

The background is a textured, light brown surface. It features a large, dark brown circle in the center. Overlaid on this circle is the year '2012' in a large, blue, serif font. Below the year, the title 'ECE Technology Trends, Predictions & Hopes' is written in a smaller, blue, serif font. A thin white horizontal line separates the title from the subtitle. The subtitle is written in a white, serif font. The background also includes faint, sketchy drawings of eyes and eyebrows, suggesting a face. The overall style is artistic and somewhat abstract.

2012

ECE Technology Trends, Predictions & Hopes

—A TEC Conversation—
Warren Buckleitner
& Chip Donohue



Agenda

Part 1. What we know

Part 2. What I've learned
grad school, ND and from
Chris Crowell



Part 1. What We Know

Game:

I've hidden 3 chips in
this presentation.
Can you find them?

What's going on?

- Most ECE classrooms are no or low tech (and that's not all that bad!).
- A tired PC in the corner.
- “But we have a smart board” (so we're using technology).
- Higher order computing supporting lower order thinking.
- Tablets, mostly “Stage one” iPad use.

- # rends 2012
- Software: > quality/quantity of IM (apps)
“App maturation” (see “ten affordances of multi-touch”)
 - Hardware: Multi-Touch! Moore’s Law is continuing to bear fruit, but dramatic shifts are smaller.
 - Teachers: Analog teachers are retiring, digital teachers are increasingly saying “is there any way?”
 - < Video games (Watch Kinect, Wii U, Minecraft)

Nobody will uninvent the iPad



Screens are
abstract, highly
symbolic medium.
They have specific
“affordances.”

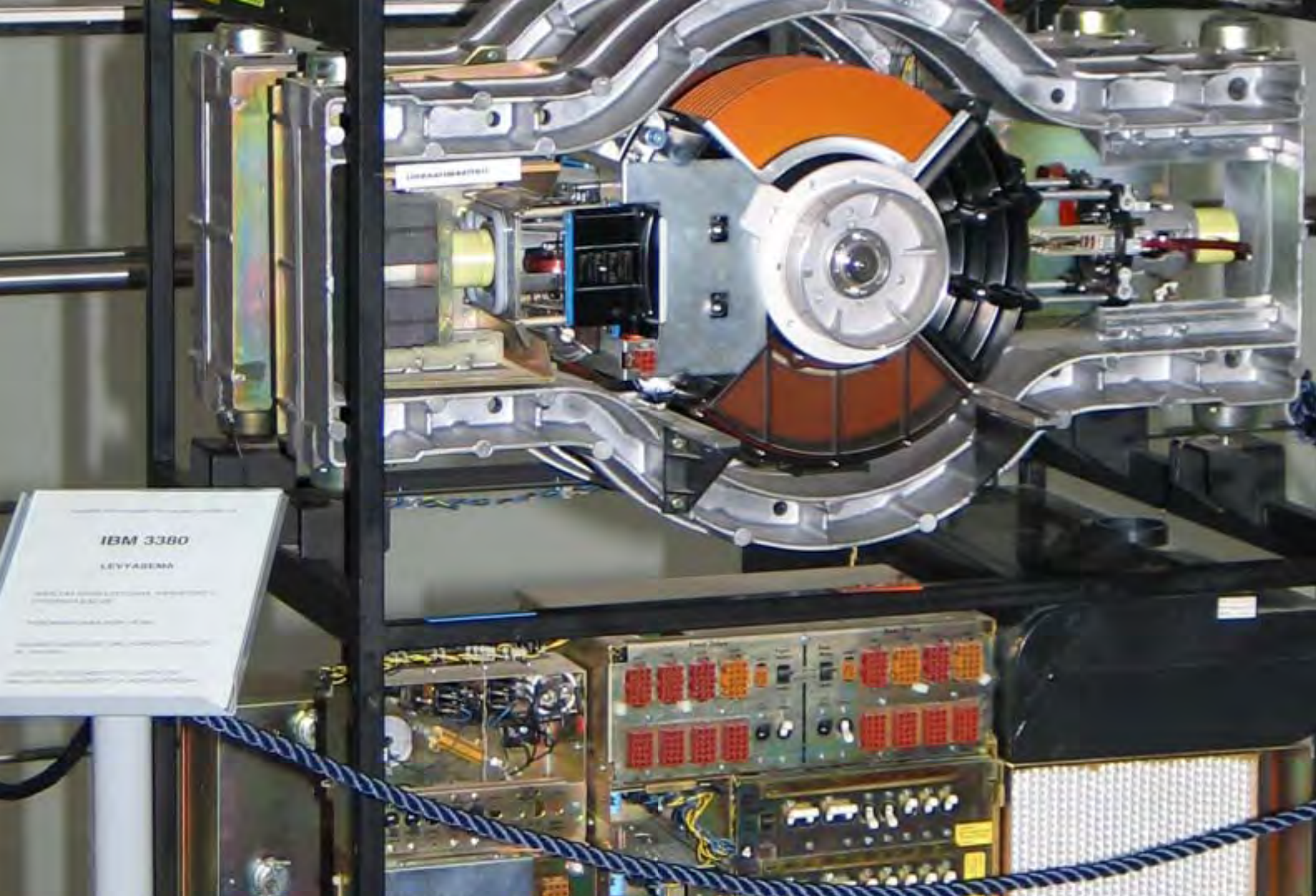
Ten Multi-Touch Affordances

- “Tell me more!” Discovery enhancement.
- “I’m in the screen!!” Augmented reality.
- “More capable other.” Text scaffolding, text-to-speech, crutches, more capable others.
- “I want to (safely) play with a stranger” (Smule’s Magic Piano)
- “Tell me a story!”
- “I want to play with lasers!” Virtual manipulatives
- “How am I doing?” Formative, instant performance feedback.
- “I’m bored. I want a challenge!” (any challenge)
- “I want to tell the story.”
- “I want to make a mess.”



A central crystal ball sits on a stand, reflecting a rainbow-like spectrum of light. The background is a light-colored surface with several sketches of eyes. Two eyes with blue and green irises are visible on the left and right sides, looking towards the crystal ball. The text "Part 2. What I've Learned" is overlaid in white on the crystal ball.

Part 2. What I've Learned



In 1980 – The world's first gigabyte-capacity disk drive, the IBM 3380, was the size of a refrigerator, weighed 550

Today the micro-SD card in your phone can hold 128 GB.

That's 50 refrigerator-sized devices.



Preschool model for about \$3,000/classroom





Diana Adams, Minot ND Head Start



“The kids don’t OD on it.”

they’ve gotten rid of the desktop computer in
the corner.”

icked apps carefully. Purchased volume ap
h... ..”

3 Stages of iPad

Teaching

Phase 1 Novice: One iPad, try some free apps, some use of camera. Play and experiment! *If you don't break it, you're not trying hard enough.*

Phase 2 Emerging: 5 color-coded iPads hanging in each area, each synched and managed by one computer; *70 *quality* apps in your cloud closet.*

Phase 3, Master: You're teaching from the cloud. All of phase 2, more apps, plus a home sync connection, assessment and use professional development; also *going home on weekends*

e Cloud

s/Teac
er

classroom1@yourschool.edu

Password: xxxxxx



Math



Music



Science



Art & Creativity



3 Stages

1.
Novice

2.
Emerging

3.
Master

How many books for
your major interest?

1 2 3 4 5 6 7 8 9 10

How many apps for
your major interest?

1 2 3 4 5 6 7 8 9 10

Top 5 Gadgets Every ECE classroom should have

- Wi-Fi (free, cheap and fast)
- A MacBook Air for the teacher
- 50 inch or bigger LCD screen
- Smart phone for the teacher
- 5 iOS devices (iPads or iPod Touches, new or used). Android is OK, but it is harder to find apps.

Wi-Fi \$50 - \$100 for an “n” router



Does not include monthly fees
(\$40 - \$100)

IPad \$500





Display



Apple TV \$100

