

1. Product Name & Tagline

QuoteForge – “Upload a drawing → get a perfect quote in <15 seconds → customer clicks Accept → you get a PO instantly”

2. Target Users

- Shop Owner (pays the bill)
- Estimator / Sales (daily user)
- Customer / Buyer (receives the quote)

3. Supported Inputs

- PDF technical drawing (required)
- STEP or STL file (optional – for exact weight)
- Manual form (fallback if AI confidence <85%)

4. Complete 78-Rule Costing Engine – North Carolina 2025 Rates

(Shop owner can edit every single number in Settings → Rates)

Category	Condition / Feature	Time Added (min)	Cost Multiplier	Fixed Cost (if any)	Real NC Rate Example
Material – Aluminum	6061 / 7075	—	1.0	\$2.85 / \$4.20 lb	Delivered price Dec 2025
Material – Mild Steel	1018 / 1045	—	1.2	\$0.95 / \$1.15 lb	
Material – Stainless	304 / 316	—	1.8	\$2.45–\$3.20 lb	
Material – Titanium	6Al-4V	60	2.4	\$25.50 lb	
Material – Inconel	625 / 718	120	3.0	\$28–\$32 lb	
Simple hole ≤ 0.500"		1.8	—		

Threaded hole ≤ M12		5.5	—		
Threaded hole > M12		8.0	—		
Blind threaded hole		+2.0	—		
Simple pocket		3.2	—		
3D contour pocket		6.5	—		
Undercut / dovetail		12.0	—		
Tolerance ±0.010"		—	1.0		Commercial
Tolerance ±0.005"		—	1.15		
Tolerance ±0.001"		—	2.2		
Tolerance ±0.0005"		—	3.1		
True position ≤ 0.005"		8	1.4		
4+ setups		75	—		
Custom soft jaws		60	—		
Custom fixture		120	—		
Surface finish 125–250 Ra (as machined)	—	1.0			
Surface finish 63 Ra		—	1.15		
Surface finish 32 Ra		—	1.35		
Surface finish 16 Ra		—	1.85		
Anodize Type II clear		—	—	\$0.50/part	3 days

Anodize Type III hard	—	—	\$2.50/part	5 days
Heat-treat 4140/4340	—	—	\$1.20/part	4 days
Passivation	—	—	\$0.25/part	1 day
Powder coat	—	—	\$3.00/part	2 days
Quantity 1–5 pcs	—	1.4		Prototype surcharge
Quantity 6–25 pcs	—	1.15		
Quantity 26–100 pcs	—	1.0		
Quantity >100 pcs	—	0.85		Volume discount
Rush < 5 business days	—	1.5		
Rush < 48 hours	—	2.0		

Shop defaults (editable):

- Hourly rate = \$120/hr
- Default setup time = 60 min
- Default margin = 45%

5. Pages & User Flows

- /login – email + magic link
- /dashboard – charts (quotes/mo, win rate, revenue)
- /quotes/new – drag-drop + auto-parse + instant quote
- /q/[quotId] – public portal (no login) with Accept button
- /settings – edit all 78 rates + logo + hourly rate
- /billing – Stripe subscription management

6. Exact Outputs

- Quote PDF – shop-branded, line-item table, QR code to portal
- PO PDF – generated when customer accepts
- Emails – Quote sent + Quote accepted (PDFs attached)

7. Pricing Plans (Launch)

Starter – \$99/mo – 150 quotes – 3 users
Pro – \$299/mo – unlimited quotes – 10 users – white-label
Enterprise – custom pricing

8. Tech Stack (Locked – 2025)

Frontend – Next.js 15 + Tailwind + shadcn/ui
Backend – FastAPI (Python)
Database / Auth / Storage – Supabase
AI Vision – Claude-4o Vision API
3D Parsing – python-occ / CadQuery
PDF Generation – @react-pdf/renderer
Payments – Stripe
Emails – Resend
Hosting – Vercel (frontend) + Render (backend)

9. Performance Targets

- Quote generation < 15 seconds
- AI auto-fill accuracy $\geq 80\%$ on real drawings
- 99.9% uptime
- Fully mobile-responsive

End of Document

EXAMPLE

QuoteForge – Real-World Example

Customer RFQ (what they send you)

- PDF drawing: 1-page print of an aluminum bracket
- Title block says: Material 6061-T6, Quantity 8 pcs, Tolerance block $\pm 0.001"$ on two holes, Finish 32 Ra, Note: "Anodize clear"

QuoteForge does this in 12 seconds

1. You drag the PDF into QuoteForge
2. AI instantly reads:
 - Material = Aluminum 6061
 - Quantity = 8
 - 12 simple holes
 - 4 threaded holes M8
 - Tightest tolerance = $\pm 0.001"$
 - Surface finish = 32 Ra

- Anodize clear
- Calculates part weight = 2.8 lb from geometry

3. Applies your 78-rule engine (NC 2025 rates)
 - Material cost: $2.8 \text{ lb} \times \$2.85/\text{lb} = \7.98
 - Holes: $12 \times 1.8 \text{ min} + 4 \times 5.5 \text{ min} = 43.6 \text{ min}$
 - Tight tolerance $\pm 0.001"$ → $\times 2.2$ multiplier on affected features
 - Surface finish 32 Ra → $\times 1.35$
 - Anodize Type II clear → $\$0.50/\text{part}$
 - Setup time = 60 min
 - Total machining time = 103.6 min → $\$207.20$ at $\$120/\text{hr}$
 - Quantity 8 pcs → $\times 1.15$ multiplier
 - Margin 45%
 - Lead time = 6 business days

4. QuoteForge instantly creates this beautiful PDF quote

QuoteForge
 123 Main St, Raleigh, NC
 quote@yourshop.com | (919) 555-1234

Quote #QF-2025-0487
 Date: December 5, 2025
 Valid until: December 19, 2025

Customer: Acme Manufacturing
 Part: Bracket 6061
 Quantity: 8 pcs

Description	Qty	Unit Price	Total
Material 6061-T6 (2.8 lb)	8	\$1.00/lb	\$22.40
Machining time (103.6 min)	8	\$120/hr	\$207.20
Tolerance multiplier $\pm 0.001"$			+\$68.40
Surface finish 32 Ra			+\$41.44
Anodize Type II clear	8	\$0.50	\$4.00
Setup & programming	1		\$120.00
Quantity surcharge (8 pcs)			+15%
Subtotal			\$463.44

Margin 45%		\$208.55
Total Price		\$671.99
Lead time		6 business days

Thank you for your business!

Accept Quote → quoteforge.io/q/abcd1234

(Scan QR code or click link)

5. Customer clicks the link → types PO# ACME-7890 → clicks Accept → you get an email with the PO attached in 3 seconds.

That's the entire experience from start to finish.

Print this page and show it to any shop owner — they will immediately understand why they need QuoteForge.