<FQA System>

Software Requirements Specification

Version <1.0>

Revision History

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| --- | --- | --- | --- |
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| 19/03/2016 | 1.0 | First SRS | Xinchi Wang  Caixing Su |
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Software Requirements Specification

# Introduction

## Purpose

The purpose of this document is to describe the specifications on the external behaviors of a question and answer system. It also documents nonfunctional requirements, design constraints and other factors necessary to provide a complete and comprehensive understanding of the To-Be system.

The intended audience of this document includes the prospective software development team and the potential users of the system.

## Scope

This software system is a system which is based on the interest and the browser/server structure and this system will be referred to as “FQA system” thorough this document.

The two main users of this FQA system are user and administrator. The purpose of administrator is to maintain smooth operations of the system and ensure the high quality of the questions and answers. Meanwhile, user uses this system mainly for asking their question and answering question of the other user. In order to meet the needs of user and administrator, the system is designed as five subsystems. Each of them is an independent but correlated subsystem.

* Reporting Subsystem shows some questions which user may interest in and other useful links
* Question Subsystem allow user to manage questions, (correct) answers, their votes and associated comments.
* Search Subsystem page allow user use it to search their question and answer
* Profile Subsystem allow user to update their information and check some detail information of themselves
* Administrator Subsystem allow administrator to administrate the system

## Definitions, Acronyms and Abbreviations

Temporarily unavailable

## References

* **Rational Unified Process**, SRS template (upedu\_srs.doc), COSC2151 Final Year Software

Engineering Project, RMIT International University Vietnam, 2004

## Overview

The rest of this document is divided into two main sections:

* The Overall Description (section 2) describes the general factors that affect the system and its requirements.
* The Specific Requirements (section 3) contains all software requirements that the system must meet in order to satisfy customer’s needs.

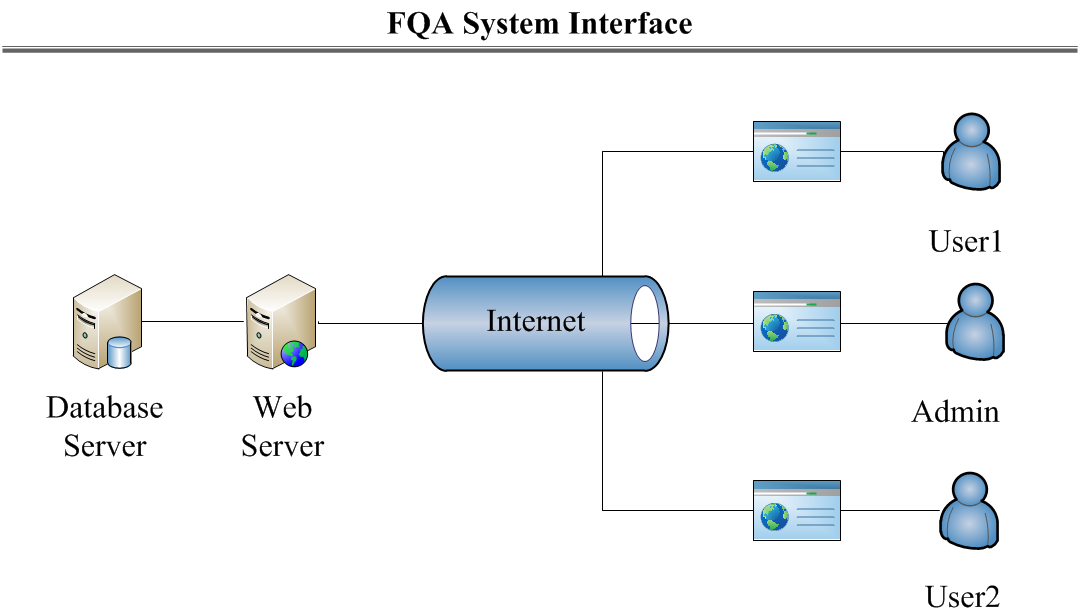
# Overall Description

## Product Perspective

Nowadays, there are many question and answer system exists in the internet and every of them have their own feature and function. However, many people have found that it is too difficult to match the right answer of their question effectively from those question and answer systems on the internet and sometime people need to spend many time on searching the answer.

Base on that need, it is necessary to building a question and answer system which help people to find the answers of their question easily and quickly. The goal of FAQ system is to save the money and time of people in spending on searching answers.

### System Interfaces

The FAQ system is a browser and server mode application that can be deployed on the Internet

### User Interfaces

The user interfaces can accessible through any web browser such as IE, Mozilla, FireFox, and Safari etc.

FQA system administrators also connect to the system via web browser like other users but administrators have their administrate center and they have higher access right to the system.

All users’ accesses to the Database, which is powered by MySQL server, must be performed indirectly through FQA system.

### Hardware Interfaces

All components must be able to execute on a personal computer.

### Software Interfaces

#### User Interface

* The user interact with the system through web browser
* The system supports both IE 5.5 or above and Firefox 7.0 or above

### Communication Interfaces

* The client machines must communicate with the Web Server over TCP/IP connection
* The Web Server and the Database Server are located on different servers

### Memory Constraints

* The client machine must be able to operate within 100MB minimum (including memory for browser)
* The Web Server and the Database Server must be able to operate within 256MB minimum

### Operations

FQA system should be easy for all users to use, e.g. no specific information or skills (except knowledge on how to access the Internet via Web browser) must be required to use the tool.

The Web Server installation and maintenance should be simple enough for a network administrator to perform and should not require any special technical skills from the administrator.

The Database Server should be able to import data from other external database systems. Backup and Recovery operations must be specified in case of network failure, database failure, out of power etc.

## Product Functions

The main function of the FQA system is to provide a platform for users to pose a question and answer their interested question.

For the users who have a question, FQA system provides the following main functions to meet the basic requirement of raising a question:

* Search a similar question. For example, some questions may exist and have a perfect answer so what they need to do is to search but not raise a question.
* Pose a question if their questions have not been posed.
* Discuss the answer with the user who has provided an answer for questioner. For instance, some users who would like to answer the question they may not understand the question fully or misunderstand the question and questioner can discuss with them through the way of comment.
* Adopt which answer is the best answer.

For the users who would like to answer the question, FQA system provides the following main functions for them to satisfy the needs of answering the question:

* Edit the answer before the questioner have adopt as the best answer. Some answers need to be edited serval times before they become a good or best answer.
* Comment the answer with questioner in order to solve the question perfectly.

Additionally, FQA system is controlled by administrators through the following main functions:

* Delete some questions, answers and comments which are illegal or disobey the system rules.
* Define the system configuration settings and maintain the system operations.

All functionalities of the system are built based on the basic needs of question and answer system so that FQA system can make all activities and communication carried out by questioner and answerer easier and more convenient.

## User Characteristics

The users of FQA system include system, user and moderator

* Administrators have strong knowledge on networks and web applications to be able to install and maintain FQA system. At the meanwhile, administrators are responsible for the quality of the question and maintain the daily operation of this system such as delete some question which were illegal etc.
* Moderator have some authority to guarantee the questions and answers
* User can raise a question and answer a question

## Constraints

The system should strictly obey and satisfy the following constraints:

* Authentication security: the system should enforce user authentication security
* Access control: the system must provide specific interface for administrator control the quality of the question
* Backup and recovery: the backup and recovery of all the system’s database must be easy to perform to prevent databases from corruption and loss risks
* The system must be developed using University of Wollongong facilities

## Assumptions and Dependencies

The following assumptions and dependencies for the system are stated:

* All potential users of E-Library system must have a unique username

# Specific Requirements

## Functional Requirements

### Profile Subsystem

This section captures functionalities that FQA system provides to administrators, moderators and users to create, view, edit user profiles.

#### User Side

|  |  |  |
| --- | --- | --- |
| **Requirement#:F3.1.1.1\_1** | **Requirement Type:** Functional | **Use Case:** |
| **Description:** The system should provide a User with a dialog box to sign up and set his/her Username, Password, E-mail address and Display name. | | |
| **Rationale:** A user wants to sign up. | | |
| **Source:** Unregistered User | | |
| **Fit Criterion:** A new user can be registered with profiles saved into database. | | |
| **Dependencies:** None | | |
| **Rank of importance:** Critical | | |
| **Supporting Materials:** None | | |
| **History:** Created by Xinchi Wang 19/03/2016 | | |

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| --- | --- | --- |
| **Requirement#:F3.1.1.1\_2** | **Requirement Type:** Functional | **Use Case:** |
| **Description:** The system should provide a User with a dialog box to login to the website by entering his/her Username or E-mail and Password. | | |
| **Rationale:** A user wants to log in. | | |
| **Source:** Administrator, Users | | |
| **Fit Criterion:** An existing user can log in successfully | | |
| **Dependencies:** The user must exist in database. | | |
| **Rank of importance:** Critical | | |
| **Supporting Materials:** None | | |
| **History:** Created by Xinchi Wang 19/03/2016 | | |

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| --- | --- | --- |
| **Requirement#:F3.1.1.1\_3** | **Requirement Type:** Functional | **Use Case:** |
| **Description:** The system should provide a User with a page to view his/her own profile, including Username, Display name, Age, E-mail, Reputation, Last access date, Account creation date, Location, Number of up votes and down votes, Answers Submitted, Questions asked and Favorite tags. | | |
| **Rationale:** A User wants to view his/her profile. | | |
| **Source:** Administrator, Moderators, User | | |
| **Fit Criterion:** A user profile should be viewed successfully. | | |
| **Dependencies:** The to-be-viewed profile must exist. | | |
| **Rank of importance:** Critical | | |
| **Supporting Materials:** None | | |
| **History: Created** by Xinchi Wang 19/03/2016 | | |

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| **Requirement#:F3.1.1.1\_4** | **Requirement Type:** Functional | **Use Case:** |
| **Description:** The system should provide a user with a page to change his/her own profile, including Display name, Age, E-mail, Location and Favorite tags. | | |
| **Rationale:** A user wants to change his/her profile. | | |
| **Source:** Administrator, Moderator, User | | |
| **Fit Criterion:** A user profile should be changed successfully. | | |
| **Dependencies:** The to-be-changed profile must exist. | | |
| **Rank of importance:** Critical | | |
| **Supporting Materials:** None | | |
| **History:** Created by Xinchi Wang 19/03/2016 | | |

#### Administrator/Moderator Side

### Question Subsystem

This section captures functionalities that FQA system provides to administrators, moderators and users to manage questions, answers and comments.

#### Question Management

This section includes all functions which are related to creating, editing and viewing questions.

|  |  |  |
| --- | --- | --- |
| **Requirement#:F3.1.2.1\_1** | **Requirement Type:** Functional | **Use Case:** |
| **Description:** The system should provide a user with a page to ask a new question with Question title, Question contents and Tags. | | |
| **Rationale:** A user wants to ask a question. | | |
| **Source:** Moderator, User | | |
| **Fit Criterion:** A question should be added to the question list. | | |
| **Dependencies:** The new question should be added successfully. | | |
| **Rank of importance:** Critical | | |
| **Supporting Materials:** None | | |
| **History:** Created by Xinchi Wang 19/03/2016 | | |

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| --- | --- | --- |
| **Requirement#:F3.1.2.1\_2** | **Requirement Type:** Functional | **Use Case:** |
| **Description:** The system should provide a user with a page to edit his/her own question, including Question contents and Tags. | | |
| **Rationale:** A user wants to edit his/her question. | | |
| **Source:** Moderator, User | | |
| **Fit Criterion:** The question should be edited successfully. | | |
| **Dependencies:** The to-be-edited question must exist. | | |
| **Rank of importance:** Critical | | |
| **Supporting Materials**: None | | |
| **History:** Created by Xinchi Wang 19/03/2016 | | |

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| --- | --- | --- |
| **Requirement#:F3.1.2.1\_3** | **Requirement Type:** Functional | **Use Case:** |
| **Description:** The system should provide a user with a page to view a question and its answers. | | |
| **Rationale:** A user wants to read a question and its answers. | | |
| **Source:** Moderator, User | | |
| **Fit Criterion:** The question and its answers should be viewed successfully. | | |
| **Dependencies:** The to-be-viewed question must exist. | | |
| **Rank of importance:** Critical | | |
| **Supporting Materials:** None | | |
| **History:** Created by Xinchi Wang 19/03/2016 | | |

#### Answer Management

This section includes all functions which are related to creating and editing answers.

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| --- | --- | --- |
| **Requirement#:F3.1.2.2\_1** | **Requirement Type:** Functional | **Use Case:** |
| **Description:** The system should provide a user with a page to add a new answer to a question. | | |
| **Rationale:** A user wants to answer a question. | | |
| **Source:** Moderator, User | | |
| **Fit Criterion:** The answer should be added successfully. | | |
| **Dependencies:** The to-be-answered question must exist. | | |
| **Rank of importance:** Critical | | |
| **Supporting Materials:** None | | |
| **History:** Created by Xinchi Wang 19/03/2016 | | |

#### Comment Management

This section includes all functions which are related to creating and viewing comments.

|  |  |  |
| --- | --- | --- |
| **Requirement#:F3.1.2.3\_1** | **Requirement Type:** Functional | **Use Case:** |
| **Description:** The system should provide a user with a page to add comments to a question. | | |
| **Rationale:** A user wants to add comments to a question. | | |
| **Source:** Moderator, User | | |
| **Fit Criterion:** The comments should be added successfully. | | |
| **Dependencies:** None | | |
| **Rank of importance:** Critical | | |
| **Supporting Materials:** None | | |
| **History:** Created by Xinchi Wang 19/03/2016 | | |

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| --- | --- | --- |
| **Requirement#:F3.1.2.3\_2** | **Requirement Type:** Functional | **Use Case:** |
| **Description:** The system should provide a user with a page to view comments to a question. | | |
| **Rationale:** A user wants to view comments to a question. | | |
| **Source:** Moderator, User | | |
| **Fit Criterion:** The comments should be viewed successfully. | | |
| **Dependencies:** The to-be-viewed comments must exist. | | |
| **Rank of importance:** Critical | | |
| **Supporting Materials:** None | | |
| **History:** Created by Xinchi Wang 19/03/2016 | | |

#### Voting Management

This section includes all functions which are related to voting.

|  |  |  |
| --- | --- | --- |
| **Requirement#:F3.1.2.4\_1** | **Requirement Type: Functional** | **Use Case:** |
| **Description:** The system should provide a user with a section to view up/down votes to questions and answers. | | |
| **Rationale:** A user wants to view comments to questions or answers. | | |
| **Source:** Moderator, User | | |
| **Fit Criterion:** The comments should be viewed successfully. | | |
| **Dependencies:** The to-be-viewed comments must exist. | | |
| **Rank of importance: Critical** | | |
| **Supporting Materials:** None | | |
| **History:** Created by Xinchi Wang 19/03/2016 | | |

|  |  |  |
| --- | --- | --- |
| **Requirement#:F3.1.2.4\_2** | **Requirement Type**: Functional | **Use Case:** |
| **Description:** The system should provide a user with buttons to vote up/down to a question or an answer. | | |
| **Rationale:** A user wants to vote up/down to a question or an answer. | | |
| **Source:** Moderator, User | | |
| **Fit Criterion:** The vote should be added successfully. | | |
| **Dependencies:** The to-be-voted answer must exist. | | |
| **Rank of importance:** Critical | | |
| **Supporting Materials:** None | | |
| **History:** Created by Xinchi Wang 19/03/2016 | | |

## Usability

|  |  |  |
| --- | --- | --- |
| **Requirement#:NF3.2.1.1** | **Requirement Type**: Usability | **Use Case:#NONE** |
| **Description:** The system should maintain consistency in the layout of user interfaces | | |
| **Rationale:** To provide users with consistent user interfaces and layout | | |
| **Source:** Administrator, Moderator, User | | |
| **Fit Criterion:** All pages of the system follow the defined template and structure as specified in  The layout of user interfaces | | |
| **Dependencies:** None | | |
| **Rank of importance:** Essential | | |
| **Supporting Materials:** None | | |
| **History:** Created by Caixing Su 29/03/2016 | | |

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| --- | --- | --- |
| **Requirement#:NF3.2.1.2** | **Requirement Type**: Usability | **Use Case:#NONE** |
| **Description:** The system should not require users to have any specific knowledge or special technical skill to be able to use it. FQA system should be easy for a computer-literate user community with no additional training on the system so that users can use it after at most half of one day of exploring the system. | | |
| **Rationale:** Users want to use the system without having to take any training records on the system. | | |
| **Source:** Administrator, Moderator, User | | |
| **Fit Criterion:** The users can use FQA system after at most half of one day of exploring the system. | | |
| **Dependencies:** None | | |
| **Rank of importance:** Essential | | |
| **Supporting Materials:** None | | |
| **History:** Created by Caixing Su 29/03/2016 | | |

## Security

|  |  |  |
| --- | --- | --- |
| **Requirement#:NF3.2.3.1** | **Requirement Type**: Security | **Use Case:#NONE** |
| **Description:** The system should automatically log out after thirty minutes of being idle and ask the user to re-log in. | | |
| **Rationale:** To control authorized usage of the system. | | |
| **Source:** Administrator, Moderator, User | | |
| **Fit Criterion:** The system should automatically log out after thirty minutes of being idle. | | |
| **Dependencies:** None | | |
| **Rank of importance:** Desirable | | |
| **Supporting Materials:** None | | |
| **History:** Created by Caixing Su 29/03/2016 | | |

### <Usability Requirement One>

[The requirement description goes here.]

## Reliability

|  |  |  |
| --- | --- | --- |
| **Requirement#:NF3.2.2.1** | **Requirement Type**: Reliability | **Use Case:#NONE** |
| **Description:** The system should be able to recover from failure after no more than 24 hours. | | |
| **Rationale:** The system should recover from failure as soon as possible to support 24/7 services. | | |
| **Source:** Administrator, Moderator, User | | |
| **Fit Criterion:** The system should recover after no more than 24 hours. | | |
| **Dependencies:** None | | |
| **Rank of importance:** Essential | | |
| **Supporting Materials:** None | | |
| **History:** Created by Caixing Su 29/03/2016 | | |

### <Reliability Requirement One>

[The requirement description.]

## Performance

|  |  |  |
| --- | --- | --- |
| **Requirement #: NF3.2.4.1** | **Requirement Type**: Performance | **Use Case:#NONE** |
| **Description:** The system should be able to work 24 hours per day, seven days per week except during the maintenance time. | | |
| **Rationale:** All users want to use the system at anytime (24 hours per day, seven days per week). | | |
| **Source:** Administrator, Moderator, User | | |
| **Fit Criterion:** Any authorized user can use the system at anytime (24 hours per day, seven days  per week). | | |
| **Dependencies:** None | | |
| **Rank of importance:** Essential | | |
| **Supporting Materials:** None | | |
| **History:** Created by Caixing Su 29/03/2016 | | |

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| --- | --- | --- |
| **Requirement #: NF3.2.4.2** | **Requirement Type**: Performance | **Use Case:#NONE** |
| **Description:** The system should response to any action of any user within 15 seconds. | | |
| **Rationale:** A user wants to receive response to his action quickly. | | |
| **Source:** Administrator, Moderator, User | | |
| **Fit Criterion:** Any response to any user’s action should be performed within 40 seconds. | | |
| **Dependencies:** None | | |
| **Rank of importance:** Essential | | |
| **Supporting Materials:** None | | |
| **History:** Created by Caixing Su 29/03/2016 | | |

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| --- | --- | --- |
| **Requirement #: NF3.2.4.3** | **Requirement Type**: Performance | **Use Case:#NONE** |
| **Description:** The system should display search results within 15 seconds. | | |
| **Rationale:** A user wants to receive results of his query quickly. | | |
| **Source:** Administrator, Moderator, User | | |
| **Fit Criterion:** Search results should be displayed within 40 seconds | | |
| **Dependencies:** None | | |
| **Rank of importance:** Essential | | |
| **Supporting Materials:** None | | |
| **History:** Created by Caixing Su 29/03/2016 | | |