How far we plan to preserve: Do current Digital Preservation research suffices?

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Abstract

Digital content is a strategic asset that has observed an exponential growth in recent years. Like the physical universe, the digital universe is large. It is doubling in size every two years, and by 2020 the digital universe i.e. all the data we own and copy is to reach over 44 trillion gigabytes. Digital data is useful if it is suitably organized, tagged and preserved. So, to better understand current research trends in Digital Preservation and restore awareness among scientists and policy makers the urgent need to explore more possibilities in preserving digital content. Bibliometric techniques are applied for quantitatively evaluating the related literature in Digital Preservation research.

Introduction

Digital objects are bound to deteriorate over long term, which can be rightly prevented by conserving them in digital form. Digital objects are preserved in order to provide digital access, long term preservation and intellectual integrity. In early 1990's Electronic Arts pioneered preservation of media and video recordings. It was in 1990’s major developments in digital preservation took off to greater heights with projects like Yale’s Open Book project, University Libraries’ Digital Preservation project and the digital preservation consortium formed in 1996. We need new storage technologies, standards, and practices to preserve modern cinema. The chemically processed film will last for 100 years or longer. In 2007, the Science and Technology Council of the Academy of Motion Picture Arts and Sciences estimated that the annual cost of preserving at 3.5 trillion digital master is about US $221 000—more than 10 times what it costs to preserve a traditional film master.

According American Library Association (ALA), digital preservation combines policies, strategies and actions to ensure access to reformed and born digital content regardless of the lengths of media failure and technological change. The goal of digital preservation is the secure rendering of authenticated content over time.

Digital Preservation Strategies

Scientific and heritage information resources are digitally generated, stored, maintained, and accessed. However the risk of losing the resources over the long term is very high. Since the hard-ware and software technology always continues to evolve rapidly, the digital media seems to be in big trouble later.


According to ALA, digital preservation strategies state about:

- Content creation that includes: Production of reliable master files with sufficient descriptive, administrative and structural metadata to ensure future access and detailed quality control of processes.
- Content integrity that includes: Use of persistent/permanent identifiers, recorded provenance and change history for all objects.
- Content that includes: Strong computing and networking infrastructures for Storage and synchronization of files at multiple sites.

Resources to be Digitally Preserved

Preserving the resources from “Digital shelfawareness” is the need of the hour. Some array of resources that need to be preserved include (UKOLN, 2008):

- Digital Journals & Magazines
- IEEE Journals & Magazines
- SMPTE Journals & Magazines
- IBM Journals & Magazines
- IEEE Conference Publications

Table 4. High-impact authors

<table>
<thead>
<tr>
<th>Author</th>
<th>Title</th>
<th>Citation</th>
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<tbody>
<tr>
<td>Coughlin, Thomas M.</td>
<td>Digital Preservation: Risk Management System for Digital Libraries in China</td>
<td>1</td>
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<tr>
<td>Shing Chen</td>
<td>A Practice of Web-Based Sustainable Preservation; Risk Management System for Digital Libraries in China</td>
<td>2</td>
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<tr>
<td>Li Dong</td>
<td>Information Architecture: An Overview of Long-Term Preservation</td>
<td>3</td>
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<tr>
<td>Mi Zhang</td>
<td>Risk Management of Information Systems: An Overview of Long-Term Preservation</td>
<td>4</td>
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<tr>
<td>Xing; Huang, M.B.</td>
<td>Information Architecture: An Overview of Long-Term Preservation</td>
<td>5</td>
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<tr>
<td>Nouchi, W.; Yokokura, M.</td>
<td>Information Architecture: An Overview of Long-Term Preservation</td>
<td>6</td>
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<tr>
<td>Remote Sensing</td>
<td>Sustaining a Digital Future: Managing Long-Term Preservation</td>
<td>7</td>
</tr>
<tr>
<td>Company Embroidery in Spokane</td>
<td>Digital Preservation in Spokane</td>
<td>8</td>
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Most Prolific Authors

The most prolific authors were considered based on the count of records output. Table 5 shows that Coughlin, Thomas M. is the top most scholar in Digital Preservation research with 6.95% share of total publication. Junli Zhao, Lake, A., Silva, L., Zhongke Wu, Nguyen, Q.L. are the other prolific authors in this field of research.

Conclusions

Digital assets have entered into our daily lives and hence it is a necessity to suitably organize and preserve them for eternity. Digital Preservation strategies in India should be enhanced, since our country has a subsidy rich heritage. Research in Digital Preservation should be supported and nurtured.

Some References