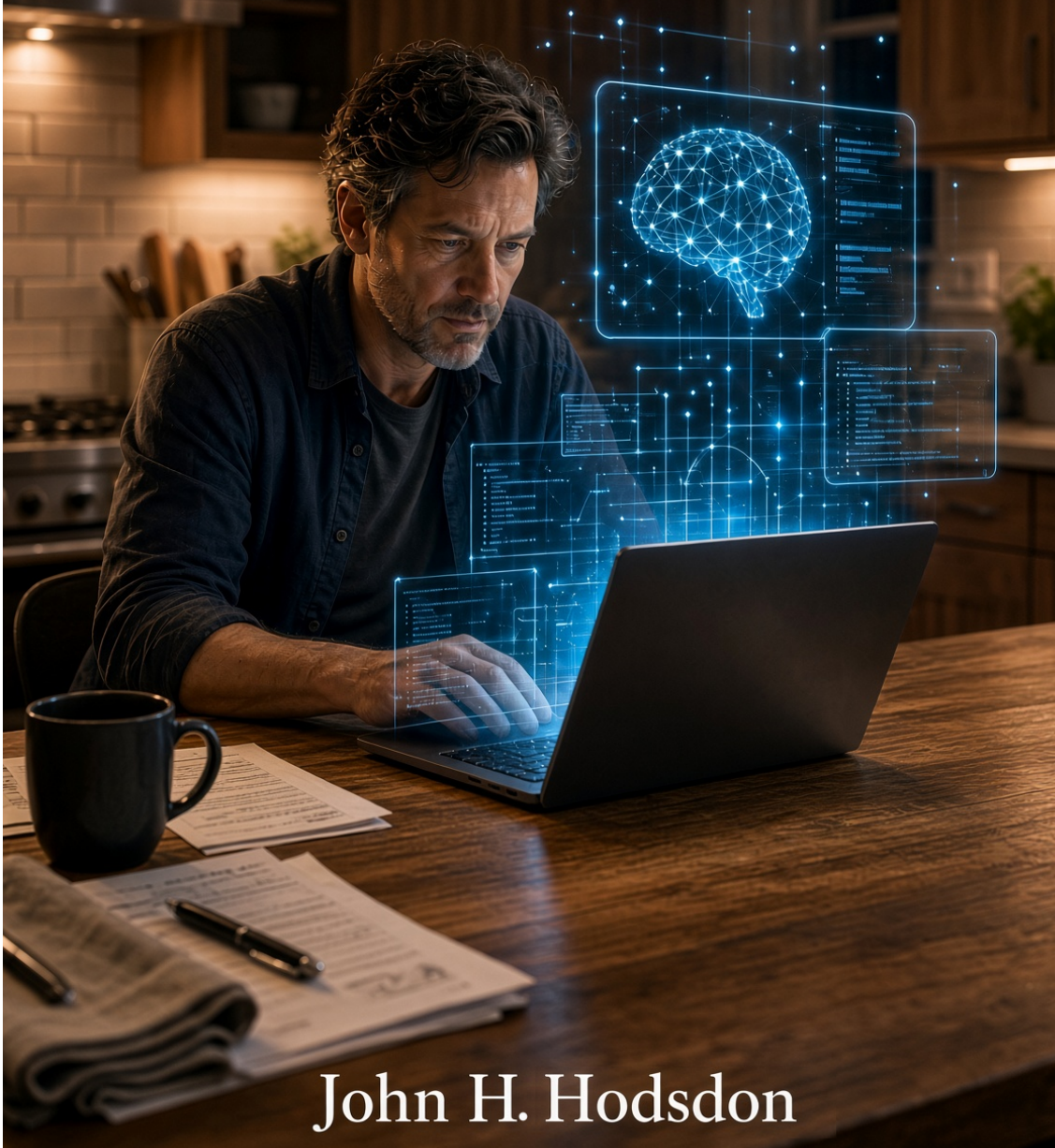
Main Street AI Stories

# The Owner's OS

## How a Roofer Built His Own Business Software with AI



John H. Hodsdon

# The Owner's OS

*How a Roofer Built His Own Business Software with AI*

John H. Hodsdon, Agentic Solutions

*A fictional tale of a realistic use case. Warren Hale, Hale Roofing, Richard Dawson, Mrs. Okafor, Hector Ruiz, Dana Pruitt, Ellen Park and Denise are invented, and any resemblance to real people or businesses is coincidental. All dollar figures are illustrative. Nothing here is legal, financial or insurance advice. Xactimate is a trademark of its owner and is mentioned only to describe a common estimating format.*

CHAPTER 1

# The Packet

Warren Hale had spent seventeen years on roofs and eleven days as the owner of one.

The kitchen table held his entire company: a laptop, a cold coffee, an LLC certificate he hadn't hung yet, and a printout of the first estimate he had ever signed under his own name. Mrs. Okafor's hail claim, on the north side of Round Rock. About thirty-one hundred square feet of shingles, a cracked seal around a vent pipe, and an eleven-page estimate the insurance company had approved. It was written in Xactimate, the estimating program most insurers use.

At his old company, this was the moment he never saw. He handed the approved estimate to the office, and three days later it came back as a packet. A plain-English budget for the homeowner. A contract. A payment schedule. Work orders for the crews. A warranty. In seventeen years he had never once asked how.

Now he knew. It was a woman named Denise with four monitors, a folder of half-remembered templates, and a great deal of copy and paste. Denise was not coming.

He had spent the week on software demos. Every one of them wanted him to re-key the estimate by hand, line by line, into their format, and then charge him per seat for the privilege. The estimate was already done. The adjuster had signed off on it. All he needed was everything that came after the numbers.

At 10:40 p.m. he opened a chat window and typed the way he would talk to a new office manager on her first day.

> I'm starting a residential roofing company. I have an approved Xactimate estimate for a hail claim. I need to turn it into a contract, a payment schedule, a budget the homeowner can read, work orders for my subs, and a warranty. I've done the field side for seventeen years. I have never built the paperwork side. Where do we start?

He expected a lecture. Instead it asked three questions, and they were the right ones.

Would the money come from insurance in stages, or from the homeowner as a deposit and payments? Was there a mortgage company on the claim check, which would change who had to endorse it? And was the tear-off going to his own crew or a subcontractor, since that decided whose name went on the first work order?

He sat back. Denise would have asked the same questions, eventually, on the second day, after something had gone wrong.

The first try went badly. He pasted in the estimate and got back a tidy packet built on numbers that were not in it. The AI had read the scanned PDF wrong and guessed at three line items. He found it because the shingle count didn't match the squares. He typed the totals in by hand, asked it to use only what was on the page, and tried again.

The second draft was close. Line items grouped by trade. A budget in plain English that Mrs. Okafor could actually read. Two work orders with quantities pulled from the estimate.

It was close. It was not right. The budget had put the drip edge under tear-off. Drip edge is the metal strip along the roof's edge. Any roofer knows it goes on during the install, not the tear-off, and the crew lead who read that order would know it too, and would wonder what else was wrong. The warranty draft promised ten years of workmanship

coverage, a number lifted from a template. His company had no track record, no reserve, and no way to back it.

He fixed the first and rewrote the second, then typed:

> The warranty has to match what I can actually stand behind. Two years workmanship to start, manufacturer's coverage on the shingles. Fix it.

It did.

He read the packet top to bottom, the way he used to read a roof before signing off on it. It was past one in the morning. He understood what he had been looking at. The AI had not replaced his judgment. It had replaced Denise's copy and paste, and left every decision that mattered sitting exactly where it belonged.

Eleven days in, Hale Roofing had something like a back office.

It was going to need a lot more than a chat window.

CHAPTER 2

# Richard

On Sunday, after the second service, Warren found Richard Dawson by the coffee urn.

Richard had run a remodeling company in Pflugerville for twenty-two years: kitchens, baths, the occasional addition. Over the last year he had become the man people at church asked about AI, mostly because he had stopped complaining about his office software and started building his own.

Warren told him about the night at the kitchen table. The good draft, the bad first try, the drip edge.

"So you want to build all of it," Richard said.

"Scheduling, invoicing, a customer portal, crew calendar. Somebody sent me a twelve-module outline."

Richard stirred his coffee for a while. "Let me ask you one thing. On your old crew, what did every job wait on?"

Warren didn't have to think. "The packet. Nothing moved until the office turned the estimate into paperwork. Crews sat. Materials sat. Homeowners called."

"Then that's your build," Richard said. "Not the twelve modules. The one thing every job waits on. Fix that, use it on a real roof, and then look for the next thing that's holding you up."

"You'll help me write it?"

"No. I don't write code, and you won't either, much. The AI does the carpentry. You decide what gets built and what gets cut. I'll ask you

annoying questions." He set his cup down. "First one. When the AI gets something wrong, how will you know?"

Warren thought about the scanned PDF and the three guessed line items.

"I won't," he said. "Unless the numbers have to match something."

"Good," Richard said. "Start there."

CHAPTER 3

# The Estimate Is the Source of Truth

One good night proved the idea. It did not prove the system. It had worked once, for one homeowner, because he was awake and careful. It would not work on the fourth job in a week, when he was on a roof in Georgetown and the estimate arrived at 6 p.m.

> Last night was a demo. I need this to run the same way every time, without me re-explaining my business. The Xactimate estimate has to be the one source for everything. If a number appears in a work order or a payment schedule, it came from the estimate, and I can trace it. How do we build that?

The answer started with a question he hadn't thought to ask: what exactly was in the estimate, and what did each piece mean?

Mrs. Okafor's estimate, with his supplement notes, ran forty-three line items. Each had a code, a description, a quantity, a unit, a price. Below them sat the totals. The full cost of the new roof was $26,412.75. The insurance company held back $6,603.19 for the old roof's age, money it pays once the work is done. Take out her $2,500 deductible, and the first check came to $17,309.56. He had read documents like this for seventeen years and never once thought of them as data.

The AI proposed a plain structure. A job holds an estimate. An estimate holds line items. Every line item keeps its code, quantity, unit and price exactly as they came in, and nothing is ever retyped.

"The garage," he typed. "Mrs. Okafor has a detached garage. Some estimates will have two structures with separate roofs."

It adjusted without comment. That was the first of many times he would catch something the AI couldn't have known.

Then came the part only he could do. A line in an Xactimate estimate says what the item is. It does not say who does it, when, or in what order. Warren knew that "Remove 3 tab, 20 year composition shingle roofing" belonged to the tear-off crew. He knew drip edge, ice and water shield, and starter strip were install items even when the estimate listed them near the top. He knew a crew lead who saw ridge vent before step flashing would stop trusting the whole sheet.

So he wrote it down, the way he would have trained a new project manager. Every code family, sorted into a crew and a place in the sequence. It took most of an evening and filled two pages. The AI turned it into a simple chart the program could check, and he saw what he had really made: seventeen years of experience, in a form a program could use.

What the system could not sort, it would not guess. He insisted on that.

The first test import failed outright. The file he had saved from the estimate wasn't laid out the way the AI expected, and half the lines came in with their quantities in the price column. It took two more evenings, and one call to Richard that was mostly Warren venting, before forty-three lines went in clean. Forty-one landed in their crews. Two stopped and waited: "Detach and reset satellite dish" and a line for moving contents. The system listed them with a plain question beside each. Who does this, and where does it go?

Then he asked for the check he cared about most: add every imported line, add the contractor's markup the way the estimate did, and compare the result to the insurance company's total.

The numbers matched to the penny.

He set one rule before closing the laptop. Nothing gets generated, no budget, no work order, no authorization, unless the imported totals match the estimate. If they don't, the system says exactly where and stops.

CHAPTER 4

# Where It Lives

The rule was in a chat window. That bothered him.

"Where does it live?" Richard asked on the phone that week. "If your laptop dies tonight, what's left?"

Warren did not know. So he asked the AI to explain, in plain words, what it would take to turn a chat into something his crews could open on their phones. The answer came down to four things.

A place for the program to run, so it works when his laptop is closed. A database, which the AI described as the filing cabinet the program reads from and writes to: jobs, estimates, line items, crews, signatures. A login, so Hector sees his orders and nothing about money. And file storage for photos and signed documents, with backups.

Richard had been through this. He suggested Warren start with a supervised build plan, so the AI could do the setup work on its own computer while Warren watched and approved each step. Warren signed up for Grok Bot Pro at $20 a month. Hosting and the database were free at his size, and he expected to pay something small once he had more jobs and photos. His real cost was time: two weekends, a dozen weeknights, and a lot of reading what the AI had done before saying yes.

Not all of it went smoothly. The first version had no real login; anyone with the link could see Mrs. Okafor's address. Warren caught it only because Richard asked him to open the link on his wife's phone. The fix took an hour. Finding it had taken a friend.

By the end of the second weekend, the packet lived somewhere other than his kitchen table. He could open a job from his truck. It was not pretty. It worked.

"Write down what you set up," Richard said. "Where everything is, how to get in, what it costs. If you got hit by a truck, could your wife find it?"

Warren wrote one page. He put it in the fireproof box with the LLC papers.

CHAPTER 5

# A Budget She Can Read

Mrs. Okafor read the estimate the way most homeowners do: slowly, with a pen, and without understanding a word. She had circled "Felt, 15 lb" and "Ice and water barrier" and put a question mark beside each.

"I'm not complaining," she said. "I just don't know what I'm agreeing to."

He had heard this in a hundred kitchens and had never had a good answer. The estimate was written for the adjuster. It was accurate, complete and unreadable.

> The estimate is for the insurance company. The homeowner needs something she can read. I want a budget she can read: plain English, grouped the way a person thinks about a roof, with the money tied back to the estimate so nothing is made up.

The draft grouped the forty-three lines into seven sections: removing the old roof, protecting the roof deck, edges and flashings, shingles, ventilation, the detached garage, and cleanup and permits. Each had two or three sentences and a dollar figure. The seven figures added up to $26,412.75.

The writing was better than he expected. It also had two problems only a roofer would notice.

The first was tone. One section warned that "failure to replace flashing may result in water intrusion and structural damage." True, and exactly how a salesman sounds when he is pushing something.

Mrs. Okafor had not asked to be frightened. She had asked to be informed. He made it a standing rule: describe what will be done, never what might go wrong if it isn't.

The second was the money. The draft showed one total and stopped. But what a homeowner on a claim wants to know is not what the roof costs. It is what she pays, and when. So he asked for a second page, with the three pieces in words she could follow. The insurance company pays the actual cash value now. She pays her deductible. And the money held back for the old roof's age is paid after the work is finished and documented.

He read that last sentence aloud and realized it was the most important sentence in the packet. Half the homeowners he had worked with thought that holdback was a fee, or a trick, or money they would never see.

She called the next morning. "The money they held back. Does that come to you or to me?"

The document had not answered it clearly. He told her, then wrote the answer into the budget, because if one homeowner had asked, ten would.

He was learning what the system was for. It did not write documents. It let him carry what he knew into every document, so the fortieth customer got the same care as the first.

CHAPTER 6

# Work Orders for the Crews

Hector Ruiz did not care what the roof cost.

He ran the tear-off crew Warren had worked beside for six years, and he read a work order the way he read a roof: fast, from the bottom up, looking for whatever would hurt someone. He wanted to know how many squares, how many layers, where the dumpster went, and whether there was a dog.

> A work order is not an estimate. The crew needs scope, quantities, sequence, access and materials. They do not need the insurance company's pricing, and the price I agreed with the sub shouldn't be mixed up with it. Build two things from the same estimate: what the homeowner sees and what the crew sees.

The system already knew every line's crew and place in the sequence. The first tear-off order still came out wrong. It listed the garage as a separate job with its own dumpster, which would have cost him a second haul fee. He fixed the rule and ran it again.

What made the orders usable was what Warren added. Gate on the east side, two dogs, park on the street because the driveway was shared with a neighbor. A dumpster drop window. A line at the top saying what to photograph before, during and after, because the photos were what protected him in a dispute. Hector read it on his phone in the truck and replied with a thumbs up.

Then the system stopped him.

He had gone to assign the install order to Dana Pruitt, who ran the crew he most wanted on this job. Instead, a message came up. Dana's proof of insurance had expired nine days earlier. That is the certificate showing a sub is covered if someone gets hurt.

He had not known. At his old company somebody in the office tracked those, and he had assumed somebody always would.

"Dana. Your insurance lapsed."

A long pause. "It auto-renewed. I thought."

"Send me the new certificate and I'll assign you this afternoon."

She did, within the hour. A lapsed certificate on a job with a worker injury is the kind of mistake that ends a young company. The software had not been clever. It had simply been unwilling to look away.

Before he closed the laptop he added one more thing, because Hector had made a point he could not unhear. Each crew would accept its order before work started, with a tap and a timestamp. Hector accepted at 6:40 that evening. Dana at 7:15.

For seventeen years Warren had settled arguments with memory. Now he had a record.

CHAPTER 7

# Authorization, Payments and the Warranty

The claim check arrived on a Tuesday, made out to Mrs. Okafor and her mortgage company.

Warren had seen this go wrong more times than he could count. The lender wants an inspection, a signed form and a copy of the contract before releasing a dollar, and the roofer has bought materials on his own credit and is waiting to be paid. At his old job he had never been the one waiting. Now he was.

He asked for a payment schedule built from the same three numbers, and it closed to the penny, because the matching rule now covered money too. Then he added the terms only experience teaches. When the deductible was due. What the lender's inspection would trigger. And for the held-back money, a checklist the system would not let him skip: final photos, the signed completion certificate, and the invoice, sent together.

The work authorization was where he slowed down. It is a legal document. It ties the price to the approved estimate, explains how changes are handled, and says what happens if the claim is denied or reduced. The AI drafted it in plain language, and it read well. That was the problem. It was something he could not simply trust a chat window to get right.

So he made a decision that shaped everything after. The AI would draft. He would edit. And before any template reached a real customer,

an attorney would read it. He built that in as a status. A template could be draft, reviewed, or approved. Only approved templates could produce customer documents. Right now, nothing was approved.

"That means I can't send this to Mrs. Okafor yet," he said to the empty kitchen.

It cost him a week. He knew it was the cheapest insurance he would ever buy.

He used the week on the warranty, the document he had been dreading. At his old company the sales team had loved a ten-year warranty. It closed jobs. Six winters later the callbacks came in clusters, and the owner paid out of cash he had spent on trucks.

> I want a warranty I can actually honor. Two years workmanship from me, and the shingle manufacturer's coverage on the product. I don't want to describe the manufacturer's terms myself, because I'll get them wrong and they change. I want to point to them.

The draft split the promise in two. His workmanship commitment: two years, covering leaks caused by his crew's installation, with a plain list of exclusions. The manufacturer's coverage, pointed to rather than restated.

Then he typed a question he hadn't meant to.

> If three roofs leak in the same winter, could I cover them? I don't know what a claim would actually cost me.

He did not know. He had never needed to know. He called Richard, who had been through exactly this with kitchen remodels. Richard didn't give him a number. He asked how many callbacks the old shop had in a bad year, and what each one cost. Warren knew those answers. He chose a small reserve held back from every job, and the AI built the tracking around it.

The warranty became something that lived past the day it was signed. Each job carried a record with the completion date, materials, crew and final photos, and the system reminded him at ninety days, one year, and twenty-three months, a month before coverage ended, while there was still time to fix anything he found.

“A warranty is a long conversation,” he said. “It only looks like a document.”

At the bottom he added one line in his own words. It told the homeowner exactly who to call, and it was his cell phone.

CHAPTER 8

# The First Real Job

The attorney's notes came back on a Friday, and they were longer than he wanted.

Ellen Park had practiced construction law in Austin for twenty years. She circled the cancellation notice, which had to say what state law required in the form it required. She flagged the deposit language, because rules about collecting money on insurance jobs are specific and enforced. She rewrote the clause about a denied claim. And she struck one sentence entirely.

It was the AI's sentence about the deductible. It read, in a friendly way, as though Hale Roofing might help with it.

"You can't say that," Ellen said on the phone. "Not even close."

He had read that line three times and seen only how reasonable it sounded. It was exactly the kind of thing a fluent drafting tool produces: smooth, plausible, and a problem. That afternoon he learned the rule he would repeat to everyone who asked about the system. The fluency is not the safeguard. The review is.

He made her changes and marked the templates approved. On Monday the packet met a roof.

Hector's crew was on the Okafor house by seven. By nine Warren's phone buzzed with photos, each stamped with time and location. Old shingles coming off in sheets. And at the chimney, a patch of decking the color of wet cardboard.

He was there in twenty minutes. He walked it with his boots, and the wood gave like a sponge. Eleven sheets would have to come out.

This was the moment he had been afraid of. Not because rotten decking was unusual. It was the most ordinary surprise in roofing. It was because he knew how it usually went. The crew finds it, the owner calls the homeowner, the homeowner says "how much," the owner guesses, and three weeks later nobody remembers what was agreed.

He sat in his truck and opened the job.

> The crew found eleven sheets of rotted decking at the chimney. Photos are uploaded. I need a change order for Mrs. Okafor and a supplement for the insurance company, and both need to tie back to the estimate and the work order.

The system started with the record. It pulled the crew's photos in order and confirmed the scope wasn't covered by any line in the approved estimate. A supplement is a request to the insurance company to pay for work the estimate missed. The price came from the estimate's own rate: eleven sheets at $98.50 is $1,083.50. Add the contractor's markup the estimate allowed, and it came to $1,300.20.

Then it drafted the letter for the adjuster, the insurance company's inspector. Warren changed three things. He cut a sentence that sounded like pleading. He added the chimney's location by roof slope, because adjusters want a place on the roof, not a paragraph. And he removed a guess about how long the rot had been developing, because he was a roofer and not a forensic engineer.

The change order for Mrs. Okafor was short and plain. She signed on her phone from her kitchen, and the work orders updated for both crews.

The matching rule caught the next problem. The payment schedule hadn't been updated, and the totals disagreed by $1,300.20. The system would not produce the next invoice until he resolved it.

The insurance company approved most of the supplement. Not all of it. The adjuster cut two sheets, and Warren and Mrs. Okafor settled the difference the way the authorization said they would. It was the first time the fine print had worked exactly as intended.

When Hector marked the last order complete, the checklist for the held-back money came up.

He walked the roof one last time with Mrs. Okafor standing in the yard, shading her eyes.

"It looks very clean," she said.

"That's the point," Warren said.

CHAPTER 9

# What Warren Built

Six months after the first chat window, Hale Roofing had finished thirty-four jobs.

The packet that had taken Denise three days now took him about twenty minutes of review, on a good day. He opened a job, brought in the estimate, watched the matching check pass or stop, and read the drafts the way he read a crew's work: from the bottom up, looking for whatever would hurt someone. Most weeks he also spent a couple of evenings fixing rules, adding codes he hadn't mapped, and cleaning up after something the system did slightly differently than he'd meant.

He had not built a better version of the software in those demos. He had built something different. His system knew drip edge was an install item. It knew a mortgage company on a check changed everything. It knew his crews by name and his rule that nothing goes out without a person's approval. No vendor could have shipped that, because no vendor knew him.

He kept a list of mistakes.

- He automated a messy process before understanding it, and spent a weekend untangling a payment schedule for a job with two lenders.
- He trusted a smooth draft once and caught the error only because a homeowner's question made him look again.
- He ignored Richard's advice in the second month, tried to add scheduling, invoicing and a customer portal at once, and broke the packet for a week. He went back to one piece at a time.

- He shipped a version without a real login, and a friend found it before a stranger did.

When other owners asked, his answer came down to five things.

1. Start with how you actually work, not with a feature list.
2. Find the one step every job waits on, and build that first.
3. Make one trusted source and trace everything to it.
4. Teach the system your rules, and make it stop where it doesn't know instead of guessing.
5. Keep a person in every step that touches money or a customer's rights.

The numbers were not dramatic, and he liked that. Packets went out the same day more often than not. Supplements went out with photos and arithmetic attached. No sub had worked a day with a lapsed certificate. Every morning he could see what he was owed and what was holding it up.

In March a call came from an unfamiliar number.

"Warren? It's Denise."

Her old company had closed its back office. Six people had become two, and she was one of the ones who left. She asked, carefully, whether he was hiring.

He thought about what the system still could not do. It could not tell when a homeowner's silence meant worry. It could not tell that a particular adjuster responded better to a phone call. It could not read a roof, or a room, or a person.

"I need someone to review every packet before it goes out," he said. "Somebody who knows what the paperwork is supposed to say. I'd want your eyes on the money pages especially."

A pause.

"That's not data entry," Denise said.

"No," Warren said. "It's the part that was always the real job."

That afternoon he hung the LLC certificate on the wall. It had been in a drawer for six months. Then he picked up his boots and drove to a job site, to look at a roof.

AFTERWORD

# Building Your Own

Warren is invented, but nothing he did needs a special background. If you know your business well and want software that works the way you do, this is how to begin. A dental office might start with patient intake. A landscaper might start with a signed scope. An accounting firm might start with the engagement letter.

1. Write down your process first. List the documents every job needs and who reads each one.
2. Find the constraint. Ask what every job waits on. Build that, and nothing else, until it works.
3. Choose one source of truth. A quote, an intake form, a signed scope. Everything else traces back to it.
4. Teach the rules only you know. Write them as plainly as you would for a new hire. That list is the most valuable thing you will make, because it gets your business out of one person's head.
5. Build one piece at a time, and use it on real work before starting the next.
6. Make the system stop instead of guess. Totals that must match, certificates that must be current, templates that must be approved. A refusal is cheaper than a mistake.
7. Keep a person in every step that touches money or someone's legal rights. Have a professional read your contracts before a customer sees them. Rules differ by state and by type of work.

8. Know where it lives. Write down what you set up, what it costs, and how to get in. Use logins, and test your backups by actually restoring one.
9. Get a Richard. Someone a few steps ahead who asks hard questions and doesn't do it for you.

A few honest limits. Estimating tools such as Xactimate are proprietary, so use the estimates and exports you are licensed to use. The figures in this story are illustrative. An AI can be wrong in ways that sound right, so every output needs a person who understands the work.

The point is not that software no longer matters. It is that the person who understands the work can now shape the software, instead of reshaping the work to fit someone else's.

# Map Your First Build

*Use a pencil. This should take about an hour.*

**1. What does every job wait on?**

*The one step that holds up everything after it.*

**2. Your source of truth**

*The one document every number should trace back to.*

**3. What comes out of it?**

| Document | Who reads it | What they need from it |
|---|---|---|
| | | |
| | | |
| | | |

**4. Five rules only you know**

*What you would tell a new hire on day one.*

1.

2.

3.

4.

5.

**5. Where should the system stop instead of guess?**

☐ Totals that must match:

☐ Things that must be current:

☐ Steps that need a person:

**6. Who is your Richard?**

# Your Next Step

If this story sounded like your business, start the way Warren did: small, supervised, and scoped to the one thing every job waits on.

The free course *Your First AI Build, Scope First* walks you through picking that first piece and building it safely.

agenticsolutions.biz/course/first-build

For one practical idea a week on AI for business owners, get the *Main Street AI Brief*.

agenticsolutions.biz/brief

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