

Automated Accounts Receivable & Payment Chasing

An AI-personalized, self-running invoice follow-up pipeline built in n8n

Case Study | Workflow Automation | James William M. Yao (Liam)

Chasing overdue invoices by hand is repetitive, easy to get wrong, and hard to do consistently at scale. Push too hard too early and a good client relationship takes the hit; wait too long and cash flow suffers. This project replaces that manual judgment call with a workflow that applies it automatically — watching a business's accounting software for overdue invoices, adjusting tone and timing per client, and knowing exactly when to stop automating and hand a case to a real person.

The Challenge

Small businesses rarely have a dedicated collections team. Invoice follow-up tends to happen in bursts, inconsistently, using the same generic message regardless of whether the client is a first-time account or a five-year relationship. The result is a lose-lose: clients who deserve patience get chased too aggressively, while genuinely stalled invoices go unnoticed for months.

The Solution

An end-to-end n8n automation that polls QuickBooks Online (adaptable to Xero) for overdue invoices daily, scores each one using relationship history, invoice size, and days overdue, and routes it into one of three outcomes: a gentle reminder, an AI-drafted payment plan offer written in the business owner's voice, or a fully-briefed escalation to a human. Every action is logged, so nothing is ever sent twice.

How It Works

Stage	What Happens	Tools
Receive	Polls the accounting platform for invoices that are unpaid and past their due date.	QuickBooks Online API
Normalize	Reshapes invoice data into one common structure, regardless of source accounting system.	n8n
Enrich	Looks up each client's relationship tier and history.	Airtable
Decide	Scores urgency from days overdue, invoice size, and relationship tier, then routes to the right action.	n8n Code node
Notify	Sends a gentle reminder, or has AI draft a payment plan offer matched to the client's tone.	Gmail, Groq AI
Update	Records what was sent and when, so no invoice is ever reminded twice for the same stage.	Airtable
Escalate	Alerts a human with full context once automated outreach has run its course.	Telegram

Key Design Decisions

- Tiered timing instead of one-size-fits-all: a VIP client is given more patience before the tone shifts; a larger unpaid balance moves through the sequence faster, since it carries more cash-flow risk.
- The AI drafting prompt explicitly constrains tone, formality, and sender identity — a necessary guardrail, since early testing surfaced the model signing a payment offer with the client's own name instead of the sender's, a subtle failure mode worth designing around rather than discovering in production.
- Idempotency is enforced by checking the workflow's own send history before anything goes out, so a daily re-run never reminds the same client twice for the same stage.
- Payment matching required no additional logic at all: once an invoice is paid, it no longer meets the overdue criteria in the Receive stage and simply stops appearing — the pipeline self-corrects for free.

Tech Stack

n8n • QuickBooks Online API • Airtable • Groq (AI drafting) • Gmail • Telegram

Every tool in the stack was chosen deliberately at the free tier, keeping the system realistic to replicate for a small business without introducing new software costs.

Validation

Tested end-to-end against live QuickBooks Sandbox data across ten real invoice scenarios, exercising all three outcomes: gentle reminder, AI-drafted payment plan offer, and human escalation. Idempotency was confirmed by running the full workflow twice in succession and verifying zero duplicate outreach on the second run.

Business Impact

- Recovers cash faster without manual chasing
- Protects client relationships with tone-matched, non-threatening outreach
- Eliminates duplicate or awkward follow-ups
- Frees up staff time for only the invoices that genuinely need a human touch
- Scales collections without scaling headcount
- Runs unattended on a daily schedule

James William M. Yao (Liam)
Freelance AI Automation Engineer & GoHighLevel Specialist
Antipolo City, Rizal, Philippines | [Portfolio link / email]