The Chessboard and the Registrar's Office

Richard Spencer, Executive Director, VP IT, UBC

Themes

- Technology and pace of change
  - the chessboard....
- Some challenges in higher education
- Paper
  - and why we have to break the paper habit
- Administrative systems
  - and what we can do to improve them
- Driving change in our organizations
- Some lessons learned

Technology

The rate IT progress

- Mips, memory, storage, bandwidth
  - Price is falling
  - Amount is increasing
- Mobile devices
  - watching live TV walking down the street
- Intelligent (smart? less dumb?)
  - computers can play chess
  - and drive cars
- All these things get faster, smarter, better (?)

Power of IT is increasing ***exponentially***

The chessboard

For inventing chess, a wise man asked for:

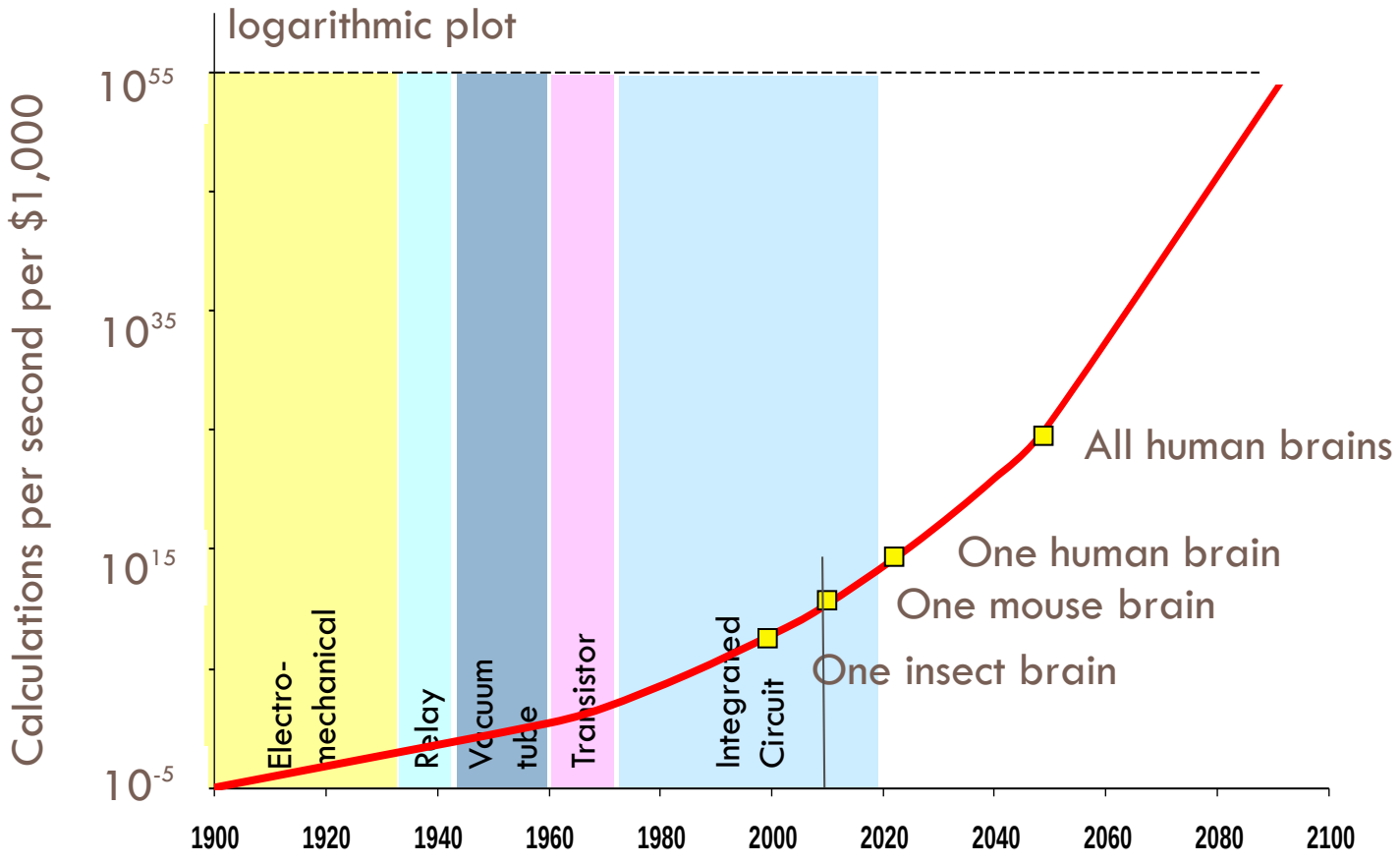
- 1 grain of rice on the first square
- 2 on the second
- 4 on the third, until the board was covered

The king agreed:

- 64 squares
- 1.85×10^{19} grains
- 900 years of rice production at current rates

The wise man lost his head (maybe not so wise?)

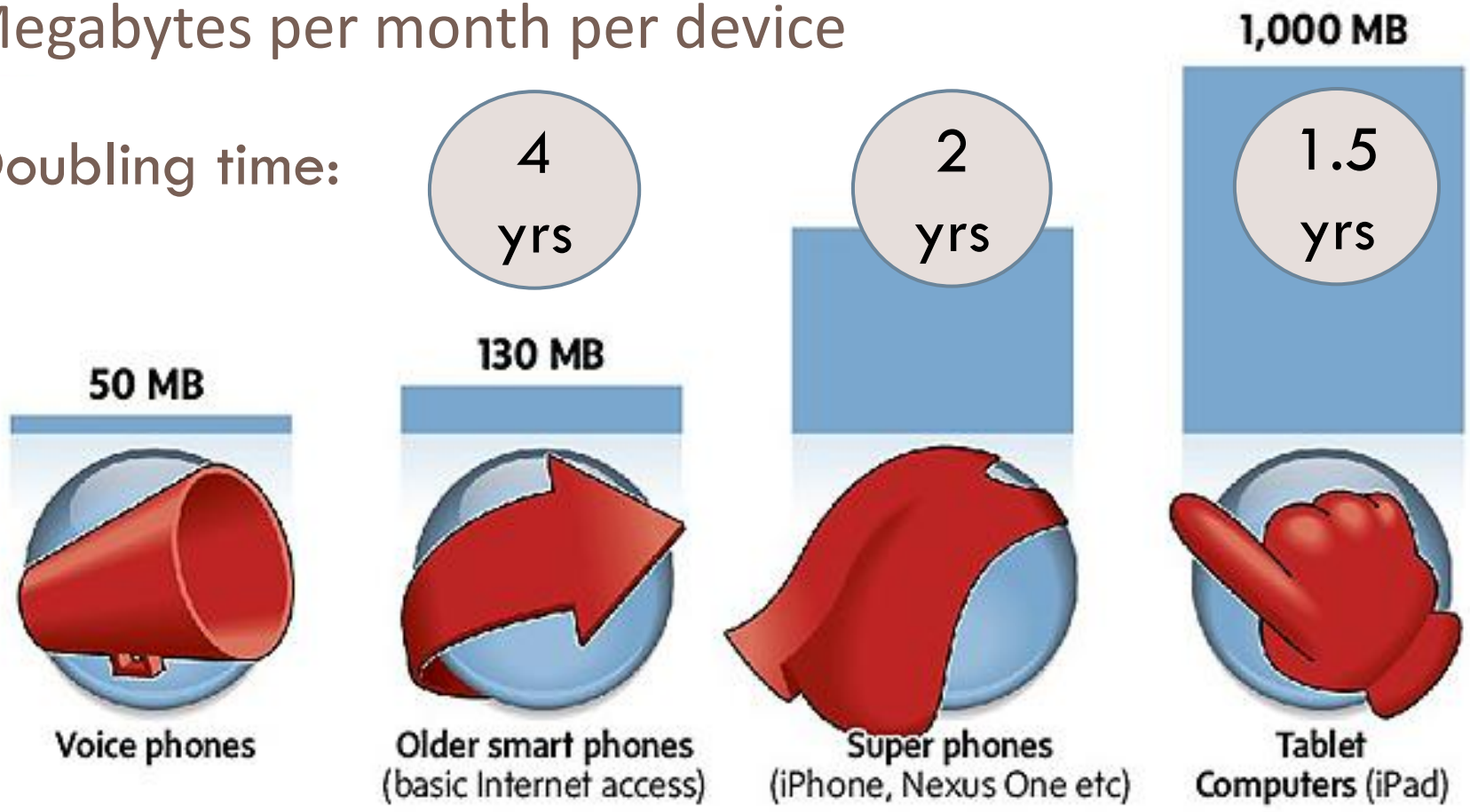
Increasing computer power



Source: Ray Kurzweil, "The Singularity is Near"

Wireless data usage

Megabytes per month per device



Source: Globe and Mail, 2010-06-03

The DARPA challenge

Build a fully autonomous vehicle…

- 2004 - drive 240 km across the Mojave d
  15 finalists - winner went 11.8 kr
- 2005 - similar route - a bit more challeng
  23 finalists - 5 finished the cours
- 2007 - compl ey all traffic
  regul fic, no accidents!
  6 tea over 4 hours.
  ..... ab ...
  ..... ab ay stop....

Stanford Racing and Victor Tango together at an intersection in the DARPA Urban Challenge Finals.


Beer Bottle Pass

Technology should enable:

- improved productivity
- lower unit costs
- increased scalability
- continuous improvement
- higher quality

? Is this happening for core university functions?

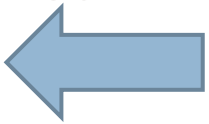
? If not, why not?

? What, if anything, can we do about this?

? Is technology a threat to our jobs?

The important ideas in IT

- Rate of change in IT is exponential
  - hardware will do much more every year
  - software will lag, then catch up with big steps
- We can share resources, and locate them anywhere
  - information and systems can be anywhere
- Key areas with potential for change in higher ed:
  - learning
  - research
  - publications, books, libraries
  - service and support



Change is hard - we need to work at it

With this rate of change, we can't make full use of the potential of IT to enable change..

..but we can do much more than we are doing

Higher education challenges

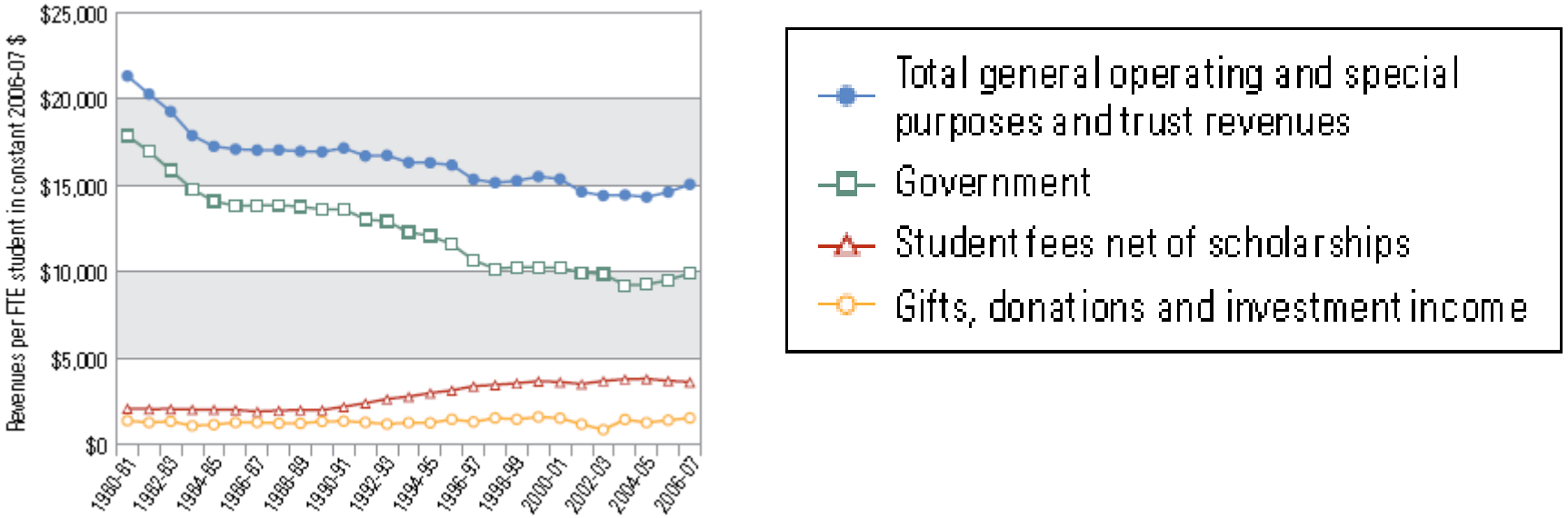
We are challenged by:

- Revenue and costs
  - budget shortfalls, deficits and cuts are the norm
- Access
  - fees, lack of space, are barriers for some
- Scalability
  - few economies of scale; we try to maintain $/FTE
- Quality
  - measured for research, but not for learning
- Productivity
  - must increasing productivity = declining quality?
- Service
  - better service doesn't increase revenue

Revenue

"Government funding on a per student basis fell from $17,000 in 1980-81 to $9,000 in 2006-07"

- Constant 2006-07 $, university funding



Source: Trends in Higher Education, v3, AUCC, 2008

Scalability

Between 1987 and 2006, FTE enrolment in Canada grew by 56%, while full time faculty increased by only 18%

Source: Trends in Higher Education, v3, AUCC, 2008

We need scalable processes to maintain or increase quality

Quality and productivity

Canadian universities are a $26 billion enterprise

- larger than:
  - pulp and paper
  - oil and gas extraction
  - utilities
  - arts, entertainment and recreation
  - aerospace
  - motor vehicle

Source: Trends in Higher Education, v3, AUCC, 2008

.. we should be able to invest in improving quality and productivity

But - in higher education:

- Are we allowed to even talk about productivity?
- How do we think about quality:
  - does more money → higher quality?
  - if yes, forget about improving productivity
- Output is intellectual
  - Production takes place in people's minds
- It is hard to improve minds, but:
  - we can put more minds in play
  - we can radically improve how we support minds
  - we should ***define*** and ***measure productivity*** and ***quality …and improve them in many areas***

Service

Challenges

- Better service doesn't increase revenue
- We often don't understand how bad our service is
- Services may be great for some, but not for all
- We can't add staff to improve service

Solutions

- We need high quality, ubiquitous, scalable services
- IT and systems are the key to better services

Registrar's staff can play a key role

We can use technology much more effectively to address the challenges facing us

The perils of paper

Paper technology

- Paper forms
  - one writer, one reader at any given time
  - information is duplicated
    - we ask for the same information over and over
  - it is difficult to share information
  - processes are complex and slow
    - time for work is short, but time for the process is long...
- Filing cabinets
  - hide information
  - led to our administrative silos

Processes that use paper forms

- require frequent, repetitive human input
  - users have to:
    - give us the same information over and over.....
  - staff have to:
    - transfer information to and from forms and files
    - sort, file, retrieve, pass around, wait for forms
  - supervisors and managers have to:
    - check that rules have been applied
    - look for anomalies
  - *most decisions are based on rules and policies, not judgment*

Paper is great for some things, but....

not for forms or processes.

online processes should be radically different


this is what your hard drive looks like
…you just don't see it
..and you can find (most) of what you need

Better administrative systems

No IT resource constraints mean...

- We can use what we know to help people
  - our systems know (or should know) about:
    - people and their plans
    - successes and failures of others
    - the rules, regulations and requirements
  - so we can anticipate, help and give great service!
- We can work at higher levels of abstraction
  - everyone is a person, everyone is unique
    - an applicant does not have to be put in box...
  - Learners, learning units, time and place
    - not just students in credit courses in terms and sessions...

Systems should:

- collect, store and process information with ***no*** paper
  - never ask for information we already have
  - make information accessible to all authorized users
- complete transactions in real time
  - use rules engines to apply business rules
  - use work flow to move information
- make it easier to change processes
  - enable change
- be scalable

shorten the distance between users and their goals

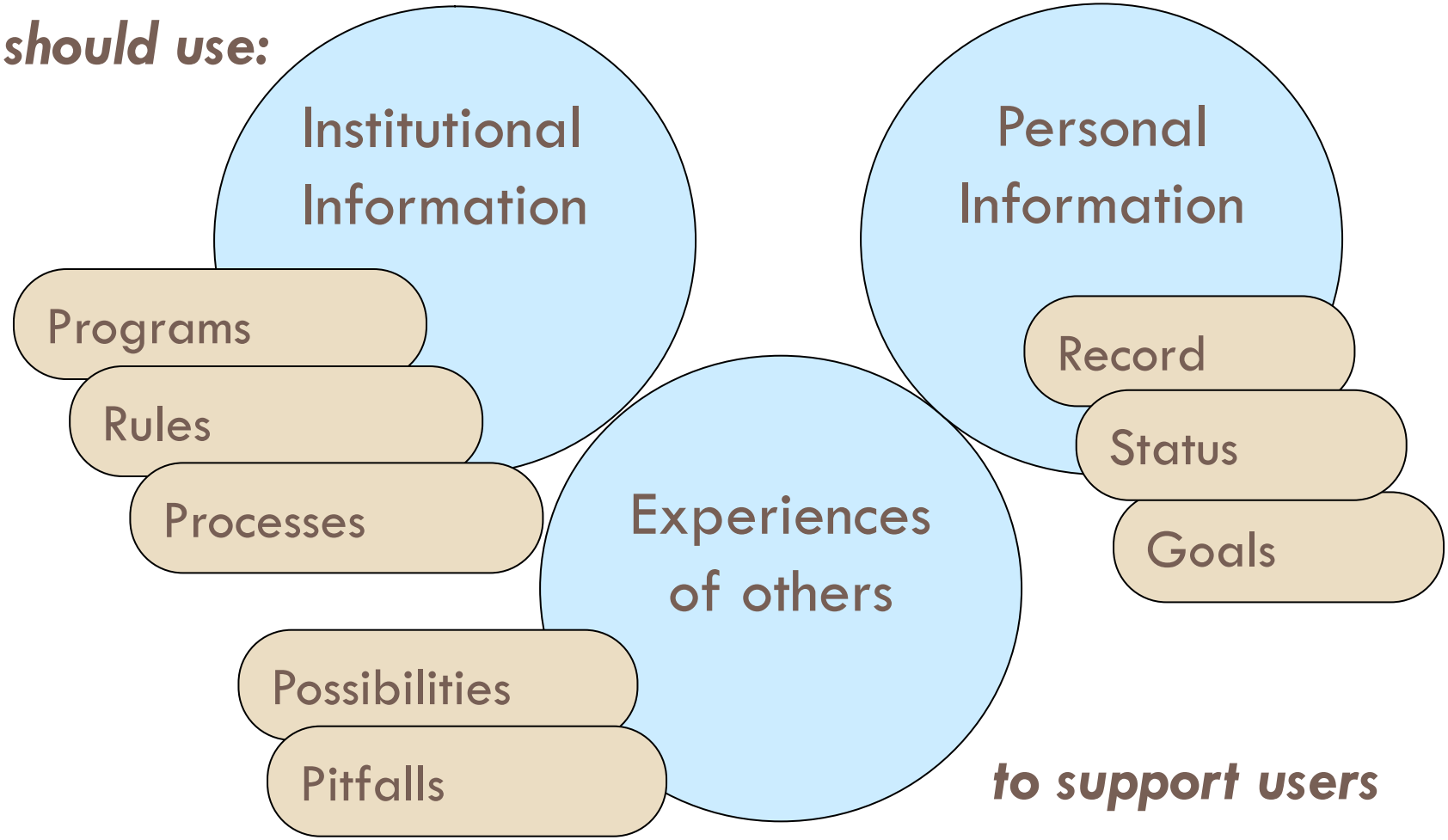
Shortening the distance

- Systems should be simple and easy to use
  - no training when you know how to do something
- Systems should help people achieve their goals
  - anticipate needs and issues
  - know the rules and apply them
- The ***concierge*** knows
  - people's plans and accomplishments
  - successes and failures of others
  - rules, regulations and requirements

The system must help the user

The concierge

We should use:



to support users

30

.... the user only sees the interface

…. so think about the interface

- Design yourself an interface on paper
  - as a user, what would ***you*** want?
  - work with ***real*** users to see what they need
  - then work with experts and users to improve it….
- Look at examples
  - Expedia, Travelocity, Kayak
  - Google
  - student registration

you're a manager….

…..but you have to think like a user

one more thing.....

staff can use the same systems that give end users great online service to give in-person, face-to-face help when it is needed

…and another

the goal is not to reduce the number of staff,
it is to give us the time and tools to do more

Driving change

Think like the user

- To understand the user experience -
  - be the user!
- Encourage feedback from your customers
  - give them ways to provide it
  - treat it like gold!
- Ask – how can I make it simpler for my customers?
  - simpler for them is almost always simpler for us
- Get out of their line of sight
  - the best Registrar's Office is the one no one sees.

A methodology that works

- Case for action
  - today's technology can do much more
- End result
  - a seamless, facilitated user experience
- Exec Steering Committee
  - commitment to implement
- Facilitated redesign process
  - timebox and produce a new design
- Will the new design produce the end result?
  - if yes - implement

The re-design team

- Team Leader
- Process Owner
- Beginning of Process
- End of Process
- Scribe
- Internal to Process
- External to Process
- Client / End User
- Technologist

Seconded 80% time for 8 weeks

The re-design process

- Map the current process
- Redesign the process
  - brainstorming
  - external research
  - design and write up the new process
- Walkthrough
- Verification
- Report
- Present

choose a process that has been shown to work!

we can drive radical change that not only improves business processes, but also improves the user experience

Final thoughts

Some lessons learned

- If you are going to do something for someone
  - ***do it now!***
- Don't wait for complaints about poor service
  - ***be proactive - fix it now!***
- Work with your supporters, ***ignore your opponents***
- People who own a process don't want to change it
  - ***but in the right situation, they can!***
- There are re-design methodologies that really work
- We ***can*** change systems and processes
  - ***we can radically improve the user experience!***

Conclusion

- The rate of change in IT is exponential
- This is enabling radical change in our offices
- Radical change is hard – but vital
- We can all contribute to driving the right kind of change
- We can't do this on our own - collaborate!
- Remember - think like a user!

We can radically improve the user experience

richard.spencer@ubc.ca