PLANETS NEWSLETTER

Issue 3, January 2008

INTRODUCTION

The New Year marks the 20th project month for Planets, a four-year digital preservation research and technology development initiative co-funded by the European Union under its [Sixth Framework Programme](#).

Planets has now completed initial releases of each of the major software components in the Planets platform, including:

- The Planets Preservation Planning Tool (Plato), which enables organisations to make informed selection of the most appropriate preservation plan against requirements.

- The modular emulator, which allows 1980's software applications to run in a simulated computer environment, and the Universal Virtual Computer, which provides an alternative approach to emulation that allows interaction with software long into the future.

- The Preservation Characterisation Registry, a core component that supports automatic identification of the essential characteristics of digital materials we wish to preserve.

- Extension to the XCEL-based significant property extraction tool, which now supports textual formats in addition to image, sound and other non-textual formats.

- The Planets Testbed, a controlled software environment that allows researchers and practitioners to conduct digital preservation experiments and gather data on a scientific basis.

- The Planets Interoperability Framework that provides shared functions and integrates the Planets tools and services into an easily managed preservation system. Its extensibility allows plug-in of third party tools and services.

These initial releases will enable Planets partners to conduct case studies and refine support for key preservation workflows. They will lead to public releases that members of the wider digital preservation community will be able to use.

PLANNING FOR A DESIRED FUTURE

Plato, a work-flow based Planets component, can already offer some help with planning. Plato allows organisations to identify preservation requirements for digital collections, define potential alternatives and select the most appropriate treatment plan. The selection of alternative plans or actions will be supported by a validation framework, which will provide the ability to measure and compare the characteristics of digital objects (in a typical before and after scenario).

PLANETS FOCUS AREAS

The Planets project is organised in a number of focus areas:

- preservation planning,
- preservation characterisation,
- preservation action,
- interoperability framework,
- and testbed.

The activities in each area are supported by dissemination activities, including workshops, training events, publications and presentations. For more information see the project's website www.planets-project.eu

Planets has developed a formal conceptual model for preservation based on analysis of existing policy documents from real-world organisations. This is a first attempt to describe how preservation planning might be modelled and applied practically. The conceptual model will be refined and will lead to a machine-readable model, which is essential to automate the preservation planning process. Equally important is the initial work that has been undertaken to model digital collections and their usage patterns. This will lead to formal models for the archival, library and data centre environments.

UNDERSTANDING DIGITAL OBJECTS

The practical application of characterisation techniques to real-world digital collections demands a high degree of automation, without which the cost of manually analysing content would be prohibitive. The PRONOM-based Characterisation Registry is the essential infrastructure supporting this automated process. The registry contains technical information about the significant properties of digital object types, such as formats, compression methods and character encoding schemes. Incorporating enhancements to describe significant properties, the registry allows key functionality to be exposed as web services, providing ease of integration with third-party repository systems.

ENABLING PRESERVATION ACTIONS

In order to ensure continued accessibility, specific actions are typically performed on digital objects using software tools, resulting in a transformation of the object itself (migration) or of the technical environment required for rendering the object (emulation), or a combination of both.

Planets has been actively surveying the landscape to create an inventory of commonly used file formats in digital archives. In addition, a gap analysis has been conducted to identify the insufficiency of currently available preservation actions tools. This laid the foundation for Planets' blueprint for designing preservation tools, and a plan for building the most wanted tools for digital objects. After releasing the modular emulator and the Universal Virtual Computer, Planets is working on case studies to understand the impact of the emulators within libraries and archives.

PARTNER HIGHLIGHT
University of Cologne
www.hki.uni-koeln.de

Since 1996, the research Institute in Computer Science for the Humanities at the University of Cologne has been involved in the study and large-scale creation of digital resources in all three branches of cultural heritage institutions: archives, libraries, and museums.

Led by Prof. Manfred Thaller, the Institute has taken a leading role in strategic planning for digital library services within Germany, as well as responsibility for evaluating the digitisation programs of the National Research Council of Germany (DFG). Academically, these activities are connected to research interests in the field of non-relational databases, data representation (with a special interest in the relationship between Computer Science's traditional understanding of data models and the underlying logic of mark-up languages), autonomous digital objects as building blocks for robust information systems, and an emerging focus on 3D content.

The Institute's contributions to Planets build on this deep experience. Prof. Thaller plays a leading role in the Preservation Characterisation focus area, and provides a strong background for the XCEL/XCDL languages that underlie Planets services to characterise files. The Institute also contributes to the Interoperability Framework work and corpus building for the Testbed.

PULLING IT ALL TOGETHER

The first software release of Planets' Interoperability Framework was made available for Planets partners in September 2007. With this package, setting up a local Interoperability Framework instance has been reduced to a simple click-and-install procedure. In November 2007, Planets ported the automatic Interoperability Framework build environment to GForge. As a result, code changes are compiled, tested, and packaged automatically on a daily basis. At present, work is concentrated on the updated Interoperability Framework design specifications, which should incorporate the new Planets conceptual data model, additional security mechanisms, and application programming interfaces (APIs) for developers working in other areas of the project.

LEARNING WHAT WORKS

The Planets Testbed will help the preservation community to gather an empirical evidence-base about what works. The Testbed consists of a managed hardware and software environment and sets of sample content. In addition, organisations will be able to upload sample content of specific interest to them. Scientists working with the Testbed will be able to execute characterisation and migration workflows and gather data during their execution. They will be able to analyse the data to determine, for example, which tools are most appropriate for specific types of content. In order to provide support for organisations in the preservation community, the team has developed methodologies for defining and executing experiments.

The team completed the first internal prototype of the Testbed application in September 2007. Its Experiment Wizard leads scientists through a six-step process to define their experiments and identify the data to collect. The first release, targeted towards Planets partners, is scheduled for February 2008. A second release, open to external institutions and researchers, is currently scheduled for January 2009; it will provide more complete integration with the Planets Interoperability Framework, support a wider and more flexible range of workflows, and include preservation plan assessment services.

TRAINING EVENT – PRINCIPLES IN DIGITAL PRESERVATION: A HANDS-ON APPROACH

The first joint DPE/Planets/nestor training event, 'Principles of Digital Preservation: a hands-on approach', was held on 1-5 October 2007 in Vilnius, Lithuania. It was organised in cooperation with the DigitalPreservationEurope (DPE) project and the Network of Expertise in long-term STOrage and long-term availability of digital Resources in Germany (nestor). The aim of the training event was to introduce the principles of digital preservation and to explain the key challenges in this area.

Nearly thirty practitioners and researchers from seven countries attended, representing libraries, archives and a variety of other institutions from the cultural heritage sector. The event was structured into seven half-day sessions, with each covering a specific aspect of digital preservation. Topics included the OAIS Reference Model, preservation metadata, file formats, trusted repositories, and the Planets approach to preservation planning. Sessions consisted of introductory lectures, followed by group work, presentation of results and discussion. In addition to the sessions, participants were provided with access to online training materials before and after the course, including recommended reading, questions and exercises.

Feedback was extremely positive and attendees were particularly impressed by the hands-on approach which focused on exercises and practical work, drawing upon their own experiences and work contexts – view the full event and feedback reports.

PLANETS WORKSHOP ON SUSTAINABLE MODELS FOR DIGITAL PRESERVATION

Preservation of digital content is one of the most pressing issues of modern society which increasingly relies on digital resources for its efficient functioning and progress. Libraries, archives, academic organisations, industry, and governments have been engaged in projects that explore the ways of tackling the problem. It has become clear that any long-term effort in this direction has to address the issue of sustainability.

The Planets workshop on Sustainable Models for Digital Preservation was held on 29-30 November 2007 at the Microsoft Executive Briefing Centre in Brussels, Belgium. Its primary objective was to explore ways to make a successful transition from Planets as a co-funded EU project to products and services that meet the needs of organisations and individuals and can be sustained over a longer term.

The workshop involved 20 representatives from businesses, investment and entrepreneurial community, government organisations, regulatory bodies, content providers, and libraries and archives.

During several brainstorming sessions and plenary discussions the participants explored a number of possible approaches to sustainability and commercialisation and identified specific models that the Planets consortium could consider to ensure the impact of its work beyond the duration of the project.

MEET THE STAFF

What is your name and education?
My name is Barbara Sierman. I studied Dutch Language at the University of Amsterdam, with a specialization in 18th century literature (my thesis was on strolling players).

Where do you work?
I work at the Koninklijke Bibliotheek in the Hague as a Digital Preservation Officer. I started my career at Pica (now OCLC PICA) as a library consultant at a time when library automation was a new and innovative area. I have also worked at several computer firms, last at Cap Gemini as a senior consultant.

What are your interests in Planets?
I'm very interested in translating digital preservation ideas into practical solutions and finding ways to implement them in an organization.

How did you become involved in Planets?
With the e-Depot, the KB experiences the challenges of digital preservation. Planets offers an opportunity to work closely with European colleagues and to exchange ideas. Apart from the fact that this is good for digital preservation in general, it is also fun doing it!

FORTHCOMING EVENTS

SHOWCASING DIGITAL PRESERVATION TECHNOLOGY AT CEBIT 2008

4-9 March 2008, Hannover, Germany, Stand B14, Hall 9, Future Parc

Planets is joining forces with key European digital preservation initiatives and will have a joint stand with CASPAR, DPE and nestor at CeBIT 2008. The latest digital preservation research and technology developments and their relevance to the industry will be showcased at the stand 'We Preserve – European Digital Preservation Initiatives'. Visitor will be able to see demonstrations of prototype software tools which can help organisations address core digital preservation challenges.

DPE, Planets and CASPAR are strategic projects co-funded by the European Union under its Sixth Framework Programme. nestor, the German network of expertise in long-term digital preservation, is a cooperative project funded by the German Federal Ministry of Education and Research.

CeBIT is the world's largest trade fair showcasing the state of the art in information technology. Held in Hannover, Germany, it typically attracts over 400,000 visitors and 5,000 exhibitors each year. CeBIT is regarded as the leading business event for digital technology. For more details see the exhibition program.

To obtain a free CeBIT Exhibition Day Pass, with a retail value of €38, please email info@planets-project.eu. Supplies are limited!

WHAT TO PRESERVE? SIGNIFICANT PROPERTIES OF DIGITAL OBJECTS

7 April 2008, British Library Conference Centre, London, UK

In coordination with the British Library, Planets is organising a workshop with the UK Joint Information Systems Committee (JISC) and the Digital Preservation Coalition (DPC) to highlight progress to date on significant properties of digital objects. Significant properties are essential characteristics of a digital object which must be preserved over time for the digital object to remain accessible and meaningful. Proper understanding of the significant properties of digital objects is critical to establishing best practices and helps answer the fundamental question related to digital preservation: What to preserve?

Planets' contribution to the understanding of significant properties lies in the effort to automate the process of identifying, describing and extracting the essential characteristics of digital objects. Planets is developing a methodology for describing these significant properties, a suite of tools and services for automatically characterising a range of specific object types in accordance with this methodology, and a supporting registry of characterisation information. Adrian Brown of the UK National Archives will present Planets' characterisation work at the workshop.

PLANETS PRESERVATION PLANNING WORKSHOP AND TRAINING EVENT

Planets will be holding a two-day preservation planning workshop and training event on 14-15 April 2008 in Vienna, Austria. The event aims to develop participants' knowledge of the activities surrounding preservation planning, and to offer an opportunity for input into Planets' future research and development in this area. It will be of interest to library and archive institutions, repository managers, systems developers and integrators, and anyone involved in the long-term preservation of digital materials.

The first day will deliver an overview of the Planets project and the products and services it will be providing, along with presentations on the preservation planning process and Planets' contribution to this.

MEET THE STAFF

What is your name and education?
My name is Joachim Korb. I hold an MA in History of Science and Technology, and English and American Literature from the Technical University Berlin.

Where do you work?
I work at the Austrian National Library and I started in August 2007.

What are your interests in Planets?
I work on Preservation Planning, especially on developing Organisational Policy and Strategy Models.

How did you become involved in Planets?
My involvement in Planets complements my participation in the TELplus project, funded by the EC under the eContentplus programme to strengthen, extend and improve the European Library service. Planets broadens my view of digital preservation extensively and provides the wider considerations in creating electronic content.

There will be an emphasis on discussion and the opportunity for participants to express their views and requirements to help shape Planets' outcome.

The second day will provide dedicated training on the Planets approach to preservation planning, including hands-on exercises in building objective trees and an introduction to the Planets preservation planning tool, Plato.

Further information, including the workshop programme and registration details, will be made available shortly through the Planets and WePreserve websites.

PLANETS AT EVENTS

Active attendance by Planets participants at major international conferences and workshops is increasing Planets' profile across the digital preservation community. Planets was seen and heard at the following major events during the second half of 2007:

- ECDL 2007 - European Conference on Digital Libraries
  Presentation: Opening Schrödingers Library: Semi-automatic QA Reduces Uncertainty in Object Transformation

- EVA/MINERVA Jerusalem 2007 conference on Digitisation of Culture
  Presentation: Planets: Preservation Planning Components and Strategies

- [ICADL 2007](#) - International Conference on Asian Digital Libraries
    - Presentation: [Preserving interactive multimedia art: A case study in preservation planning](#)"

- [iPRES 2007](#) - International Conference on Preservation of Digital Objects
    - Presentation: [A practical approach to digital preservation: Updates from Planets](#)
    - Presentation: [Emulation for digital preservation in practice: The results](#)
    - Presentation: [Preservation Planning in the OAIS Model](#)

- [IWDPH 2007](#) - International Workshop on Digital Preservation of Heritage and Research Issues in Archiving and Retrieval
    - Presentation: [Challenges and responses in digital preservation: the European project Planets](#)

- [RCDL 2007](#) - Russian National Research Conference
    - Presentation: [Long-term preservation of electronic theses and dissertations: A case study in preservation planning](#)

- [Tools and Trends](#) – International Conference on Digital Preservation
    - Presentation: [Automated Characterisation framework](#)
    - Presentation: [Back to the future: Dioscuri, the modular emulator for digital preservation](#)
    - Presentation: [Characterizing with a Goal in Mind: The XCL approach](#)
    - Presentation: [Evaluating preservation strategies: Decision support for preservation planning](#)
    - Presentation: [Planets: Towards Infrastructure for Digital Preservation Services](#)
    - Presentation: [Preservation Action: What, how and when?](#)

PUBLICATIONS

New scientific papers produced by Planets participants include:

- "Emulation for digital preservation in practice" *(forthcoming)*
  Jeffrey van der Hoeven (National Library of the Netherlands, The Hague, The Netherlands)

- ["How to choose a digital preservation strategy: evaluating a preservation planning procedure"](#)
  Stephan Strodl, Christoph Becker, Robert Neumayer, Andreas Rauber (Vienna University of Technology, Vienna, Austria)

- ["Long-Term Preservation of Electronic Theses and Dissertations: A Case Study in Preservation Planning"](#)
  Christoph Becker, Stephan Strodl, Robert Neumayer, Andreas Rauber (Vienna University of Technology, Vienna, Austria) and Eleonora Nicchiarelli Bettelli, Max Kaiser (Austrian National Library, Vienna, Austria)

- ["Opening Schrödingers Library: Semi-automatic QA Reduces Uncertainty in Object Transformation"](#)
  Lars R. Clausen (State and University Library, Aarhus, Denmark)

- ["Preserving Interactive Multimedia Art: A Case Study in Preservation Planning"](#)
  Christoph Becker (Vienna University of Technology, Vienna, Austria), Günther Kolar (Ludwig Boltzmann Institute Media.Art.Research., Linz, Austria), Josef Küng (Johannes Kepler University of Linz, Austria), and Andreas Rauber (Vienna University of Technology, Vienna, Austria)

An overview article, "Planets: Integrated services for Digital Preservation", by Adam Farquhar and Helen Hockx-Yu (British Library, London, UK) can be found in *International Journal of Digital Curation*, Vol. 2, No 2 (2007).

ABOUT THE NEWSLETTER

Planets will publish a newsletter on a regular basis throughout the four year life of the project. Each issue details recent project activities, describes the practical tools and services developed by the project, and highlights one or two partners involved in Planets.

ABOUT PLANETS

Planets - Preservation and Long-term Access through Networked Services, is a four-year project co-funded by the European Union under the Sixth Framework Programme (Contract 033789) to address core digital preservation challenges.

Planets brings together expertise from across Europe from national libraries, archives, leading educational institutions and technology companies.

Planets is developing a framework of methodologies, tools and services to support libraries, archives and other organisations who have the responsibility to safeguard digital information over long-term.

CONTACT PLANETS

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

For more information on the project, please contact: **info@planets-project.eu**