# Software Requirements Specification
## Version 1.1
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Web Accessible Alumni Database

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Submitted in partial fulfillment
Of the requirements of
Masters Studio Project

# Table of Contents

# Table of Figures

# 1.0. Purpose

## 1.1. Introduction

This Software Requirements Specification provides a complete description of all the

functions and specifications of the Jacksonville State University Computing and Information

Sciences (CIS) Web Accessible Alumni Database.

The expected audience of this document is the faculty of CIS, including the faculty who

will use this system, Dr. Dennis Martin and studio committee members, and the developer. It

will also server as a reference for Studio students.

## 1.2. Scope

The Jacksonville State University Computing and Information Sciences Web Accessible

Alumni Database (CISWAAD) is designed to run on the departmental server and to allow

alums to fill out a survey form, create a new database entry, update an existing database

entry, or contact another alum. The data will be held in an Access database on the

departmental server.

## 1.3. Glossary

| Term | Definition |
|------|-----------|
| Alum | Graduate of Jacksonville State University undergraduate computer science programs. |
| BDE | Borland Database Engine |
| CI | Configuration Item |
| CIS | Computing and Information Sciences |
| Entry | Alum stored in the Alum Database |
| Html | Hyper text markup language |
| IEEE | Institute of Electrical and Electronic Engineers |
| QA | Quality assurance |
| SCMP | Software Configuration Management Plan |
| SDD | Software Design Document |

| SEI | Software Engineering Institute, Pittsburgh, Pa |
|-----|-----------------------------------------------|
| SQAP | Software Quality Assurance Plan |
| SRS | Software Requirements Specification |
| Survey | Form filled out and submitted by an Alum using the CISWAAB. |
| Tbd | To be decided |
| Tbn | To be named |
| Web Site | A place on the world wide web |

## 1.4. References

[IEEE] The applicable IEEE standards are published in "IEEE Standards Collection," 2001 edition.

[Bruade] The principal source of textbook material is "Software Engineering: An Object-Oriented Perspective" by Eric J. Bruade (Wiley 2001).

[Reaves SPMP] "Software Project Management Plan Jacksonville State University Computing and Information Sciences Web Accessible Alumni Database." Jacksonville State University, 2003.

## 1.5. Document overview

The remainder of this document is two chapters, the first providing a full description of the project for the owners of the CIS. It lists all the functions performed by the system. The final chapter concerns details of each of the system functions and actions in full for the software developers' assistance. These two sections are cross-referenced by topic; to increase understanding by both groups involved.

## 2.0. Overall description

The CISWAAD encompasses numerous files and information from the Alumni

Database, as well as files on the department server system. This system will be completely

web-based, linking to CISWAAD and the remote web server from a standard web browser.

An Internet connection is necessary to access the system.
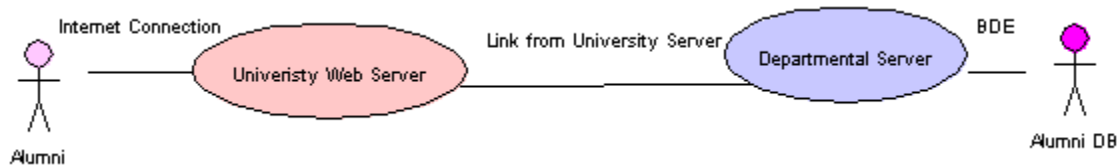
### 2.1. System environment



**Figure 1 System Design**

The CISWAAD web site will be operated from the departmental server.  When an Alum

connects to the University Web Server, the University Web Server will pass the Alum to the

Departmental Server.  The Departmental Server will then interact with the Alumni Database

through BDE, which allows the Windows type program to transfer data to and from a

database.

### 2.2. Functional requirements definitions

- It should generate a report about registered complaint to the admin and response report to

  the user who has submitted his queries.

- Secure registration and profile management facilities for different users.

- It should generate alerts via email

  .

### 2.3. Use cases

The system will consist of CIS Alumni Home page with five selections.

The first selection is to fill out a survey.  The questions on the survey will be created by a designated faculty member.  The survey will ask the Alum questions concerning their degree, job experience, how well their education prepared them for their job, and what can the CIS department do to improve itself.  This information will be retained on the departmental server and an e-mail will be sent to the designated faculty member.

The second selection is to the Entries section.  There are two choices on this page.  One choice is to add a new entry.  A form is presented to the Alum to be filled in.  Certain fields in the form will be required, and list boxes will be used where appropriate.  A password typed twice will be required of all new entries.

The second selection of the Entries page is to update an Alum entry.  A form will be presented allowing the Alum to enter their year of graduation and then to select themselves from a list.  A password will be required before the information will be presented to the Alum to be updated.

The third selection is to search or e-mail an Alum.  A form will be presented requiring the requested Alum's year of graduation.  The requesting Alum will search a table to see if the requested Alum is in the database, and if so non-sensitive information will be returned.  At this time the Alum can select to e-mail the Alumnus or search for another Alumnus.  If the Alum chooses to e-mail the Alumnus  a form will be presented for the message to be entered with the sending Alum's name and e-mail.  The message, with all necessary information will be forwarded to the requested Alum.  The e-mail address of the requested Alum will not be seen by the sending Alum as a privacy measure.

All pages will return the Alum to the CIS Alumni Home Page.

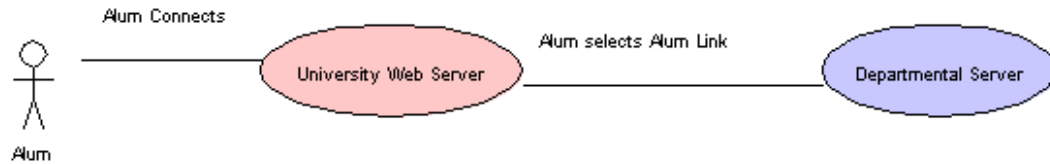### 2.3.1. Use Case: Access Alumni Home Page



**Figure 2 Access Alumni Home Page**

Brief Description
   The Departmental Web Server is waiting on an Alum to connect.

Initial step-by-step description
   For this use case to be initiated, the alum must be connected to the Internet and connected

to the University Web Server.

1.  The Alum connects to the University Web Server.

2.  The Alum selects the Alum link on the CIS home page.

3.  The University Web Server passes the Alum to the Alumni Home Page.

Reference SRS 3.2.1

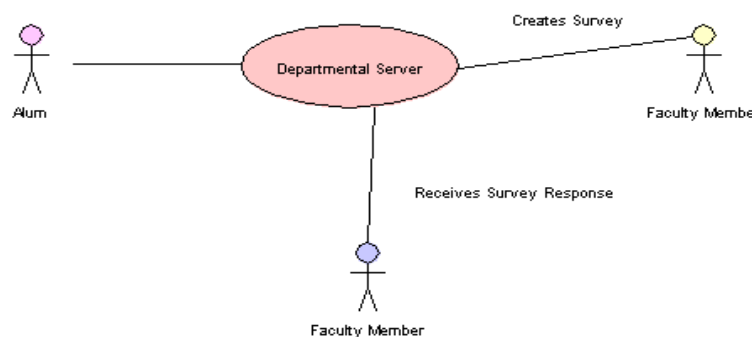### 2.3.2. Use Case: Alum Chooses Survey



**Figure 3 Alum Selects Survey**

Brief Description:
   The Alum chooses to fill out a survey.

Initial step-by-step description:
    For this use case to be initiated the Alum must be connected to the Internet and on the

CIS Alumni Home Page.

1.  The Alum selects the "Fill out a survey" link.

2.  The Departmental Server returns the survey form.

3.  The Alum fills in the form.

4.  The Alum clicks submit.

5.  The Departmental Server retains information in the database designated faculty member
    will be notified.

6.  The Departmental Server returns the Alum to the Alumni Home Page.

Reference SRS 3.2.2

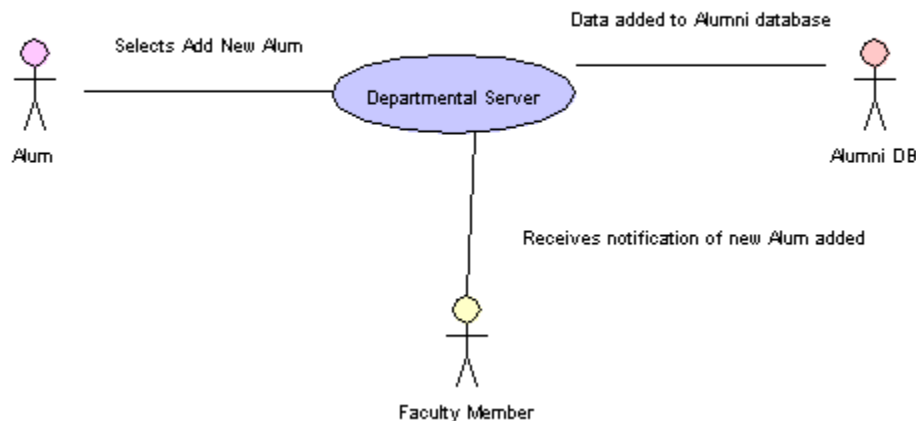### 2.3.3. Use Case: Create New Entry



**Figure 4 Alum Selects Create a New Entry**

Brief Description:
    The Alum chooses to create a new entry on the Entries page.

Initial step-by-step description.
    For this use case to be initiated the Alum must be connected to the Internet and on the

CIS Entries page.

1.  The Alum selects the "Add a New Alum" link.

2.  The Departmental Server returns the "Add a New Alum Form."

3.  The Alum fills in the form.

4.  The Alum can choose which fields to make public or private.

5.  The Alum clicks submit.

6.  The Departmental Server checks to see if all required fields contain data.

7.  If all required fields contain data the Departmental Server adds the data to the Alum Database.

8.  If a required filed is empty the Departmental Server returns the form to the Alum with a message.

9.  The Departmental Server returns the Alum to the Alumni Home Page.

Reference: SRS 3.2.3

## 2.3.4. Use Case: Update an Entry.



**Figure 5 Alum Selects Update an Entry**

Brief Description:
    The Alum chooses to update an existing entry in the Alumni Database.

Initial step-by-step description:
    For this use case to be initiated the Alum must be connected to the Internet and on the

CIS Entries page.

1.  The Alum chooses the "Update Alumni Information" option.

2.  The Department Server presents the Alum with a form.

3.  The Alum fills in the year of graduation.

4.  The Departmental Server returns a form with all graduates from that year.

5.  The Alum checks the correct graduate and enters his/her password

6.  The Departmental Server searches the Alumni Database for the Alum name and password.

7.  The Departmental Server returns the Alum's data if the password matches.

8.  If the password does not match the Departmental Server returns an error message and returns the Alum to the previous page.

9.  The Alum changes the appropriate fields and clicks submit.

10. The Departmental Server replaces the old data with the new.

11. The Departmental Server returns the Alum to the CIS Alumni Home Page.

Reference: SRS 3.2.4

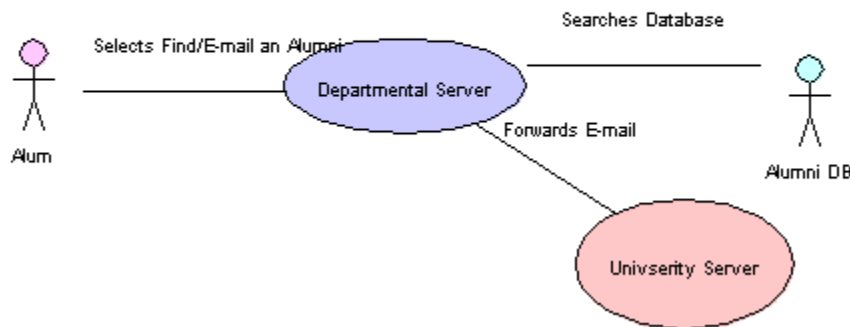## 2.3.5. Use Case: Search for an Alumni/E-mail and Alumni

**Figure 6 Alum Selects Search/E-mail an Alum**

Brief description:
    The Alum chooses to search/e-mail Alum.

Initial step-by-step description:
    For this use case to be initiated the Alum must be connected to the Internet and on the

Alumni CIS Home Page.

1. The Alum chooses "Search for an Alum."

2. The Departmental Server presents a form requesting the year of graduation.

3. The Alum fills in the form and clicks submit.

4. The Departmental Server queries the Alumni Database for the requested information.

5. The Departmental Server returns all Alums that graduated that year.

6. The Alum chooses "E-mail an Alum."

7. The Departmental Server presents a form.

8. The Alum fills in the form.

9. The Departmental Server checks the to see if the required fields are not empty.


10. The Departmental Server queries the Alumni Database for the particular Alum.

11. If the Alum requested is not in the Alumni Database, if there is no e-mail address for the requested Alum, or if the Alum has requested that no e-mails be forwarded, the Departmental Server will return a message that the requested Alum can not be e-mailed.

12. If the Alum requested is in the Alumni Database and there is an e-mail address the message along with the requested Alum's e-mail will be forwarded to the requested Alum.

13. The Departmental Server will return a message and return the Alum to the CIS Alumni Home Page.

Reference: SRS 3.2.5

## 2.4. Non-functional requirements

There are requirements that are not functional in nature. Specifically, these are the

constraints the system must work within.

The web site must be compatible with both the Netscape and Internet Explorer web

browsers. This system will use the same type of Internet security presently being used by

Jacksonville State University.

## 3.0. Requirement specifications

### *3.1. External interface specifications*
None

### *3.2. Functional Requirements*

3.2.1. Access Alumni Home Page

| Use Case Name: | Access Alumni Home Page |
|---|---|
| **Priority** | Essential |
| **Trigger** | Menu selection |
| **Precondition** | Alum is connected to the Internet and on the CIS home page |
| **Basic Path** | 1. University Web Server sends the Alum to the Departmental Server. 2. The Departmental Server presents the Alum with the Alumni Home Page. |
| **Alternate Path** | N/A |
| **Postcondition** | The Alum is on the Alumni Home Page |
| **Exception Path** | If there is a connection failure the Departmental Server returns to the wait state |
| **Other** | |
| **Reference** | SRS 2.3.1 |

3.2.2. Survey

| Use Case Name: | Survey |
|---|---|
| **Priority** | Essential |
| **Trigger** | Selects |
| **Precondition** | The Alum is connected to the Internet and on the CIS Alumni Home Page |
| **Basic Path** | 1. The Departmental Server presents the Alum with a form. 2. The Alum fills in the form and click submit 3. The Departmental Server checks to see if all required fields are not empty. 4. If the required fields are not empty, the Departmental Server creates a new record in then Survey Table of the Alumni Database. 5. If any of the required fields are empty, the Departmental Server returns a message and returns the Alum to the Survey form. |

| | 6. The Departmental Server returns the Alum to the Alumni Home Page |
|---|---|
| **Alternate Path** | N/A |
| **Postcondition** | The survey record is created in the Survey Table of the Alumni Database. |
| **Exception Path** | 1. If the connection is terminated before the form is submitted, the fields are all cleared and the Departmental Server is returned to the wait state. |
| **Other** | |
| **Reference:** | SRS 2.3.2 |

### 3.2.3. Create a new entry

| **Use Case Name:** | Create a new entry |
|---|---|
| **Priority** | Essential |
| **Trigger** | Menu selection |
| **Precondition** | The Alum must be connected to the Internet and on the CIS Entries page. |
| **Basic Path** | 1. The Alum clicks on add a new entry. <br> 2. The Departmental Server returns a form. <br> 3. The Alum fills in the form and clicks submit. <br> 4. The Departmental Server checks to see if any required field is empty. <br> 5. If any required field is empty the Departmental Server will send a message and return the Alum to the new entry form page. <br> 6. If no required field is empty the Departmental Server will create a new record in the Alumni Table in the Alumni Database, and return the Alum to the CIS Alumni Home Page. <br> 7. The Alum may select Cancel. <br> 8. If the Alum selects Cancel, the form is cleared and the Alum is returned to the CIS Alumni Home page. |
| **Alternate Path** | N/A |
| **Postcondition** | A record is created in the Alumni Table of the Alumni Database. |

| Exception Path | 1. If the connection is terminated before the form is submitted, the fields are cleared and the Departmental Server is returned to the wait state.<br>2. If the connection is terminated after the form is submitted, but before the Alum is returned to the CIS Alumni Home Page, the record is created in the Alumni Table of the Alumni Database. |
|---|---|
| Other | |
| Reference: | SRS 2.3.3 |

### 3.2.4 Update an Entry

| Use Case Name: | Update an Entry |
|---|---|
| Priority | Essential |
| Trigger | Menu selection |
| Precondition | The Alum must be connected to the Internet and on the CIS Entries Page. |
| Basic Path | 1. The Alum clicks on update an entry link.<br>2. The Departmental Server returns a form.<br>3. The Alum enters his/her year of graduation.<br>4. The Departmental Server queries the Alumni Database for that particular year and returns a table of all graduates from that year in a form with radio buttons and requesting their password.<br>5. If the password does not match the Departmental Server returns a message and allows the Alum to try again.<br>6. If after 3 tries the password does not match, the Departmental Server will return a message telling the Alum to contact the CIS designated faculty member to receive their password.<br>7. If the password matches go to 8.<br>8. The Departmental Server returns a form with the data for that Alum in it and a message to update the data they wish and click submit.<br>9. The Departmental Server with replaces the old data with the new data and returns the Alum to the CIS Alumni Home Page. |

| Alternate Path | If after three attempts to match the name and password the Departmental Server will return a message and block the Alum from the update section. |
|---|---|
| Postcondition | The record in the Alumni Table of the Alumni Database has been updated and the Alum is returned to the CIS Alumni Home Page. |
| Exception Path | 1. If the connection is terminated before the form is submitted, the fields are cleared and the Departmental Server is returned to the wait state. <br> 2. If the connection is terminated after the form is submitted, but before the Alum is returned to the CIS Alumni Home Page, the record in the Alumni Table of the Alumni Database is updated and the Departmental Server is returned to the wait state |
| Other | |
| Reference: | SRS 2.3.4 |

### 3.2.5. Search for an Alumni/E-mail an Alumni

| Use Case Name: | Search for an Alumni |
|---|---|
| Priority | If time permits. |
| Trigger | Menu selection |
| Precondition | The Alum is connected to the Internet and on the CIS Alumni Home Page. |
| Basic Path | 1. The Alum clicks on e-mail an alumni link. <br> 2. The Departmental Server returns a form. <br> 3. The Alum fills in the form and clicks submit. <br> 4. The Departmental Server checks to see if any required fields are empty. <br> 5. If any required fields are empty the Departmental Server returns a message and the form. <br> 6. If none of the required fields are empty the Departmental Server queries the Alumni Database for the requested Alum's entry. <br> 7. The Departmental Server returns the non-private information on the requested |

| | |
|---|---|
| | Alum and a message stating if the requested Alum will accept e-mails. |
| | 8. If the requested Alum is not in the Alumni Database, the Departmental Server returns a message and the Alum is returned to the CIS Home Page. |
| | 9. If the requested Alum will accept e-mails, the Alum can select E-mail this Alum. |
| | 10. If not the Alum can select Search for another Alum or return to CIS Alumni Home Page. |
| | 11. If the Alum chooses to Search for another Alum go to step 2. |
| | 12. If the Alum selects return to CIS Alumni Home Page the Departmental Server returns the Alum to the CIS Alumni Home Page. |
| | 13. The Departmental Server presents the Alum with a form to fill out and a place for the message. |
| | 14. The Alum selects send. |
| | 15. The Department Server will forward the e-mail with all necessary information to the requested Alum. |
| | 16. The Departmental Server returns a message and returns the Alum to the CIS Alumni Home Page |
| **Alternate Path** | N/A |
| **Postcondition** | The Alum receives the information on the requested Alum, receives e-mail confirmation message, or is returned to the CIS Alumni Home Page |
| **Exception Path** | 1. If the connection is terminated before the information is returned, the Departmental Server is returned to the wait state. |
| | 2. If the connection is terminated after the information is returned, the Departmental Server is returned to the wait state |
| **Other** | |
| **Reference:** | SRS 2.3.5 |

## 3.3. Detailed non-functional requirements

| Attribute Name | Attribute Type | Attribute Size |
|---|---|---|
| LastName*# | String | 30 |
| FirstName*# | String | 30 |
| MaidenName*# | String | 30 |
| Address1*# | String | 50 |
| Address2# | String | 50 |
| City*# | String | 30 |
| State*# | String | 2 |
| Zip*# | Int | 6 |
| Year*# | Int | 4 |
| AdditionalDegrees# | String | 50 |
| Spouse# | String | 30 |
| Children# | String | 50 |
| CurrentEmployment# | String | 50 |
| EmailAddress# | String | 20 |
| ReceiveEmails#^ | Boolean | 1 |
| Password*# | String | 10 |
| EntireRecordVisible*^ | Boolean | 1 |

Fields marked with an '*' are required fields.  Fields marked with a '#' can be visible or not visible and is determined by the Alum.  Fields marked with a '^' are never visible to anyone other than the Alum.

The questions that are used on the survey form will be initially created by a designated faculty member.  The questions will be stored in the Question Record of the Survey Table of the Alumni Database.  The responses to these questions will be stored in a record in an Answers record in the Survey Table of the Alumni Database.

Hardware:                    Departmental Server
Operation System      Window 98 or above
Internet Connection   Existing telephone lines

Code Standard          The web pages will be coded in html by using Front Page.
                       The forms will be done in Java Server Pages.
                       The connection to the Alumni Database will be done with Windows
                       BDE.
                       Each page of the web site will be fully documented.
Performance            The system should generate the records in the appropriate table of the
Alumni Database 100% of the time.

## 3.4. System Evolution

In the future this system will be update to allow students from the Computer Masters

Program to join. If time does not permit the search/e-mail section can be done, possibly by

another Master Studio student. A report generated by the system of the responses to the

survey could be another addition to the CISWAAD in the future.

## 4.0. Index