS embraces the "ambient interface" paradigm.

jf

DEVICE


My New
Sketch
via Illustrator Tools
My New
Sketch
via Illustrator Tools
My New
Sketch
via Illustrator Tools

jf

USER-CENTRIC (LITERALLY)

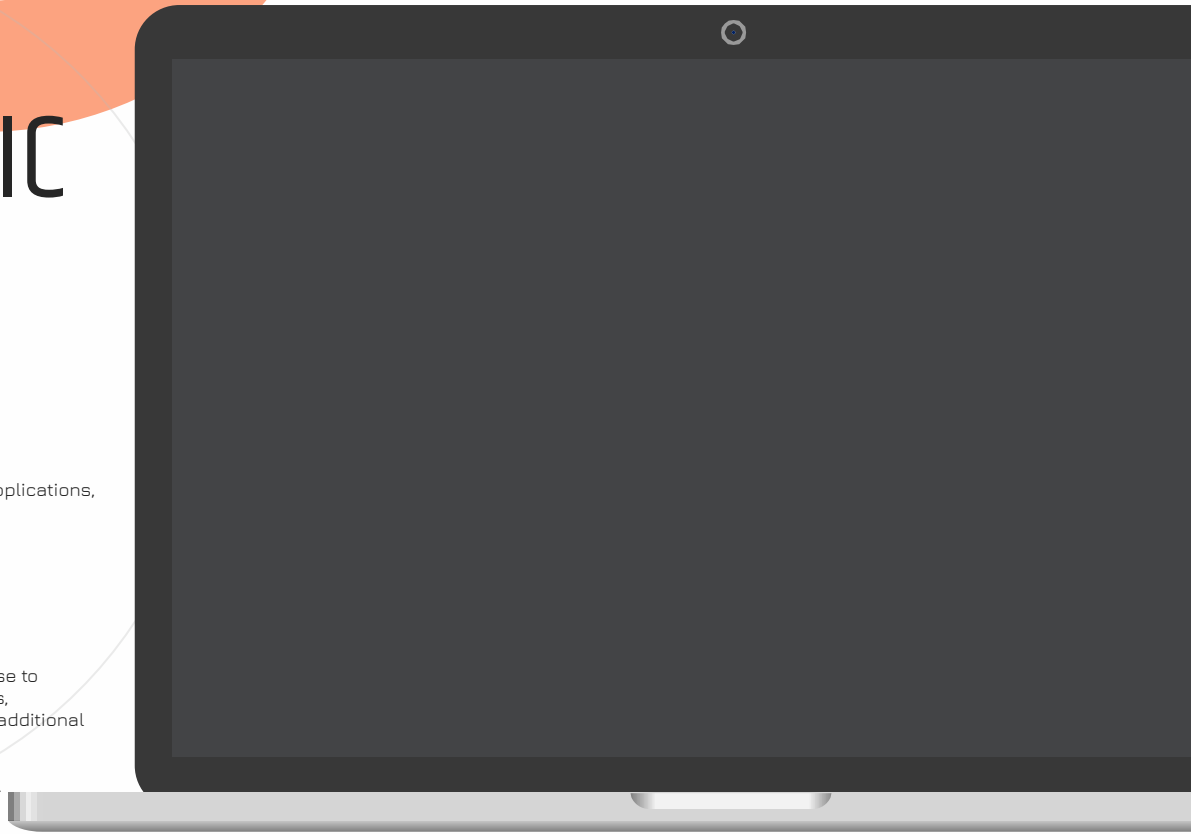
Manipulating Data & Time

Instead of metaphors like files, folders, desktops, and applications, the Mement.OS user experience

Primitives, Power Ups, and Macros

The user is given primitives, basic tools that they can use to structure their data. These include text, tables, formulas, communications tools, and connectors. Users can add additional capabilities as needed, such as media editing and

Macros are generalizations of either a scaffold or a fork.



jf

FORKS - AN API FOR TIME

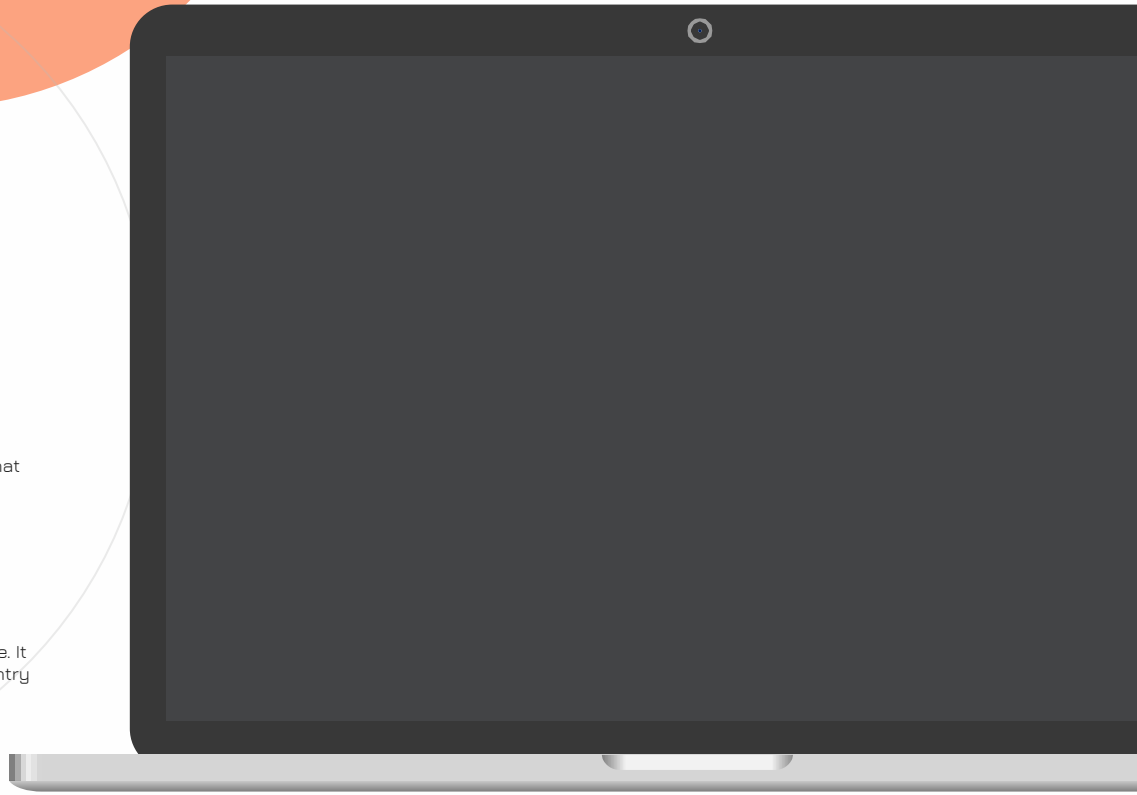
Header & Cover

Stars are created within galaxies from a reserve of cold gas that forms into giant molecular clouds.

Digits

The house stood on a slight rise just on the edge of the village. It stood on its own and looked over a broad spread of West Country farmland.

DEVICE



jf

WWW.YOURCOMPANY.COM

PERSONAL

lkjlk;jlk;jkl;

PRO

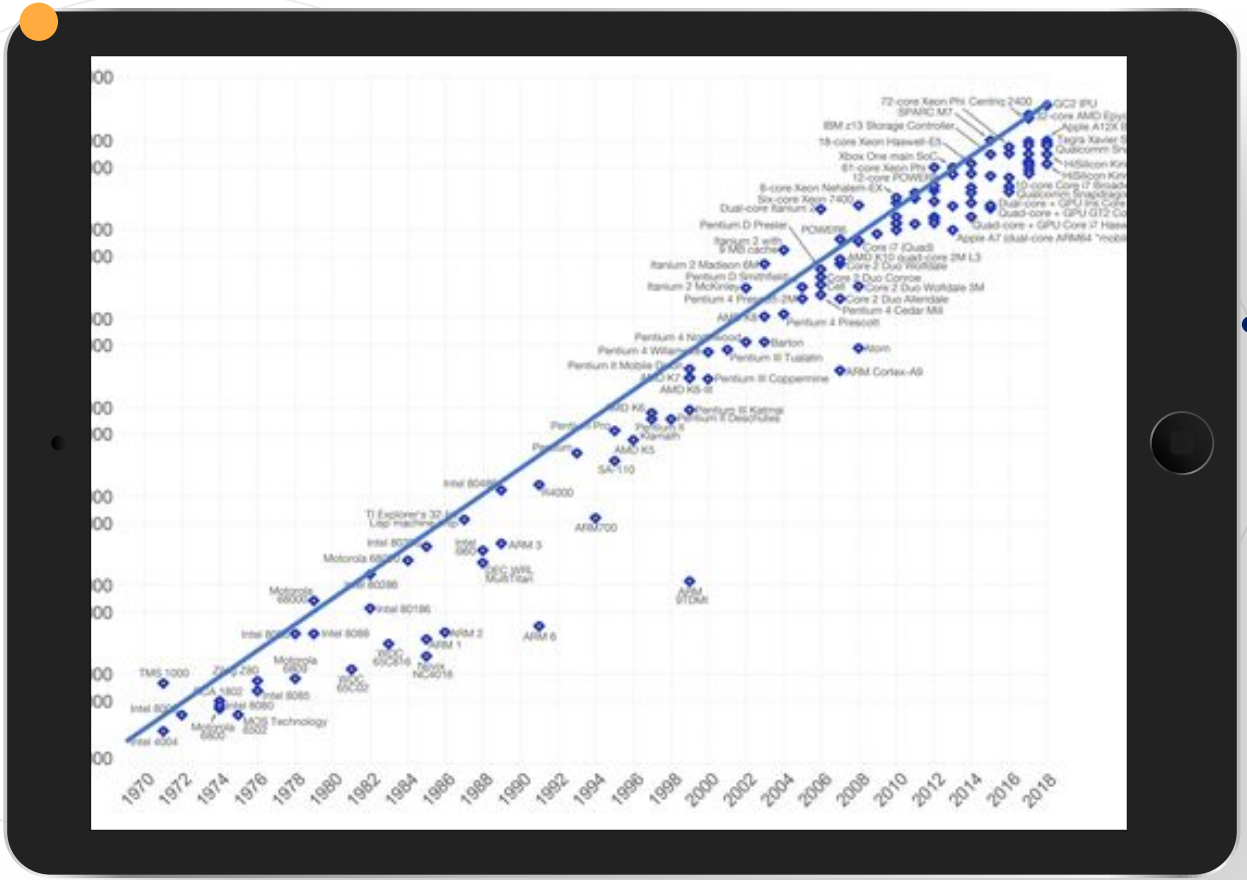
In almost every domain, there exists *professional equipment* - sturdier, specialized, more powerful tools that require training and experience to operate.

But for today's computer programmers, there exists no such option. What would a "professional" computer look like?

ENTERPRISE

Nearly all of today's computing and user-experience innovations were born out of dedicated research initiatives at DARPA, Bell Labs, and other large institutions.

They recognize the value in augmenting human intellect - what sort of specialized solutions could they use Mement.OS for?


72-core Xeon Phi Centriq 2400
SPARC M7
IBM z13 Storage Controller
18-core Xeon Haswell-E5
Xbox One main SoC
61-core Xeon Phi
12-core POWER8
8-core Xeon Nehalem-EX
Six-core Xeon 7400
Dual-core Itanium 2
Pentium D Presler
POWER6
Itanium 2 with 9 MB cache
Core i7 (Quad)
AMD K10 dual-core 2M L3
Itanium 2 Madison 6M
Core 2 Duo Wolfdale
Pentium D Smithfield
Core 2 Duo Conroe
Itanium 2 McKinley
Core 2 Duo Wolfdale 3M
Pentium 4 Prescott 2M
Core 2 Duo Allendale
Pentium 4 Cedar Mill
Pentium 4 Prescott
Pentium 4 Northwood
Barton
Pentium 4 Willamette
Pentium III Tualatin
Atom
Pentium II Mobile Dixon
ARM Cortex-A9
AMD K7
Pentium III Coppermine
AMD K6-III
Pentium III Katmai
Pentium II Deschutes
Pentium Pro
Pentium II Klamath
AMD K5
SA-110
Intel 80486
i4004
ARM700
TI Explorer's 32-bit Lisp machine CPU
Intel 80286
Intel 8008
ARM 3
Motorola 6800
Motorola 68000
Intel 80186
Intel 8089
ARM 2
ARM 1
ARM 6
Motorola 6809
RCA 1802
Intel 8085
Intel 8080
Motorola 6800
MOS Technology 6502
Intel 4004
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018

THE MOTHER OF ALL DEMOS

In 1968, a man named Douglas Engelbart presented a radical vision for the future of computing. He demonstrated his inventions of the mouse, video conferencing, hypertext, and an early version of a graphical user interface.

He was one man, with a vision for augmenting human intellect. And his inventions have shaped the lives of billions of people.

jf

THE COMPUTER REVOLUTION HASN'T HAPPENED YET

There were nearly 150 years between the invention of the printing press and the large-scale societal changes it effected. It took gradual change over generations for humans to be able to think, learn, argue, and communicate via written word.

Computers don't change the world - humans *using* computers is what changes the world. The ways we use computers,the ways we use the dynamic computational medium, are worth questioning and rethinking.

ABOUT

MEMENT.OS