# Record Management and Backup System

Version 1.0.0.0

**Software**

**Requirement**

**Specification**

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1. PROJECT DRIVERS

* 1. Purpose

The purpose of this document is to familiarize reader with software. Specification describes all hardware and software requirements for product, behavior of it and its components. Software Requirements Specification (SRS) allows to verify the customer that all his requirements are observed and implemented correctly by developer.

* 1. Scope

The software will reflect all the requirements defined by the customer. Record Management and Backup System will allow the user to draw graphs automatically using the software.

The design of product interface to be developed will be supported by Windows 7 64-Bit Operating System. User interfaces will be ergonomically and easy-to-use.

* RMBS- Record Management and Backup System
* SRS – Software requirements specification
* PC – Personal Computer
* HDD - Hard Disc Drive
* RAM – Random Access Memory
* IE – Microsoft Internet Explorer

1.4 Client, Customer and other Stakeholders

1.4.1 The *client* is the person/s who pays for the development, and owner of the delivered system.

All client remarks will be improved immediately. Product deliverables have appropriated project schedule, approved by the client.

1.4.2 The customer is the person/s who will buy the product from the client.

In our case, the roles of the client and the customer are filled by the same company.

1.4.3 Stakeholders include:

* End - Users (detailed in section 1.5)
* Customer
* Project Manager
* Requirements Engineer
* System Designer
* System Tester
* System Administrator
* Configuration Manager

SRS identifies each type of stakeholder:

**Table 1. End - Users**

|  |  |
| --- | --- |
| Stakeholder Identification | End - Users |
| Knowledge needed by the project | Basic knowledge of Microsoft Windows-based interfaces |
| Necessary degree of stakeholder’s involvement | Low. End – Users are not involved in software development, just in some kinds of sociological surveys |
| Degree of influence for that stakeholder | High. Software to be developed to satisfy first of all the End-Users. |

**Table 2. Customer**

|  |  |
| --- | --- |
| Stakeholder Identification | Customer |
| Knowledge needed by the project | Customer’s requirements, Project plan, business modeling and forecasting. |
| Necessary degree of stakeholder’s involvement | Middle. Customer supervises project, establishes budget |
| Degree of influence for that stakeholder | High. Software development process may be canceled by Customer. |

**Table 3. Project Manager**

|  |  |
| --- | --- |
| Stakeholder Identification | Project Manager |
| Knowledge needed by the project | Project plan creating, computer skills. |
| Necessary degree of stakeholder’s involvement | High. Project Manager supervises project, establishes team, provides deadlines, negotiates with customer. |
| Degree of influence for that stakeholder | High. All development process requires constant control and decision making from Project Manager, |

**Table 4. Requirements Engineer**

|  |  |
| --- | --- |
| Stakeholder Identification | Requirements Engineer |
| Knowledge needed by the project | SRS creating, computer skills. |
| Necessary degree of stakeholder’s involvement | High. Requirements Engineer summarizes requirements provided by customer, updates them. |
| Degree of influence for that stakeholder | Middle. Requirements Engineer defines SRS under strict Customer and Project Manager control |

**Table 5. System Designer**

|  |  |
| --- | --- |
| Stakeholder Identification | System Designer |
| Knowledge needed by the project | Computer-based Design tools, Internet technologies |
| Necessary degree of stakeholder’s involvement | High. System Designer defines all software interfaces, how the product will look like, providing success of product from the End – Users point of view. |
| Degree of influence for that stakeholder | Low. System Designer will not use product to be developed in appropriate way. |

**Table 6. System Tester**

|  |  |
| --- | --- |
| Stakeholder Identification | System Tester |
| Knowledge needed by the project | Computer-based Testing tools, Internet technologies, Testing requirements and specifications. |
| Necessary degree of stakeholder’s involvement | Middle. System Tester is looking for mistakes in software and verify product’s possibilities. |
| Degree of influence for that stakeholder | Low. System Tester will not use product to be developed in appropriate way. |

**Table 7. System Administrator**

|  |  |
| --- | --- |
| Stakeholder Identification | System Administrator |
| Knowledge needed by the project | Strong computer skills, Internet and network technologies. |
| Necessary degree of stakeholder’s involvement | Low. System Administrator is not involved in software development process. |
| Degree of influence for that stakeholder | Middle. System Administrator will maintain and install product. |

**Table 8. Configuration Manager**

|  |  |
| --- | --- |
| Stakeholder Identification | Configuration Manager |
| Knowledge needed by the project | Computer-based Testing tools, Internet technologies, Testing requirements and specifications. |
| Necessary degree of stakeholder’s involvement | High. Configuration Manager responsible for project repository, project web pages. |
| Degree of influence for that stakeholder | Middle. Configuration Manager must follow job description and deadlines, to prove his/her quality. |

1.5 Users of the Product

**1.5.1 The Users of the Product**

Potential Users of the RMBS are organizations or institutes.

**Table 8. Users**

|  |  |
| --- | --- |
| User name | End Users |
| User role | To use RMBS for updating and retaining information. |
| Subject matter experience | MANUAL. Everything was done manually. This software is adopted for manual to automation conversion. |
| Technological experience | Basic computer skills are obligatory. |
| Intellectual abilities/disabilities | Middle intellectual abilities |
| Age group | Retirement age for employees |

**1.5.2 Viewpoints**

This project consists of several stakeholders, which were defined above. The viewpoint model is deliberately flexible and informal. Viewpoints can be adapted to specific organizational practice and standards as can the notations used to describe system requirements. Viewpoints may be used during the early stages of a requirements engineering process as a structuring mechanism for requirements elicitation and analysis. Identifying viewpoints and organizing information around them at this stage reduces the possibility that critical information will be missed during requirements elicitation and provides a traceability mechanism for linking requirements with their sources. Let us define the following model of stating a viewpoint PREview:

The viewpoint *name*.

The viewpoint *focus*.

The viewpoint *concerns*.

The viewpoint *sources*.

The viewpoint *requirements*.

**Table 10**: **Users viewpoint**

|  |  |
| --- | --- |
| **Name** | Users |
| **Focus** | Saving and Updating records |
| **Concerns** | To familiarize users with software functions |
| **Source** | Requirements specification from the Customer |
| **Requirements** | * Create a new record. * Updating the records. * Searching the records. * Backing up the records. * Viewing the backups. |

**Table 11**: **Project manager viewpoint**

|  |  |
| --- | --- |
| **Name** | Project manager |
| **Focus** | Team establishment, project plan creating, control software development process, follow schedule provided by the Customer |
| **Concerns** | RMBS creation according to deadlines |
| **Source** | Job description |
| **Requirements** | * Follows deadlines and budget * Responsible for all deliverables * Easy communication with team and the Customer * All project stages should be fully documented * MS Word * Internet connection * MS IE, Netscape or Opera browsers |

**Table 12**: **Requirements engineer viewpoint**

|  |  |
| --- | --- |
| **Name** | Requirements engineer |
| **Focus** | Requirements specification creating, customer interviewing, collect and specify requirements |
| **Concerns** | Constantly updating SRS accordingly customer’s requirements |
| **Source** | Requirements specification from the Customer |
| Requirements | * Requirements from Students, Customer and team members should be prepared * Requirements should be clear, complete and consistent * MS Word * Internet connection * MS IE, Netscape or Opera browsers |

**Table 13: System Designer viewpoint**

|  |  |
| --- | --- |
| **Name** | System Designer |
| **Focus** | Design user interfaces, creation of design specification document |
| **Concerns** | Formal design |
| **Source** | Project plan, requirements specification from the Customer |
| **Requirements** | * Clear and complete SRS * Adobe Photoshop * MS Word * Internet connection * Windows 7 64-Bit |

**Table 14: System Tester viewpoint**

|  |  |
| --- | --- |
| **Name** | System Tester |
| **Focus** | Design testing strategies, creation testing documents, realize test cases |
| **Concerns** | Validation of software quality |
| **Source** | Requirements specification from the Customer  ISO 9001 Standards |
| **Requirements** | * Knowledge of software to be tested * Testing tools * MS Word * Internet connection * Windows 7 64-Bit |

**Table 15: System Administrator viewpoint**

|  |  |
| --- | --- |
| **Name** | System Administrator |
| **Focus** | Maintenance of RMBS |
| **Concerns** | RMBS maintenance and troubleshooting |
| **Source** | Inner SRS from Requirement Engineer, Internet and LAN specifications |
| **Requirements** | * Licensed software with automatically update tools * MS Word; * Internet connection * Windows 7 64-Bit |

Table16: Configuration Manager viewpoint

|  |  |
| --- | --- |
| **Name** | Configuration Manager |
| **Focus** | Configuration and change management, project repository control, project web-pages maintenance and follow calendar of events |
| **Concerns** | Change control to achieve Quality assurance required by the Customer |
| **Source** | Inner company’s SRS  Job description |
| **Requirements** | * All hardware and software should be available * Adobe Acrobat Reader * Internet connection * Windows 7 64-Bit |

2. Project Constraints

**2.1 Mandated Constraints**

Next items must be used to verify software:

* + 1. For user home PC workstation

Hardware

* IBM-compatible PC with PentiumΙ processor and higher
* 500Mbytes free space on HDD
* 1 Gbytes RAM
* Internet connection

Software

* MS Windows XP/7/8

**2.2 Partner applications**

There are some applications that are not part of the product but with which the product will collaborate. This section can be completed, by including written descriptions, models or references to other specifications.

* ISO/OSI model
* TCP/IP specifications
* LAN’s specifications
* SMTP/POP e-mail protocols description

**2.3 Schedule**

The Schedule is presented by the Project Manager.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Deliverable** | **Deadline** | **Time** | **Extended** | **Objective** |
| Project Plan | April 10, 2014 | 10:00 | NO | Reached |
| Requirements documentation | April 10, 2014 | 10:00 | NO | Reached |
| Implementation Plan | April 11, 2014 | 12:00 | YES |  |
| Project binder | May 5, 2014 | 12:00 | NO |  |

**2.4 Budget**

Budget is not completely assigned to the Project.

3. FUNCTIONAL REQUIREMENTS

**3.1 The Scope of the Work**

Software to be developed should be providing all necessary action for minimizing the manual plotting of graphs and for higher calculations.

1. To optimize work and time.
2. To expand services.
3. To check ability of commercial using of RMBS.

The RMBS doesn’t require internet access.

**3.2 The Scope of the Product**Features provided by the RMBS:

1. Creating and saving new records.
2. Allow help menu.
3. System will allow updating certain records.
4. System will allow searching the records based on keywords.
5. System will help user to create backup of the records.
6. Possibility of backup management (Deleting, copying and moving backups).
7. Easy user interface.

**3.3 Functional requirements**

Functional requirements are the following:

* 1. The RMBS should be creating and saving new data with all the relevant information.
  2. The RMBS should be useful in updating the records.
  3. The RMBS should allow an easy searching of a particular record.
  4. The RMBS should allow the printing of the records.
  5. The RMBS should allow retaining data in external documents like ms word, ms excel or txt.

**4**. **Non - Functional Requirements**

**4.1 Look and Feel Requirements**

According to the Customer requirements, the RMBS should include following interfaces:

* + The RMBS interfaces will be based on C# application. Differences will depend on users’ functions.
  + The RMBS interface for system administrator will include C# application.
  + Desktop Interface- It will provide an easy way to access the application.

**4.2 Usability Requirements**

* Ergonomically and clear interface.
* The interface should contain prompts and help to avoid making mistakes.
* The product should be used by people with no training.

**4.3 Performance Requirements**

* + Any interface between a user and RMBS should have a maximum response time of 5 seconds
* The response should be fast enough to avoid users’ response collisions
* The RMBS should be available for use 24 hours per day, 365 days per year.

**4.4 Operational Requirements**

* + The RMBS should be used on IBM-compatible workstations with 500Mbytes free space on HDD for workstations.
  + The RMBS should be correctly implemented in Windows 7 64-Bit.
  + The RMBS should correctly interface if MS Access applications and MS SQL Server

**4.5 Maintainability and Portability Requirements**

* + Changes must be verified once per day at least.
  + The RMBS is expected to run under MS Windows XP/7/8.­­­

**4.6 Security Requirements**

* + The RMBS should provide authentication and authorization process for the organization.
  + Access to the RMBS is permitted as per the organization or institution.

**4.7 Legal Requirements**

* Personal information should be protected.
* The RMBS should comply with quality assurance standards.
  + 1. Project Issues
  1. **Open Issues**

Requirements elicitation haven’t yet completed, thus SRS are constantly updated by Requirements Engineer.

**5.2 User’s Documentation and Training**

User documentation is under construction now and will be available accordingly to schedule. System Designer will present guide of User’s Interfaces.

6. References:

[1] Volere Requirements Specification Template

<http://www.volere.co.uk/template.rtf> [cited 12.11.02]

[2]Software Requirements Specification (SRS) Template.  [http://swiki.cc.gatech.edu:8888/uploads/cs4320/145/Srs.doc](http://irmc.state.nc.us/documents/approvals/reporting/SRSPLAN.doc) [cited 10.11.2002]

[3] Project-Based Software Engineering Homepage

<http://www.it.lut.fi/kurssit/02-03/010752000/projects.html>

7. Appendix 1. System Models

**Scenarios**

The following stages describe main scenarios performed by the RMBS:

* Creating and saving records.
* Updating records
* Printing records
* Saving in external files
* Effecting searching of data
* Backup management

#### **Scenario 1**

|  |  |
| --- | --- |
| **Name** | Creating and saving records |
| **Actors** | Employees or students |
| **Preconditions** | Knowledge of standard Windows environment. |
| **Description** | User opens the program and enters the required information. |
| **End Result** | Data is saved in the database. |

#### 

#### **Scenario 2**

|  |  |
| --- | --- |
| **Name** | Updating records |
| **Actors** | Employees or students |
| **Preconditions** | Correctly installed database |
| **Description** | Updates the already present record |
| **End Result** | Database is updated |

#### **Scenario 3**

|  |  |
| --- | --- |
| **Name** | Printing the records |
| **Actors** | Employees or students |
| **Preconditions** | Correctly installed operating system |
| **Description** | Print preview |
| **End Result** | Printing dialogue will open |

#### **Scenario 4**

|  |  |
| --- | --- |
| **Name** | Saving data in external file |
| **Actors** | Employees or students |
| **Preconditions** | Correctly installed MS Office, MS Excel, Notepad |
| **Description** | Will save the records in external files |
| **End Result** | Records will be portable |

#### **Scenario 3**

|  |  |
| --- | --- |
| **Name** | Effective Searching of data |
| **Actors** | Employees or students |
| **Preconditions** | Correctly installed operating system and database |
| **Description** | Searching options are provided |
| **End Result** | Search results are displayed in the area |

#### **Scenario 3**

|  |  |
| --- | --- |
| **Name** | Backup Management |
| **Actors** | Employees or students |
| **Preconditions** | Correctly installed operating system and MS Excel |
| **Description** | Allow the user to create backup |
| **End Result** | Backup of the records is created |