The background features a dark teal color with a faint, semi-transparent image of a dartboard and a dart. The dart is positioned horizontally, pointing towards the right, with its tip near the center of the dartboard. The dartboard has concentric circles and radial lines, with numbers 1 through 20 visible around its perimeter. The text is overlaid on the left side of the image in a white, sans-serif font.

Team: SKUmatic
Project Dart
Assignment: P2:A
User Research, Analysis, Report

Question List - prioritized as per MOSTLEAST

1. How are current inventory systems meeting staff needs? What does their ideal look like? What are their complaints?
2. What role does inventory management play in day-to-day retail operations?
3. What if retail managers focused on creating the unique in-store experiences and not inventory issues?
4. If money was unlimited what would you do different?
5. How are current inventory management systems meeting or falling short on retailers' needs?
6. What are their modes of tracking inventory? (Tools: Paper, digital, other?)
7. To what extent might inventory management impact the overall success of a retail business?
8. Walk me through your process of receiving shipments and adding them to inventory.
9. What is different in the shopping experience of your store vs online store? How do you manage communication between?
10. In what ways can inventory management affect customer experience?
11. Can your staff track holds, inquires or lost sales opportunities due to inventory problems, damages, etc and recapture sales?
12. Where is the next innovation space for retail? Software or physical? Can the experience design merge?
13. What are your fears/ biggest pains in the ass about being independent?
14. If you could change one thing about your process what would it be and why?
15. What are some current inefficiencies you experience with inventory management?
16. What do you love about this sector? What is the most satisfying part of the work?
17. Is inventory management a priority or not? If so how much time does staff spend daily/weekly/yearly?
18. What do you find frustrating about your current process?
19. How do you manage communication between web and brick-and-mortar channels?
20. How do you currently manage customer holds? Damages?
21. What do people not get about the industry?
22. What is your percentage of online vs in-store sales? What is the expected trend?
23. How'd you get into the business in the first place? Was it by design and/or luck? Both?
24. In what ways does keeping an accurate, current inventory affect the customer? How does it affect your ability to deliver on customer experience?



User Research Methods

Methods & Justification

We conducted both contextual inquiry and 1:1 semi-structured interviews. We chose contextual inquiry so that we could see the physical artifacts of inventory management, shadow the actual processes, and experience the environment and context of these processes. Location-based materials and other environmental factors are very important for inventory management, so the opportunity to visit the site was important for our research.

The weakness of contextual inquiry is that it limits our ability to probe on motivations for tasks, stakeholder values, and other activities which we are not present for. For that reason, we complimented our contextual inquiry with 1:1 semi-structured interviews. These interviews could be scheduled more flexibly to accommodate our participants in this constrained time frame. Additionally, interviews enabled us to ask targeted, open-ended questions, and to extract valuable findings to enrich our understanding of our users and the domain space.

Participants

We included multiple different types of stakeholders over the course of our research. Our participants had varying levels of experience in independent retail. They represented different sectors of retail, including clothing, outdoor gear, bikes, books, and wine.

Our participants included:

- Jane, owner, Bookstore
- Jay, sales floor staff, Cycling speciality store
- Josh, retail manager, Bookstore
- Kay, tasting room staff, Winery
- Ramona, owner, StudioRA Boutique
- Tina, store manager, Eileen Fisher
- Jon, bike buyer, evo

Key Findings / Trends

Pain Points

- Reliance on manual data entry
- Reordering stock is major pain due to strategy involved (do we phase out a certain item once it's sold, is surge purchasing a passing trend?) and manual process of receiving restocking once arrived.
- Items are shipped in multiple boxes, making it difficult to "receive" shipments all in one go.
- Multiple doc types are generated between systems and do not "talk" to each other
- Diversity of inventory item types = difficult to create a taxonomy that works for all item attributes
- Different vendors provide different UPC codes, making it difficult to unify
- Knowing the dollar value of inventory is important for financial bookkeeping, restocking and growth

User Worries / Current Barriers

- Worried about human error rendering the inventory tool useless
- Concerned that onboarding is difficult and time-consuming
- Worried that software quickly goes "out-of-date"

Wish List

- Want customization
- System could suggest "next best item" if something's unavailable
- Visibility of the dollar value of the inventory in the store
- Automated recurring purchases
- Want visibility of how many times items are sold and reordered - help with reordering strategy

Trends:

- Restocking is a major pain
- Users complain about manual data entry
- Users are very spatially-aware. They know their store layout very well
- Inventory software is seen as intimidating / difficult
- Desire to know \$ value of inventory
- Desire to have customization for unique item types
- Desire to have systems talk to each other nicely :)

Design Requirements

The system should:

- Minimize the amount of tedious, manual data entry
- Be able to read/make immediate use of diverse document types that accompany vendor stock shipments
- Allow for customization for a wide variety of item types
- Consider playing to the spatial layout of the store
- Be self-service focused to reduce the amount of overhead support costs involved with onboarding
- Make inventory management NOT intimidating
- Give users visibility of the \$ value of their inventory
- Help users understand what is in stock and what needs reordering

Refined Design Question and Explanation

We decided to re-scope our design question. Inventory management is a big space. Conducting user research enabled us to focus in on the areas that had the most opportunity for improvement, as opposed to trying to tackle everything. Users also suggested that our original focus (on making web/retail sales channels more manageable) was less of a priority. Instead, the bigger pain points were around restocking inventory and receiving shipments as well as gaining visibility of inventory in dollar terms instead of number of SKUs.

“How might we help niche retailers reduce the tedium and manual labor involved in receiving shipments, ordering restock, and viewing the dollar value of their inventory so that they can focus on 1:1 customer interactions to grow their business?”

Don't feel pressured to answer any
 you don't want to.
 is to learn from you as the
 +.
 take the themes from all
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 .ics
 -one other person here-

line of work - 8 yrs. books

testing - inventory purchasing
 each person does buyings
 leave in new arrivals
 biggest seller general fiction
 running low?
 physical handwritten list

things required for getting setup
 maintain too much investment
 \$ of labor - tech maintenance
 going out of date
 hardware gear
 maintain error fixing
 job becomes big part managing tech
 PB high time investment
 focus energy on best books & CX

sell out? replace quickly
 don't spill after
 & copies if big seller
 more frequently inventory replenishment
 chance
 don't order books for customers
 ☆ browsing experience
 picking out books
 people ask for recommendations

limited storage
 space

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"It would be pleasing for the
 Universe to have more order"

Fav thing
 love books, customers love books

focus on product
 - community aspect
 - selling - taking money for
 - fav independent retailer
 - paid low, don't have a boss
 downside: - having to manage utilities, etc

Biggest challenge?
 - getting paid more money
 Why? - succeeding in niche

Need more people to read books
 8 yrs ago - people concerned about reader
 more people coming in to bookstore again
 CX prefer reading from actual book
 physical interaction - annotation

Amazon competitor bigger challenge than
 audible? Amz also
 contract w/ exclusive content

annoying inventory mgmt
 - finances estimated
 - store full = X inventory
 - online inventory - AMZN
 - physical vs non physical
 where are they?

probably do

matter

- Job: Retail Manager, 8 yrs.
 Borders Books 3 yrs - Booksales 8 yrs
 mgr 5 yrs
 - Loves Books & Intellectual
 - Learning & education, helping find info
 - on reason need read material
 Best store had overall increasing
 space for books - hard to find
 new space for categories
 → reduces physical space that you search
 sections reorganizations - too much clutter
 "less needle & haystack"
 Retail - Mgmt System
 POS & inventory mgmt
 Best seller & books use inventory mgmt system
 backend of events may be
 front end - POS - search inventory, see gmn
 backend - add, edit, delete items, quantity

Books: Books
 see what's hot
 cross nationality
 (state, author,
 genre, etc)
 Reviews for
 monthly search
 - add, mark
 or multiple
 → forming in
 LP enter prod
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 → customer review rating
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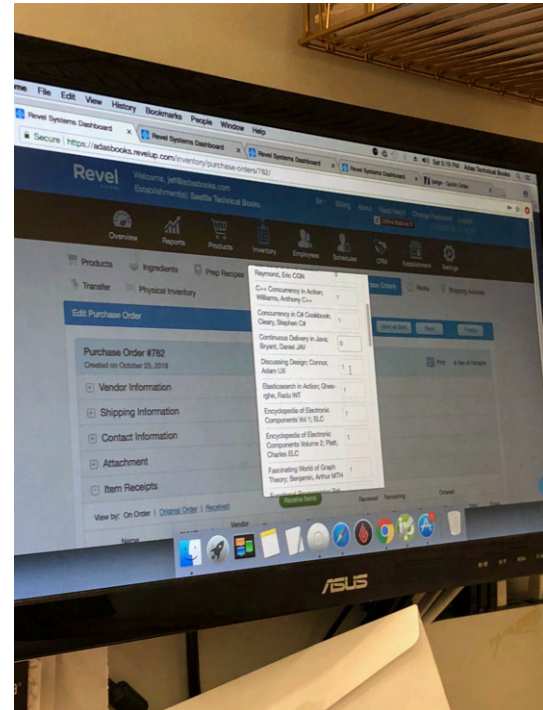
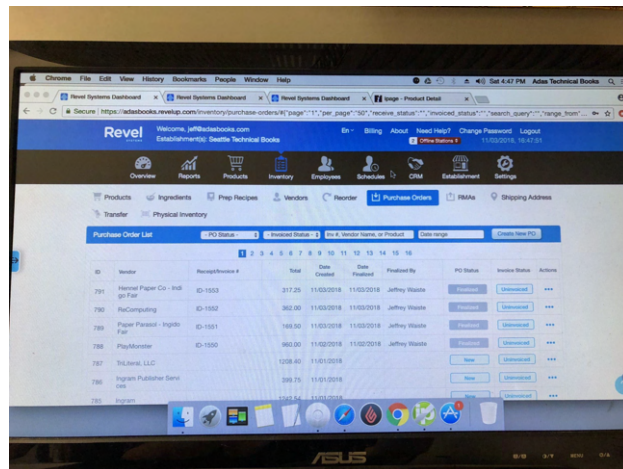
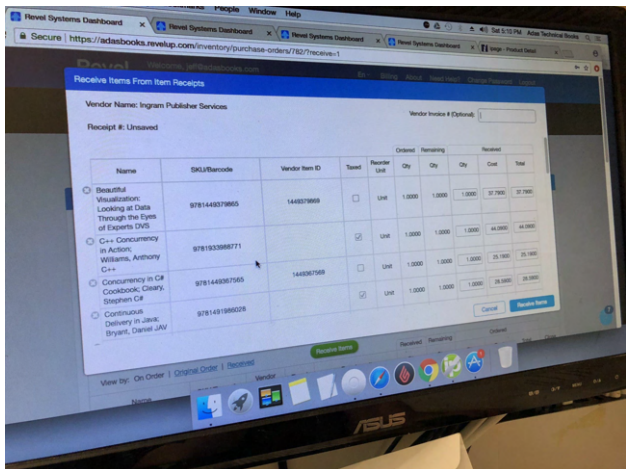
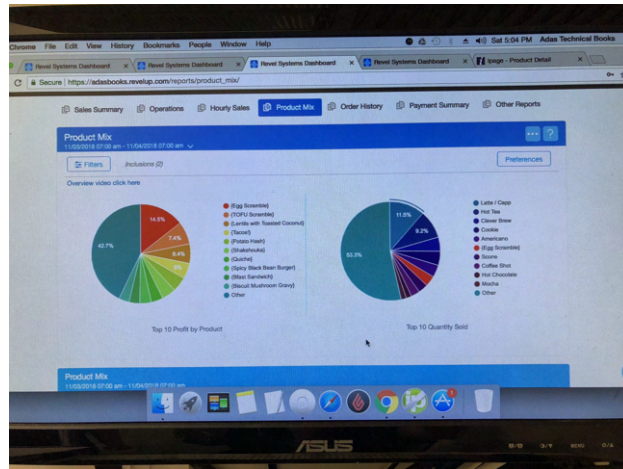
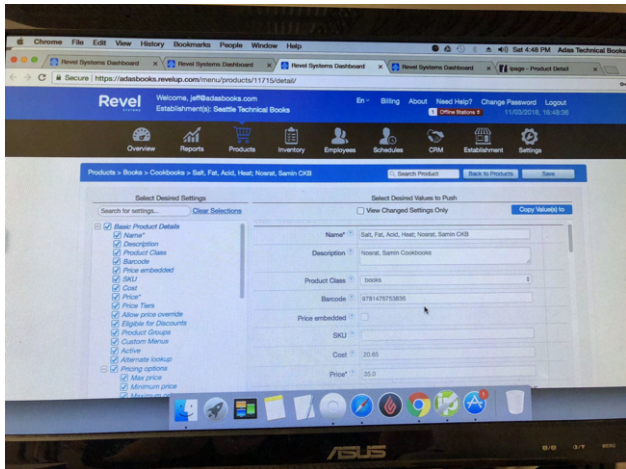
LP enter prod
 LP edit book
 → customer review rating
 → include reader details

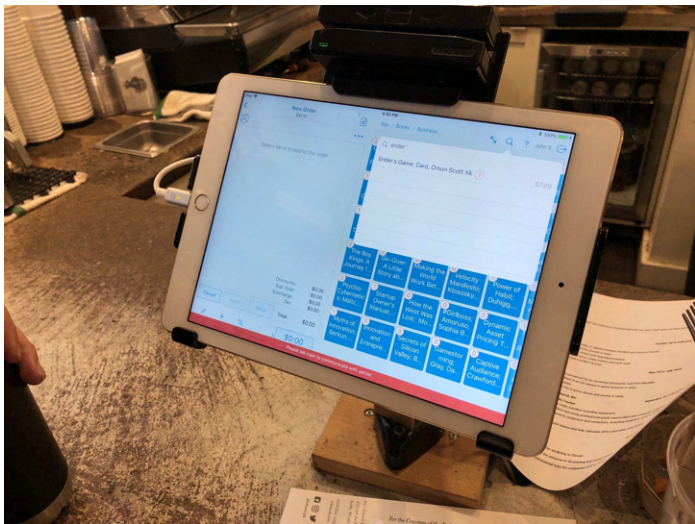
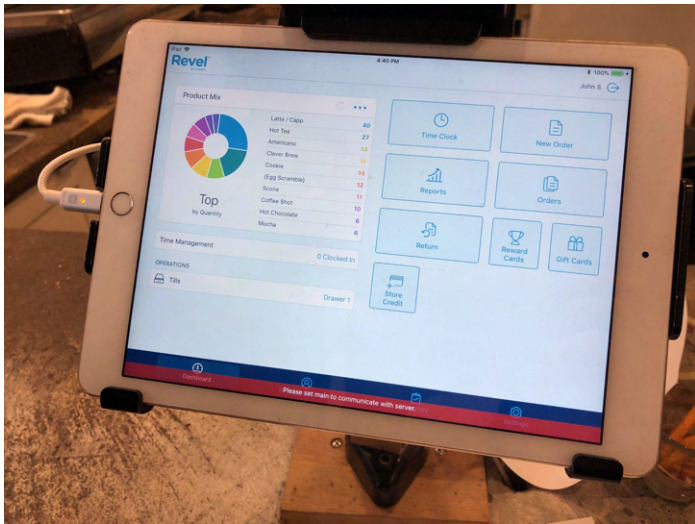
buying a new changing
 - buys more books wh
 - no way to pre
 get enough of them
 - people coming in to sell

Appendix Ophelia's Interview



Appendix: Ada's Contextual Inquiry





Ada's Contextual Inquiry Continued

Key notes contextual inquiry and semi-structured interview with Jon from evo

WORKING IN SPREADSHEET ONE IN TOO CATEGORICAL

TOOL

→ AUTOMATE REORDER PROCESS WEEKLY BASIS APPROVE OR NOT

INFINITE WAREHOUSE TO MANAGE EACH STORE

INTERACTING SKILL TO PLS LEGACY INVENTORY FROM WHOLESALE PROVIDERS, NEW BRANDS

MAKES IT HARDER TO CHANGE

THE BRANDS WE WORK WITH IS ONLY WE BELIEVE IN?

CREATE PATH FOR EMPLOYEES WEEKS AHEAD FOLLOWUP

GNO CANVAS

- HOTELS
- CONDO'S
- RIMTRACK
- FOOD
- STORE
- STATE
- STATE

NO AIRBNB'S PRICING

BASED

TAKE AWAY RE-ORDERS FRAUDSTATION

INTERACTION IN SPACE

MUSIC PREM. ART EXHIBITS TALK KNOW

MARKETING TACTICS IS SHOWCASE NOT BULLSHIT

EVO TRIPS ~~LOGE~~ LOGE MODEL IN WESTPORT

OUTWARDS FACING REEL POWERLESS B&B #RESERVE

PEOPLE WANT TO STAY WITH THEIR COMMUNITY

COMM VS WSP

TOKEN FREE SEE, INTERACTION W/ STAFF

GOOD USER INTERFACE

NOT A LOT OF 3RD PARTY STAFF

BACKEND ISN'T IDEAL @ EVO

FINICKY FRAGILE

DO WE WANT TO SWITCH HOW DO YOU SWITCH

IN TERMS OF REPORTING STRAIGHT D XL

PRO. CH

CREATE SKILL PRICE MANAGERS

SPECIAL ORDER INTERCEPTION ON IN STOCK

MULTIPLE TOOL DON'T TALK TO EACH OTHER

CANCEL INTERVENTION BUT THEN CHECK WHERE

PSP

AMAZON P2P FOR OBSCURE SUBJECTS OF LANGUAGE

WHAT INFO DOES THE CUSTOMER WANT TO THE SITE? CUSTOMER CARE TEAM

WE WANT TO BE IN THE COMMUNITY

NOT JUST TRANSACTIONAL LEAVES PEOPLE FEELING NOTHING BLAME EXPERIENCE

MINIMUM ADVERTISING FOUNDATION

LA FAMILIA VALUE ADDCA

GLIDE & CORE VALUES

BIG ROCKS LITTLE ROCKS

BACK END CUSTOM BUILT

NICETATE PRICING BY LOCATION BUT CAN'T DO IT

Lauren's contextual inquiry notes

11-3-18

STYLE #	COLOR	SIZES (CIRCLE SIZES NEEDED ON FLOOR)							
GC-U1956	BLACK	PP/XXS	PS/XS	PM/S	PL/M	L	(XL)		
	BONE	PP/XXS	PS/XS	PM/S	PL/M	L	XL		
	MIDNIGHT	PP/XXS	PS/XS	PM/S	PL/M	L	(XL)		
GCU2965	BLACK	PP/XXS	PS/XS	PM/S	PL/M	L	XL		
	BONE	PP/XXS	PS/XS	PM/S	PL/M	L	XL		
GK-U2001	BLACK	PP/XXS	PS/XS	PM/S	PL/M	L	XL		
	SOFT WHITE	PP/XXS	PS/XS	PM/S	PL/M	L	(XL)		
GK-0939	BLACK	PP/XXS	PS/XS	PM/S	PL/M	L	XL		
	SOFT WHITE	PP/XXS	PS/XS	PM/S	PL/M	L	XL		
VFF-U2330	BLACK	PP/XXS	PS/XS	PM/S	PL/M	L	(XL)		
	WHITE	PP/XXS	PS/XS	PM/S	PL/M	L	XL		
IZO-U0127	BLACK	(PP/XXS)	(PS/XS)	(PM/S)	(PL/M)	L	XL		
	WHITE	PP/XXS	PS/XS	PM/S	PL/M	L	XL		
SOJ-U2736	BLACK	PP/XXS	PS/XS	PM/S	PL/M	L	XL		
	WHITE	PP/XXS	PS/XS	PM/S	PL/M	L	XL		
SOJ-T4368	BLACK	PP/XXS	PS/XS	PM/S	PL/M	L	XL		
	WHITE	PP/XXS	PS/XS	PM/S	PL/M	L	XL		
	DARK PEARL	PP/XXS	PS/XS	PM/S	PL/M	L	XL		
VFF-T4192	BLACK	PP/XXS	PS/XS	PM/S	PL/M	L	XL		
VFF-D2708	WHITE	PP/XXS	PS/XS	PM/S	PL/M	L	XL		
	MIDNIGHT	PP/XXS	PS/XS	PM/S	PL/M	L	XL		
GC-P0139	BLACK	PP/XXS	PS/XS	PM/S	PL/M	L	XL		
	BONE	PP/XXS	PS/XS	PM/S	PL/M	L	XL		
GC-P3804	BLACK	PP/XXS	PS/XS	PM/S	PL/M	L	XL		
	BONE	PP/XXS	PS/XS	PM/S	PL/M	L	XL		
	MIDNIGHT	PP/XXS	PS/XS	PM/S	PL/M	L	(XL)		
VF-P0031	BLACK	PP/XXS	PS/XS	PM/S	PL/M	L	XL		
VF-P1271	BLACK	PP/XXS	PS/XS	(PM/S)	PL/M	L	XL		
	MIDNIGHT	PP/XXS	PS/XS	PM/S	PL/M	L	XL		
VS-P0009	BLACK	PP/XXS	PS/XS	PM/S	PL/M	L	XL		
TK-P0375	BLACK	PP/XXS	PS/XS	PM/S	PL/M	L	XL		

Record of restocking the sales floor at Eileen Fisher:

Associate goes out on sales floor to check which sizes are needed from backstock.

Circle the sizes needed

Once in stockroom, gather the sizes from stock and cross off the list once gathered.

If no cross mark is noted, means we did not have the size and it will need to be reordered.

Appendix - Sean: Novelty Hill Winery Notes

Januik/Novelty Hill Winery - interview

Met with tasting room staff person (We'll call her 'Kay'). Place was empty so I wasn't taking her away from serving other guests.

It was Nov 1 which means inventory day. The owner's wife was "doing the inventory". Kay didn't do much with inventory, she didn't think she'd be much help to our project. I persisted asking some questions anyway.

Inventory management is a physical counting of cases of wine. They don't count barrels. Its counted by pallets (which have X number of cases each).

Off-site warehouse for wine club distribution. Its next door but takes a couple minutes to access.

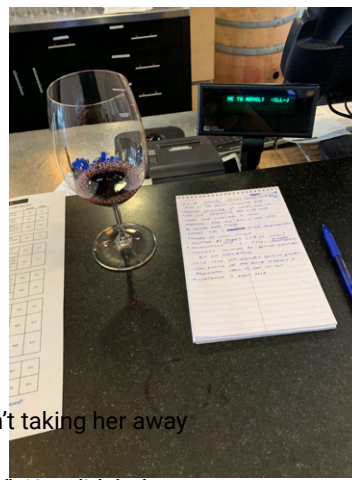
Everything has to be carefully temperature controlled (55 deg F) and the winemakers have an app that alerts to temp variation.

There's some computer for back-end counting but it isn't used by the tasting room staff. The tasting room uses 'Microworks' for POS and that gets transferred to Excel for other duties.

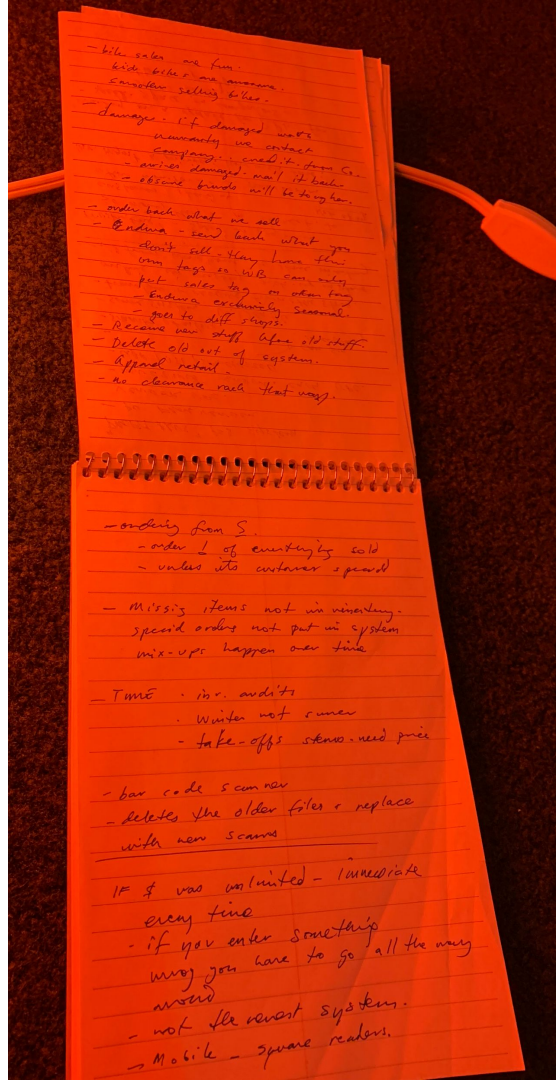
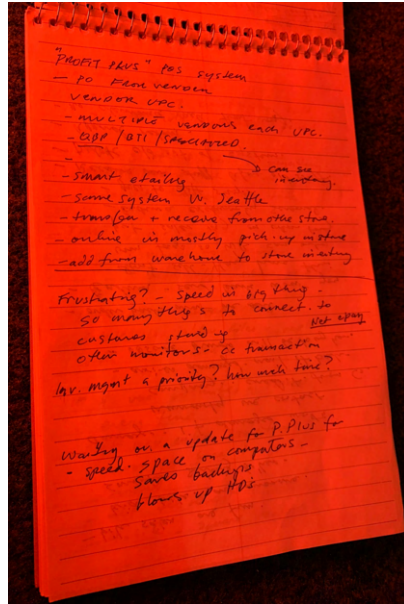
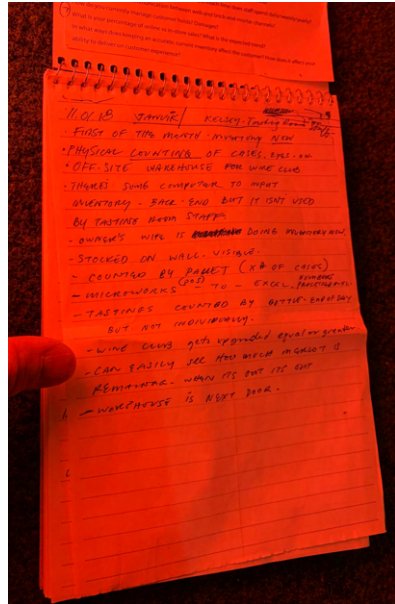
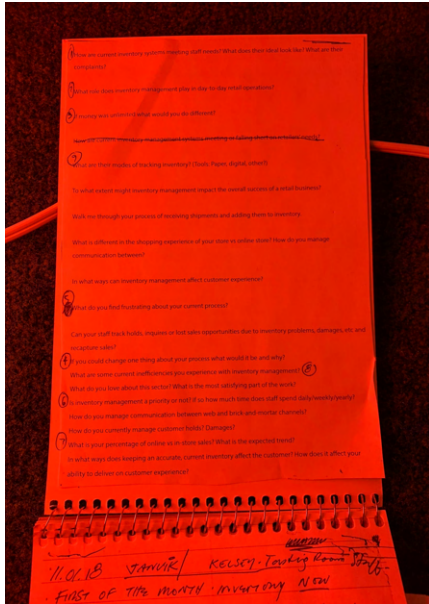
Tasting room stock is readily visible on the wall and easily seen. "When its out, its out". (see pictures).

Tastings are counted at the end of the day, per bottles consumed not individual pourings. They do keep track of tasting room bottle consumption.

If they are out of something they replace with equal or greater value, or the subsequent vintage. One example is a wine club patron who hasn't picked up their club selections in 2 years. They wouldn't be able to still get a 2014 vintage for example, its just all sold so they couldn't get it. Januik would use a different wine to fulfill that club selection.



Appendix: Sean - Interview / Contextual Inq. Notes



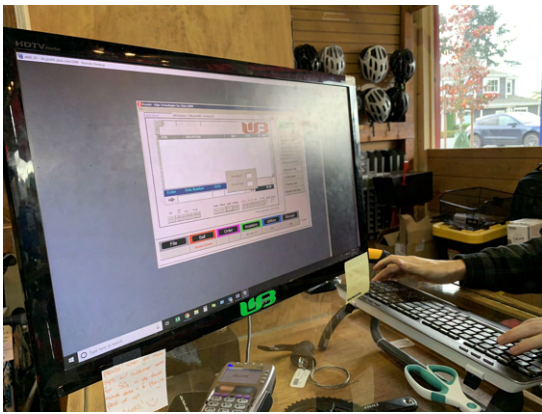
Appendix: Sean - Contextual Inquiry



A small pile of warranty items that need to be returned to Specialized. WB is a big Specialized dealer. "They are great to work with, we can order 1 of an item"



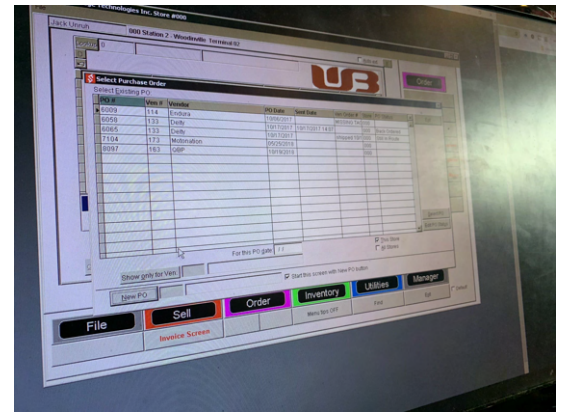
Working at one of the two POS terminals, completing a sale



Profit Plus POS. This is the main entry into the inventory system. Shown is employee login dialogue box.

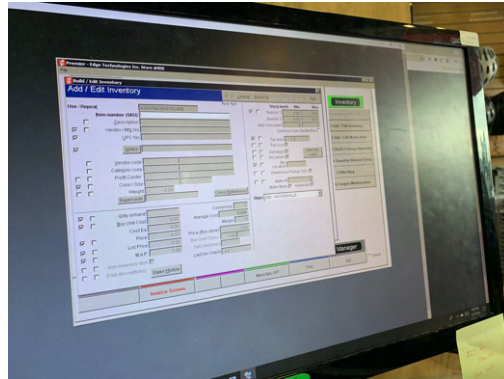


Profit Plus POS. This is the main entry into the inventory system. Shown is employee login dialogue box.

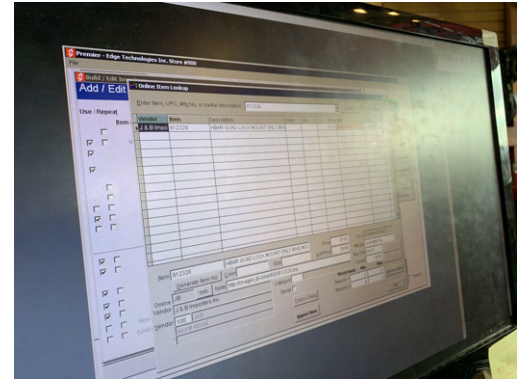


The process of adding items to inventory using PO to categorize vendors

Appendix: Sean - Contextual Inquiry



add/edit inventory. If its a new item they need to input description but sometimes as they are using same POS as the 'warehouse' its already in the system. Select options relevant to the store.



Item lookup, with prices, description, amount in stock

Appendix: Sean - Contextual Inquiry

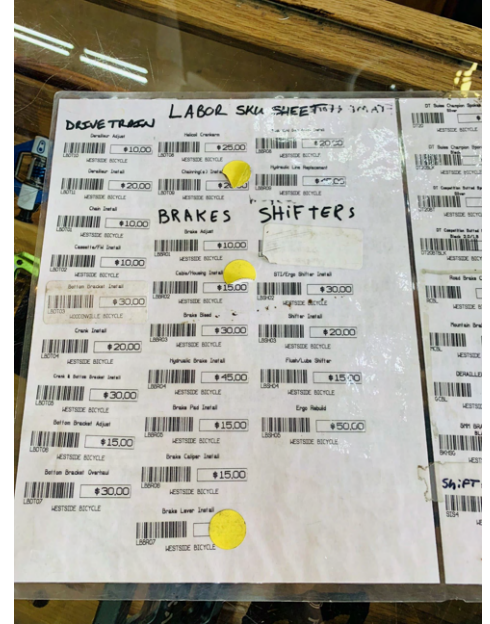


Box of take-off stems that need to be re-added to inventory, with descriptions and measurements and accurate prices.



Many descriptions for bike parts.

Appendix: Sean - Contextual Inquiry

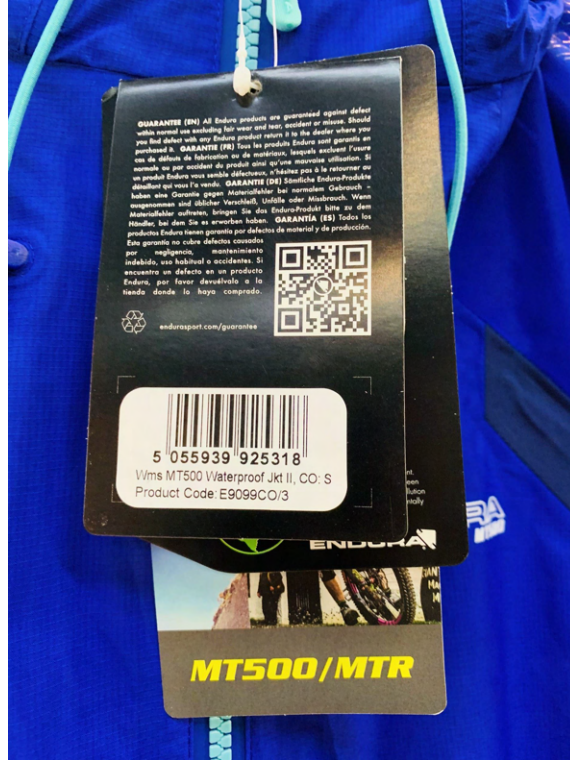


Labor and small parts 'cheat sheet' with UPC for sales staff to scan. Flat rates for labor.

Appendix: Sean - Contextual Inquiry



Endura clothing and dual hang-tags.

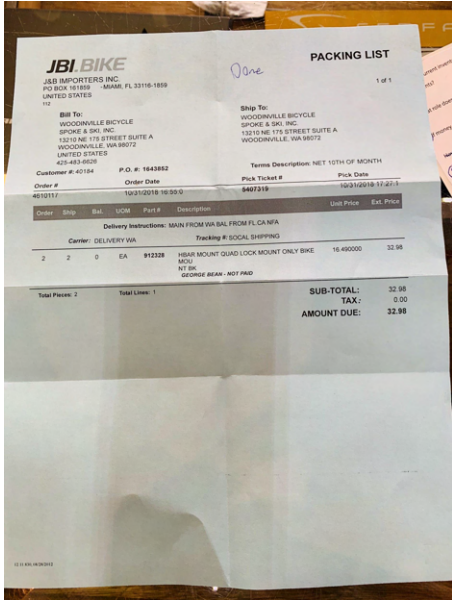


The Endura hang-tag cannot be changed or over written. This is the company code.



WB hang-tag with their price info.

Appendix: Sean - Contextual Inquiry



A PO from a vendor. The part number is entered into Profit Plus POS and added to inventory.



A labor ticket. Requires training and communication between sales and mechanics.



Hand-scanner which helps with inventory audits.