



# Copyright and Digital Preservation in Singapore

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## Preservation & Singapore #1

- Singapore's culture and history are closely intertwined with the cultures and histories of China, India, Malaysia, Indonesia and the British
- Singapore's relatively short history has made cultural and heritage preservation even more important
- Economic growth and progressive land use policies have co-existed with measures to preserving various buildings and artefacts such as hotels, places of worship, colonial offices



## Preservation & Singapore #2

- National Archives of Singapore
  - Responsible for classifying, identifying, preserving and restoring public records of national or historic significance
  - Role in providing evidence and promoting accountability of government actions
  - Has archived official documents, books, manuscripts, reports, maps, plans, charts, photographs, tape and video recordings of TV and radio programming, speeches and interviews
  - Many of these records are accessible online via the a2o (Access to Archives Online Singapore) database



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## Preservation & Singapore #3

- National Library Board
  - Preservation of private records (books, photographs, films, sound tracks and other printed matter) via statutory deposit requirement
  - Introduction of Web Archive Singapore (“WAS”) time-based repository
    - 1,000 Singapore-related “research-worthy” websites, ranging from government sites to registered societies, arts groups, personal websites (blogs)
    - Archive to showcase various facets of Singapore life, document Singapore’s documentary heritage on the Internet and serves as a research tool and record of online content that may no longer exist



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# Preservation & Singapore #4

- Educational and Academic Institutions
  - Law Faculty, National University of Singapore (NUS)
    - Project CAESAR, c. 1988
      - Digitization of colonial and early law reports of Singapore
      - Preserve old, fragile, disintegrating law reports
      - Facilitate access to old cases by legal scholars without damaging physical reports
  - Computer Information Services Division, Attorney-General's Chambers
    - Project IMPRESS, c. 1992
      - Digitization of statutes and regulations of Singapore
  - Singapore Academy of Law
    - LawNet, c. 1995
      - Consolidated CAESAR and IMPRESS databases



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# Preservation & Singapore #5

- Educational and Academic Institutions
  - NUS Libraries
    - Selective programme to digitize rare books and publications published in 1830s, historical records and newspapers of pre-war Singapore, Japanese publications on South East Asia during WW2
  - Legal Heritage Committee, Singapore Academy of Law
    - Documentation of Singapore's legal heritage, collecting and preserving documents, photographs and artifacts relating to Singapore's legal and constitutional history
  - NUS Integrated Virtual Learning Environment (IVLE)
    - Repository cum electronic learning resource where instructional materials are catalogued and student access granted
  - Nanyang Technological University's Digital Repository at NTU (DR-NTU)
    - Captures, stores and preserves scholarly output of NTU staff to make it available to global research community via open access

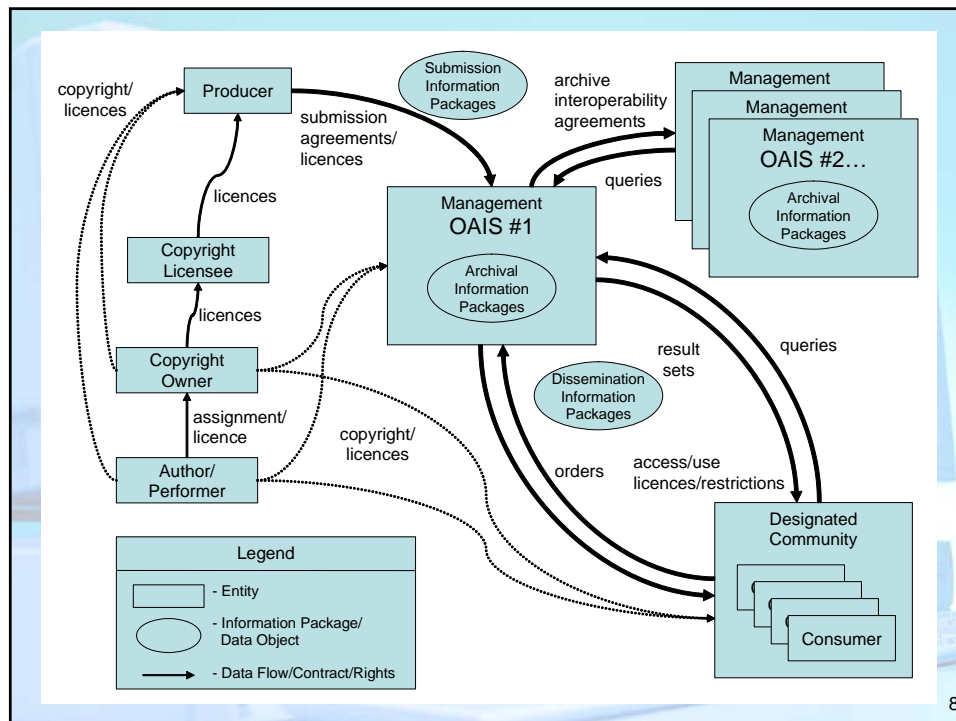


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# Digital Preservation and Copyright

- Open Archival Information System (OAIS) Reference Model describes the six functional steps of:
  - Ingesting – accepting SIPs from Producers, preparing AIPs for storage
  - Archival storage – storing and retrieving AIPs
  - Data management – Maintaining and accessing catalogs, access statistics, billing, security controls
  - Administration – managing the Archive
  - Preservation planning – ensuring Archive remains accessible over the long term
  - Access – making AIPs visible to Consumers and Designated User Communities via DIPs

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# OAIS Functional Steps

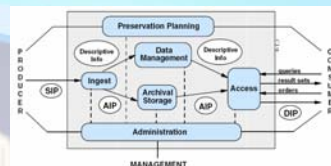
- Ingesting
  - Transferring the physical or digital data object (SIP) into AIP → reproduction (including temporary copies), adaptation, creating own copyright in (database of) adapted AIP, circumvention of technological measures
  - Transforming the SIP into AIP → breach of moral right of integrity; cf. encapsulate the SIP as a Data Object within the AIP instead of modifying it
  - Building the Preservation Description Information/Descriptive Information database → database of PDIs/DIs, breach of moral right of paternity with meta information, modification of rights management information (RMI)
  - Capturing the Representation Information → reproduction of copyrighted standards/protocols/software, breach of EULA restrictions
  - Producer/Archive Agreement may not adequately resolve all these issues, particularly in relation to third party rights
    - Even where Producer assigns or transfers all his rights in the SIP to the Archive



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# OAIS Functional Steps

- Archival Storage and Data Management
  - Storing and maintaining the generated and validated AIPs → reproductions
  - Erroneous manipulation and misattribution of DIs → right of paternity or integrity
- Access
  - Erroneous access to confidential, private or sensitive information → breach of confidence, privacy, official secrets laws
  - Granting access → multiple infringements, communication (making available) to the public; safe harbour defences may not apply to hosting Archive
- Administration and Preservation Planning
  - Migration of Archive to new media, platforms by refreshment, replication, packaging, repackaging, transformation → reproduction, adaptation



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## Licences and Agreements to Permit Digital Preservation

- OAIS Reference Model initially just prescribed an Agreement between Producer and Archive to deal with all IP issues in digital preservation
  - OAIS Recommendation for a Producer-Archive Interface Methodology Abstract Standard 2004 further recommends that the Producer-Archive Agreement sort out all IP issues and defining the duration of storage
  - Cf. Agreement cannot fully deal with rights of third parties (copyright rightholders, authors, performers) in works or subject-matter sought to be preserved
  - Cf. Agreements with these third parties may be difficult or even impossible if their identities are not known (e.g. anonymous works), or their interests cannot be clearly identified or traced, or where works are not published (e.g. theses collections in universities)

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## Exceptions and Limitations to support Digital Preservation

- Statutory Exceptions and Limitations
  - Operate independently of licences and agreements
  - Exceptions and limitations granted to libraries and archives as non-profit institutions with social and public responsibilities to preserve works and subject-matter
  - Exceptions and limitations that support digital preservation to satisfy the “three-step” test: Berne Convention, Art. 9(2), TRIPS, Art. 13; WCT, Art. 10; WPPT, Art. 16



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## Copyright Exceptions and Limitations #1

- Fair Dealing (Sing. Copyright Act, ss 35, 109)
  - Fair dealing provision derived from U.S. Copyright Act on “fair use”
  - Digital preservation as “fair dealing” to be assessed via a set of five factors:
    - Archive or library as institution engaged in digital preservation for “non-profit” purposes; *cf.* “educational purposes”
    - The nature of preservation necessitates replicating the whole work or adaptation
    - While the ingestion, archival storage and data management of the work may not prejudice the potential market for the work, enabling subsequent access to the work in the Archive may have an adverse impact
    - But if work or subject matter can no longer be obtained within a reasonable time at an ordinary commercial price, this may validate granting access to the work in the Archive
  - A Singapore court would seem to consider the overall “public interest” in the act of “fair dealing”, *i.e.* digital preservation – see *Aztech Systems v. Creative Technology*

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## Copyright Exceptions and Limitations #2

- Preservation exception (Sing. Copyright Act, ss 48(1), 113)
  - to permit library or archive to make a copy of a work, recording or film in its collection:
    - for preservation or archival purposes
    - for research carried out at the library or archive
    - as a substitute for damaged or deteriorated publication of the work
    - to replace lost or stolen publication
  - to permit library/archive to make “a single copy” for “other purposes” – s 48(2) (*cf.* Aust. Copyright Act, s 51A – for “administrative purposes”)
  - Provision does not expressly mention “digital preservation”, but a “copy of a work” is defined in the Sing. Copyright Act to include a digital copy
  - *Cf.* exception does not explicitly sanction enabling access to the copy of the work made for “preservation or archival purposes”; *contra.* “research”, “substitute for damaged/deteriorated publication”, “replace lost/stolen publication”

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## Copyright Exceptions and Limitations #3

- Access exception (Sing. Copyright Act, s 45(9))
  - To permit a library/archive to “make an electronic copy” of its electronic resources to a library user for purposes of his research and study
  - Electronic copy can be “communicated” to the user, but library/archive has to destroy the electronic copy that is made
    - Cf. provision seems to refer to the temporary electronic copy (DIP) made for purposes of enabling user access, not the archive copy (AIP) kept by the library/archive
  - Provision is unclear in its application as to whether library user has rights to “browse” or “preview” archive of work/subject-matter kept by library/archive, and library has rights to enable such “browsing” or “preview”
- Old works exception (Sing. Copyright Act, s 47(1))
  - Library/archive (and users) may make copies of unpublished but “old works” in its collection, for purposes of research or study
    - “Old works” refers to a work that is in copyright but is unpublished for more than 50 years after the author’s death, and the making and communication of copies for research or study takes place more than 75 years after the time when the work was made.

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## Reform

- 1. Relatively “weak” moral rights in Singapore (limited essentially to only right of paternity) mean fewer objections from authors/performers in relation to the ingesting, archiving and data management processes in digital preservation
  - But Art. 6*bis*, Berne Convention calls for recognition of right of integrity
  - Reform: recognition of possible exception to right of integrity in conjunction with digital preservation?
  - Cf. strict interpretation of “prejudicial to his honour or reputation”, or encapsulation process for SIP into AIP

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## Reform

- 2. Rights management information and technological measures
  - No explicit recognition of exceptions to permit digital preservation e.g. access to tools, resources, services
  - Singapore's Copyright Act exceptions modelled on U.S. Digital Millennium Copyright Act, §§ 1201, 1202
  - Cf. WCT, Art. 10(1) permitting "limitations of or exceptions to the rights granted to authors of literary and artistic works under this Treaty in certain special cases that do not conflict with a normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the author"
  - *Contra*. WCT, Art. 11 ("technological measures ... used by authors") vs. WCT, Art. 12 ("rights management information [removed or altered] ... without authority")

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## Reform

- 3. Explicit recognition of copyright exceptions for digital preservation within the framework of the three-step test
  - Dividing up exceptions into preservation (ingesting, archiving and data management) and access – one exception or two exceptions
  - Public interest in protecting cultural heritage affords prima facie justification for preservation
  - Access exceptions can also be voluntary (with rightholders' consent) or involuntary (more restrictive to protect rightholders' interest)
  - Current access exceptions seem to be driven by library user demands for research or study, not for *ex ante* digital preservation purposes; cf. web archives are not protected under safe harbour provisions, but search engines are
  - Suggestion:
    - Preservation exception (archives) separate from access exception (libraries and archives)
    - Preservation exception to respect rights of rightholders (e.g. work in progress not to be digitally preserved, technical standards for enabling or disabling digital preservation) and moral rights of authors and performers
    - General access enabled only if archive is not just a substitute for originally acquired work
    - Conditions of non-commercial accessibility or availability (perhaps in conjunction with rightholder) to be established before general access granted

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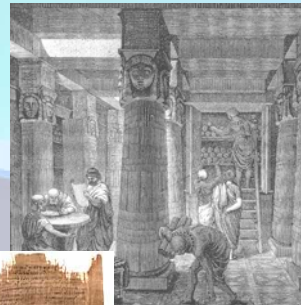
## Initiatives in Singapore

- 1. Universities initiating or participating in academic repositories on open-access arrangements
  - Cf. academics who unwittingly gave away their copyrights when they publish
- 2. Intellectual Property Office of Singapore in 2008 starting to re-examine the need for clearer and more explicit copyright exceptions for the digital environment, in conjunction with finding the right balance to protect the interests of rightholders
  - Awareness of need not to unreasonably erode rightholders' interests and to provide them with the necessary compensation where appropriate

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## Conclusion

- Archival role of a digital library as a repository and conduit for copyright content is ever more important in the information age
- Copyright law to fully support the public interest work of libraries and archives
- Reforms to copyright law are urgent and necessary, to enable libraries and archives to preserve and protect our digital heritage



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# Acknowledgments & Attributions

- Singapore Conservation – Slide 2
  - Raffles Hotel, <http://www.overseaspropertymall.com/wp-content/uploads/2007/12/sin-singapore-raffles-hotel-b.jpg>
  - Armenian Church, <http://img175.exs.cx/img175/4025/arm166vl.jpg>
  - Carolin Witzke, Conserved Buildings along South Bridge Road, <http://www.carolin-witzke.de/Webcard/Pictures/Travel/Singapore/Altbauten.jpg>
- Access to Archives Website – Slide 3
  - National Archives of Singapore, <http://www.a2o.com.sg/a2oCards/cardframe.jsp>
- Web Archive Singapore – Slide 4
  - National Library Board, <http://was.nlb.gov.sg/wera/>
- LawNet - Slide 5
  - Singapore Academy of Law, <http://www.lawnet.com.sg>
- Digital Preservation in Educational Institutions – Slide 6
  - NUS, NUS Libraries, <http://www.lib.nus.edu.sg/digital3voyage.html> and <http://www.lib.nus.edu.sg/skm/>
  - NTU, DR-NTU, <http://repositorytest.ntu.edu.sg/>
  - NUS, Integrated Virtual Learning Environment, <https://ivle.nus.edu.sg/lms/default.aspx>
- OAIS Functional Processes – Slides 8 (adapted), 9 & 10
  - Consultative Committee for Space Data Systems, <http://public.ccsds.org/publications/archive/650x0b1.pdf>
- Data Management – Slide 10
  - Servers, [http://www.nla.gov.au/anplan/about/images/clip\\_image002\\_001.jpg](http://www.nla.gov.au/anplan/about/images/clip_image002_001.jpg)
- Singapore Statutes – Slide 12
  - Photo of Singapore Statutes at the Supreme Court Library by Jack Tsen-Ta Lee, (C) 2005, under Creative Commons Attribution ShareAlike 2.5 license
- Ancient Western Libraries – Slide 20
  - Great Library of Alexandria, from Tolzmann et al, The Memory of Mankind (Oak Knoll Press, 2001), at <http://ils.unc.edu/dpr/path/alexandria/>
  - Papyrus, at <http://www.lib.umich.edu/pap/k12/parchment.html>
  - Computersmiths, Invention of Paper, at <http://www.computersmiths.com/chineseinvention/paper.htm>