Bilkent University

Department of Computer Engineering

Senior Design Project

T2409

Conferencer

Detailed Design Report

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1. Introduction

In the rapidly evolving landscape of academic conferences, the process of managing submissions, reviews, and program committees has become increasingly complex and time-consuming. Organizers and reviewers are often tasked with managing large volumes of data, ensuring fair and efficient review processes, and maintaining a high standard of academic integrity. Existing systems such as EasyChair, HotCRP, and OpenConf, while useful, fail to address the nuanced needs of modern conferences, particularly in terms of usability, flexibility, and integration with other academic platforms. Our purpose is to fulfill the lack of a comprehensive, user-friendly, and flexible conference management system.

Our proposed system, Conferencer, is designed to regularize and enhance the conference management process for academic events. It offers a centralized platform where organizers, reviewers, and authors can interact, collaborate, and efficiently manage the submission, and review processes. By focusing on user experience and integration with external platforms like ORCID, Web of Science, and Google accounts, the system aims to provide a flawless, intuitive, and secure environment for all stakeholders involved in the conferences.

The system is a set of carefully crafted functional requirements that address the various stages of the conference process, from initial conference setup to paper submission and reviewer management. The platform is designed to be flexible, allowing organizers to configure their conference events, define tracks, and manage paper submissions with ease. For authors, it provides a useful interface for submitting papers, tracking their status, and receiving feedback. Reviewers can have the benefit of a recommendation engine that matches them with papers based on their expertise, past performance, and conflict-of-interest declarations.

Role-based access control within the conference system ensures that users, whether they are authors, reviewers, or admins, have access to only the features relevant to their roles. Organizers can manage active sessions, set up auto-logout for inactive users, and ensure that the entire conference management process is secure and well-organized.

The system also focuses on performance and usability for program committee (PC) management. Organizers can invite potential PC members, and track the status of invitations. The system's intelligent search and filtering features help identify optimal reviewers for papers, and its historical performance data assists in making informed decisions about reviewer assignments. For multi-track conferences, the system provides dedicated tools for managing each track independently, allowing for customized workflows while maintaining confidentiality across tracks.

A key focus of the system is its reviewer management and performance evaluation tools. Reviewers can customize their profiles, declare conflicts of interest, and set preferences for the

types of papers they wish to review. Conflict-of-interest detection system automatically flags potential issues by cross-referencing reviewer profiles with affiliations and co-authorships. Track and conference chairs can rate reviews based on quality, and reviewers can also rate their peers to ensure the integrity and fairness of the review process.

Looking to the future, Conferencer plans to incorporate advanced technologies like Natural Language Processing (NLP) to detect reviews generated by large language models (LLMs). This will help to maintain the authenticity of the review process and prevent the use of automated tools to generate reviews that lack the depth and engagement expected of academic peer reviews. By integrating such tools, the system will ensure that the credibility and trust of the review process are maintained, while also enhancing the user experience for both authors and reviewers.

1.1. Purpose of the System

Our senior project focuses on developing a more user-friendly conference management system designed to simplify the submission and review process for academic conferences. While offering features similar to EasyChair, HotCRP, and OpenConf, our system stands out with improvements in usability and more detailed statistics about users and reviewers. The system allows for easy management of conference series, multi-track events, and shared program committees while adding tools like reviewer recommendations, customizable profiles, and advanced filtering options. It’s designed to meet the evolving needs of academic conferences, offering flexibility and detailed insights for organizers.

1.2. Design Goals

Design goals of the Conferencer encompass various aspects, including usability, performance, reliability, security, scalability, and extendibility. Each of these aspects is carefully considered to ensure that the system is not only efficient and secure but also adaptable to evolving requirements. Below is an in-depth explanation of each design goal:

Usability

Usability is at the core of Conferencer's design philosophy. The system's interface is built using React, a powerful and flexible front-end library, to provide a modern and responsive user experience. The design emphasizes intuitive navigation, clean layouts, and real-time feedback, ensuring that users of all technical backgrounds can manage conference tasks effortlessly. Comprehensive tooltips, clear instructions, and error prevention mechanisms are integrated to minimize confusion and streamline workflows. By prioritizing a user-centric approach, Conferencer aims to reduce the learning curve for new users and enhance productivity for experienced ones.

Performance

A slow or laggy system can frustrate users and disrupt workflow efficiency. Conferencer ensures optimal performance by employing efficient data handling strategies and streamlined request processing. By designing a system that can manage multiple tasks swiftly and maintain low response times, users can complete their actions without unnecessary delays, ensuring a seamless and responsive experience.

Reliability

Unreliable systems can compromise submission deadlines, review processes, and the overall credibility of a conference. Conferencer achieves high reliability through redundant data storage, error management protocols, and continuous monitoring of system operations. By implementing robust backup mechanisms and failover strategies, the system ensures that essential services remain available and consistent, even in the event of hardware failures or unexpected traffic surges.

Security

Security is fundamental to protect sensitive information such as user credentials, submitted papers, and review comments. Inadequate security measures can lead to data breaches, intellectual property theft, and a loss of trust from the academic community. Conferencer ensures security by enforcing strong access controls, data encryption, and compliance with relevant data protection regulations. Regular security audits and secure authentication methods prevent unauthorized access, ensuring that users' information remains confidential and safe from threats.

Scalability

As more users, submissions, and reviews are added, the system must be able to expand smoothly. The system ensures scalability by designing modular components that can be scaled independently based on traffic and usage demands. By preparing for high-traffic events and optimizing resource allocation dynamically, the system can handle increased loads effectively, ensuring uninterrupted service for all users.

Flexibility

Some conferences may need single-track management, while others require multi-track capabilities with various customizations. Conferencer provides configurable workflows and customizable settings that allow organizers to define review processes, access permissions, and track-specific rules. This adaptability allows the system to support a wide range of conference formats and requirements without extensive modifications.

Maintainability

Poorly maintained systems can become obsolete quickly, requiring costly overhauls. Conferencer ensures maintainability through clear code practices, detailed documentation, and possibly automated testing. By making sure that the system's architecture is well-organized and its components are easy to understand, developers can implement updates and fixes quickly without risking new errors or service disruptions.

Aesthetics

A well-designed and visually appealing interface enhances usability by making information more accessible and reducing cognitive load. A professional and clean design by focusing on a consistent color palette, typography, and effective use of whitespace, by aligning with contemporary UI/UX standards, the platform not only facilitates efficient task completion but also leaves a positive and lasting impression on users.

1.3. Definitions, Acronyms, and Abbreviations

PC (Program Committee): A group of experts responsible for reviewing and selecting papers for a conference.

RBAC (Role-Based Access Control): A method of regulating access to a system based on the roles of individual users.

Conferencer: The proposed conference management system designed to streamline and improve the academic conference process.

Superchair: A user role in Conferencer with administrative privileges to manage the entire conference setup and operations.

Track Chair: A user responsible for managing a specific track within a conference, including reviewer assignments and decision-making.

Reviewer: A user tasked with evaluating paper submissions based on their expertise.

Author: A user who submits papers for review and publication at the conference.

Submission: A paper or document submitted by an author for review.

1.4. Overview

The Conferencer system is a comprehensive conference management platform designed to simplify and streamline the process of organizing academic conferences. Built to address the limitations of existing systems like EasyChair, HotCRP, and OpenConf, it offers a modern, user-friendly interface and a robust feature set to enhance the experience for organizers, reviewers, and authors.

The system architecture is composed of multiple interconnected modules, each handling a distinct aspect of the conference lifecycle — from paper submission and review management to decision-making and notifications. The frontend is developed using React to provide a responsive and intuitive user experience, while the backend relies on Flask and MongoDB to ensure secure and efficient data handling.

Key features of the system include:

- **Role-Based Access Control (RBAC)** to manage permissions for authors, reviewers, track chairs, and superchairs.
- An **automated reviewer assignment system** that matches papers to reviewers based on expertise, past performance, and conflict-of-interest declarations.
- **Secure authentication mechanisms** utilizing JWT (JSON Web Token) and HTTPS to protect user data and communication.
- **Advanced analytics and performance evaluation tools** for reviewers, providing metrics like average review time and feedback quality.
- **Integration with external platforms** such as ORCID, Google, and Web of Science for seamless user onboarding and data management.
- **Scalability** to accommodate large-scale conferences with multiple tracks and thousands of submissions.
- **Modular architecture** using Docker and Nginx for efficient deployment and maintenance.

The system's primary goal is to improve usability, security, and efficiency in managing academic conferences, ensuring a fair and transparent review process. By focusing on both functional and non-functional requirements, Conferencer is positioned to become a next-generation solution for conference management, addressing the evolving needs of the academic community.

This document details the design goals, architecture, subsystem interactions, security measures, and test cases for the Conferencer system, providing a comprehensive understanding of its capabilities and future potential.

2. Current software architecture

The existing conference management systems, such as EasyChair, HotCRP, and OpenConf, serve as the backbone for academic conference organization. These platforms enable fundamental functionalities like paper submission, review assignment, and decision-making workflows.

However, despite their widespread adoption, they suffer from various shortcomings that hinder user experience and operational efficiency.

EasyChair, the most widely used platform, offers extensive functionality but has a user interface that is outdated and difficult to navigate, leading to frustration among new and even experienced users. While it supports large-scale conferences, its tools for managing multi-track events or shared program committees are limited, often requiring manual workarounds. HotCRP is a simpler platform but lacks the advanced customization and scalability required for larger conferences. OpenConf offers more flexibility in setup but comes at the cost of requiring significant technical expertise.

These systems also fail to meet modern expectations for usability and features. They lack integration with contemporary tools like Google or ORCID for login, making registration and account management tedious. There is no meaningful support for advanced fraud detection, such as identifying AI-generated reviews or troll behavior. Email notification systems are minimal and unreliable, leaving users uninformed about key updates. Furthermore, the inability to import data, such as program committee members from previous years, adds unnecessary complexity to conference setup. The lack of visibility into reviewer profiles and their past performance further limits organizers' ability to make informed decisions.

Overall, while these systems fulfill basic conference management needs, they fail to provide a seamless, user-friendly experience. There is a clear need for a next-generation platform that incorporates modern UI/UX principles, advanced fraud detection mechanisms, detailed analytics, and seamless integrations, addressing the evolving demands of academic conference organizers and participants.

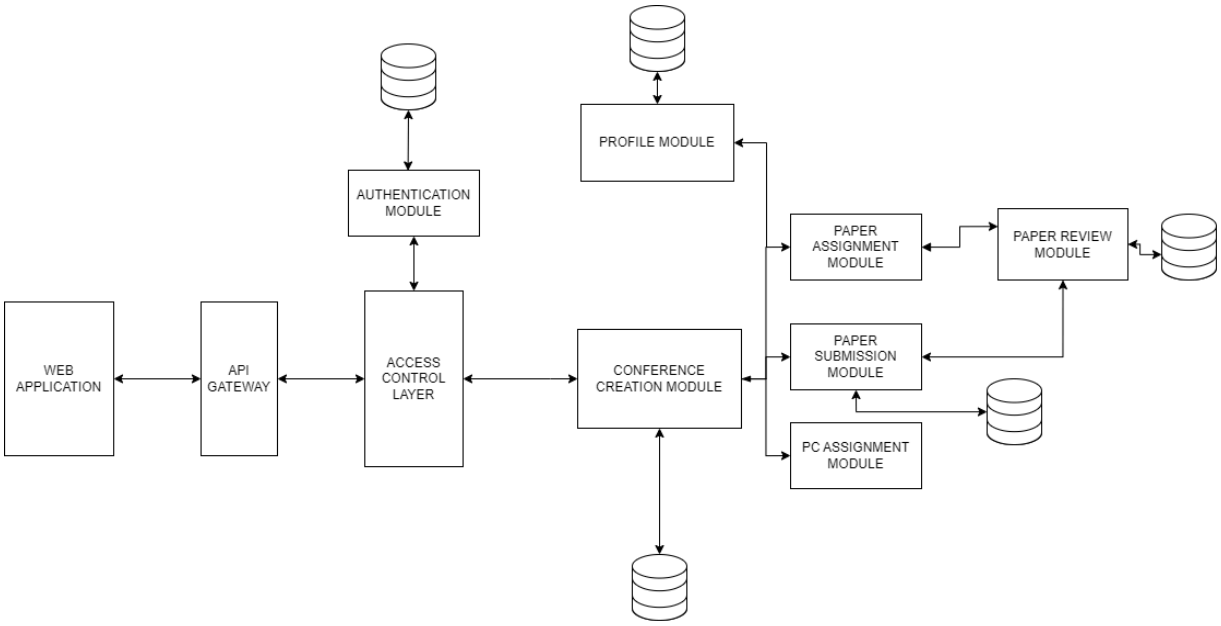
3. Proposed Software Architecture

3.1. Overview

The system is structured to manage academic conferences efficiently by integrating various functional modules. The web application serves as the primary interface, communicating with backend services through an API gateway. Secure authentication and authorization are enforced by an access control layer. The system enables conference creation, paper submission, reviewer assignment, and peer review, with persistent data storage handled by dedicated databases.

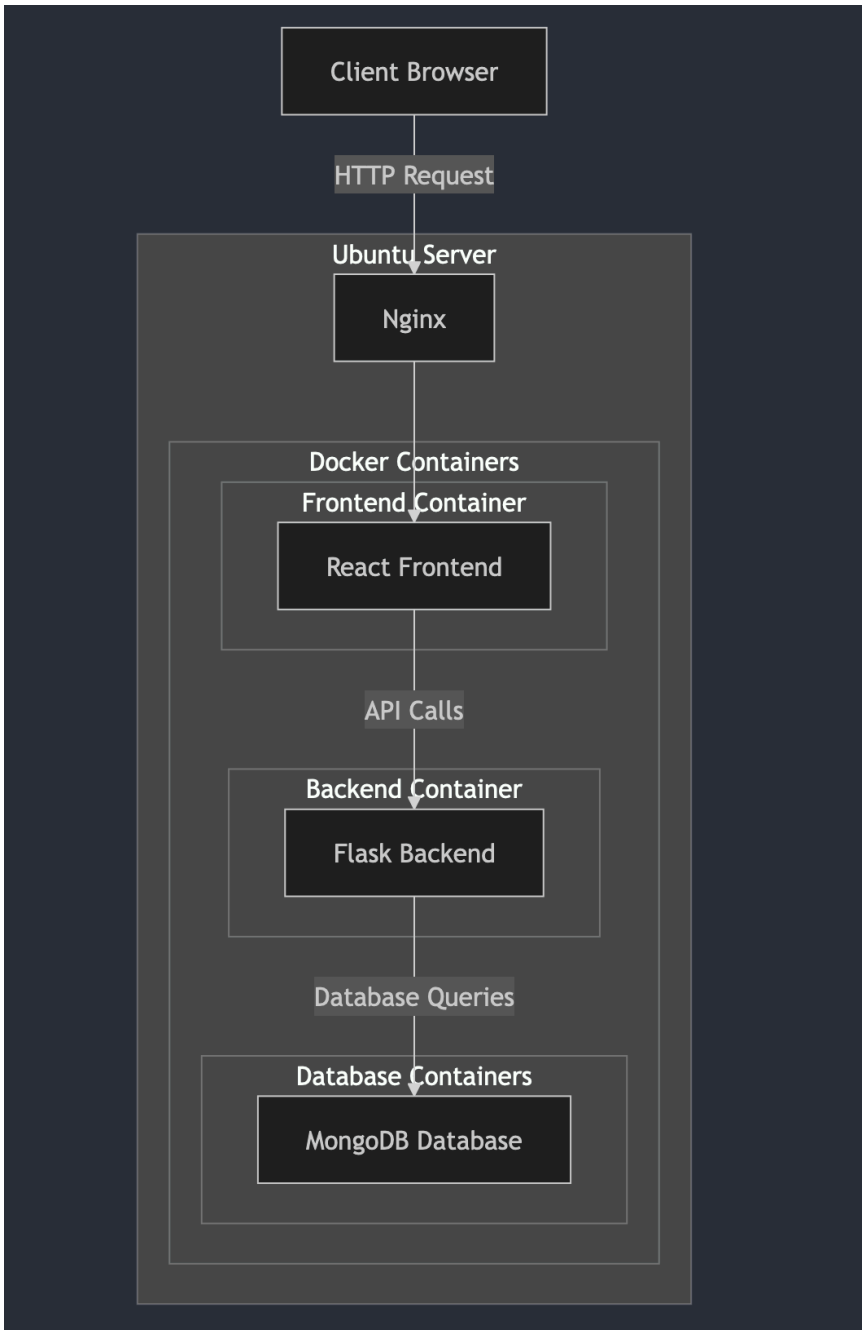
3.2. Subsystem Decomposition

The system consists of multiple subsystems, each responsible for a specific function. The authentication module manages user access, while the conference creation module allows organizers to set up events. The paper submission module handles document uploads, and the PC assignment module designates program committee members. The paper assignment module distributes submissions to reviewers, and the paper review module facilitates the evaluation process. These subsystems interact through structured data flows, ensuring seamless conference management. The diagram regarding subsystem can be found below:



3.3. Hardware/software mapping

The system is deployed on an Ubuntu Server, which serves as the host machine running Docker containers for different software components. Nginx, installed on the host, acts as a reverse proxy, forwarding client requests to the appropriate services. The React Frontend runs inside a dedicated Docker container, handling user interactions and communicating with the backend via API calls. The Flask Backend is also containerized, processing business logic and interacting with the MongoDB Database, which resides in its own container for data storage and retrieval. The system runs on a physical or virtual machine with sufficient CPU, memory, and storage to support containerized workloads efficiently. You can see it on the diagram below:



3.4. Persistent data management

The system uses MongoDB as its primary database for storing and managing conference-related data, including user profiles, submissions, reviews, and assignments. Each module interacts with MongoDB to store structured documents, ensuring flexibility in handling different data formats. Paper submissions and reviews are linked through document references, enabling efficient querying and retrieval. Data consistency is maintained by atomic operations and appropriate indexing strategies to optimize performance.

3.5. Access control and security

Our system has many user types with very specific roles, which must be handled very accurately in order to function as a proper conference organization system. Thus, the system has emphasized on the design of access control and security. It enforces access control and security through a dedicated authentication module, implemented using Flask and integrated with MongoDB. User authentication is handled via token-based mechanisms such as JWT, ensuring secure session management. Role-based access control (RBAC) restricts actions based on user roles, preventing unauthorized access. Sensitive data is encrypted, and secure API endpoints are enforced using HTTPS, protecting communication between clients and backend services.

4. Subsystem Services

The Conferencer system is decomposed into several core subsystems, each responsible for a specific aspect of conference management. This modular structure enforces separation of concerns, fosters scalability, and simplifies maintenance.

4.1. Authentication and Access Control Service

Manages user authentication, authorization, and session handling across the Conferencer platform.

- **User Login/Logout**: Verifies credentials (email/password, ORCID, or Google) and issues session tokens (e.g., JWT).
- **Role-Based Access Control**: Determines if a user (Superchair, Track Chair, PC Member, Reviewer, Author) has access to specific functionalities.
- **Session Management**: Tracks active sessions, handles timeouts, and enforces auto-logout policies.
- **Conflict-of-Interest Checks**: Cross-references user affiliations for basic conflict detection prior to PC assignments.

4.2. Conference Management Service

Enables Superchairs (and authorized users) to create new conferences or import data from previous events.

- **New Conference Setup**: Collects conference details (name, acronym, submission deadlines, tracks).
- **Import & Configuration**: Loads settings/members from older conferences or Excel files.
- **Conference Overview**: Displays summary of participants, tracks, and global settings.
- **Policy Enforcement**: Applies double-blind or single-blind review rules as configured.

4.3. Submission Management Service

Provides authors with an interface to submit their manuscripts and relevant metadata to specific tracks.

- **File Upload & Metadata**: Supports PDF (or other permissible formats) with title, abstract, keywords.
- **Submission Tracking**: Allows authors to view the status of each submission (in review, accepted, or rejected).
- **Automated Compliance Checks**: Validates page limits, file size, and required fields.
- **Revision Handling**: Permits re-uploads before the submission deadline.

4.4. Review Assignment and Management Service

Manages roles and memberships within a conference's Program Committee, including invitations and conflict-of-interest declarations.

- **PC Invitations**: Sends invitations in bulk or individually (via email or integrated platforms) to prospective committee members.
- **Role Management**: Grants roles like Superchair, Track Chair, or PC Member, and keeps track of each user's permissions.
- **Conflict-of-Interest Handling**: Automates detection of potential conflicts based on user affiliations, co-authorships.
- **Historical Performance**: Tracks PC members' past reviews, timeliness, and overall ratings.

4.5. Decision-Making Service

Assigns submissions to the right reviewers, ensuring fair distribution of workload and alignment with expertise.

- **Reviewer Matching**: Suggests optimal reviewers based on track, keywords, expertise, and conflict-of-interest data.
- **Load Balancing**: Prevents excessive assignment of papers to any single reviewer.
- **Manual Adjustments**: Allows chairs to override automated recommendations for special cases.
- **Multi-Track Confidentiality**: Ensures track chairs only access papers/reviews within their assigned tracks.

4.6. User Profile and Analytics Service

Manages the entire review workflow: from initial reviewer feedback to final accept/reject decisions.

- **Review Submission**: Collects scores, comments, and attached critique documents from each reviewer.
- **Peer Rating**: Optionally allows reviewers to rate the quality of each other's reviews.
- **Chair Decision**: Supports track chairs in finalizing accept/reject decisions, referencing aggregated reviewer feedback.
- **LLM-Generated Review Detection (Future)**: Plans to integrate an NLP-based mechanism for detecting AI-generated reviews.

4.7. Notification and Communication Service

Handles user profiles, including personal data, historical roles, and review performance metrics.

- **Profile Editing**: Allows users to update affiliations, bios, and conflict-of-interest declarations.
- **Roles & Permissions**: Displays assigned roles (reviewer, track chair, etc.) and relevant privileges.
- **Performance Statistics**: Tracks average review time, number of accepted/rejected papers, and rating from chairs.
- **Integration**: Links with external platforms (e.g., ORCID, Web of Science) for verified user profiles.

5. Test cases

5.1. Non Functional Test Cases

Test ID	NFT-PERFORMANCE-001
Test Type	Performance
Test Objective	To assess the system's response time and performance under a high load of simultaneous real-time chat users.
Procedures	• Simulate multiple concurrent users sending messages in the real-time chat module. • Measure the message delivery time for each user. • Monitor server CPU, memory, and bandwidth usage during the test. • Identify if any delays or timeouts occur.
Expected Results	• Message delivery time should not exceed 2 seconds. • No significant server resource bottlenecks. • No message loss or chat disruptions.
Test Priority	Critical
Date Tested	28/04/2025
Results	Passed

Test ID	NFT-SECURITY-001
Test Type	Security
Test Objective	To verify the security of the chat and notification systems against unauthorized access.
Procedures	• Attempt to access chat messages of other users without authorization. • Perform SQL injection tests on chat input fields. • Test for XSS vulnerabilities in the forum and notification messages. • Verify that sensitive data (e.g., user tokens) is encrypted during transmission.
Expected Results	• Unauthorized access should be denied with appropriate error messages. • SQL injection and XSS attempts should fail. • All sensitive data should be encrypted.

Test Priority	Critical
Date Tested	25/04/2025
Results	Passed

Test ID	NFT-USABILITY-001
Test Type	Usability
Test Objective	To assess the ease of use of the notification and chat systems for new users.
Procedures	• Recruit a group of new users unfamiliar with the system. • Ask them to access and respond to notifications and send messages via chat. • Collect feedback on ease of use, clarity of icons, and intuitiveness of navigation. • Record the time taken to complete tasks.
Expected Results	• Users should be able to perform tasks without guidance. • Navigation should be intuitive, and icons should be self-explanatory. • Average task completion time should be under 2 minutes.
Test Priority	Minor
Date Tested	
Results	

Test ID	NFT-COMPATIBILITY-001
Test Type	Compatibility
Test Objective	To verify that chat, notifications, and forums work across different browsers and devices.
Procedures	• Test the system on Chrome, Firefox, Safari, and Edge. • Test on desktop (Windows, macOS) and mobile devices (iOS, Android).

	• Verify that messages, notifications, and forum posts appear correctly on all platforms. • Check if file attachments can be sent and opened on different devices.
Expected Results	• Consistent appearance and functionality across all tested browsers and devices. • No UI/UX distortions or functional errors.
Test Priority	Critical
Date Tested	28/04/2025
Results	Passed

Test ID	NFT-RELIABILITY-001
Test Type	Reliability
Test Objective	To assess the reliability of chat and notification services over extended use.
Procedures	• Run a continuous chat test for 24 hours, sending messages every 5 seconds. • Restart the server multiple times and verify that chat history and notifications are retained. • Monitor system logs for errors or crashes.
Expected Results	• No system crashes or memory leaks. • All messages and notifications should persist correctly after the server restarts.
Test Priority	Critical
Date Tested	28/04/2025
Results	Passed

Test ID	NFT-SCALABILITY-001

Test Type	Scalability
Test Objective	To evaluate how the chat and notification systems handle increasing numbers of users.
Procedures	• Simulate a gradual increase in users from 100 to 10,000. • Measure system response time and resource utilization at each step. • Test if notifications and chat messages are still delivered promptly.
Expected Results	• System should scale without significant increases in response time. • Resource utilization should remain within acceptable limits.
Test Priority	Critical
Date Tested	
Results	

Test ID	NFT-SUBMISSION-005
Test Type	Non-Functional Test
Test Objective	Verify file uploads can handle specific filetypes.
Procedures	• Check if file upload interface only lists .pdf files. • Check these pdf files get stored in the database, and can be downloaded after submissions by clicking on them in “My Submissions list.”
Expected Results	• Only .pdf files are allowed to be uploaded. • These files correctly download after clicking on them in the list.
Test Priority	Minor
Date Tested	
Results	

Test ID	NFT-NOTIFICATION_DELIVERY-001
Test Type	Non-Functional (Reliability)
Test Objective	Ensure notifications (email & in-app) deliver reliably without delays.
Procedures	• Assign a reviewer to a paper. • Verify that an in-app notification appears in the notification center. • Check if an email notification is received within 1-2 minutes. • Log in as the reviewer and click on the notification. • Ensure that it redirects to the assigned paper review page.
Expected Results	• Notifications should deliver instantly. • Clicking a notification should navigate to the correct page.
Test Priority	Major
Date Tested	29/04/2025
Results	Mail harici tested

Test ID	NFT-SESSION_HANDLING-001
Test Type	Non-Functional (Security)
Test Objective	Ensure that inactive user sessions expire after a defined timeout period.
Procedures	• Log in to the system and stay inactive for 15+ minutes. • Try accessing the dashboard after inactivity. • Verify if the system logs the user out automatically. • Try performing an action (e.g., submitting a review) after timeout.
Expected Results	• Inactive users should be automatically logged out. • Any session-based actions should redirect to the login page.
Test Priority	Critical
Date Tested	22/04/2025
Results	Passed

Test ID	NFT-BROWSER_COMPATIBILITY-001

Test Type	Non-Functional (Compatibility)
Test Objective	Verify that the system works on different browsers.
Procedures	● Open the platform on Google Chrome, Mozilla Firefox, Microsoft Edge. ● Log in and perform key actions (paper submission, review, role switching). ● Check for UI inconsistencies or missing functionalities.
Expected Results	● The application should be fully functional across all major browsers. ● No UI components should break.
Test Priority	Major
Date Tested	
Results	

5.2. Functional Test Cases

Test ID	FT-SUBMISSION-001
Test Type	Functional Test
Test Objective	Verify paper submission for authors.
Procedures	● In submissions screen, click on “Add Submission” button ● Check if “Add Submission” page shows up with relevant data input fields. ● Check if track selections can be changed, if multiple tracks exist. ● Check if the text fields can be filled with inputs, and the file can be uploaded to the system ● Check if upon completion, a confirmation display with the correct information shows up and “My Submissions” page displays the added submission with the correct information.
Expected Results	● After clicking on the button, “Add Submissions” page opens up. ● Track selections change after clicking on the radio buttons. ● Input fields correctly display the entered inputs. ● After completion, a confirmation screen opens up with the information displayed correctly. ● “My Submissions” page displays the added submission

	correctly
Test Priority	Critical
Date Tested	
Results	

Test ID	FT-SUBMISSION-002
Test Type	Functional Test
Test Objective	Verify paper submissions can be edited after the initial submission.
Procedures	● In submissions screen, click on “Edit Paper” button ● Check if a “Edit Paper” page shows up with the relevant input fields already selected/filled with information ● Check if track selections can be changed, the text fields can be changed with different inputs, and a different file can be reuploaded to the system ● Check if upon completion, a confirmation display with the correct information shows up and “My Submissions” page displays the edited submission with the correct information.
Expected Results	● After clicking on the button, “Edit Paper” page opens up with the previously entered paper details correctly filled in the fields. ● Track selections change after clicking on the radio buttons. Inputs can be correctly edited. ● After completion, a confirmation screen opens up with the information displayed correctly. ● “My Submissions” page displays the edited submission correctly
Test Priority	Major
Date Tested	
Results	

Test ID	FT-SUBMISSION-003
Test Type	Functional Test
Test Objective	Verify paper submissions can be deleted after the initial submission.

Procedures	● In submissions screen, click on “Delete Paper” button ● Check if a confirmation pop up shows up with the information about the results of the action ● Check if upon clicking “Confirm” button, a confirmation display shows up, and“My Submissions” page does not display the deleted submission any longer.
Expected Results	● After clicking on the button, a confirmation pop up shows up. ● After confirming, the review is deleted on “My Submissions” list.
Test Priority	Minor
Date Tested	
Results	

Test ID	IT-SUBMISSION-004
Test Type	Integration Test
Test Objective	Verify paper submissions’ results can be tracked.
Procedures	● Paper review process finalizes and a decision is made by the authorized person regarding the paper. ● In “My Submissions” screen, check if this final decision is displayed to the author.
Expected Results	● “My Submissions” lists the results of papers with finalized decisions correctly.
Test Priority	Major
Date Tested	
Results	

Test ID	UT-TASKS-001
Test Type	Usability Test
Test Objective	Verify that reviewers can organize their tasks by sorting and filtering.
Procedures	● In “My Tasks” screen click on “Sort” button and select which direction and what attribute to sort the papers by. ● Check if sorting is done correctly.

	• In “My Tasks” screen click on “Filter” button and select what attributes to filter the papers by. • Check if filtering is done correctly.
Expected Results	• After clicking on the “Sort” button, and the selections are made, awaiting papers are sorted correctly by the given definitions. • After clicking on the “Filter” button, and the selections are made, awaiting papers are sorted correctly by the given definitions.
Test Priority	Low
Date Tested	
Results	

Test ID	IT-TASKS-002
Test Type	Non-Functional Test
Test Objective	Verify reviewers can download the papers they were assigned to in a quick and correct manner.
Procedures	• In “My Tasks” screen, check if already assigned and unreviewed papers are listed correctly. • Click on the paper .pdf file and check if download starts within 5 seconds. • Check if the downloaded paper matches the file of the paper clicked on.
Expected Results	• My Tasks screen lists the reviewed/unreviewed papers correctly. • Download starts within 5 seconds and the file matches the correct paper.
Test Priority	Critical
Date Tested	
Results	

Test ID	FT-TASKS-003
Test Type	Functional

Test Objective	Verify reviewers can view the papers they were assigned to.
Procedures	● In “My Tasks” screen, check if already assigned and unreviewed papers are listed correctly. ● After a new assignment is made by the authorized users to the reviewer, new assignment shows up in the list.
Expected Results	● My Tasks screen lists the reviewed/unreviewed papers correctly. ● When a new entry is made, it is also displayed correctly after refreshing of the page.
Test Priority	Critical
Date Tested	
Results	

Test ID	IT-TASKS-004
Test Type	Integration Test
Test Objective	Verify that tasks list update after an edit or deletion to the relevant papers.
Procedures	● After a delete or edit is done by the author to a relevant paper, in “My Tasks” screen, check if this paper is updated with the correct information or deleted entirely. ● Check if an information display is shown regarding the update.
Expected Results	● The relevant paper is updated with the correct information or deleted entirely, after the first refresh of the page. ● An information display is shown with the regarding update.
Test Priority	Minor
Date Tested	
Results	

Test ID	FT-TASKS-005
Test Type	Functional
Test Objective	Verify reviewers can upload reviews to the papers they were assigned

	to.
Procedures	• In “My Tasks” screen, after “Make Review” button is clicked, check if “Make Review” page opens up. • Check if this page displays the correct paper, with the correct information. • Check if review text can be uploaded, or typed on the textfield. Also, check if decision and confidence score can be selected by the given ranges by the conference authorities. • Check if these required fields are filled before completion. • Upon completion, check if a confirmation page shows up, and tasks are updated accordingly to the new review
Expected Results	• After “Make Review” button is clicked, check if “Make Review” page opens up • After the inputs have been filled, and the complete button clicked, the inputs are validated. If successful, taken to a confirmation display with the correct information., • My Tasks list is updated with the new review being listed as done, and the paper is taken off of the “Unreviewed Papers” list.
Test Priority	Critical
Date Tested	
Results	

Test ID	FT-TASKS-006
Test Type	Functional
Test Objective	Verify reviewers can edit and delete their submitted reviews after submission.
Procedures	• In the “Reviewed Papers” screen, click on the “Update Review” button. • Check if the “Edit Review” page opens up with the previously entered review details correctly filled in the fields. • Verify that the review text, decision, and confidence score can be modified. • Check if, after submitting the changes, a confirmation message appears, and the updated review is displayed in the “Reviewed Papers” list with the correct information. • In the “Reviewed Papers” screen, click on the “Delete Review” button.

	• Check if a confirmation pop-up appears with details about the deletion. • Verify that upon clicking the “Confirm” button, the review is removed from the “Reviewed Papers” list.
Expected Results	• After clicking on the “Update Review” button, the “Edit Review” page opens with the previous review details correctly filled. • The review text, decision, and confidence score can be edited, and upon submission, a confirmation display appears with the updated review information. • After clicking the “Delete Review” button, a confirmation pop-up appears. • Upon confirming, the review is deleted and no longer appears in the “Reviewed Papers” list.
Test Priority	Major
Date Tested	
Results	

Test ID	IT-PROFILE-001
Test Type	Integration Test
Test Objective	Verify that the statistics on the profile page update correctly when a new review is uploaded.
Procedures	• Navigate to the profile page and record the current statistics displayed. • Upload a new review for an assigned paper. • After submission, navigate back to the profile page and check if the relevant statistics, such as "Average Time To Review," "Average Submit Time Before Deadline," "Deadline Compliance Rate," "Average Rating Given," "Average Words Per Review," and "Review Rating," are updated accordingly. • Refresh the page and confirm that the updated values persist.
Expected Results	• After a new review is uploaded, the profile statistics update to reflect the new review data. • The updated statistics remain correct and persist after refreshing the page.
Test Priority	Major

Date Tested	
Results	

Test ID	IT-PROFILE-002
Test Type	Integration Test
Test Objective	Verify that the statistics on the profile page update correctly when a new review is uploaded.
Procedures	● Navigate to the profile page and check if active and past roles are correctly displayed under the respective sections. ● For each active role, click on the symbol to access the corresponding conference page. ● If the user has authorization, verify that the conference page opens successfully. ● If the user does not have authorization, check if an error message pop-up appears stating that access is denied. ● Have an authorized user assign a new role to the current user. ● Refresh the profile page and verify that the new role appears under "Active Roles." ● If an existing role expires or is removed, check if it moves to "Past Roles" accordingly. ● Verify that access permissions to the newly assigned role's conference page function correctly based on authorization.
Expected Results	● Active and past roles are correctly categorized and displayed. ● Clicking on the conference access symbol grants access to the page if the user has the appropriate authorization. ● If unauthorized, an error message pop-up is displayed, preventing access. ● When a new role is assigned, it appears under "Active Roles" after refreshing. ● If a role expires or is removed, it moves to "Past Roles." ● Role information and access permissions remain consistent after refreshing the page
Test Priority	Major
Date Tested	
Results	

Test ID	UT-CONFERENCE-001
Test Type	Usability Test
Test Objective	Verify that the filtering functionality correctly filters submissions based on selected tracks and keywords.
Procedures	● Navigate to the conference submissions page. ● Click on the “Filter” button to open the filtering options. ● Select a track (e.g., “TRACK1”) from the “Filter By Track” section. ● Enter keywords (e.g., “machine learning”) in the “Filter By Keywords” section. ● Click the “Filter” button.
Expected Results	● The displayed list of submissions updates to show only those belonging to the selected track. ● Only submissions containing the specified keywords in their metadata (title, abstract, or keywords) are shown. ● The filtering options remain visible for further adjustments. ● If no submissions match the filters, an appropriate message is displayed.
Test Priority	Major
Date Tested	28/04/2025
Results	Passed

Test ID	FT-CONFERENCE-002
Test Type	Functional Test
Test Objective	Verify that the search functionality correctly filters submissions based on the entered title or author name.
Procedures	● Navigate to the submissions page. ● Click on the search bar. ● Enter a title or author name (e.g., “Virtual Reality in

	Education" or "Jane Doe"). ● Press the "Enter" key or click on the search icon.
Expected Results	● The displayed list of submissions updates to show only those that match the entered title or author name. ● If multiple results match, all relevant submissions are displayed. ● If no submissions match the search criteria, an appropriate message is displayed. ● The search query remains in the search bar for user reference.
Test Priority	Critical
Date Tested	20/04/2025
Results	Passed

Test ID	FT-CONFERENCE-003
Test Type	Functional
Test Objective	Verify that clicking the "View Reviews" button opens the review details for the corresponding paper.
Procedures	● Navigate to the conference "Reviews" page. ● Identify a paper with a "View Reviews" button. ● Click the "View Reviews" button for that paper.
Expected Results	● The system loads the review details page for the selected paper. ● The page displays the assigned and completed reviews for that paper. ● The user can navigate back to the reviews list if needed.
Test Priority	Major
Date Tested	

Results	

Test ID	IT-CONFERENCE-004
Test Type	Integration
Test Objective	Ensure that the displayed review completion status is accurate for each paper.
Procedures	● Navigate to the conference “Reviews” page. ● Observe the “Completed/Assigned Reviews” status for multiple papers. ● Compare the displayed status with the actual number of completed reviews stored in the system. ● Make updates such that status of the papers change, verify if these changes show up on the page.
Expected Results	● The “Completed/Assigned Reviews” count matches the actual data in the system. ● If a reviewer completes a review, the count updates correctly upon page refresh. ● No incorrect counts or inconsistencies appear across different user roles. ● Updates coming from different users are displayed correctly upon refresh of the page.
Test Priority	Low
Date Tested	
Results	

Test ID	FT-TRACK_CHAIR-001
Test Type	Functional
Test Objective	Verify that the track chair can edit the decision for a paper in the review section.
Procedures	● Log in as the track chair. ● Navigate to the a paper.

	• Click on the "Edit Decision" button. • Select a new decision from the dropdown (e.g., "Accept"). • Save the changes.
Expected Results	• The decision for the paper is updated to "Accept". • The updated decision is reflected in the "Current decision" field.
Test Priority	Major
Date Tested	
Results	

Test ID	FT-TRACK_CHAIR-002
Test Type	Functional
Test Objective	Verify that the track chair can assign an additional reviewer to the paper.
Procedures	• Log in to the system with track chair credentials. • Navigate to the "CONFERENCE" section under "MY TASKS". • Locate the paper. • Click on the "Assign More Reviewers" button. • Select a reviewer from the list (e.g., "Napoleon") who is currently marked as "Pending". • Confirm the assignment by clicking "Assign".
Expected Results	• The reviewer "Napoleon" is added to the list of reviewers for the paper. • The "Pending" status for "Napoleon" is updated with a deadline and review details. • The reviewer's profile link remains accessible.
Test Priority	Critical
Date Tested	
Results	

Test ID	FT-TRACK_CHAIR-003
Test Type	Functional
Test Objective	Verify that the track chair can edit the decision for the paper in the "CONFERENCE" section.
Procedures	• Log in to the system with track chair credentials. • Navigate to the "CONFERENCE" section under "MY TASKS". • Locate the paper. • Click on the "Edit Decision" button next to the "Current decision: None" field. • Select a new decision (e.g., "Accept") from the dropdown menu. • Click "Save" to confirm the changes.
Expected Results	• The "Current decision" field updates to "Accept". • The decision change is reflected in the paper's review status.
Test Priority	Major
Date Tested	
Results	

Test ID	FT-TRACK_CHAIR-004
Test Type	Functional
Test Objective	Verify that the track chair can add a decision (Accept or Reject) for a paper in the "Add Decision For Paper" interface.
Procedures	• Log in to the system with track chair credentials. • Navigate to the paper review section where the "Add Decision For Paper" interface is displayed. • Select either "Accept" or "Reject" from the available options. • Click on the "ADD DECISION" button to confirm the selection.
Expected Results	• The selected decision ("Accept" or "Reject") is successfully applied to the paper. • The decision is reflected in the paper's review status. • The interface confirms the decision has been saved (e.g., via a

	success message or status update).
Test Priority	Critical
Date Tested	
Results	

Test ID	FT-TRACK_CHAIR-005
Test Type	Functional
Test Objective	Verify that the track chair can edit the decision for the paper in the "CONFERENCE" section.
Procedures	● Log in to the system with track chair credentials. ● Navigate to the "CONFERENCE" section under "MY TASKS". ● Locate the paper. ● Click on the "Edit Decision" button next to the "Current decision" field. ● Select a new decision (e.g., "Accept") from the available options. ● Click "Save" to confirm the changes.
Expected Results	● The "Current decision" field updates to "Accept". ● The decision change is reflected in the paper's review status.
Test Priority	Major
Date Tested	27/04/2025
Results	Passed

Test ID	UT-TRACK_CHAIR-006
Test Type	Usability
Test Objective	Verify that the track chair can switch back to the reviews section from the "CREATE CONFERENCE" or "CHANGE ROLE" interface.
Procedures	● Log in to the system with track chair credentials. ● Navigate to the "CREATE CONFERENCE" or "CHANGE

	ROLE" section. ● Click on the "Switch Back to Reviews" button.
Expected Results	● The interface redirects to the reviews section. ● The list of papers and their review statuses are displayed correctly.
Test Priority	Major
Date Tested	28/04/2025
Results	Passed

Test ID	FT-TRACK_CHAIR-007
Test Type	Functional
Test Objective	Verify that the track chair can submit feedback to a reviewer for their review.
Procedures	● Log in to the system with track chair credentials. ● Navigate to the review section for a specific paper. ● Click on the "ADD FEEDBACK" button for a reviewer. ● In the "Write Feedback To Reviewer (optional)" field, enter feedback text (e.g., "Great analysis, but consider expanding on the methodology section."). ● Click the "ADD FEEDBACK" button to submit.
Expected Results	● The feedback is successfully submitted and saved. ● The feedback is visible in the reviewer's profile or review section.
Test Priority	Major
Date Tested	
Results	

Test ID	FT-TRACK_CHAIR-008
Test Type	Functional
Test Objective	Verify that the track chair can rate a reviewer's review on a scale of 0

	to 10.
Procedures	1. Log in to the system with track chair credentials. 2. Navigate to the review section for a specific paper. 3. Click on the "ADD FEEDBACK" button for a reviewer. 4. In the "Give Rating To The Review" section, select a rating (e.g., "8") by clicking on the corresponding number. 5. Click the "ADD FEEDBACK" button to submit the rating.
Expected Results	1. The selected rating (e.g., "8") is successfully submitted and saved. 2. The rating is reflected in the reviewer's profile or review section.
Test Priority	Critical
Date Tested	
Results	

Test ID	UT-TRACK_CHAIR-009
Test Type	Usability
Test Objective	Verify that the track chair can view a reviewer's profile by clicking on the "Reviewer's Profile" link.
Procedures	● Log in to the system with track chair credentials. ● Navigate to the "CONFERENCE" section under "MY TASKS". ● Locate the paper. ● Click on the "Reviewer's Profile" link next to a reviewer's name (e.g., "Stephen Hawking")
Expected Results	● The reviewer's profile page opens in a new tab or within the same interface. ● The profile displays relevant information about the reviewer (e.g., name, past reviews, ratings).
Test Priority	Critical
Date Tested	27/04/2025

Results	Passed

Test ID	IT-TRACK_CHAIR-010
Test Type	Integration
Test Objective	Verify that the track chair can identify and manage pending reviews for the paper.
Procedures	● Log in to the system with track chair credentials. ● Navigate to the "CONFERENCE" section under "MY TASKS". ● Locate the paper. ● Check the status of the reviewer marked as "Pending". ● Click on the "Assign More Reviewers" button to assign additional reviewers if needed.
Expected Results	● The "Pending" status for reviewer is clearly displayed. ● The track chair can assign additional reviewers if necessary, and the status updates accordingly.
Test Priority	Critical
Date Tested	
Results	

Test ID	FT-SUPERCHAIR-001
Test Type	Functional
Test Objective	Enable other users to access the conference by inviting them into that specific conference
Procedures	● Log in to the system with superchair credentials. ● Navigate to the "CONFERENCE" section under "MY TASKS". ● Click the “Invite People” button on the screen. ● On the pop-up menu, search for the people to invite, select them by clicking the checkbox. ● Click the “Invite” button. Then see them on the people list.
Expected Results	● Newly added people also should be visible on the screen of the superchair.

	• Users should access the page.
Test Priority	Critical
Date Tested	28/04/2025
Results	Passed

Test ID	FT-SUPERCHAIR-002
Test Type	Functional
Test Objective	Assign superchairs to the conference
Procedures	• Log in to the system with superchair credentials. • Navigate to the "CONFERENCE" section under "MY TASKS". • Click the “Assign Superchair(s)” button on the screen. • On the pop-up menu, search for the people to assign as superchair, select them by clicking the checkbox. • Click the “Add Superchair” button. Then see them on the people list as superchairs.
Expected Results	• Superchair should see the other superchairs. • Newly added superchairs can have access to the privilege of the system.
Test Priority	Critical
Date Tested	29/04/2025
Results	Passed

Test ID	FT-SUPERCHAIR-003
Test Type	Functional
Test Objective	Add track chairs for the conference.
Procedures	• Log in to the system with superchair credentials. • Navigate to the "CONFERENCE" section under "MY TASKS". • Click the “Add Track chair” button on the screen. • On the pop-up menu, search for the people to assign into that track, select them by clicking the checkbox.

	• Click the “Add Track chair” button. Then see them on the track list. • Later, you can edit and configure tracks.
Expected Results	• People assigned to that new track should access the pages to review within that track.
Test Priority	Critical
Date Tested	28/04/2025
Results	Passed

Test ID	FT-SUPERCHAIR-004
Test Type	Functional
Test Objective	To view an overview of the conference.
Procedures	• Log in to the system with superchair credentials. • Navigate to the "CONFERENCE" section under "MY TASKS". • Click the “Conference Overview” button on the screen. • Here you can see the date interval, names of the superchairs, participants, details of the tracks, submissions created and submitted within that conference.
Expected Results	• You can see the summary of the conference on that page. • If you want, you can configure everything about the conference on that page.
Test Priority	Major
Date Tested	
Results	

Test ID	FT-SUPERCHAIR-005
Test Type	Functional
Test Objective	To configure the conference, edit anything related to conference information, access information, submission information, paper assignment, reviewing information, and make sure that everything is

	set.
Procedures	● Log in to the system with superchair credentials. ● Navigate to the "CONFERENCE" section under "MY TASKS". ● Click the “Conference Overview” button on the screen. ● Click the “Configure conference”. ● Make necessary changes and click on the “Apply configurations” button.
Expected Results	● You can see the summary of the conference on that page. ● If you want, you can configure everything about the conference on that page.
Test Priority	Critical
Date Tested	
Results	

Test ID	FT-SUPERCHAIR-006
Test Type	Functional
Test Objective	To assign the papers on related reviewers within the selected track.
Procedures	● Log in to the system with superchair credentials. ● Navigate to the "CONFERENCE" section under "MY TASKS". ● Click the “Assign Papers” button on the screen. ● Select paper name or author based on your preferences, and assign selected papers to selected reviewers. ● Make necessary changes and click on the “Add reviewers” button.
Expected Results	● Reviewers can see the papers assigned to them on their account. ● After review, you can see the reviews by selecting the paper and see the details.
Test Priority	Critical
Date Tested	
Results	

Test ID	FT-SUPERCHAIR-007
Test Type	Functional
Test Objective	To manage people on the tracks. Add, remove, edit, and give privilege for some users.
Procedures	● Log in to the system with superchair credentials. ● Navigate to the "CONFERENCE" section under "MY TASKS". ● Click the “Add People to Track” button on the screen. ● Add people as your preferences, then click on the “Accept” button.
Expected Results	● Added people can see the papers related to that track. ● Later, superchair can remove them from the track if something is wrong with them.
Test Priority	Major
Date Tested	28/04/2025
Results	Passed

Test ID	FT-NOTIFICATIONS-001
Test Type	Functional
Test Objective	To verify the functionality of the notification system for invites, new paper submissions, reviewer information.
Procedures	● Log in to the system with any user credentials. ● Navigate to the "TOP BAR" section and click on the “NOTIFICATIONS” button. ● You can view your notifications, and make adjustments based on them.
Expected Results	● You can view your notifications, come from other users, and conferences. ● You can delete, accept, and reject the notification based on its type.
Test Priority	Major

Date Tested	20/04/2025
Results	Passed

Test ID	FT-COMMUNICATIONS-001
Test Type	Functional
Test Objective	To verify the functionality of the chat system for communication between superchair and other users.
Procedures	● Log in to the system with any user credentials. ● Navigate to the "CHAT" section in the top bar. ● Select an existing user or start a new chat. ● Send a text message and verify if it is delivered instantly. ● Check if the recipient receives the message in real-time without refreshing the page. ● Test sending an attachment (e.g., PDF, image) to the recipient. ● Log in with the recipient's account to verify the received message and attachment. ● Test typing indicators by typing a message and observing if the recipient can see "User is typing..." status.
Expected Results	● Messages should be sent and received instantly without page refresh. ● Attachments should be successfully sent and accessible to the recipient. ● Typing indicators should appear correctly. ● Chat history should be intact after re-login.
Test Priority	Critical
Date Tested	23/04/2025
Results	Passed

Test ID	FT-CREATE-001
Test Type	Functional
Test Objective	Verify that a user can successfully create a new conference
Procedures	● Navigate to the "Create Conference" screen. ● Fill in all required fields (Conference Name, Acronym,

	Website, City, Country, etc.) ● Configure Access Information (Double-blind review, PC Member visibility, etc.) ● Configure Submission Information ● Configure Reviewing Information ● Click the “Create Conference” button.
Expected Results	● The system successfully creates a new conference. ● The newly created conference appears under “Upcoming Conferences.” ● A Success message is displayed to user
Test Priority	Critical
Date Tested	27/04/2025
Results	Passed

Test ID	FT-CREATE-002
Test Type	Functional
Test Objective	Verify that a user can import settings and members from an existing conference.
Procedures	● Click "Import from Other Conference." ● Select an existing conference (e.g., BIL 2023). ● Choose roles to import (Superchair, Track Chair, PC Members). ● Click the "Import" button.
Expected Results	● Selected roles are successfully imported into the new conference. ● A confirmation message is displayed. ● The imported roles appear in the respective sections.
Test Priority	Major
Date Tested	
Results	

Test ID	FT-CONFERENCE-004
Test Type	Functional
Test Objective	Verify that a user can edit conference details after creation.
Procedures	● Open an existing conference. ● Edit details such as Conference Name, Submission Web Page, Contact Emails, etc. ● Save changes.
Expected Results	● The updated details are saved successfully. ● The modified information appears correctly in the conference details.
Test Priority	Major
Date Tested	
Results	

Test ID	IT-CONFERENCE-005
Test Type	Integration
Test Objective	Verify that users with different roles (Superchair, Track Chair, PC Member) can access only their permitted functionalities.
Procedures	● Log in with different roles. ● Attempt to perform role-specific actions (e.g., Track Chair assigns papers, PC Members review submissions). ● Verify that unauthorized users cannot access restricted functions in conference.
Expected Results	● Users can access only their permitted functionalities. ● Unauthorized access attempts are denied with an appropriate message.
Test Priority	Critical
Date Tested	
Results	

Test ID	UT-CONFERENCE-006
Test Type	Usability Test
Test Objective	Verify the ease of navigation and accessibility in the conference creation process.
Procedures	● Navigate through the "Create Conference" interface. ● Check for clear labels, instructions, and tooltips. ● Attempt to complete the process without prior guidance.
Expected Results	● Users can navigate easily without confusion. ● Labels and instructions are clear and informative.
Test Priority	Minor
Date Tested	27/04/2025
Results	Passed

Test ID	FT-REVIEWER_CONFLICT_DETECTION-001
Test Type	Functional
Test Objective	Verify that the system automatically detects conflicts of interest when assigning reviewers to a paper.
Procedures	● Log in as a Superchair or Track Chair. ● Navigate to the "Assign Reviewers" section. ● Select a paper for assignment. ● Choose a reviewer who is also an author on the same paper or has a known conflict (e.g., same institution, past co-authorship). ● Click "Assign Reviewer" and check if the system displays a conflict warning message. ● Attempt to bypass the conflict and manually assign the reviewer. ● Verify that the system prevents the assignment or requires explicit justification.
Expected Results	● The system should automatically flag conflicts of interest when detected. ● The user should not be able to assign a conflicted reviewer without providing a justification.

	• A warning message should appear explaining the reason for the conflict.
Test Priority	Critical
Date Tested	
Results	

Test ID	FT-USER_REGISTRATION-001
Test Type	Functional
Test Objective	Verify that users can successfully register on the platform.
Procedures	• Navigate to the registration page. • Fill in name, email, password, and organization fields. • Submit the registration form. • Verify that a confirmation email is sent. • Click on the email verification link. • Attempt to log in with the newly registered credentials.
Expected Results	• A confirmation email is sent. • Clicking the email verification link activates the account. • User should be able to log in successfully.
Test Priority	Major
Date Tested	27/04/2025
Results	Passed

Test ID	FT-USER_ROLE_SWITCH-002
Test Type	Functional
Test Objective	Verify that users can switch between assigned roles (Superchair, Track Chair, Reviewer, Author) without losing session data.
Procedures	• Log in as a user with multiple roles (e.g., Superchair & Reviewer). • Enter a conference. • Click on the role selection dropdown in the navigation bar.

	• Select a different role from the dropdown (e.g., switch from Reviewer to Superchair). • Verify that the dashboard updates with the correct role-based options. • Switch back to the previous role and check that the correct data loads.
Expected Results	• Role change should reflect immediately on the UI. • Users should not be logged out or lose session data.
Test Priority	Major
Date Tested	
Results	

Test ID	FT-CONFERENCE-005
Test Type	Functional
Test Objective	Verify that Superchairs and Track Chairs can edit and delete conference tracks.
Procedures	• Log in as a Superchair or Track Chair. • Navigate to the Manage Tracks section. • Edit the track name and save changes. • Delete a track and confirm removal.
Expected Results	• Tracks should be edited and deleted successfully. • Changes should reflect immediately in the conference settings.
Test Priority	Major
Date Tested	
Results	

Test ID	FT-CONFERENCE-006
Test Type	Functional
Test Objective	Verify that users can access the official website of a conference from the Conferencer platform.
Procedures	• Log in as any user (Superchair, Track Chair, Reviewer, Author).

	● Navigate to the conference details page. ● Locate the "Official Website" link. ● Click the link and verify that: ○ A new tab opens. ○ The correct conference website is loaded. ○ There are no broken links or redirections to the wrong page.
Expected Results	● The conference website opens correctly in a new tab. ● The website matches the expected URL provided by the Superchair. ● No 404 errors, broken links, or incorrect redirections occur.
Test Priority	Minor
Date Tested	29/04/2025
Results	Passed

Test ID	FT-CONFERENCE-007
Test Type	Functional
Test Objective	Verify that Superchairs can configure conference settings (submission deadlines, review policies).
Procedures	● Log in as a Superchair. ● Navigate to the Conference Settings page. ● Change submission deadlines and review policies. ● Save changes and verify that they persist after logout and re-login.
Expected Results	● System should save and apply configuration changes. ● Users should see the updated deadlines and policies.
Test Priority	Critical
Date Tested	
Results	

Test ID	FT-DOWNLOAD_PAPER-015
Test Type	Functional
Test Objective	Verify that reviewers and chairs can download submitted papers by clicking the paper icon.

Procedures	● Log in as a Reviewer, Track Chair, or Superchair. ● Navigate to the "My Tasks" or "Conference Submissions" page. ● Locate a submitted paper in the list. ● Click on the paper icon next to the submission. ● Verify that: ○ The correct file starts downloading. ○ The file format matches the original submission format (e.g., PDF). ○ The file is not corrupted and can be opened successfully.
Expected Results	● Users with correct permissions can download the assigned papers by clicking the paper icon. ● Unauthorized users cannot download restricted papers. ● Downloaded papers are not corrupted and retain the original format.
Test Priority	Critical
Date Tested	
Results	

6. Consideration of Various Factors in Engineering Design

During the design and development of Conferencer, several key factors were considered to ensure functionality, security, and sustainability while aligning with industry standards. Each factor's relevance to the system design is analyzed, along with its level of impact on a scale from 0 (none) to 10 (maximum effect).

6.1. Public Health, Safety, Security, and Welfare

A. Public Health & Safety (Effect: 7/10)

The system ensures data integrity and security, particularly for sensitive user information such as submitted papers, reviews, and conference decisions. Ensuring privacy and compliance with security standards like GDPR and KVKK prevents potential ethical and legal issues. Additionally, by offering cloud-based storage and redundancy mechanisms, data loss and corruption risks are minimized, ensuring that conference materials remain accessible to all users.

- **Security (Effect: 10/10)**

Security is a critical aspect of the Conferencer system, considering that academic research submissions involve intellectual property and confidential peer reviews. Security measures include:

- Role-Based Access Control (RBAC) ensuring that only authorized users (Superchairs, Track Chairs, Reviewers, Authors) access specific functionalities.
- Authentication via Google OAuth 2.0 and ORCID to prevent unauthorized access and account breaches.
- Session management features such as auto-logout after inactivity to prevent unauthorized access from shared devices.

C. Welfare (Effect: 6/10)

The system facilitates fair peer review by enforcing conflict-of-interest checks and transparent reviewer assignment policies. It ensures that reviews are based on merit and expertise, preventing biased evaluations.
Additionally, reviewers are provided with analytics to improve their review quality and track their contributions over time.

6.2. Global, Cultural, Social, Environmental, and Economic Factors

A. Global & Cultural Factors (Effect: 6/10)

Conferencer is designed for international academic conferences, accommodating a diverse range of users. The system supports:

- Flexible conference policies (single-blind, double-blind review options).
- User-friendly interface ensuring accessibility for users with different technical backgrounds.
- Potential future support for multi-language capabilities for better inclusivity.

B. Social Factors (Effect: 5/10)

The system encourages collaboration among researchers by providing:

- Secure chat & messaging tools to facilitate discussions between chairs, reviewers, and authors.
- Transparent reviewer selection process ensuring fair and ethical paper evaluation.
- Metrics on reviewer performance, allowing conference organizers to reward and recognize reliable reviewers.

C. Environmental Factors (Effect: 4/10)

The system reduces the need for physical documentation in academic conferences, minimizing paper waste and the carbon footprint associated with printing, mailing, and in-person meetings. Additionally:

- Hosting the system on cloud-based servers minimizes energy consumption compared to dedicated physical data centers.
- Optimized backend operations reduce redundant processing power usage, improving efficiency.

D. Economic Factors (Effect: 7/10)

The platform is designed to be cost-effective, minimizing infrastructure expenses:

- Free-to-use software dependencies (React, Flask, MongoDB) reduce licensing costs.
- Self-hosted on a Linux VPS owned by the team to minimize operational costs.
- Optional AWS deployment for scalability, with controlled budget usage.

Constraints

6.2.1. Implementation Constraints

- The system will operate as a web application.
- React with TypeScript will be used for front-end development.
- Python Flask will handle business logic and RESTful APIs for the backend.
- MongoDB will serve as the primary database for storing conference, user, and submission data.

- The application will be deployed on a Linux VPS, managed by one of the team members, reducing dependency on external cloud services.
- AWS Cloud Services may be used as an alternative deployment platform if scalability demands increase.
- Docker will be used for containerization to maintain consistent environments across development, testing, and production.
- Docker Compose will orchestrate multi-container services.
- Google OAuth 2.0 and ORCID will be implemented for authentication.

6.2.2. Economic Constraints

- The software dependencies used in the system are open-source and free to use.
- A self-hosted Linux VPS will be used as the primary deployment environment to minimize costs.
- If needed, AWS services may be used, but costs will be kept minimal by optimizing storage and compute resources.

6.2.3. Ethical Constraints

- Users' personal data will be securely collected, processed, and stored following established security practices.
- The purpose of data collection and system processes will be transparently communicated to users.
- Users will have the ability to view, edit, or delete their personal information within the system.
- The project ensures compliance with GDPR (General Data Protection Regulation) and KVKK (Turkish Personal Data Protection Law) [1].
- Submitted papers will be protected from unauthorized access to prevent plagiarism and ensure research integrity.
- Conflict-of-interest handling mechanisms will be enforced during the review assignment process, ensuring fairness.

6.3. Standards

The Conferencer project adheres to industry standards for software development, data privacy, web application design, database management, cloud deployment, and ethics.

A. Software Development Standards

a. ISO/IEC 12207 – Software lifecycle processes [2].
b. IEEE 1012 – Verification and validation of system components [3].

B. Data Privacy & Security Standards

a. GDPR & KVKK Compliance – Ensures user data protection [1].
b. ISO/IEC 27001 – Information security management system for ensuring data confidentiality and integrity [4].

C. Web Application Standards

a. RESTful API Conventions – Used for system interoperability.
b. WCAG 2.1 – Accessibility compliance for user interfaces.

D. Coding Standards

a. Python Best Practices (PEP 8 & PEP 20) – Maintainable and scalable development.
b. JavaScript & React Best Practices – Ensures frontend maintainability.

E. Database Standards

a. MongoDB ACID Transactions (where applicable) – Ensures reliable database operations.
b. NoSQL Best Practices – Optimized for document-based data storage.

F. Cloud Deployment & Infrastructure Standards

a. Linux VPS Deployment – Ensures cost-effective and self-managed infrastructure.
b. AWS Well-Architected Framework (Optional) – Used if cloud-based scaling is required.
c. Docker & Kubernetes – Provides containerized deployment for portability and resource optimization.

G. Ethical Standards

a. ACM & IEEE Codes of Ethics – Ensures fairness, integrity, and user trust in research submissions and reviews [5].

7. Teamwork Details

7.1. Contributing and functioning effectively on the team

We make plans about the division of work when we get the chance to meet face-to-face or online. This process Then we incorporate these plans to our Jira page for ensuring the organization of the tasks we decided upon. In the implementation parts, we have clearly defined and separated roles, even within the same system such as frontend. We use GitHub for source control and we follow general software development guidelines such as branching, and formatting in code writing.

7.2. Helping creating a collaborative and inclusive environment

We discuss and make decisions together. When we reach differences of opinion, we either try to meet at the middle ground with one or both parties compromising, or straight out take a vote and respect the decision that comes out of that. We do not refrain from expressing our opinions in project matters, and each member encourages each other to do so.

7.3. Taking lead role and sharing leadership on the team

We usually prefer having a collective leadership on the team as explained above. However, naturally group members do take the lead on matters that they are most involved in within their specified role in the design/implementation process.

8. References

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