Building an industry-academia open source community

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Entrepreneur-in-residence

- THESS: Brunel University appoints "entrepreneur-in-residence"
- 3 d/w on a voluntary basis, not attached to any department, no line manager, free to work with who he wants
- one-to-one sessions with students to thrash out business ideas
- broker deals with local businesses to ensure students have "live" projects to work on
- will work with academics to help them make the most of their research findings and IPR
- director of corporate relations: first step towards creating a pool of business people working in the same way within the university

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Collaboration barriers

- lack of time and resources
- some problems related to IP and university regulations - but far less than their industry partners
- Little or no acknowledgement by department or university
- Main barrier: cultural difference; divergent orientation of activities

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	Industry	Academia
Different cultures	practical minds, market-driven, profit oriented, take ideas to market, make things more efficient,	ideas oriented, theory lovers, aim to understand and explain, less interest in practical applications of ideas
Different incentives and rewards	better organization → more/better products with less resources → more profit → opportunities to produce even more profit	more publications -> higher research positions -> more research opportunities (funds, PhD students, sabbaticals)

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Border areas

- problems when trying to do things together
- esp. when main drivers are threatened:
  - researchers fear that precious data leading to original publications may be stolen and published by others before them
  - companies fear that their internally developed innovative product may be copied and brought to market by the competition

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Manage border areas

- collaboration require buffer zones
  - translate the two idioms to each other
  - change barriers into opportunities
- both industry & academia developed articulation points to deal with these interaction:
  - R&D depts in businesses
  - knowledge transfer units in universities
  - initiatives at national level (BIS, TSB)

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Specialist intermediaries

- special units deal with these issues (legal and IPR, technology transfer, R&D); the rest of the institution continues to work in the same way
- no intention to train people in the direction of producing results that are easier to engage with

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Academic entrepreneurship

- survey of UK academics by Adv Institute of Mgm Research:
- academics 5 times more likely to be entrepreneurs than general public
- in all disciplines, including humanities and social sciences
- entrepreneurial in various ways (contract research, consulting)
- British universities income from contract research and consulting is 20 times their income from intellectual property

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Research-driven collaboration

- 2010 survey of investigators in physical and engineering sciences by UK Innovation Research Centre:
- most academics engage with industry to further their research
  - secure additional research funding
  - find interesting research problems
- Impact, not money, makes academics entrepreneurs

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Network-driven engagement

- Few academics engage with industry for purely financial gain
  - patenting and spin-off company formation are motivated exclusively by commercialization
  - joint research, contract research, consulting are strongly informed by research-related incentives
- Increasingly academics engage with industry for building research networks
  - first 2 factors remained constant over years; engaging with industry to build networks increased

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Industry perspective

- Generic distrust in academic business ability:
  - academics can't conduct outsourced research delivered in short time frames
- Universities should be taken as equal partners, valued for what they are good at:
  - test new ideas, use as research labs for projects not yet mainstream but potentially highly promising

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University assets

- highly educated people who can generate new ideas
- scientists who can serve as industry consultants
- collaborative research opportunities
- natural flow of new talent to companies

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Turn tables

- Flip the way universities pursue industry partnerships
  - Currently universities seek industry partner for commercialization when a product or process is discovered
  - Instead, clusters of industry pulling relevant research from universities by jointly identifying and communicating their needs for pre-competitive research

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Creative partnerships

- Despite very different cultures, creative partnerships can be set up
- IBM nuggets:
  - well-managed communication to avoid misunderstandings
  - comprehensive memoranda of understanding and IP agreements
  - joint leadership of faculty and industry researchers
  - long-term strategic relationships and goals
  - **consortium with multiple industry and university partners, leveraging multiple funding sources**

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Joint applications

- EU attempts to bring sectors together to address health issues and develop new medicines
- Innovative Medicines Initiative - sponsored by European Commission and EU-based pharmaceutical companies
  - Commission €1billion for 5 years + Companies €1billion of in-kind contributions
  - independent committee determines most important research areas each year
  - academic-industry consortium that submits best proposal wins funding

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Software collaboration

- Similar issues, challenges, opportunities
- Same type of conflicts that need to be mediated by special units
- IP issues, divergent goals, mistrust etc
- Developers are influenced by their institutional cultures

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Software collaboration

- Software development introduces some commonality among people working on it
- developers from all sectors share work routines and software management practice
- when software is openly developed, these practices become more relevant than the business or academic cultures developers belong to

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Open development

- Ross Gardler, Vice President of Community Development at Apache Software Foundation:

  “a way for distributed team members to collaboratively develop shared resources in a managed and sustainable way”

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Open development **practice**

- Open source your code
- Build a community
- Use established tools and processes
- Think sustainability from the outset
- Do all these for **practical reasons** (makes life easier and a better product)

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Change “from within”

- Open development is key for collaboration of business and academic teams because it facilitates change “from within”
- Improving collaboration through policy, education, modifying perception of each other etc. represent change “from outside”
- With open development, people who are part of different institutional cultures manage to work together by focusing on the practicalities of developing software efficiently and sustainably

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Open Source Junction

- brings together industry and academic audience interested in working on mobile tech using open development
- talks:
  - overview of the sector
  - lessons learnt from open development
  - case studies
- participants encouraged to explore partnership opportunities

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Topics

- each event targets one area of mobile tech
  - OSJ1: cross-platform mobile apps
  - OSJ2: context-aware mobile tech
  - OSJ3: collecting suggestions (Oct-Nov11)
- 30+ delegates from all sectors

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OSJ2

- we listened:
  - more case studies (4>8)
  - more opportunities for interaction (2>4)
  - longer self-pitch and speed-date sessions (20>30)
  - more time for networking during breaks (15>20)
  - earlier finish on 2nd day (4.00>3.40)

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Conclusion

- borderline areas are challenging; they witness juxtaposition of separate or conflicting entities
- industry-academia is one such challenge that involves “tribes” adhering to different cultural values
- relationship managed by specialists familiar with values of both groups

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Conclusion

- In software projects, developers can provide an alternative common ground for collaboration
- If software is produced using open development, the rift between industry and academic cultures is more likely to be transgressed, as developers initiate change “from within”
- OSJ enables industry-academia collaboration using open development in the mobile tech space

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