SOFTWARE REQUIREMENTS SPECIFICATION

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ELITECONF CONFERENCE MANAGEMENT SYSTEM

HACKED HARD

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1. INTRODUCTION

1.1. Purpose

This document provides a complete description of the EliteConf project, its functions and specifications. It will cover the purpose, scope of the project; explain features, interfaces and functions of the project. The expected audience of this document is the faculty of CENG in METU, including members who will use this system. The purpose of this Software Requirements Specification is to serve as the repository for all of the requirements that the EliteConf system shall or should possess. This specification is the primary document upon which all of the subsequent design, implementation, and test/validation plan will be based.

1.2. Scope of the Project

EliteConf is a web application that will support every aspect of the conference organization process. This includes paper submission, reviewer assignments, registration handling of the conference participants, searching, downloading papers, management multiple conferences at a time. System should be applicable to any scientific/technical conference, which requires peer-reviewed papers.

1.3. Intended Audience and Reading Suggestions

This Software Requirements document is intended for:

- Developers who can review project’s capabilities. So that they can easily understand where their efforts should be targeted to improve or add more features to it.
- Project testers so that they can use this document as a base for their testing strategy.
- End users of EliteConf who wish to read about this project’s features and what it can do.
1.4. References


2. OVERALL DESCRIPTION

2.1. Product Perspective

EliteConf is a conference management system that manages all administrative and organizational tasks of a conference. The system is a server side web application that uses external relational database management system as a data tier. Every user of this system needs only a web browser to use the system and connect to it. The system will be based on PHP/MySQL technologies which provide easy and rapid development. This system will also be able to host multiple conferences and their all web based activities.

2.2. Product Functions

Mandatory features (EliteConf will provide):

- Single login authentication
- Paper submissions
- Paper referee assignment
- Referee evaluations
- Final manuscript submissions, publisher relations
- Periodical announcements
- Conference rooms and presentation scheduling
- Web page and announcements
- Registrations
- Multiple conference management
Desirable features (EliteConf should provide):

- Tutorials on creation and administration of conferences

2.3. User Characteristics

EliteConf is mainly meant to be used by academic staff. However, the system will not require any higher technical knowledge and experience with similar applications. Thus it can be used by general users, too.

2.4. Operating Environment

EliteConf will be able to run on every platform where Web Browser exists. Web server should be reliable. Server uptime is critical around author and reviewer deadlines. Web server and DBMS should be capable of receiving a number of requests simultaneously. System shall possess these features on a server.

2.5. Design and Implementation Constraints

EliteConf will be independent system written in PHP/MySQL languages. Its user interface will be written in HTML and CSS. So the knowledge of these programming languages is required. To handle the administration of DBMS we use PhpMyAdmin. Also, for Web development XAMPP, which includes Apache Server, MySQL, database and PHP will be used. Apache Server will be used for development and maintenance of our HTTP server in Windows.

3. SYSTEM FEATURES

EliteConf provides different features for different user types. There also exist common features for every user type. Some of the basic features EliteConf provides and their functional requirements are described in this section. These features and functional requirements are described in detail to assist the testers and developers that will provide future extensions. Features mentioned in this section will be implemented in the final product.
3.1. Feature 1: Registration

3.1.1. Description

In this phase, the user information is put into database. After registration, users will be able to sign in and have access to system’s features.

Registration process consists of following step:

- **Providing Personal Data**: In this step, users will have to fill their personal data.
  
  Personal data includes the following:
  
  - Title
  - First Name
  - Last Name
  - E-mail
  - Password
  - Contact Information

3.1.2. Functional Requirements

REQ-01: Server should not accept an e-mail that was registered before.

REQ-02: Server should not accept passwords shorter than 6 characters.

3.2. Feature 2: Single Login Authentication

3.2.1. Description

This function specifies the signing-in process of the system. E-mail and password will be required for login process.

Single Login Authentication consists of the following:

- **E-mail Field**: Users will need to put their e-mail addresses in this field. E-mail address is used for identification of a user.
• **Password Field:** Users will need to put their passwords in this field. User will be able to change their passwords after logging in.

(See 6.2.1.1. Use case 1: Login)

3.2.2. Functional Requirements

REQ-01: Server should check if the e-mail and password entered by the user are valid or not.

3.3. **Feature 3: Conference Request**

3.3.1. Description

In order to request a conference, a user should click “Request New Conference” link on his/her homepage. After the required fields are filled and a conference is requested, the conference is automatically created and put on the user’s homepage. This feature handles this process by asking event information.

Conference Request consists of the following:

• **Required Information:** Following information is requested by this feature:
  
  ➢ Name of event
  ➢ Description
  ➢ Start Time
  ➢ End Time
  ➢ Date
  ➢ Conference rooms
  ➢ Address
  ➢ Description

• **Send Request:** User will send his/her request to the server by clicking “Request Conference” button after filling in the required fields.

3.3.2. Functional Requirements
REQ-01: Every user will be able to use this feature.

REQ-02: All fields in the request form will require to be filled.

(See 6.2.2.2. Use Case 7: Request conference)

### 3.4. Feature 4: Paper Referee Assignment

#### 3.4.1. Description

Each paper will be assigned to a referee for reviewing and evaluation. A user will be able to choose the referees for papers that were submitted to his/her conference. The user will need to select “Assign Referee” option in a paper’s page.

Paper Referee Assignment will consist of the following:

- **Paper Viewing Page – Administering Panel**: In this panel, a user will be able to view every paper that was submitted for every conference he/she created.

- **Referee Assignment**: A user will select “Assign Referee” option on the administrating panel in paper viewing page. The user will specify a referee email address for the selected paper.

- **Approval**: After all the selections are done, the user will approve the mail address of the assigned referee and the paper will be assigned.

#### 3.4.2. Functional Requirements

REQ-1: A user will only be able to assign papers that were submitted to a conference he/she created.

REQ-2: Only one paper can be assigned at a time.

REQ-3: There will be no restrictions on the number of assigned papers for a referee.

(See 6.2.2.1. Use Case 6: Assign referee to conference)

### 3.5. Feature 5: Viewing Referee Evaluations

#### 3.5.1. Description

A user will be able to view referee evaluation (comments and rating given by referee) of a paper on “paper evaluation viewing panel” on “paper viewing page”. Referees will be
able to view and edit their evaluations, and authors will need to update their papers and create final manuscripts accordingly. Conference administrators will view the evaluations and decide whether the submitted paper is good enough for the conference or not.

Viewing Referee Evaluations will consist of the following:

- **Paper Viewing Page – Paper Evaluation Viewing Panel**: A user will be able to view the rating and comments given by the referee using this panel.

3.5.2. Functional Requirements

REQ-01: Every participant of a conference will be able to view conference papers and their evaluations.

3.6. **Feature 6: Paper Management**

There are three main topics in management of papers, namely paper submission, paper viewing and download, and paper evaluation. In the following topics, these topics are discussed in detail.

3.6.1. **Paper Submission**

3.6.1.1. **Description**

A user will be able to submit papers for a conference if he/she was invited as an author.

Paper Submission will consist of the following:

- **Paper Submission Page**: This page will be used by authors of a conference to submit their papers.

- **Paper Document Format Validation**: Before submitting the paper, author will have to validate the paper format. Paper will need to be in PDF format, and might have some of the following constraints:
  - Margin
  - Paper size (letter, A4)
  - File size must not exceed some value
3.6.1.2. Functional Requirements

REQ-01: A user will only be able to submit a paper for a conference if he/she was invited as an author.

REQ-02: There will be some constraints on file format and size.

3.6.2. Paper Viewing and Download

3.6.2.1. Description

All users will be able to view and download papers that belong to a conference they are participating in. The user will be able to view properties of a paper as well as comments that were given by conference admin, referee and author for that paper.

Paper Viewing and Download will consist of the following:

- **Paper Viewing Page**: A user will be able to view the properties of a submitted paper on this page. Also, comments given by conference administrator, referee and author will be able to be viewed on this page. Users will also be able to download the papers for viewing.

(see 6.2.1.5. Use case 5: View and download paper)

3.6.2.2. Functional Requirements

REQ-01: A user will only be able to view papers of a conference if he/she was invited to that conference.

REQ-02: All users will be able to download and view properties of a paper.

3.6.3. Paper Evaluation

3.6.3.1. Description

Users will be able to evaluate papers if they are invited to the conference as referee and the paper was assigned to them. They will also be able to write comments about papers. Referees will give ratings and comment on papers, and these papers will be approved or
rejected by conference administrator according to these evaluations. Rejected papers will have to be edited and sent as final manuscripts by authors.

Paper Evaluation will consist of the following:

- **Paper Evaluation Page**: Referees will be able to give evaluations on their assigned papers using this page.
- **Comment Page**: Referees will be able to comment on their assigned papers using this page.

(see 6.2.1.5. Use case 5: View and download paper)

### 3.6.3.2. Functional Requirements

REQ-01: Users will only be able to evaluate papers if they were invited to a conference as a referee.

REQ-02: A referee will only be able to evaluate papers he/she was assigned to.

### 3.7. Feature 7: Periodical Announcements

3.7.1. Description

This feature will include sending reminders to all users of a conference about their responsibilities and conference details. This process will be done by emails periodically sent to users. Conference administrator will be able to manage time intervals of reminders.

### 3.8. Feature 8: Conference Rooms and Presentation Scheduling

3.8.1. Description

The system should be able to determine the conference rooms and schedule the presentations using the information provided by conference administrator while filling in the conference request form. This process will be done automatically.

Scheduling process consists of the following:
The document contains sections on conference management, focusing on features such as conference rooms, scheduling, announcements, and multiple conference management. Here is a summary of the key points:

- **Conference Rooms Panel**: Users need to provide information about the number and capacity of the rooms.
- **Conference Time Panel**: Users need to specify the time requirements for conferences.

### 3.8.2. Functional Requirements

REQ-01: The system needs an implemented algorithm for scheduling presentations and arranging conference rooms.

### 3.9. Feature 9: Web Page Announcements

#### 3.9.1. Description

This feature announces updates and details about conferences. Conference administrators can make announcements.

Web Page Announcements include:

- **My Conferences Page**: Users can view all conferences they are participating in.
- **View Conference Page**: Properties, schedule, and announcements of a selected conference can be viewed.
- **Make Announcement Page**: Conference administrators can make announcements for selected conferences.

#### 3.9.2. Functional Requirements

REQ-01: Updates will be automatically viewed as the conference is constructed (e.g., papers automatically viewed on submission).

### 3.10. Feature 10: Multiple Conference Management

#### 3.10.1. Description
A user will be able to create and manage multiple conferences. Each conference will have its own page for paper submissions, participants and other necessities. The conference admin will have the same administrative rights in each of these conferences.

Multiple Conference Management will consist of the following:

- **My Conferences Page**: A user will be able to view the conferences s/he created using this page. On this page, by simply clicking on “view conference” link under one of the conferences, s/he will be redirected to that conference’s page and will be able to edit and view its components.

- **Request New Conference**: A user will be able to create a new conference simply by clicking “Request New Conference” link on My Conferences Page. After putting in the necessary information, the conference will be launched and ready to view. (See 6.2.2.2. Use Case 7: Request Conference)

3.10.2. Functional Requirements

REQ-1: All users will be able to create and manage their own conferences.

3.11. **Feature 11: Tutorials**

3.11.1. Description

EliteConf should provide tutorials for different uses of the system. Basic conference creation, referee assignment, participant invitation tutorials will be provided on conference administration processes. Paper download, paper viewing, paper evaluation and paper submission tutorials will be provided on paper management processes.

Tutorials will consist of following:

- **Conference Administration Tutorials Panel**: Will provide tutorials for conference administration processes.

- **Paper Management Tutorials Panel**: Will provide tutorials for paper management processes.

3.11.2. Functional Requirements
REQ-1: All users will be able to view tutorials

3.12. Feature 12: Material Search

3.12.1. Description

A user will be able to search for the material he/she is interested in. This will include search by name of conferences, authors and titles of papers.

Material Search will consist of the following:

- **Material Type Selection**: User will need to select the type of the material s/he wants to search for.
- **Material Properties**: User might want to specify some properties for the material. These properties will include:
  - Material name
  - Conference name
  - Author name

Not all of these properties will have to be specified for the search feature.

3.12.2. Functional Requirements

REQ-1: Additional disk space and processing power will be needed for the search tool.

REQ-2: The search index will need to be updated after the files are changed so that searches will locate the correct data.

3.13. Feature 13: Multirole Interface

3.13.1. Description
EliteConf facilitates a multirole interface for user friendliness and ease of use. A user has the ability to create, manage and view conferences, as well as the ability to submit, view and evaluate papers using only one account. A user may be only an attendee for a conference, while he/she is administrating another one.

A user becomes a conference administrator when he/she creates a conference. The user’s administrative rights are defined only for the conferences he/she created. Conference administrator can invite participants for his/her conference and invited participants’ user roles are assigned according to the selection made by the administrator. These user roles are valid for only that specific conference.

4. EXTERNAL INTERFACE REQUIREMENTS

4.1. User Interfaces

User interface will be provided through a web browser as a web site. Thus the user interface will be constrained by the web browser capabilities.

4.2. Hardware Interfaces

256MB RAM, 800 MHz Intel, Pentium or AMD processor, keyboard, mouse.

4.3. Software Interfaces

EliteConf will be provided through a web browser, and it will be compatible with most of the widely used ones, if not all. Thus it will be independent from the operating system of the computer on which it runs.

4.4. Communications Interfaces
EliteConf is a web application, so constant network communication will be needed to be able to use the system.

5. OTHER NONFUNCTIONAL REQUIREMENTS

5.1. Performance Requirements

Performance of the system depends on the response time and the speed of the data submission. The response time of the system is direct and the application is considered real-time. System should have a fast response time, which depends on the efficiency of implemented algorithm. The first version of the system will have a limited file submission speed; that is why there will be no need for large network. However, it may grow up depending on the increase in usage.

5.2. Safety Requirements

System has to check:

- If HTML content is syntactically well-formed,
- if Web forms with the services processing form input are consistent,
- referential integrity of hyper-links in both static and dynamically generated content,
- statically safe binding of the code of session operations to variables defined with session scope.

In case of error it should provide users with appropriate help messages.

5.3. Security Requirements

For security of the system the technique known as database replication should be used so that all the important data should be kept safe. In case of crash, the system should be able to backup and recover the data.

5.4. Software Quality Attributes
The system will have a simple and user friendly graphical interface. Users will be able to understand and use all the features of the website easily. Any action will be performed with just a few clicks.

5.5. Other Requirements – GNU GPL License

The project is released under the GNU General Public License. The philosophy of this license implies some basic principles which apply to the project.

The GPL is a free software license, and therefore it permits people to use and even redistribute the software without being required to pay anyone a fee for doing so.

- The freedom to run the program, for any purpose.
- The freedom to study how the program works, and adapt it to your needs. Access to the source code is a precondition for this.
- The freedom to redistribute copies so you can help your neighbor.
- The freedom to improve the program, and release your improvements to the public, so that the whole community benefits. Access to the source code is a precondition for this.

Source: http://www.gnu.org/copyleft/gpl.html

6. APPENDIX

6.1. Appendix A: Glossary

- **SRS** (Software Requirements Specification): is a complete description of the behavior of the system to be developed.
- **CMS** (Conference Management System): is web-based software that supports the organization of scientific conferences.
- **DBMS** (Database Management System): is a set of programs that enables you to store, modify, and extract information from a database, it also provides users with tools to add, delete, access, modify, and analyze data stored in one location.
• **PDF** (Portable Document Format): is a file format created by Adobe Systems in 1993 for document exchange.

• **PHP** (Personal Home Page / Hypertext Preprocessor) is an open source general-purpose server-side scripting language originally designed for Web development to produce dynamic Web pages.

• **MySQL** (My Structured Query Language) is the world's most used open source relational database management system (RDBMS) as of 2008 that runs as a server providing multi-user access to a number of databases.

• **CSS** (Cascading Style Sheets) is a style sheet language used for describing the presentation semantics (the look and formatting) of a document written in a markup language.

• **HTML** (HyperText Markup Language) is the main markup language for displaying web pages and other information that can be displayed in a web browser.

• **XAMPP** is a free and open source cross-platform web server solution stack package, consisting mainly of the Apache HTTP Server, MySQL database, and interpreters for scripts written in the PHP and Perl programming languages.

• The **Apache HTTP Server**, commonly referred to as Apache, is a web server software notable for playing a key role in the initial growth of the World Wide Web.

• **phpMyAdmin** is a free and open source tool written in PHP intended to handle the administration of MySQL with the use of a Web browser.

6.2. **Appendix B: Analysis Models – Use Case Diagrams**

State Chart Diagram
Use Case Diagram of All Users
6.2.1. Common Use Cases for All Users

6.2.1.1. Use case 1: Login

6.2.1.2. Use case 2: Logout
6.2.1.3. Use case 3: Search

6.2.1.4. Use case 4: View reviews

6.2.1.5. Use case 5: View and download paper
6.2.2. Private Use Cases for User: Admin

6.2.2.1. Use case 6: Assign referee to conference
6.2.2.2. Use case 7: Request conference

6.2.2.3. Use case 8: Remove Review

6.2.3. Private Use Cases for User: Referee
6.2.3.1. Use case 9: Review paper

6.2.4. Private Use Cases for User: Author
6.2.4.1. Use case 10: Submit paper