Legal Aspects in Software Maintenance

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Abstract: In this paper we summarise the lessons learnt from our EU research project TIMBUS that deals with digital preservation. Digital preservation aims at ensuring continued access to digital information over time or technology changes and as such affects and utilises software design, development and maintenance (cf. [1]). There are numerous technical challenges to be considered for both successful digital preservation and software maintenance, but even if these technical challenges are solved, there are more hurdles along the way: not only technical but also legal aspects have to be considered..

1 Introduction

The preservation of digital artefacts was identified as a serious issue and is being addressed by different research efforts over the course of the last years. Digital Preservation [1] – ensuring continued access to digital assets – is traditionally focused on data-centric information. If it comes to the digital preservation of an entire business and its underlying processes and services, a more holistic approach is required and investigated by our TIMBUS research project [2].

As it turns out, solutions for the digital preservation of software and data have significant overlap with topics from the software reengineering and migration area – a typical long term preservation needs to take software migration into its portfolio of tools. Preservation efforts have to ensure sustainable long term use of IT supporting the business processes under preservation when the environment changes and action needs to be taken to revitalise software and data.

2 Technically feasible, but legally in doubt?

TIMBUS is a multi-disciplinary project with project partners from different fields of expertise. One particular field of interest that is typically underrepresented in computer science conferences and workshops are legal aspects of preservation activities in general – and consequently legal aspects of software maintenance and reengineering.

The legal fields of interest in the European Union comprise

- Intellectual Property (IP) Rights; taking Directive 96/9/EC – Database Directive (Legal protection of databases) [3]; Directive 2001/29/EC - Information Society Directive (Aspects of copyright an related rights) [4]; Directive 2009/24/EC - Computer Programs Directive (Legal protection of computer programs) [5]; and Directive 2006/116/EEC – Copyright Duration Directive [6] into consideration;
- Data Protection regulations; taking Directive 95/46/EC – The Data Protection Directive [7] into account;
- Legal obligations for preserving data in various sectors (i.e., ensure the continued access to certain information even in face of migrations); and
- IT contracting issues, e.g., license agreements; contracts between producers and users of software and/or data; escrow agreements

Typical tasks of maintenance and reengineering affected by the above mentioned legal frameworks and regulations are, amongst others,

- The reproduction of software ("copying");
- The adaption, translation and arrangement of software;
- The digitalisation of analogue documents;
- The renewal and change of data carrier;
- The conversion of data;
- The migration, porting, emulation of software and/or data [8];
- Dealing with databases; and
- Licensing, and sourcing contracts.

3 A tool for the management of legalities

To facilitate the life of technical people with regards to legal consideration, we have developed a prototype tool providing an overview of legal aspects for preservation and migration of software services and their data in the course of the TIMBUS project.
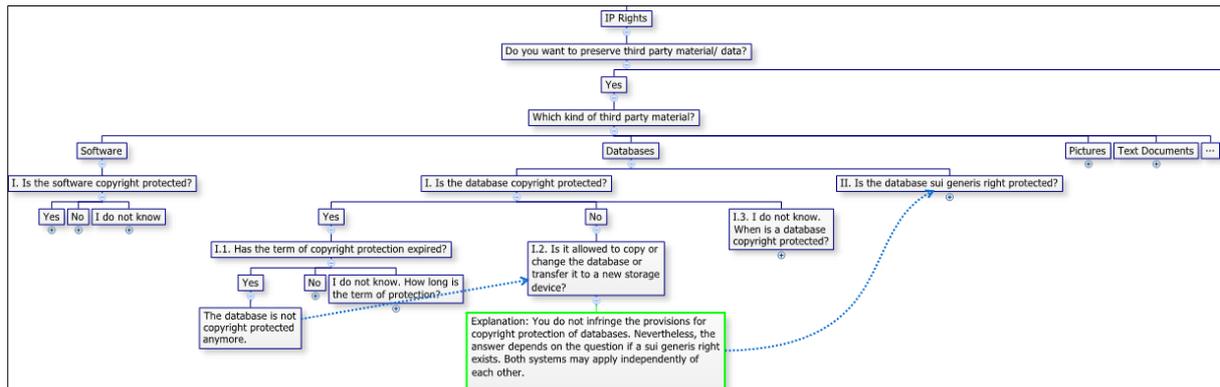
Figure 1: Part of the decision tree questions for the assessment of legalities

The solution for legalities lifecycle management (LLM) is based on the open source software Lime-Survey [9] tailored to the needs of managing legalities. The tool asks questions sequentially, in a way that is similar to a lawyer would ask during the legal consultation. An example question is depicted in Figure 1. Having gathered the crucial and legally relevant information from the user, the LLM tool guides the user step by step to the relevant legal areas and outlines the situation. In essence, the legality questions are derived from a prepared decision tree and the LLM tool simply provides a clever and comprehensive walkthrough of the tree.

This is an easily manageable and timesaving way for the technical user to get acquainted with the legal requirements for his specific tasks. In order to allow for a deeper understanding and the right approach to the legal matter, the user has the possibility to read the guidelines which are implemented as an annex to the LLM. They ensure an overview of the subject matter and explain the interdependencies between the questions. A graphical and visual presentation of the matter is also available as a mind-map, thus illustrating the system and the connections between the different legal issues.

In addition and for the purpose of long term digital preservation, the LLM tool provides an automatic crawling feature that informs about changes in the legal environment, i.e., changes in laws or legal directives are considered relevant for a specific organization.

The outcome of the LLM tool is a simple and comprehensive report that covers the most relevant legal areas of the digital preservation domain. Our LLM tool is customizable, i.e. it is possible to adjust the questionnaire to changes in legislations, or specific national law systems. In the end, the tool cannot replace the legal advice provided by lawyers but provides initial tailored legal guidance and increase legal awareness with software migration as one of the application fields.

4 Acknowledgements

5 References

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[2] TIMBUS. (2011-2014). http://timbusproject.net/about

[3] Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases, OJ L 77, 27.3.1996, p. 20–28

[4] Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society OJ L 167, 22/06/2001, p. 10–19

[5] Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs, OJ L 111/17, 5.5.2009, p. 16–22

[6] Directive 2006/116/EC of the European Parliament and of the Council of 21 of December 2006 on the terms of protection of copyright and certain related rights, OJ L 372, p. 12-18

[7] Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data, OJ L 281, 31-50

[8] Gimnich/Winter, IBM Software Group Enterprise Integration Solutions (EIS), "Workflows der Software-Migration", 2005

[9] LimeSurvey, www.limesurvey.org