I've been asked to give a presentation at the trade show.

I'd like you to put that together for me, Alice.

What's your topic?

Technology. They didn't say if I'm for it or against it.

I'll leave some wiggle room.
Importance of Applications

• Applications are hard
  – Tend to have many irregular pieces
  – A breakthrough algorithm may make a solution possible
    • but rarely are the bulk of the ingenuity and effort
  – Success demands serious collaboration
    • Deep knowledge sharing,
    • NOT finding a model to justify puristic CS research
  – CS insights can illuminate other fields
    • But only after understanding them

• Essential for feeding ideas and problems
  – Issues of scale, reliability, usability flow from them
    • Modern infrastructure, major sciences
  – How to give appropriate CS ‘credit’ (tenure, publication, recognition) for cross-subject efforts
  – Results are often deep and complex; they address and drive fundamental issues
E-Commerce and E-business

• An area rich in applications
• CS research contributions important but narrow
  – Cryptography and protocols
  – Payment techniques
  – Search
  – Collaborative filtering
• Many ideas driven from other areas
  – Game theory
  – Economic mechanism design (not only auctions)
  – Business Processs modeling and analysis
• Many other hard problems
  – Integration, federation
  – Distributed transactions, data, analysis
  – Identity, privacy, persona management
Academia and Industry

• Interactions between researchers comfortable
  – But likely to be short on impact due to imperfect matching of interests, values, Not-Invented-Here, and extra delays

• Interactions with developers complicated and difficult
  – Developers usually interested only when desperate or have a project in hand that could get benefit from (perceived) risky deployment
  – Timing is everything, and outsiders cannot predict

• Long-term involvement required to increase knowledge, comfort, and likelihood of useful timing