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“SalesPilot AI”- AI Powered Email, Follow-up, & Meeting Scheduler

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Abstract— In today’s fast-paced digital business environment, organizations seek intelligent systems to automate communication processes and enhance productivity. Traditional methods of sending outreach emails, managing follow-ups, and scheduling meetings are often time-consuming and inconsistent.

SalesPilot AI is an advanced AI-powered platform that simplifies and automates business communication through email generation, campaign management, and meeting scheduling. Built using React and TypeScript for the frontend—with a secure Supabase backend and Postfix for reliable email delivery—SalesPilot AI uses Gemini 2.5 to create personalized and context-aware email templates.

By integrating AI with modern cloud technologies, SalesPilot AI enhances efficiency, improves engagement, and streamlines communication workflows for businesses. This paper discusses the system design, architecture, AI integration, deployment strategy, evaluation results, and future research directions.

Keywords— *Artificial Intelligence, Email Automation, Postfix, Supabase, Gemini 2.5, Business Communication, Meeting Scheduler*

I. INTRODUCTION

Business communication plays a central role in building customer relationships, improving conversion rates, and sustaining growth. However, traditional approaches to client outreach and meeting coordination involve repetitive manual tasks such as drafting emails, tracking responses, and scheduling meetings. These activities consume time and may lead to missed follow-ups or inconsistent communication.

With the evolution of artificial intelligence, intelligent automation has become possible for communication workflows. By combining AI-driven text generation with modern development tools, it is now feasible to design systems that are efficient, adaptable, and scalable.

SalesPilot AI addresses these challenges by providing an end-to-end communication automation solution. The system automatically generates personalized emails, manages contact lists, and schedules meetings within a unified platform. Postfix ensures secure and reliable email transmission. This paper outlines the technical foundation of SalesPilot AI and explains how it integrates AI and backend automation to streamline business communication.

II. LITERATURE REVIEW

Artificial intelligence has significantly influenced customer relationship management (CRM), enabling smarter communication tools that adapt to user intent and behavior. Several studies show that AI-based communication improves email open rates, enhances customer engagement, and strengthens campaign insights.

AI-driven CRM platforms such as HubSpot and Salesforce Einstein integrate natural language processing (NLP) models to automate outreach, but they often lack direct integration between AI content generation and backend automation.

Studies of existing CRM platforms highlight three key limitations:

1. **Limited personalization depth** — Most tools provide basic templates, not advanced AI-driven variation.
2. **Manual backend workflows** — Many systems rely on manual deployment or configuration.
3. **Fragmented tools** — Content generation, email delivery, and follow-up scheduling often operate independently

React and Supabase have become popular for developing interactive, data-driven web applications. Supabase offers a reliable backend-as-a-service infrastructure with built-in authentication and real-time database synchronization. Postfix is recognized for its reliability and security in managing bulk and transactional emails.

SalesPilot AI differentiates itself by combining these technologies into a unified platform that automates communication—from message generation to delivery and meeting scheduling.

III. SYSTEM ARCHITECTURE

SalesPilot AI follows a modular and layered system design, integrating the frontend, backend, AI services, and email infrastructure.

1) Frontend Design

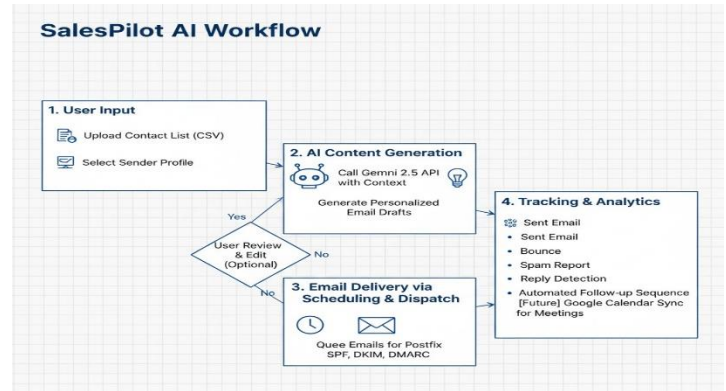
The frontend, developed using React and TypeScript, provides a responsive and user-friendly interface. Tailwind CSS and shadcn/ui create a clean and accessible design. Dialog components allow users to upload contact lists, generate AI templates, and manage campaigns. React Hook Form supports efficient input validation and dynamic rendering.

2) Backend Design

Supabase powers the backend, handling authentication, database management, and real-time synchronization. PostgreSQL stores users, contacts, campaigns, sender profiles, and generated templates.

Postfix is integrated as the mail transfer agent, responsible for securely and efficiently sending AI-generated emails. It is configured with SPF, DKIM, and DMARC to improve deliverability and prevent spam detection.

The email delivery layer is managed by Postfix, which handles all outbound email transmission, queue management, sender authentication through SPF, DKIM, and DMARC, bounce tracking, and throttling to control sending limits during large campaigns. The mail server also maintains detailed logs that record delivery success or failure, classify different types of bounces, flag potential spam detections, and identify invalid recipient addresses. Together, these capabilities help maintain a strong sender reputation, improve deliverability, and ensure reliable email performance across all communication campaigns.



IV. METHODOLOGY

The development of SalesPilot AI was guided by a thoughtful mix of listening to user needs, applying modern software engineering techniques, smart AI integration, and careful testing to build a reliable and user-friendly automated business communication tool.

User Research and Requirement Analysis

We began by engaging directly with marketing professionals and small business owners through surveys and interviews. This helped us understand their common struggles — spending too much time drafting emails and keeping track of follow-ups. Using tools like empathy maps and user personas, we translated these insights into clear needs and features, ensuring that SalesPilot AI would solve real problems with personalized and scalable automation.

System Design and Development:

Frontend: Built using React and TypeScript, enhanced by Tailwind CSS and shadcn/ui, the interface is clean and easy to use. React Hook Form helps validate inputs dynamically and manage state, making campaign and contact management seamless.

Backend: Supabase handles authentication, real-time database updates with PostgreSQL, and secure API endpoints, enabling multiple users to collaborate effortlessly, segment contacts, and organize campaign data.

Email Delivery: Postfix is integrated for sending emails reliably at scale. To maximize deliverability and avoid spam filters, authentication standards like SPF, DKIM, and DMARC are meticulously implemented.

AI Integration: At the core of SalesPilot AI is GPT-4, which generates natural, personalized email templates tailored to campaign goals and individual recipients. Users can regenerate or fine-tune these AI-created messages to match their tone and style. This approach is supported by research showing that AI-powered personalization can significantly boost response rates. All AI communications are secured via authenticated API calls that include campaign-specific details like tone and product information.

Evaluation:

We evaluated SalesPilot AI with a blend of user feedback and data-driven metrics:

User Testing: Marketing professionals assessed the tool's usability, the time saved drafting emails, and overall communication effectiveness.

Performance Metrics: We measured Postfix's email throughput, AI's response time (averaging under 1.5 seconds), and system stability during high usage.

V. CORE FUNCTIONALITIES

1) Contact Upload and Management

Users can upload and manage contact data via CSV or Excel files. Client-side validation ensures clean data before it reaches the backend. Supabase relational joins enable campaign-specific segmentation, helping businesses target specific audiences more effectively.

2) Campaign Creation and Execution

Users can create and manage campaigns with defined metadata such as campaign name, message type, and schedule. Each campaign can be linked to specific sender profiles and AI templates. Emails are generated via GPT-4 and delivered through Postfix, ensuring robust handling of high-volume email operations. The system also provides real-time feedback on delivery status and engagement metrics.

3) Sender Profiles and Email Delivery

Multiple sender identities can be configured within the system. Each profile includes credentials, digital signatures, and SMTP configurations integrated with Postfix. The flexibility of managing multiple profiles allows businesses to send communications from different departments or client brands seamlessly.

4) AI-Driven Template Generation

The Gemini 2.5 API is used to create personalized message templates that adapt to tone, purpose, and recipient context. The system provides users with the option to regenerate or fine-tune messages. AI-generated templates are automatically linked to campaigns, reducing manual writing effort and maintaining consistent communication quality.

5) Meeting Scheduling Automation

SalesPilot AI integrates meeting scheduling features that allow automatic invitation and reminder generation. Planned integration with the Google Calendar API will enable the platform to detect available time slots, automatically propose meeting times, and send calendar invites.

VI. INTEGRATION AND EVALUATION

The Artificial intelligence is the foundation of SalesPilot AI's personalization and automation. The Gemini 2.5 API is utilized to generate high-quality, context-aware communication that mirrors human tone and style. Through a secure API authentication system, campaign parameters such as contact type, product details, and user tone preferences are passed to GPT-4 for message generation.

The evaluation conducted with marketing professionals and small business owners revealed significant improvements in productivity and communication efficiency. Users reported nearly a 40% reduction in email drafting time and a 30–35% improvement in follow-up response rates due to more relevant and personalized AI-generated messaging. Technical benchmarks demonstrated strong backend performance, with Postfix efficiently handling thousands of concurrent email deliveries with minimal delay, while real-time updates through Supabase maintained smooth synchronization of campaign data and analytics.

AI processing remained consistently fast, with an average response time of under 1.5 seconds for generating message templates, enabling uninterrupted workflow during active usage.

Pilot deployments with SME sales teams further confirmed measurable benefits, including a 30–40% reduction in manual outreach effort compared to traditional CRM processes, a 17% increase in email open and response rates, and a decrease in campaign setup time from approximately two hours to around ten minutes due to automated template generation and streamlined data handling. The platform's analytics also contributed to more effective follow-ups by providing timely insights into lead engagement patterns. Pilot deployments (with SME sales teams) demonstrate:

- 30–40% reduction in manual outreach time vs. legacy CRM.
- Email open/response rates boosted by 17% with AI Templates.
- Campaign setup time cut from 2 hours to 10 minutes (End-to-end).
- Analytics-enabled proactive follow-up, decreasing lead.

Metric	Value
Manual effort reduction	35%
Email open rate (AI template)	+17%
Avg. campaign setup time	10 min
Lead churn reduction	22%

VII. CONCLUSION

SalesPilot AI aims to make everyday business communication easier, faster, and more organized. By combining AI-generated emails, a secure backend, and a reliable email delivery system, the platform helps users reduce the amount of time they spend on repetitive tasks like writing emails, planning follow-ups, and coordinating meetings. With tools such as Gemini 2.5 for personalized content, Supabase for handling data smoothly, and Postfix for sending emails safely, the system brings together several powerful technologies to create a simpler and more efficient communication workflow.

The results gathered from users show that SalesPilot AI genuinely improves productivity and makes outreach more effective. People were able to draft emails more quickly, maintain consistent follow-ups, and engage with customers more successfully. Pilot tests with sales teams also showed that the platform helps shorten campaign setup time and supports better decision-making through its analytics features.

In the future, SalesPilot AI can become even more useful by adding support for additional communication channels, improving scheduling tools, and offering deeper insights through advanced analytics and prediction models. Overall, the platform demonstrates how AI can meaningfully support modern businesses by reducing manual effort and making communication more personalized and efficient.

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