Jump-Starting a New Standard & Other Non Standard Topics

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Topics

o   Jump-starting a new standard

o   Other non standard topics
1. Moving people up the value chain
2. Girls leaving math and science

Jump-starting a New Std

o   Standards' environment changing

o   Give technical talks

o   Encourage Nat'l participation

o   Chair sessions at trade shows

o   Organize book

o   Software freely available

o   Dedicated website

o   Cross-train with other standards

Std's environment changing

o   Industry embracing open standards

o   Anticipatory vs. de facto

o   E-mail & calls vs. meetings in person

o   Internet & the web

o   Rate of change increasing

Give technical talks

o   Start the "buzz"

o   Encourage speakers & organize papers

1.   ex: 1987 JPEG

2.   Go for world-wide coverage

o   Finds interested companies

o   Finds experts

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5

Encourage Nat'l participation

o   Get companies buy-in early

   1. Participation at national level

   2. Participation in compliance testing

o   Affordable at national level

o   Big companies vs. many small companies

Chair sessions at trade shows

o   Ex: JPEG sessions at three Electronic Imaging East/West conferences

o   General audience tutorials

o   Poster session for vendors

   1. 1st time: ruthless toward competition

   2. 3rd time: introduce to a vendor who had it

o   Buyers see choices

o   May decide "Time to try it"

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7

Organize a book

o   Cover multiple constituencies

1.   Non-technical decision makers
2.   Engineers and developers
3.   Scientists

o   Advertise early adopters

1.   Helps solve chicken & egg problem
2.   Vendors promote standard

o   Capture technical contributions

o   Include time line of feature adoption

o   Not a "tell all" expose

Software freely available

- o Companies experiment before investment

- o Universities play with it

- o Ex: Independent JPEG group (IJG)

  1. Started by Tom Lane

  2. Years before official connection

  3. Picked up by bulletin boards early

- o Two out of 4 browsers use IJG code

- o Expect T.851 in IJG code in next release

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9

Dedicated website

o   Richard Clark offered to be webmaster

o   Supported ad hoc

1. Ex: $150 voluntary fee at JPEG meeting

2. Some companies have donated

o   Public can find extra information

o   Excellent place for links

o   Both a public and non-public site

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10

Cross-train with other stds

o   Past: Industry products from silos

o   Today: Customers demanding solutions

    1.   Pre-tested products that work together

    2.   Some standards do it now

    3.   E.g. MPEG: video, audio, systems

o   What if stds cross-advertised?

o   What if stds cross-trained?

Moving people up value chain

o   Professionals and advanced degrees

    1. Full time working professions (w/families)

    2. Instead of laying off, send them to school

    3. Recent retirees

o   Magic to removing unnecessary barriers

    1. Find the thesis advisor first

    2. Line up passion, advisor's area, & needs

o   Get permission to use company data

o   Must be able to publish (after patent?)

Girls Leaving Math & Science

o Some caveats

o Why girls leave math & science

o Clues to trigger

o An experiment

o Non-scientific results

o Conclusions from results

o Elementary school teaching

o Traditional math/science teaching

o Who thrives on traditional teaching?

o Solution suggestions

Some Caveats

o Presenting theories – not scientific facts

o I'll be sharing my stories

o I am not an expert in cognition theory

o I am borrowing freely from Dr. Stephen Haynes, Dr. C.A.P. Smith, and Dr. Julie Chen, Colorado State University

o IBM is not responsible for these theories. IBM did fund the literature surveys and has contributed towards future research.

Why girls leave math/science

o   Hosting "Coffee with CSU" (Colorado State University, Ft Collins, CO)

o   Potential thesis advisors give Research talks

o   Dr. Stephen Hayne: "Cognition & Collaboration"

o   Light bulb goes on!

Clues to trigger

- o Literature shows chess experts access 240K facts/sec (chunks).
- o Diving instructor: "Joan, some girls flunk out of high school because they can't learn via linear incremental facts. With a holistic approach & a good overview - the big picture - - they just 'get it' one day"
- o I don't remember facts well. Need a context
- o What if more women learn through this channel rather than by rote memory

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16

An experiment

o Allow me to run an experiment on this group

o Think of a favorite movie or TV show

o Close your eyes and start mentally rapidly playing the movie in your head starting from the beginning

o Lets collect the results from the group

Non-scientific results

o Four people out of more than 200 did not see any pictures

o About a third got dialog

o About a third (overlapping some) got music – not fully correlated with musical ability

o Demonstrates the brain can synchronize dialog, music, and snap shots – new conclusion

Conclusions from results

o Pictures need a lot of bandwidth

o Not sitting in your short term memory

o You did not consciously memorize that movie

o High speed access to long term memory

o I call this connection between short term and long term memory the "Story channel" or the "High bandwidth channel"

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19

Elementary school teaching

o Fact: 90% of all elementary school teachers in the United States are women

o Women learn early that you can't engage kids with bare facts

o Add emotion, drama, pictures, color, story

o What if that teaching style develops story channel as the dominate learning style?

Traditional science/math teaching

o Vertical thinking: Incremental logical, linear facts

o Boring to many girls: they social context, motivation first (stories)

o First they complain that the class is boring

o Then they complain that they couldn't learn it

o Conclude they are dumb and all the other forces take over

o Lost to math and science forever.

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21

Who thrives on traditional teaching?

o Guys who played with statistics – learned to memorize facts

o Engineers/scientists who want facts over emotions

o Students who want minimum information to get an A

o Ex: CIS class – taught by new TAs – women gone by end of yr

Solution suggestions

- o Women need to learn early to memorize facts
- o Add social context and motivation for those who have none
- o Everyone remembers more
- o What if everyone could learn by both styles?

Q & A