

Sample Requirement Document

Note: This sample is taken from a class example at the University of Central Florida's website <http://www-ece.engr.ucf.edu/~jza/classes/4884/cgi/srs.html>.

1 Introduction

1.1 Purpose

The purpose of this Software Requirement Specification (SRS) is to establish development guidelines for the Virtual Secretary software. This document is intended for use by the software designers, the professor, and independent evaluators.

1.2 Scope

This SRS establishes the performance, design, development, and test requirements for the Virtual Secretary (VIRSEC) software.

1.3 Definitions, Acronyms, Abbreviations

Browser - Program designed to communicate with the Internet
CGI - Common Gateway Interface - Dynamic environment variable interpreter
E-mail - Program designed for sending and receiving of electronic messages
Home Page - An interactive link to the Internet addressed to an individuals URL
HTML - HyperText Markup Language - Web authoring language
HTTP - HyperText Transfer Protocol - Main communication protocol for the WWW
Hypertext - Non-sequential text fragments assigned to a specific link
IEEE - Institute of Electrical and Electronics Engineers - Standards authority
Internet - Distributed computer network with no central authority
Link - A hypertext command assigned to a specific URL
Perl - Practical Extraction and Report Language -UNIX Scripting language
PIDP - Professor Information Display Page
PIIP - Professor Information Input Page
SRS - Software Requirements Specification - Document specifying software requirements
UCF - University of Central Florida
UNIX - Mainframe operating system
URL - Uniform Resource Locator - Internet address
VIRSEC - Virtual Secretary

1.4 References

IEEE Guide to Software Requirements Specifications (Std830-1984); The Institute of Electrical and Electronic Engineers, Inc.; New York, New York; 1984

1.5 Overview

This document is divided into three sections. The first two sections provide an introduction to the VIRSEC project and a brief discussion of the scope and objectives of this document followed by an overview of the product functions, user characteristics and general constraints for the software. The third section discusses the functional and interface requirements of the software.

2 General Description

2.1 Product Perspective

This document is the only one that describes the requirements and operation of the VIRSEC software. It is meant for use by the designers and project manager, and will also be the basis for validating the final delivered software.

2.2 Product Functions Overview

The VIRSEC home page software shall provide the ability to input biographical and class syllabi information and provide the ability to access and display this information on a home page. The user interface shall consist of an HTTP compatible browser which shall access the UCF College of Engineering UNIX server. Access to the VIRSEC home page software shall be through hypertext links. A general overview of the software functions is shown in Figure 1 on the following page.

2.3 User Characteristics

The software user shall be any person wishing to view information about a professor, or any professor who wishes to enter his/her personal information. Basic computing and Internet knowledge shall be adequate to operate the software.

2.4 General Constraints

The home page software shall be written in Perl and shall require a UNIX system with Perl version 4.0 installed. The home page software shall access the World Wide Web and shall require an HTTP compliant server.

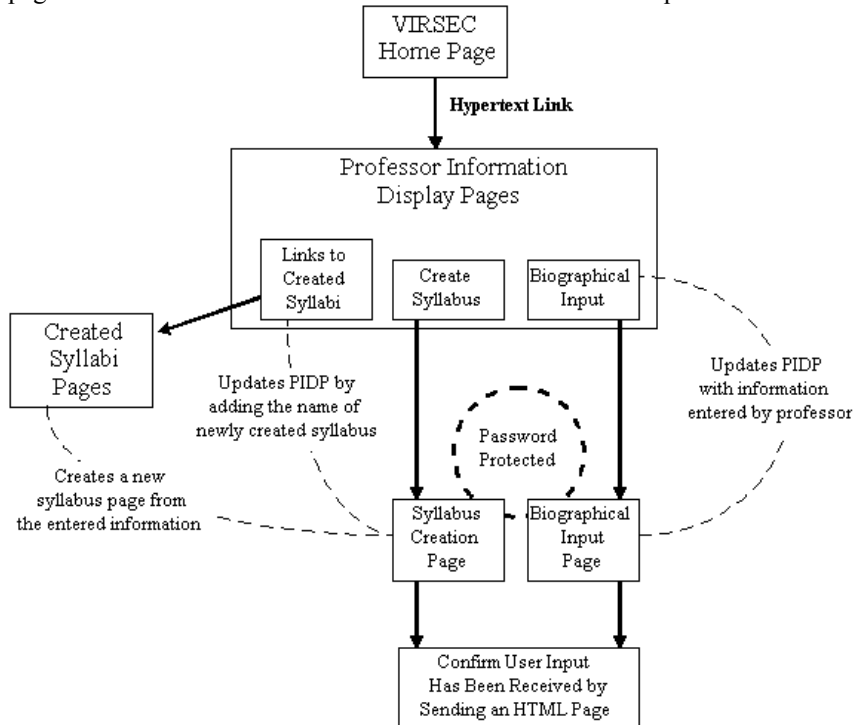


Figure 1. VIRSEC Block Diagram

3 Specific Requirements

3.1 Functional Requirements

The following figure shows the VIRSEC's top level context diagram:

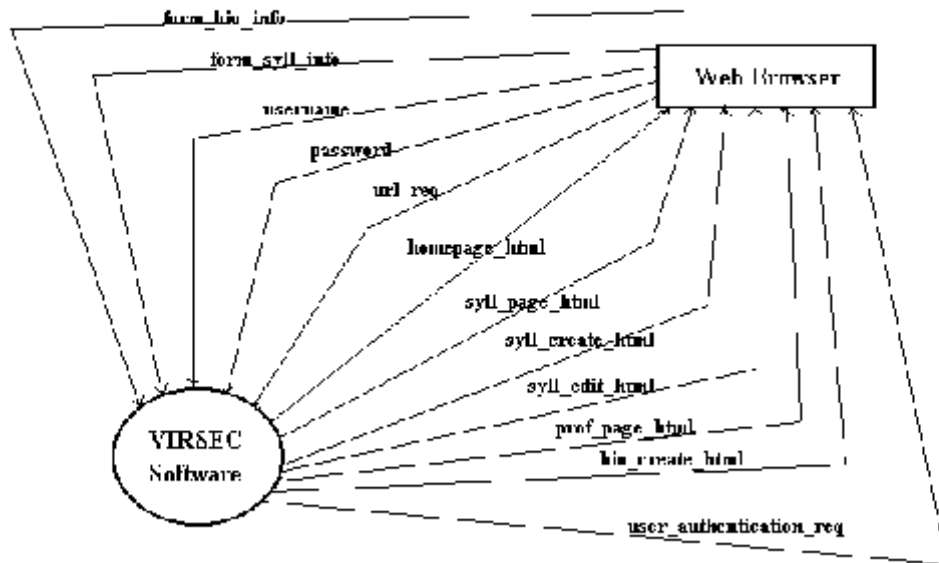


Figure 2. VIRSEC Context Diagram

3.1.1 Server Software

3.1.1.1 Introduction

The VIRSEC software shall utilize a commercial off-the-shelf server program in order to communicate with a client via the Internet. This server software shall accept all URL requests from the client, and return the proper information. The server software shall be capable of executing CGI scripts, and shall also provide a means of user name/user password authentication.

3.1.1.2 Input Requirements

The server software shall accept URL requests for items located on the VIRSEC server.

3.1.1.3 Output Requirements

The server software shall return the information contained in the file requested by the client.

3.1.2 VIRSEC Home Page

3.1.2.1 Introduction

In order to organize all of the information available through the VIRSEC, a home page shall be maintained. This home page shall contain a list of all of the professors currently teaching in the Computer and Electrical Engineering Departments in the form of hypertext links. These links will direct the user to the corresponding Professor Information Display Pages.

3.1.2.2 Output Requirements

The VIRSEC home page shall output the following items to the client:

- (1) Web Page name.
- (2) Listing of all of the professors currently teaching in the Computer and Electrical Engineering Departments. These entries shall include:
 - (a) a hyperlink to the professor's information page
 - (b) a hypertext mail link to the professor
 - (c) a brief description of the professor's specialties

3.1.3 Professor Information Display Pages

3.1.3.1 Introduction

The professor information display pages (PIDPs) shall provide an interface for viewing the biographical information entered by professors, and shall provide the professor access to the Professor Information Input Pages. The PIDPs shall also have a list of all of the course syllabi created by the current professor in the form of hypertext links.

3.1.3.2 Output Requirements

The PIDPs shall send the following items to the client:

- (1) Professor's Name
- (2) Professor's Educational Background
- (3) Professor's Office location
- (4) Professor' s Phone number
- (5) Professor's Current research topics
- (6) A brief personal description of the professor
- (7) Each of the professor's course syllabi shall be accessible via a hyper text link
- (8) The PIDP shall have a selection button for a link to the biographical input page
- (9) The PIDP shall have a selection button for a link to the course syllabus input page
- (10) The PIDP shall provide a hypertext mail link to the system administrator.

3.1.4 Professor Information Input Pages

3.1.4.1 Introduction

The professor information input pages (PIIPs) shall provide an interface for instructors to enter their particular information so that it may be displayed by the VIRSEC. There shall be two types of PIIPs: the biographical input page, and the course syllabus input page. Each of these shall be an HTML page, utilizing forms for data input. These pages shall be password protected so that only user with valid user names and passwords may input data. See Section [3.4.2 on page 14](#) for a description of the security methods.

3.1.4.2 Biographical Information Input Page

The biographical information input page shall provide an interface for instructors to enter personal information about themselves. This page shall also contain instructions on proper data format, maximum item length (for each entry), and page submittal.

3.1.4.2.1 Input Requirements

The biographical input page shall request items 1 through 6 from Section [3.1.3.2](#) with the following specifications:

- (1) Name to appear on PIDP (max of 50 characters)
- (2) Educational Background (max of 20 lines, 75 characters each)
- (3) Office location (max of 20 characters)
- (4) Phone number (max of 2 lines, 20 characters each)
- (5) Current research topics (maximum of 20 lines, 75 characters each)
- (6) A brief personal description (maximum of 10 lines, 75 characters each)

3.1.4.2.2 Processing Requirements

All of the information entered through the biographical information input page shall be parsed into name/value pairs, corresponding to each of the items listed in the input section.

3.1.4.2.3 Output Requirements

The output of the biographical input page shall be decoded form input data. This data shall be displayed by the PIDP when that page is accessed.

3.1.4.3 Course Syllabus Input Page

The course syllabus information input page shall provide an interface for instructors to enter information about the courses they teach. This page shall also contain instructions on proper data format, maximum item length (for each entry), and page submittal.

3.1.4.3.1 Input Requirements

The course syllabus input page shall accept the following inputs from a professor:

- (1) Course number (max of 10 characters)
- (2) Prerequisites (max of 2 lines, 50 characters each)
- (3) Textbooks (max of 8 lines, 50 characters each)
- (4) Course topics (max of 15 lines, 50 characters each)
- (5) Grading policies (max of 10 lines, 50 characters each)
- (6) Office hours (max of 6 lines, 30 characters each)
- (7) Teaching assistant (max of 8 lines, 50 characters each)

3.1.4.3.2 Processing

All of the information entered through the course syllabus information input page shall be parsed into name/value pairs, corresponding to each of the items listed in the input section.

3.1.4.3.3 Output Requirements

The output of the course syllabus input page shall be decoded form input. This data shall be used by the Course Syllabus Display Page to generate a web page. The data shall also be used to update the current professor's course syllabus list.

3.2 External Interface Requirements

3.2.1 User Interfaces

All HTML pages within the VIRSEC shall be self-documenting so that no external instruction manual is needed for navigation. Each field of the information input pages shall be explicitly named on screen, and all submittal instructions shall also be shown.

3.2.1.1 VIRSEC Home Page

The VIRSEC home page shall contain all of the information listed in Section [3.1.2.2 on page 10](#).

3.2.1.2 Professor Information Display Pages

The PIDPs shall have the following layout:

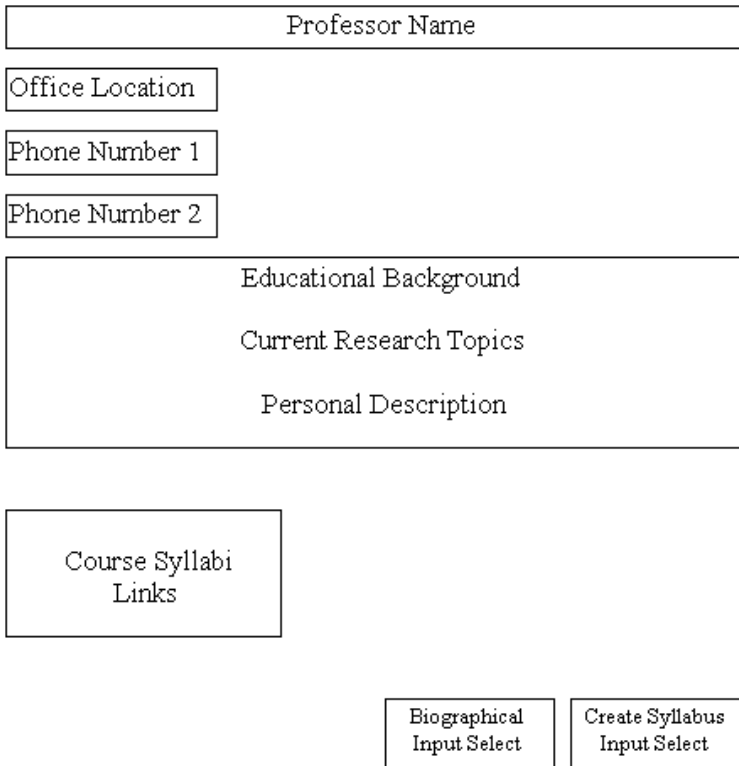


Figure 3. Professor Information Display Page Layout

3.2.1.3 Biographical Input Page

The biographical input page shall request the information listed in Section [3.1.4.2](#) via HTML forms.

3.2.1.4 Course Syllabus Input Page

The course syllabus input page shall request the information listed in Section [3.1.4.3](#) via HTML forms.

3.2.1.5 Syllabus Display Pages

The syllabus display pages shall output all of the information listed in Section [3.1.4.3](#).

3.2.2 Hardware Interface

The VIRSEC shall be accessible by any one with a computer terminal linked to the Internet and supporting a graphical web browser, such as Netscape.

3.2.3 Software Interface

The VIRSEC shall reside in a UNIX, version SunOS 4.1.4, operating system. The VIRSEC server software shall be the Apache v1.1.1 server-ware. The VIRSEC applications shall interface with the web server via CGI 1.1.

3.2.4 Communications Interface

Network communication shall be accomplished through the HTTPd standard.

3.3 Performance Constraints

The VIRSEC home page software shall execute on the College of Engineering server and network. The performance of the home page software shall be directly related to the performance of the Engineering server and network.

3.4 Other Requirements

3.4.1 Verification

Verification shall be conducted by assigned in-house testing and independent sources.

3.4.2 Security

The VIRSEC home page software shall utilize the password protection provided by the server software in order to secure the data input pages. All scripts which access professor data files shall reside in a protected directory. When a file from this directory is requested, the server-ware shall request a username and password before access to the file is granted.

The username and password list for the VIRSEC shall be maintained by the VIRSEC system administrator.

3.4.3 Maintainability

The VIRSEC software shall be well commented.

3.4.4 Acceptance Criteria

The software shall be deemed acceptable when the developer has demonstrated the creation of three professor web pages, each with two syllabi pages.

3.5 Design Constraints

3.5.1 Software Constraints

The software shall be written in Perl version 4.0 and HTML version 2.0. The VIRSEC software requires the UNIX operating system, access to Perl, and compatibility with HTML and HTTP compliant serverware.

3.5.2 Hardware Constraints

The VIRSEC software (including server-ware) shall take up no more than 10 Mb on the host computer.