



Going from Spreadsheets to Airtable to Apps

You Can Build It!

Hi, I'm Devin Balkind

I build software solutions for startups, nonprofits and government agencies.

I also train people to create their own databases and apps as easily and accessible as possible!

I think DIY databases (or "speadbases") are doing for data what CMS's did for publishing: democratizing access!



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I Work With Sarapis

2,000+ year old god of information management.

Ran the Great Library of Alexandria.

Takes on culturally appropriate characteristics to build trust and nudge people to adopt open data standards and freely share useful information.



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info@sarapis.org

This is part of the WeGov.NYC Program

The mission of WeGovNYC is to bring New Yorkers together to create the world's best municipality.

We offer:

- Tools like the DataBook and a normalized data API
- Funding for projects that demonstrate innovative uses of technology that improve our city.
- Community newsletter, events, more (eventually)



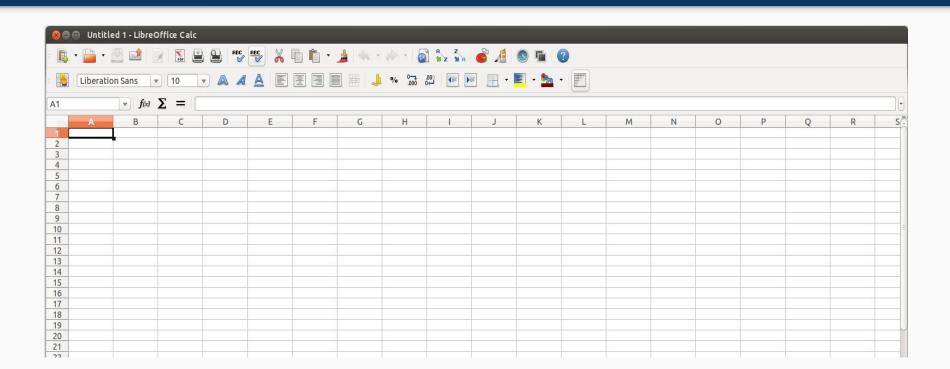
Our Plan Today

- Intro DIY Databases
- Airtable Training
- So you have a spreadsheet...
- From Airtable to Apps
- The Path to Reform



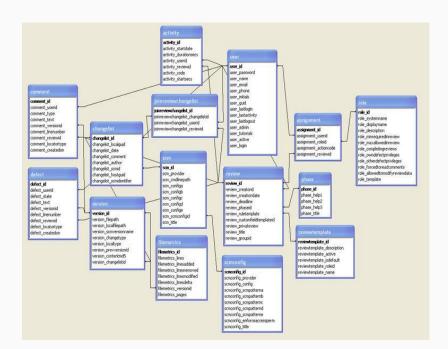
Intro to DIY Databases

Spreadsheets Are Designed for People

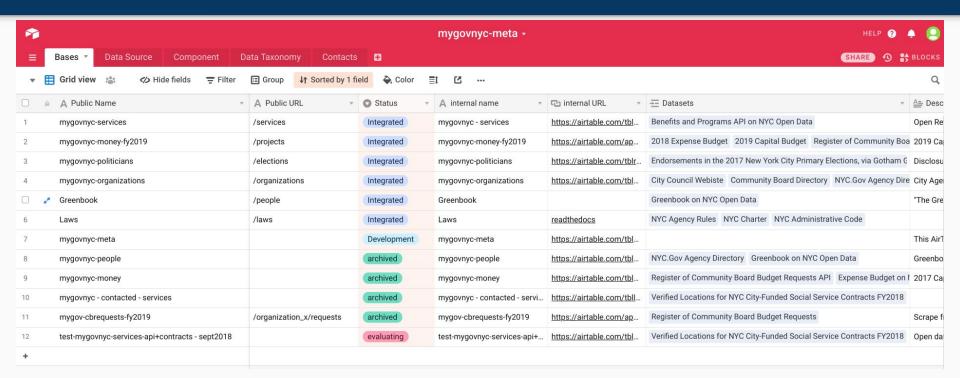


Databases are Designed for Computers

Field id	Type int(11)	Collation	Attributes	Null No	Default None	Extra auto_increment	Action						
								1	X		U	1	T
mailinglistID	int(11)			No	None			1	X		U	3	T
Prefix	varchar(100)	latin1_swedish_ci		Yes	NULL			1	×		U	3	T
Forename	varchar(50)	latin1_swedish_ci		Yes	NULL			1	X		U	3	T
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Email	varchar(50)	latin1_swedish_ci		Yes	NULL			1	×		U	3	T
Company_Name	varchar(50)	latin1_swedish_ci		Yes	NULL			1	×		Ü	3	T
Jobrole	varchar(100)	latin1_swedish_ci		Yes	NULL			1	×		U	1	T
Add1	varchar(200)	latin1_swedish_ci		Yes	NULL			1	×		U	3	T
Add2	varchar(200)	latin1_swedish_ci		Yes	NULL			0	×		U	3	T
Add3	varchar(200)	latin1_swedish_ci		Yes	NULL			1	×		U	3	T
Add4	varchar(200)	latin1_swedish_ci		Yes	NULL			0	X		U	3	T
Town	varchar(200)	latin1_swedish_ci		Yes	NULL			1	X		U	3	T
County	varchar(200)	latin1_swedish_ci		Yes	NULL			0	×		U	3	T
Postcode	varchar(200)	latin1_swedish_ci		Yes	NULL			1	×		U	3	1
Phone	varchar(18)	latin1_swedish_ci		Yes	NULL			1	×		U	1	T
Spend	int(11)			No	0			1	X		U	3	Т
Active	varchar(3)	latin1_swedish_ci		No	Yes			0	×		U	3	T
Turnover	varchar(256)	latin1_swedish_ci		Yes	NULL			1	×		U	3	T
NoEmployees	varchar(256)	latin1_swedish_ci		Yes	NULL			0	×		U	3	ī
Username	varchar(500)	latin1_swedish_ci		Yes	NULL			1	×		U	3	T
Password	varchar(500)	latin1_swedish_ci		Yes	NULL			0	×		U	3	T



DIY Databases: Ease of a Spreadsheet, Utility of a Database, Power of an API



A Few Options but Airtable is Best









A Few Options but Airtable is Best



- Simple Spreadsheet Interface
- Great API with Auto Generated Docs
- Useful Free Tier & Nonprofit Discount
- Integrated with Zapier, Integromat

A few open source knockoffs exist but won't be worth mentioning for a year or two.

Structuring Information to Create Knowledge

Data is information *trying* to become knowledge.

Information Conveyed through messages, experiences, observations. Data Information structured so it can be analyzed by humans and/or computers. Knowledge "Familiarity, awareness, or understanding"

http://en.wikipedia.org/wiki/Knowledge

Your Spreadsheet's Top Row is a Data Model

Data models answer questions like:

- How do you describe something?
- What terms do you use to classify something?
- How does one thing relate to another?



Data Models Often Emerge Organically

Data models, like walking paths, can emerge naturally as people perform their tasks.

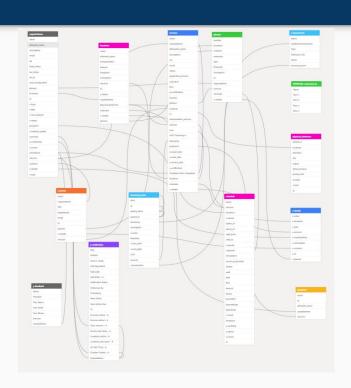
Watch how people are already organizing information, and use the data model concept to formalize that structure to create data that is more useful than before.



Part of a Broader Knowledge Model

If you start connecting your spreadsheets together (i.e. building out a data model) you'll likely find that you're building a CRM, ERP or other recognizable enterprise software system.

And that's when you might start stepping on someone else's toes.



Living Data Models Require Governance

- The people who control your knowledge model control your organization.
- In the past, that was developers and the people who sign their checks and contracts.
- Now, this process can be managed entirely by spreadsheet makers and users.

That shifts power. Expect resistance.

Overcome it by delivering value.



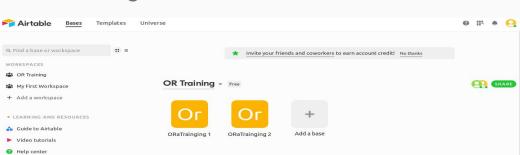


Airtable Training

Demo Airtable: https://tinyurl.com/odw21

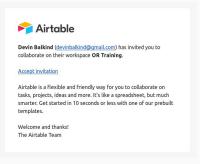
Let's Get Started

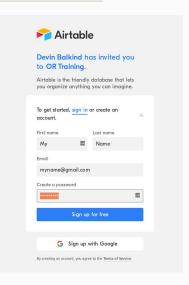
- 1. Log into your Email
- 2. Accept the Invitation
- 3. Create an Account
- 4. Click on the AirTable that you've been assigned



Devin Balkind via Airtab. 4:03 pm

Devin Balkind (devinbalkind@gmail.com) invited you to their workspace of Devin Balkind (devinbalkind@gmail.com) has invited you to collaborate





AirTable Resources

Guide.airtable.com

2. Airtable.com/templates

Nonprofit



Individual and Corporate ...

Organize your individual and corporate donations in one place.



Nonprofit Grant Tracker

Organize your foundation contacts, grant application statuses, and more.



Charitable Donations

Don't wait 'til tax day to get your nonprofit donations in order-keep track of receipts, contribution amounts and...



Nonprofit Gala

Venues, schedules, speakers—there's a lot that goes in to pulling off a successful event. This template will help keep...



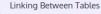












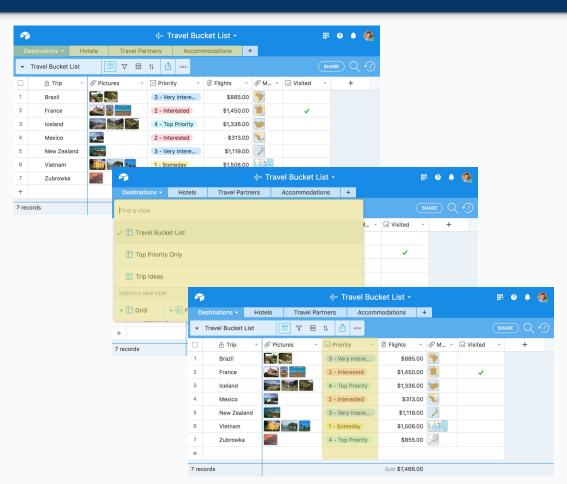






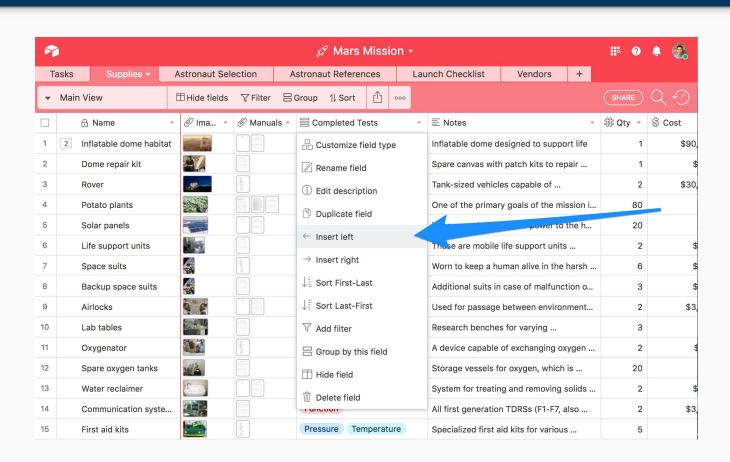
Basic Components

- 1. Bases
- 2. Tables
- 3. Views
- 4. Fields
- 5. Records



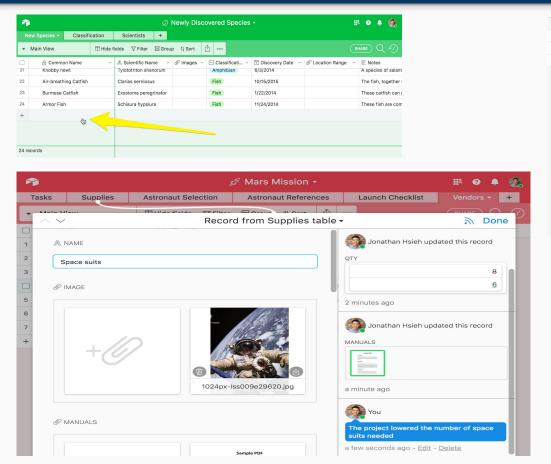
Field Types

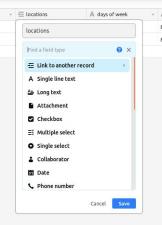
- 1. Single line text
- 2. Long text
- 3. Attachment
- 4. Checkbox
- 5. Single select
- 6. Multiple option
- 7. Date and time
- 8. Phone number
- Email
- 10. URL
- 11. Number
- 12. Currency
- 13. Autonumber



Working with Records

- 1. Create
- 2. Link
- 3. Edit
- 4. Expand
- 5. Export





Collaborating and Sharing

7

8

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10

11

12

13

Burmese Catfish

Meyer's Gecko

Branch Lizard

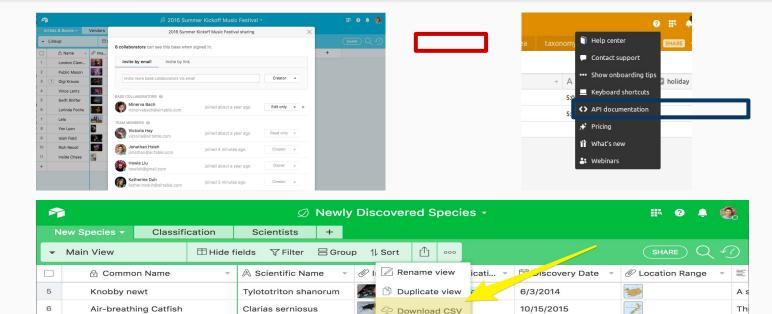
Hull plant

Eon Rose

Red-toed Night Gecko

Armor Fish

- 1. Sharing
- 2. Exporting
- 3. AP



Print view

Delete view

кертпе

Reptile

Reptile

Plant

Plant

1/22/2014

11/24/2014

3/24/2015

3/24/2015

6/3/2014

10/15/2015

1/22/2014

Exostoma peregrinator

Schisura hypsiura

Cnemaspis omari

Gekko thakhekensis

Cyrtodactylus vilapho...

Chinographis actinom...

Rohdea dracaenoides

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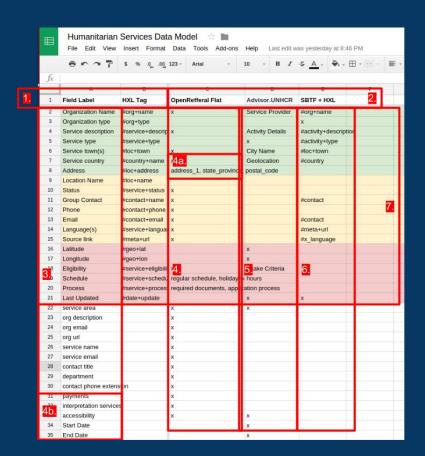
From Airtable to Apps

Let's Make a Spec

- 1. Organize current information systems (docs, spreadsheets).
- Analyze it to create a generic model built in Airtable.
- Extract, transform and load (ETL) the data into it.
- 4. Monitor usage and update the model to optimize its use.
- 5. Design the interface and features for a frontend.
- 6. Evaluate if a custom database/backend is needed.

1. Organize the Info

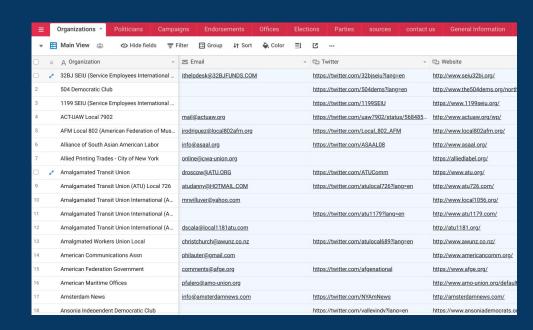
Collect existing information resources and determine how they can best be integrated into an Airtable.



2. Build a Generic Data Model

Take a "kitchen sink" approach where all data is modelled. You can easily delete fields and tables later.

This gives users the feeling that nothing is being lost. It's respectful.



3. Your Airtable is your CRM

Start using the Airtable ASAP instead of the spreadsheets. Delete fields that aren't needed, iterate fast with a few users at first.

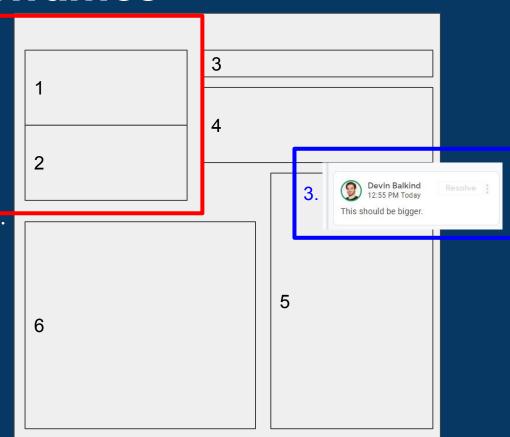
4. Optimize the Model

- Airtable's flexibility allows people to add tables and fields when needed, giving us invaluable data about use.
- We analyze frequency of field use, new fields and tables.
- Unused fields are deleted.
- Evaluate what combination of new training, new views and new fields and tables are needed to achieve functionality.
- Update the model as needed to create new "versions."

5.1 Start with Wireframes

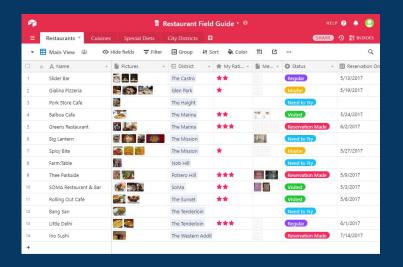
You already have all your data in Airtable, now lay it out using Google Slides.

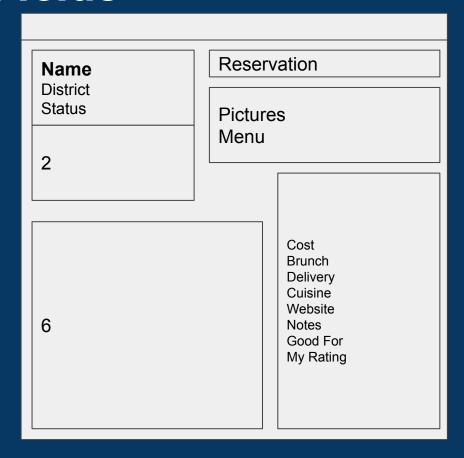
- Numbered list on the references the wireframe boxes on the right.
- 2. Red boxes are used to highlight an area.
- 3. We can use Google Slides comments feature to discuss specific elements.



5.2 Add Tables & Fields

Put the field names into your layouts





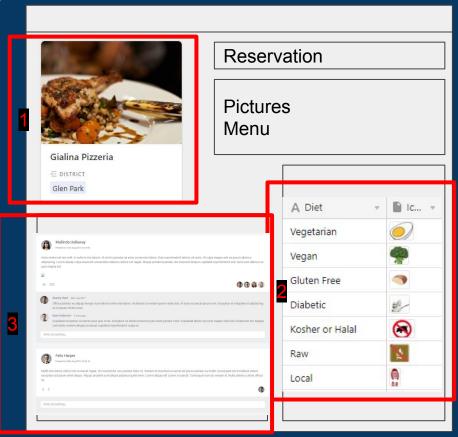
5.3 Make a Collage

Take screenshots of Airtable views to get more specific.

Use screenshots of existing components too.

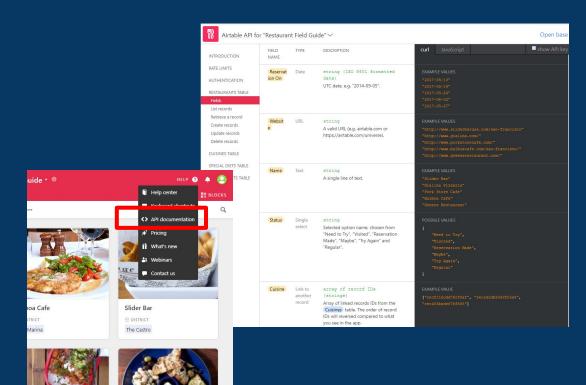
There are THOUSANDS of prebuilt design templates using standard design patterns like Bootstrap and Material - that cost \$20-50.

Example: Remark More at Envato



6.1 Ready for Development

Airtables have APIs and auto-generated docs.
Share that with a developer and they have your data model AND live data right there.



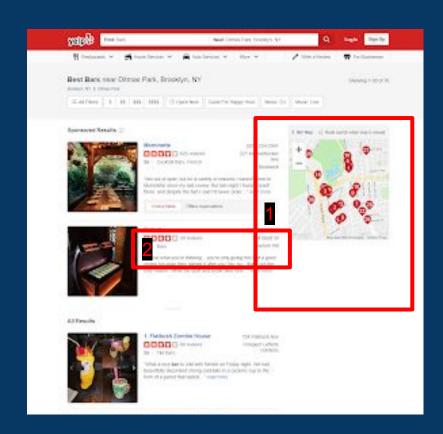
6.2 Getting to Launch

Once you have an app up, replace your wireframes with screenshots.

Make boxes with numbered items and/or comments like.

Example:

- Extend Map to below second card.
- Put yellow background behind restaurant names.



Let's review what we we've made...

- A working data model that we've used with real data.
- Wireframes in an accessible, shareable, commentable format that everyone can review and feel comfortable with.
- We've connected our data model to our wireframe so we know if there are any gaps.
- We've identified standard UI elements and code to implement them.
- Results: Few if any questions from our developers and completely transparent data and interface mockups for our clients/decision-makers!



The Path to Government Reform

DIY Databases Enable Government Reform

If you want to change how an institution does things, you have to be able to change its information management systems.

By empowering frontline information managers, DIY databases can facilitate much needed bureaucratic innovation and reform.

If you're interested in that, then you'll be interested in WeGov.NYC.

Sign up for our newsletter!

Here to Help

I'm a consultant who works with for-profit, nonprofit and government agencies.

If you'd like my services, let me know:

- Email: <u>devin@sarapis.orq</u>
- Twitter: devinbalkind

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PS: I write tech + government opinion at Gotham Gazette. Find articles at devinbalkind.com.



The WeGovNYC Databook!

Imagine if NYC Open Data was normalized.

Imagine if you could click a city agency and see dozens of its datasets like budget items, capital projects, staff and more -- in an ease to navigate, directory-style website.

That's databook.wegov.nyc.

Join our demo & discussion Thursday at 6PM.

