

Donantonio Servers

Specifications of requisites for Donantonio

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1. Introduction

This document is a Specification of Software Requeriments (SSR) for the bibliographic system for automatic distributed publication Donantonio. All this contents has been elaborated considering the needs observed by the experience of the authors of Internet's publication. This specification has been structured inspired in the directrixes gived by the standard IEEE *Recommended Practice for Software Requirements Specification ANSI/IEEE 830 1998*.

1.1. Purpose

The object of the specification is to define in a clear and exact way all the functionalities and restrictions of the system it wants to build. The document goes directed so much to the development equipment, like the members of the projects of free documentation and the community of possible end users. This document will be the communication channel between the implied parts, taking part in its preparation, members from each part. This specification is subject to revisions by the implied parts, specially by the potentials usuaries, that will be picked up by successive versions of the document, until reach its approval. Once approved it will serve as base to the equipment of development for the construction of the new system.

1.2. Scope of the system.

This system is required as a result of the increasing complication of the publication workings of documentation of free software.

It's evident the needed of a informatic system that it automates the publication workings of documents in Internet, in such form that are guaranteed the easy location of them and a fast availability to the users.

Using bibliographical norms it can become general the use and application of the system to any type of information susceptible to be classified.

The scope of the developed system reaches until the production of clients and servers for Donantonio, communication protocols between them and user interfaces; preferring the design of a system that can be embedded in other compatible applications so these can as well be compatible applications (clients, servers or interfaces) with Donantonio.

1.3. Definitions, acronyms and abbreviations

1.3.1. Definitions

Resource

Element accessible through a URL susceptible to be classified bibliographically.

Scheme

It describes the syntax of a description.

Description

Instance of a scheme that it identifies by metadata, in a unequivocal way to a resource.

Library

Collection of descriptions.

Server

Node that takes care of donantonio's queries.

Cliente

Node that produce donantonio's queries.

Query

Request of a subgroup of descriptions expressed in a standardized language.

1.3.2. Acronyms

SSR

Specification of Software Requirements

GFDL

GNU Free Documentation License

GPL

GNU Public License

RDF

Resource Description Framework, standard of the World Wide Web Consortium (W3C) for the codification and handling of metadata using the markup language XML.

URL

Uniform Resource Locator, scheme used for the localization of a internet resource.

XML

eXtended Markup Language, standard of the W3C.

1.3.3. Abbreviations

They have not been defined.

1.4. References

- IEEE Recommended Practice for Software Requirements Specification. ANSI/IEEE std. 830, 1998.
- Donantonio: bibliographic system for automatic distributed publication Specifications of requisites for Donantonio. J.J. Amor, D. Escorial and I. Olea, 2000.
- Donantonio's clients. Specifications of requisites for Donantonio. J.J. Amor, D. Escorial and I. Olea, 2000.

1.5. Document's General Vision

This document is formed by three sections. This section is the Introduction and provides a general vision of the SSR. In the Section 2 we give a general description of the system, with the purpose of knowing the main functions what must make the system, the data associate and the factors, restrictions, supposed and dependencies that affect the development, without enter in excessive details. In section 3 the requirements are defined in detail what must satisfy the system.

2. General Description

2.1. Perspective of the Product

The donantonio server will interact with clients, by a protocol that will have to be defined.

2.2. Functions of the system

2.2.1. Publication of resources

The system will allow to publish resources located in any place of Internet.

Each resource will be located by its description, that will be in the Donantonio servers, and therefore, it will not have why to coincide with the publication place of the resource.

2.2.2. Registry of descriptions

Each description will have a publication point, from which a donantonio server incorporates it to his library through the registry process.

2.2.3. Queries and replication of descriptions

The donantonio server will include mechanisms or protocols to admit the total or partial replication of the descriptions solicited by the clients.

For this aim, the servers will have to be able to attend queries of descriptions, for which will be defined the corresponding mechanisms or protocols.

The implanted mechanisms and languages of search in the servers will have to be compatible with those of the clients.

2.3. Restrictions

The system will be free software (in agreement with the GNU-GPL license or similar) and will have to be free those components that it reuses.

The system will be designed according to a client/server model.

The system will based its communications on standard Internet protocols.

The different subsystems must have a simple design and implementation, independent of the platform or the programming language.

The servers must be able to attend the queries in a concurrently way.

2.4. Suppositions and dependencies

2.4.1. Suppositions

It is assumed that the requirements described in this document are stable once is approved by the design team taking care of suggestions of the community. Any request of changes in the specification must be approved by the design team and be managed by the same one.

2.4.2. Dependencies

Although the server functionality is independent, because only it communicates with other clients when these do a request to him, can depend of other servers if, using the client functionality, it replicate from other server information for the maintenance of his own library.

Note: Review this. In fact there is communication

2.4.3. Specific requirements

In this section the it shows the functional requirements that will have to be satisfied by the system. All the requirements exposed here are ESSENTIAL, that is, a system would not be acceptable that does not satisfy some of the requirements presented here. These requirements have been specified considering, among others, the criterion of testing: given a requirement, it would have easily to be demonstrable if it is satisfied or not by the system.

Note: It is convenient to make the "requirements matrix", that confronts the requirements with the verification method.

2.5. Functional requirements

2.5.1. REQ01: Registering descriptions

The server must register descriptions of resources (metadata and the corresponding URL).

2.5.2. REQ02: Visibility of the descriptions

All donantonio server will implement query's mechanisms that allow to select from a client a set of the descriptions that this one has.

2.5.3. REQ03: Transportability of the descriptions

All donantonio server will allow export a selected set of descriptions.

2.5.4. REQ04: Selection of descriptions

All server will implement mechanisms or languages that allow the clients to specify a consultation of their stored resources.

2.5.5. REQ05: Independence between servers

The servers will be independent to be able to give service independently to the clients.

2.5.6. REQ06: Unicity of the descriptions

The descriptions will have to be unique in each library maintained in each server.

2.6. External requirements of interfaces

2.6.1. User Interfaces

2.6.1.1. REQ07: Configurebility

The donantonio server will count with user interfaces what allow to administer all his functions.

2.6.2. Interfaces hardware

Interfaces hardware

2.6.3. Software interfaces

2.6.3.1. REQ08: Communication with other modules

The communication of the donantonio servers with the clients will be made by protocols based on standards that allow to fulfill the other requirements of the system.

2.6.4. Communication's interfaces

2.6.4.1. REQ09: Internet Standard protocols

The servers will communicate with other modules of the system by standard protocols in Internet, whenever it is possible.

2.7. Performance Requeriments

2.7.1. REQ10: Response time

The response times to the interactive queries will have to be reduced, considering a efficient communication network.

2.7.2. REQ11: Concurrency

The system will have to support concurrent attention to the queries.

2.8. Development requisites

2.8.1. REQ12: Life's Cicle.

The chosen life's cycle to develop the system will be the evolutionary prototype, so changes and new functions can be incorporated easily.

2.9. Technological requirements

2.9.1. REQ13: Bibliographical norms

The bibliographical schemes to use in the system will be expressed in RDF.

2.10. Attributes

2.10.1. REQ14: Free Software

The system will be free software and, therefore, any software component that it will be reused will have to be free.

2.10.2. REQ15: Portability

The system will be designed portable. It will have to be possible to implement applications donantonio in diverse languages and platforms.

2.10.3. REQ16: Maintenance

The system is susceptible to be extended. Therefore it will have to be designed easily supported, applying for his development the methodologies what it be precise for that.

2.11. Other requisites

3. Appendices

3.1. Licence

Donantonio: Specification of Software Requirements

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