Product Requirements Document (PRD) for Jumbly

1. Introduction

1.1 Purpose

The purpose of this document is to outline the product requirements for **Jumbly**, a comprehensive application designed to streamline facility management for cleaning companies and their clients. This PRD serves as a guide for the development team, stakeholders, and any other parties involved in the creation and deployment of Jumbly, ensuring all features and functionalities are clearly defined and aligned with user needs.

1.2 Scope

Jumbly is an application tailored for facility managers to efficiently manage cleaning operations within organizations. It facilitates task management, scheduling, reporting, and client interactions through distinct user roles: Admin, Supervisor, Operative, and Client. The app aims to enhance operational efficiency, improve communication, and provide actionable insights through robust analytics and reporting features.

1.3 Definitions, Acronyms, and Abbreviations

- **Admin:** The primary user within a cleaning company responsible for managing staff and clients.
- **Supervisor:** A user role that oversees cleaning operations, manages tasks, and generates reports.
- **Operative:** Staff members who perform cleaning tasks and report statuses and issues.
- **Client:** Organizations or individuals who hire the cleaning company and oversee project progress.
- **MVP:** Minimum Viable Product, the initial version of the app with core functionalities.
- **PRD:** Product Requirements Document.

1.4 References

- User Stories for Jumbly
- Feature Overview and Enhancement Suggestions for Jumbly

1.5 Overview

This PRD details the functionalities, user roles, system requirements, and other essential aspects of **Jumbly**. It serves as a foundational document to guide the development process, ensuring that the final product meets the needs of all stakeholders.

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2. Overall Description

2.1 Product Perspective

Jumbly is a standalone application designed to integrate seamlessly into the existing workflows of cleaning companies and their clients. It provides a centralized platform for managing cleaning tasks, scheduling, reporting, and client interactions, enhancing operational efficiency and transparency.

2.2 Product Functions

- **User Management:** Admins can add, edit, and manage staff and clients.
- **Task Management:** Supervisors can create, assign, and manage tasks with timelines.
- **Scheduling:** Supervisors can create and integrate schedules with calendar services.
- **Reporting:** Generation and viewing of reports by Supervisors and Clients.
- **Issue Reporting:** Operatives can report issues with photos and descriptions.
- **Client Oversight:** Clients can view schedules, task lists, operatives' details, and conduct inspections.
- **Notifications & Alerts:** Real-time updates and reminders across all user roles.
- **Customization:** Admins can tailor report templates and task categories.
- **Integration:** Connect with third-party tools like inventory management and billing systems.
- **Mobile Optimization:** Responsive design and dedicated mobile apps for iOS and Android.
- **Offline Functionality:** Allow operatives to update tasks and report issues without internet connectivity.

2.3 User Classes and Characteristics

- **Admin (Cleaning Company):** Typically responsible for managing the entire cleaning operation, including staff and client relationships. Requires access to all features for comprehensive management.
- **Supervisor:** Oversees daily cleaning operations, manages tasks, schedules, and generates reports. Needs tools for effective task and team management.
- **Operative:** Executes cleaning tasks and reports statuses and issues. Requires an intuitive interface for task updates and issue reporting.
- **Client:** Represents the organization or individual hiring the cleaning company. Needs visibility into project schedules, task progress, and reporting for oversight.

2.4 Operating Environment

- **Web Application:** Accessible via modern web browsers (Chrome, Firefox, Safari, Edge) on desktops and tablets.
- **Mobile Applications:** Native apps for iOS and Android devices.
- **Backend:** Cloud-based server infrastructure to ensure scalability and reliability.
- **Database:** Secure and scalable database solution (e.g., PostgreSQL, MongoDB).

2.5 Design and Implementation Constraints

- **Security:** Must comply with data protection regulations (e.g., GDPR, CCPA).
- **Scalability:** System should support growing user bases and data volumes without performance degradation.
- **Integration Compatibility:** Must seamlessly integrate with third-party tools like inventory management and billing systems.
- **Offline Functionality:** Ensure reliable data synchronization post offline usage.

2.6 User Documentation

- **User Guides:** Comprehensive manuals for each user role.
- **Tutorials:** Interactive tutorials and walkthroughs within the app.
- **FAQs:** A section addressing common user queries.
- **Support:** Access to customer support via chat, email, or phone.

2.7 Assumptions and Dependencies

- **Internet Connectivity:** Required for real-time updates and data synchronization, except for specific offline functionalities.
- **Third-Party Services:** Dependence on external calendar services (e.g., Google Calendar, Outlook) and integration with inventory and billing systems.
- **User Devices:** Users will have access to compatible devices (desktops, tablets, smartphones).

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3. Specific Requirements

3.1 Functional Requirements

3.1.1 User Roles and Permissions

Admin (Cleaning Company)

1. **Staff Management**

    - **Add Supervisors and Operatives:** Admins can create and manage accounts for supervisors and operatives.
    - **Edit/Deactivate Staff Accounts:** Admins can update or deactivate staff accounts as needed.
    - **Assign Roles and Permissions:** Admins can assign specific roles and set permissions for each user.
2. **Client Management**
    - **Add Clients for New Projects:** Admins can register new clients and assign them to projects.
    - **Manage Client Profiles:** Admins can update client information and project details.
3. **Customization Options**
    - **Customize Report Templates:** Admins can modify existing report templates or create new ones.
    - **Define Custom Task Categories:** Admins can define and organize task categories to suit different projects.
4. **Security and Compliance**
    - **Manage User Permissions:** Admins can set granular permissions for each user role.
    - **Ensure Data Compliance:** Admins can ensure that all data handling complies with regulations like GDPR and CCPA.
5. **Integration and Scalability**
    - **Integrate with Third-Party Tools:** Admins can connect Jumbly with inventory management and billing software.
    - **Scale System for Growth:** The system can handle increased data volumes and concurrent users without performance issues.
6. **Support & Maintenance**
    - **Access Reliable Support:** Admins can access support resources to resolve issues.
    - **Receive Regular Updates:** Admins receive app updates with new features, security patches, and improvements.

Supervisor

1. **Task Management**
    - **Create and Assign Tasks:** Supervisors can create tasks with descriptions and timelines and assign them to operatives.
    - **Manage Task Deadlines:** Supervisors can set and adjust deadlines for tasks.
2. **Scheduling**
    - **Create and Manage Schedules:** Supervisors can develop schedules for cleaning tasks.
    - **Integrate Schedules with Calendar Services:** Supervisors can link schedules with Google Calendar or Outlook.
3. **Reporting**

    - **View and Generate Reports:** Supervisors can access and generate reports based on templates.
    - **Analyze Performance Metrics:** Supervisors can analyze metrics like task completion rates and issue resolution times.
4. **Notifications & Alerts**
    - **Receive Real-Time Notifications:** Supervisors receive updates on task assignments and completions.
    - **Get Reminders for Deadlines:** Supervisors receive reminders for upcoming or overdue tasks.
5. **Analytics & Insights**
    - **Access Advanced Analytics Dashboards:** Supervisors can view detailed analytics on team performance and operational efficiency.

Operative

1. **Task Management**
    - **View Assigned Tasks:** Operatives can view their tasks organized by location and deadline.
    - **Update Task Status:** Operatives can mark tasks as Started, In Progress, or Completed.
    - **Receive Task Assignments:** Operatives receive notifications for new or updated tasks.
2. **Issue Reporting**
    - **Report Issues at Locations:** Operatives can select a location, upload photos, and describe issues.
    - **Access Issue Reports:** Operatives can view the status of previously reported issues.
3. **Offline Functionality**
    - **Update Tasks Offline:** Operatives can update task statuses and report issues without internet connectivity, with automatic syncing once online.
4. **Notifications & Alerts**
    - **Receive Real-Time Updates:** Operatives are notified about task assignments and changes.

Client

1. **Project Oversight**
    - **View Project Schedules:** Clients can view all schedules related to their projects.
    - **Access Task Lists:** Clients can view detailed task lists under each schedule.
2. **Operative Details**
    - **View Assigned Operatives:** Clients can see operatives assigned to each location along with their profiles and contact information.
3. **Reporting & Inspections**
    - **View Reports from Operatives and Supervisors:** Clients can access detailed reports on task statuses and cleaning quality.

    - **Conduct Inspections:** Clients can leave feedback, upload photos, and provide descriptions during inspections.
4. **Feedback Loop**
    - **Provide Ratings and Feedback:** Clients can rate operatives and overall services to promote continuous improvement.
    - **Leave Feedback on Inspections:** Clients can communicate satisfaction or areas needing improvement through detailed feedback.
    - **Upload Photos During Inspections:** Clients can visually document issues or commendations during inspections.

3.1.2 Core Features

User Authentication & Security

- **Secure Login:** Implement OAuth 2.0 for secure user authentication.
- **Data Encryption:** Encrypt sensitive data, including client details and reports.
- **Regular Security Audits:** Conduct periodic security assessments to identify and mitigate vulnerabilities.

Task & Schedule Management

- **Create, Assign, and Manage Tasks:** Enable supervisors to create detailed tasks, assign them to operatives, and set deadlines.
- **Scheduling Tools:** Integrate with calendar services for efficient schedule management and visualization.

Reporting & Analytics

- **Standardized Reporting Templates:** Provide pre-built and customizable report templates.
- **Advanced Analytics:** Generate insights on performance metrics, task completion rates, and issue resolution times.
- **Real-Time Reporting:** Ensure reports reflect the latest task statuses and issues.

Notifications & Alerts

- **Real-Time Notifications:** Inform users of task assignments, status changes, and reported issues.
- **Automated Reminders:** Send reminders for deadlines and alert users about overdue tasks.

Mobile Optimization & Accessibility

- **Responsive Design:** Ensure the web app is fully responsive for access on various devices.
- **Dedicated Mobile Apps:** Develop native mobile applications for iOS and Android to facilitate on-the-go access.

Offline Functionality

- **Data Synchronization:** Allow operatives to update task statuses and report issues offline, with automatic syncing once connectivity is restored.

Integration with Third-Party Tools

- **Inventory Management Integration:** Connect with inventory systems to track and manage cleaning supplies.
- **Billing & Invoicing Integration:** Link with financial software to streamline billing processes and manage invoices efficiently.

3.1.3 Enhanced Features

Customization Options

- **Tailor Report Templates:** Allow admins to customize report templates to fit specific reporting needs.
- **Define Custom Task Categories:** Enable admins to define and organize task categories for diverse projects.

Feedback Loop

- **Enable Continuous Improvement Through Feedback:** Allow clients to provide ongoing feedback to improve cleaning operations.

Analytics & Insights

- **Access Detailed Analytics Dashboards:** Provide supervisors with in-depth analytics on team performance and operational efficiency.

Scalability

- **Ensure System Scalability:** Design the backend to support increasing data volumes and concurrent users without performance degradation.

Support & Maintenance

- **Access Reliable Support:** Provide users with reliable support resources for issue resolution.
- **Receive Regular Updates:** Continuously update the app with new features, security patches, and performance improvements.

3.2 Non-Functional Requirements

3.2.1 Performance Requirements

- **Response Time:** The application should respond to user actions within 2 seconds.
- **Scalability:** The system must support up to 10,000 concurrent users without performance degradation.
- **Availability:** The application should have 99.9% uptime, excluding scheduled maintenance.

3.2.2 Security Requirements

- **Data Protection:** All sensitive data must be encrypted both in transit and at rest.
- **Access Control:** Implement role-based access control (RBAC) to ensure users can only access authorized features and data.
- **Compliance:** Ensure compliance with data protection regulations such as GDPR and CCPA.

3.2.3 Usability Requirements

- **User-Friendly Interface:** The application should have an intuitive and easy-to-navigate interface for all user roles.
- **Accessibility:** Ensure the app meets accessibility standards (e.g., WCAG 2.1) to accommodate users with disabilities.

3.2.4 Reliability Requirements

- **Error Handling:** The system should gracefully handle errors and provide meaningful messages to users.
- **Data Backup:** Implement regular data backups to prevent data loss.

3.2.5 Maintainability Requirements

- **Code Quality:** Ensure the codebase follows best practices for readability and maintainability.
- **Documentation:** Maintain comprehensive documentation for both developers and users.

3.2.6 Compatibility Requirements

- **Browser Support:** The web application should be compatible with the latest versions of major browsers (Chrome, Firefox, Safari, Edge).
- **Device Compatibility:** Ensure the mobile apps are compatible with the latest two versions of iOS and Android.

3.3 External Interface Requirements

3.3.1 User Interfaces

- **Web Interface:** Accessible via browsers with a responsive design for desktops and tablets.
- **Mobile Interface:** Native apps for iOS and Android with optimized user experiences for mobile devices.

3.3.2 Hardware Interfaces

- **Mobile Devices:** Support for device features like cameras for photo uploads during issue reporting and inspections.

3.3.3 Software Interfaces

- **Calendar Services:** Integration with Google Calendar and Outlook for schedule management.
- **Third-Party Tools:** APIs for connecting with inventory management and billing systems.

3.3.4 Communication Interfaces

- **Notifications:** Implement push notifications for mobile apps and email notifications for web users.
- **Real-Time Updates:** Use WebSockets or similar technologies to enable real-time data synchronization and notifications.

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4. Appendices

4.1 User Stories for Jumbly

(Refer to the Comprehensive User Stories section provided earlier.)

4.2 Glossary

- **OAuth 2.0:** An authorization framework enabling applications to obtain limited access to user accounts on an HTTP service.
- **GDPR:** General Data Protection Regulation, a regulation in EU law on data protection and privacy.
- **CCPA:** California Consumer Privacy Act, a state statute intended to enhance privacy rights and consumer protection.

4.3 Assumptions

- Users have basic proficiency with mobile and web applications.
- Clients and operatives will have access to devices with internet connectivity for optimal app usage.

4.4 Dependencies

- Availability and reliability of third-party calendar services and integration tools.
- Compliance requirements with data protection laws influencing app design and data handling.

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5. Conclusion

This **Product Requirements Document (PRD)** for **Jumbly** outlines a comprehensive framework for developing an application that effectively manages cleaning operations for facility managers and cleaning companies. By detailing user roles, functionalities, and both functional and non-functional requirements, this document ensures that all stakeholders have a clear understanding of the project's scope and objectives. Adhering to this PRD will facilitate the creation of a robust, secure, and user-friendly application that meets the needs of its diverse user base.

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6. Next Steps

1. **Review and Validation:**
    - Distribute the PRD to all stakeholders for feedback and validation to ensure alignment with business objectives and user needs.
2. **Prioritization:**
    - Prioritize the outlined requirements based on their importance and impact, focusing initially on critical features for the MVP.
3. **Acceptance Criteria:**
    - Define clear acceptance criteria for each requirement to guide development and testing phases.
4. **Product Backlog Creation:**
    - Organize the requirements into a product backlog, ready for sprint planning and agile development cycles.
5. **UI/UX Design:**
    - Begin designing user interfaces and experiences based on the requirements, ensuring they are intuitive and user-friendly.
6. **Development and Testing:**
    - Initiate the development process, followed by rigorous testing to ensure all functionalities work as intended and meet quality standards.
7. **Deployment and Feedback:**
    - Launch the MVP to a select group of users, gather feedback, and iteratively improve the application based on real-world usage and input.

8. **Full-Scale Launch:**
    - After refining the application through iterative feedback and testing, proceed to a full-scale launch, ensuring all systems are optimized for performance and user satisfaction.

By following the structured approach outlined in this PRD, **Jumbly** is poised to become a valuable tool for facility managers and cleaning companies, enhancing operational efficiency, communication, and overall service quality.