# Software Requirements Specification

Conference Management System

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# 1. Introduction

## 1.1. Purpose

The Conference Management System supports the automatic management of information related to scientific conferences.

The main objective of this project is to provide the solution for organizations or users that necessit organizing conferences, automatizes the process of initialising one, inviting people into the conference, setting a theme and submitting/reviewing papers.

## 1.2. Document Conventions

SC = Steering committee
PC = Program committee
CMS = Conference Management System
PDF = portable document format

## 1.3. Intended Audience and Reading Suggestions

This project is a prototype of a CMS and is meant to be used by:

- Organizations / People that want to initiate a conference
- Authors/Writers
- Reviewers
- Attendees

## 1.4. Project Scope

The objective of a Conference Management System is to support the automatic management of information related to scientific conferences.

This information concern: the authors submitting proposals, the members of the Program Committee, the submissions' abstract and full papers proposed, meta-information about these, the deadlines for different phases of sending proposals, assigning paper to reviewers, evaluation deadline and announcing the results of paper valuation.

Above all, we hope to provide a comfortable user experience.

## 1.5. References


- https://www.youtube.com/watch?time_continue=783&v=zid-MVo7M-E&feature=emb_title
- https://www.infoq.com/articles/why-architectural-diagrams/
- https://openclassrooms.com/en/courses/4191736-design-a-database-with-uml/4191743-learn-about-class-diagrams

## 2. Overall Description

### 2.1. Product Perspective

The CMS stores the following information:

- **Conference details** - Includes description, field of interest, deadlines and specifics for each phase, members of the PC and SC.

- **User description** - Includes name, affiliation, email, role played in the conference (user, reviewer, SC member) and other info pertaining to said role

- **Proposal description:**
  Includes submitter details,the abstract,meta-information(name,keywords,topics,list of authors),full paper(where applicable)

- **Section details:**
  Includes section chair details,number of expected listeners,information about speakers and scheduling

### 2.2. User Classes and Characteristics

The system should support three types of user privileges for each conference edition: User, Reviewer, SC member. Users have access to user functions, Reviewers have access to user and reviewer functions. SC members have limited access to user functions and full access to reviewer and SC functions.

A User should be able to:

- View ongoing conferences
- Register to a conference
- Submit a proposal
- Edit their proposal
- Upload a presentation(accepted speakers)
- Register for specific sections of the conference activities

A Reviewer should be able to:

- Choose papers they would like to review
- Review papers assigned to them by the SC
- View the evaluations of other reviewers once theirs is submitted

An SC member should be able to:

- Create a conference edition
- Alter deadlines
- Assign reviewers to a paper

- Structure conference activities

### 2.3. Operating Environment

- Operating systems: Windows, Linux, MacOS
- Web browsers: Chrome, Firefox, Opera, Safari, Edge
- Frontend: HTML, CSS, JavaScript, TypeScript
- Backend: Java based
- Database: PostgreSQL database

### 2.4. Design and Implementation Constraints

- Implement according to the database, class and architecture diagram
- Make the system available in most of the browsers
- Functionality over design

### 2.5. Assumptions Dependencies

There might be many libraries used which could cause trouble when updating the system.

## 3. System Features

### 3.1. Functional Requirements

- A chair should be able to create, read, update and delete conferences and assign different positions (PC, Co-chairs, etc.) to different users
- Secure registration and profile management facilities for different users
- After a conference is created every user has the possibility to submit a paper
- The possibility for the reviewers to grade and comment submitted papers

## 4. External Interface Requirements

### 4.1. User Interfaces

- Front-end software: Angular 8+
- Back-end software: Spring, Postgresql

### 4.2. Hardware Interfaces

- Windows 7 and newer, Linux based distributions, MacOS 10.12 Sierra and newer

- Google Chrome, Firefox, Opera, any browser that fully supports HTML, CSS and Javascript.

### 4.3. Software Interfaces

| Software Used | Description |
|---|---|
| Operating System | We have decided to use Windows for our target operating system because it is one of the most used operating systems in the world, it is very user-friendly and due to its constant patches and updates from Microsoft is very secure as well. Also, our application is accessed through a browser so any os (Windows, Linux, MacOS) that supports those browsers is a valid system. |
| Database | In order for us to save user information, conference information, paper metadata and so on, we have chosen PostgreSQL. PostgreSQL is a free and open-source relational database management system emphasizing extensibility and technical standards compliance. It is designed to handle a range of workloads, from single machines to data warehouses or Web services with many concurrent users. |
| Angular | This frontend tool is equipped with robust components to help developers write readable, maintainable, and easy-to-use code, it has detailed documentation, it is supported by Google, it has a Component-Based architecture, and, due to its popularity, there is a great range of third-party software available. |
| Spring | Spring's flexible libraries are trusted by developers all over the world, it is flexible, having a comprehensive set of extensions and third-party libraries that enable developers to build almost any application imaginable. Spring is also very secure, it is closely monitored for vulnerabilities and regular updates help keep Spring applications as safe as possible. |

### 4.4. Communications Interfaces

This project supports all types of Web Browsers. All communications are done through the web application.

## 5. Nonfunctional Requirements

### 5.1. Performance Requirements

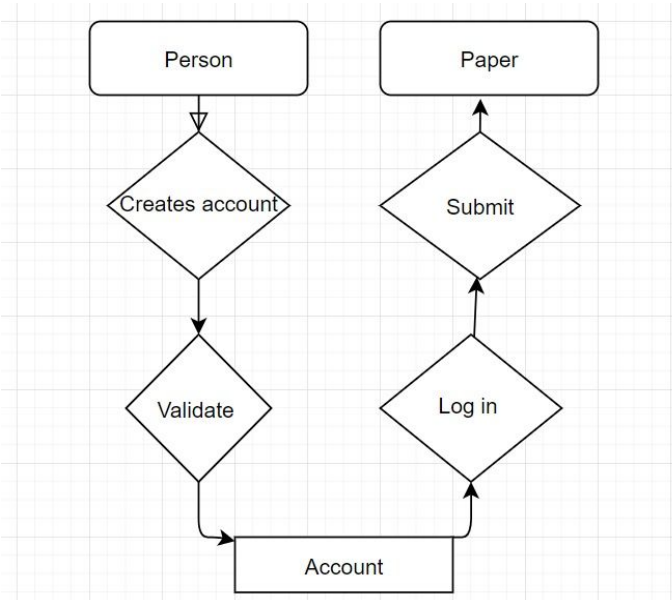
The steps involved to perform the implementation of the conference management database are as listed below.

**A) E-R DIAGRAM**

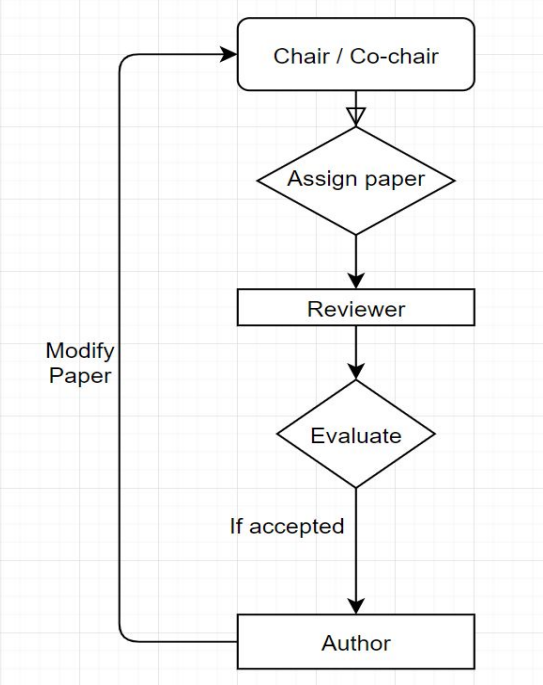
The E-R Diagram constitutes a technique for representing the logical structure of a database in a pictorial manner. This analysis is then used to organize data as a relation, normalizing relation and finally obtaining a relation database.

- *ENTITIES* -> specify distinct real-world items in an application.
- *PROPERTIES / ATTRIBUTES* -> specify properties of an entity and relationships.
- *RELATIONSHIPS* -> connect entities and represent meaningful dependencies between them.

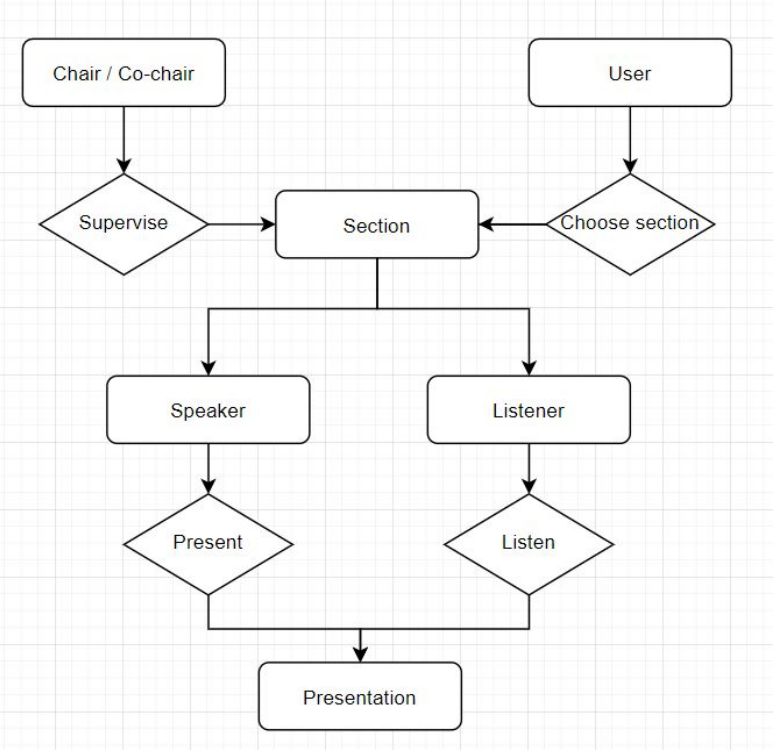
*First Phase*




*Second Phase*



*Third Phase*




## 5.2. Safety Requirements

If there is extensive damage to a wide portion of the database due to catastrophic failure, such as a disk crash, the recovery method restores a past copy of the database that was backed up to archival storage (typically tape) and reconstructs a more current state by reapplying or redoing the operations of committed transactions from the backed up log, up to the time of failure.

## 5.3. Security Requirements

Security systems need database storage just like many other applications. In order to protect the data, we'll use PostgreSQL, the most advanced open source database that comes with many security updates and Spring, long-term support Java based framework which has great security features integrated.

## 5.4. Software Quality Attributes

AVAILABILITY: Every author can post a paper up until a specified deadline. If invited to a conference, a PC member is able to review submitted papers before a given deadline. The conference should be available on the specified date, time period and location.

CORRECTNESS: A reviewer does not receive for evaluation a paper refused in the bidding phase.At least two different reviewers have to evaluate each paper. If PC members

submits a paper as an author, they don't have the right to see the reviewers of the papers or the comments.

MAINTAINABILITY: The SC is able to create an event, select the participants (chair/co-chairs), choose a deadline. The deadline can be modified by the PC.

USABILITY: The system requires a login / account in order to be able to participate at any of the phases of the conference.