



What Will Future Knowledge Workers Be Like

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Do You Know a 16-Year Old?

- Several years ago, I was visiting my (then) 16-year old niece. When I walked in the room, she was arguing with her Mother who needed to use a phone. Megan (my niece's name) was simultaneously:
 - Using AIM to IM several friends serially
 - Using iChat for a multi-friend chat
 - Emailing several friends for back-channel comms
 - Speaking to another friend on one phone
 - Having a con call with 3 other friends on the second phone
 - Listening to a CD with the headphones around her neck & the sound loud enough for me to hear, &
 - Occasionally watching the TV, which she had on & refused to let her sister change the channel,...
- The compromise was that she would hang up the single phone conversation (but continue the con call)



Are We ready?

- Megan is now a 19-year old college sophomore
- She is working with one of her Professors on a research project which requires her to be online locating & aggregating information ~10 hours/week
- In a recent conversation, she told me how frustrating it is to be doing this work on the current Web, even though they are using a meta-search engine & software developed at the university to do P2P file sharing.
- She wants:
 - Multiple iterative meta-searches with iterative refinement
 - Natural categorization of all search results
 - A single place to put results regardless of format
 - Integration of her results with the past five years of work
 - A way to share results with co-workers & allow them to comment &/or modify
 - A way to see “everything” at once (concept map with hyperlinks)
 - An IM-like way to communicate with co-workers (& everyone else)
 - A way to track tasks which integrates IM, email & all the other channels she communicates on



Even More Frustrating,...

- Megan was even more frustrated because:
 - She couldn't conference call on both of her university phone lines at once
 - University IT does not allow any IM to run on University machines
 - The database her department uses is often not available because it is being "fixed" (MS Access)
 - She can't do multiple Web searches except in multiple windows, & her department's machines are too sloooooow for that
 - Current search engines (she uses Google & a university developed meta-engine) are too slow & don't return enough relevant results
- Megan isn't suffering from information overload – she isn't getting enough information



Please Welcome Your Future Colleague...

- Megan is going to enter the “real” workplace” in about 2-3 years – Will it be an environment she will want to work in? Will it be an environment that is useful to her, & makes her useful to her employers? We can say we don’t care, but in 5-8 years a large percentage of knowledge workers will be in Megan’s age group & will have grown up connected in this way
- Megan, & her cohorts, will work in different ways than most people work now. The leading edge of knowledge workers is already exhibiting a way of working that can be characterized as more similar to creative design work than it is to historical office work
- Megan will be even more so!



Design Work Model

- Research has been done recently to describe how designers & other creative people work.* Characteristics of this description include:
 - Alternation between individual contribution & highly collaborative work modes
 - Episodic & iterative, work context must be preserved between episodes
 - Knowledge based – deep historical, technical & contextual knowledge is necessary
 - Underconstrained – incomplete or poorly specified conditions & constraints
 - Eclectic – uses a wide range of problem solving techniques
 - Intuitive – even in highly constrained situations
 - Nontextual – must be able to reason about nontextual information
 - “nonlogical” – inductive, analogic



So?...

- This work mode will shortly encompass a noticeable percentage of the users that software vendors will want to appeal to.
- Any application for these users must provide an experience which is matched to this set of work characteristics
- Any platform used to create applications for these users must provide the underpinnings for the development of applications for this work mode
- Many users now are moving toward work modes that begin to match this, our current products may need to take on some of these characteristics – our near-future products will certainly have to



remember –
entropy requires
no maintenance

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