Product Requirements Document: SoloScale

SoloScale: AI-Powered Estimating for Trades

Product Requirements Document (PRD)

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1. Introduction

SoloScale is an AI-powered, web-based quoting engine designed specifically for trade contractors in industries such as HVAC, plumbing, and electrical services. The Minimum Viable Product (MVP) will empower small to mid-sized trades businesses to generate accurate, professional quotes in minutes, a process that traditionally takes hours. By streamlining the estimation workflow, SoloScale aims to significantly improve closing rates, protect profit margins, and provide a foundation for a comprehensive operating system for trades. This document synthesizes the business plan, pitch deck, and market analysis to outline the functional and non-functional requirements for the SoloScale MVP.

1.1 Problem Overview

Small trade contractors, who represent a significant portion of the 1.56 million SMBs in the trades industry, currently rely on outdated and inefficient methods for creating job estimates. Manual processes involving handwritten notes, spreadsheets, or generic word processing templates are time-consuming, error-prone, and often result in unprofessional-looking quotes. This leads to several critical business challenges:

- **Time Waste:** Contractors spend an average of 2-4 hours per quote on manual calculations, formatting, and email correspondence.
- **Margin Leakage:** Without systematic cost tracking and margin controls, contractors frequently underprice jobs, leaving 10-15% of their potential profit on the table.
- **High Error Rate:** An estimated 15-20% of manual quotes contain pricing errors, leading to margin erosion or lost deals.
- **Professionalism Gap:** Generic or hastily prepared quotes can make a small business appear less credible than larger competitors with polished presentations, resulting in lost sales.

Existing market solutions are often inadequate. They are either bloated, expensive all-in-one platforms like ServiceTitan, which are too complex and costly for smaller businesses, or they are generic SaaS tools not built for the specific workflows of the trades.

1.2 Objectives and Goals

The primary objective of the SoloScale MVP is to validate the core product vision by delivering a focused, high-value solution that addresses the most pressing needs of our target users. The goals for the MVP are as follows:

Goal	Description	Success Metric
Reduce Quoting Time	Automate line-item selection, pricing, and proposal	Average time to create and send a quote.

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	formatting to cut quote creation time from hours to minutes.	
Increase Acceptance Rate	Provide polished, professionally branded proposals and enable customers to accept quotes online with one click.	Quote acceptance rate (Accepted vs. Sent).
Protect Profit Margins	Implement a configurable pricebook and margin enforcement to prevent under-pricing and ensure profitability.	Average profit margin per quote.
Validate AI Feature	Test the value of AI-assisted description generation as a key differentiator.	User adoption and feedback on the AI feature.
Establish Foundation	Build a scalable technical foundation for future integrations, analytics, and platform expansion.	System performance and scalability metrics.

1.3 Scope Summary

The MVP will focus on delivering the core functionalities required to create, send, and manage quotes effectively. The scope is intentionally limited to ensure a rapid time-to-market and to focus development efforts on the highest-impact features. The following table outlines what is included in the MVP and what is reserved for future iterations.

In Scope (MVP)	Out of Scope (Post-MVP)
Guided Quoting Workflow	Advanced Scheduling & Dispatching

In Scope (MVP)	Out of Scope (Post-MVP)
Configurable Pricebook & Margin Controls	Full CRM and Customer Management
AI-Assisted Scope of Work Description Generation	"Good/Better/Best" Multi-Option Proposals
Professional, Branded Proposal Templates	Deep Integrations with Accounting/ ERP Systems
Mobile-Responsive Web App & Mobile Clients	Advanced Analytics and Business Intelligence Dashboards
Email-Based Quote Delivery and Online Acceptance	Inventory Management
Basic E-Signature Capture	Full Invoicing and Payment Processing
Dashboard with Basic Analytics	Customer Portal with Job History and Payments
Multi-Seat User Accounts with Basic Roles	Advanced User Permissions and Approval Workflows

2. Target Users and Personas

2.1 Ideal Customer Profile (ICP)

The ideal customer for SoloScale is a small to mid-sized trade contracting business that is seeking to improve the speed, accuracy, and professionalism of its quoting process. The ICP is defined by the following characteristics:

- **Industry:** The initial focus is on service-oriented HVAC, plumbing, and electrical contractors. Future expansion will target general remodeling, roofing, flooring, and other trades.

- **Company Size:** 1–50 employees, with an approximate annual revenue of $200,000 to $5 million. In this segment, the owner or a senior manager is typically responsible for quoting.
- **Pain Points:** The primary challenges are slow quote turnaround times, inconsistent pricing leading to lost revenue, missed items in estimates, and the inability to present a professional image to clients.
- **Tech Savviness:** Users are generally comfortable with smartphones and basic business software such as QuickBooks, Microsoft Word, and Excel, but are not technology experts. They value ease of use, a simple interface, and minimal training requirements.
- **Geography:** The initial target market is North America, including the United States and Canada.

2.2 Persona Example

To provide a clearer picture of our target user, we have developed the following persona:

Persona: Jack, Owner of Precision Plumbing Co.

- **Background:** Jack runs a 10-person plumbing business in Texas that specializes in residential and light commercial service work. He is a skilled plumber who has built his business from the ground up.
- **Goals:** Jack wants to grow his business by winning more jobs and ensuring that every project is profitable. He aims to spend less time on administrative tasks and more time focusing on strategic growth and customer relationships.
- **Frustrations:** Jack spends his evenings and weekends preparing quotes, often using a spreadsheet he created. He constantly worries about forgetting to include materials or underestimating labor costs, which directly impacts his bottom line. He feels that his quotes, while functional, do not look as professional as those from his larger competitors.
- **Motivation:** Jack is willing to invest in a software solution that can save him significant time, standardize his pricing, and help him

present a more professional image. Winning just one or two extra jobs per month would easily justify the cost of a new tool.

3. Functional Requirements

This section details the specific features and capabilities of the SoloScale MVP. Each feature is described with a justification, user stories, and acceptance criteria to ensure clarity for the development team.

3.1 Quoting Workflow & Templates (Core)

Feature: A guided, intuitive workflow for creating, editing, saving, and managing quotes. Users will be able to enter customer information, define the job scope, and select line items from a pricebook. The system will automatically calculate costs, markups, taxes, and profit margins, presenting a clear summary. Quotes can be saved as drafts, marked as sent or accepted, and archived for future reference.

Justification: The core value proposition of SoloScale is to accelerate the quoting process. Modern quoting software leverages templates and automated calculations to reduce errors and save time. The MVP must deliver a simple yet powerful workflow that is significantly faster than manual methods.

User Stories & Acceptance Criteria:

| User Story ID | Description | Acceptance Criteria - The system automatically calculates cost, markup, and margin, and displays the total (subtotal, tax, total). - The user can save the quote as a draft. | US-2 | As a contractor, I want to duplicate a previous quote so that I can quickly reuse it for similar jobs. | - From the quotes list, a user can duplicate any existing quote. - The duplicated quote retains the customer information, line items, and pricing, but its status is reset to "Draft". | US-3 | As a contractor, I want to mark a draft quote as "Sent" and record when it was emailed so that I can track its status. | - The user clicks a "Send Quote" button. - The system generates a PDF or a web link and sends it to the customer via email. - The quote status automatically changes to "Sent," and a timestamp is recorded. - The email

includes a link to the web-based quote or has the PDF attached. | US-4 | As a customer, I want to review a quote online and click "Accept" so that I can approve the work. | - The quote link opens a branded web page displaying the line items, pricing, terms and conditions, and an "Accept" button. - When the customer clicks "Accept," the system changes the quote status to "Accepted," notifies the contractor, and records the timestamp. | US-5 | As a contractor, I need to be able to cancel or mark a quote as "Rejected" if the customer declines the offer. | - The user can manually change the status of a sent quote to "Rejected." - The system can optionally prompt for a reason for the rejection for tracking purposes.

3.2 Pricebook & Margin Protection (Core)

Feature: A centralized and configurable catalog of services and materials, complete with cost and default price values. The system will automatically calculate the profit margin for each line item and for the quote as a whole. It will also flag quotes that fall below a user-defined minimum margin threshold to protect profitability. Users will be able to import and edit the pricebook via CSV or an in-app editor.

Justification: Accurate and consistent pricing is fundamental to a contractor's profitability. Quoting software must provide tools to manage a pricebook and enforce margin discipline. This feature directly addresses the user's need to protect their margins and prevent under-pricing, a key pain point identified in our market research.

User Stories & Acceptance Criteria:

| User Story ID | Description | Acceptance Criteria - If a quote's overall margin falls below the defined threshold, a clear warning is displayed. - The user must acknowledge the warning before the quote can be sent.

3.3 AI-Assisted Description & Upsells

Feature: An optional "Generate Description" button that utilizes an AI service (e.g., OpenAI API) to draft a professional scope-of-work description based on keywords and the line items selected in the quote.

The user will be able to edit the generated text before finalizing the quote. Future versions may expand this feature to suggest upsell opportunities or higher-efficiency alternatives.

Justification: AI is a key differentiator for SoloScale. This feature will help users create more professional and articulate quotes with less effort, reducing the cognitive load of writing compelling descriptions. It positions SoloScale as an innovative leader in the space, moving beyond the capabilities of traditional quoting software.

User Stories & Acceptance Criteria:

| User Story ID | Description | Acceptance Criteria - The generated text appears in an editable field, and the user can modify or replace it. - If the AI service fails or times out, a user-friendly error message is displayed, and the user can write the description manually.

3.4 Mobile-Responsive UI & Mobile Clients

Feature: The SoloScale web application will be fully responsive, ensuring a seamless experience on desktops, tablets, and smartphones. In addition to the responsive web application, dedicated mobile clients for iOS and Android will be developed to provide an optimized and native experience for users in the field.

Justification: Contractors are mobile professionals who need to create and send quotes while on-site. A mobile-first approach is essential for adoption and competitiveness. Providing both a responsive web app and native mobile clients ensures that we cater to all user preferences and provide the best possible experience on any device.

User Stories & Acceptance Criteria:

| User Story ID | Description | Acceptance Criteria - The native mobile app is available for download on the Apple App Store and Google Play Store. | US-10 | As a user, I want the app to handle temporary network loss gracefully when I am quoting on-site. | - If network connectivity is lost, the app stores the in-progress quote locally on the device. - Once the connection is restored, the app prompts the user to sync the quote

with the server. - A visible offline indicator is displayed to warn the user that they are working offline.

3.5 Send, Accept & E-Sign Lite

Feature: After completing a quote, users can send it to the customer via email directly from the SoloScale application. The proposal is delivered as a branded PDF attachment or a hosted web link. Customers can accept the quote through a simple "Accept" button and optionally provide a basic e-signature.

Justification: Streamlining the final steps of the sales process is crucial for closing deals quickly. This feature connects the quoting process to the customer's decision, reducing delays and administrative overhead. It provides a lightweight version of the client portal functionality offered by competitors like Jobber, which is essential for a competitive MVP.

User Stories & Acceptance Criteria:

| User Story ID | Description | Acceptance Criteria - The system notifies the contractor via email and an in-app notification. - The quote status is updated to "Accepted" in the dashboard.

3.6 Dashboard & Basic Analytics

Feature: A home dashboard that provides a high-level summary of quoting activity. The dashboard will display key metrics such as the number of quotes by status (Draft, Sent, Accepted, Rejected), the total value of quotes, the overall acceptance rate, and the average quote value and margin. Users will be able to click into individual quotes for more details.

Justification: Analytics are essential for helping contractors understand their sales pipeline and business performance. Even a basic dashboard provides valuable feedback and encourages continued use of the platform. This feature is a key component of modern field service software and is necessary to provide a complete and compelling user experience.

User Stories & Acceptance Criteria:

| User Story ID | Description | Acceptance Criteria - Users can filter the dashboard by date range and trade category. - Clicking on a dashboard summary item (e.g., "Accepted Quotes") navigates the user to the corresponding filtered list of quotes.

3.7 Multi-Seat & Roles

Feature: The SoloScale platform will support multiple user accounts under a single company subscription. The system will provide basic role-based access control (RBAC) to manage permissions for different users. The initial roles will be **Admin** and **User**.

Justification: As contracting businesses grow, quoting is often delegated to multiple team members. Supporting multiple seats and roles is essential for scalability and team collaboration. This feature allows business owners to maintain control over pricing and profitability while empowering their team to create quotes.

User Stories & Acceptance Criteria:

| User Story ID | Description | Acceptance Criteria - The User role can create, edit, and send quotes but cannot modify the pricebook, change company settings, or view financial analytics. - The Admin can perform all actions, including inviting new users and managing roles. _

4. Non-Functional Requirements

This section outlines the non-functional requirements that define the quality attributes of the SoloScale platform. These are critical for ensuring a positive user experience, maintaining data integrity, and supporting future growth.

4.1 Performance and Reliability

- **Page Load Speed:** All pages in the web application must load in under 3 seconds. The mobile app should feel responsive and snappy, with key workflows optimized for speed.
- **API Response Time:** API endpoints, particularly those used by the mobile clients, should respond in under 500ms for typical requests.

- **Uptime:** The SoloScale service must have an uptime of at least 99.5%. This will be achieved through redundant infrastructure and automated monitoring.
- **Offline Functionality:** The mobile clients must be ableto function in an offline mode, allowing users to create and edit quotes without an active internet connection. Data will be synced automatically once connectivity is restored.

4.2 Scalability

- **User Growth:** The platform must be designed to support a growing user base, with the ability to scale from the initial target of a few hundred users to thousands of concurrent users without a degradation in performance.
- **Data Storage:** The database schema and storage solution must be able to handle a large volume of quotes, customer data, and pricebook entries.
- **Concurrent Users:** The system should support at least 1,000 concurrent users during peak hours without performance degradation.

4.3 Security

- **Authentication:** User authentication will be handled through a secure, industry-standard service (e.g., OAuth 2.0). All passwords must be hashed and salted.
- **Data Encryption:** All data, both in transit and at rest, must be encrypted. This includes user data, quotes, and financial information.
- **Role-Based Access Control (RBAC):** The system will enforce strict RBAC to ensure that users can only access the data and functionality appropriate for their role (Admin vs. User).
- **Data Privacy:** The platform will comply with all relevant data privacy regulations, such as GDPR and CCPA.

4.4 Usability and User Experience

- **Intuitive Interface:** The user interface for both the web and mobile applications must be clean, intuitive, and easy to navigate. The design will adhere to the SoloScale brand guidelines.
- **Onboarding:** A simple and guided onboarding process will be implemented to help new users set up their accounts, import their pricebook, and create their first quote.
- **Accessibility:** The application should be designed to be accessible to users with disabilities, following WCAG 2.1 guidelines where feasible.

4.5 Integrations

- **QuickBooks Online:** For the MVP, a simple CSV export of accepted quotes will be provided for manual import into QuickBooks. Future versions will feature a direct API integration for seamless data transfer.
- **Email:** The platform will integrate with an email service provider (e.g., SendGrid, Mailgun) to handle the sending of quotes and notifications.
- **AI Service:** The AI-assisted description feature will integrate with the OpenAI API or a similar large language model.

5. System Architecture Overview

This section provides a high-level overview of the proposed technical architecture for the SoloScale platform. The architecture is designed to be scalable, secure, and maintainable, using modern technologies and best practices.

5.1 Technology Stack

- **Frontend (Web Dashboard):** A modern JavaScript framework such as **React** or **Vue.js** will be used to build a responsive and interactive single-page application (SPA).
- **Mobile Clients (iOS & Android):** Native mobile applications will be developed using **Swift** for iOS and **Kotlin** for Android to ensure

the best performance and user experience. A cross-platform framework like **React Native** may be considered to accelerate development, but the primary focus is on a high-quality native feel.

- **Backend:** A **Node.js** backend with a framework like **Express.js** or **NestJS** will be used to build a RESTful API. This choice provides a consistent JavaScript-based ecosystem across the stack.
- **Database:** A **PostgreSQL** database will be used for its robustness, scalability, and support for complex queries. An ORM like **Prisma** or **TypeORM** will be used to interact with the database.
- **AI Integration:** The AI-assisted description feature will be powered by the **OpenAI API** (specifically, a model like GPT-3.5 or GPT-4).
- **Hosting & Infrastructure:** The entire platform will be hosted on a major cloud provider such as **Amazon Web Services (AWS)** or **Google Cloud Platform (GCP)**. Services like AWS Elastic Beanstalk, RDS, and S3 will be leveraged for scalability and reliability.

5.2 High-Level Diagram

A high-level diagram illustrating the interaction between the different components of the system will be created during the technical design phase. It will show the flow of data between the mobile clients, the web dashboard, the backend API, the database, and external services.

6. Success Metrics

To measure the success of the SoloScale MVP and guide future development, the following key performance indicators (KPIs) will be tracked:

- **User Adoption & Engagement:**

  - **Number of Active Users:** The number of users who log in and perform at least one action within a given week or month.
  - **Quote Creation Volume:** The total number of quotes created per user per month. A high volume indicates that the tool is being integrated into the user's daily workflow.

- **User Retention Rate:** The percentage of users who continue to use the platform after the first month. A high retention rate is a strong indicator of product-market fit.

• **Business & Financial Metrics:**

- **Conversion Rate (Trial to Paid):** The percentage of users who convert from a free trial to a paid subscription.
- **Customer Acquisition Cost (CAC):** The total cost of sales and marketing efforts required to acquire a new customer.
- **Customer Lifetime Value (LTV):** The total revenue a customer is expected to generate over their lifetime. A healthy LTV/CAC ratio is essential for long-term profitability.

• **Product & Feature Metrics:**

- **AI Feature Usage:** The percentage of quotes that are created using the AI-assisted description feature. This will help us gauge the value of our key differentiator.
- **Quote Acceptance Rate:** The percentage of sent quotes that are marked as â€œAccepted.â€While influenced by external factors, an increase in this rate over time may suggest that SoloScale is helping users create more compelling proposals.
- **Time to Create a Quote:** We will conduct user testing to measure the average time it takes to create a quote with SoloScale compared to manual methods. A significant reduction in time is a key value proposition.

7. Future Considerations

While the MVP is focused on delivering a core set of features, the following items are being considered for future releases to enhance the value of the SoloScale platform:

• **Advanced Analytics:** A more comprehensive analytics dashboard with customizable reports, trend analysis, and deeper insights into sales performance.

- **Good-Better-Best Options:** The ability to present customers with multiple options (e.g., a standard repair, a premium replacement) within a single quote to increase the average job value.
- **Supplier Integrations:** Direct integrations with major industry suppliers to pull real-time material pricing and availability, ensuring that quotes are always accurate.
- **CRM Functionality:** Expanded customer relationship management (CRM) features, including follow-up reminders, job history, and communication tracking.
- **Scheduling & Dispatching:** Basic scheduling and dispatching capabilities to help contractors manage their crews and job calendars.
- **Invoicing & Payments:** The ability to automatically generate invoices from accepted quotes and accept online payments directly through the platform.
- **Photo & Video Integration:** Allowing users to attach photos and videos to quotes to provide visual context and document pre-existing conditions.

8. Sign-Off

This Product Requirements Document has been reviewed and approved by the key stakeholders listed below. By signing off, all parties agree that this document accurately reflects the requirements for the SoloScale MVP and will serve as the foundation for design and development efforts.

Name	Role	Date
	Product Manager	
	Lead Engineer	
	CEO	