**System Design Document: Paper Nest (Inspired by EasyChair)**

**Phase:** Planning

**1. Overview**

Paper Nest is a university-level, web-based platform developed for managing research paper submissions, reviews, and decisions for academic conferences. Inspired by EasyChair, this document outlines all features identified during the planning phase, categorized as **mandatory** (must be implemented) and **optional** (considered for future enhancement).

**2. User Roles and Responsibilities**

**2.1 Author**

**Mandatory Features:**

* Register and log in as an Author
* Access personal dashboard
* Submit papers with full metadata
* Edit submissions before deadline
* View review results and final decision
* Upload final (camera-ready) version if accepted

**Mandatory Submission Fields:**

* Paper Title
* Abstract
* Author Names and Emails
* Corresponding Author (selection)
* File Upload (PDF)
* Topics (checkboxes)
* Agreement to submission terms (checkbox)

**Optional Author Features:**

* ORCID ID
* Personal Website / Academic Profile URL
* Author Biography
* Upload presentation slides (after acceptance)
* View acceptance letter/download receipt
* Track revision history

**2.2 Reviewer**

**Mandatory Features:**

* Register and log in as Reviewer
* Access only assigned papers
* Submit evaluation with minimum two scoring criteria
* Add comments for authors
* Edit review before deadline

**Optional Reviewer Features:**

* Private notes to chair (not visible to author)
* Suggestions for improvement
* Conflict-of-interest declarations
* Review anonymity (blind/double-blind support)
* Weighted scoring or custom rubrics

**2.3 Chair / Conference Admin**

**Mandatory Features:**

* Login as Chair/Admin
* Create/manage conferences
* Assign reviewers to papers
* Monitor review progress
* View submitted reviews
* Make decisions (Accept/Reject/Revise)
* Notify authors with decisions
* Collect final submissions

**Optional Chair Features:**

* Set submission and review deadlines
* Bulk notify users (authors, reviewers)
* View submission statistics and review status
* Add external website link
* Upload and display conference logo or banner
* Add sponsor information
* Registration links for accepted authors
* Provide instructions for authors/reviewers
* Export data (CSV, PDF)
* Generate acceptance letters
* Assign multiple reviewers per paper

**2.4 Platform Administrator (System-Level Role)**

**Optional Role (Not part of conference-specific workflow):**

* Manage overall platform maintenance
* Fix bugs and improve UX
* Handle user support
* Control system-wide settings
* Add/disable conferences

**3. Minimum Viable Product (Mandatory)**

These core features are required for basic system functionality:

* Role-based Login System (Author, Reviewer, Chair)
* Full Submission Form with all required fields
* Reviewer Form with Overall Score and Category Ratings
* Reviewer Assignment System (Chair)
* Chair Decision Panel and Author Notification System

**4. Optional Features for Future Enhancements**

Planned for future versions to extend functionality:

**Author-Side Enhancements:**

* ORCID, Bio, Website
* Slide Upload
* Confirmation receipt and status tracking
* Revision versioning

**Reviewer-Side Enhancements:**

* Private Chair Notes
* Conflict-of-interest declaration
* Anonymity and double-blind review
* Reviewer reminders

**Chair/Admin Enhancements:**

* Submission and review deadlines
* Review reminder notifications
* Exporting reviews/statistics
* Bulk email notifications
* Sponsor/branding visuals
* Public conference website

**System-Level Enhancements:**

* Admin analytics dashboard
* User activity tracking
* Password recovery system
* Custom reviewer assignment logic
* Public announcements panel

**Tech Stack for Web App:**

| **Layer** | **Tech Used** | **Why?** |
| --- | --- | --- |
| **Frontend** | HTML, CSS, JavaScript | Build user interface |
| **Backend** | Python with Flask | Easy server-side handling |
| **Database** | SQLite (or MySQL) | Store users, papers, reviews |
| **Tools** | GitHub, VS Code | Version control & code editor |