SOFTWARE REQUIREMENT SPECIFICATION  
For

DESIGN, DEVELOPMENT OF   
PRAAPTI WEB PORTAL and MOBILE APPLICATION

PRAAPTI 2.0   
  
By   
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# Introduction

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# AS IS

## 7.1 Current System Overview

The PRAAPTI portal is a centralized digital platform designed to facilitate the seamless interaction between Suppliers (such as Gencos, Transcos, and Traders) and DISCOMs (Distribution Companies) in India. The system provides a transparent, secure, and efficient process for financial transactions, invoice management, dispute resolution, and payment processing. In alignment with the LPS Rules, 2022, PRAAPTI ensures that the invoicing and payment cycles for power generation, transmission, and distribution services are governed by robust standards, promoting accountability and reducing delays.

### 7.1.1 Key Features and Functions of the Current System

The PRAAPTI portal acts as a vital tool for ensuring financial integrity and transparency between the power producers (Suppliers) and the power distributors (DISCOMs). The portal's functionality is geared towards streamlining multiple financial processes, minimizing errors, and facilitating real-time tracking of outstanding payments. Key functionalities available in the current system include:

1. **Supplier Registration & Profile Management:**

The registration process allows Suppliers to create their accounts by submitting key details such as GSTIN, PPA (Power Purchase Agreement) details, and banking information. Upon approval from the Admin, Suppliers can gain access to the portal and start submitting invoices. The system allows the management of the Supplier’s profile, including PPA linkages, company details, and contact information.

1. **Invoice Management:**

Suppliers are empowered to upload invoices to the system, which are then reviewed by DISCOMs (Distribution Companies). Once reviewed, DISCOMs either admit the invoices for payment or return them for corrections. The system tracks each invoice's status, offering visibility for both Suppliers and DISCOMs. Invoice data is directly mapped to each PPA, ensuring accuracy and traceability.

1. **Dispute Resolution:**

When discrepancies arise in the invoicing process, DISCOMs can raise disputes against Suppliers' invoices. These disputes are handled within the system, allowing Suppliers to respond either by accepting the dispute or providing supporting documents to contest it. The system facilitates the resolution of disputes by enabling clear documentation and ensuring legality through the submission of Stay Orders and Brief Notes.

1. **Payment Tracking & Fee Management:**

PRAAPTI helps DISCOMs track payments for admitted invoices. The system integrates with HDFC Payment Gateway for secure transactions, and Zoho Books is used for generating tax-compliant invoices and receipts. It also keeps a record of RMS (Revenue Management System) fees, which include registration fees and quarterly usage fees that Suppliers are required to pay. The portal updates the payment status in real-time and notifies Suppliers of any pending dues.

1. **Reports and Dashboards:**

The portal offers a set of standardized reports and real-time dashboards that provide an overview of key metrics, such as overdue payments, dispute resolution statuses, supplier activities, and RMS fee collection. These reports are exportable in multiple formats (e.g., PDF, Excel, CSV) and are essential for compliance and internal auditing.

1. **User Access & Role-Based Control:**

Admins have full access to manage user roles and permissions, ensuring that only authorized personnel can access specific system functionalities. The system supports role-based access control (RBAC) to segregate duties and ensure that sensitive operations such as invoice approval, payment updates, and dispute resolutions are handled by the right individuals.

### 7.1.2 Current System Infrastructure and Workflow:

PRAAPTI operates on a web-based platform, providing a user-friendly interface with centralized access to key functionalities. The platform uses cloud-based architecture, enabling secure data storage and real-time syncing across all users. Here's a quick look at the core workflow:

1. **Supplier Onboarding:**
2. **Registration:** Suppliers fill in their details, attach required documents (e.g., GSTIN, Bank Information), and submit their registration request.
3. **Admin Approval:** The Admin verifies the data, approves or rejects the registration, and activates the Supplier account.
4. **Profile Management:** Once registered, Suppliers can manage their profile, including PPA linkages and company information.
5. **Invoice Submission & Review:**
6. **Supplier Upload:** Suppliers upload their invoices via the PRAAPTI interface.
7. **DISCOM Review:** DISCOMs review each invoice and either admit it for payment or return it with comments for corrections.
8. **Status Tracking:** Suppliers can monitor the status of their invoices and take action if returned or disputed.
9. **Dispute Handling:**
10. **DISCOM Raises Dispute:** If there are issues with an invoice, DISCOMs can raise a dispute.
11. **Supplier Response:** Suppliers can respond by accepting the dispute or uploading supporting documents to contest it.
12. **Admin Oversight:** Admins oversee the dispute process and ensure that legal documentation is provided.
13. **Payments & Reporting:**
14. **Payment Tracking:** Payments are processed through HDFC Payment Gateway, and the system tracks their status.
15. **Reports:** Users can generate and download various reports (payment summaries, overdue payments, dispute reports) from the dashboard.

### 7.1.3 Need for Modification

The current PRAAPTI system has served as a foundation for facilitating financial transactions between Suppliers and DISCOMs, but to meet the growing needs of users and ensure compliance with evolving regulatory requirements, significant modifications are needed. The following areas require immediate attention to modernize and improve system performance, efficiency, and user experience:

1. **Automation of Key Processes**
2. **Current System Limitation:** Many processes such as invoice validation, dispute resolution, and payment tracking are heavily reliant on manual inputs and human oversight. This creates inefficiencies and increases the likelihood of errors, delays, and potential discrepancies in invoicing and payments.
3. **Modification Need:** Automating invoice validation, dispute escalation, and payment reminders will drastically reduce manual errors, improve speed, and ensure consistency in data processing.
4. **Real-Time Data Synchronization**
5. **Current System Limitation:** The system currently relies on periodic updates for reporting and dashboard data, which means that users do not have access to real-time data. As a result, decision-making, especially regarding overdue payments, disputes, and invoice statuses, is delayed.
6. **Modification Need:** The system must be modified to provide real-time updates and synchronization of data, particularly for payment statuses, disputes, and overdue invoices, to improve operational efficiency and enhance visibility.
7. **Integration with External Systems**
8. **Current System Limitation:** The existing integrations with Zoho Books and HDFC Payment Gateway are not fully optimized, leading to manual interventions for payment processing, invoice generation, and tax-related tasks.
9. **Modification Need:** Full integration with Zoho Books for automated invoice generation and receipt creation in real-time, and seamless integration with the HDFC Payment Gateway for automatic payment processing and reconciliation. This will significantly improve financial management, reporting accuracy, and efficiency.
10. **Enhanced Security Measures**
11. **Current System Limitation:** While the current PRAAPTI system implements some security protocols, there is a need for stronger data encryption, multi-factor authentication (MFA), and more granular role-based access control (RBAC) to safeguard sensitive financial and user data.
12. **Modification Need:** Introduce advanced encryption algorithms, enforce MFA for all users, and enhance role-based access control to ensure that only authorized personnel can access sensitive information. This will provide higher data security, regulatory compliance, and user trust.
13. **Improved Reporting and Dashboarding**
14. **Current System Limitation:** Reports and dashboards are updated periodically and provide limited visibility into real-time operational performance, such as overdue payments, dispute resolutions, and RMS fee statuses. This lack of real-time data impacts decision-making for both Suppliers and DISCOMs.
15. **Modification Need:** Modify the system to deliver real-time KPIs, dispute status updates, and payment tracking. Advanced reporting capabilities and the ability to generate real-time dashboards will help DISCOMs, Suppliers, and Admins make informed decisions faster.
16. **User Experience Enhancements**
17. **Current System Limitation:** The current system is prone to usability issues, especially with manual data entry and complex workflows. The user interface is functional, but there are opportunities for enhancing accessibility, navigation, and overall user satisfaction.
18. **Modification Need:** The user interface (UI) should be redesigned for simplicity and intuitiveness, with enhanced workflows that reduce the number of manual steps needed to complete core tasks. Additionally, ensuring that all user actions (like invoice uploads, dispute resolutions, and payment updates) are as seamless and efficient as possible will improve the overall user experience.
19. **Enhanced Integration with Regulatory Systems**
20. **Current System Limitation:** The current PRAAPTI system does not fully integrate with external regulatory databases, such as those used by government agencies to track GST compliance or tax filings.
21. **Modification Need:** To ensure regulatory compliance and audit readiness, PRAAPTI needs to integrate with relevant government systems, including GSTN, e-way bills, and tax reporting systems, to ensure end-to-end compliance for both Suppliers and DISCOMs.
22. **Scalability for Future Growth**
23. **Current System Limitation:** The existing system is suitable for current volumes of data, but as the number of Suppliers and DISCOMs grows, there is a potential for scalability issues. Additionally, as invoice volumes and dispute counts increase, the system may encounter performance bottlenecks.
24. **Modification Need:** Architectural modifications are necessary to ensure the system can handle increased volumes of data, users, and transactions. A shift towards a cloud-native infrastructure with auto-scaling capabilities will ensure that the system can scale seamlessly as user demand increases.

## 7.2 Process Analysis

The PRAAPTI system has successfully digitized a range of processes that facilitate the interaction between Suppliers and DISCOMs. However, as with any evolving system, there are areas where the current workflows can be optimized for greater efficiency, accuracy, and scalability. This section delves into a detailed analysis of the key processes that make up the PRAAPTI ecosystem, focusing on Invoice Management, Dispute Management, Payment Monitoring, and Reporting.

In addition, this section highlights the core challenges in the existing system, such as manual validation, data synchronization issues, and user experience barriers, and proposes solutions aimed at enhancing operational efficiency.

### 7.2.1 Key Process Challenges

The PRAAPTI system, despite its robust functionality, faces several challenges that hinder operational efficiency and data accuracy. These challenges are primarily associated with manual processes, limited automation, and data integrity.

1. **Invoice Processing: Manual Verification and Data Entry**

The process of invoice processing is the backbone of PRAAPTI, yet it remains heavily manual. DISCOMs review invoices submitted by Suppliers and either admit them for payment or return them due to discrepancies. Here are some of the challenges:

1. **Manual Verification:** DISCOMs must manually verify each invoice for accuracy, checking it against Power Purchase Agreements (PPAs), ensuring proper tax calculations, and validating invoice amounts. This is a time-consuming process, especially when dealing with large volumes of invoices.
2. **Data Entry Errors:** Because much of the data is entered manually, there is a high risk of human error in the system. Incorrect entries lead to invoices being returned, increasing the time spent on manual corrections and causing delays in payment processing.
3. **Lack of Invoice Validation Automation:** There is no automated process in place to validate invoices before submission. This leaves room for discrepancies that could have been flagged before reaching the review stage, leading to rework and delays.
4. **Dispute Management: Cumbersome and Error-Prone**

The dispute management process is designed to ensure that any discrepancies identified by DISCOMs are formally raised and addressed, but it currently faces several challenges:

1. **Manual Dispute Raising:** DISCOMs manually raise disputes for invoices that they believe have errors or do not meet regulatory requirements. Each dispute must be accompanied by the necessary legal documentation, such as a Stay Order or a Brief Note. The need for physical documents introduces delays and manual verification at each step.
2. **Document-Dependent:** The current system relies heavily on the accuracy and timeliness of the documentation submitted during the dispute process. Missing or incomplete documents can lead to delays in resolution, which affects both Suppliers and DISCOMs.
3. **Lack of Automated Escalation:** There is no automated escalation mechanism for unresolved disputes. Manual intervention is required to track the progress of disputes, and delays in resolving disputes can lead to financial disruptions and compliance issues.
4. **Payment Monitoring: Manual Updates and Tracking**

DISCOMs are responsible for updating payment statuses for admitted invoices, but the current payment tracking process presents several challenges:

1. **Manual Payment Updates:** When payments are received, DISCOMs manually enter the payment details (amount, reference number, and date). This process is prone to data entry errors, which can cause discrepancies in the financial records and lead to incorrect payment statuses.
2. **Delayed Payment Processing:** There is no system in place to automatically flag overdue payments, and payment reconciliation is done manually. This leads to a delay in tracking outstanding payments, making it harder for DISCOMs to take corrective action promptly.
3. **Lack of Real-Time Payment Tracking:** The current system only updates payment statuses periodically, causing delays in the visibility of paid or overdue invoices. A real-time payment tracking system is crucial for timely financial reconciliation.
4. **Reporting: Limited Data Accessibility and Delay in Insights**

While the PRAAPTI portal offers standardized reports and dashboards, there are limitations in how quickly real-time data is made available to users:

1. **Periodic Reporting:** Reports are generated on a weekly basis, meaning that real-time tracking of critical metrics such as overdue payments or dispute statuses is not possible. This delays decision-making, especially when Suppliers and DISCOMs need immediate insights to take action.
2. **Data Gaps:** The periodic update of reports can result in gaps in key metrics and discrepancies that affect operational decision-making. For example, Suppliers may not have accurate, real-time visibility into their payment status or dispute progress.

### 7.2.2 Need for Automation & Standardization

To address these challenges, it is crucial to introduce automation and standardization across key processes, such as invoice management, dispute resolution, payment updates, and reporting.

1. **Automating Invoice Validation and Submission**

The invoice submission and validation process can benefit from automation:

1. **Automated Data Validation:** A system that automatically checks invoice data against predefined rules (e.g., PPA match, invoice format, tax calculations) would reduce human error and speed up invoice processing.
2. **Automated Invoice Approvals:** With predefined rules and thresholds, invoices that meet certain criteria (e.g., no discrepancies, matching PPA) could be auto-approved, reducing the time spent on manual reviews.
3. **Automating Dispute Management and Escalation**

Introducing automation to the dispute management process will streamline operations:

1. **Automated Dispute Raising:** Disputes could be automatically triggered when certain conditions (e.g., invoice mismatch, regulatory issue) are met, with mandatory documentation automatically uploaded based on predefined rules.
2. **Dispute Escalation:** An automated escalation system could ensure that unresolved disputes are flagged for immediate attention, reducing resolution times and improving dispute closure rates.
3. **Real-Time Payment Tracking and Reconciliation**

By automating payment tracking, the PRAAPTI portal can improve financial reconciliation:

1. **Automated Payment Updates:** Integrating with payment gateways like HDFC will allow the system to automatically update payment statuses in real-time, ensuring that DISCOMs and Suppliers are always working with the latest information.
2. **Real-Time Overdue Alerts:** The system could automatically send alerts to Suppliers when payments are overdue, and notify DISCOMs about pending payments, thus improving cash flow management and ensuring timely action.
3. **Standardizing Reporting and Real-Time Data Access**

The reporting process can be significantly enhanced by moving to real-time analytics:

1. **Real-Time Dashboards:** By integrating live data feeds into the system, PRAAPTI could offer real-time dashboards for key metrics like overdue payments, disputes, and RMS fee tracking.
2. **Automated Report Generation:** Reports could be generated on-demand, and automatically pushed to users based on predefined criteria. This would eliminate the need for manual export and ensure that data accuracy is maintained across all reports.

## 7.3 Integration and Security Challenges

The PRAAPTI portal, as a comprehensive financial and operational system, relies on various integrations with external systems and internal security measures to facilitate seamless functionality. However, like many enterprise systems, the current system faces integration and security challenges that could impact performance, reliability, and user trust. Addressing these challenges is crucial for ensuring the smooth flow of data, compliance with regulatory standards, and protection of sensitive information.

This section explores the key integration challenges that hinder smooth operation between PRAAPTI and external systems (like Zoho Books and HDFC Payment Gateway) and the security challenges related to user data protection, system access control, and regulatory compliance.

### 7.3.1 Key Integration Challenges

Integrating PRAAPTI with third-party systems is a crucial aspect of the portal’s functionality. However, several issues have been identified that limit the seamless flow of data and operational efficiency.

1. **Integration with Zoho Books**
2. **Current Challenge:**

Currently, the PRAAPTI system integrates with Zoho Books for generating tax invoices and managing financial records. However, this integration is rudimentary and lacks real-time synchronization. The process of updating tax invoices and receipts is not seamless, and data flows between PRAAPTI and Zoho Books are not instantaneous.

1. **Impact:**

This delay in synchronization results in discrepancies in financial data, with the possibility of inconsistent records for Suppliers and DISCOMs. Inaccurate invoice statuses or outdated payment information can lead to payment errors, compliance issues, and auditing problems.

1. **Modification Needed:**

To address this, a real-time integration with Zoho Books should be implemented. This would allow for automated invoice generation, real-time receipt updates, and immediate synchronization of all payment data, ensuring that financial records are always up to date.

1. **Integration with Payment Gateways (HDFC)**
2. **Current Challenge:**

The PRAAPTI system integrates with the HDFC Payment Gateway to process payments for RMS fees, invoices, and dispute settlements. However, the integration between the portal and the payment gateway is not fully automated. Payments are processed manually, and updates to payment statuses are logged only after the admin intervention or periodic reconciliation.

1. **Impact:**

This manual reconciliation introduces delays in payment tracking, causing payment status discrepancies. As a result, Suppliers might not be notified in real-time when payments are received, and DISCOMs might struggle with timely payment processing and overdue tracking.

1. **Modification Needed:**

A more seamless integration with real-time payment processing should be implemented. The system should automatically update the payment statuses, notify Suppliers immediately upon payment receipt, and reconcile payments automatically in the backend, reducing administrative workload and ensuring data accuracy.

1. **Integration with External Regulatory Systems**
2. **Current Challenge:**

Currently, PRAAPTI operates as a standalone system, lacking direct integration with external regulatory platforms such as GSTN (Goods and Services Tax Network) or e-way bill systems. This poses a challenge when it comes to ensuring compliance with GST filing, tax invoicing, and electronic document generation for legal and regulatory purposes.

1. **Impact:**

The absence of such integrations means that Suppliers may have to manually upload their tax-related documents and invoices to external platforms, creating duplicate data entry, reconciliation issues, and potential for errors.

1. **Modification Needed:**

To enhance compliance and efficiency, it is essential to establish integration with GSTN, e-way bills, and other regulatory systems. This will ensure automatic GST filings, compliant invoices, and error-free documentation, thus reducing administrative burdens and ensuring real-time compliance.

### 7.3.2 Key Security Challenges

Security is a paramount concern for any system handling financial transactions, user data, and confidential business information. Although the PRAAPTI system incorporates basic security protocols, several gaps remain that must be addressed to safeguard data integrity and user privacy.

1. **Data Encryption and Protection**
2. **Current Challenge:**

While the PRAAPTI system ensures that sensitive data such as invoice details, payment histories, and user credentials are stored securely, there is room for improvement in the encryption of data both in transit and at rest. At present, the system uses basic encryption, but there are vulnerabilities to data breaches or cyberattacks.

1. **Impact:**

In the event of a data breach, sensitive financial and personal data could be exposed to unauthorized parties. This could result in financial losses, reputation damage, and potential legal consequences.

1. **Modification Needed:**

The system should implement end-to-end encryption for all sensitive data, ensuring that data is encrypted both at rest and during transmission. This will prevent unauthorized access, ensuring compliance with data protection regulations such as GDPR and India’s Data Privacy Laws.

1. **Multi-Factor Authentication (MFA)**
2. **Current Challenge:**

Currently, PRAAPTI users (particularly Admin and Finance Admin) log in using password-based authentication. Although this is secure to some extent, it does not provide the robust security needed for a system handling sensitive financial data.

1. **Impact:**

Password-only authentication can be vulnerable to breaches through phishing attacks or brute-force login attempts. If attackers gain access to an Admin or Supplier account, they can manipulate sensitive financial data or even change account details.

1. **Modification Needed:**

Implement Multi-Factor Authentication (MFA) for all users, especially for Admin and Finance Admin accounts. This will ensure that even if login credentials are compromised, unauthorized access is still prevented.

1. **Role-Based Access Control (RBAC)**
2. **Current Challenge:**

While the PRAAPTI system employs Role-Based Access Control (RBAC) to limit access to specific features and data, the current implementation may not be granular enough. For example, certain roles like Finance Admin or Dispute Admin might still have access to sensitive areas of the system that are not necessary for their tasks.

1. **Impact:**

Overly broad access permissions could lead to unauthorized access to financial records or personal information, potentially compromising the system’s integrity and confidentiality.

1. **Modification Needed:**

The RBAC implementation should be revised and enhanced to ensure that each user role is assigned the minimum level of access necessary to perform their duties. Additionally, audit logs should be implemented to track and monitor all actions taken by users, particularly those with high-level access.

1. **Security Monitoring and Audit Logs**
2. **Current Challenge:**

The PRAAPTI system currently lacks a comprehensive security monitoring system that can track potential security threats in real-time. Additionally, while the system keeps some basic audit logs of user activities, it does not fully track the context or details of high-risk actions such as data changes, user access, and invoice status updates.

1. **Impact:**

Without continuous monitoring and detailed audit logs, suspicious activities may go unnoticed until it is too late. This leaves the system vulnerable to potential insider threats, fraud, or data tampering.

1. **Modification Needed:**

Implement a real-time security monitoring system that can alert administrators to suspicious activity. Additionally, enhanced audit logs should be implemented to provide a detailed record of all critical actions, ensuring a traceable security history for all users.

## 7.4 User Feedback and Key Findings

The User Feedback section serves as a critical reflection of the PRAAPTI portal’s effectiveness in meeting the needs of its stakeholders. This feedback, gathered from Suppliers, DISCOMs, and Admin users, sheds light on the strengths of the current system, as well as the pain points and opportunities for improvement. By examining these insights, we can identify areas where PRAAPTI is performing well and where it requires modification, enhancement, or optimization to better serve its users and streamline its operations.

In this section, we will:

1. Analyze key challenges highlighted by stakeholders.
2. Discuss the system enhancements needed based on user experiences.
3. Provide actionable recommendations to improve system performance, user satisfaction, and operational efficiency.

### 7.4.1 Key Challenges Identified by Stakeholders

Stakeholder feedback highlights several recurring challenges in the PRAAPTI system. These challenges primarily stem from manual processes, lack of automation, and data integrity issues, which hinder the system's ability to provide efficient service and real-time insights. Below is a summary of the major challenges identified:

1. **Suppliers’ Challenges**
2. **Invoice Validation Delays:** Suppliers have expressed concerns about the delays in invoice processing. The manual validation of invoices by DISCOMs often leads to prolonged waiting periods before invoices are either admitted or returned. This creates payment delays, affecting the cash flow of Suppliers and leading to frustration among users.
3. **Dispute Resolution Delays:** Suppliers also raised concerns about the lengthy dispute resolution process. Disputes are often raised manually, and the process of gathering the necessary documents (e.g., Stay Orders and Brief Notes) adds complexity and delays. Furthermore, the lack of automation in dispute escalation leaves disputes unresolved for extended periods, causing financial bottlenecks.
4. **Manual Payment Updates:** Payment tracking and updates are done manually by Suppliers, leading to delays in payment status updates and potential discrepancies. This process also requires manual reconciliation, which increases the administrative burden on Suppliers.
5. **DISCOMs’ Challenges**
6. **Invoice Verification Complexity:** DISCOMs face challenges in manually verifying the validity of invoices, especially when large volumes of invoices are submitted. The manual review process for each invoice is time-consuming and prone to human error. Inaccuracies in PPA mapping or invoice amounts frequently lead to invoice returns, further delaying payments.
7. **Dispute Management Bottlenecks:** DISCOMs expressed frustration over the manual dispute handling process. The process involves multiple steps, including raising disputes, collecting supporting documents, and monitoring responses from Suppliers. There is also no automated tracking for unresolved disputes, leading to long wait times and operational inefficiencies.
8. **Delayed Payment Reconciliation:** DISCOMs also reported challenges in tracking outstanding payments and reconciling overdue invoices. The manual entry of payment data creates discrepancies in payment status, making it difficult to take timely actions on overdue payments.
9. **Admins’ Challenges**
10. **User Onboarding and Role Management:** Admins face difficulties in managing user roles and permissions for the system. The user registration process is slow, and manual verification of Supplier and DISCOM accounts adds to the administrative burden. Additionally, role-based access control (RBAC) can be difficult to manage, especially with the growing number of users.
11. **System Monitoring and Reporting:** Admins also identified gaps in real-time monitoring. While the system provides standardized reports and dashboards, these are updated only periodically, resulting in delayed data insights. Admins need access to real-time KPIs and actionable data to make timely decisions, particularly for dispute resolution and payment monitoring.
12. **Manual Invoice and Payment Processing:** Admin users also manage invoice processing and payment status updates. The lack of automation in these processes causes delays in payment processing and manual reconciliation of data between Suppliers, DISCOMs, and financial systems.

### 7.4.2 Need for System Enhancements

The feedback from stakeholders clearly indicates a need for enhancements in several areas of the PRAAPTI system. These improvements aim to streamline workflows, automate processes, and reduce manual intervention, ultimately enhancing user satisfaction, improving system reliability, and ensuring real-time financial tracking. Below are the key areas for system enhancements:

1. **Automation of Key Processes**
2. **Automated Invoice Validation:** A significant improvement would be the automation of invoice validation. By introducing rule-based validation, invoices can be automatically checked for PPA matching, tax calculations, and valid data entry before they reach the review stage. This will reduce manual errors, speed up processing, and ensure that valid invoices are quickly processed.
3. **Automated Dispute Escalation:** Automating the dispute process would ensure that disputes are automatically escalated if not resolved within a specific timeframe. The introduction of an automated dispute tracking system will help both Suppliers and DISCOMs stay on top of unresolved issues and allow for faster dispute resolution.
4. **Payment Tracking and Reconciliation Automation:** Automating the payment reconciliation process would significantly reduce the administrative workload for DISCOMs and Suppliers. By integrating the payment gateway directly into the PRAAPTI system, payments can be tracked in real-time, reducing discrepancies and ensuring accuracy in financial records.
5. **Real-Time Reporting and Dashboards**
6. **Real-Time Data Access:** Stakeholders emphasized the need for real-time reporting and live data tracking. The system should provide real-time updates on critical metrics such as dispute status, overdue payments, invoice progress, and RMS fee liabilities. These updates will empower Suppliers, DISCOMs, and Admins to make informed decisions in real-time and reduce delays in payment processing and dispute resolution.
7. **Customizable Dashboards:** A flexible dashboard system that allows users to customize the display of key metrics (such as overdue payments or disputes) will help Suppliers and DISCOMs track their operations more efficiently. This will also give Admins the ability to quickly view system-wide data and identify operational bottlenecks.
8. **User-Friendly Interface and Workflow Optimization**
9. **Simplified User Interface:** The current interface has been reported as functional but cumbersome. A streamlined, user-friendly interface with intuitive workflows will reduce the learning curve for new users and improve overall user satisfaction. The portal should be optimized for easy navigation, with clear prompts and help sections to guide users through tasks like invoice submission, dispute resolution, and payment updates.
10. **Bulk Invoice Uploads:** The introduction of bulk invoice upload functionality will help Suppliers manage large volumes of invoices more effectively. Batch processing for invoices and payments will reduce manual effort and increase the speed of invoice submission and processing.
11. **Enhanced Security and Compliance**
12. **Multi-Factor Authentication (MFA):** Strengthening user authentication by implementing MFA will improve system security, especially for Admin and Finance Admin accounts, which have access to sensitive financial data.
13. **End-to-End Data Encryption:** To protect sensitive information, end-to-end encryption should be implemented for data at rest and data in transit, ensuring that financial and personal data is safeguarded against unauthorized access.
14. **Integration with Regulatory Systems**
15. **GST Integration:** Direct integration with the GSTN system for automatic GST filing and e-way bill generation will ensure real-time compliance and eliminate the need for manual uploads and data entry errors. The integration will also help with tax invoice validation and streamline financial reporting.
16. **External Accounting System Integration:** Further integration with external accounting systems (beyond Zoho Books) will enable seamless financial data synchronization and reduce manual entry of accounting data.

## 7.5 PRAAPTI Existing System

### 7.5.1 Supplier User Workflows

#### 7.5.1.1 Supplier Registration

The Supplier registration process allows power producers (Gencos, Transcos, Traders) to create an account on the PRAAPTI portal by providing key organizational and regulatory details. This process involves the submission of basic organizational details for verification by the Admin. After the registration request is submitted, the Admin verifies the provided information before activating the Supplier's account.

**Process Flow:**

1. Supplier submits the registration form with the necessary basic details (e.g., Company Name).
2. Admin receives the registration request and verifies the information.
3. Admin either approves or rejects the registration request based on the submitted details.
4. Supplier receives an approval notification via email, indicating that their registration is successfully completed.
5. Supplier’s account is activated on the PRAAPTI portal.

**Process Description:**

|  |  |
| --- | --- |
| **Process Particulars** | **Details** |
| Process Objectives | To allow Suppliers to register on the PRAAPTI portal, ensuring that only authorized users can access the system. |
| Process Narrative | The following are the steps to be followed:   1. Supplier fills out the registration form. 2. Supplier submits company details. 3. Admin reviews the details for authenticity and compliance. 4. Registration is approved or rejected by the Admin. 5. Supplier receives an approval notification and account activation. |
| Process Business Rule | - Company details must be verified.  - Admin approval is required for account activation. |
| Key Data Requirements | **Input:** Company Details.  **Output:** - Registration Status (Approved/Rejected)  - Activation Notification. |

#### 7.5.1.2 Supplier Onboarding

Once the Supplier has successfully registered and been verified by the Admin, the next step is the Supplier Onboarding process. In this process, the Supplier is required to complete their profile, which includes uploading relevant documents such as PPA, banking details, and contact information. Once the Supplier profile is completed and approved, they are fully onboarded and can begin submitting invoices and engaging with DISCOMs.

**Process Flow:**

1. Supplier logs into the PRAAPTI portal after registration approval.
2. Supplier accesses the Onboarding Section and fills out the detailed application form.
3. Supplier uploads required documents, such as PPA agreements, tax certificates, and banking details.
4. Supplier submits the completed profile for Admin review.
5. Admin verifies the uploaded documents, ensuring compliance with system standards.
6. Once approved, the Supplier’s profile is activated for full access to the portal.

**Process Description:**

|  |  |
| --- | --- |
| **Process Particulars** | **Details** |
| Process Objectives | To ensure that Suppliers provide all the required documents and complete their profile before submitting invoices, participating in disputes, and performing other actions on the PRAAPTI portal. |
| Process Narrative | The following are the steps to be followed:   1. Supplier logs into the PRAAPTI portal. 2. Supplier accesses the Onboarding Section and fills out the application form. 3. Supplier uploads necessary documents (e.g., PPA, Banking Info, Tax Info). 4. Supplier submits the completed profile for Admin review. 5. Admin verifies the profile and documents. 6. Profile approval activates the Supplier's full access to the portal |
| Process Business Rule | - Supplier must submit all required documents.  - Admin approval is required to complete the onboarding process.  - Supplier must comply with PPA and tax regulations. |
| Key Data Requirements | **Input:** PPA Agreement, Banking Details, Tax Certificates, Company Info.  **Output:** - Completed Supplier Profile  - Approval Notification  - Full Access to Portal. |

#### 7.5.1.3 Invoice Submission

The Invoice Submission process allows Suppliers to submit their invoices for review by DISCOMs. This process ensures that only valid invoices are considered for payment and that any discrepancies are flagged for dispute resolution.

**Process Flow:**

1. Supplier logs into the PRAAPTI portal and navigates to the Invoices Section.
2. Supplier fills in the invoice details (amount, tax, due date) and uploads supporting documents (PPA, contract, etc.).
3. Supplier submits the invoice for review by DISCOMs.
4. DISCOM reviews and either admits or returns the invoice based on validity.
5. Supplier is notified of the invoice status (admitted or returned).

**Process Description:**

|  |  |
| --- | --- |
| **Process Particulars** | **Details** |
| Process Objectives | To ensure that valid invoices are submitted for processing, and discrepancies are flagged for dispute resolution. |
| Process Narrative | The following are the steps to be followed:   1. Supplier accesses the Invoice Dashboard. 2. Supplier fills out invoice details and attaches documents. 3. Supplier submits the invoice to DISCOM. 4. DISCOM reviews and admits or returns the invoice. 5. Supplier is notified of the outcome |
| Process Business Rule | - Invoices must adhere to the PPA terms.  - Invalid invoices are returned to the Supplier with remarks. |
| Key Data Requirements | **Input:** Invoice Details (amount, due date, tax, etc.), Supporting Documents (PPA, contract).  **Output:** - Invoice Status (Admitted/Returned)  - Notification to Supplier. |

#### 7.5.1.4 Dispute Resolution

The Dispute Resolution process allows Suppliers to raise objections if an invoice is returned by DISCOMs. Suppliers can submit legal documents such as Brief Notes and Stay Orders to support their objection and initiate a formal dispute process.

**Process Flow:**

1. Supplier receives notification from DISCOM regarding a disputed invoice.
2. Supplier navigates to the Dispute Section and fills out the dispute form.
3. Supplier uploads necessary legal documents (Stay Order, Brief Note) to contest the dispute.
4. Supplier submits the dispute for review by DISCOM and Admin.
5. DISCOM and Admin review the dispute, and resolution is either achieved or escalated.

**Process Description:**

|  |  |
| --- | --- |
| **Process Particulars** | **Details** |
| Process Objectives | To provide a transparent and structured process for raising disputes, ensuring that discrepancies are reviewed and resolved efficiently. |
| Process Narrative | The following are the steps to be followed:   1. Supplier accesses the Dispute Section. 2. Supplier uploads legal documents (Stay Order, Brief Note). 3. Supplier submits a dispute for review. 4. Admin and DISCOM assess the dispute and resolve. |
| Process Business Rule | - Disputes require supporting legal documents.  - Disputes must be resolved within 7 days. |
| Key Data Requirements | **Input:** Dispute Form, Stay Order, Brief Note.  **Output:** - Dispute Status (Resolved, Under Review, Escalated)  - Resolution Outcome. |

#### 7.5.1.5 Payment Tracking

The Payment Tracking process enables Suppliers to monitor payments for admitted invoices. Once payments are made, Suppliers update the payment status in the system for financial reconciliation.

**Process Flow:**

1. Supplier logs into the Payment Section of the PRAAPTI portal.
2. Supplier views admitted invoices with payment status.
3. Supplier updates payment details after receiving payments.
4. System updates payment status to Paid and notifies both Supplier and DISCOM.

**Process Description:**

|  |  |
| --- | --- |
| **Process Particulars** | **Details** |
| Process Objectives | To ensure accurate and timely tracking of payments made to Suppliers and to update invoice statuses accordingly. |
| Process Narrative | The following are the steps to be followed:   1. Supplier views admitted invoices. 2. Supplier updates payment details upon receipt. 3. System updates invoice status to Paid and sends notification to Supplier and DISCOM. |
| Process Business Rule | - Payment Status is updated only for admitted invoices.  - Partial payments must be tracked manually and updated in the system. |
| Key Data Requirements | **Input:** Payment Reference, Amount, Payment Date.  **Output:** - Payment Status (Paid)   * Payment Confirmation. |

### 7.5.2 DISCOM User Workflows

#### 7.5.2.1 DISCOM Registration

The DISCOM registration process allows authorized Distribution Companies (DISCOMs) to register and gain access to the PRAAPTI portal. This process involves submitting basic organizational details and required documents for Admin approval. Once the registration is verified and approved by Admin, the DISCOM user can proceed to the next step, which is profile completion.

**Process Flow:**

1. DISCOM submits the registration form with the necessary organizational details.
2. Admin verifies the details submitted by the DISCOM for compliance.
3. Admin approves or rejects the registration request based on the provided information.
4. DISCOM receives an approval notification upon successful registration.
5. DISCOM’s account is activated, but further profile completion is required before full access is granted.

**Process Description:**

|  |  |
| --- | --- |
| **Process Particulars** | **Details** |
| Process Objectives | To enable authorized DISCOM users to register on the PRAAPTI portal and ensure that only legitimate DISCOMs are granted access. |
| Process Narrative | The following are the steps to be followed:   1. DISCOM fills out the registration form. 2. DISCOM submits GSTIN, Nodal Officer, and Authorization Letter. 3. Admin verifies the details and approves/rejects the registration. 4. DISCOM receives notification of the registration status. 5. Account activation begins, with further onboarding required. |
| Process Business Rule | - Admin approval is mandatory for registration.  - Verification of organization details is required. |
| Key Data Requirements | **Input:** Company Name, details.  **Output:** - Registration Status (Approved/Rejected)  - Activation Notification. |

#### 7.5.2.2 DISCOM Onboarding

The DISCOM onboarding process allows verified DISCOM users to complete their profile by submitting required documents and providing additional information, such as contact details, PPA linkages, and banking information. Once the onboarding process is complete, DISCOMs are granted full access to the PRAAPTI portal, enabling them to begin engaging in the core functionalities of invoice processing, dispute management, and payment updates.

**Process Flow:**

1. DISCOM logs into the PRAAPTI portal after registration approval.
2. DISCOM accesses the Onboarding Section and completes the application form.
3. DISCOM uploads necessary documents such as PPA agreements, bank account details, and contact information.
4. DISCOM submits the completed profile for Admin review.
5. Admin reviews the uploaded documents and approves the profile completion.
6. DISCOM receives an approval notification, granting full access to the PRAAPTI portal.

**Process Description:**

|  |  |
| --- | --- |
| **Process Particulars** | **Details** |
| Process Objectives | To ensure that DISCOMs complete their profile with all required documentation and information, enabling them to fully access the portal for invoice management and dispute resolution. |
| Process Narrative | The following are the steps to be followed:   1. DISCOM logs into the PRAAPTI portal. 2. DISCOM completes the onboarding form. 3. DISCOM uploads required documents (PPA, banking info, contact details). 4. DISCOM submits the completed profile for review. 5. Admin reviews the submission and approves the profile. 6. DISCOM receives full access to the portal. |
| Process Business Rule | - PPA and banking details must be validated.  - Admin approval is necessary for profile activation. |
| Key Data Requirements | **Input:** PPA Agreement, Banking Information, Contact Details.  **Output:** - Completed DISCOM Profile  - Profile Approval Notification  - Full Access to Portal. |

#### 7.5.2.3 Invoice Review and Processing

DISCOM users are responsible for reviewing the invoices submitted by Suppliers. After reviewing the invoice, DISCOMs either admit or return it based on its validity. This ensures that only valid invoices are processed for payment.

**Process Flow:**

1. DISCOM accesses the Invoice Dashboard.
2. DISCOM reviews each invoice for discrepancies, checking it against PPAs, amounts, and tax calculations.
3. If the invoice is valid, DISCOM admits the invoice.
4. If discrepancies are found, DISCOM returns the invoice with remarks.
5. Supplier is notified about the admission or return of the invoice.

**Process Description:**

|  |  |
| --- | --- |
| **Process Particulars** | **Details** |
| Process Objectives | To ensure that only valid invoices are processed, and discrepancies are flagged for supplier resolution. |
| Process Narrative | The following are the steps to be followed:   1. DISCOM accesses the Invoice Dashboard. 2. DISCOM verifies the invoice against PPAs. 3. If valid, the Invoice is admitted for payment. 4. If discrepancies are found, the invoice is returned with remarks. 5. Supplier receives notification |
| Process Business Rule | - Invoices must match the terms of the PPA.  - Returned invoices require clear remarks from DISCOM. |
| Key Data Requirements | **Input:** Invoice Details (Amount, Tax, Due Date), PPA.  **Output:** - Invoice Status (Admitted/Returned)  - Notification to Supplier. |

#### 7.5.2.4 Dispute Management

The Dispute Management process allows DISCOMs to raise disputes against invoices they believe are incorrect, including discrepancies in invoice amounts, PPA terms, or legal compliance. These disputes must be accompanied by relevant legal documentation, such as a Brief Note or Stay Order.

**Process Flow:**

1. DISCOM identifies discrepancies in the invoice and clicks on Raise Dispute.
2. DISCOM fills in the dispute form and attaches mandatory documents (e.g., Brief Note, Stay Order).
3. The dispute is submitted to the Supplier, and a notification is sent.
4. Supplier either accepts or responds with the necessary documentation or objections.
5. Admin and DISCOM review the dispute, and the resolution is updated.

**Process Description:**

|  |  |
| --- | --- |
| **Process Particulars** | **Details** |
| Process Objectives | To raise and resolve invoice disputes through a transparent process that ensures legality and timeliness. |
| Process Narrative | The following are the steps to be followed:   1. DISCOM identifies a discrepancy in the invoice. 2. DISCOM initiates a dispute and uploads supporting legal documents. 3. The dispute is sent to Supplier. 4. Supplier responds. 5. DISCOM and Admin review and resolve the dispute |
| Process Business Rule | - Disputes must be raised with proper legal documentation.  - Dispute Resolution time should not exceed 7 days. |
| Key Data Requirements | **Input:** Dispute Form, Brief Note, Stay Order.  **Output:** - Dispute Status (Under Review, Resolved)  - Dispute Notification. |

#### 7.5.2.5 Payment Monitoring and Updates

DISCOMs track the payment status of admitted invoices. Once payments are received from Suppliers, DISCOMs update the payment status and ensure that the payment records are reconciled for both Suppliers and DISCOMs.

**Process Flow:**

1. DISCOM accesses the Invoice Dashboard to view admitted invoices.
2. DISCOM receives payments from Suppliers and enters payment details into the portal.
3. The payment status for each admitted invoice is updated to Paid.
4. Supplier and DISCOM receive confirmation emails regarding payment updates

**Process Description:**

|  |  |
| --- | --- |
| **Process Particulars** | **Details** |
| Process Objectives | To ensure that payments for admitted invoices are tracked, updated, and reconciled accurately. |
| Process Narrative | The following are the steps to be followed:   1. DISCOM reviews admitted invoices. 2. DISCOM updates the payment status upon receipt. 3. System updates status to Paid. 4. Supplier and DISCOM receive confirmation. |
| Process Business Rule | - Payment status is updated for admitted invoices only.  - Partial payments must be recorded manually. |
| Key Data Requirements | **Input:** Payment Amount, Payment Reference, Payment Date.  **Output:** - Payment Confirmation  - Updated Invoice Status. |

### 7.5.3 Admin User Workflows

#### 7.5.3.1 Admin User Registration and Role Assignment

The Admin registration process ensures that authorized users have access to manage the entire PRAAPTI system. Admins have the authority to approve user registrations, assign roles, and define permissions for each user based on their responsibilities. This process is crucial for maintaining the security and integrity of the system.

**Process Flow:**

1. Admin receives registration requests from DISCOM and Supplier users.
2. Admin verifies the user credentials and authorization letters.
3. Admin approves or rejects user registration based on provided information.
4. Admin assigns appropriate roles and permissions to users (e.g., DISCOM, Supplier, Finance Admin).
5. User receives an email notification with login credentials upon approval

**Process Description:**

|  |  |
| --- | --- |
| **Process Particulars** | **Details** |
| Process Objectives | To ensure that only authorized users have access to the PRAAPTI portal and that each user has the appropriate roles and permissions. |
| Process Narrative | The following are the steps to be followed:  1. Admin receives user registration requests.  2. Admin verifies user credentials.  3. Admin approves or rejects registration.  4. Admin assigns roles and permissions to users.  5. User receives login credentials |
| Process Business Rule | - Admin has full access to approve/reject users.  - Roles and permissions are based on predefined user types (DISCOM, Supplier, Admin). |
| Key Data Requirements | **Input:** - User Details (Name, Contact, PPA)  - Authorization Letter.  **Output:** - User Role Assignment  - Admin Approval Notification. |

#### 7.5.3.2 Invoice Verification and Processing

Admins are responsible for overseeing the invoice processing flow. Although DISCOMs handle the admission or return of invoices, Admins have oversight capabilities to verify and approve any disputes or issues that may arise during the review process.

**Process Flow:**

1. DISCOM submits invoices for verification if needed (e.g., discrepancies in invoice amounts or PPA mapping).
2. Admin reviews the invoice details, validates PPA mapping, and ensures compliance with LPS Rules.
3. Admin approves or rejects invoices flagged for further review.
4. Admin communicates with DISCOM or Supplier for further action if discrepancies are found

**Process Description:**

|  |  |
| --- | --- |
| **Process Particulars** | **Details** |
| Process Objectives | To ensure that all invoices are processed correctly and that discrepancies are resolved promptly. |
| Process Narrative | The following are the steps to be followed:   1. Admin reviews invoices flagged by DISCOM. 2. Admin verifies PPA mapping and invoice amounts. 3. Admin approves or rejects invoices after validation. 4. DISCOM or Supplier is notified of any discrepancies |
| Process Business Rule | - Admin only verifies invoices flagged by DISCOM.  - Compliance with PPA terms is mandatory for invoice approval. |
| Key Data Requirements | **Input:** - Invoice Details, PPA Information, Supplier Information.  **Output:** - Invoice Status (Verified/Rejected)  - Notification to Supplier or DISCOM. |

#### 7.5.3.3 Dispute Moderation and Resolution

Admins oversee the dispute management process by moderating disputes raised by DISCOMs or Suppliers. This process ensures that all disputes are reviewed, necessary legal documents (e.g., Stay Orders, Brief Notes) are submitted, and disputes are resolved within an acceptable timeframe.

**Process Flow:**

1. DISCOM raises a dispute against an invoice for review.
2. Admin receives the dispute and reviews the submitted documents (e.g., Brief Notes, Stay Orders).
3. Admin verifies the validity of the dispute and either approves or rejects the dispute.
4. Admin communicates the outcome to the DISCOM and Supplier, and the dispute is either resolved or escalated.

**Process Description:**

|  |  |
| --- | --- |
| **Process Particulars** | **Details** |
| Process Objectives | To ensure that all disputes are reviewed thoroughly, with legal documentation validated and disputes resolved promptly. |
| Process Narrative | The following are the steps to be followed:   1. Admin receives disputes raised by DISCOM. 2. Admin reviews supporting documents. 3. Admin verifies legality and compliance of the dispute. 4. Admin either approves or rejects the dispute. 5. DISCOM and Supplier are notified of the resolution. |
| Process Business Rule | - Admin only reviews disputes with proper documentation.  - Dispute resolution must be completed within 7 days. |
| Key Data Requirements | **Input:** - Dispute Form, Brief Note, Stay Order.  **Output:** - Dispute Status (Resolved, Escalated)  - Dispute Outcome Notification. |

#### 7.5.3.4 System Monitoring and Reporting

Admins are responsible for monitoring the overall health of the system and generating various reports to track performance metrics, such as overdue payments, invoice status, and RMS fee collection. These reports are essential for decision-making, compliance, and internal auditing.

**Process Flow:**

1. Admin logs into the system and accesses the Reports Dashboard.
2. Admin selects relevant filters (e.g., overdue payments, dispute resolution, invoice status) to generate the desired report.
3. Admin reviews real-time data and exports reports as needed.
4. Admin ensures that reports meet statutory compliance requirements and shares them with relevant stakeholders.

**Process Description:**

|  |  |
| --- | --- |
| **Process Particulars** | **Details** |
| Process Objectives | To ensure that real-time data is accessible and that comprehensive reports are available for decision-making and compliance. |
| Process Narrative | The following are the steps to be followed:   1. Admin accesses the Reports Dashboard. 2. Admin applies filters for relevant reports. 3. Admin reviews generated reports. 4. Admin exports and shares reports as required. |
| Process Business Rule | - Reports are based on real-time data.  - Compliance reports must be exported monthly. |
| Key Data Requirements | **Input:** - Report Filters, User Activity Logs, Payment Status.  **Output:** - Report Generation (Exported PDF/CSV)  - Internal/Statutory Reports. |

# Business Requirement Document

# Functional Requirement Document

# Non-Functional Requriement Dcoument

# Software Requirement Specification

## 11.1 Architectures

### 11.1.1 System Architecture

### 11.1.2 User Architecture

### 11.1.3 Security Architecture

### 11.1.4 DataBase Architecture

## 11.2 Functional Modules

### 11.2.1 Supplier

The Supplier Module supports power producers (Gencos, Transcos, Traders) in managing their financial transactions with DISCOMs through PRAAPTI.  
Suppliers use the portal for:

* Registration and login
* Profile/PPA management
* Invoice upload, tracking, resubmission
* Responding to disputes
* Updating payments for admitted invoices
* Managing RMS liabilities (registration fee, quarterly usage fee, HDFC payment, Zoho Books invoices/receipts)
* Receiving alerts and maintaining an immutable audit trail.

##### 11.2.1.1 Supplier Registration

**User Story:**As a Supplier, I want to register with all mandatory details (Company, GSTIN, Bank, PPA) so that I can be approved by Admin and start using the portal.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.1.2 Supplier Login

**User Story:**As a Supplier, I want to log in securely so that I can access my dashboard and manage invoices, disputes, and RMS obligations.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.1.3 Profile & PPA Management

**User Story:**As a Supplier, I want to manage my profile and PPAs so that invoices are mapped correctly to DISCOMs.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.1.4 Upload Invoice

**User Story:**As a Supplier, I want to upload invoices (individually or in bulk) so that DISCOMs can admit or raise objections.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.1.5 Handle Returned Invoice

**User Story:**As a Supplier, I want to resubmit or withdraw a returned invoice so that discrepancies flagged by DISCOM can be corrected.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.1.6 Update Payment (Admitted Invoice)

**User Story:**As a Supplier, I want to update payment details for admitted invoices so that the portal reflects an accurate financial status.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.1.7 Dispute Response

**User Story:**As a Supplier, I want to accept or object to disputes raised by DISCOMs so that resolution is recorded properly.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.1.8 RMS – View Fee Liability

**User Story:**As a Supplier, I want to view my RMS fees so that I can understand my obligations and due dates.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.1.9 RMS – Pay Registration Fee

**User Story:**As a Supplier, I want to pay my one-time registration fee securely so that I can activate my account.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.1.10 RMS – Pay Quarterly Usage Fee

**User Story:**As a Supplier, I want to pay quarterly usage fees so that my access to PRAAPTI is not suspended.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.1.11 Download Tax Invoices/Receipts

**User Story:**As a Supplier, I want to download RMS tax invoices and receipts so that I can maintain statutory records.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.1.12 Notifications & Audit

**User Story:**As a Supplier, I want to receive timely notifications and know that all my actions are logged so that I am compliant and informed.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

### 11.2.2 DISCOM

The DISCOM module enables utilities to:

* Register and onboard into PRAAPTI with nodal officer authorization.
* View, admit, or return invoices submitted by Suppliers.
* Raise disputes against invoices with mandatory documents (Brief Note, Stay Order, Competent Authority approval).
* Update payments for admitted invoices and track outstanding dues.
* Access dashboards, overdue summaries, and dispute reports.  
  This ensures compliance with **LPS Rules, 2022** and provides a transparent workflow for supplier-discom interactions.

##### 11.2.2.1 DISCOM Registration

**User Story:**As a DISCOM, I want to register and provide an authorization letter so that my account can be approved for operations on PRAAPTI.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.2.2 View Supplier Invoice

**User Story:**As a DISCOM, I want to view all invoices submitted by suppliers so that I can admit, return, or dispute them.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.2.3 Admit Invoice

**User Story:**As a DISCOM, I want to admit supplier invoices so that payments can be updated in the system.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.2.4 Return Invoice

**User Story:**As a DISCOM, I want to return incorrect invoices with remarks so that suppliers can make corrections.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.2.5 Raise Dispute

**User Story:**As a DISCOM, I want to raise disputes against invoices with documentary proof so that unresolved issues are formally recorded.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.2.6 Update Payment

**User Story:**As a DISCOM, I want to update payments for admitted invoices so that suppliers receive confirmation and records remain accurate.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.2.7 Generate Reports (Dispute/Payment/Overdues)

**User Story:**As a DISCOM, I want to generate reports on disputes, payments, and overdue invoices so that I can monitor compliance and performance.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.2.8 Cross-Cutting Rules (DISCOM)

* **Mandatory Documentation**: Disputes require Brief Note, Stay Order, and Competent Authority approval.
* **Audit Trail**: All admits/returns/disputes/payments logged immutably.
* **Notifications**: Suppliers auto-notified of every DISCOM action (admit, return, dispute, payment update).
* **Role Restriction**: Only nodal officers/authorized representatives can submit disputes or payments.

### 11.2.3 Admin

The Admin Module is central to maintaining governance and transparency in PRAAPTI. It provides multi-admin support with role-based access control (RBAC) for Super Admin, Operations Admin, Finance/RMS Admin, and Helpdesk roles.

Key responsibilities:

* Approve/reject Supplier and DISCOM registrations
* Manage user profiles and PPA linkages
* Moderate and oversee disputes between Suppliers and DISCOMs
* Manage RMS slabs, invoices, payments, and deactivations
* Monitor dashboards, reports, and overdue analytics
* Configure security, audit logs, and notifications

##### 11.2.3.1 Approve Supplier Registration

**User Story:**As an Admin, I want to verify supplier details and documents so that only valid suppliers are onboarded.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.3.2 Approve DISCOM Registration

**User Story:**As an Admin, I want to validate authorization letters and nodal officer credentials so that only legitimate DISCOMs access the portal.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.3.3 Manage Users & Roles (RBAC)

**User Story:**As an Admin, I want to assign role-based permissions so that users only access features relevant to their function.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.3.4 Dispute Moderation & Oversight

**User Story:**As an Admin, I want to review disputes raised by DISCOMs and supplier responses so that the process remains fair and compliant.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.3.5 Configure RMS Slabs

**User Story:**As a Finance Admin, I want to configure RMS fee slabs (registration and quarterly usage) so that suppliers are charged correctly.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.3.6 Generate RMS Invoices & Monitor Payments

**User Story:**As a Finance Admin, I want to generate RMS invoices and monitor payments so that revenue collection is automated and accurate.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.3.7 View Dashboards & Reports

**User Story:**As an Admin, I want to view consolidated dashboards (invoices, disputes, overdues, RMS revenue) so that I can monitor system-wide compliance.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.3.8 Manage Audit Logs & Notifications

**User Story:**As an Admin, I want to manage audit logs and notification templates so that all actions are tracked and users are alerted correctly.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.3.9 Cross-Cutting Business Rules (Admin)

* **RBAC Enforcement:** Each Admin role (Ops, Finance, Helpdesk) limited to defined scope.
* **Auditability:** All admin approvals, RMS edits, and dispute moderation are logged immutably.
* **Compliance:** Invoice/receipt numbering aligned with PFCCL commercial guidelines.
* **Notifications:** Auto-mailers at each Supplier/DISCOM/Admin action.
* **Security:** Admin logins follow enhanced password/MFA rules; periodic VAPT audits.

### 11.2.4 RMS Module (Revenue Management System)

The RMS module handles the billing, payment, and revenue collection related to Supplier registration fees and quarterly usage fees. This includes:

* **Fee Calculation:** Suppliers are charged based on annual turnover (registration) and invoice volume (quarterly usage).
* **Payment Processing:** Payments are managed via a payment Gateway for secure online transactions.
* **Tax Invoices/Receipts:** Generated automatically through the record book and accessible by Suppliers.
* **Penalty Handling:** Delayed payments result in penalties and potential suspension.
* **Deactivation:** Suppliers not paying their fees on time (45-day overdue) will be deactivated.

The module ensures that RMS compliance is tracked, and that Suppliers are charged appropriately for using PRAAPTI services.

##### 11.2.4.1 RMS Registration Fee Calculation

**User Story:**As a Supplier, I want to know my registration fee based on my annual turnover so that I can plan payments effectively.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.4.2 Quarterly Usage Fee Calculation

**User Story:**As a Supplier, I want to know my quarterly usage fee based on my invoice volume so that I can ensure timely payments.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.4.3 Payment of Registration Fee

**User Story:**As a Supplier, I want to pay my registration fee securely through the Payment Gateway so that I can complete my registration and access PRAAPTI.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.4.4 Payment of Quarterly Usage Fee

**User Story:**As a Supplier, I want to pay my quarterly usage fee via HDFC so that my payment is recorded against my usage invoices.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.4.5 Generate Tax Invoices & Receipts (Record Books)

**User Story:**As a Supplier, I want to download tax invoices and receipts for my payments so that I can maintain accurate financial records.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.4.6 Monitor Quarterly Usage Payment Overdue

**User Story:**As a Finance Admin, I want to track overdue quarterly payments so that I can apply penalties or deactivate non-compliant suppliers.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.4.7 View & Export RMS Reports

**User Story:**As a Finance Admin, I want to generate and export RMS reports so that I can review fee collection, overdue payments, and penalties.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.4.8 Cross-Cutting Business Rules (RMS).

* **Fee Calculation**: RMS fees must be recalculated annually based on changes in turnover or supplier invoice volume.
* **Payment Verification**: Payment receipt must match invoice amount to prevent discrepancies.
* **Deactivation**: Automated deactivation for suppliers who fail to pay fees (registration/usage) within 45 days.
* **Audit Trail**: All payment-related actions, fee calculations, and invoice statuses must be logged immutably.
* **Email & SMS Alerts**: Suppliers must be notified of payment due dates, overdue status, penalty applications, and deactivation

### 11.2.5 Web Portal Landing Page

The Web Portal Landing Page serves as the **public-facing interface** for PRAAPTI, providing users with access to key **information and resources** related to the portal. This includes:

* **Heat map** displaying overdue payments by DISCOMs and suppliers, categorized by region and status.
* **Registration Links** for **Suppliers (Genco, Transco, Traders)** and **DISCOMs.**
* **News/Updates Section** for PRAAPTI-specific announcements, regulatory updates, and ongoing events.
* **Help & Support** section for FAQs, contact details, and troubleshooting guides.
* **Key Performance Indicators (KPIs)** such as **dispute counts**, **payment status**, and **RMS fee liabilities.**

The Landing Page serves as the initial point of entry for users, providing **user-friendly navigation** and basic **transactional capabilities** like registration and status tracking.

##### 11.2.5.1 View Overdue Payments Heat Map

**User Story:**As a Visitor, I want to see a real-time heat map displaying overdue payments by region so that I can understand the status of payment delays across the country.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.5.2 Register Supplier / DISCOM

**User Story:**As a new Supplier/DISCOM, I want to register on the PRAAPTI portal so that I can submit invoices, manage disputes, and track payments.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.5.3 View Regulatory News & Updates

**User Story:**As a User/Visitor, I want to see updates about PRAAPTI-related news and regulatory changes so that I stay informed about important developments.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.5.4 View Help & Support

**User Story:**As a **User**, I want to access help documentation or contact support so that I can resolve any issues or get assistance with using PRAAPTI.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.5.5 View KPIs and Reports

**User Story:**As a **Public Visitor or Registered User**, I want to view **key performance indicators (KPIs)** such as overdue amounts, disputes, and RMS fees so that I can understand the status of PRAAPTI in real time.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.5.6 Cross-Cutting Business Rules (Web Portal)

**Public Access**:

* **Public Landing Page** visible to everyone; no login required for news, help, or KPIs
* **Registration** requires login; only verified users can submit invoices or manage disputes

**User Notifications**:

* All notifications (dispute, invoice status, registration status) **must** be sent via email and reflected on the **user dashboard**

**Real-Time Updates**:

* Overdue heat map, KPIs, and reports should update in **real-time** when new data is available.

**Data Privacy**:

* No sensitive data (invoice details, personal information) is shown on the public-facing landing page. Only general statistics (overdue amounts) and public news are visible

### 11.2.6 Mobile App Module

The Mobile App Module is designed for view-only access across all user types (Suppliers, DISCOMs, and Admins). Users will be able to view dashboards, track invoices, dispute statuses, and RMS fee liabilities, but will not have the ability to submit invoices, approve/reject disputes, or perform any active changes to data. The app aims to provide users with real-time information at their fingertips, ensuring transparency and accessibility.

Key functionalities:

* **Supplier/DISCOM View:** View invoices, payments, disputes, and KPIs (without interaction capabilities).
* **Admin View:** View system-wide KPIs, disputes, overdue payments, and revenue.
* **Data Syncing:** Real-time syncing for up-to-date information (with offline capabilities for data viewing).
* **Security:** Secure authentication, data encryption, and session management

##### 11.2.6.1 Supplier Login & View Dashboard (Mobile)

**User Story:**As a Supplier, I want to securely log into the PRAAPTI mobile app to view my dashboard and track invoices, disputes, and payments without submitting any data.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.6.2 View Invoice Status (Mobile)

**User Story:**As a Supplier, I want to view the status of my invoices (submitted, admitted, or returned) so that I can monitor my pending payments and actions.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.6.3 View Dispute Status (Mobile)

**User Story:**As a Supplier, I want to track the status of my disputed invoices so that I can see if any progress has been made in their resolution.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.6.4 View Payment Status (Mobile)

**User Story:**As a Supplier, I want to view my payment status for admitted invoices so that I can keep track of received and outstanding payments.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.6.5 View RMS Fee Liability (Mobile)

**User Story:**As a Supplier, I want to view my RMS registration and quarterly usage fees so that I am aware of my upcoming financial obligations.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.6.6 Admin View-Only Dashboard (Mobile)

**User Story:**As an Admin, I want to view key performance indicators (KPIs) like overdue payments, dispute statuses, and RMS payments on my mobile app so that I can monitor system activities in real-time.

**User Flow:** (Diagram)

**Use Case:**

|  |  |
| --- | --- |
| **Use Case Name** |  |
| **Description** |  |
| **Primary Actor** |  |
| **Trigger** |  |
| **Pre-Condition** |  |
| **Post-Condition** |  |
| **Basic Flow** |  |
| **Alternative Flow** |  |
| **Exception Flow** |  |
| **Business Rule** |  |
| **Assumptions** |  |
| **Other Information** |  |

**Wireframe:**

**Information Architecture:**

##### 11.2.6.7 Cross-Cutting Business Rules (Mobile App)

**Authentication**:

* All users must authenticate using their **username/password**, and **MFA** is enabled for enhanced security

**Push Notifications**:

* Enabled for all users (Supplier, DISCOM, Admin) to receive **real-time updates** on invoice submissions, disputes, payments, and fee liabilities

**Role-Based Data Access**:

* **Suppliers and DISCOMs** can only **view** their respective data (invoices, disputes, payments).
* **Admins** have **view-only access** for the entire system with **no edit rights**

**Offline Functionality**:

* Basic data (invoice status, disputes, payments) can be viewed offline; **data submission** requires an active internet connection

**Data Syncing**:

* The app syncs every **30 minutes** to ensure that all displayed data is current

### 

# Annenxures

# Glossary