The Life of a Database Researcher/Professor in Academia

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What I Do

• I do research *and* train PhD students
What is a PhD?

- PhD = Doctor in Philosophy
- Philosophy = from Greek φιλοσοφία, (philosophia)
  - Means “love of wisdom” or “friend of wisdom”
  - In the Middle Ages there were four academic fields:
    - Theology
    - Law
    - Medicine
    - Anything else: “philosophy”
- Doctor = from Latin docere
  - Means “to teach”
- Doctor in Philosophy
  - Means “teacher of the love of wisdom”
How to Get a PhD

• Learn more and more…
• …about less and less…
• …until you know everything about nothing

• Produce original research
Why Get a PhD?

• Knowledge

• Teaching

• Job
What is Good Research?

• Has relevance and excellence

• Relevance:
  – Solve a real problem, influence people with your work
  – Finding what question to ask is harder than answering it
  – Look at technology trends, anticipate what fundamental questions they will generate
  – Most often, it’s the adviser who chooses the problem

• Excellence:
  – Technically deep and novel
  – Solution must extend in time and space beyond your original question
  – Most often it’s the student who must produce the depth
  – The Generals Exam at UW
What is Good Research?

Three trends that I’m watching:
• Scaling up: big data, big clusters, multicores
• Scaling out: smart homes, smart cars, smart grids
• Scaling social: data privacy, data ownership and rights, buying/selling/exchanging data, provenance/reputation/curation, long term archiving

Three sciences I need in my research:
• Math, math, and math…
My Typical Day

• The typical day:
  – The student and I are trying to solve problem X and failing miserably

• The a good day
  – Realize that X is the wrong question to ask
  – The right question to ask is Y

• A really good day
  – Solve Y…
What is Fun in Academia

- Seeing students become independent
- I enjoy students who contradict and challenge me
  - I’m wrong most of the time, but many students haven’t found out yet

- Build systems, eat your own dogfood
Final Thoughts

• Home v.s. abroad

• Academia v.s. Research Lab