

PLANETS NEWSLETTER

Issue 2, September 2007



PLANETS REVIEWED BY THE EUROPEAN COMMISSION AND DIGITAL PRESERVATION EXPERTS

Planets is subject to annual review by the European Commission, which represents the European Union, and oversees the execution of Framework Programme Six, under which Planets is funded. The review is usually undertaken with the assistance of a panel of external experts, who assess the quality of the deliverables submitted by the project and advise the Commission on how well the project is doing in achieving its objectives.

The Planets Review Panel consists of the following experts:

- Catherine Lupovici, Head of the Digital Library Department, Bibliothèque Nationale de France
- Steve Knight, Manager of Digital Strategy Implementation, Electronic Services at the National Library of New Zealand
- Andrew Wilson, Assistant Director, National Archives of Australia
- Norbert Lossau, Director, Goettingen State and University Library, Germany

The Planets Year 1 review took place on 23-24 July 2007. The first day was devoted to various presentations from Planets, covering in detail the achievements and progress of the first year, as well as the workplan for the next 18 months. The panel had ample opportunities to ask questions, provide comments and interact with Planets participants during the day. The second day focused on project management aspects of Planets.

The Review Panel was very impressed with the first year of work by Planets and concluded that Planets is progressing according to plan. All the deliverables for year 1, as well as the implementation plan for the next period (albeit with minor revisions), were accepted.

PARTNER HIGHLIGHT: NATIONAAL ARCHIEF www.nationaalarchief.nl

The National Archives of the Netherlands is the largest public archive in the Netherlands. Its collection holds close to 100 km of records (documents, maps, drawings, and photographs), covering a period of about 1,000 years thus documenting an important part of Dutch society. The National Archives is the national centre of expertise for managing government records and is, and has been, a partner in several international projects on digital preservation. It is also involved in the development of international standards through ISO. With a long tradition in managing archives and in providing reference services to the public, the National Archives has built a strong international reputation in digital preservation during the last decade.

Digital preservation, including enhanced access and services through the internet, is one of the top priorities of the National Archives. Recently, it has launched the development of a digital repository for digital records.

Within the Planets project the National Archives plays a leading role in the sub-project Preservation Planning, and contributes its practical experience and expertise especially in the development of the Testbed environment and emulation tools.

The Review Panel considered the conceptual basis of Planets to be “very sound”, and the work on automation of digital preservation processes to have great potential to provide useful answers to the wider digital preservation community.

The Review Panel also made recommendations to help maximise the impact of Planets. The areas in which more attention was recommended include Planets’ sustainability, greater exploration of the current state of digital preservation activities, and further analysis of the organisational impact of Planets.

PLANETS SUB-PROJECT ACTIVITIES

Since March 2007 the sub-project on **Preservation Planning** has focused its activities on gathering information about preservation policies and about usage of digital objects. Interviews and probes have been

conducted with researchers for the latter and the results have been analysed. The outcome will be used for adapting the research methodology for the next iteration of data collection. This will take place during the autumn of 2007.

The other main activity has been the development of a preservation planning tool (named 'Plato') that will support decision making for the best preservation strategies within a repository.

Finally, a first report has been delivered on how Planets relates to the Open Archival Information System (OAIS) reference model and more specifically how Planets can contribute to improve the model.

In the **Preservation Characterisation** sub-project, the initial specifications for the eXtensible Characterisation Description and Extraction Languages, which will enable automated measurement of the significant properties of a wide range of content types, have been completed. A prototype property extraction tool has also been developed and is currently being tested. The first iteration of the characterisation registry has been completed, based on the existing [PRONOM](#) registry developed by The National Archives in the UK. A characterisation tool framework, which allows the automated deployment of characterisation tools via the registry, has been completed, and a number of existing tools, including [DROID](#) and [JHOVE](#), has been integrated with this.

The sub-project **Preservation Action** has produced a range of deliverables including a tool description language, a blueprint for preservation tools, a first iteration of a tool registry and an inventory of commonly used file formats, as a starting point for identifying gaps in the range of current preservation action tools. Some existing preservation tools have been wrapped successfully to work within the Planets Framework. During the coming months the [Dioscuri emulator](#), initially designed and developed by the Dutch Koninklijke Bibliotheek and Nationaal Archief, will be incorporated into Planets and extended to offer full support for 16-bit operating systems and applications. This means that old MS-DOS applications will be able to run seamlessly on modern computers.

MEET THE STAFF

What is your name and education?

My name is Helen Hockx-Yu. I was educated at Beijing Foreign Studies University in China, Leiden University in the Netherlands and Middlesex University in the UK. I have a master's degree in Business Information Technology.



Where do you work?

I currently work at the British Library as the Planets Project Manager. I worked at the Joint Information Systems Committee (JISC) as a programme manager between 2003 and 2007, overseeing JISC programmes and activities in digital preservation.

What are your interests in Planets?

Contributing at hands-on level to addressing the digital preservation challenge.

How did you become involved in Planets?

I became interested in Planets after attending the first Planets/CASPAR/DPE annual conference. Then I heard that Planets was recruiting for a project manager...

In the past six months, the sub-project **Interoperability Framework** has concentrated on the implementation of the first framework prototype, based on the requirements and design specification produced during the first half-year of the project. The results were demonstrated at the yearly review meeting in July, and included a number of essential components, such as the service registry, a database for Planets Web Services, the data registry, a data persistence framework based on the new Java Content Repository standard, and the workflow design tool, an Eclipse-based client application for graphically orchestrating and deploying aggregated Web Services. The first release of the Interoperability Framework, as a simple installation package including user and developer documentation, is expected in November 2007.



One of the main activities of the **Testbed** sub-project during the last half year has been the design and start of the implementation of the Testbed application. The high-level design of the Testbed application was completed, providing an initial breakdown of the system into components (including their description, interface and boundaries), specified with sufficient details for the first phase of development to begin. The implementation itself began in early April and a first prototype is scheduled for release at the end of September 2007.

The other main focus has been on deciding the precise definition of a Testbed experiment methodology, on the methods for testing the Testbed, and on the User Support Plan, as well as planning for the scheduled opening of the Testbed to institutions outside Planets in November 2008.

The focus for the **Dissemination and Take-up** sub-project activities during the past six months has been on presenting the project and planning for communications and outreach activities. The Planets website has been updated recently to include more information on the project as well as reports, presentations, scientific publications and information about upcoming events, such as the first joint Planets/DPE/nestor training event "Principles of Digital Preservation: a hands-on approach", which will take place in Vilnius in early October 2007.

Planets has been presented at conferences including:

- [Delos Conference on Digital Libraries](#)
- [DigCCurr 2007: an international symposium in digital curation](#)
- [The Challenge: Long-term Preservation. Strategies and Practice of European Partnerships Conference](#)
- [Joint Conference on Digital Libraries \(JC DL\) 2007](#)

Planets will be featured at [iPress 2007](#) in Beijing, [Workshop on Digital Preservation of Heritage](#) in Kolkata, India, and International Conference on Digital Preservation: [Tools and Trends](#) in the Hague, the Netherlands.

WEPRESERVE

Planets has reached an agreement with [Digital Preservation Europe](#) (DPE) and [Cultural, Artistic and Scientific knowledge for Preservation, Access and Retrieval](#) (CASPAR), both funded by the European Union under the Sixth Framework Programme. The projects will collaborate on a number of tasks such as coordination of training activities and support of the dissemination of publications. More information about the collaboration can be found on the projects' joint website www.wepreserve.eu.

PROGRESS TOWARDS ADDRESSING DIGITAL PRESERVATION CHALLENGES



The second Planets, CASPAR and DPE Annual Conference took place on 5-6 September 2007 in Lisbon, Portugal. The purpose of the conference was to report the projects' progress to date but also to place this in the context of the wider international digital preservation and curation landscape. Furthermore, it was intended to provide a forum for networking and bridge-building, with collaboration as the key objective. The conference was presented under "wePreserve", the umbrella for Planets, CASPAR and DPE's synergistic activities.

Day one of the conference programme provided a general overview of all three projects, including the projects' aims and objectives, partner organisations involved, and an outline of how the projects approach the digital preservation challenge. It also included reports on international activities, such as the aDORe project, presented by Herbert van de Sompel of the US Los Alamos National Laboratory, and a general overview given by Ross Harvey of the Charles Sturt University, Australia, to analyse trends and directions in 2007. Carlos Oliveira, Deputy Head of the Cultural Heritage and Technology Enhanced Learning Unit, Directorate General Information Society and Media, European Commission, gave an overview of the EC's activities in digital preservation, including initiatives at policy level and various strands of work under the Framework Programmes.

A common theme was collaboration and coordination, which was reflected by the following presentations:

- Luigi Briguglio of Engineering Ingegneria Informatica on the Alliance for Permanent Access, a membership initiative formed by major stakeholders from the world of science.
- Maurizio Lunghi of Fondazione Rinascimento Digitale on DPE's work in benchmarking competence centres.
- Joy Davidson of the Digital Curation Centre on collaboration in training provision.

Having set the scene and covered the wider context, the conference proceeded on day two to provide insight into different aspects of Planets and CASPAR.

Presentations covered areas which cut across both projects, such as user studies and specification of user requirements. David Giaratta of the UK Science and Technology Facilities Council presented the CASPAR conceptual model, which is closely guided by the OAIS Reference Model. He explained that there is a strong focus on representation information within CASPAR, which is vital to the interpretation of data objects. He also explained the role of virtualisation within CASPAR, which is a technique of isolating dependencies on hardware, software and environment.

Adam Farquhar of the British Library explained the types of problems Planets is addressing and the project partners' motivations to be involved in the project. He also presented the Planets architecture, outlining the functions of the key components, including preservation planning, preservation action, preservation characterisation, testbed, and the interoperability framework, which integrates the different tools and services to provide one easily managed digital preservation system. In the context of two scenarios, Adam demonstrated how Planets methods, tools, and services can help organisations diagnose and treat obsolescence problems with their digital objects.

A session entitled "Solutions or Snakeoil" including a presentation from David Giaratta titled "CASPAR testbeds" and a presentation from Max Kaizer of the Austrian National Library titled "The Planets testbed", to a great extent clarified the differences between the validation components of both projects. The "CASPAR testbeds" seems to be the collective name covering the following three aspects of work:

- 1) A set of proposed metrics which can be used to validate digital preservation tools and techniques.
- 2) A methodology for simulating the effect on the usability of digital information of changes over time in hardware, software, environment and the knowledge base of the designated communities.
- 3) Application of the metrics and the methodology to a variety of digital objects from the domains of science, cultural heritage and contemporary performing arts.



The Planets testbed is a software system which provides a controlled environment for experimentation enabling benchmarking of preservation tools, services and strategies. Its role within Planets is two-fold:

- 1) To test and validate the technical solutions and approaches developed in Planets, more specifically to:
 - a. Provide a controlled hardware and software environment for testing and evaluating preservation actions (migration, emulation), and characterisation tools and services.
 - b. Record experiments' data in registries for further analysis and comparison.
 - c. Assist the validation of the effectiveness of different digital preservation plans.
- 2) To assess the suitability and efficiency of Planets outcomes across "real life" scenarios in various organisations.

Day two also included dedicated sessions for CASPAR and Planets, each including a number of presentations to provide a focused view on various aspects of the projects at a detailed and technical level. Presentations on CASPAR covered its architecture, its work in formalising the intelligibility of digital objects and the Registry / Repository for representation information. Presentations on Planets demonstrated achievements to date in developing tools and services for preservation planning, content characterisation and emulation.

LOOKING AHEAD

Great progress has been made since Planets commenced in June 2006. The team has reached consensus about the project goals and structure and moved from requirements gathering into specification and implementation. Prototype tools and services have been developed for preservation planning, preservation action and preservation characterisation, which are being deployed in the Testbed and the Interoperability Framework. Planets enjoys increasing visibility across Europe and the United States. The achievements in the first year have laid a solid foundation for the next 18 months, during which the requirements and specifications will be refined and fed into the further releases of the prototype services. Furthermore, effort will be undertaken to address the organisational and post-project aspects of Planets.

The overall objectives for the next 18 months can be summarised as follows:

- Complete initial design and development;
- Start to extend access, format range and scope of services;
- Engage more actively with the user and vendor communities;
- Obtain understanding of Planets' organisational impact;
- Explore sustainability of Planets' outputs;

By the end of 2008 Planets will have developed a broad range of tools and services and will have come closer to delivering digital preservation solutions. The list of deliverables below provides a highlight of what can be expected of Planets:

- Preservation Planning tools including decision support and risk assessment modules;
- Integrated preservation planning services including an automated collection profiling service, a technology watch service, and an advice service;
- A description language for generic description of preservation action tools;
- Next generation migration tools for digital objects;
- Emulation tools for specific environments;



- Final specifications of a characterisation description and a characterisation extraction language;
- Characterisation tools which extract significant properties from digital objects;
- Characterisation registry and registry for preservation action tools;
- A Testbed offering preservation plan assessment service to organisations outside Planets;
- Planets Interoperability Framework which integrates the preservation tools and services above to provide an easily managed preservation system, released as downloadable “click-and-install” software package;
- A dissemination and take-up programme including workshops and training events to engage with suppliers and the library and archive communities.

NEXT ISSUE

The next newsletter will be issued in January 2008.

ABOUT THE NEWSLETTER

Planets publishes a newsletter on a regular basis throughout the four year life of the project. Initially, it will be published twice a year, and this will increase to four times a year in 2008 as Planets begins to deliver prototypes, tools and services. Each issue will detail recent project activities, describe the practical tools and services developed by the project, and highlight a partner involved in Planets.

CONTACT PLANETS

Sign up for Planets newsletters via the RSS feed at: www.planets-project.eu

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