Clientes Donantonio

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 distribuited 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.

Client

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 distribuited publication Specifications of requisites for Donantonio. J.J. Amor, D. Escorial and I. Olea, 2000.
- Donantonio's servers. 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 client will interact with servers, by a protocol that will have to be defined.

2.2. Functions of the system

2.2.1. Resources access

The client will be able to obtain from the donantonio's servers the information that the administrator determines, in form of sets of descriptions of resources (metadata).

The metadata that the clients get describe the resource, and this will not be necessarily located in the server what have provided the description.

2.2.2. Local Library

The client will maintain, with the got descriptions of the servers, a local library that adjusts to the requirements of the administrator of the client.

2.2.3. Queries and replication of descriptions

The donantonio clients will include mechanisms or protocols to make a total or partial replication of the stored descriptions in a server.

The clients, for this aim, will elaborate queries in a certain language that will have to be defined. The query language will allow to get as answer one or more descriptions, based on the pattern of query used.

2.2.4. Access of the user to resources

The client or the library of the client will have to accept also queries of information that interactively an user makes, through an application of the kind of *donantonio user interface.*.

2.2.5. Access of the user to configuration

The client could be configured from an user's interface. To configure a client must be understood to establish of what servers are going to obtain the data, and how (by of what queries).

2.3. User Features

The user's interfaces that can be required for this application will have to be intuitive for handling, easy to learn and simple to handle. The system will have to display a high degree of usability.

2.4. 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.

Note: The requirement "the clients must be able to take care of several user requests simultaneously" seems more than a present requirement an interesting improvement...

2.5. Suppositions and dependencies

2.5.1. 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.

2.5.2. Dependencies

The Donantonio client requires to communicate with servers to keep his library. Therefore there is a dependency of the functionality that offers these.

3. Specific requirements

In this section the it shows the functionalrequirements 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.

3.1. Functional requirements

3.1.1. REQ01: Selection of descriptions

All donantonio client will implement queries mechanisms that allow to access in a server to a set of the descriptions that this one have.

3.1.2. REQ02: Replication of descriptions

All donantonio client will be able to replicate a set of descriptions obtained from a donantonio server by a criteria of selection of the defined in REQ01.

3.1.3. REQ03:Storage of descriptions

All client will have a local library where it will store the descriptions that it obtains by means of queries to the servers.

3.1.4. REQ04: Unicity of the descriptions

The descriptions will have to be unique in the library of each client.

3.1.5. REQ05: Queries Programming

All client will internally store the different queries what will make periodically to update the content of his library. The programming of queries will consist of adjust all the necessary information to execute them (the own query, the server against which it is executed and when it is executed).

3.2. Extern interfaces requisites

3.2.1. User's interfaces

3.2.1.1. REQ06: User interface.

The donantonio client will be able to configure all its functions by a user interface easy to use.

3.2.2. Hardware's interfaces

They have not been defined

3.2.3. Software's interfaces

3.2.3.1. REQ07: Communication with other modules

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

3.2.4. Communication interfaces

3.2.4.1. REQ08: Standard protocols in Internet

The servers, clients and applications donantonio will communicate to each other through standard protocols in Internet, whenever it is possible. For example, to transfer files (resources or blocks of descriptions) existing protocols will have to be used (FTP or another convenient one).

3.3. Performance Requeriments

3.3.1. REQ09: Response time

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

3.4. Development requisites

3.4.1. REQ10: 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.

3.5. Technological requirements

3.5.1. REQ11: Bibliographical norms

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

3.6. Attributes

3.6.1. REQ12: Free Software

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

3.6.2. REQ13: Portability

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

3.6.3. REQ14: 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.

3.7. Other requisites

4. Appendices

4.1. Licence

Donantonio: Specification of Software Requirements