Memory Connected
Extending Memory on the Web via Human-Centric Knowledge Exchange Network

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Big data is right here, created and used by human

Social Web and Walled Gardens

• I’m locked in a garden
  • My brain is fragmented – (Dion’s talk)
  • Loyalty V.S. Trapped

• I don’t use a garden
  • Prefer not: bank statement
  • No such service
Human Centric Design – Principle 1

Human readable knowledge
• To extend human’s memory
• To facilitate human communication
Human readable knowledge: Design Issues

• For developers
  • Cognitive complexity over computational complexity
    • “knowledge must be written for people to read, and only incidentally for machines to understand” *
  • Readable code and data modeling (cf. Yaml, python, coffee-script, groovy, turtle etc)
  • Engineering friendly: reusable, module support
  • No need for 100% accuracy, some guess is fine

• For users
  • Readable representations
  • “right” granularity
  • Explorable knowledge with just-in-time schema

* Abelson and Sussman claimed that “programs must be written for people to read, and only incidentally for machines to execute”
Human Centric Design – Principle 2

Tangible rewards and cost reduction
• Instant rewards
• Cheap start
Tangible rewards and cost reduction: Design Issues

• For developers
  • Reduce upfront agreements (ontology, schema etc) as much as possible, e.g. avoid extended scrum.
  • Allow mixed representations, allow data/schema to evolve and improve
  • Ownership, not blocked by mandatory consensus
  • Keep it simple

• For users
  • just-in-time validation and refinement, e.g. speadsheet
Human Centric Design – Principle 3

**Bottom-up growth scales**
- Top-down consensus may take years
  - By experts
- Bottom-up: shared and evolving
  - By users

Bottom-up growth: Design Issues

• For developers
  • Instead of invent new, build on top of well-adopted technologies, e.g. json, csv,
  • Live schema from live data

• For users
  • More on Web data
  • More on everyday-life, consumer data
Use-cases

• Support mailing list users
  • Daily routine: don’t miss signal, don’t waste time
  • Conversation: need timely reply
  • Research(task): life cycle of working group action item
  • Research(user): build trust in to unfamiliar users

• Support team common knowledge
  • Consensus: Is it just the project manager’s view?
  • Unexpected use: what if one member left? How much should I pay for unforeseeable future?
Vision: Knowledge Exchange Network

• Extended Memory: capture and organize
• Connected Memory: exchange

Questions? Comments?