



SOFTWARE ENGINEERING

PAPER CODE: ESC501

CSE, 3rd Year

TENDER MANAGEMENT SYSTEM

An online system aimed to automate and simplify all organizational tendering requirements.
Presentation prepared on 7th August, 2023.

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MAKAUT CA-1

CSE-A

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TABLE OF CONTENTS

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SOFTWARE ENGINEERING
ESC501
CSE-A
ROLL: 13000121036
07-08-2023
MAKAUT CA-1

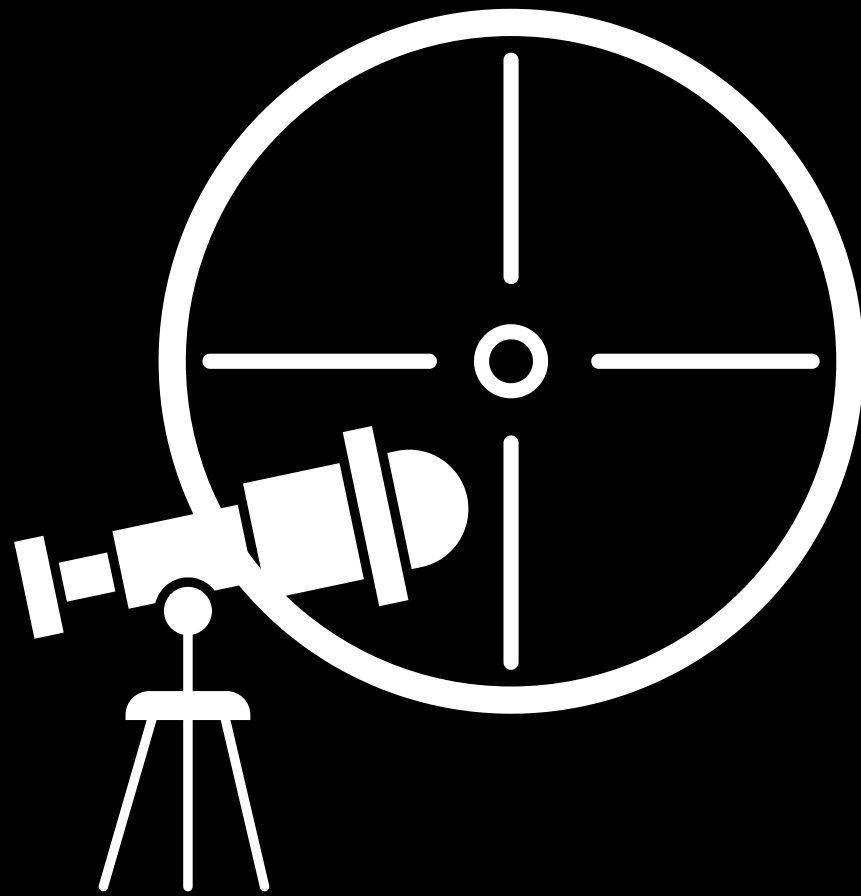
1	INTRODUCTION
2	SCOPE OF THE PROBLEM
3	OBJECTIVE
4	PROBLEM STATEMENT
5	CUSTOMER SURVEYS & INSIGHTS
6	FUNCTIONAL REQUIREMENTS
7	NON-FUNCTIONAL REQUIREMENTS
8	BENEFITS
9	CONCLUSION
10	REFERENCES

INTRODUCTION

- Introducing the **Tender Management System (TMS)** project, aimed at automating and streamlining tender processes.
- TMS addresses the challenges of the existing manual tender management system by offering an efficient and transparent solution.
- The project focuses on developing a robust and user-friendly TMS for organizations, catering to their tender management needs.



SCOPE OF THE PROBLEM



1

The existing manual tender management process poses numerous challenges for organizations

2

Tedious and time-consuming tasks involved in creating, managing, and evaluating tenders lead to inefficiencies.

3

Document handling, version control, and data accuracy become critical issues in the absence of an automated system

4

Lack of transparency in the manual process may result in difficulties for stakeholders to access and track tender information.

OBJECTIVES:



1

Automate the tender creation, publication, and bidding processes to reduce manual effort and save time.

2

Enhance document management and version control to ensure accurate and up-to-date tender information.

3

Improve transparency for all stakeholders involved in the tender process, ensuring open and fair competition.

4

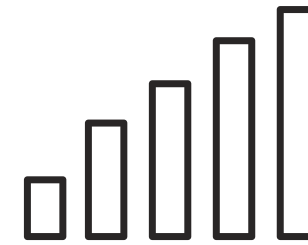
Generate insightful reports for analysis and decision-making to facilitate data-driven strategic planning and evaluation.

PROBLEM STATEMENT

The manual tender management process is time-consuming, error-prone, and lacks transparency, leading to inefficiencies and increased administrative burdens. The project aims to develop an automated and user-friendly TMS to streamline tender processes, improve accuracy, and enhance collaboration among stakeholders, resulting in more efficient and cost-effective tender management.

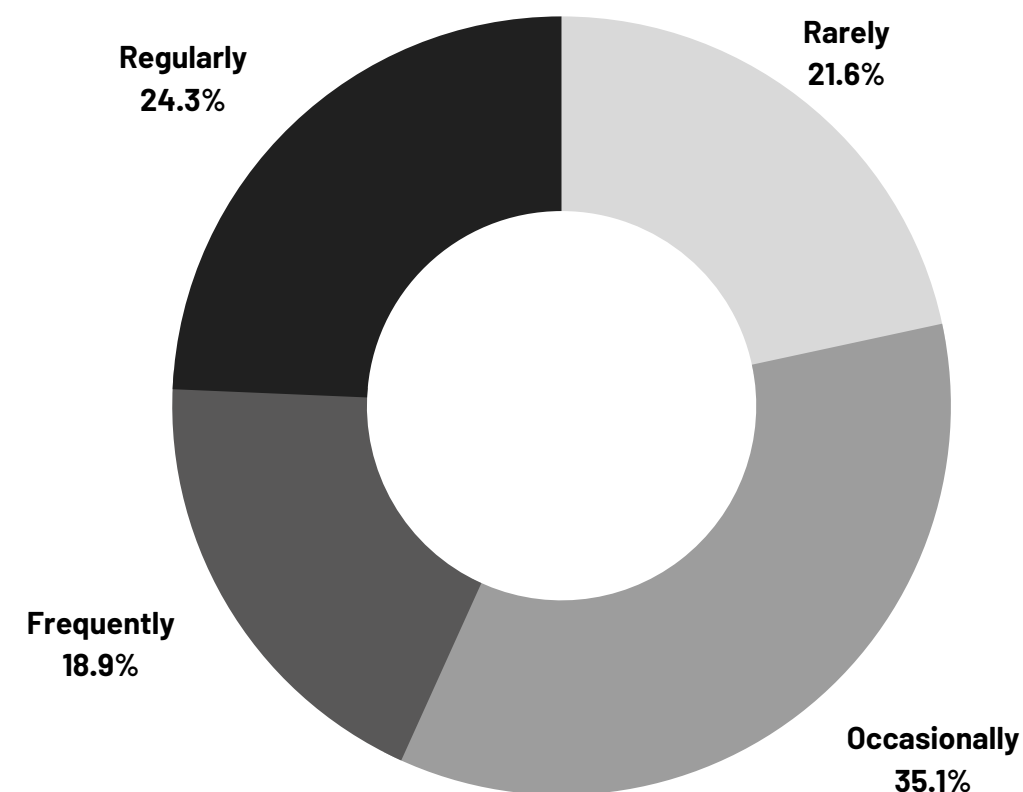


CUSTOMER SURVEYS

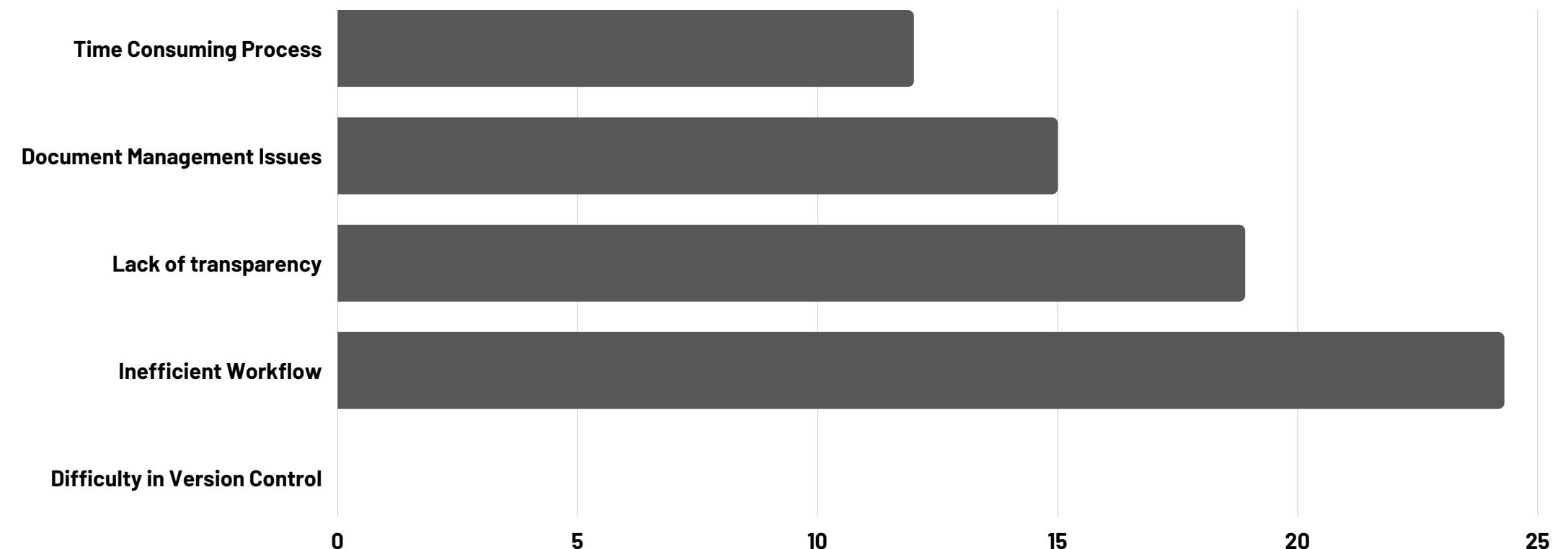


Link to the Response Sheet: <https://rb.gy/15ij6>

How often does your organization participate in tender processes?

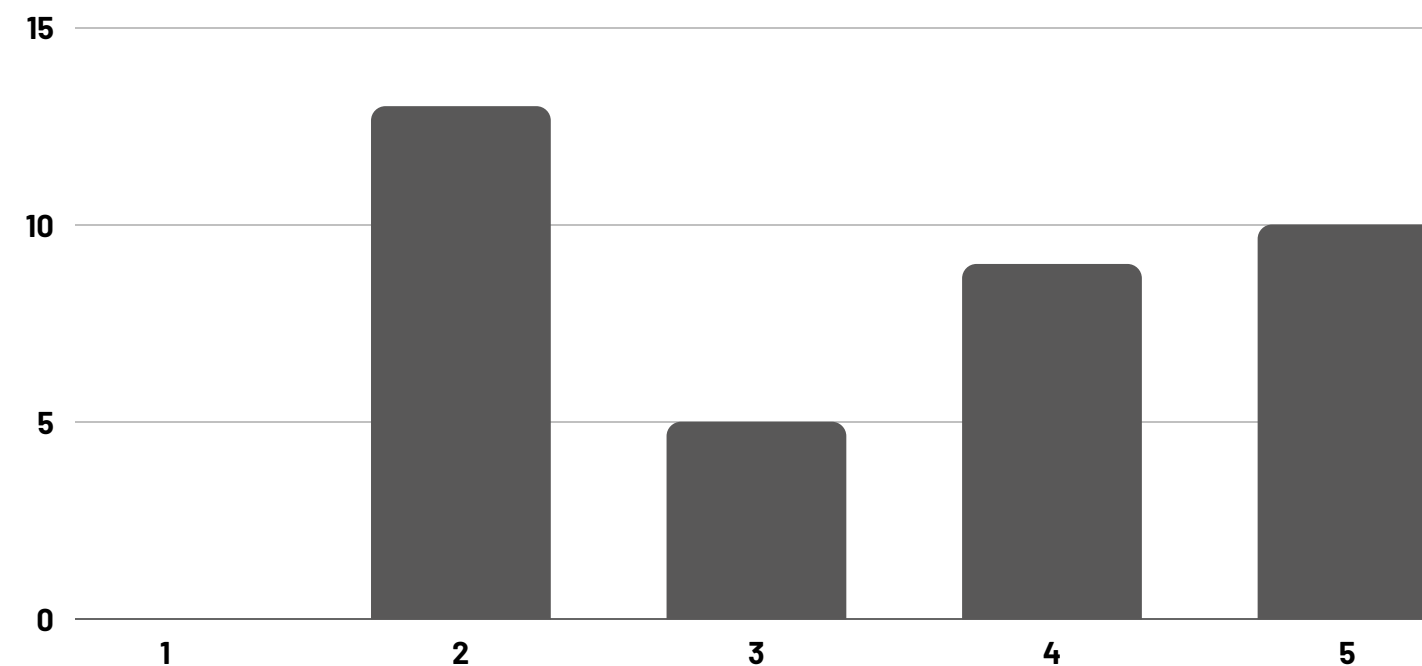


What are the major challenges your organization faces in the existing tender management system? (Select all that apply)

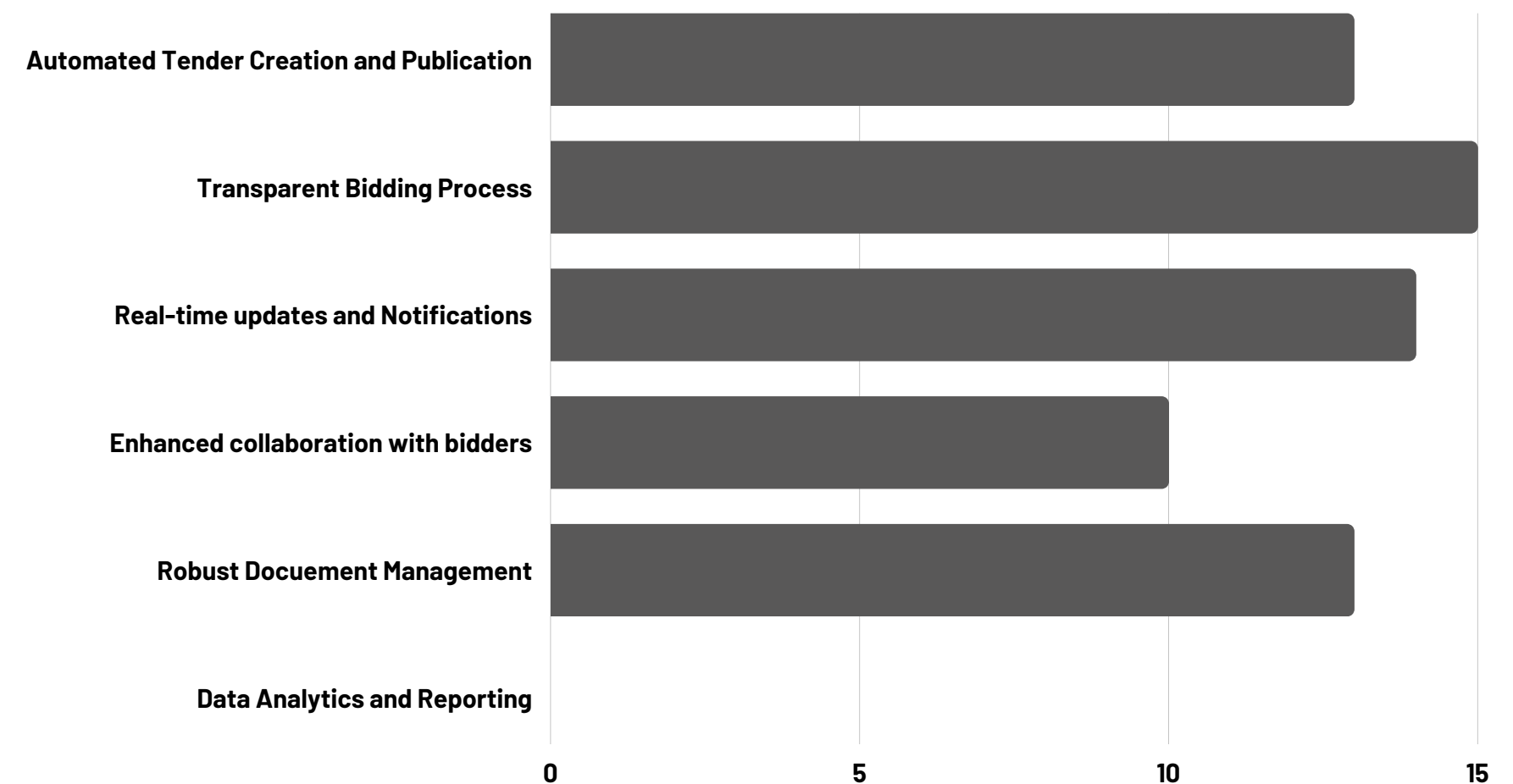


CUSTOMER SURVEYS (CONTINUED)

How important is it for your organization to adopt an automated and user-friendly Tender Management System?

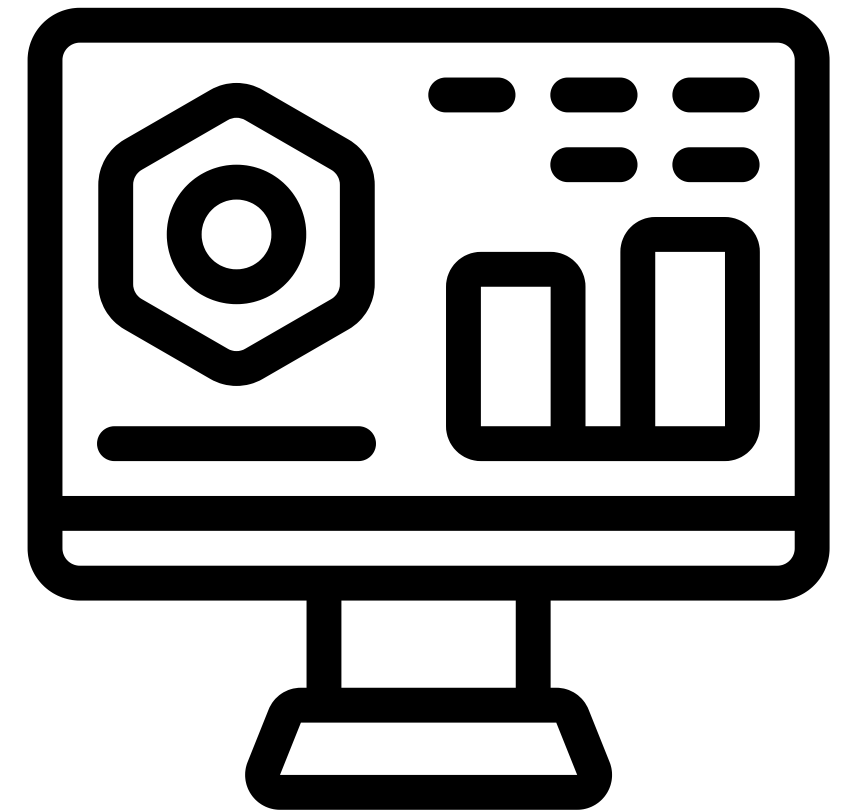


What features would you like to see in an ideal Tender Management System (TMS)? (Select all that apply)



INSIGHTS FROM THE SURVEY

- Despite limited awareness regarding the management of tendering processes, **0.0%**, i.e. none of the survey-takers believe that the current system of managing tender is full-proof.
- A staggering **37.8%** of survey-takers believe that the major problem in today's tendering systems is the **lack of transparency and inefficient workflow**.
- Keeping this observation in mind, it comes as no surprise when **40.5%** of survey-takers say that they would definitely **demand more transparency in the bidding process**.
- On the other hand, **0.0%** of users have complained about the reporting and analytics section of today's tendering methods. This means that the data analytics side has been more or less cracked and will therefore need to be absolutely full-proof in any future models to be devised.



FUNCTIONAL REQUIREMENTS

- **User Registration and Authentication:** User signup and login functionality with role-based access will be provided. Simple utility-based profile with an access to a dashboard.
 - **Input:** User-provided registration details (e.g., name, email, password) and selected role.
 - **Output:** Successful user registration with access to a simple utility-based profile and a personalized dashboard.
 - **Error Handling:** Display appropriate error messages for invalid input or unsuccessful registration attempts.
- **Tender Creation and Management:** Create, edit, and publish tenders with essential details and deadlines.
 - **Input:** User-provided tender information, including title, description, deadlines, and tender documents.
 - **Output:** Published tenders accessible to relevant stakeholders for viewing and bidding.
 - **Error Handling:** Validate mandatory fields, ensure accurate date entries, and display error messages for incomplete submissions.

FUNCTIONAL REQUIREMENTS (CONTINUED)

- **Bid Submission and Evaluation:** Bidders can submit their proposals electronically. Evaluate bids based on pre-defined criteria (to be set by admin) and select winning bids.
 - **Input:** Bid documents and proposals submitted electronically by bidders.
 - **Output:** Successfully submitted bids available for evaluation by the admin.
 - **Error Handling:** Ensure proper file format and size for bid submissions, and display error messages for failed submissions.
- **Document Versioning and Tracking:** Track revisions of tender documents and maintain version history. In case of errors or incorrect version tags, stakeholders will be notified.
 - **Input:** Updated versions of tender documents uploaded by users.
 - **Output:** Document version history accessible to stakeholders with proper version tags.
 - **Error Handling:** Notify stakeholders if incorrect version tags are used and provide guidance for proper versioning.

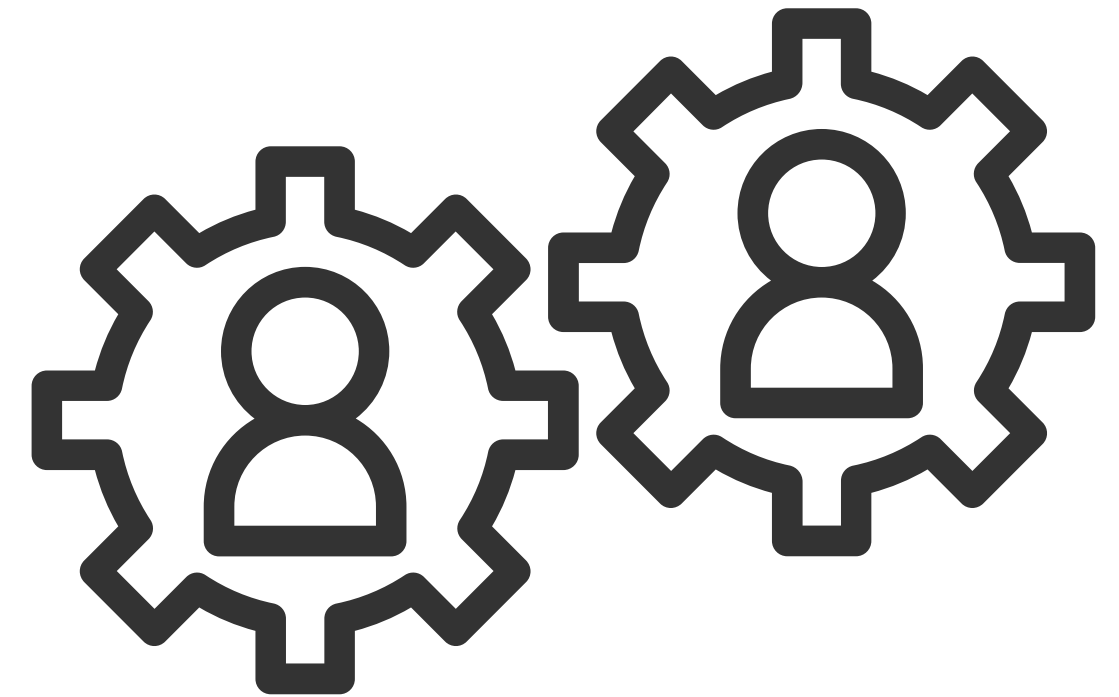
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FUNCTIONAL REQUIREMENTS (CONTINUED)

- **Notification System for Stakeholders:** Notify users about tender updates, deadlines, and bid evaluation results at regular intervals.
 - **Input:** Tender updates, deadlines, and bid evaluation results.
 - **Output:** Regular notifications sent to relevant stakeholders via preferred communication channels (e.g., email, dashboard alerts).
 - **Error Handling:** Ensure notifications are sent accurately and promptly, with appropriate retry mechanisms.
- **Reporting and Analytics:** Generate reports for tender status, bidding trends, and performance metrics.
- **Admin Panel for User Management:** Admin privileges to manage user accounts and roles.
 - **Input:** Admin-provided access and role assignments for users.
 - **Output:** Admin dashboard with user management capabilities, allowing role modifications and account updates.
 - **Error Handling:** Restrict unauthorized access to the admin side.

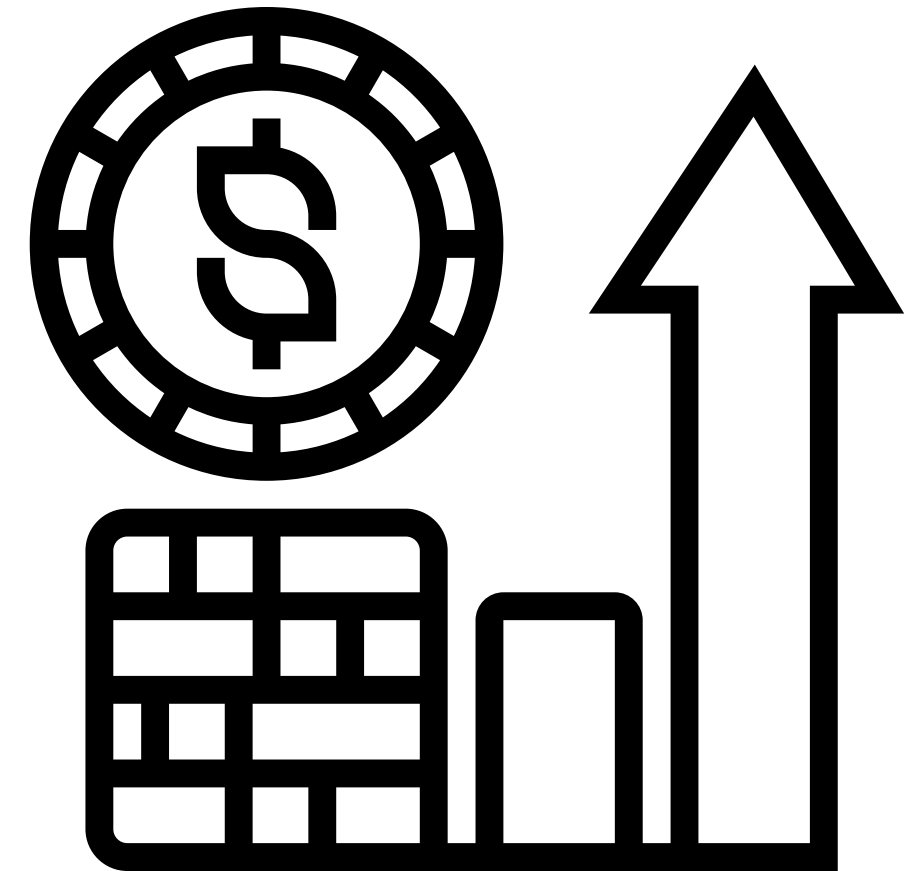
NON-FUNCTIONAL REQUIREMENTS

- **Security:** Implement strong data encryption and access controls to safeguard sensitive information. Both on user and admin side.
- **Performance:** Ensure the system responds quickly and can handle a large number of users concurrently.
- **Usability:** Design an intuitive and user-friendly interface for easy navigation.
- **Reliability:** Maintain high availability and minimal downtime for uninterrupted access.
- **Compatibility:** Ensure compatibility with popular browsers and devices for a seamless user experience.
- **Data Backup and Recovery:** Regularly back up data and have disaster recovery plans in place.
- **Correctness Requirement:** Version control mechanisms and metrics will be frequently checked and refined by administrators.



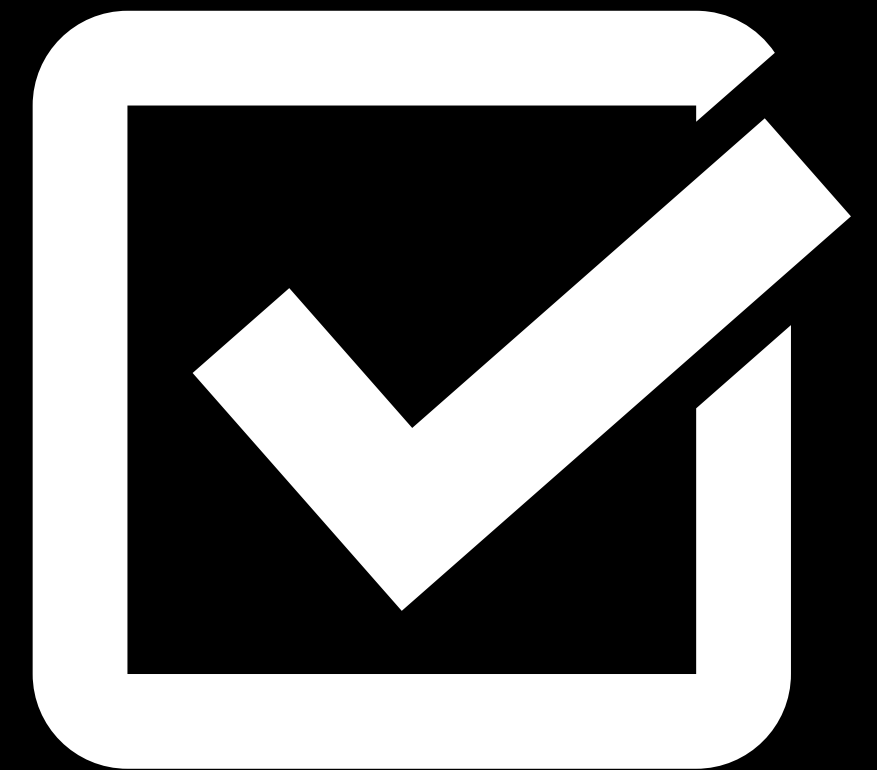
BENEFITS

- **Enhanced Efficiency:** Automation accelerates tender creation, evaluation, and awarding, saving time and resources.
- **Improved Accuracy:** Reduced errors, version control, and reliable data storage ensure accurate tender information.
- **Transparency and Accessibility:** Open competition, real-time updates, and equal access promote fairness and stakeholder involvement.
- **Data-Driven Decision Making:** Comprehensive analytics and historical data aid in strategic planning and procurement optimization.
- **Cost Savings:** Less paperwork, lower administrative burden, and competitive bidding lead to reduced expenses.
- **Scalability and Flexibility:** Adaptable to growth, customizable workflows, and multi-platform access cater to diverse organizational needs.



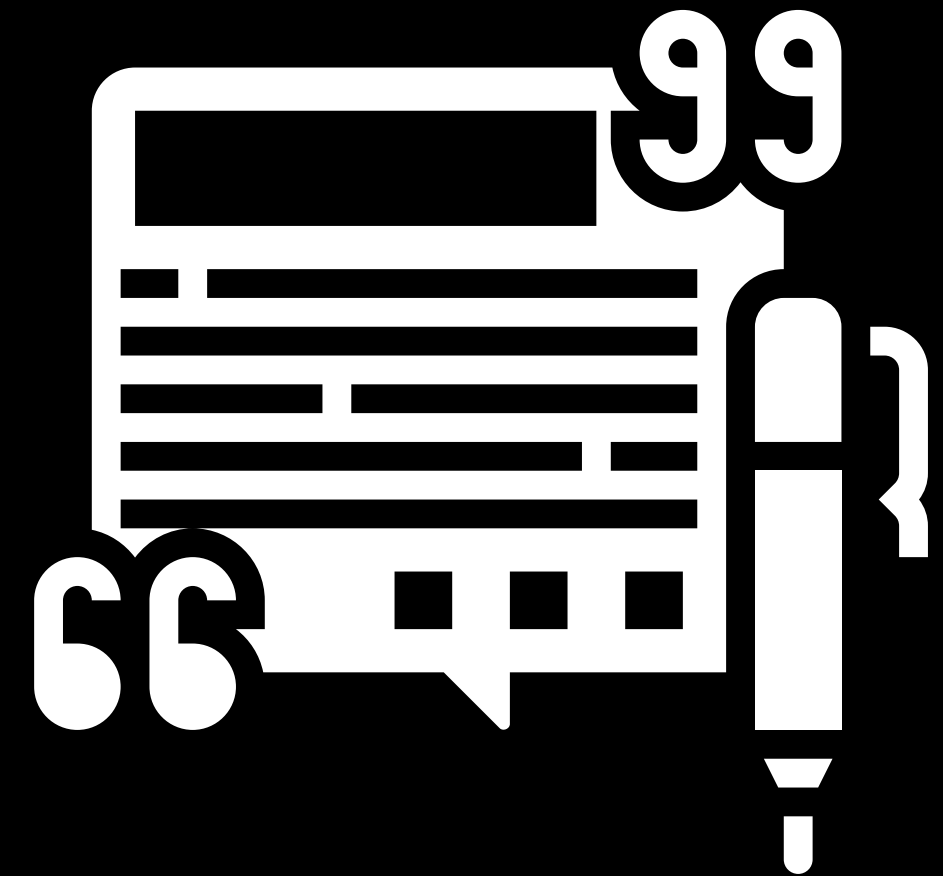
CONCLUSION

- **Benefits:** The Tender Management System (TMS) will have significantly enhanced efficiency, accurate data, and cost savings.
- **Successful Solution:** The new TMS offers an automated, user-friendly, and scalable system. Specially designed for today's fast-paced e-tendering scenario.
- **Empowering Organizations:** TMS empowers organizations to optimize tender management, driving better procurement outcomes.



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- **IEEE Computer Society - computer.org**



THE END



THANK YOU FOR WATCHING