

PRODUCT

Melville Candy - Oreo ID

PRODUCT TYPE

Custom Image Processing Automation

PROBLEM STATEMENT

As a production worker, I want a system that automatically ingests and processes large volumes of custom images, and formats them for production use, so I can reduce manual effort, minimize errors, and ensure images are ready for manufacturing quickly and consistently.

PLATFORM

Filemaker Desktop App

USER BASE

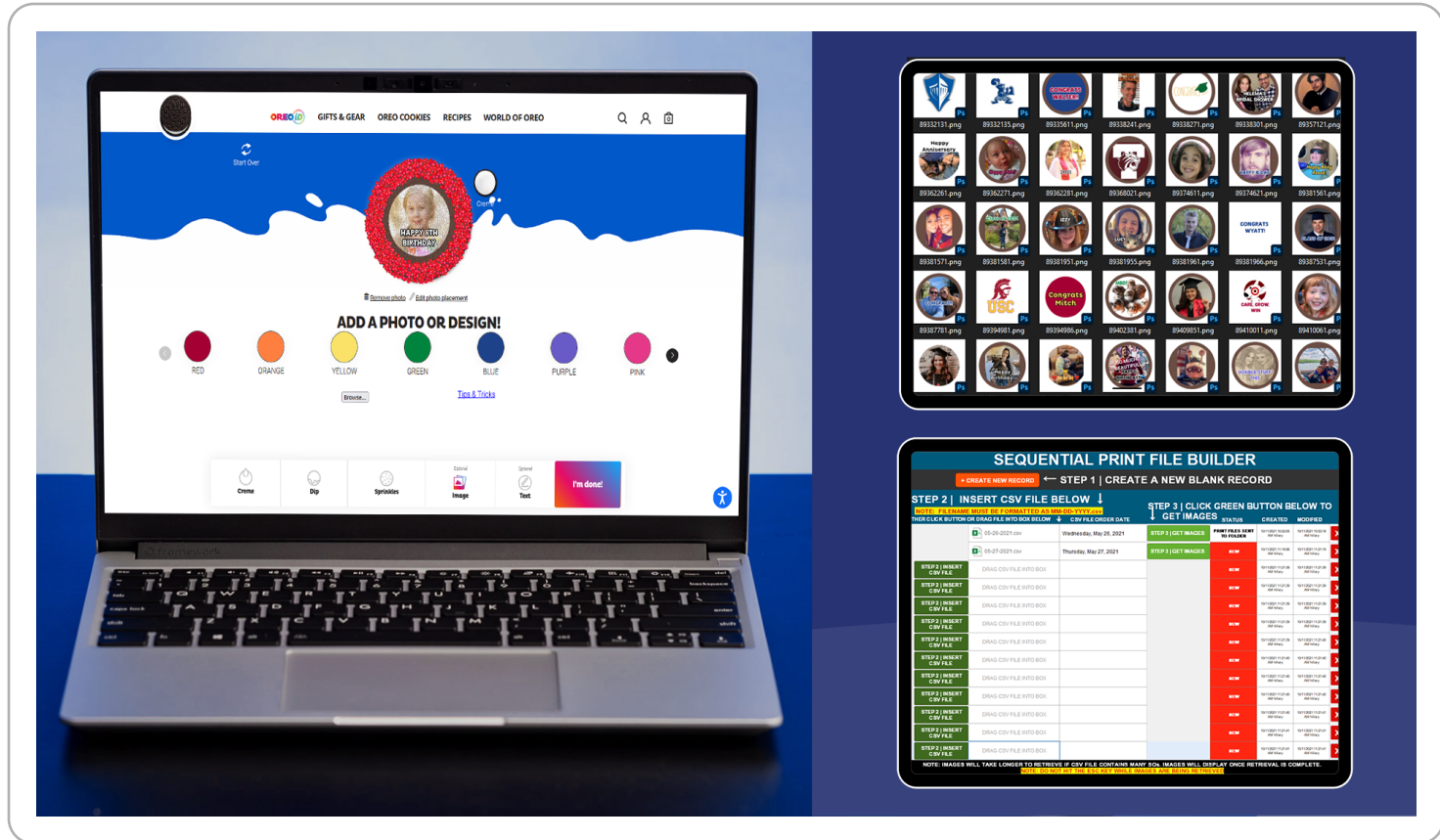
Internal Sales Teams & Production Staff

TIMELINE

January 2020 - May 2021

ABOUT

This product automates the intake and processing of large volumes of images, converting them into production-ready formats for manufacturing. It reduces manual effort, improves consistency, and accelerates the transition from design to production.



My Roles & Contributions

Filemaker Developer

- Established Database Architecture
- Built Custom Tool Key Features
- Configured Automation Paths

UX Designer

- Designed & built user interfaces
- Optimized product data architecture
- Established key data sources

QA / Test Planner

- Contributed to QA strategy
- Planned test execution cycles
- Ensured overall product quality

✓ Key Decision Factors

ORGANIZATIONAL NEEDS

Automated, consistent image intake and formatting to reduce manual work and ensure production-ready outputs for manufacturing.

USER CONSIDERATIONS

Users needed fast batch visibility, low cognitive load, and clear error handling to avoid production delays.

CONSTRAINTS & PARAMETERS

Strict production specifications, large batch volumes, and legacy tooling required reliable validation and controlled output formats.

MEASURES OF SUCCESS

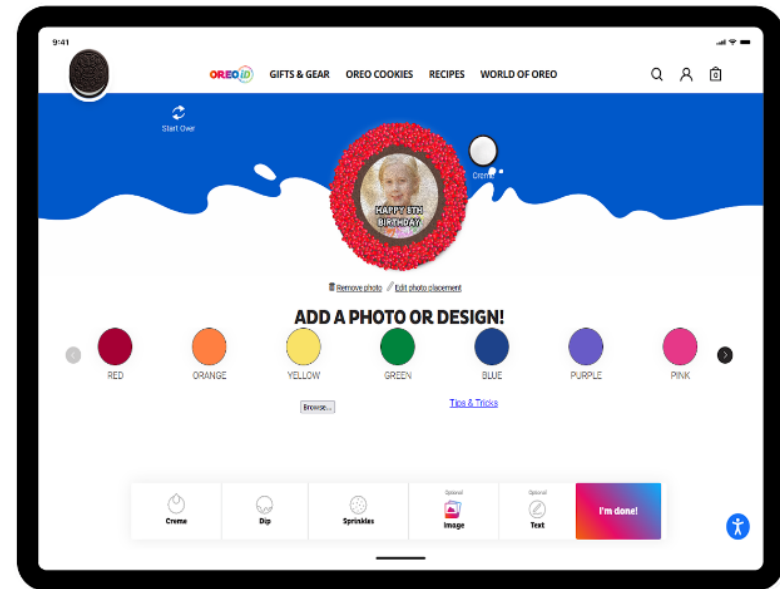
Teams processed images faster with fewer errors, producing manufacturing-ready assets consistently and predictably.

PRODUCT CORE FEATURES OVERVIEW



The Product:

OreoiD is an online service offered by Mondelez for their Oreo cookie brand. Customers are encouraged to create custom cookie orders by uploading images to the [OreoiD website](#). *OreoiD's* primary target is adult users looking to order a unique gift. On the manufacturing side, The images are collected on an AWS server and the order data is delivered each day to the cookie manufacturer in the form of an Excel file. Each cookie image needs to be printed in the qty's ordered, and shipped by the date the customer specified.



∞ End-to-End Workflow

EVALUATE BUSINESS NEEDS

Validated business need for faster throughput and fewer production errors due to manual image processing.

DEFINE SCOPE & EXPECTATIONS

Defined technical specs for formats, resolution, naming, and quality thresholds with production stakeholders.

CONDUCT USER RESEARCH & PROBLEM DISCOVERY

Interviewed sales and production teams to map intake sources, edge cases, and failure points.

EVALUATE USER NEEDS & PAIN POINTS

Identified pain points: rework, inconsistent outputs, and poor visibility into batch status.

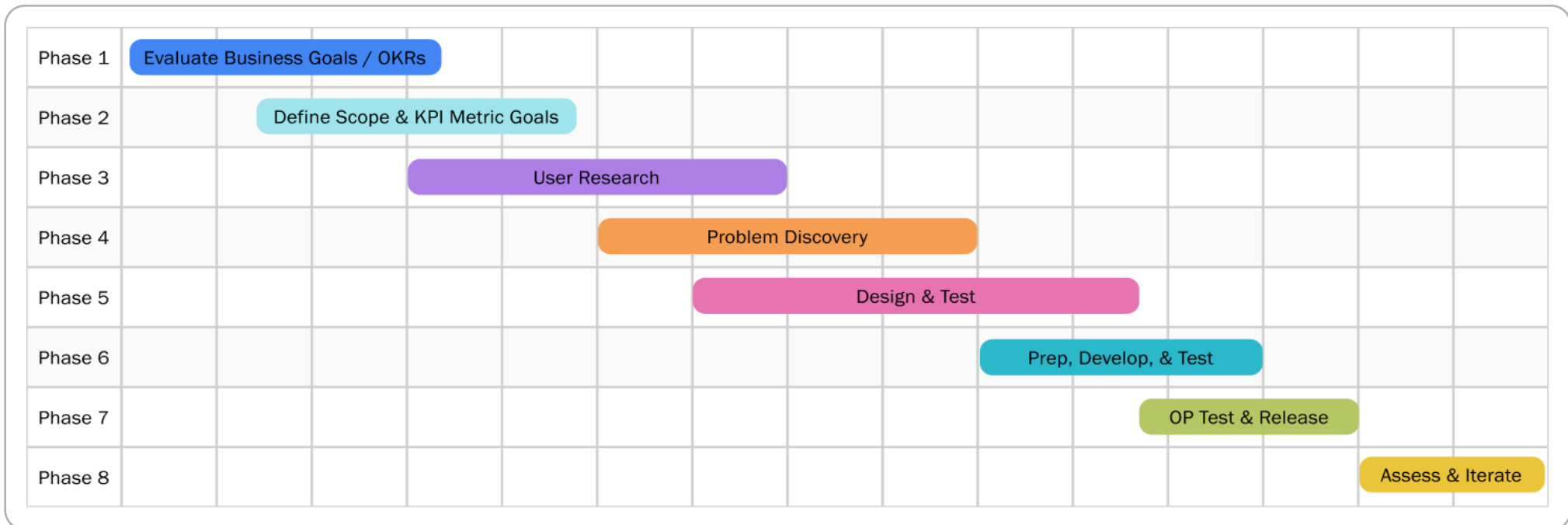
CONFIGURE CONTENT & DEVELOP SOLUTION APPROACHES

Designed an automated pipeline with validation, preview, and exception handling workflows.

MEASURE OUTCOMES & ITERATE

Measured throughput and error rates, iterating rules and UI to reduce reprocessing.

CONTINUOUS IMPROVEMENT WORKFLOW PHASES



Design Decision Highlights

KEY DESIGN CHOICES

Batch status dashboard, validation checks, preview samples, and clear exception workflows for failed items.

WHY I MADE THESE CHOICES

They increased trust in automation and reduced production risk by making issues visible and actionable.

WHAT I INTENTIONALLY OMITTED

Advanced manual editing tools better handled in dedicated design software.

WHY THESE CHOICES MATTERED

Automation freed time, reduced rework, and improved manufacturing readiness.

KEY DESIGN COMPONENTS

The screenshot shows the 'OREO PRINT FILE GENERATOR' interface. It features a table with columns for 'IMAGE URL', 'IMAGE FILE NAME', 'QTY OF CIRCLES NEEDED', 'QTY THAT WILL PRINT', 'STATUS', and 'DATE MODIFIED'. There are three rows of data, each with a circular image preview. A 'TOTAL THAT WILL PRINT' field at the bottom right shows the value '45'. A red arrow points to this field with the text 'TOTAL NUMBER OF CIRCLES THAT WILL PRINT IS AUTO-DISPLAYED HERE'.

Design Process Elements

USER RESEARCH



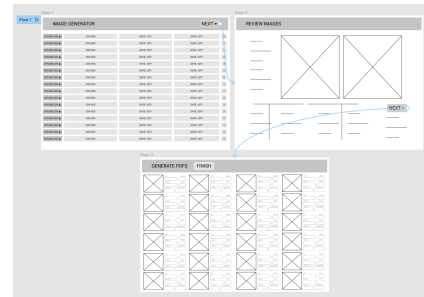
Tina Phong
Age: 46
Education: GED
Hometown: Boston, MA
Family: Husband 50, Daughter 20
Occupation: Production Supervisor

"I have to meet a quota each day so I need to use processes that go fast and easy."

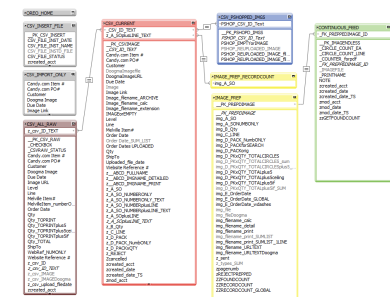
- Goals**
 - Have an easy way to print hundreds of custom images.
 - Meet her daily cookie production quota.
 - Train her staff to all use the same process.
- Frustrations**
 - "I cannot manually add the images to the printer it will take too long."
 - "we have some automated processes but they sometimes make things harder."
 - "If we have to stop to print images we will not make the ship dates."

Tina has been a Candy Production Supervisor for 6 years and works 40+ hours a week. She manages a team of 10 workers that pack custom candy orders each day. Tina has recently been given the task of making and packing custom cookies, and needs a way to quickly print the images to make the custom orders before packing and shipping the cookies to their final destination.

PROTOTYPES



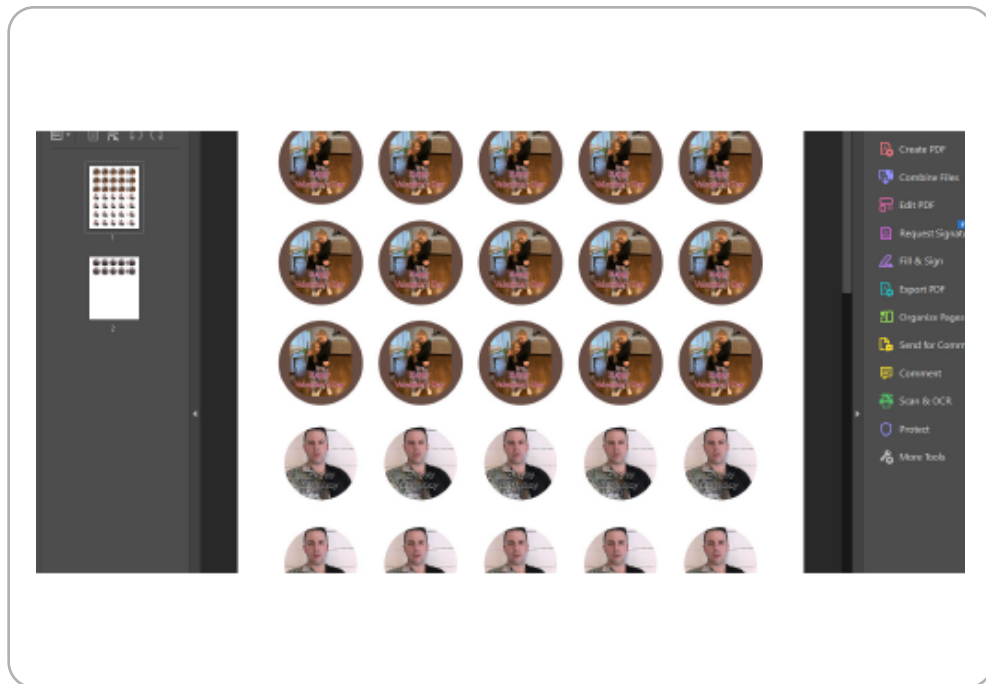
DATA ARCHITECTURE



Impact Snapshot

BEFORE REDESIGN

Manual processing was slow and inconsistent, creating bottlenecks and rework before manufacturing. I did a quick exercise using filemaker to come up with a way to automate image layout creation and that incorporated my findings from the user research.



AFTER REDESIGN

Automated formatting improved throughput, consistency, and reduced production delays. The first test was successful, but I then needed to scale the app to be able to handle hundreds of images at once. I wrote several sequential scripts in order to multiply the single successful process.



END-USER QUOTES

BEFORE REDESIGN

“We lose hours fixing formats before anything can go to production.”



AFTER REDESIGN

“Now I can see what failed and reprocess it immediately.”



AFTER REDESIGN

“The output is consistent — production doesn’t have to guess anymore.”



Key Visual



Usability Studies

STUDIES CONDUCTED



MODERATED

- Scripted Interviews
- Prototype Walkthroughs
- Heuristic Evaluations



A / B TESTS

- Product Variant Comparisons
- Time on Task Tracking
- Engagement Experiments



UNMODERATED

- Email Surveys
- Task-Based Testing via Prototype
- Field Studies

BEFORE USABILITY STUDIES

Based on the insights from the usability studies, I applied design changes like providing clearer calls to action on the homepage, and showing the date for each entered order. Users needed clearer batch status and simpler remediation for failed images.

AFTER USABILITY STUDIES

Improved status summaries, simplified error messages, and added one-click reprocessing for exceptions. Early designs only allowed users to move forward from the main screen. Usability studies revealed that users wanted to go backwards and forwards through the app, so I included options to view past orders as well.

Before usability study

After usability study

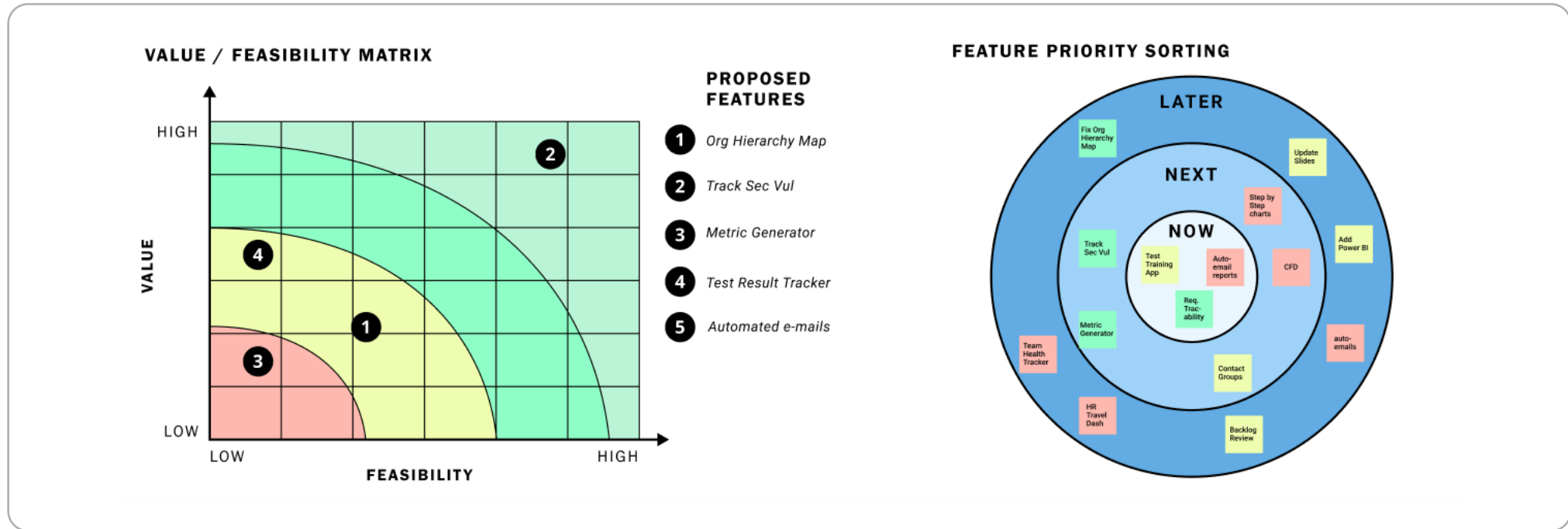
Before usability study

After usability study

★ Feature Prioritization

DETERMINING PRIORITY

Prioritized steps that reduced rework most: validation, exception handling, and batch visibility. There was a real time crunch so the priority was to get each actual order out correctly before more features could ever be added.



A Navigating Challenges

USABILITY

Batch Control

Challenge: Giving users confidence that large batches were processed correctly and are production-ready.

Approach: Provide clear batch status, validation checks, error summaries, and one-click reprocessing.

COMMUNICATION

Spec Clarity

Challenge: Requirements for image formats and production rules changed across teams, causing failed

Approach: Create spec checklists, version requirements, and automate validation so everyone works from the same rules.

ACCESSIBILITY

Error Readability

Challenge: Error states and validation messages were hard to parse quickly and accessibly.

Approach: Use plain-language errors, structured summaries, and focus management for remediation flows.

Key Insights & Outcomes

USER INSIGHTS

Users needed confidence in outputs and quick fixes when automation failed.

WORKFLOW INSIGHTS

Most work centered on batches; summary-first views and targeted remediation saved time.

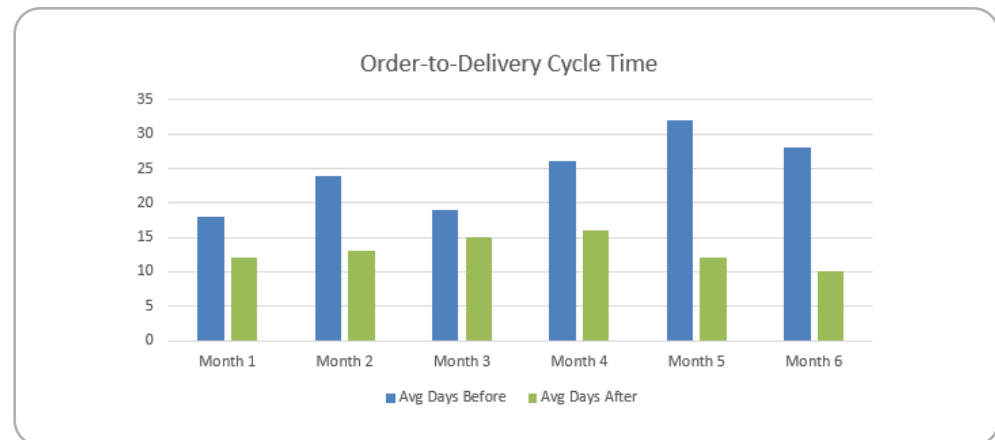
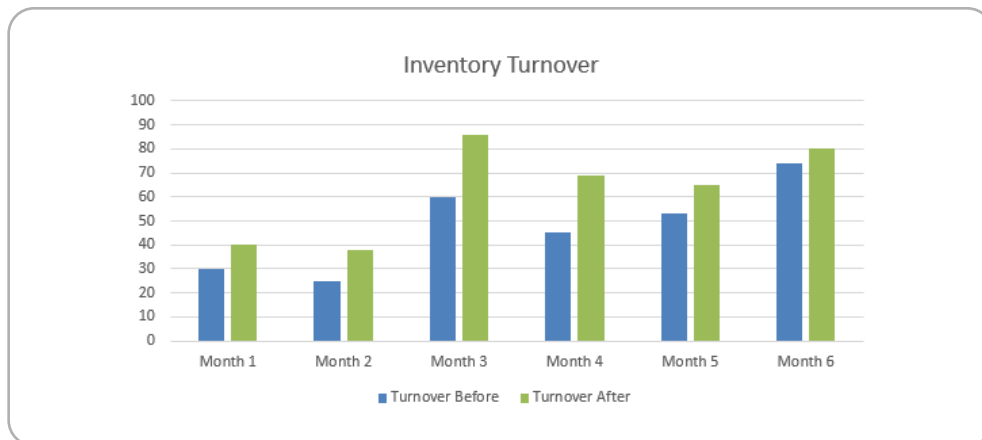
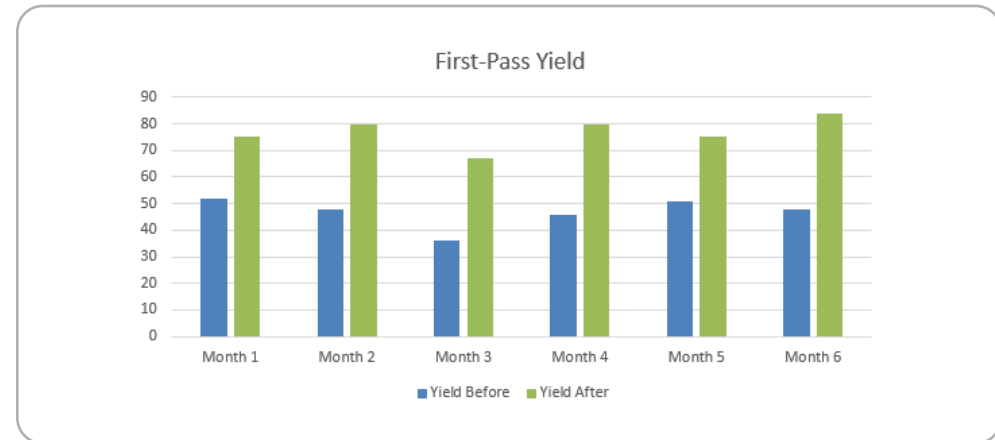
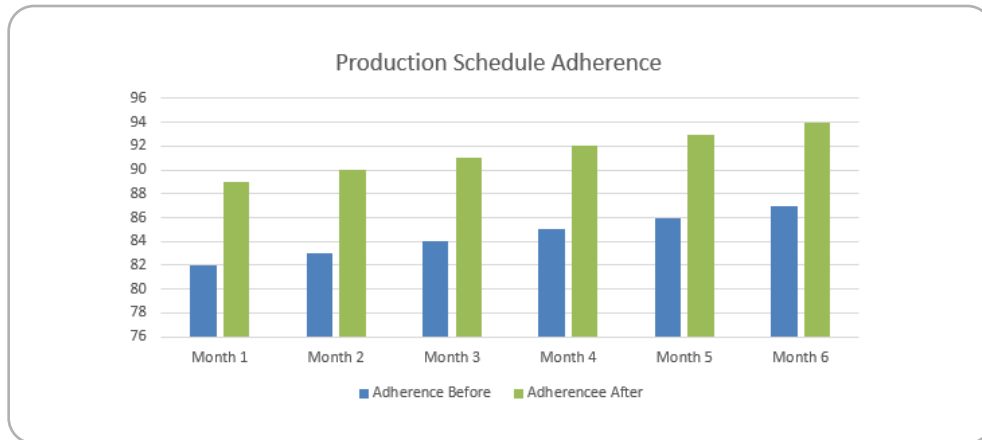
FEATURE INSIGHTS

Batch dashboard, previews, and reprocess flows delivered immediate productivity gains.

PERFORMANCE INSIGHTS

Processing performance and progress indicators reduced uncertainty during large runs.

METRICS TRACKED



 **Takeaways**

HOW DID FEEDBACK INFLUENCE DECISIONS?

Feedback highlighted uncertainty in automation results and unclear error messages. Iterations focused on transparency, previews, and faster remediation.

HOW DID THESE CHOICES INCREASE VALUE?

Higher throughput and fewer errors reduced labor cost and protected manufacturing timelines.

HOW DID THE OUTCOMES ALIGN WITH BUSINESS GOALS

Outcomes aligned with goals by reducing manual effort, increasing consistency, and minimizing production risk.

WHAT ELSE WOULD I CHANGE?

When production specs change, new intake sources are added, or volumes increase significantly.

WHAT NEEDS FURTHER EXPLORATION?

Spec versioning, automated anomaly detection, and tighter integration with manufacturing systems.

WHAT I LEARNED

Clear validation rules and visible exceptions were essential for adoption of automation.

 **Next Steps**



FOR THE BUSINESS

Scale automation coverage

Expand supported formats and add governance around spec changes to sustain ROI as volume grows.



FOR THE TEAM

Improve pipeline observability


Add monitoring, alerting, and performance reporting for processing bottlenecks and failure spikes.



FOR THE USERS

Enable self-service remediation

Provide clearer guidance, templates, and bulk actions so users can resolve issues without escalation.

 Let's Connect!



Thanks for Reading!

If you'd like to further discuss my work, talk about product strategy, UX design, or building productivity tools, I'd love to connect. Hope to hear from you!

-Hill

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RESUME

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