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Contract no.214898
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List of the authors

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<td>214898</td>
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1 Introduction

This report describes the dissemination activities related to the Mancoosi project over the second period of the project, starting on February 1st, 2009 and ending on January 31, 2010. The report first describes the server infrastructure used to disseminate information related to Mancoosi. It then gives an overview of the coverage of Mancoosi in the press and on the web. Then, it gives a detail of the publications within the scope of the project and finally, the appendix provides a summary of the partners dissemination activities.

2 The Mancoosi Project Server Infrastructure

The Mancoosi project dissemination and collaboration infrastructure has been chosen and built using mostly free software components, and is open to the public for review and collaboration. This infrastructure consists of a web site, a weblog, a wiki and a series of mailing lists.

2.1 Website Organization and Access Logs

The domain name mancoosi.org was reserved and bought in 2007. The URL http://www.mancoosi.org points to a set of web pages that contain a description of the project, a description of the objectives of each technical workpackage, links to the partners web sites and all the Mancoosi deliverables, papers and technical reports. Given that Mancoosi follows up on the research work already undertaken in the scope of the FP6 EDOS project, the Mancoosi web site points a page dedicated to results from EDOS dependency checking. The home page also has a link to the Mancoosi weblog.

The web pages are fully compliant with the W3C web standards and have been built taking into consideration accessibility issues for the visual impaired, by avoiding script languages, and using Cascading Style Sheets to decorate the information, which is fully available to any e-visitors, even the ones resorting to text-based browsers like lynx, which are customary among the visual impaired.

2.2 Mancoosi Visual Identity

During the second period of the project, the overall visual identity of the Mancoosi project has been improved. A new graphic charter has been designed in order to improve the project website, which is the most important element of communication on the project, and applied uniformly to all the communication material of the project (deliverables, leaflet, etc.). The new Mancoosi website was launched in September 2009, and all the previous deliverables have been ported to the new visual identity.

A leaflet presenting Mancoosi to the public has been designed and is available, since January 10, 2010 on the Mancoosi website. The objective is to summarise, in a nutshell, the Mancoosi project to the public, highlighting the virtuous circles among users, developers, distribution editors and researchers. This leaflet is to be distributed in all occasions that are relevant: during conferences, talks, trade shows, meetings, and the like.
The Mancoosi leaflet is available in pdf format on the Mancoosi website homepage\(^1\) and is also contained in the present document.

A poster, giving an overview of the project has also been designed. It was presented for the first time during the Collaboration Meeting on FP6 and FP7 projects on objective 1.2, organised by the European Comission, DG Information Society in Brussels, Belgium, on June 10-11 2009.

### 2.3 Visits to the Mancoosi Web Site

From the launch of the project, we have been collecting statistics on the hits to the Mancoosi web site. The graph and table below show the visits to the Mancoosi web site, over the second period of the project, since February 2009.

![Graph showing visits to the Mancoosi web site](image)

<table>
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<tr>
<th>Month</th>
<th>Daily Avg Hits</th>
<th>Daily Avg Pages</th>
<th>Daily Avg Visits</th>
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<tr>
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<tr>
<td>Mar 2010</td>
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<tr>
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<tr>
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<td>252</td>
<td>122</td>
<td>1478</td>
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</table>

The data above show a regular interest to the web site since the beginning of the second period of the project, i.e. from February 2009 to January 2010. The Mancoosi web site has experienced a significant peak in the number of its visitors since September 2009, which can be attributed to the articles appeared in the press in Portugal and France in that period.

### 2.4 The Mancoosi Weblog

The Université Paris Diderot team has set up a weblog to allow members of the Consortium to post entries related to the various activities of the project\(^2\)

\(^1\) [http://www.mancoosi.org/](http://www.mancoosi.org/)
\(^2\) [http://blog.mancoosi.org/](http://blog.mancoosi.org/)
The Mancoosi partners are encouraged to post any entry related to Mancoosi activities (the Mancoosi collaboration meetings, pictures at a conference, related results, etc.) on the weblog to disseminate Mancoosi activities in an informal way. It is a multi author blog based on Dotclear. Anybody (who has been given the rights to do so) can post, still preserving his identity as post author.

Up to now, 38 posts have been posted since April 2008 to inform the wide public on Mancoosi meetings, conferences related to the research work of Mancoosi, articles written and published within the scope of the project, etc.

2.5 Collaborative Infrastructure

An open source collaborative platform has been set up by the Edge-IT team to allow discussion among the members of the consortium, using a server deploying the XWiki wiki implementation. The wiki is a private platform by default that allows members to share information, documents and files related to Mancoosi. The wiki contains a significant collection of information useful for collaboration within the consortium, such as calls for papers, articles resulting from the work accomplished within the project, presentations at conferences, deliverables, agendas, slides and minutes of all the consortium meetings and bulletins on administrative issues.

A section of the wiki is dedicated to administrative issues and management of the project and only gives access to the coordination team at Université Paris Diderot.

2.6 Open Source Mailing List Server

In addition to the web site, the weblog and the collaborative platform, the members of Université Paris Diderot have deployed a series of internal mailing lists, based on the French open source Sympa mailing list manager. Members of the Consortium as a whole use these mailing lists for scientific, administrative and coordination issues.

Each technical workpackage has its mailing list. Researchers and programmers interested in cooperating with Mancoosi can ask for subscription to one or more of these technical mailing lists.

2.7 Mancoosi on Twitter

Since the 20th of January 2010 it is possible to be informed via Twitter of the commits in the Mancoosi Subversion by following the user http://www.twitter.com/mancoosi

3 Mancoosi in the Press and on the Web

3.1 Mancoosi in the Press

Several articles in the press deal with the project. Below we provide selected examples of articles presenting Mancoosi published in 2009 that appeared on web magazines and on the press, like in La recherche, a well-known French scientific magazine. They are presented in chronological order.
3.2 Mancoosi on the Web

When typing Mancoosi on Google, we discovered that an entry on the project has been added to Wikipedia with a link to the project web site in March 2008. Though short, this entry shows an interest for the project and its thematic. Some of the consortium members have contributed minor fixes to this page. We might decide to add more factual information in the future.

4 Mancoosi Conferences

A significant effort has been made over the second year of the project to raise interest in Mancoosi and its research theme among the scientific community.

The Mancoosi team has attended a variety of events, ranging from scientific conferences to community meetings, since February 2009. Here follows the complete list.

Scientific events

- WebDB 2009, Rhode Island, USA
- VLDB 2009, Lyon, France
- EDBT 2009, Saint Petersburg, Russia
- ENASE 2009, Milan, Italy
• MDWE 2009, San Sebastian, Spain
• ICTM 2009, Zurich, Switzerland
• WETICE 2009, Groningen, The Netherlands
• RDP 2009, Brasilia, Brazil
• CPAIOR 2009, Pittsburgh, USA
• JM2L 2009, Nice, France
• IJCAI 2009, Pasadena, USA
• IWOCE 2009, Amsterdam, Holland
• ESEM 2009, Orlando, USA
• Asian 2009, Seoul, Korea
• ISMVL 2009, Naha, Japan
• SAT 2009, Swansea, Wales
• CP 2009, Lisboa, Portugal
• EPIA 2009, Aveiro, Portugal
• SPECIF Congress 2010, Tours, France

Free software community events

• Fosdem 2009, Bruxelles, Belgium
• Solutions Linux 2009, Paris, France
• ConfSL 2009, Bologna, Italy
• DebConf 2009, Caceres, Spain
• Fossa 2009, Grenoble, France

4.1 IWOCE: a Mancoosi international workshop

As foreseen in the DOW, we organised a first international workshop on Mancoosi-related issues in Amsterdam, in August 2009. This workshop, named IWOCE for International Workshop on Open Component Ecosystems was affiliated to ESEC/FSE, one of the major software engineering conferences, all the papers presented at the workshop have been refereed, and the five accepted have been published in the conference proceedings.

The workshop was intimately related to the topics of interest of Mancoosi (the ecosystem of packages in FOSS distributions) and has generalized them for a wider audience. Roberto Di Cosmo and Paola Inverardi have chaired it.

The web site can be found at [http://www.iwoce.org/](http://www.iwoce.org/), and the program was as follows:
• Marianne Simonot and Virginia Aponte. A declarative formal approach to dynamic reconfiguration
• Davide Di Ruscio, Patrizio Pelliccione, Alfonso Pierantonio and Stefano Zacchiroli. Towards maintainer script modernization in FOSS distributions
• Daniel Le Berre and Pascal Rapicault. Dependency management for the Eclipse ecosystem
• Ralf Treinen and Stefano Zacchiroli. Expressing Advanced User Preferences in Component Installation
• Vasilis Boucharas, Slinger Jansen and Sjaak Brinkkemper. Formalizing Software Ecosystem Modeling

5 Mancoosi Publications

The following articles have been published:

• Autocompletion for Mashups, VLDB 2009, August 24-28, 2009, Lyon, France. By Ohad Greenshpan, Tova Milo and Neoklis Polyzotis.
• Bits for the Mancoosi Project, DebConf’09, July 28, 2009, Caceres, Spain. By Stefano Zacchiroli.
• Managing dependent changes in coupled evolution, 2nd International Conference on Model Transformation (ICMT’09), June 29-30, 2009, ETH Zurich, Switzerland, by Antonio Cicchetti, Davide Di Ruscio and Alfonso Pierantonio.
• New Encodings from Max-CSP into Partial Max-SAT, 39th International Symposium on Multiple-Valued Logic (ISMVL 2009), May 21-23, 2009, Naha, Okinawa, Japan, by Josep Argelich, Alba Cabisco, Inês Lynce and Felip Manyà.

• Towards a Model Driven Approach to Upgrade Complex Software Systems, 4th International Working Conference on Evaluation of Novel Approaches to Software Engineering (ENASE 2009), May 6-10, 2009, Milan, Italy, by Antonio Cicchetti, Davide Di Ruscio, Patrizio Pelliccione, Alfonso Pierantonio and Stefano Zacchiroli.

• Optimized Union of Non-Disjoint Distributed Data Sets, EDBT’09, March 2009, Saint Petersburg, Russia, by Itay Dar, Tova Milo and Elad Verbin.

• Algorithms for Weighted Boolean Optimization, SAT’09, June 2009, Swansea, Wales, by Vasco M. Manquinho, Joao Marques-Silva and Jordi Planes.

• Sequential Encodings from Max-CSP into Partial Max-SAT, SAT’09, June 2009, Swansea, Wales, by Josep Argelich, Alba Cabisco, Inês Lynce and Felip Manyà.

• Restoring CSP Satisfiability with MaxSAT, EPIA’09, October 2009, Aveiro, Portugal, by Inês Lynce and Joao Marques-Silva.


The following articles have been accepted for publication:


The articles above mention that the research carried out has received funding from the European Community’s Seventh Framework Programme.

6 Conclusion

The project members have been very active in promoting the work done within the scope of the project and we consider this second year as successful in raising interest and disseminating the first results of Mancoosi.

We will keep promoting our research activities and results as much as possible by publishing more articles, attending FLOSS oriented conferences (FOSDEM 2010 will see at least two Mancoosi lightning talks) during the last remaining year of the project and through the organisation of a workshop at the end of the project, the aim of which will be to promote interest within the community for the Mancoosi research topics and technologies.
A Summary of Partners Dissemination Activities

Below are lists of the partners dissemination activities related to Mancoosi also available for the whole consortium on a page dedicated to Workpackage 6 (Dissemination) in the consortium wiki.

A.1 Université Paris Diderot – Paris 7 (UPD)

Alongside setting up part of the Mancoosi collaborative infrastructure, members of Université Paris Diderot – Paris 7, as Coordinator of the project, have been keen on being very active all over the second year in carrying out dissemination activities related to Mancoosi.

Stefano Zacchiroli, Jaap Boender and Ralf Treinen attended the 2009 FOSDEM Conference, on February 7-8, 2009.

Ralf Treinen gave on March 5, 2009 a Seminar at the laboratory Proofs, Programmes, Systems, in Paris, France; on March 5, 2009. In this talk, he described the past and ongoing work in the context of Mancoosi and its predecessor project EDOS, as well as some possible future research directions.

Roberto Di Cosmo attended the Solutions Linux Trade, on March 31, 2009, in Paris, France; where he gave a presentation of the Mancoosi project.

Ralf Treinen went to The National Institute of Advanced Industrial Science and Technology (AIST Kansai), in Osaka, Japan, on April 2009 to work in collaboration with Hitoshi Ohsaki. There he was invited to give a talk about the Mancoosi project at the Workshop on Software Verification (WSV 2009), on April 10, 2009.

Roberto Di Cosmo was invited by the Ecole des Mines in Nantes, France, on May 14, 2009, to give a Conference in the Computing Department. This conference topic was: Managing the complexity of open source softwares: the case of Linux distributions. So, it has been a good opportunity to give an overview of the Mancoosi project.

Roberto Di Cosmo attended the Collaboration Meeting for FP6 and FP7 projects on objective 1.2 organised by the European Commission DG Information Society, on June 10-11, 2009, in Brussels, Belgium. A poster giving an overview of the Mancoosi project was presented there.


Roberto Di Cosmo, Ralf Treinen, Jaap Boender and Stefano Zacchiroli attended the International Workshop on Open Component Ecosystems (IWOCE 09), in Amsterdam, the Netherlands.
on August 2009.

Stefano Zacchiroli attended the DebConf 2009, the annual Debian Developers meeting, on July, 16-23, 2009, in Caceres, Spain. He delivered a talk where he presented a status update about the Mancoosi project. The talk has also addressed some new usages we are doing of EDOS tools (currently maintained by Mancoosi project members) for Quality Assurance purposes.

Roberto Di Cosmo presented an overview of Mancoosi at the Open World Forum 2009 on October 02, 2009 in Paris, France.

Jaap Boender attended ESEM 2009 Conference, on October 2009, in Orlando, USA. There he presented a Mancoosi paper dealing with ideas for using strong dependancies to measure several properties of component-based systems.

Roberto Di Cosmo attended the First Conference on Free and Open Source Software and Academia (FOSSA 2009) on November 17-18, 2009, in Grenoble, France. At this occasion, he had the opportunity to present, in a talk, the work done on the mancoosi project.


Roberto Di Cosmo attended the SPECIF Congress, on January 2010, in Tours France. He gave a talk on Open Source Softwares and their implications.

A.2 Edge-It (EDGE)

Edge-It has been involved in dissemination activities for the MANCOOSI project.

The MANCOOSI project was presented by Arnaud Laprèvot at the Solutions Linux Open Source exhibition (Parc des Expositions, Paris, France), March 31, 2009.

Mandriva wrote a paper about its presence on Solution Linux for Mancoosi on its blog and on its website about this event on March 25, 2009.

Edge-IT is using the research project blog of Mandriva started in July 2009 to publish news on Mancoosi: [http://doc4.mandriva.org/bin/view/labs/Blog](http://doc4.mandriva.org/bin/view/labs/Blog). The integration of dudf generation in urpmi was announced there, as well as the availability of the site that collects the files. The leaflet of Mancoosi was announced in january on the site, as well as the LoCoCo conference.

During the press conference of the launch of the Mandriva 2010 distribution (3rd of November 2009, on the Ice Biair of Haagen - Dazs on the Champs Elysees), a short explanation of the opt-in mechanism for uploading the configuration description of a machine (dudf), when installation / upgrade problems are encountered was explained, as well as the reasons and the link to the Mancoosi project.

Mandriva wrote about Mancoosi in its newsletter of june 2009, sent to hundred of thousands
A.3 Università Degli Studi dell’Aquila (UDA)

Members of Università Degli Studi dell’Aquila took part in dissemination activities during the second year of the project as described in the following.

Davide Di Ruscio attended the International Conference on Evaluation of Novel Approaches to Software Engineering (ENASE 2009)\textsuperscript{24} There he presented a paper about the Mancoosi model-driven approach to simulate the upgrade of FOSS systems;

Davide Di Ruscio and Alfonso Pierantonio attended the International Conference on Model Transformation (ICMT 2009)\textsuperscript{25} There they presented a paper about problems which are related to the evolution of the Mancoosi metamodel.

Davide Di Ruscio, Patrizio Pelliccione and Alfonso Pierantonio attended the International Workshop on Open Component Ecosystems (IWOCE 2009)\textsuperscript{26} There they presented a paper about the maintainer scripts analysis which has been performed to define the Mancoosi metamodel.

Patrizio Pelliccione attended the International Workshops on Enabling Technologies: Infrastructures for Collaborative Enterprises (WETICE 2009)\textsuperscript{27} There he presented a work which proposes a framework for synchronous and asynchronous concurrent and collaborative modeling. The approach offers services for sharing the modeling space, models, documentation, and configuration.

Alfonso Pierantonio has been keynote speaker at MDWE 2009 on June 22th, 2009, San Sebastian, Spain. There he gave a talk about model-driven aspects which are related to the modeling activities which are carried on in the context of the Mancoosi project.

A.4 Instituto de Engenharia de Sistemas e Computadores Investigação e Desenvolvimento em Lisboa (INESC-ID)

Members from INESC-ID have been disseminating the Mancoosi project mainly through the participation in conferences and workshops. The presentations given at these events, and also published in the proceedings of such events, were mainly about tools used to solve the software package upgreadability problem. These tools are based in Boolean Satisfiability (SAT) and its extensions, such as Maximum Satisfiability (MaxSAT) and Pseudo-Boolean Optimization (PBO). It is therefore important not only to effectively solve the upgreadability problem but also to improve the performance of SAT-based tools.

Josep Argelich attended the 39th International Symposium on Multiple-Valued Logic (ISMVL 2009)\textsuperscript{28} which took place in Japan. He presented a paper about converting MaxCSP into MaxSAT.

Josep Argelich and Vasco Manquinho attended the 12th International Conference on Theory and Applications of Satisfiability Testing (SAT 2009)\textsuperscript{29} which took place in Wales. Josep Argelich
presented a paper about another conversion of MaxCSP into MaxSAT and Vasco Manquinho presented a paper about a new algorithm for MaxSAT and PBO.

Inês Lynce and Josep Argelich attended the 21st International Joint Conference on Artificial Intelligence (IJCAI 2009) which took place in the USA. They presented a paper about SAT-based multi-criteria optimization for solving the upgradability problem.

Inês Lynce and Vasco Manquinho attended the 15th International Conference on Principles and Practice of Constraint Programming (CP 2009) which took place in Portugal. They presented a paper about preprocessing in PBO.

Inês Lynce attended the 14th Portuguese Conference on Artificial Intelligence (EPIA 2009) which took place in Portugal. She presented a paper about restoring the satisfiability of a given problem instance.

A.5 Caixa Mágica Software (CXA)

As leaders of Workpackage 3 on Transactional Upgrades, members of Caixa Mágica took part in the dissemination activities listed below.

Paulo Trezentos gave a presentation of projects in which Caixa Mágica is involved, including MANCOOSI, at the Linux 2009 – VI Encontro de Tecnologias Abertas event, hosted by Caixa Mágica and Sybase on September 24th, 2009 in Lisbon, Portugal. Around seven hundred Portuguese Linux users and clients attended this event.

In Exame Informatica no. 173, p 86/87, November 2009, Paulo Trezentos and Pedro Fragoso, discuss the uptake and increasing popularity of Linux and Open Source Software in Portugal, specifically the education system. They mention the benefit of community orientated and supported software. In the article they mention how systems such as DUDF, (accompanied by an image of the dudf.caixamagica.pt webpage) can be used to get real user feedback for package installations and problems. The main focus is on the benefit of working as a community and DUDF is shown as an example of how feedback from users can assist others to benefit from open source software.

A.6 Université de Nice Sophia Antipolis (UNSA)

CeP has been involved in dissemination activities for the MANCOOSI project.

The MANCOOSI project was advertised at the Journée méditerranéenne du logiciel libre (JM2L).

Michel Rueher took part to the organization of BR-OPT, a workshop on bound reduction techniques for constraint programming and mixed-integer nonlinear programming, at the Tepper School of Business, Carnegie Mellon University, Pittsburgh, PA 28 May, 2009.

Michel Rueher took part to the TORONTO’09 CORS-INFORMS meeting in Toronto, Ontario, Canada, where he did a presentation on “Capabilities of constraint programming in software verification”.

A.7 Tel Aviv University (TAU)

Mainly active in Workpackages 2 and 3, members of Tel Aviv University have been involved in dissemination activities related to Mancoosi as described below.

Tova Milo and Maya Ben-Ari attended the 2009 ACM Special Interest Group on Management Of Data (SIGMOD’ 09), on June 2009, in Providence, USA. There they gave a presentation regarding a paper (published at the the WebDB’09 workshop of the conference) discussing a novel technique for efficiently analyzing software execution logs (traces), developed as part of the Mancoosi research.

Tova Milo and Ohad Greenshpan had attended the 2009 International conference on Very Large Databases, VLDB’09, that took place in Lyon, France, in August 2009. They gave there a presentation regarding a paper, (published at the conference), describing newly developed algorithms which assist users in software composition, by automating the retrieval of relevant software components.

Tova Milo has presented an overview of the group’s research in the Mancoosi project at the Computer Science Seminar of the Weizmann Institute on January 4, 2010.

A.8 Université catholique de Louvain (UCL)

Boris Mejías and Peter Van Roy published an article on decentralized transactional storage to appear in the International Journal of Adaptive, Resilient, and Autonomic Systems. This article is a collaboration between MANCOOSI and the SELFMAN project. Boris Mejías has an accepted lightning talk on this topic at FOSDE 2010 on Feb. 6, 2010.

Boris Mejías attended the 9th Free and Open Source Software Developers’ European Meeting (FOSDEM 2009), on Feb. 7-8, 2009, in Brussels, Belgium. He also attended the XtreemOS Summer School in Sep. 2009 on emergent computing paradigms for large-scale distributed computing. He made a presentation at this Summer School. XtreemOS is a Linux-based operating system that includes distributed computing infrastructures such as Grid functionality.

Gustavo Gutierrez and Yves Jaradin released an alpha version of the relational constraint solver for Gecode under an MIT Open Source license (see [www.gecode.org](http://www.gecode.org)). The solver was announced on the Gecode mailing list. The solver is available at [https://scm.info.ucl.ac.be/trac/cpbinrel](https://scm.info.ucl.ac.be/trac/cpbinrel). This solver simplifies the original graph constraint solver and provides better expressiveness for the package installability problem.
Solving the upgrade problem

Better, more flexible upgrades
Rollback unwanted upgrades
**Why Mancoosi?**

Did you ever install an upgrade on your PC, just to find out afterwards that something very important was not working anymore? The problem is that, especially when you think about large, complex software packages, there is no general way to know if a software package, with all its dependencies on obscure libraries, configuration files, hardware components or security setup, will work properly on a specific computer. That is, there is no way to know it BEFORE actually installing it, and before finding out the hard way that it has destroyed something else.

**Better upgrades**

Installing a software component can be a puzzle: if there are several possibilities on how to satisfy its dependencies, the system may ask the user obscure questions, and finally choose one solution using its own blind algorithm, which may lead to remove other useful packages, and leave the user in the dark.

Mancoosi will develop sophisticated optimization algorithms to find efficient upgrade paths and high level request languages which will make software upgrading a simpler process for any user, not only for experienced computer wizards.

**Outcomes:**

Safer, more flexible package installers. Better reporting for failed upgrades.

**Rollback solutions**

No matter how significant the advances in theory, we know there will always be the possibility the installation process fails or is not what the user really wanted. Mancoosi is also building a transactional layer into end-user package management tools, which will allow to bring your system back to a previous state (“rollback”) without further problems, working at the level of individual components, and not on file-system checkpoints.

**Outcomes:**

Tools and techniques to safely and selectively undo package installation with no further problems, working at the level of individual components, and not on file-system checkpoints.

MANCOOSI will propose reliable solutions to this problem, by establishing virtuous cycles of collaboration among users, distribution editors, and researchers.