R&D lab concept sketch
March 2015
what
tools for creators

today’s computing tools are optimized for consumption rather than creation
augmenting human intellect

“augment the capabilities of groups of people as they work together on truly difficult problems”
end-user computing vs. tools for thinking

“modeling”
new computing primitives
**End-user computing**
creating & exploring dynamic models
revision control
pair programming
hackability, scripting, extensibility
the new literacy

**Man-machine symbiosis**
humane interfaces
tools as extension of the self

**Augmenting group intellect**
active essays
collaboration (realtime, async)
sharing & publishing
body of knowledge
logicians
tools for informed decision-making

**Computing primitives**
- hardware
- operating system
- displays
- input devices
- HTML+JS runtime
- GPUs
- always-on network
- identity
- security
- privacy
- encryption
- cloud persistence
- offline sync
- realtime sync

**Tools for thinking**
sketching
modeling
data visualization
see & understand

**Text interfaces**
command-line
code
visual vs symbol manipulation
sharability
how
locus for ideas & people
Scholarship

“innovation is as much about scholarship and understanding the past as it is about the future”
Man-Computer Symbiosis

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Man-computer symbiosis is an expected develop-
ment of a symbiotic interaction between men and electronic devices. The main
the electronic members of the partnership. The main
will involve very close coupling between the
to let computers facilitate formative thinking as
of the solution of formulated problems, and 2) in
and computers to cooperate in making decisions
complex situations without inflexible dependence
in programs. In the anticipated symbiotic parts
will set the goals, formulate the hypotheses, deter-
cite, and perform the evaluations. Computing
is the routine work that must be done to bring
way for insights and decisions in technical and
iting. Preliminary analyses indicate that the sym-
ship will perform intellectual operations much
than man alone can perform them. Prerequisites
will be coupled together very tightly, and the
resulting partnership will think as no human
ever thought and process data in a way not
by the information-handling machines we

B. Between “Mechanically Extended Man”
and “Artificial Intelligence”

As a concept, man-computer symbiosis is
an important way from what Northrop called
inherently extended man.” In the man-machine
of the past, the human operator supplied the
the direction, the integration, and the execu-
tion of the mechanical parts of the systems were

function drawMountain (offset, fillStyle) {
    var x = 0;
    var y = canvastop - offset;

    cxt.beginPath();
    cxt.moveTo(0, y);
    while (x <= canvastop) {
        y = random(200, 300);
        cxt.lineTo(x, y);
    }
    cxt.lineTo(canvastop, y);
    cxt.closePath();
    cxt.fillStyle = fillStyle;
    cxt.fill();
}

//tree

function drawTree () {
    var blossomPoints = [];
    resetRandom();
    drawbranches(0, Math.PI/2, canvastop/2, canvastop/2, canvastop, canvastop/2);
    drawblossom(0, Math.PI/2, canvastop/2, canvastop/2, canvastop, canvastop/2);
}
academic vs market
visionary vs iterative
strategic vs tactical
holistic vs reductionist

“head in the clouds, feet in the mud”
customer discovery

bioinformaticians
architects
financial analysts
archeology / GIS
industrial design / CAD
data scientists
web designers
inclusivity
diversity for wider perspective & bigger impact
slow burn

“being early is the same as being wrong”
people in orbit

“permeable membranes”
this R&D lab
this R&D lab

maybe.
logistics
freelancers
advisors
funding
wisdom from the past

R&D lab
customer discovery
tech prototypes
ideas & thinking

IP
Vested participants

Future startup
option trade-in

$ – license or buy
Project structure
6 - 9 projects
1 - 6 weeks each
gaps between projects for reflection
Entity
LLC
grant funding from investors
no full-time employees
no permanent office space
dissolve in 2016
Who
Board

Managing director

Project participants

Advisors & future investors

Speculative / keep warm
Core materials
mission statement
brand
values & axioms
one-page manifesto
reading list
mailing lists
fin.