**SOFTWARE REQUIREMENT SPECIFICATION**



**SRM System**

**HIT Team**

Consulting

Sales

Staffing

Support

Information of document

|  |  |
| --- | --- |
| Title | Software Requirement Specification |
| Author(s) | All team |
| Reviewer(s) | All team |
| Team name | HIT Team |
| Team members | Thanh Giang, Hiep Ta, Phuc Nguyen, Giang Nguyen, Dat Tran, Huy Huynh |
| Project mentors | Mr. Tong Hung Anh |
| Editor | Hiep Ta |
| Type of report | Software Requirement Specification |
| Software used | MS Word |

Document Reviewer Information

|  |  |  |
| --- | --- | --- |
| Reviewer Name | Review Attendance (R/S) | Comments |
|  |  |  |
|  |  |  |
|  |  |  |

Document Approver Information

|  |  |  |
| --- | --- | --- |
| Approver Name | Approver Function | Comments |
|  |  |  |
|  |  |  |
|  |  |  |

Document Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| Revision Number | Date of Issue | Author(s) | Brief Description of Change |
| 1.0 | 28/05/2012 | Thanh Giang | Write SRS Draft |
| 1.0 | 08/06/2012 | Huy Huynh | Update Static Perspective |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

# Table of Contents

[Table of Contents 3](#_Toc332012865)

[1. Introduction 5](#_Toc332012866)

[1.1. Purpose 5](#_Toc332012867)

[1.2. Intended Audience and Reading Suggestions 5](#_Toc332012868)

[1.3. Project Background and Scope 5](#_Toc332012869)

[1.3.1. Background 5](#_Toc332012870)

[1.3.2. Scope 6](#_Toc332012871)

[1.4. References 6](#_Toc332012872)

[2. Overall Description 7](#_Toc332012873)

[2.1. Product Features 7](#_Toc332012874)

[2.2. User classes and characteristics 8](#_Toc332012875)

[2.3. User Documentation 8](#_Toc332012876)

[2.4. Technical Constraints 9](#_Toc332012877)

[2.5. Business Constraints 9](#_Toc332012878)

[2.6. Functional Requirements 10](#_Toc332012879)

[2.7. Non- Functional Requirements 10](#_Toc332012880)

[2.7.1. List of Quality Attributes 10](#_Toc332012881)

[2.7.2. Quality Scenarios 11](#_Toc332012882)

[2.7.2.1. Performance 11](#_Toc332012883)

[2.7.2.2. Availability 12](#_Toc332012884)

[2.7.2.3. Security 13](#_Toc332012885)

[2.7.2.4. Usability: 14](#_Toc332012886)

[3. System Use-case 15](#_Toc332012887)

[3.1. List of Business rules 15](#_Toc332012888)

[3.2. List of Entities 15](#_Toc332012889)

[3.3. Detail Entity 16](#_Toc332012890)

[3.4. Use case 19](#_Toc332012891)

[3.4.1. Use-Case List 19](#_Toc332012892)

[3.4.2. Use-case Diagram and Use-case Description 19](#_Toc332012893)

[3.4.2.1. Use-case Diagrams Level 1 21](#_Toc332012894)

[3.4.2.2. Use-case Diagrams Level 2 22](#_Toc332012895)

[ **Use case Change password** 25](#_Toc332012896)

[ **Use case Create new user account** 26](#_Toc332012897)

[ **Use case Edit account information** 29](#_Toc332012898)

[ **Edit account information for Admin** 30](#_Toc332012899)

[ **Use case show accounts by list** 32](#_Toc332012900)

[ **Use case analysis statistic** 33](#_Toc332012901)

[ Import Student record data 34](#_Toc332012902)

[ **View student records** 36](#_Toc332012903)

[ **Update student record** 36](#_Toc332012904)

[3.5. External Interface Requirements 38](#_Toc332012905)

[4. Prioritization 39](#_Toc332012906)

[4.1. Priority scale 39](#_Toc332012907)

[4.1.1. Team priority (Difficulty ranking scale) 39](#_Toc332012908)

[4.1.2. Stakeholder priority (Important scale) 39](#_Toc332012909)

[4.2. Use-case 39](#_Toc332012910)

[4.3. Quality Attributes 40](#_Toc332012911)

[4.4. Constraints 40](#_Toc332012912)

[4.4.1. Technical Constraints 40](#_Toc332012913)

[4.4.2. Business Constraints 41](#_Toc332012914)

# Introduction

## Purpose

Base on the needs of student information’s management for Van Lang University, HIT Team shall provide to all customers SRM (Student Record Management) product - an advanced tool to manage student records

The SRS enumerates the deliverables and services to be provided by The Hit Team to the client, describe overview the system and detail functional and also non-functional of the SRM System. This document is intended to be used by the members of the project team.

* To supports the project manager captures overview of the system and improves project estimation.
* To supports the architect analyst captures architectural drivers and implements the system easily.
* To supports tester writes test plan and acceptance test.

Its intent is to level-set expectations and to build understanding of the process that the team will follow while creating deliverables.

## Intended Audience and Reading Suggestions

|  |  |
| --- | --- |
| Intended Audience | Reading Suggestions |
| Project Manager | Section 3 – System Features: Describe functions in details and constrains to make the Project Manager has an overview. So he can have the estimates for the project. |
| Software Architecture and Designer | Appendix 2: This section describes Use-case diagram and Use-case descriptions. It makes easily to design and develop the proposed system. |
| Tester | The Overview section and Use case: they will help to make the test plan and write the acceptance test |

Table 01: List of Intended Audience

## Project Background and Scope

* + 1. Background

Van Lang University (VLU) is facing with an urgent problem in the management of student records because the number of students is increasing. VLU was founded 15 years and has 15 Faculty / Department training distributed in two facilities. The total student population of about 12,000 students and university receives about 3,000 students yearly

Difficulties:

* When start the school year, VLU have to hire many external employees to input record in several days so the operation is done manually so it very difficult and consume time
* Faculties/ Departments cannot report the number of record received during the day, statistical reports must wait until the record receiving process end.
* Process using tools such as paper documents, Excel file, Word file to the manage records of all students will make it hard to search later
  + 1. Scope

Student come to VLU yearly to perform admission procedures, they must bringing matriculated paper and other records to VLU. Firstly student have to pay the tuition at accounting agent and then go through take photograph, finally bring all to the faculty to complete admission process

The system does not manage the paying process, taking pictures; only manage the record submission process in the faculty.

Customers Want:

* Report about the number of received record to date for human resources office or managing board can see updated information promptly.
* The input records will be encrypted to management software student information, do not need to input again.
* The finding information faster without losing time as searches in paper or Excel file
* Statistics in the form of selecting a date, selecting faculty or by the total number of passing students

Software product SRM is developed to solve problems in current processes, as well as help users manage the profile of student at the university more effectively.

## References

Software requirements specification template by Karl E. Wiegers, Process Impact www.processimpact.com

# Overall Description

## Product Features

****

## User classes and characteristics



Context Diagram: Show the interaction between actor and system

## User Documentation

|  |  |  |  |
| --- | --- | --- | --- |
| ID | Support as | Description | Format standard |
| 1 | Catalog Guide | The catalog is described in detail how to use  Describe the basic features  Artwork clearly and fully | It is formatted as Window Form and it is integrated in Help menu of the SRM product |
| 2 | Online Support | Our team will be online to help the user. |  |

Table 03: List of User Document

## Technical Constraints

A collection of information that the end user will enter into the tool. This collection will include: ID, Title, and Consideration.

|  |  |  |
| --- | --- | --- |
| ID | Consideration | Technical Constraints |
| TC01 | Tools and methods | The tool willutilize Visual Studio 2010, SQL Server Management Studio 2008, .Net Framework, MVC 3.0, Entity Framework, WEB Browser |
| TC02 | System will use SQL Server Management Studio 2008to store data. |
| TC03 | The system will be built using ASP.Net |
| TC04 | Standards | The team will use the coding standards of customer |
| TC05 | Commercial hardware or software products | System includes hardware components such as a computer, printer, and software to run the system. |
| TC06 | Protocols, interfaces, standards. | TCP/IP protocol |
| TC07 | Computer operating system(s) | Window 7 |
| TC08 | Computer languages(s) | C# |
| TC09 | POS software | Software can run on any computer with an Internet connection and web browser, without additional software. |

Table 04: List of Technical Constraints

## Business Constraints

A collection of information that the end user will enter into the tool. This collection will include: ID, Title, and Consideration.

|  |  |  |
| --- | --- | --- |
| ID | Consideration | Business Constraints |
| BC01 | Implement Time | System will be developed from 5/18/2012 to 8/10/2012 |
| BC02 | Organizational restrictions and demands | System will be developed with team that includes six members |
| BC03 | Demo | Demo functions: Import SR, Update SR and Print invoice |
| BC04 | Market restrictions and demands | Produced only for Van Lang University |
| BC05 | Time Working | System is always available from 8:00 a.m. to 6:00 p.m. |

Table 05: List of Business Constraints

## Functional Requirements

***View detail in*** ***[SRM\_Functional Requirement List\_ver0.1.xls.](D:\\HIT Team\\SEP\\Artifact & Deliverable\\Requirement\\OSP_ReM_Functional Requirement List 1.7.xlsx)***

## Non- Functional Requirements

This section gives a snapshot of all the scenarios, the quality attribute they refer to and their priority. The difficulty level for each scenario is based on the team’s judgment. It would be used for internal analysis and estimation purposes.

|  |  |  |
| --- | --- | --- |
| No. | Quality Attribute | Description |
| 01 | Availability | Concerned with system failure and its associated consequences. A system failure occurs when the system no longer delivers a service consistent with its specification |
| 02 | Performance | Indication of responsiveness of a system to execute any action within a given time interval. It can be measured in terms of latency or throughput. Latency is the time taken to respond to any event. Throughput is the number of events that take place within a given amount of time |
| 03 | Security | The capability of a system to prevent malicious or accidental actions outside of the designed usage, and to prevent disclosure or loss of information. A secure system aims to protect assets and prevent unauthorized modification of information |
| 04 | Usability | Defines how well the application meets the requirement of the user and consumer by being intuitive, easy to localize and globalize, providing good access for disabled user, and resulting in a good overall user experience |

Table 6: Non- Functional Requirements

* + 1. List of Quality Attributes

|  |  |  |
| --- | --- | --- |
| Quality Attributes | QA\_ID | Short Description |
| Performance | QA\_P01 | The received student record officer update student record quickly |
| QA\_P02 | Import student record quickly |
| QA\_P03 | Print invoice quickly |
| Availability | QA\_A01 | Primary database has been crash |
| Security | QA\_S01 | Unauthorized access |
| QA\_S02 | Authorized access |
| Usability | QA\_U01 | Use the system efficiently |
| Reusability | QA\_R01 | The received student record officer print invoice while the system is operating normally, the system will print invoice and notice print successfully |

Table 07: List of Quality Attributes

* + 1. Quality Scenarios

A collection of information that the end user will enter into the tool. This collection will include: Title of scenario, ID, Quality attribute, Description of stakeholder’s role, Source of the stimulus, Stimulus, Relevant environmental conditions, Architectural elements, System response, and Response measure.

* + - 1. Performance
* Scenario ID: QA\_P01

|  |  |  |  |
| --- | --- | --- | --- |
| Title of scenario: The received student record officer update student record | | ID: QA\_P01 | Version: 1.1 |
| **Last Changed:** 07/07/2012 |
| Quality attribute: Performance | | **Characterization ID:** QA1 | |
| Describe stakeholder role proposing the description: The received student record officer | | | |
| Source(s) of the stimulus | The received student record officer | | |
| Stimulus | Update student record | | |
| Relevant environmental conditions | Normal operation | | |
| Architectural elements | System and the information in the system | | |
| System response | The system update student record information and response update success | | |
| Response measure(s) | Response within 3 seconds | | |
| Associated risks |  | | |

* Scenario ID: QA\_P02

|  |  |  |  |
| --- | --- | --- | --- |
| Title of scenario: Import student record | | ID: QA\_P02 | Version: 1.1 |
| **Last Changed:** 07/07/2012 |
| Quality attribute: Performance | | **Characterization ID:** QA1 | |
| Describe stakeholder role proposing the description: Administrator , The faculty monitor , the training department officer | | | |
| Source(s) of the stimulus | Administrator , The faculty monitor , the training department officer | | |
| Stimulus | **I**mport student record | | |
| Relevant environmental conditions | Normal operation | | |
| Architectural elements | System | | |
| System response | The system import student record information and response import success | | |
| Response measure(s) | Response within 15 seconds | | |
| Associated risks |  | | |

* Scenario ID: QA\_P03

|  |  |  |  |
| --- | --- | --- | --- |
| Title of scenario: Print invoice | | ID: QA\_P03 | Version: 1.1 |
| **Last Changed:** 07/07/2012 |
| Quality attribute: Performance | | **Characterization ID:** QA1 | |
| Describe stakeholder role proposing the description: The received student record officer | | | |
| Source(s) of the stimulus | The received student record officer | | |
| Stimulus | Print invoice after update student record information | | |
| Relevant environmental conditions | Normal operation | | |
| Architectural elements | System and the information in the system | | |
| System response | The system connect to print machine and print invoice | | |
| Response measure(s) | Response within 5 seconds | | |
| Associated risks |  | | |

* + - 1. Availability
* Scenario ID: QA\_A01

|  |  |  |  |
| --- | --- | --- | --- |
| Title of scenario: Primary database has been crash | | ID: QA\_A01 | Version: 1.1 |
| **Last Changed:** 07/07/2012 |
| Quality attribute: Availability | | **Characterization ID:** QA2 | |
| Describe stakeholder role proposing the description: The received student record officer, Administrator , The faculty monitor , the training department officer | | | |
| Source(s) of the stimulus | Database | | |
| Stimulus | Primary database has been crash | | |
| Relevant environmental conditions | Normal operation | | |
| Architectural elements | System and the information in the system | | |
| System response | The system operation normal | | |
| Response measure(s) | No downtime | | |
| Associated risks |  | | |

* + - 1. Security
* Scenario ID: QA\_S01

|  |  |  |  |
| --- | --- | --- | --- |
| Title of scenario: Unauthorized access | | ID: QA\_S01 | Version: 1.1 |
| **Last Changed:** 07/07/2012 |
| Quality attribute: Security | | **Characterization ID:** QA3 | |
| Describe stakeholder role proposing the description: The received student record officer, Administrator , The faculty monitor , the training department officer | | | |
| Source(s) of the stimulus | Unauthorized | | |
| Stimulus | Try access the system | | |
| Relevant environmental conditions | Normal operation | | |
| Architectural elements | System and the information in the system | | |
| System response | The system stop unauthorized access | | |
| Response measure(s) | Prevent action and announce to system immediately | | |
| Associated risks |  | | |

* Scenario ID: QA\_S02

|  |  |  |  |
| --- | --- | --- | --- |
| Title of scenario: Authorized access | | ID: QA\_S02 | Version: 1.1 |
| **Last Changed:** 07/07/2012 |
| Quality attribute: Security | | **Characterization ID:** QA3 | |
| Describe stakeholder role proposing the description: The received student record officer, Administrator , The faculty monitor , the training department officer | | | |
| Source(s) of the stimulus | The received student record officer, Administrator , The faculty monitor , the training department officer | | |
| Stimulus | Login in to the system | | |
| Relevant environmental conditions | Normal operation | | |
| Architectural elements | System and the information in the system | | |
| System response | The system authorization for users by account type | | |
| Response measure(s) |  | | |
| Associated risks |  | | |

* + - 1. Usability:

The received student record officer, wanting to print invoice quickly, wishes to use the system efficiently

|  |  |  |  |
| --- | --- | --- | --- |
| Title of scenario: Use the system efficiently | | ID: QA\_U01 | Version: 1.1 |
| **Last Changed:** 07/07/2012 |
| Quality attribute: Usability | | **Characterization ID:** QA3 | |
| Describe stakeholder role proposing the description: The received student record officer, Administrator , The faculty monitor , the training department officer | | | |
| Source(s) of the stimulus | The received student record officer, Administrator , The faculty monitor , the training department officer | | |
| Stimulus | Wish to use the system function easily and quickly | | |
| Relevant environmental conditions | Normal operation | | |
| Architectural elements | System and the information in the system | | |
| System response | The system design friendly and easy to use | | |
| Response measure(s) | Time to operation task | | |
| Associated risks |  | | |

# System Use-case

## List of Business rules

|  |  |  |
| --- | --- | --- |
| **ID** | **Description** | **Use case** |
| BR01 | The Faculty Monitor, The Received Student Record Officer can only import Student Record for Faculty | UC.BF.001 |
| BR02 | Administrator, The Training Department Officer have authority to import student record of any Faculty or all university | UC.SR.001 |
| BR03 | The Faculty Monitor, The Received Student Record Officer can only see statistic about received records per total number of records of their Faculty | UC.BF.004 |
| BR04 | The Faculty Monitor can manage staff account in their Faculty | UC.UM.001 |
| BR05 | The Management Committee, The Human Resource Department Officer, The Training Department Officer can only see statistic about received records per total number of records in Faculty or overall university | UC.BF.004 |

Table 08: List of business rules

## List of Entities

A collection of information that the end user will enter into the tool. This collection will include: Name, ID, Description, Provides Assumptions, Requires Assumptions, Identified user cases.

|  |  |  |
| --- | --- | --- |
| ID | Name | Description |
| E01 | Administrator | * To have full access to the system. * Manage all kind of user account * Import Student Record for School |
| E02 | The Faculty Monitor | * Manage user account works for their faculty * Analysis statistics and report about the number received student records of their faculty * Import Student Record for Faculty |
| E03 | The Received Student Record Officer | * Update student record of their faculty * Analysis statistics and report about the number received student records of their faculty * Import Student Record for Faculty |
| E04 | The Training Department Officer | * Import Student Record for School * Analysis statistics and report about the number received student records of school |
| E05 | The Human Resource Department Officer | * Analysis statistics and report about the number received student records of school |
| E06 | The Management Committee | * Analysis statistics and report about the number received student records of school |

Table 09: List of Entities

## Detail Entity

|  |  |
| --- | --- |
| ENTITY NAME: Administrator | ENTITY ID: E01 |
| Description: The administrator is a human of system that will responsible for manage user account, Import Student Record for School. This user may have training in process of system but no special computer straining for the user of system is assumed. | |
| Provide Assumptions:   * The administrator will provide for system: * Textual user account information for creation and configure user account of system * Student Records for importing to the system | |
| Requires Assumptions:  System will provide:   * An environment to aid in manager user account * A ability to creating a new user account, search, modify user information * A ability to importing student records | |
| Identified Use cases: | |

|  |  |
| --- | --- |
| ENTITY NAME: The Faculty Monitor | ENTITY ID: E02 |
| Description: The Faculty Monitor is a human of system that will responsible for manage their faculty members, Analysis statistics and report about the number received student records of their faculty, Import Student Record for Faculty. This user may have training how to use the system (environment is supported by software and hardware). | |
| Provide Assumptions:  The store manager will provide for system:   * Textual member information to manage member * Student Records of that faculty for importing to the system | |
| Requires Assumptions:  The system will provide:   * An environment to aid in management member * A abilities for creation and configuration member information * A ability to importing student records * The parameter for analysis and statistics received student record’s figure | |
| Identified Use cases: | |

|  |  |
| --- | --- |
| ENTITY NAME: The Received Student Record Officer | ENTITY ID: E03 |
| Description: The Received Student Record Officer is a human of system that will responsible for Update student record of their faculty, Analysis statistics and report about the number received student records of their faculty. This user may have training how to use the system (environment is supported by software and hardware). | |
| Provide Assumptions:  The store manager will provide for system:   * Student Records information of that faculty for updating to the system * Student Records of that faculty for importing to the system | |
| Requires Assumptions:  The system will provide:   * An environment to aid in management student records * A abilities for updating student record information * A ability to importing student records * The parameter for analysis and statistics received student record’s figure | |
| Identified Use cases: | |

|  |  |
| --- | --- |
| ENTITY NAME: The Training Department Officer | ENTITY ID: E04 |
| Description: The Training Department Officer is a human of system that will responsible for import Student Record for School, Analysis statistics and report about the number received student records of school This user may have training how to use the system (environment is supported by software and hardware). | |
| Provide Assumptions:   * The store manager will provide for system: * Student Records for importing to the system | |
| Requires Assumptions:  The system will provide:   * A ability to importing student records * The parameter for analysis and statistics received student record’s figure | |
| Identified Use cases: | |

|  |  |
| --- | --- |
| ENTITY NAME: The Human Resource Department Officer | ENTITY ID: E05 |
| Description: The Human Resource Department Officer is a human of system that will responsible for analysis statistics and report about the number received student records of school | |
| Provide Assumptions:   * The Management Committee will not provide anything for system | |
| Requires Assumptions:  System will provide:   * The parameter for analysis and statistics received student record’s figure | |
| Identified Use cases: | |

|  |  |
| --- | --- |
| ENTITY NAME: The Management Committee | ENTITY ID: E06 |
| Description: The Management Committee is a human of system that will responsible for analysis statistics and report about the number received student records of school | |
| Provide Assumptions:   * The Management Committee will not provide anything for system | |
| Requires Assumptions:  System will provide:   * The parameter for analysis and statistics received student record’s figure | |
| Identified Use cases: | |

## Use case

* + 1. Use-Case List

|  |  |  |
| --- | --- | --- |
| UC ID | UC Title | FR ID |
| UC.BF.001 | Login | FR18 |
| UC.BF.002 | Logout | FR19 |
| UC.BF.003 | Change password | FR20 |
| UC.BF.004 | Analysis statistic | FR05, FR12, FR13, FR14, FR22 |
| UC.UM.001 | Create account for user | FR01, FR08 |
| UC.UM.002 | Edit account information | FR02, FR03, FR10, FR9 |
| UC.UM.003 | Search/ Show accounts by list | FR04, FR11 |
| UC.SR.001 | Import Student record data | FR06, FR07, FR23 |
| UC.SR.002 | Search/ View student records | FR021 |
| UC.SR.003 | Update student records | FR15, FR16, FR17 |

Table 10: List of Use-case

* + 1. Use-case Diagram and Use-case Description

A collection of information that the end user will enter into the tool. This collection will include: Title, ID, Description, Entities Involved, Preconditions, Primary use case flow of events, Primary use case post conditions, Alternate user case flow of events, Alternate use case post conditions.

Note Table:





* + - 1. Use-case Diagrams Level 1



* + - 1. Use-case Diagrams Level 2





* Use case Login

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC.BF.001 | | |
| Use case Name: | Login | | |
| Created By: | Thanh Giang | **Last Updated By:** |  |
| Date created: | 24/5/2012 | **Date Last Updated:** |  |

|  |  |
| --- | --- |
| **Actor:** | **All user** |
| **Description:** | Allow user login to system |
| **Trigger:** | * Login Username don’t contains special characters * Password length between 6-13 characters |
| **Preconditions:** | Account has been created |
| **Post conditions:** | Can login to system |
| **Normal Flows:** | 1. User input Username and Password 2. User clicks “login” button (Submit) 3. System defined username and password correctly and switch to user interface. 4. User login activities are recorded in system diary. |
| **Alternative Flows:** | Password error:   1. User input Username and Password 2. User clicks “login” button (Submit) 3. Interface appears the message "Password is not correct" 4. click "X" 5. Return to Interface login |
| **Exceptions:** | When user cannot login because password is incorrectly, system will inform user should contact administrator for password recovery |
| **Includes:** |  |
| **Priority:** | High |
| **Frequency of Use:** | Multiple |
| **Business Rules:** |  |
| **Special Requirements:** |  |
| **Assumptions:** |  |
| **Notes and Issues:** |  |

* Use case logout

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC.BF.002 | | |
| Use case Name: | Logout | | |
| Created By: | Thanh Giang | **Last Updated By:** |  |
| Date created: | 24/5/2012 | **Date Last Updated:** |  |

|  |  |
| --- | --- |
| **Actor:** | **All user** |
| **Description:** | Allow user logout when not use program |
| **Trigger:** |  |
| **Preconditions:** | Account must be logged into the system |
| **Post conditions:** | User account is logout of the system. The system is ready for user login. |
| **Normal Flows:** | 1. User selects the function logout or click the button [x] in the upper right of the screen of the program 2. System will confirm the logout of the user by the message “Do you really want to exit?" 3. User confirm the logout , selects "OK" 4. System allows user exit program |
| **Alternative Flows:** | **Select “log out”:**  1. In File  2.Selete “log out”  3.Return interface “login” |
| **Exceptions:** |  |
| **Includes:** |  |
| **Priority:** | High |
| **Frequency of Use:** | Multiple |
| **Business Rules:** |  |
| **Special Requirements:** |  |
| **Assumptions:** |  |
| **Notes and Issues:** |  |

* Use case Change password

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC.BF.003 | | |
| Use case Name: | **Change password** | | |
| Created By: | Thanh Giang | **Last Updated By:** |  |
| Date created: | 24/5/2012 | **Date Last Updated:** |  |

|  |  |
| --- | --- |
| **Actor:** | **Training Department Officer, Faculty Officer, The Head Master** |
| **Description:** | This function allows user to change system default password to personal password. |
| **Trigger:** | Account and password are determined |
| **Preconditions:** | User login to account with username and password that the system provides  User select change password in the file change password function is selected |
| **Post conditions:** | Change password successful |
| **Normal Flows:** | 1. User input old password (Current Password) 2. User input new password (New Password) 3. User input new password again (Confirm new Password) 4. User selects "OK" to change password 5. User selects “Cancel” to cancel change password 6. The system save user new password |
| **Alternative Flows:** |  |
| **Exceptions:** | * When user enter the "Confirm new password" wrong: The system fill red confirm the password for the user to re-enter the correct * Where the user enter the "Current password" wrong: The system fill red the "Current password" for the user to re-enter the correct |
| **Includes:** |  |
| **Priority:** | Low |
| **Frequency of Use:** | Few |
| **Business Rules:** |  |
| **Special Requirements:** |  |
| **Assumptions:** |  |
| **Notes and Issues:** |  |

* Use case Create new user account

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC.UM.001 | | |
| Use case Name: | **Create account for user** | | |
| Created By: | Thanh Giang | **Last Updated By:** |  |
| Date created: | 24/5/2012 | **Date Last Updated:** |  |

|  |  |
| --- | --- |
| **Actor:** | Admin , The Faculty Monitor |
| **Description:** | Function allows admin create account for user |
| **Trigger:** | Information don’t contain special characters |
| **Preconditions:** | Admin login successful  Interface of user management ready for user interaction. User selects to the "create new user" to enter Create interface |
| **Post conditions:** | User account is created  System stores the new account is created to database |
| **Normal Flows:** | 1. User fill in account information:   Username:  Position   * + - The Management Committee     - The Human Resource Department Officer     - The Faculty Monitor and Faculty     - The training Department Officer     - The Received Student Record Officer and Faculty     - Admin   Department   * Kiến Trúc Xây Dựng * Ban Khoa Học Cơ Bản * Thương Mại * Điện Lạnh * Du lịch * Tài Chính Ngân Hàng * Kế Toán Kiểm Toán * Mỹ Thuật Công Nghiệp * Công Nghệ Môi Trường * Kỹ Thuật Nhiệt Lạnh * Ngoại Ngữ * Quan Hệ Công Chúng * Quản Trị Kinh Doanh * Công Nghệ Sinh Học * Ban Trung Cấp Chuyên Nghiệp * Công Nghệ Thông Tin   Some information is not required:   * ID * Name |
|  | * Date of birth * Gender * Phone number * Address  1. User assigned permissions for the account 2. User clicks "Add" to finish create account 3. New account information will be saved to the database 4. The system still display information is created to interface of create, user want to escape clicks "cancel" 5. The system returns to main interface of account management |
| **Alternative Flows:** | **For The Faculty Monitor**   1. User fill in account information:   Username:  Some information is not required:   * ID * Name * Date of birth * Gender * Phone number * Address  1. User assigned permissions for the account 2. User clicks "Add" to finish create account 3. New account information will be saved to the database 4. The system still display information is created to interface of create, user want to escape clicks "cancel"   The system returns to main interface of account management |
| **Exceptions:** | Fill lack information in one of section |
| **Includes:** |  |
| **Priority:** | High |
| **Frequency of Use:** |  |
| **Business Rules:** |  |
| **Special Requirements:** |  |
| **Assumptions:** |  |
| **Notes and Issues:** |  |

* Use case Edit account information

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC.UM.002 | | |
| Use case Name: | **Edit account information** | | |
| Created By: | Thanh Giang | **Last Updated By:** | Phuc Nguyen |
| Date created: | 24/5/2012 | **Date Last Updated:** |  |

|  |  |
| --- | --- |
| **Actor:** | Admin, The faculty monitor |
| **Description:** | This function allows the user to view details of an account, and can update or edit that information: assigned permission, lock accounts, reset passwords |
| **Trigger:** | 1. User login to system by admin account 2. Users select user management. 3. System shows a list of users is created. |
| **Preconditions:** | Admin login successful  Account must exist to modify  Interface of user management ready for user interaction. |
| **Post conditions:** | System saved account information is edit into the database |
| **Normal Flows:** | * **Edit account information for Admin**  1. User selects account and clicks “Edit user” or double click user name. 2. Detailed information appears on the user interface 3. User can change the entries as:    * 1. Assign Authorize      2. User can change the status of the account      3. Some information is not required 4. User clicks "save" to complete the edit information 5. The information of the account changes are saved to the database 6. Recorded in user activity log edit account information  * **Edit account information for The faculty monitor**  1. User selects account and clicks “Edit user” or double click user name 2. Detailed information appears on the user interface 3. User can change the entries as:   User can change the status of the account  Some information is not required   1. User clicks "save" to complete the edit information 2. The information of the account changes are saved to the database 3. Recorded in user activity log edit account information |
| **Alternative Flows:** | * 1. ***Reset account***       1. Selects account need to recovery in accounts table      2. User selects reset password function ( )      3. System shows message: Reset password successful?      4. System return to interface of account management   ***d. Assign Authorize:***  1.2.1 Admin select assign Authorize,the rights of the user corresponding to the position:   * + - The Management Committee     - The Human Resource Department Officer     - The Faculty Monitor and Faculty     - The training Department Officer     - The Received Student Record Officer and Faculty   1.2.2 Admin clicks "save" to complete the edit information  1.2.3 The information of the account changes are saved to the database.  ***c. Disable account***  1.2.1 Selects account need to recovery in accounts table  1.2.2 Detailed information appears on the user interface  1.2.3 The user changes the status of False  1.2.4 User selects "Save"  1.2.5 System returns to interface of account management.  1.2.6 Account disabled no longer appear in the user list. |
| **Alternative Flows:** | ***d. Enable account***  1.2.1 Selects account need to recovery in accounts table  1.2.2 Detailed information appears on the user interface  1.2.3 The user changes the status of True  1.2.4 User selects "Save"  1.2.5 System returns to interface of account management.  1.2.6 Account enabled appears in the user list. |
| **Exceptions:** |  |
| **Includes:** |  |
| **Priority:** | Medium |
| **Frequency of Use:** |  |
| **Business Rules:** |  |
| **Special Requirements:** |  |
| **Assumptions:** |  |
| **Notes and Issues:** |  |

* Use case show accounts by list

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC.UM.003 | | |
| Use case Name: | **Show accounts by list** | | |
| Created By: | Thanh Giang | **Last Updated By:** | Phuc Nguyen |
| Date created: | 24/5/2012 | **Date Last Updated:** |  |

|  |  |
| --- | --- |
| **Actor:** | Admin |
| **Description:** | This function allows the user to view accounts by list with multiple criteria depending on user choice |
| **Trigger:** |  |
| **Preconditions:** | Admin login successful  User click tab user management  System and functions ready for operation |
| **Post conditions:** | System displays account has been created in the database |
| **Normal Flows:** | The system displays all the account has been created in the list on the main interface |
| **Alternative Flows:** | ***Search user account:***   1. User can search account with multiple criteria by typing in the box “search”  * Department.  1. Users enter keywords to search 2. User click button search 3. The system displays the database accounts found in the accounts table.   ***Search user account for The Faculty Monitor:***   1. User can search account with multiple criteria by typing in the box “search”  * Username.  1. Users enter keywords to search 2. User click button search 3. The system displays the database accounts found in the accounts table. |
| **Exceptions:** |  |
| **Includes:** |  |
| **Priority:** | Low |
| **Frequency of Use:** |  |
| **Business Rules:** |  |
| **Special Requirements:** |  |
| **Assumptions:** |  |
| **Notes and Issues:** |  |

* Use case analysis statistic

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC.BF.004 | | |
| Use case Name: | **Analysis statistic** | | |
| Created By: | Phuc Nguyen | **Last Updated By:** |  |
| Date created: | 24/5/2012 | **Date Last Updated:** |  |

|  |  |
| --- | --- |
| **Actor:** | The Management Committee ,The Human Resource Department Officer ,The Faculty Monitor, The training Department Officer |
| **Description:** | This function allows the user to the lists students with various criteria. |
| **Trigger:** | List student information already in the system |
| **Preconditions:** | 1. User login to system  2.User select tab statistics |
| **Post conditions:** | Statistical information is displayed on the interface. |
| **Normal Flows:** | 1.The user selects criteria.   * All * Department   2. Users select button “statistics”.  3. The system displays a list of students apply for each faculty and students have filed / total |
| **Alternative Flows:** | ***The Faculty Monitor:***  1. Users select “statistics”.  2. The system appears number records each day and total records were received on the total number of records |
| **Exceptions:** |  |
| **Includes:** |  |
| **Priority:** | High |
| **Frequency of Use:** |  |
| **Business Rules:** |  |
| **Special Requirements:** |  |
| **Assumptions:** |  |
| **Notes and Issues:** |  |

* Import Student record data

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC.SR.001 | | |
| Use case Name: | Import Student record data | | |
| Created By: | Thanh Giang | **Last Updated By:** | Phuc Nguyen |
| Date created: | 24/5/2012 | **Date Last Updated:** | 21/6/2012 |

|  |  |
| --- | --- |
| **Actor:** | Administrator , The faculty monitor , the training department officer |
| **Description:** | This feature allow user to import student record data (with original information) |
| **Trigger:** | 1. Information does not contain special characters 2. Last Name and first name 3. Faculty 4. Current address 5. Class ( alpha + number) 6. Male/ Female |
| **Preconditions:** | Student record exist  User must log into SRM system.  User select tab Import student List |
| **Post conditions:** | List of Student Records is saved into database. |
| **Normal Flows:** | 1. User select “Browse” and select file to import into database. 2. User select " import " system saves data into database of system. 3. System shall notice to user that data is saved into database. |
| **Alternative Flows:** | * ***File error:***  1. User select file to import into database. 2. Users select "import" list student error appears on the student interface. 3. Number of students do not fail to be updated in the database and show Show student failed to table Error List |
| **Exceptions:** |  |
| **Includes:** |  |
| **Priority:** | High |
| **Frequency of Use:** |  |
| **Business Rules:** |  |
| **Special Requirements:** |  |
| **Assumptions:** |  |
| **Notes and Issues:** |  |

* View student records

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC.SR.003 | | |
| Use case Name: | **View student records** | | |
| Created By: | Phuc Nguyen | **Last Updated By:** |  |
| Date created: | 24/5/2012 | **Date Last Updated:** |  |

|  |  |
| --- | --- |
| **Actor:** | The Received Student Record Officer |
| **Description:** | This function allows the user to view the student’s records. |
| **Trigger:** | List student information already in the system. |
| **Preconditions:** | 1. User login to system.  2. Choose function "Import records"  3. Interface of Search ready for user interaction. |
| **Post conditions:** | Student information is displayed on the interface |
| **Normal Flows:** | 1. Users enter MSSV.  2. Users click “OK”.  3.Student information appears. |
| **Alternative Flows:** |  |
| **Exceptions:** |  |
| **Includes:** |  |
| **Priority:** | High |
| **Frequency of Use:** |  |
| **Business Rules:** |  |
| **Special Requirements:** |  |

* Update student record

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC.SR.002 | | |
| Use case Name: | **Update student records** | | |
| Created By: | Phuc Nguyen | **Last Updated By:** | Phuc Nguyen |
| Date created: | 24/5/2012 | **Date Last Updated:** | 21/6/2012 |

|  |  |
| --- | --- |
| Actor: | The Received Student Record Officer |
| Description: | This function allows the user to confirm the profile received of students. |
| Trigger: | Existing student information system. |
| Preconditions: | 1. User login to system.  2. Choose select " Check records”  3. Interface of Check records ready for user interaction. |
| Post conditions: | Save student records in the database and print student records |
| Normal Flows: | 1. User search student to update  2. In detail interface student records users may edit student information, by check or uncheck the box, Including:   * + Enrollment notice   + High School Transcript (copy enclosed with the original for comparison)   + High school diploma, or certificate BTTH, CNTN temporary (copy enclosed with the original for comparison)   + Birth certificate (copy enclosed with the original for comparison)   + The paper certifying object & priority areas.   + Permanent residence (copy enclosed with the original for comparison)   + Matriculation Profile   + Transfer activity profile "Đoàn" or "Đảng".   + 4 stamped envelope, specify the address family.   + Photographed at school.   3. User select “Print” to save student records in the database and print student records.  4. the message "Save successful student record"  5.Click “OK” to close message  6. Appears interface "Print student records"  7.Click button “Print”  8.Cick “Print” |
| Alternative Flows: |  |
| Exceptions: |  |
| Includes: |  |
| Priority: | High |
| Frequency of Use: |  |
| Business Rules: |  |
| Special Requirements: |  |

## External Interface Requirements

Reference External Interface Requirements appendix was attached

# Prioritization

## Priority scale

|  |  |  |
| --- | --- | --- |
| Priority (numeric) | Priority (name) | Description |
| 1 | Must Have | Must be present in the end product at all costs. |
| 2 | Nice to Have | Customer would greatly appreciate implementation of these features. |
| 3 | If There’s Time | Consider if customer deems them important enough. |

* + 1. Team priority (Difficulty ranking scale)

The difficulty scale has been defined on the basis of complexity and effort. Complexity is defined as how difficult the design of a solution is and whether the team has previous experience in designing or implementing such a design. Both measures, for complexity and effort, are relative to each other.

|  |  |
| --- | --- |
| Difficulty (numeric) | Description |
| 1 | High complexity and large amount of effort required |
| 2 | High complexity or large amount of effort required |
| 3 | Moderate complexity and medium amount of effort required |

* + 1. Stakeholder priority (Important scale)

The important scale has been defined on the basis of expectation and influence of stakeholder needs. It also describes the importance of quality attribute that follow in view of stakeholders.

|  |  |
| --- | --- |
| Important (numeric) | Description |
| 1 | High expectation and high influence |
| 2 | High expectation or high influence |
| 3 | Moderate expectation and medium influence |

## Use-case

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| UC ID | UC Title | Stakeholder priority | Difficulty ranking | Priority |
| UC.BF.001 | Login | 1 | 1 | 1 |
| UC.BF.002 | Logout | 1 | 1 | 1 |
| UC.BF.003 | Change password | 3 | 3 | 3 |
| UC.BF.004 | Analysis statistic | 1 | 1 | 1 |
| UC.UM.001 | Create account for user | 1 | 1 | 1 |
| UC.UM.002 | Edit account information | 2 | 2 | 2 |
| UC.UM.003 | Search/ Show accounts by list | 2 | 2 | 2 |
| UC.SR.001 | Import Student record data | 1 | 1 | 1 |
| UC.SR.002 | Search/ View student records | 1 | 1 | 1 |
| UC.SR.003 | Update student records | 1 | 1 | 1 |

## Quality Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| QA\_ID | Short Description | Stakeholder priority | Difficulty ranking | Priority | Concern |
| QA\_P01 | The received student record officer update student record quickly | 1 | 2 | 1 | Response time |
| QA\_P02 | **I**mport student record quickly | 1 | 2 | 1 | Response time |
| QA\_P03 | Print invoice quickly | 1 | 1 | 1 | Response time |
| QA\_A01 | Primary database has been crash | 3 | 3 | 3 | Response time |
| QA\_S01 | Unauthorized access | 2 | 2 | 2 | Identification |
| QA\_S02 | Authorized access | 2 | 2 | 2 | Authority |

## Constraints

Constraints have not been prioritized in terms of importance because by definition they are of the highest priority. We have however prioritized them by difficulty, as judged by the development team.

* + 1. Technical Constraints

|  |  |  |  |
| --- | --- | --- | --- |
| ID | Consideration | Reason | Priority |
| TC01 | Tools and methods | Take time to research new tools | 1 |
| TC02 | 1 |
| TC03 | 1 |
| TC04 | Standards |  | 2 |
| TC05 | Commercial hardware or software products | Use already haven hardware and software | 3 |
| TC06 | Protocols, interfaces, standards. |  | 3 |
| TC07 | Computer operating system(s) | Must use the same operation system with users | 1 |
| TC08 | Computer languages(s) | Members still not have enough skill | 1 |
| TC09 | POS software |  | 2 |

* + 1. Business Constraints

|  |  |  |  |
| --- | --- | --- | --- |
| ID | Consideration | Reason | Priority |
| BC01 | Implement Time | Maybe have to rework many times so team can track the schedule | 1 |
| BC02 | Organizational restrictions and demands |  | 2 |
| BC03 | Demo | Customer may change requirements | 1 |
| BC04 | Market restrictions and demands | Produced only for Van Lang University | 1 |
| BC05 | Time Working | System is always available from 8:00 a.m. to 6:00 p.m. | 1 |

-- The End --