



# Scrapyard Management Systems



An analysis by  
Zachary St. Thomas



# What is needed out of a scrapyard system

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- Scale purchasing and ticket management + compliance integration
- Inventory management and accounting integration/report generation
- Comprehensive dispatch system/ integration into Verizon Work/Reveal
- CRM, ACH Payments, and a customer web portal for major customers

# Issues with current solution, ScrapDragon

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- No substantial CRM features (ex. Emailing campaigning, lead management)
- No ACH payments available
- Unsatisfactory (at best) customer service.
- Costs 18k a year



# Option 1: Choosing a new pre-existing service

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- Relatively cheap start-up cost as compared to developing in-house
- Very fast installation and implementation
- Many options to choose from, some of which are very customizable
- Some options offer everything we are looking for, for a good price

# What ScrapDragon has

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- Very easy and intuitive to use purchasing system, inventory management, and sales.
- Easy ability to view inventory stocks via touchscreen
- User permissions control, custom user menu with many features
- Bugs including no parent/child relation between commodities, bugged reports.



- Easy to use, cloud based, all-encompassing buying software
- Emphasizes compliance and functionality
- Very nice inventory management system, but not touch-screen compatible
- Dispatch system is fleshed out but no live tracking
- Many improvements to be released in 2.0 (menu redesign, open sql offers)

**KAIMON METAL RECYCLING**  
877-897-6422

User: Zach

Ticket#: ✖

Weight IN: 08/08/2023  
Weight OUT: -- : -- : --

Customer Info:  
Name  
ID/License  
Make/Model  
Vehicle Plate

Scan license  
Vehicle Plate

Find  
Edit

gross	tare	net	price	total

Gross

Tare

Net

#Items

Total  
\$0.00

X

signature

thumbprint

Add Coupon

Vehicle Images

Seller Image

Select a material group:

#1 Copper

ALUMINUM

ALUMINUM SALES

BRASS

CATS

CONSTRUCTION DEBRIS

COPPER

DEDUCTIONS

LAND CLEARING

LEAD

MISC

OUTGOING ELECTRONICS

PALLETS

PAPER

PARTS SALES

PLASTIC

RADIATORS

STAINLESS

STEEL

VEHICLES

WIRE

WOOD

TRAINING

Customer Code

Material Code

# Inventory Control Center

Search By Material

Inventory	Contract	Finished Goods	
Material Description	WIP Inventory	FG Inventory	Avg Cost F.F.D. Value
ALUMINUM	719,428.87 lbs	39,740.00 lbs	\$0.4874 /lb \$370,036.02
Aluminum Cans CRV	8,172.93 lb	4,948.00 lb	\$1.1966 /lb \$15,700.26
Aluminum Cast	3,091.00 lb	0.00 lb	\$0.1570 /lb \$485.14
Aluminum Clip	107,055.70 lb	7,891.00 lb	\$0.4552 /lb \$52,328.57
Aluminum Extruded-No Paint	100,000.50 lb	0.00 lb	\$0.2762 /lb \$27,820.84
Aluminum Extrusion	0.00 lb	0.00 lb	\$0.0000 /lb \$0.00
ALUMINUM MIXED CUP	104,081.00 lb	0.00 lb	\$0.6943 /lb \$72,268.12
ALUMINUM MLC	41,974.00 lb	0.00 lb	\$0.5854 /lb \$24,571.03
Aluminum Sheet	117,870.24 lb	22,248.00 lb	\$0.4103 /lb \$57,496.26
Aluminum Sheet - Hollow	18,970.00 lb	0.00 lb	\$0.3679 /lb \$6,979.69
Aluminum Siding	15,989.00 lb	3,142.00 lb	\$0.2953 /lb \$5,649.06
Aluminum Transformer	463.90 lb	0.00 lb	\$0.1923 /lb \$89.20
Aluminum Turnings	71,513.00 lb	0.00 lb	\$0.4337 /lb \$31,017.55
Aluminum Wheels	45,544.90 lb	239.00 lb	\$0.4226 /lb \$19,350.20
BROKERED MATERIAL	497.70 lb	0.00 lb	\$0.7831 /lb \$389.74
Chrome Wheels	6,002.00 lb	0.00 lb	\$0.4511 /lb \$2,707.29
EC Wire	4,810.00 lb	1,272.00 lb	\$0.4030 /lb \$2,450.80
Irony Aluminum	27,303.00 lb	0.00 lb	\$0.1058 /lb \$2,889.80
TEST ALUM	44,895.00 lb	0.00 lb	\$1.0500 /lb \$47,138.99
Zinc	1,195.00 lb	0.00 lb	\$0.5887 /lb \$703.48
ALUMINUM	6,537.00 ea	0.00	\$0.7389 /ea \$8,735.28
Aluminum Extrusion	6,534.00 ea	5,317.00 ea	\$0.7335 /ea \$8,693.28
Aluminum Transmissions(vh)ole	3.00 ea	0.00	\$14.0000 /ea \$42.00
ALUMIN...	4,000.06 lbs	0.00 lbs	\$1.0000 /lb \$4,000.00
2X 125 ALUMINUM FLAT BAR	1,000.00 lb	0.00 lb	\$1.0000 /lb \$1,000.00
2X 25 ALUMINUM FLAT BAR	1,000.00 lb	0.00 lb	\$1.0000 /lb \$1,000.00
2X2X 125 ALUMINUM ANGLE	1,000.00 lb	0.00 lb	\$1.0000 /lb \$1,000.00
2x2x 25 ALUMINUM ANGLE	1,000.06 lb	0.00 lb	\$0.9999 /lb \$1,000.00
ALUMIN...	1,000.06 ea	0.00	\$0.9999 /ea \$1,000.00
2x2x 25 ALUMINUM ANGLE	1,000.06 ft	0.00 ft	\$0.9999 /ft \$1,000.00
RDASS	96,632.47 lbs	6,099.00 lbs	\$1.0037 /lb \$105,790.45
21 groups, 129 materials	8,597,294.94 lbs	97,852.30 lbs	\$0.1536 /lb \$1,319,933.40
	161,859.06 ea	7,121.00 ea	\$0.3574 /ea

## Aluminum Sheet



Search for Items above

#	Name/Desc	Status
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## INVENTORY

TOTAL OWNED INV.	140,118 /lb	AVG COST OWNED	\$0.4103 /lb
PURCHASE ORDERS (12)	517,490 /lb	AVG P.O. COST	\$0.4500 /lb
TOTAL INVENTORY	657,608 /lb	TOTAL AVG COST	\$0.4415 /lb
SALES ORDER (17)	528,239 /lb	AVG S.O. PRICE	\$0.4900 /lb
HISTORICAL MARGIN	\$1.0557	PROFIT MARGIN	\$0
POSITION	129,369 /lb	PROJECTED PROFIT	\$25,597.92

## FINISHED GOODS

Image	PKG #	Status	Gross	Tare	Net	Location
	1160	PL-017	1,500.00 LB	0.00 LB	1,500.00 LB	TRK# -
	1058	PL-017	789.00 LB	28.00 LB	764.00 LB	TRK# -
	1051	PL-017	600.00 LB	0.00 LB	600.00 LB	TRK# -
	1050	PL-017	778.00 LB	0.00 LB	778.00 LB	TRK# -
1 - 10 of 20      next >>						
# Avail : 0   # On Trucks : 20			30,096.00	7,850.00	22,248.00	
PURCHASE ORDER		SALES ORDER	MATERIAL STATS	GENERATE REPORT	CREATE PACKAGE	ADJUST INVENTORY
						A-BC REGRADE MATERIAL





- Developed directly by staff with extensive scrap history
- Currently transitioning systems, old system is elaborate but unwieldy
- Brokerage system, fleshed out management features included, more expensive
- Customer web portal for suppliers, but dispatch is somewhat lackluster

Purchase #	19777	PHILIP	Cash	\$407.90
Other ID		RAFLE	Check <input type="checkbox"/>	\$0.00
Passengers	0		Total	\$407.90

## Live Scale Camera



## Current Customer



## Selected Item



InvID	Num	Packagin.	Gross	Tare	Net	Price	Total
6063 CLN (Aluminum 6063)	1		1,170	560	610	\$0.60	\$366.00
CU INS 50% (Copper #2 Wt.)	1		20	20	0	\$0.61	\$12.20
#1 HMS (#1 Heavy Melting)	1		1,600	1,200	360	\$165.00	\$29.70

Add Item Remove Item

Cans	#1 HMS
CU 1	#1 Mixed
CU 2	#2 HMS
CU INS 50%	AL CONTAM
6063 CLN	AL Limpio
6063 PTD	Tin
Cast Iron	YLW BRSS
AlCu RAD	SWIL
C and D	OCC
Cast Iron	

Reset Scale Link

Modify Item 6063 CLN

Item 1 of 3 1 0

CRV Scrap Count 0

Gross Truck Scale/lb 1170

Tare Truck Scale/lb 560

Adj Wt 0.0

Net(lb) 610

Price \$0.60 LB

Subtotal \$366.00

VINs CATs

Make/Manufact/SerialNo

☒ Legal Owner ☐ Lowl Seller

Weights

Conf/Other

Pictures

Full Load

Customer / Vehicle Info

Purchase Info

Accounting Info

Quick Save

Cancel and Exit

Ticket Complete - Print &amp; New

Ticket Complete - Print &amp; Exit

Save Ticket and Start New

Save and Exit Screen

1	2	3
4	5	6
7	8	9
0	<<Back	

## Report: Dealer Level Ticket Activity

- My Reports
  - Accounts Receivable
  - ATM Balances
  - Dealer Level Ticket Activity
  - Public Purch Ticket Profile
  - Public Purchase Activity
  - Sales / Purchases Journal
  - Sales / Purchases Journal Summary
  - Shipping Report Detail By Incoming Scale Ticket
  - Tagged Inventory with Breakdown
  - Truck Scale Ticket Review
- Accounting Reports
- Appointments
- Audit Reports
- Booking Reports
- Brokerage Report
- Cash Reports
- COGS Report
- Consignment
- CRV
- Dealer
- Dealer Purchase
- Dealer Roster
- Dispatch
- Inventory
- Mailing Labels
- NMVTIS
- Orders
- Public Payments
- Public Purchases
- Public Sales
- Report List
- System
- Ticket Review
- Truck Scale
- Waiting for system rework
- ZNot Ready For Deploy

Company: 21st Century Recycling - 21CP Unit of Measurement: LB Currency: Plant

1) Ticket Date:		17) Invoice Ticket Type:		33) State:		49) S/B Tix Contact (Equals Public):	
2) Invoice Type:		18) Commission Contact:		34) Salesman On Order:		50) Loc. Sec. Desc:	
3) First Group:		19) County Name:		35) Exclude Repairs:	<input type="checkbox"/>	51) Hide Pricing Information:	<input type="checkbox"/>
4) Second Group:		20) Payment Terms:		36) Primary Salesman:		52) County:	
5) Third Group:		21) Default Price List:		37) Paid Status:		53) City:	
6) Fourth Group:		22) Check Payment Level:		38) Acq Transfer Date:		54) Hide W/T/Show Other ID:	<input type="checkbox"/>
7) Dealer:		23) Order Number:		39) Container Numbers:	Both	55) Scale Ticket Other ID:	
8) Dealer Group:		24) Check Number:		40) Ship Via:		56) Invoice Other ID:	
9) Inv/Purch Contact:		25) Void:	Remove Voids	41) W/T Ticket Plant:		57) Inv Item External ID:	
10) Weight Ticket Type:		26) Consignment Yard:	<input type="checkbox"/>	42) Purch/Invoice No.:		58) Not Paid As Of:	
11) Weight Ticket Number:		27) Summary Only:	<input type="checkbox"/>	43) Price Type for Shippers:	Sales Price	59) Buyer / Rep:	
12) Master Inventory Group:		28) Void Date:		44) 1099:	<input type="checkbox"/>	60) Created By User:	
13) Inventory Sub Group:		29) Hide Transfer Dealers:	<input checked="" type="checkbox"/>	45) Dispatch No.:		61) Flip Trans Type:	
14) Scale:		30) S/B Tix Purch Contact:		46) Installation:		62) Show Item Detail Name:	<input type="checkbox"/>
15) Item:		31) S/B Tix Sold To Contact:		47) Location Type:		63) S/B Tix Contact (Not Equals Public):	
16) Agent:		32) Payment Date:		48) Special Handling For Trash:	<input type="checkbox"/>	64) Provisional Invoice:	

## Filter Sets

SetName: dave's demo

Name:

Public My Default

Save New

Owner: SYSTEM Discard

## Criteria

Filters

Reset Filters

Generate Report

## Report Description:

Invoice/Purchase Ticket Activity By Dealer/Commodity, Summary/Detail

## User Note:

Note Update

Report Group Admin

Order No.	11862	Purchase Order	Change...	APPROVED				
Company / Contact	ABC Industrial Account	Override Contact:	Scale/Broker	All Items				
	Sammy Rubble	Order Group:	0					
Info	Freight	Fees/Services	Notes/Letter	Price Lists	Traffic Info	Expenses	Advances	Order Closing
Order Date	8/10/2023	By	21cp	Lead Source				
Expires/Due By	9/9/2023							
Terms	Net 30 Days							
Cust Ref								
Shipping Term	0							
Delivery	21CP							
Yard Shipment Ship To	0							
Deliv #								
Shipped via	0							
Entered By	21cp							
Currency Info:								
Currency	USD	Exchange Rate	1	Create Dispatch				

Item (Override)	Packaging	Pricing	Total	Notes
<SELECT>	Loose	\$0.0000 per LB	\$0.0000	
TOTAL			\$0.0000	

Purchase Order Doc Set

Purchase Order - Detailed Report

Individual Printouts

☒ to Screen ☐ Multi Receipts

Print Email+ Email

Save

New

Close

Print

Copy To New Order

Add Item Remove Item

Repeat Item Repeat Item w/data

Mark Selected Item as Closed

Create Scale Tickets for Order

Cust History ☐ Show Weight Info In Grid

Item/Price Info	Weight	Finalized Pricing Schedule	Weight Distributions	Linked Orders	Advanced
Item <SELECT>	Base Price <input checked="" type="radio"/> Straight Price <input type="radio"/> Formula <input type="radio"/> Elemental <input type="checkbox"/> Hide Price on Printout <input type="checkbox"/> Add CRV Value % CRV To Pay (auto gen only) 100.00	Straight Price \$0.0000 Price Unit of Measure LB			
Override Name					
Packaging Loose					
PU / Delivered Both PU & Deliv					
Amount Ordered 0 LB					
Containers 0 0					



- Sleek, simple design (Apple-based), web-based
- ACH payments, cash and check accounts also available, integrates with TranAct
- Developed in-house, directly by staff, reports actually work
- Touch screen options are available but not smooth
- CRM options not elaborated but promised

- ReMatter
- Public
  - Leads
  - Load Board
  - Dispatch
  - Scale Tickets
  - Inventory
  - Inventory Tags
  - Inventory
  - Transactions
  - Payments
  - Financial Accounts
  - Sales Orders
  - Purchase Orders
  - Price Lists
  - Gov. Reporting
  - Settings

	<input type="checkbox"/>	SKU #	Group / Material	Total Inventory	WIP Inventory	FG Inventory	Pending Shipment Inventory	Average Acquisiti	
+		202	Brass Shells Irony/Dirty	0	0	0	0	\$0.00 / lb	---
+		207	Red Brass Clean	0	0	0	0	\$0.00 / lb	---
+		205	Yellow Clean	0	0	0	0	\$0.00 / lb	---
+		206	Yellow Dirty	0	0	0	0	\$0.00 / lb	---
+	<input type="checkbox"/>	300	Copper	13,000 lb	10,040 lb	2,960 lb	0	-	
+		308	#1 65% Romex	0	0	0	0	\$0.00 / lb	---
+		301	#1 Copper	7,000 lb	4,040 lb	2,960 lb	0	\$0.00 / lb	---
+		306	#1 Insulated	0	0	0	0	\$0.00 / lb	---
+		302	#2 Copper	6,000 lb	6,000 lb	0	0	\$0.00 / lb	---
+		307	#2 Insulated	0	0	0	0	\$0.00 / lb	---
+		303	Bare Bright	0	0	0	0	\$0.00 / lb	---

## Add Material



## \* Material Name



Steel

501 - HMS #1

## Tare Weight (lb)

Take Weight

## Pricing Unit

Pounds

Net Ton

Gross Ton

Each

## Select Scale



Scale Weight Monitor

⌚ No Scale Available

CC: 23-XXX

## \* Unit Price (USD / lb)

## Net Weight (lb)

-

## Total Material Price (USD)

\$0.00

Save Material

Save and Add Next Material

# Nexus

- Developed directly by staff (one programmer)
- Intuitive, touch screen layout, with options to switch to a list mode
- Dispatch system functions similarly to ScrapDragon
- Option to purchase outright for about 15k a yard + 1000 an additional PC
- Customer Web Portal



Adam Jensen

Riverview, TX 75179



Account Profile >

Has customer loyalty accounts for 96% of all business.  
They have visited 4 times and was last in on Sunday, May 3, 2015

Change Customer...

New Ticket Set

Add Ticket

Details

Print

Split

Payment

Clear

## Scale Ticket Details

Click the Scale Ticket button and then Scan to use the ticket

Creating a New ticket

No product selected, tap here to set one.

## Scale Tickets

Ticket Set No. 0675

Up to 1000 tickets may be printed. The current ticket set contains 1000 tickets.

Index	Product	Serial	Start	End
208	Car (with Sides)	2344	0	2344
208	2x2 Angle Iron	11242	0	11242
208	Aluminum Cars	150	0	150

Product ID	Product Name	Price	Unit	Product Categories	Unit
0149	100% S&P	\$11.80	EA	All Materials	EA
0166	2x2 Angle Iron	\$0.84	LBS	Alternatives	EA
0011	30% ICW	\$2.79	LB	Aluminum	EA
0009	30% Irony Aluminum	\$1.40	LB	Automobiles	EA
0010	90% ICW	\$0.81	LB	Bales	EA
0048	ADVANCE	\$0.70	EA	Bedding	EA
CRV06	ALUMINUM	\$0.90	LBS	Brass	EA
0001	Aluminum Cars	\$0.88	LB	Cardboard	EA
0007	Aluminum Extrusions	\$0.42	LB	Cats	EA
CRV11	ALUMINUM SCRAP	\$0.90	LB	Computers	EA
0172	AUTO WITHOUT CAT	\$5.00	HW	Copper	EA
CRV10	BIMETAL	\$0.90	LBS	CRV	EA
0005	Box Springs	\$0.90	LB	Electronics	EA
0014	Car (with Sides)	\$0.70	LB		



CLICK FOR  
SIGNATURE



CLICK TO  
SCAN  
LICENSE



John Jensen Jensen

John Jensen

Recently Selected Products | There are recently selected products in your list and selected to add. No by select one.

Aluminum Cars

AUTO WITHOUT CAT

2x2 Angle Iron

Custom Buttons Service

Product List Service

Cancel Print

30% ICW	Aluminum Extrusions	50% Irony Aluminum	Yellow Brass	90% ICW	ADVANCE
90% ICW	30% ICW	ALUMINUM	50% Irony Aluminum	90% ICW	COMPUTER MOTHERBOARDS
Copper #3	30% ICW	Yellow Brass	90% ICW	CD drives	ALUMINUM SCRAP
2x2 Angle Iron	Aluminum Cans	ALUMINUM	Lead tire weights	Copper #3	Aluminum Cans
30% ICW	30% ICW	Cardboard	Old Sheet Aluminum	ADVANCE	ADVANCE
1500lb Bale	50% Irony Aluminum	Copper	ALUMINUM	Aluminum Extrusions	Car (with title)
BIMETAL	Engine Blocks	OCC	30% ICW	Crushed Concrete	CD drives
Corporate without title	Copper #3	Catalytic - GM	FREIGHT	Engine Blocks	Box Springs
Cast Iron	90% ICW	Manhole Covers	Copper #3	Copper #2	Formula Enabled

Edit Mode: OFF

### Custom Button Mode

Product List Mode

### Cancel Product Selection

**CLICK FOR  
MORE VIDEOS**



**CLICK TO  
SCAN  
LICENSE**



436 lbs  
0 pieces

**\$645.46**

[View Drivers License](#)

View Print

1

8

9

CAN SCALE

0 lbs

Save and Close

0

SCALE 4

0 lbs

Cancel

Nexus

All features  
Data Management  
Compliance  
Customers  
California CRV  
Buying Materials  
Selling Materials  
Inventory  
**Financial**  
Company Management  
Help & Support  
Troubleshooting Help  
Reports

## Service Notifications

Order Selected

Add Equipment

Edit Equipment

## Maintenance Entry

## Assignment, Location &amp; Quantity

Equipment: Big Truck  
Parent Component:  
Part Name: Avels I guess  
SKU:  
Bin No.:  
Shelf:  
Column:  
Current Quantity: 0 Low Qty 0

## Current Condition

Part condition:

## Time Based Service Interval

Last Serviced: 2/14/2023  
Service Interval:  
Service Required: In 3 days

## Usage Based Service Interval

Current Odometer: 0  
Last Serviced: 8/9/2023 11:07:09 AM MILES  
Service Interval: 0 MILES  
Service Required: In 300 hours  
Record updated: 1/7/2023

## Replacement Part Numbers

Supplier Part No. Phone No. Email

Add

Edit

Delete

Order

## Notes

## History

Save Record

Cancel

How do I use this?

Updates are available for download!



- Web-based simple design like ReMatter's
- Touch screen friendly buy screen, easy to edit/manage inventory
- Customer page, which can track customers and their history
- Built-in visual and detailed reports

# Bobby Axelrod

EDIT CUSTOMER

- PURCHASES
- SALES
- CONTRACTS
- INVENTORY
- CUSTOMERS**
- COMMODITIES
- FREIGHT
- ORDER
- ANALYTICS

## ACCOUNT

## TICKET HISTORY

## CONTRACT HISTORY

## VEHICLES

## CONTACTS

## FINANCIAL INFORMATION

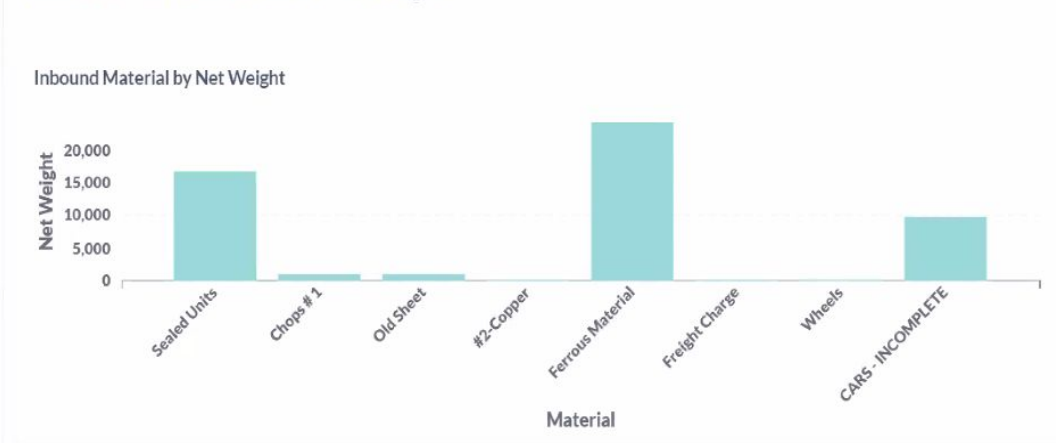
### Profile Information

TYPE	PRICE LIST
Retail	Jessica PL
VENDOR CLASS	
Construction	
BUY/NO BUY	SUPPLIER/CONSUMER
Buy	Supplier

NOTES

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### Inbound/Outbound Material Weight



### Outbound Material by Weight

PURCHASES

SALES

CONTRACTS

INVENTORY

CUSTOMERS

COMMODITIES

FREIGHT

LEDGER

ANALYTICS

# Finished Goods

REGRADE MATERIALFINISHED GOODSPACKING LIST

OVERVIEW	REGRADES	FINISHED GOODS	PACKING LIST
12,412 lbs	131,856 lbs	Copper No. 1 (BERRY/CANDY)	

Search

Search all fields

FG #	PO #	Date Created	Commodity	Material	Type	Net Weight	Status	Actions
53419	0	Fri Aug 11 2023	ALUMINUM	UBC	Bale	450 lbs	AVAILABLE	VIEW
52217		Tue Aug 08 2023	ALUMINUM	Alum Siding	Pallet	198 lbs	AVAILABLE	VIEW
51952		Mon Aug 07 2023	Plastic	Bottles	Box	90 lbs	AVAILABLE	VIEW
51852	A5	Mon Aug 07 2023	BRASS	Mixed Brass Turn...	Box	685 lbs	AVAILABLE	VIEW
51550		Fri Aug 04 2023	BRASS	Irony Yellow Brass	Bale	9,000 lbs	UNAVAILABLE	VIEW
51475		Fri Aug 04 2023	ALUMINUM	Aluminum Extrus...	Bale	9,000 lbs	AVAILABLE	VIEW
49222		Fri Jul 28 2023	Plastic	Bottles	Box	100 lbs	UNAVAILABLE	VIEW

# Other options

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- Many other software options exist, but wouldn't be a good match for Sullivans
- Many desired features missing, yet still nearly as costly as ScrapDragon
- Despite this, each have a considerable amount of yards that use them

# In-house Software Development

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Multiple options for who to work with

- Brian mentioned he knew individuals that could contribute
- Dignitas Digital is an established company that would ensure we keep IP rights
- Precision Systems is industrial focused and located in Hatboro
- Freelance Developers



# At a glance: Software Development

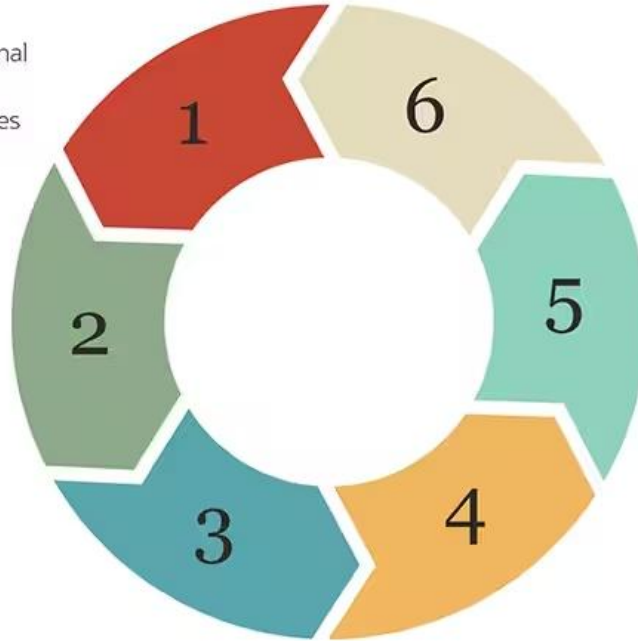
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- Considerable startup cost
- Would be about a year long process to have something comparable to the best market options and be fully customized to what Sullivan's needs
- If plan is to export to other scrapyards, would need to ensure we have rights to the software directly, and that it is thoroughly tested and vetted (Nexus)
- Idea would be to integrate all features we need and functionality of top line software with an easy and touchable layout, for a good price

**1. Discovery and planning.** A cross-functional project team gathers input about different business groups' requirements and the issues that the ERP system needs to solve.

**2. Design.** Analyze existing workflows, how you'll customize the software and how to migrate data to the new system.

**3. Development.** Configure the software to business requirements performance, prepare training materials and documentation, and begin to import data.



**6. Support.** The project team ensures that users have the support they need, and continues to upgrade the system and fix problems as needed.

**5. Deployment.** After completing configuration, data migration and testing, go live!

**4. Testing.** Progressively test the functions of the system and fine-tune development to address any problems that emerge.

# Team requirements (if we self-assemble)

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- Lead software developer + any collaborators
- Database developer + manager
- Testing/QA developers
- Others, but can be filled by current staff

# Server consideration

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- Cloud servers: Application would store data and be run off of the cloud.
- Advantage of less upfront cost for servers, less maintenance cost, but if cloud is inaccessible, software can not function
- Local servers: Application would store data and run off of a local server
- Advantage of quickly accessible and configurable data, but will have higher costs

# Main competitors: Everyone mentioned

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- Also in-house developed systems, with extensive options and features
- Sell for a competitive price
- Very established in the market, Nexus is most widely used system in USA.

# Integration versus Direct Implementation

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- Common issue in developing management software for business
- Quickbooks, Verizon Work+Reveal, Wrap-around
- Jack of all trades vs master of few
- Integration is oftentimes cheaper, but sometimes can prove difficult

# CRM

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- Need something that is able to reach out to current customers and new ones
- Email campaign integration is an easy start
- Relatively uncommon from scrap management software
- Salesforce offers a standalone CRM solution

# Costs of software development

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- Brian's estimate: ~80k and 9 months
- From online: 75-100/hr for 6-12 months, 150-200k project size
- Will likely need an additional member on team to bugfix, if sold on market, will likely need a team



# Things to keep in mind during development

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- Usability and convenience of a front-end system can end up most important
- Unexpected hiccups are bound to occur, likely due to implementation requirements
- Going to market will require ensuring lots of implementation ability and technical support
- For market success, will need to fill a niche

# Case Study: Nexus' development

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- Started out as a project for one yard in 2009
- Gained traction and upheaved the market giants via its price
- Has since grown to a multi-member staff, 1m+ lines of code
- Took years of work to have a product that didn't require constant maintenance

# Software as a service

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- ScrapRight and Greenspark
- Cloud based, develop based on functions our yard does
- Offer year subscriptions for the service
- Users use browsers to access

# Overall: A considerable investment

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- Potential to outclass a substantial amount of competitors
- Substantial risk in usability of deliverable and cost efficiency compared to purchasing software
- SaaS option has potential to be best “bang for your buck”
- Consider developing a project that will go to market like opening another business

# My recommendation: Greenspark

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- All options shown would be a good choice depending on priorities
- Lacking a customer web portal and dispatch
- Comprehensive implementation of nearly all features we need
- New company that is open to our inputs and feedback (new = pro?)