ACM Publications New Models New Directions

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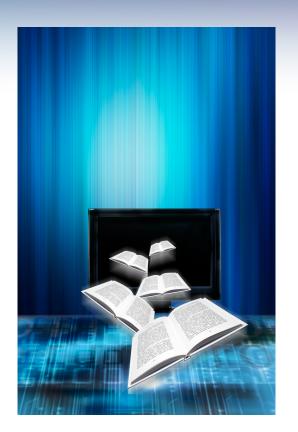
ACM Publications Vision

- Goals
  - Preferred Publisher in Computing
  - Curator of Publication Data for the Field
- Approach
  - Aggressive development of the highest-quality content within the ACM Digital Library
  - Comprehensive coverage in the Guide to Computing Literature
  - Continual improvements in the experience for authors and readers

ACM DL: 380,000 articles, 18.9M references

ACM Publications Portfolio

- Communications of the ACM
- 7 other magazines
- 43 Journals and Transactions
- 336 ACM Conference Proceedings (2012)
- 110 ICPS Proceedings Volumes (2012)
- ACM Books Program (with Morgan & Claypool)

Outline

- New models of publication
  - Open Access
  - Fair Access
  - Proceedings vs. Journals
    - Journal first
    - Hybrid
- Reproducibility and Replication
  - Article of the future

Open Access

- Hard-Line OA Movement
  - "information should be free"
  - Believe cost of publication, distribution is minimal
  - Unfazed by deleterious side effects
    - Rise of predatory and vanity OA publishers
    - Folding of some OA publications and disappearance of some sites
    - Shift of publication cost to authors (author pays model)
  - Difficult to satisfy the zealots

Open Access

- Softer OA Movement
  - Understand that publication, distribution, indexing, archiving incur significant cost
  - Green OA: sufficient for many, but at what level?
    - Accepted version on home page, institution page, mandated archives, public non-commercial archives (e.g., arXiv)?
    - Posting of definitive version?
  - Author-pays: growing mandates by funding agencies
    - Hybrid – optional on article-by-article basis
    - Gold – all articles in publication are OA
    - Article processing fees vary widely

Open Access: ACM Response

- Green OA
  - Submitted version (only): public archives (e.g., arXiv)
  - Accepted version: personal and institution page, funding agency mandate archive
  - Definitive version: Author-Izer links on personal or inst. page
- Hybrid Author-pays
  - Available for all titles at time of publication
  - SIGs may pay OA fees for entire conference
- Reverse embargo options for SIG proceedings
  - Open around time event in DL
  - Open up to one year on SIG/conference site
- IP Management Options
  - Copyright xfer, exclusive license, permission (with APC)

ACM: Fair Access

- Non-profit subscription model
  - Low-cost (average cost per download about $1)
  - $99/year professional member access to entire archive; steep discounts for developing world
- Hybrid OA for all titles
- Free public access to Guide services, some content
- Free SIG member access to sponsored content
- Strong author rights
  - Self/institutional archiving of peer-reviewed preprints
  - Author-Izer: free link to definitive version

Result: near universal access to ACM content among computing professionals

Proceedings vs. Journals

- Conference proceedings are the major publication venue for Computer Science
  - Only discipline that is conference centric
  - Made sense in the beginning
- Many issues with conference-centric model
  - Promotes deadline-driven publication
  - Promotion issues
  - Proliferation of conferences
    - Reviewer overload
    - Travel costs
  - Non-uniform review quality
    - No major revision
    - No reviewer continuity
    - Different review processes
  - Dilution of publication statistics
  - Community dissatisfaction
- Need new publication models that are "journal centric"

Policy on Publication of Conference Proceedings in Journals

- ACM Journals and Transactions publish research results which are the gold standard for the profession
- Achieving this level of quality requires careful review by experts
  - Select reviewers expert in the area and topic
  - Ensure a sound and polished result through open-ended review cycles ("make a good paper better")
- To avoid confusion the brands "journal" and "transactions" are reserved for publications with an open-ended review process
- Explore new "journal-centric" publication models

New Models of Publication

- Journal first
  - Transactions on Architecture and Code Optimizations (TACO) and HiPEAC
- Hybrid
  - Transactions on Graphics (TOG) and SIGGRAPH

TACO/HiPEAC

- Papers submitted in June (in response to HiPEAC CFP) are guaranteed two rounds of review before the HiPEAC cutoff of November 15th

- Review process
  - Distinguished reviewers (currently about 100)
  - Distinguished reviewers promise to do 4 or 5 reviews in 4 weeks; and then follow up reviews on any revisions
  - Website helps AEs assign papers to distinguished reviewers
  - Also seek other expert reviews

- Papers accepted to TACO (excluding conference paper extensions) are invited to present at HiPEAC

TOG/SIGGRAPH

- Two tracks (TOG and SIGGRAPH)
- TOG submission track
  - Submit anytime
  - Major revisions
  - Longer papers
  - Accepted papers given slot at an upcoming SIGGRAPH conference

TOG/SIGGRAPH

- SIGGRAPH submission track
  - Five reviewers, two PC members, 3 tertiary members
  - Possible actions
    - Accept for next SIGGRAPH (proceedings is an issue of TOG)
    - SIGGRAPH accept with major revision, referred to TOG
    - Reject
  - Rejected papers can be revised and submitted to TOG with request for reviewer continuity

Replication and Reproducibility

- *Replication* is the confirmation of the results a study by an independent set of researchers

- *Reproducibility* calls for the data and code to analyze the data to be made to others

The Economist, 19-Oct-13

Replication and Reproducibility

The Economist, 19-Oct-13

- News is bad and not just in CS
  - Amgen researchers could reproduce just 6 of 53 landmark studies in cancer research
  - Bayer was only able to reproduce ¼ of 67 seminal drug studies
  - Sandy Pentland say ¾ of published studies in machine learning are flawed because of overfitting

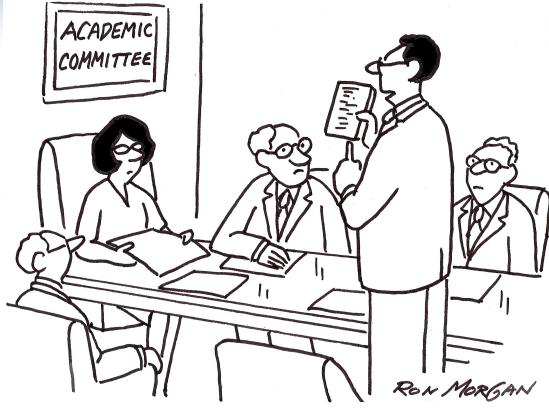# Replication and Reproducibility

- Some current efforts in CS
  - SIGMOD 2012
    - Papers reviewed are awarded two possible labels: *Reproducible* and *Shareable*
    - TODS tried to encourage reproducibility, but no one wanted to put in the effort
  - PLDI 2014
    - Artifact evaluation
- Some additional possibilities
  - Encourage agencies to fund independent evaluation along with "research" as DARPA often does
  - Lobby ACM to consider "awards" to encourage the extra effort

Questions/Discussion

"Does a blog count as being published?"