Amplifying Efficiency

BUSINESS INFRASTRUCTURE FOR AUDIO STARTUPS

Alex Arutian & Sam Fischmann

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Who are we?

Alex

COO, Musik Hack

Full-stack developer & data jockey

Formerly: Finance director, team leader, data junkie, spreadsheet enthusiast

Sam

Co-founder, Musik Hack

Product design & development, DSP, systems architecture

Formerly: Internal tools, embedded systems, web development, music composition

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Why listen to us?

We built the infrastructure for a profitable business: Musik Hack

Infrastructure is an area of interest to us

We've made mistakes so you don't have to

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Caveats / Considerations

We are technical; this talk is not

No code examples, but situational examples

System Design vs. Implementation

Practicality > Perfection

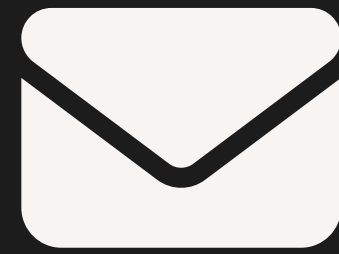MUSIK HACK

The Big Picture

Product(s)

Sales

Marketing

Customer Service

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Business Infrastructure
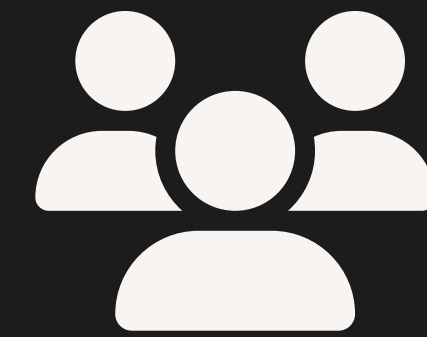
Infrastructure Components
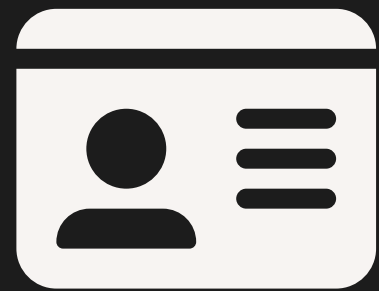
Website

Email

Payments

User mgmt

Licensing

Finances

Compliance

KPIs

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Key Questions

Build 🔨 or Buy 🧾 ?

How critical is this to my **day-to-day operations**?

How critical will this become in the **future**?

How important is the **data** within this component?

What is my **$$ / time budget** on each?

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Website

Website

Our priority: complete control

Upside to DIY: Can fully integrate with all other infrastructure components

Downside to DIY: More time consuming, technical debt, requires developer for changes

Can hire out to web developer

Reliability is KING

Website host considerations
- Python VM provider
- Google Cloud, AWS, etc.

Importance of vendor selection

Flexibility in the name of reliability

You can't afford constant interruptions

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DOs and DON'Ts

DO use a common TLD

DO get an email attached to your domain

DO keep the customer in your domain

DO use a CDN service (they're cheap!)

DON'T spend crazy $$ on a domain

DON'T let new frameworks & web analytics tools bog you down

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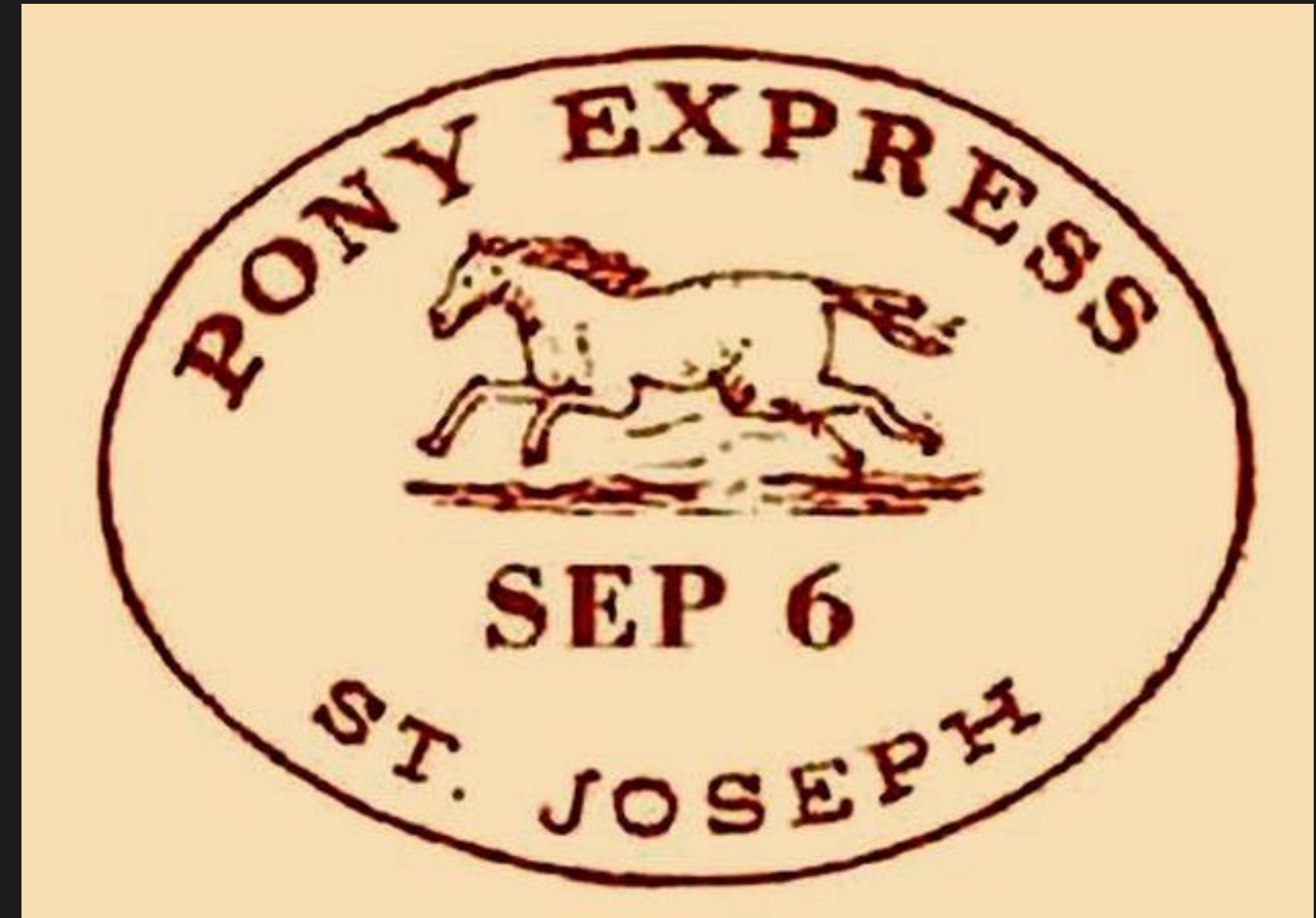
Email System

Email System

DO NOT BUILD

Must-haves for us:

- Our own IP address

- Email validation logic

We DIYed integration with our backend

DOs and DON'Ts
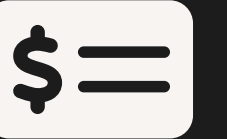
DO create a support/generic email address different from your own

DON'T register for tools, bank accounts, licenses, etc. using the support email address

DO send prompt customer emails to confirm purchase, activate new machines, etc.

DON'T send marketing emails before you've warmed up your IP address

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Payment Processing

Payment Processing

Our priorities:

- Good customer service

- Global tax compliance

Merchant of Record vs. Payment Provider

See what your competitors offer

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Don't Judge A Service By Its Cover

Started with Stripe

Rolled out PayPal option

Global Tax Reporting vs. Compliance

Pretty docs?

Overall: customer experience, advocate within the organization wins

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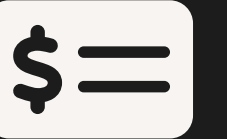
DOs and DON'Ts

DO a trial integration before choosing a provider

DO speak to a real human to gauge support level & culture

DON'T assume cheapest / lowest fee is the best

DON'T think you're going to do tax compliance yourself (you won't)

DON'T be afraid to ask the vendor what's possible

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User Management System
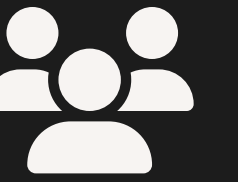
User Management System

We love this s**t so we built it…

What we considered:
- Data normalization
- Privacy laws
- Doing favors to our future selves
- A canonical source of truth

SALES

LICENSING

TRAFFIC

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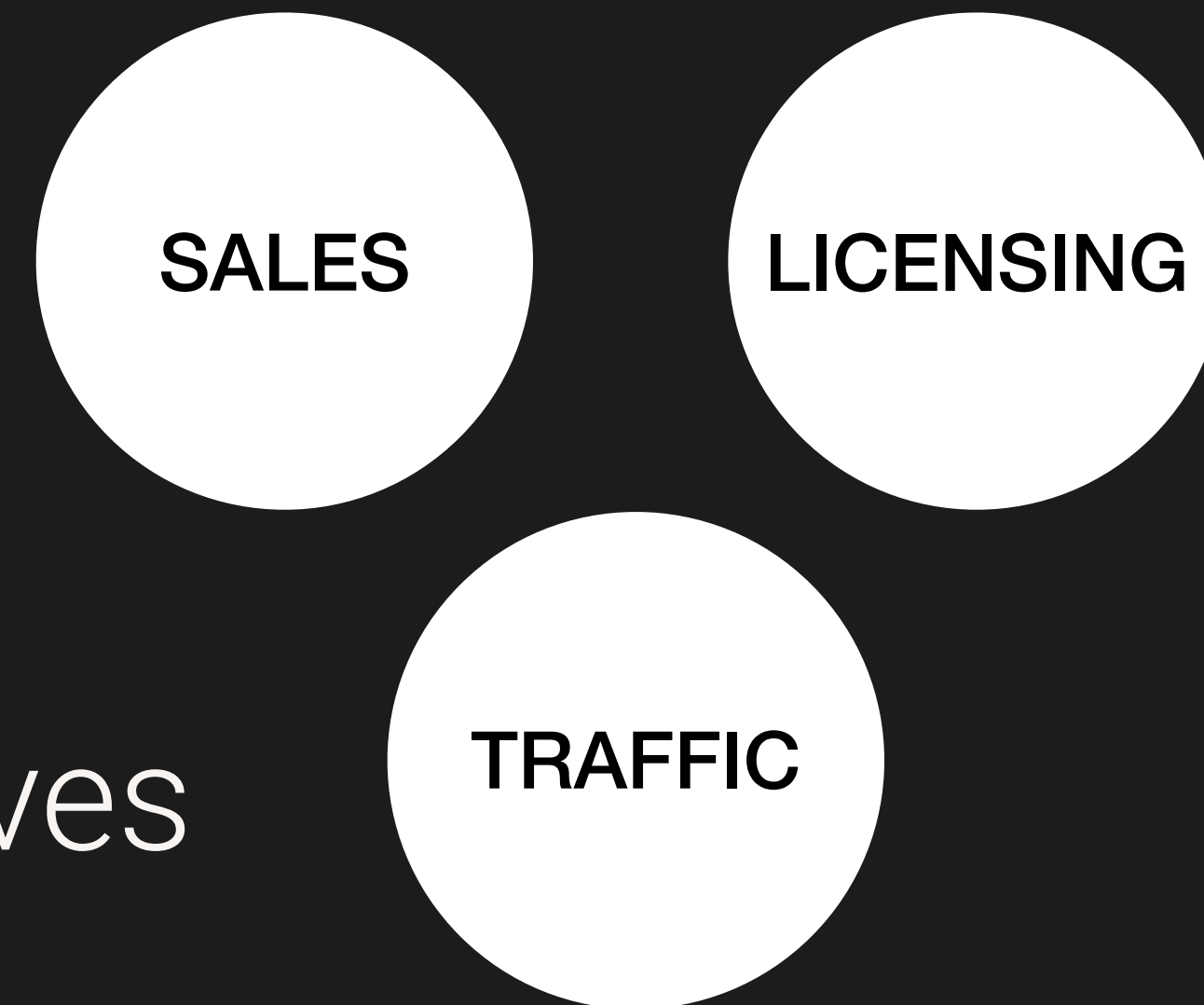
User Management System

Licensing

Users
Licenses
Machines
Products
SKUs

Sales

Purchases
Revenue
Distributors
Redemptions
Coupon Codes

Traffic

Website Visits
Origin URLs
Ad Campaigns

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User-Centric View

Machines

User

Licenses

Products

Purchases

Ad Campaigns
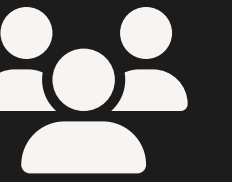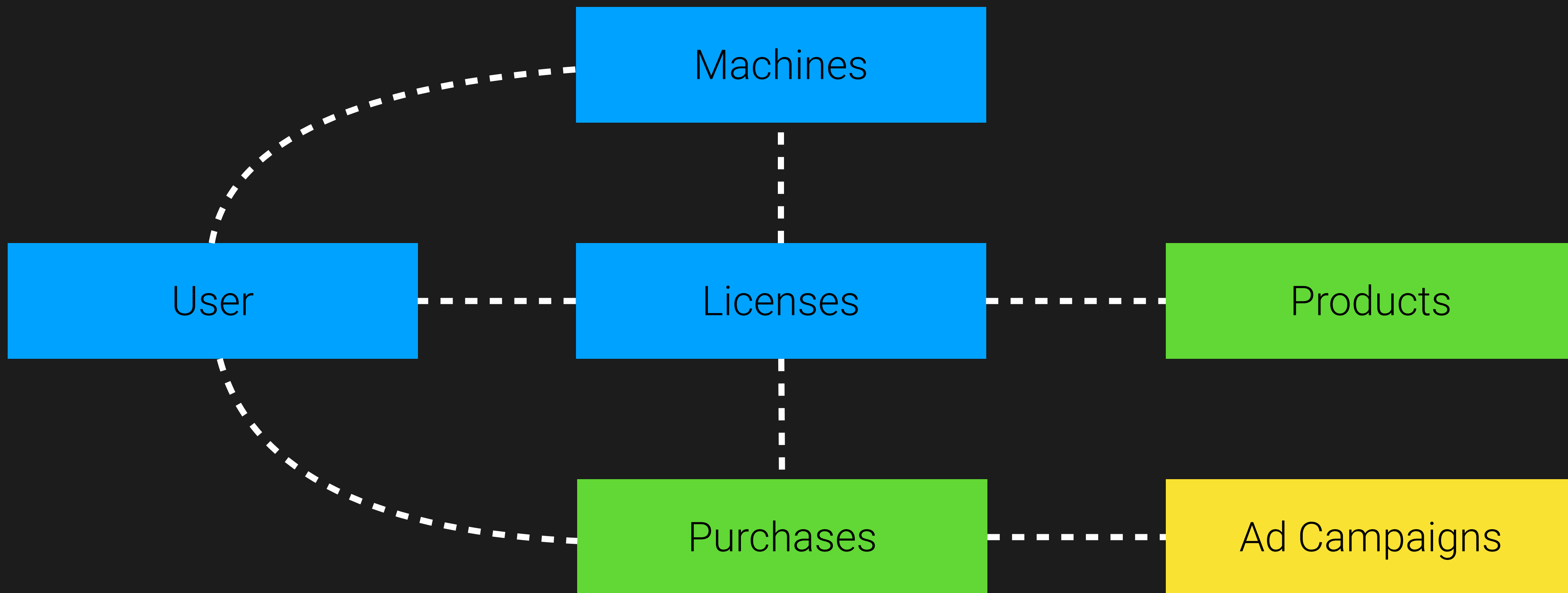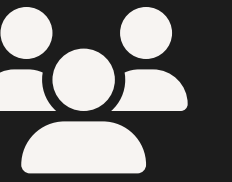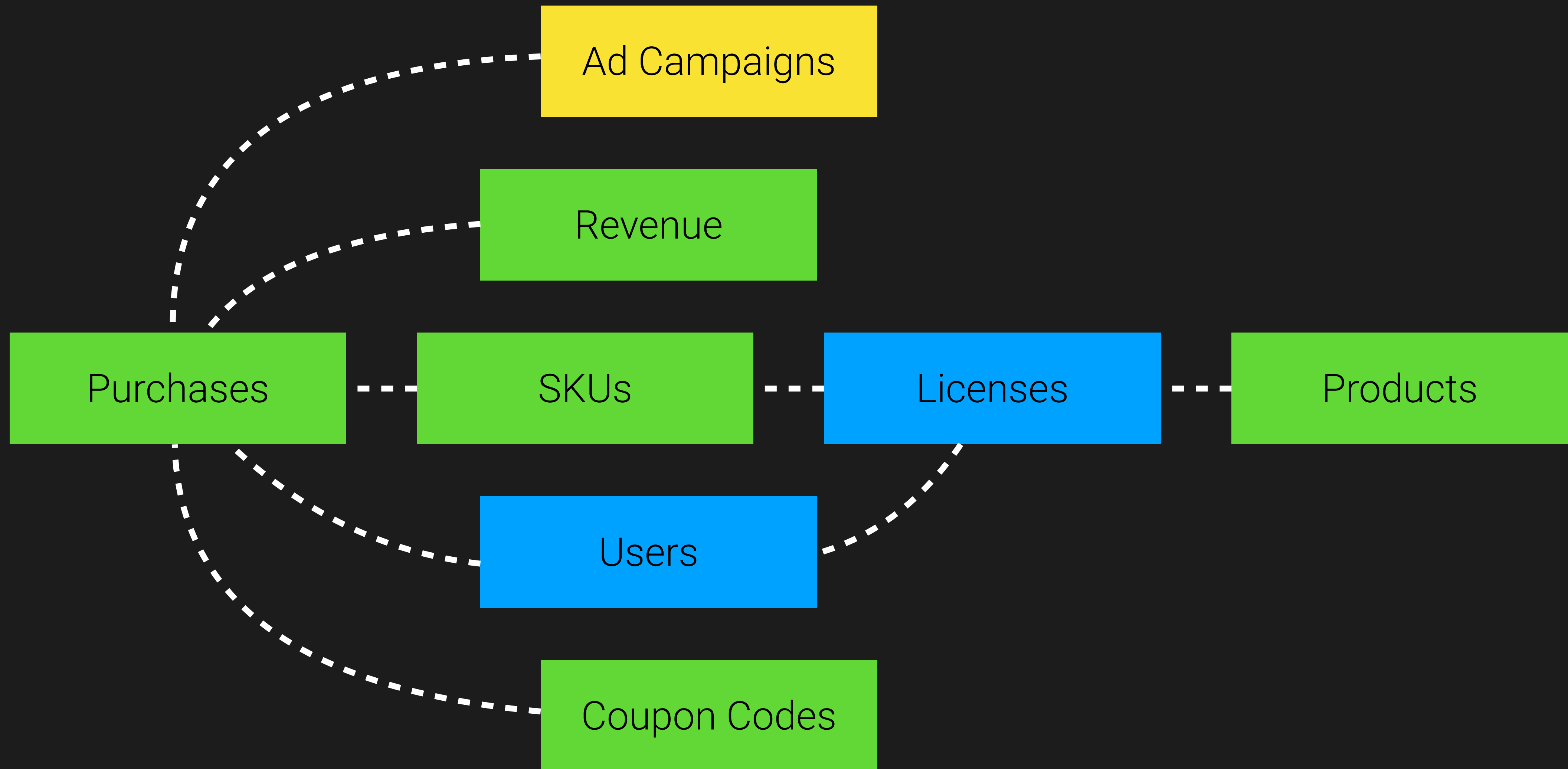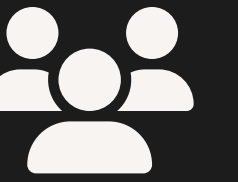
What we need it to do

Centralize & integrate licensing, communication, and other business logic

Centralize & aggregate information, relate it to itself

Deliver NFRs easily

Manage distributor / third party sales

Snapshot customer info for support
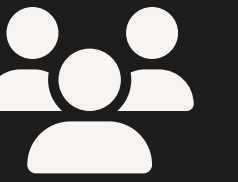
A Fable About Fragile Systems...

SQLite3 to traditional database w/ permissions

"God mode" is dangerous

Build the system for dumb you
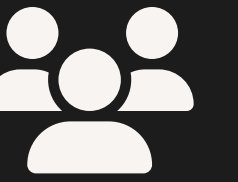
DOs and DON'Ts

DO follow data normalization when possible

DO plan before implementing your database structure

DO keep your backups in multiple places & test restore

DON'T knowingly allow bad data to pollute your database

DON'T assume feature-packed == better (for both your solution and others)

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LICENSING

Licensing: Build vs. Buy Considerations

Licensing is your **business model**

How much technical debt do I want?

Raw cost to purchase solution, lock-in

Control over onboarding experience?

Personal emotional response to piracy

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Licensing: We Built

Priority: ease for paying customers

Keep honest people honest

Custom fulfillment

Pricing flexibility

Our software is cracked :/

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DOs and DON'Ts

DO think about the customer

DO maximize automation

DO assume your product will get cracked if you DIY

DON'T assume someone who downloads a crack would always be a paid customer

DON'T ignore your feelings of personal vengeance towards pirates

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Financial Infrastructure & Reporting

Financial Infrastructure & Reporting

Streamlined (and separate) payment methods & accounts

Regular reporting from simple excel to financial model

Seeing your numbers on a page has power

Centralization of information

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A humble report

		A	B		C	D
		Current Mo Oct 2024	**Prior Mo** Sep 2024		**Avg** Last 3 mos	**Avg** Last 12 mos
	REVENUE					
1	Product 1 Revenue	3,701	3,435		3,600	4,904
2	Product 2 Revenue	1,937	1,909		1,832	1,701
3	**Total Revenue**	**5,639**	**5,344**		**5,432**	**6,604**
	EXPENSE					
4	Advertising	956	882		821	768
5	Influencer	691	982		792	772
6	Professional Fees				167	621
7	Website	56	56		56	56
8	Software	12	12		12	50
9	Annual Fees					77
10	Hardware/Equipment					83
11	Conferences & Events	2,806			935	542
12	Other	124	145		155	70
13	**Total Expense**	**4,645**	**2,076**		**2,939**	**3,040**
14	**Pretax Income**	**994**	**3,268**		**2,493**	**3,565**
15	*Profit Margin*	*18%*	*61%*		*46%*	*54%*
16	Estimated Taxes	348	1,144		873	1,248

Centralize revenue

Personalize categories

Be as specific as you want!

Recurring vs. 1x

Tax reality check

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Try for yourself here: https://docs.google.com/spreadsheets/d/1XTb0uH1HBhuebDPkTxNtsseraXAEf0azJpUVcNOGMWc/edit?usp=sharing

DOs and DON'Ts

DO look at your income after estimated tax

DO check your financials 1x/ month at minimum

DO think of costs in terms of # of products sold

DO talk to an accountant

DON'T assume less $ spent is always better

DON'T just glance at your bank statements

DON'T use payment methods that promise "no limit"

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Compliance

Compliance

Sales license for your region

Tax forms (in US, W9 / 1099)

Work-for-hire agreements

Mutual and unilateral NDAs

Open-source licensing terms

Website privacy policy

Refund policy

EULA

Windows code signing (EV)

Apple developer agreements

Avid licensing (AAX)

Steinberg licensing (VST3)

This list is *incomplete*

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Professional Services

Your mercenaries

- lawyer

- accountant

	Y	N
Do I want to become an expert in this?	Y	N
Do I have time to do this myself?	Y	N
Will I learn something from the professional?	Y	N
Can I afford this?	Y	N
Can I put a $ ceiling on this?	Y	N

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Comply Early, Comply Often

ORDER #▓▓▓▓▓▓ Your EV Code Signing Certificate is ready! `External`

▓▓▓ Certification Authority <noreply@▓▓▓.com>
to me ▾

▓▓▓

Your EV Code Signing Certificate is ready!

Dear Nick France,

Thank you for placing your order. The necessary background checks have been successfully completed and we are pleased to announce that your EV Code Signing Certificate has been issued.

Please note your EV Code signing certificate will be provisioned upon the media device you selected and sent via postal mail. A separate email correspondence will be sent to include the password which will be needed to unlock the media upon receipt.

Should you have any questions or issues you would like to discuss, please do not hesitate to contact us.

Thank you for being a valued ▓▓▓ customer.

visit our website

get support

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DOs and DON'Ts

DO get compliance stuff done early

DO automate everything you can relating to certificates

DON'T assume everything will just work out

DON'T be afraid to follow up and ask for help

DON'T assume vendors are flawless

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KPIs / Dashboards / Metrics

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KPIs / Dashboards / Metrics

Keep a pulse on your business and stay motivated

Centralize your data

Make it current

Third party dashboard/metrics solutions

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Data: BIG is not better...

You can generate infinite information about your business

You can slice & dice it a billion different ways

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But just because
you can measure
it doesn't mean it's
important…

This may be all you need at first...

Date	Clicks	Emails	Demos	Purchases
October 2024	2500	200	135	67
September 2024	1700	178	147	38
10-29-24	7000	121	63	45
10-28-24	2120	27	20	10
10-27-24	670	9	4	1

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DOs and DON'Ts

DO choose & use metrics that make sense to you

DO use metrics to sanity check third party numbers

DO remove / cycle out measurements you aren't using

DON'T blindly trust numbers!!!

DON'T draw conclusions from tiny sample sizes, but...

DON'T think more unique metrics overall are better

DON'T overwhelm yourself

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In Conclusion

IF YOU REMEMBER NOTHING ELSE, REMEMBER THIS

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Reliability is king

Low maintenance is queen

Centralize & **simplify** information

Build **smart** systems for dumb you

Small data, meaningful data

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Thank you!

- Alex & Sam

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