CONVEYOR SOLUTIONS ENGINEERING
Professional Training Program

CAPSTONE PROJECT
Riverside Distribution Co.

A First Project Simulation
Subject Matter Expert: Michael Collins

HOW TO USE THIS DOCUMENT

This is not a test. It is a simulation of your first real project.

You will be put in situations, given information, and asked to make decisions. Some information will be handed to you. Some you will have to ask for. Some you will have to figure out on your own.

Work through it in order. Each section builds on the one before it. If you skip ahead you will make assumptions that an earlier section would have corrected.

Document your reasoning at every step. A decision you cannot explain is a decision you cannot defend.

Your mentor will review your work with you as you go. This is a conversation, not a submission.

SCENE 1 | THE CALL

It is a Tuesday morning. You have just arrived at your desk. Your phone shows a voicemail from a number you do not recognize. You play it back.

VOICEMAIL | Dana Merrill, Riverside Distribution Co.

"Hi, my name is Dana Merrill. I am the Director of Engineering and Technical Operations at Riverside Distribution Co. We are a third-party logistics provider out of the mid-Atlantic region. We have a real problem with our outbound operation and I

have been told your firm knows conveyor systems. I would like to set up a meeting. Please call me back at your earliest convenience."

YOUR MOVE

Before you call Dana back, what do you do?

A. Call Dana back immediately. You will learn everything you need in the meeting.

B. Do some homework first. Look up Riverside Distribution Co., understand their operation, and come to the first call with informed questions.

C. Send an email asking her to fill out a standard questionnaire before you meet.

SCENE 2 | THE FIRST MEETING

You are at Riverside Distribution Co. The facility is a 50,000 square foot single-level building in a standard industrial park. Three dock doors are visible on the south side as you pull in. Two have trailers backed in. The third is empty.

Dana Merrill meets you at the front door. She is direct, moves quickly, and clearly knows her operation. She walks you into a conference room where three other people are already seated.

Dana Merrill | Director of Engineering and Technical Operations

"Thank you for coming. Let me introduce the team. Tom Ruiz is our VP of Finance. He will be involved in any capital decisions. Ray from our IT department is here because I have a feeling this project is going to touch some systems and I want him in the room early. And this is Michael Collins, our facilities and maintenance lead. Michael has been in this building longer than anyone. If it moves or makes noise in this facility, Michael knows about it."

"Here is the short version of our problem. We ship for five retail clients. Apparel, housewares, and packaged food products. All outbound sorting is done manually right now. Our associates are making carrier decisions by hand at the staging area near the dock. We are running a misdirect rate of about three percent. Two of our five clients have issued chargebacks. During peak wave releases the staging area becomes a complete bottleneck. I need that to stop."

Tom Ruiz | VP of Finance

"I will be brief. If this project does not make financial sense I cannot support it regardless of the operational benefit. I will need to understand the return before we go any further. Dana can give you the operational picture. I will answer questions about the financial side when you are ready for that conversation."

Michael Collins | Facilities and Maintenance Lead | 20 Years on Site

He does not say anything when Dana introduces him. He nods. He is watching you.

When you make eye contact he says: "We have had equipment in here before. Twice. Neither one of them made it past the first year running the way it was supposed to. I am not against trying again. I just want to make sure somebody actually thinks about how this thing gets maintained and not just how it gets installed."

Ray | IT Systems Administrator

"I am honestly not sure why I am here yet but Dana said to come so I came. We run a WMS. I manage it. If you need to talk to our systems at some point I am the person you need."

YOUR MOVE

You have heard the opening. Who do you talk to first and what do you ask?

A. Ask Dana to walk you through the current operation in detail. You want to understand the flow before anything else.

B. Ask Tom about the financial expectations upfront so you know what you are designing toward.

C. Ask Michael about what failed before and why.

D. Ask Ray about the WMS and what systems are currently in place.

SCENE 3 | THE OPERATIONAL PICTURE (Dana Merrill)

You ask Dana to walk you through the current operation.

Dana Merrill | Director of Engineering and Technical Operations

"Our picking operation is split across two zones. Zone A is on the second floor. That is where we handle apparel and housewares. Zone B is on the ground floor in the northeast quadrant. That is packaged food products. Both zones use pick-to-light systems at static shelving. Pickers fill orders and put them on carts. The carts get walked to the staging area near the dock doors on the south wall."

"At the staging area, associates look at the shipping label on each carton, figure out which carrier it belongs to, and walk it to the right dock door. Carrier A gets Door 1. Carrier B gets Door 2. Door 3 is shared overflow and returns. The problem is that at peak volume we are pulling from both zones at the same time and the staging area cannot keep up. Associates are making carrier decisions without confirmed scan data because there is not enough time. That is where the misdirects come from."

"I want a system that reads the barcode on each carton, knows which carrier it belongs to, and routes it to the right door automatically. I want my associates focused on packing and loading, not on sorting."

YOUR MOVE

Dana has described the problem. What do you ask her about?

A. The throughput numbers. How many cartons per minute does the system need to handle?

B. The product mix. What are the cartons actually like?

C. The building. Clear height, floor condition, electrical availability.

D. All of the above. You need all of it and you should ask now.

Dana Merrill | Director of Engineering and Technical Operations

"Throughput. Our current peak is 18 cartons per minute across all three doors combined. I want the new system designed for 20 cartons per minute. That gives us headroom for the growth I am projecting over the next three years."

"Volume split at the doors. Carrier A at Door 1 gets about 55 percent of our outbound volume. Carrier B at Door 2 gets 35 percent. Door 3 is the remaining 10 percent."

"Product mix. I will have my team pull a WMS report and send you the exact data."

"The building. 28 foot clear height. Sealed concrete floor in good condition. We have 480 volt three phase power available at two panel locations. One in the northwest mechanical room and one near the southeast corner. Zone A picking is on the second floor. The mezzanine deck is at 16 feet above finished floor."

SCENE 4 | THE REAL STORY (Michael Collins)

You turn to Michael. He has been watching the conversation. He has not looked at his phone once.

Michael Collins | Facilities and Maintenance Lead | 20 Years on Site

You ask him what happened with the previous systems.

"First one was a pneumatic accumulation system. Worked fine for about four months. Then the compressor started having issues. Air pressure would drop during peak volume and the zones would stop releasing cleanly. Maintenance calls started coming in. Nobody was trained to work on it. The vendor sent someone out twice. After that the operators started pushing product around the jammed zones by hand. Six months after install it was off and we were back to manual."

"Second one. When anything downstream slowed down, everything stopped. The whole line. Every time. We lasted three months before it came out."

He pauses. "I am not telling you this to talk you out of anything. I am telling you because if you design something that my one maintenance guy cannot keep running, we will be back here having this same conversation in two years. I need to understand what it takes to maintain whatever you put in here."

YOUR MOVE

Michael just described two systems that failed. What did each failure tell you?

A. The first failure points to a specific technology risk in this facility. What is it and what does it suggest about your approach?

B. The second failure describes a symptom. What is the root cause of a system where everything stops when anything downstream slows down? What design principle addresses it?

C. Both failures together give you a maintenance requirement that goes beyond technology selection. What is it?

D. Write down your answers to all three before you move on.

SCENE 5 | THE FINANCIAL PICTURE (Tom Ruiz)

You ask Tom what financial return Riverside is expecting from this investment.

Tom Ruiz | VP of Finance

He straightens up. This is his conversation now.

"Three year payback. That is the threshold for capital projects at this company. If we cannot pencil it out in three years I cannot bring it to the ownership group."

If you ask him what that means in terms of annual savings, he will tell you.

"The misdirect chargebacks are part of it but the bigger number is labor. Right now we have associates dedicated to manual sorting and staging during peak shifts. If this system eliminates that function those positions either go away or get redeployed to higher value work."

YOUR MOVE

Tom has given you a framework. He has not given you all the numbers.

You know the payback requirement: three years.

You know labor is the primary savings driver.

You do not yet know how many associates are involved or what they cost.

If you want the number, ask for it.

SCENE 6 | THE SYSTEMS PICTURE (Ray, IT)

You ask Ray about the WMS and what the system will need to interface with.

Ray | IT Systems Administrator

He leans forward. Now he understands why he is here.

"We run a standard WMS. It manages all picking, inventory, and order release. When an order wave goes out the WMS knows which carrier each carton is going to. That information is tied to the barcode on each carton."

"If your system can scan the barcode and send a query to our WMS, we can send back a routing instruction. Carrier A goes to Door 1, Carrier B goes to Door 2, everything else goes to Door 3."

You ask him about response time. How fast can the WMS respond to a routing query once the barcode is scanned?

"Honestly? Off the top of my head I would say half a second. Maybe less on a good day. But I am going off memory. I should confirm that with our IT manager before you design anything to it."

OPEN ITEM | WMS Response Latency

Ray gave you an estimate: half a second.

He flagged it himself as unconfirmed.

Log this as an open item. Your controls architecture cannot be finalized until you have a confirmed number.

You have enough to proceed with the flow diagram and product analysis. You do not have enough to finalize the scan point location or the belt speed calculation.

This item will come back.

SCENE 7 | THE FACILITY WALK

Dana walks you through the building. Michael comes along without being asked. That tells you something.

You start at the dock doors on the south wall. Three doors. Two active, one empty. The staging area in front of the doors is crowded with carts and loose cartons. Two associates are working the area, moving fast. You can see a carton sitting in the wrong lane. Neither associate has noticed yet.

You walk north toward Zone B in the northeast quadrant. Ground floor. Pick-to-light shelving. Orderly. Product is moving. Picks come off the shelves into cartons that go onto carts. When a cart is full an associate wheels it south toward the staging area.

You walk to the northwest. Stairs go up to the mezzanine. Zone A is on the second floor at 16 feet above finished floor. Apparel and housewares. Same pick-to-light setup. Cartons onto carts. But here the carts have to come back downstairs before they can reach the staging area.

You stand at the edge of the mezzanine and look down at the ground floor.

CLOSE YOUR EYES FOR A MOMENT

You are not a cart. You are a carton.

You just got picked on the second floor. You are in a corrugated box. You weigh 12 pounds. You are 13 inches long, 9 inches wide, and 3 inches tall.

How do you get from the second floor pick shelf to Dock Door 1 on the south wall?

Trace that journey. Every transition. Every moment where something could go wrong. Every point where you have to wait. Every point where you change direction.

Do this before you draw a single line.

Michael Collins | Facilities and Maintenance Lead | 20 Years on Site

"That mezzanine edge is going to be your challenge. Whatever comes down from up here has to land somewhere before it can go south. You have got about 40 feet of horizontal run from the mezzanine edge to where the ground floor zone ends. After that you are in the main aisle. Forklifts run that aisle all shift."

"We had two near misses last year. Carts coming down from upstairs crossing paths with a forklift in the main aisle. Nothing happened but it was close."

He looks at you. "If you put conveyor across that aisle you need to think about how a forklift gets through."

THE PRODUCT DATA | What the WMS Report Tells You

Dana's team sends over the WMS product report two days after the facility walk. Here is what it shows.

Product	Length	Width	Height	Weight	% Volume	Product Use
Small Case	8"	6"	4"	3 lbs	4%	Packaged food
Standard Case	13"	9"	3"	12 lbs	78%	All clients
Tall Case	10"	8"	14"	18 lbs	12%	Apparel client
Large Case	22"	15"	7"	28 lbs	6%	Housewares

BEFORE YOU RUN ANY CALCULATOR

You have four products in front of you. Before you open the Package Calcs calculator, answer these questions in writing.

Which product is the system going to see most of the time? What does that tell you about what the design needs to be optimized for?

Look at the volume percentages. Do any products stand out? What questions do those numbers raise?

Which product concerns you most on a decline conveyor coming off the second floor mezzanine? Why?

Answer these questions before you open the calculator. Your answers will tell you whether you are ready to use the calculator or whether you are using it to avoid thinking.

YOUR WORK | PRODUCT ANALYSIS

YOUR WORK | Product Analysis and Design Envelope

Tools: Package Calcs Calculator

Using the product data from the WMS report, run the Package Calcs calculator and produce your analysis.

Your analysis must address the following:

Minimum, maximum, and design envelope dimensions for length, width, and height.

Minimum, maximum, and design weight.

Easy way and hard way conveying dimensions for the design envelope product.

Roller center requirement for the design envelope product on the main conveyor.

Roller center requirement on the takeaway conveyor after a 90 degree divert. Show your calculation and explain why this may differ from the main conveyor.

For each product that is a candidate for exclusion from the design envelope, state what it costs the design to include it and what the consequence is of excluding it. Make a recommendation but do not make the decision for the customer.

Address the tall case specifically. It represents 12 percent of volume. What does it do on a decline conveyor? What calculation tells you whether it is safe?

State every assumption you made. If you assumed something because the WMS report did not provide it, say so and explain why the assumption is defensible.

YOUR WORK | THE PROCESS FLOW DIAGRAM

Before you open any drawing tool, you need to tell the story of this system.

Start with blocks and arrows. Every block is a process step or functional area. Every arrow is a movement of material. No equipment names yet. No model numbers. Just the story of what happens to a carton from the moment it is picked to the moment it is loaded onto a truck.

YOUR WORK | Layer 1: Process Flow Diagram

Tools: Pen and paper or any block diagram tool

Produce a Layer 1 process flow diagram that shows:

Both pick zones as separate starting points. Zone A on the second floor. Zone B on the ground floor.

The path each carton takes from its pick zone toward the dock doors.

The point where the two flows merge.

The sort decision point where the system determines which door each carton goes to.

The three dock door destinations.

Use blocks and arrows only. No equipment. No dimensions. No speeds. Just the story.

Read it out loud when you are done. If you cannot narrate it as a clear, logical story without stopping, the diagram has a gap.

YOUR WORK | Layer 2: Add Volume and Rate

Tools: Your throughput requirement and the volume splits Dana provided

Add a second layer to the same diagram showing throughput at each section.

Work backward from the 20 CPM combined output requirement.

Show how that 20 CPM splits across the three dock doors based on the volume percentages Dana provided.

Work backward through the sorter to determine what rate each section of the system must carry.

Show the CPM at each major section of the flow.

Note: the two pick zones do not contribute equal volume. Zone A handles apparel and housewares. Zone B handles packaged food. The brief does not tell you the exact split between zones. This is an open item. Make a defensible assumption and document it. Flag it as something to confirm with Dana.

YOUR WORK | Layer 3: Add Decision Points and Smart Handoffs

Tools: What you learned from Ray about the WMS interface

Add a third layer identifying every point in the system where a decision is made.

Where does the WMS feed the sort decision? What triggers the query?

Where does the PLC execute the routing instruction?

Where does the scan happen relative to the divert?

What happens if the WMS does not respond in time?

Label every smart decision point. Identify who or what makes the decision at each one.

Note the WMS latency as an open item on your diagram. Mark where it will create a design constraint once the confirmed number arrives.

YOUR WORK | Layer 4: Add People and Constraints

Tools: What Michael told you about the facility

Add the final layer: people, access, and physical constraints.

Where do operators work alongside this system?

Where does the forklift cross the conveyor path? What does that crossing require?

Where does the mezzanine decline land and what does that mean for the flow?

Where do cartons need to wait? Mark every accumulation point.

When Layer 4 is complete your diagram should carry enough information that a knowledgeable person could look at it and understand the system intent, the rate requirements, the control logic, and the physical constraints without asking a single question.

That is the standard. Hold yourself to it.

DESIGN INTERRUPTION | Ray Follows Up

You have been working on your flow diagram and product analysis for several days. Your draft design is taking shape. You have been using the half-second WMS response estimate from Ray as a placeholder in your controls layout.

An email arrives from Ray.

EMAIL | Ray, IT Systems Administrator

"Hey. Checked with our IT manager on the WMS response time question. The half second I mentioned in the meeting was best case on a normal day. Under peak load conditions the guaranteed response time is one second. That is what you should design to. Sorry I did not have the right number in the room. Let me know if you have other questions."

STOP | Your Design Just Changed

The confirmed WMS response latency is 1 second. Not 0.5 seconds.

Go back to your controls layout. Every calculation that used the half-second estimate needs to be revisited.

At your current belt speed, how far does a carton travel in 1 second?

Is the distance between your scan transmit point and your divert mechanism still sufficient?

Does your belt speed need to change? If it changes, what else changes?

Document what changed and why. This is a normal part of real project work.

The engineer who catches this now saves the project. The engineer who misses it creates a field problem.

YOUR WORK | THE MEZZANINE DECLINE

Zone A is on the second floor at 16 feet above finished floor. Product needs to get from the mezzanine deck down to the ground floor conveyor system. That transition requires a powered decline conveyor.

This is not just a geometry problem. It is a product handling problem. Before you specify anything, you need to know whether the products in your design envelope can safely travel a powered decline at the angle your building geometry requires.

YOUR WORK | Mezzanine Decline Design

Tools: Box Tumbling Calculator, Conveyor Pitch Calculator

The mezzanine TOD is 16 feet AFF. You have approximately 40 feet of horizontal run available from the mezzanine edge before the main forklift aisle.

Calculate the maximum decline angle achievable within that horizontal run.

Run the Box Tumbling calculator for each product in your design envelope. Determine the safe tumble angle for each product.

Compare your available decline angle to the tumble limit for each product. Which products are safe? Which products require attention?

Pay particular attention to the tall case. It is 14 inches tall with a relatively narrow base. What does the Box Tumbling calculator tell you about this product on a decline? What additional validation method can you use to check your answer visually?

If any product in your design envelope cannot safely travel the decline at the available angle, document it. Present the options for resolving it. Do not assume it will work out.

YOUR WORK | RATE AND SPEED CALCULATIONS

YOUR WORK | Rate and Speed Calculations

Tools: Speed Gap and Sorter Speed Calculator, Case FPM Calculator, Speed of Takeaway Spur Calculator

Using the flow diagram rates from Deliverable 2 and the product envelope from Deliverable 1, calculate the following.

Required belt speed on the Zone B ground floor throw-on line.

Required belt speed on the Zone A mezzanine decline and the throw-on line feeding from it.

Required gap between cartons at the sorter induction point. State the minimum gap required for the sorter technology you are planning to recommend. Confirm the system can achieve it at the belt speeds you have calculated.

The scan point is a fixed scanner on the conveyor. The scan trigger activates at the leading edge of the carton. The WMS query is transmitted from a point 24 inches downstream of the scan trigger. The confirmed WMS response time is 1 second. Calculate the minimum distance required between the transmit point and the divert mechanism at your specified belt speed. Show your work.

Required takeaway spur speed at each dock door. Use the Speed of Takeaway Spur calculator. State the divert angle you are designing to and show why that angle requires the spur speed you calculated.

Apply margin to every output. State the margin you applied and explain why it is appropriate for this application at this stage of the project.

YOUR WORK | TECHNOLOGY SELECTION

You have the product envelope. You have the flow. You have the rates. Now you select the equipment. Every selection must be justified. Michael is going to ask you why you chose what you chose. So will Dana. So will Tom.

YOUR WORK | Technology Selection with Justification

Tools: Module 3 transportation vs accumulation framework, Module 4 E24-EZ vs ABEZ selection criteria, Module 8 sortation product handling matrix

For each major technology in the system, state what you selected, why you selected it, and what you considered and eliminated.

THROW-ON LINES: Transportation or accumulation? Belt or roller? What does the product mix tell you about the conveyor surface? What do the rate calculations tell you about the speed requirement? What did Michael tell you about pneumatic systems in this facility?

MEZZANINE DECLINE: What type of powered decline conveyor? What belt surface for the product mix on a decline? What does the decline angle tell you about the design requirements?

MERGE CONFIGURATION: What type of merge feeds the sorter? What is feeding the merge from each side and what does that tell you about accumulation requirements upstream of the merge point? What is the risk at the merge point and how does your design address it?

SORTER: Use the sortation product handling matrix from Module 8. Apply the three selection criteria in sequence: product type, throughput, footprint and destinations. Show the matrix evaluation. Name the technology selected. Justify the selection.

When you have selected your sorter, answer this question: what divert angle does your chosen sorter use? What does that angle mean for carton orientation after the sort? Does that change anything about your roller center requirements on the after-sort takeaway lanes? Show your reasoning.

TAKEAWAY SPURS: Powered or gravity at each door? The volume split is 55 percent to Door 1, 35 percent to Door 2, and 10 percent to Door 3. Does that split affect your accumulation requirement at each door differently? Why?

ACCUMULATION ZONES: Where is accumulation required? For each zone answer three questions: What is the decision point that controls release? Which upstream zones need to be monitored? How does the feeding system respond to a full signal?

YOUR WORK | SAFETY AND GUARDING

Michael mentioned two near misses at the forklift crossing last year. Dana mentioned that associates are working the staging area at peak volume. You are designing a system that will operate in a live facility with active forklifts, operators, and a maintenance team of one.

Safety is not a final engineering checklist. It is a design discipline that starts right here.

YOUR WORK | Safety and Guarding Summary

Tools: Module 10 guarding framework

Produce a safety and guarding summary that addresses the following.

PULL CORD E-STOP COVERAGE: Which conveyor runs require pull cords? Where are the reset locations? What does a 300 foot conveyor run with operators at multiple points require?

FORKLIFT CROSSING: The conveyor crosses the main forklift aisle. What guarding or signaling is required at that crossing? What does a near miss history tell you about the urgency of this requirement?

UNDERSIDE BELT COVERAGE: The mezzanine decline operates above the ground floor work area. Evaluate whether the 96 inch AFF rule applies to any section of this system. Show your evaluation.

BEARING COVERS AND ROTATING SHAFT GUARDS: Identify the drive locations in the system where rotating shaft guards are required.

LOTO ACCESSIBILITY: Michael is the maintenance lead. He works alone. Every energy isolation point in this system needs to be accessible to one person. Evaluate the system layout for LOTO accessibility and flag any location where isolation requires a second person or unusual access.

Safety items identified now cost nothing to add. Safety items found during final engineering erode margin. Safety items found during installation create problems. Document the safety scope now so it is in the proposal from the beginning.

YOUR WORK | CONTROLS ARCHITECTURE

YOUR WORK | Controls Architecture Summary

Tools: Module 9 five-layer controls topology, data exchange handshake

Produce a one-page controls architecture summary that the controls team can use as their starting point.

CONTROLS TOPOLOGY: Identify which layer of the five-layer topology each system component sits at. Where does the EZLogic accumulation logic live? Where does the sorter routing logic live? Where does the WMS interface sit?

THE DATA EXCHANGE HANDSHAKE: Walk through the three-part handshake at the sort decision point. What does the scanner read? What does the system send to the WMS? What does the WMS send back? What does the PLC do with that instruction?

THE SCAN TO DIVERT DISTANCE: Using your calculation from Deliverable 4, confirm that the physical distance between the 24 inch transmit point and the divert mechanism is sufficient for a 1 second WMS response at your specified belt speed. Show the math.

AUX I/O REQUIREMENTS: List every zone in the system where an Aux I/O module is required. State what it controls or monitors at each location.

ANTI-GRIDLOCK: Where does induction need to be throttled? What condition triggers throttling? What is the control response?

MACHINE LEVEL SETPOINTS: List the belt speeds by section, the VFD ramp rates at the decline, the PLC delay values at transfer points, and the accumulation zone release modes. These must appear on the installation drawing.

YOUR WORK | THE PROPOSAL

You have done the engineering. Now you have to communicate it. Dana, Tom, and Michael are going to be in the room. They are three very different people with three very different questions. Your proposal has to work for all of them.

YOUR WORK | The Proposal Package

Tools: Module 11 scoping, quoting, and presenting framework

Assemble a complete proposal package for Riverside Distribution Co. Your proposal must include:

EXECUTIVE SUMMARY: Two paragraphs for Dana and Tom. State what the system does, what problem it solves, and what Riverside gets. Outcomes only. No model numbers. No technical jargon.

SYSTEM DESCRIPTION: A plain language description of the system for Dana as the technical buyer. Describe the two throw-on lines, the mezzanine decline, the merge, the sorter, and the three takeaway spurs. Explain how the scan and sort logic works. Explain how accumulation protects the system during wave releases.

SYSTEM LIMITATIONS: Every limitation. Maximum weight. Maximum and minimum carton dimensions. Maximum throughput. What happens if volume exceeds 20 CPM. What the system does not sort. Nothing omitted.

ASSUMPTIONS AND EXCEPTIONS: Every assumption made during design. Every exception taken to anything the customer stated. For each one, explain why and what the alternative would have been.

COST DRIVER DISCUSSION: Address every product that drove cost in the design. Show what the system looks like including each outlier and what changes if it is excluded. Give the customer the information. Do not make the decision for them.

THE MAINTENANCE CONVERSATION: Address Michael directly in this proposal. What does this system require to maintain? What does his team need to know? What is the recommended maintenance schedule? This section exists because Michael has watched two systems fail. He deserves an honest answer.

FOREST THROUGH THE TREES

You just designed a complete outbound conveyor system for a real customer with a real building, a real product mix, a real budget constraint, and real people who have been let down by technology before.

Before you close this document, do one thing. Look at every major decision you made and trace it back to where you learned the tool or framework that made it possible. Not to check a box. Because that trace will tell you something important about how this program was built and how your own thinking developed over the course of it.

Some of those connections will be obvious. Some will surprise you. Both kinds matter.

THE DEBRIEF QUESTION

Riverside says yes. The proposal is approved. Tom signed off. Dana is ready to move.

It is Monday morning. The project is live.

What is the first thing you do and who is the first person you call?

There is no single correct answer to that question. There is a well-reasoned answer and a poorly-reasoned one. Your mentor will ask you to explain yours.

END OF CAPSTONE PROJECT

Riverside Distribution Co. is a fictional company.
The engineering you did to solve their problem is not.

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