Cycle 2

In Cycle 2, our goal is to get Mathesar to a state where we can demo a simple end-to-end use case using the product by July 15, 2022.

Use Case

The director of a small library wants to use Mathesar to manage library operations. This involves:

- Adding and removing inventory
- Recording book checkouts and returns
- Running reports to simplify essential operations:
 - Tracking down overdue books
 - Seeing how the library usage is changing monthly
 - Promoting the latest acquisitions

User Goals

The user would like to migrate from tracking data in a spreadsheet to a tool that makes it easier to:

- Enter data without mistakes
- Look up items easily
- Run reports on existing data

For example, given a patron who wants a specific title (by a given author), the user wants to be able to find an available copy and link it to them via a check out.

About the User

- Someone else has set up a Mathesar instance for the user, they are using the frontend interface.
- The user is an expert at managing libraries and knows what kind of data would be useful for them.
- The user is not familiar with database terminology or SQL.
- The user is somewhat familiar with spreadsheets, but not an expert.
- The user is used to using web applications (e.g. email, Facebook, etc.)

Our Goals

The Mathesar team's goals are to demonstrate:

- The ease of importing data into the product.
- The value of structuring your data into different tables
- The value of data types.
- The ability to easily fix data modeling errors.
- The power of querying as a lookup paradigm.
- The power of querying as a report generation paradigm.
- The ease of generating usable reports using structured data.

Also, we want to **emphasize user experience**, show users how easy it is to do things.

Note

Our goal is to create a compelling broad strokes demo, *not* to make the product ready for use. For example, in order to be *ready to use*, we will need user authentication, the ability to clean up messy data, handling edge cases, etc. Those are not prioritized in this cycle because they're too basic to be impressive in a demo.

We will prioritize usefulness in future cycles.

Starting Conditions

For the demo, we assume:

- The user has access to a Mathesar instance that is set up.
- There are no tables and schemas other than the *public* schema
- The user has two spreadsheets in the following formats:

# id	y = titla y = ishn	× = au	uthor first n	= author last n	author wobsite	= publisher	# publication v Y 2 acquisition d						
1	1 Begin Act West One 1-78132-	-991-5 Kelly	utiloi_liist_li •	Stephenson	https://stephenson	Daniels-Ray	1.901 1973-10-10 AD	13.81	.pr +	These	schemas are also i	ntended to have a "Boo	k ID" and "Patron ID" in the
2	2 Film Party Suggest 0-520-3	35216-5 Jeffre	ey	Gutierrez	https://gutierrez.com	Garcia, Walton and	1,981 1985-12-18 AD	2.58		origina	I spreadsheets, the	y are not shown here.	
3	3 Might Media Whom 0-653-4	41523-0 Josep	ph	Jackson	https://josephjackso	Wood, Whitaker and	1,940 1960-11-27 AD	12.38					
4	4 Think Anyone Along 1-5291-1	1308-3 Kimbe	erly	Williams	NULL	Daniels-Ray	1,921 1983-09-11 AD	2.63			1.5		
5	5 Think Anyone Along 1-5291-1	1308-3 Kimbe	erly	Williams	NULL	Daniels-Ray	1,921 2006-05-20 AD						
6	6 One Heart Oil Half T 0-564-1	5589-6 Theor	dore	Ramos	https://ramos.com	Manning and Sons	1,944 1944-11-20 AD		# id	*	\equiv first_name	Y ≡ last_name	? email 👻 -
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10	10 Learn Thus Necessa 0-7188-2	2166-1 Barba	ara	Rich	NULL	Garcia, Walton and	1,932 1973-10-20 AD			-		Hunter	amberingjonnsonner
12	12 Learn Thus Necessa 0-7188-2	2166-1 Barba	ara	Rich	NULL	Garcia, Walton and	1,932 1997-06-29 AD			3	Louis	Murphy	Imurphy@church-ni
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15	15 Learn Thus Necessa 0-7188-2	2166-1 Barba	ara	Rich	NULL	Garcia, Walton and	1,932 2007-11-28 AD	5		5	Scott	Beck	s beck56@gomez c
16	16 Learn Thus Necessa 0-7188-2	2166-1 Barba	ara	Rich	NULL	Garcia, Walton and	1,932 1972-12-01 AD			0	00011	Beek	S.Beekoo@gomez.e
17	17 Learn Thus Necessa 0-683-18	8476-8 Barba	ara	Rich	NULL	Garcia, Walton and	1,995 2021-11-21 AD	6		6	Adam	King	a.king@harper.com
18	18 Learn Thus Necessa 0-683-18	Barba	ara	Rich	NULL	Garcia, Walton and	1,995 2015-05-10 AD			_	_		
19	19 Learn Thus Necessa 0-683-1	B476-8 Barba	ara	Rich	NULL	Garcia, Walton and	1,995 2008-07-30 AD	7		7	Tammy	Flores	tammy.flores15@sa
20	20 Learn Thus Necessa 0-683-18	B476-8 Barba	ara	Rich	NULL	Garcia, Walton and	1,995 2015-05-30 AD	8		8	Laura	Williams	laurawilliams@vang
21	21 Learn Thus Necessa 0-083-10	7399-6 leffer		Rich	https://iefferyblake.i	Garcia, waiton and	2 013 2019-09-07 AD	0		0	Laura	williams	laurawilliams@yang
23	23 White Sea Wall Stock 0-689-0	04878-5 Aman	nda	Vega	https://amandavega	Daniels-Ray	2.020 2022-02-14 AD	9		9	Anna	Serrano	a.serrano@gutierrez
24	24 White Sea Wall Stock 0-689-0	04878-5 Aman	nda	Vega	https://amandavega	Daniels-Ray	2,020 2020-02-15 AD						
25	25 Box Break Happy O 0-04-52	24875-3 Racha	ael	Johnson	NULL	Ellis-Webb	2,002 2005-08-22 AD	10		10	Austin	Mcintosh	austin.m@lewis.biz
26	26 Prenare Own Manag 0-494-8	89550-0 Louis		Nichols	https://louispichols	Garcia Walton and	1 922 199 <u>4</u> -07-05 AD	11		11	Karen	Perez	kperez77@howe.com
Note								12		12	Todd	Myers	tmyers72@guerra.info
								13		13	Jerry	Gill	jgill@jones-henders
• Th	nese datasets are designed to an an are designed to a set of the s	gned to in	nclude de	ata of man	ny different	types: Text,	Numeric,	14		14	Allison	Mcknight	allisonmcknight94@
111	leger, Dale, Money, En	iaii, Oni, e						15		15	Bryan	Obrien	bryano@hodge-lyon
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								17		17	lanner	Hernandez	thernandez@taylor.1

Note

Storyboard introduction

The next part of this document is a storyboard for the user flow. The goal is to get everything in the storyboard working by the end of the cycle.

Structure

- Image: Illustrates the action happening in this part of the storyboard. It could be a placeholder, product screenshot, wireframe, or prototype screenshot. It is not meant to be final, designs will be finalized during the cycle.
- What's happening?: Explains the actions the user is performing.
- Design intentions: Explains what we're trying to demonstrate or showcase here.
- Design work needed: Pending design work we need to do during the cycle.
- Engineering work needed: Pending engineering work we need to do during the cycle.
- Assigned to: The team that will be working on this screen.



Mukesh Sean

Team A



Dominykas Pavish



Priority: The priority of this part of the flow to the use case



Essential





Nice to have

Action: The type of action this screen is part of (used to group screens together)

1. Schema Creation e.g.



To Be Designed











What's happening?

The user opens Mathesar for the first time and sees a "getting started" page

Design intentions

- Introduce new users to Mathesar
- Help users get started by creating a new schema
- Explain *public* schema that already exists

Design work needed

The entire page

Engineering work needed

The entire page. Primarily frontend.

To B	e Designed
Create Schema	a
← Cancel	✓ Save
Priority	Action 1. Schema Creation
	To B Create Schem ← Cancel Priority €

What's happening?

The user creates a "Library" schema

Design intentions

The purpose of this screen in the demo is to introduce the concept of the schema (called "app" in dabbleDB or "base" in Airtable). Introducing concepts early in the design process can help users and the demo audience anticipate the application's flow.

In this case, we want to emphasize that the schema will contain the logic, tables, and views for a specific task, and that all objects will be related to it. In this case, to manage a library by adding books, users, and attributes of those books.

Design work needed

The entire page

Engineering work needed

The entire page. Primarily frontend.

My Database LM library_management + New Search or Jump To... Q search LM library_management Views No Views Create your first table Tables **Empty Table** No Tables Create an empty Table. Queries Import Table from File Import existing Table from File











What's happening?

The user is directed to the homepage for the schema.

Design intentions

The purpose of this screen in the demo is to introduce the concept of the schema (called "app" in dabbleDB or "base" in Airtable). Introducing concepts early in the design process can help users and the demo audience anticipate the application's flow.

In this case, we want to emphasize that the schema will contain the logic, tables, and views for a specific task, and that all objects will be related to it. In this case, to manage a library by adding books, users, and attributes of those books.

Design work needed

The entire page

Engineering work needed

The entire page. Primarily frontend.

My Do	atabase LN	1 library_manager	ment 🛉 N	ew Search or	Jump To]			
(Q	Import	Table from Fil	e							
Vie No	Select F	ile books.csv						This depict table, i	wireframe ts the Books it's meant to	
Τα	Format c	of date columns						be i	llustrative	
No	120 Rec	ords 40 Column	s 4 Data Ty	ypes <u>3 Colum</u>	ns with Missing	s <u>10 Duplicated Rec</u>	ords			
			ISBN	Author First Na	Author Last Na			Publication Y	Acquisition D	ACC
Qu	43980	To Kill a Mocking	758359690	Harper	Lee	Data Type Text	Warner Boo	1985	1990-02-03	
						URI				L
	On impo	ort errors Set e	mpty value					Cance	el Cre	eate



Team A

Priority

Action



4

What's happening?

The user imports Patrons data from their spreadsheet.

Design intentions

- Show off our inference
- \cdot Introduce data types and their benefits
- Allow user to confirm their data

Design work needed

Redesign current import workflow

Engineering work needed

Implement redesign.

Primarily frontend, might need backend support.



5		

MT mathesar_tables / 🚏	public 🗸								
Q search	B books	sim		patrons	_sim				
▼ Tables	🌣 Table	• T Fi	ilters	\$ Sort	🖬 Group	+ New Record	ØL	ink Table	
books sim		# id		v ≣ fire	t name	≡ last name	~	? email	~
	1	. IG		1 Beth	Chamo	Miller		bethmiller62	@day c
domains 1*	2			2 Amber		Hunter		amber h@iol	onson net
	3			3 Louis		Murphy		Imurnhv@ch	urch-ni
	4			4 Gany		Stone		a stone@rio	e net
	5			5 Scott		Bock		s back56@c	omozic
	6			6 Adam		King		a king@harp	or com
patrons_sim	7			7 Tamm		Eloroa		tommy floro	15@00
Table 6	,			7 Tamm	/	Hores		laurauilliana	Siowsa
trees	0			8 Laura		Villiams		laurawilliams	wyang
	9			9 Anna		Serrano		a.serrano@g	utierrez
	10			10 Austin		Mcintosh		austin.m@le	WIS.DIZ
	11			11 Karen		Perez		kperez77@h	owe.com
	12			12 Todd		Myers		tmyers72@g	uerra.info
	13			13 Jerry		Gill		jgill@jones-ł	nenders
	14			14 Allison		Mcknight		allisonmckni	ght94@
	15			15 Bryan		Obrien		bryano@hoc	lge-lyon
	16			16 Annet	e	Castaneda		annette.cast	aneda4
	17			17 Tanne		Hernandez		thernandez@	ataylor.i
	18			18 Daniel		Ramirez		d.ramirez@c	arter.net
	19			19 Carrie		Rubio		crubio@wils	on-ross
	20		:	20 Kimbe	rly	Simmons		k.simmons9	@everet
	21			21 Jennif	er	Pratt		jennifer.p@c	ole.com
	22		:	22 Antho	ıy	Coleman		acoleman43	@stout
	23		:	23 Sandra	4	Butler		sbutler@web	ob-flemi
	24		:	24 Antho	ıy	Perez		anthony.p82	@wrigh
	25		:	25 Hanna	h	Harris		hharris@mye	ers.com
	26		:	26 Shelly		Mendez		smendez86	@wood
	27		:	27 Matthe	w	Thompson		matthewt@v	white.com
	28		:	28 Rober		Payne		rpayne@calo	well-ba
	29		:	29 Linda		Rodriguez		linda.rodrigu	ez@da
	30		:	30 Nicole		Taylor		ntaylor7@cr	osby-fr
	31			31 Matth	w	Lee		mlee53@hay	/es-lon
	32			32 Zacha	rv	Richardson		zacharvr@al	exander
	33			33 Lori	·	Weaver		lweaver@va:	quez.c
	34			34 Micha	4	Vaughan		myaughan	S@quz
	Showing	to 500 of 100	00 reco	ords		raagilaii		invaugnanoo	eguz









5

+ New Table 👻 💄

2 Refresh

What's happening?

The user is taken to the Patrons table after successful import

Design intentions

- Introduce users to the main Mathesar interface
- Introduce users to the concept of tables

Design work needed

Review whether current design meets intentions and improve as needed

Engineering work needed

- Implement design changes as needed
- Ensure that all featured data types work well



Q search	patrons_	sim		books_sim				
Tables	🌣 Table	✓ Filters	•	Sort 🔲 Group	+ New Record	ink Table		
books_sim	4	# id	~	\equiv first_name \checkmark	≡ last_name 🗸	? email 🗸		
domains	1		1	Beth	Miller	Data Type		
domains 1*	2		2	Amber	Hunter	Email 🌣 >		
Domains with types	3		3	Louis	Murphy	Display		
Iibraries	4		4 Gary		Stone	↓≟ Sort Ascending		
Movies	5		5	Scott	Beck	↓F Sort Descending		
patrons_sim	6		6	Adam	King	Group by column		
🗄 Table 6	7		7	Tammy	Flores	Operations		
trees	8		8	Laura	Williams	I Rename		
	9		9	Anna	Serrano	💼 Delete column		
	10	0	10	Austin	Mcintosh	Allow NULL		
	11		11	Karen	Perez	Allow Duplicates		
	12		12	Todd	Myers	tmyers72@guerra.info		
	13		13	Jerry	Gill	jgill@jones-henders		
	14		14	Allison	Mcknight	allisonmcknight94@		
	15		15	Bryan	Obrien	bryano@hodge-lyon		
	16	83	16	Annette	Castaneda	annette.castaneda4		

17 Tanner

18 Daniel

Assigned to





17

18





thernandez@taylor.i...

d ramirez@carter net

Hernandez

Ramirez

6

What's happening?

The user sets unique constraint on Patron email

Design intentions

- Demonstrate the power of constraints (structured data)
- Demonstrate how to ensure deduplicated data

Design work needed

- Consider how to explain constraints better
- Review placement of constraint settings in Table view

Engineering work needed

Implement design work, if any

This would also be a good place to look at the open design tickets to redesign the column/data types menu, since it will be featured here.

We may want to consider an "Inspector" sidebar pattern.

-	1,001	NOLL	NOLL	a.king@narper.com
	1.001	NULL	NULL	a king@barper.com
New	records will be re	positioned on refres	sh	constraint cannot be set
00	500	Christopher	Lewis	Unable to save cell. This column has non-unique values so a unique
199	499	Heidi	Marsh	h marsh29@davis c
498	498	Amanda	Brown	a.brown@sutton.com
197	497	Kevin	Simmons	ksimmons66@frazie
496	496	Linda	Higgins	lhiggins@davis.com
495	495	Amy	Holt	a.holt44@palmer.com
194	494 Dana		Livingston	d.livingston@jones









Action



7

What's happening?

User tries to enter duplicate patron

Design intentions

Show off data validation

Design work needed

Ensure error design looks good and works for non-technical users

Engineering work needed

Ensure error message and design look good

My Da	tabase LI	library_manager	ment 🛉 N	ew Search or	Jump To]			
Q Vie No	Import Select F Format o	Table from Fil ile books.csv of date columns	e							
ΤαΙ										
No	120 Rec	ords 40 Column	s 4 Data Ty	pes 3 Colum	ns with Missing	s 10 Duplicated Rec	ords			
	Book Id	Title		Author First No.	Author Last Na	Author Wobsito	Publishor	PublicationV	Acquisition D	Acc.
	INTEGE						TEXT			MO
Qu	43980	To Kill a Mocking	758359690	Harper	Lee	Data Type	. Warner Boo	1985	1990-02-03	
						URI				
	Cn imp	ort errors Set er	npty value	·]	<u></u>	<u>I</u>	<u> </u>	Cance		ate
L										





2. Table Creation

8

uisition C NEY Data Type Money Number Table

What's happening?

User imports new spreadsheet - Books

Design intentions

Show more complicated import with more data types

Design work needed

See Storyboard #4

Engineering work needed

See Storyboard #4

publisher	publication_yea		acquisition_dat				
*	numeric	~ da	ite 🗸	m			
ls-Ray	character varying			13			
a, Walton and Reed	date			2.			
, Whitaker and Graves	double precision						
ls-Ray	integer						
ls-Ray	interval			4.			
ng and Sons	mathesar_types.em mathesar_types.ma	ail thesar_	money	7.5			
Ltd	1970	19	76-07-06	11			
Ltd	1970	08-06-14	0.				
a, Walton and Reed	1932	11-09-10	8.				
a, Walton and Reed	1932	73-10-20	7.4				









9

What's happening?

User changes data type of Publication Year during import from NUMERIC to INTEGER

Design intentions

Show ease of changing data structure during import

Design work needed

Ensure design work in Storyboard #4 covers this

Engineering work needed

Should be covered by Storyboard #4

acquisitio	n_price
mathesar_types.mat	hesar_money ×
13.81	
2.58	
12.38	
2.63	
4.03	
7.75	
11.61	
0.09	
8.94	
7.48	

The design pictured uses a different field.



✓ Finish Import



10

What's happening?

User drops Book ID field from the columns to be saved

Design intentions

Show how easy it is to change the structure of the data during import

Design work needed

Ensure design work in Storyboard #4 covers this

Engineering work needed

Should be covered by Storyboard #4

books	_sim													
🌣 Tabl	e 🗸	▼ Filters	¢ 5	Sort	🖪 Group	+ New Record	Ø Li	ink Table						
	# id		•	title	~	\equiv isbn	~	\equiv author_first_n \checkmark	\equiv author_last_n \checkmark	🌐 author_website 🖌	\equiv publisher 🗸	# publication_y •	? acquisition_d 🗸	? acquisition_pr 🗸
1			1 B	egin Ac	t West One	1-78132-991-5		Kelly	Stephenson	https://stephenson	Daniels-Ray	1,901	1973-10-10 AD	13.81
2			2 F	ilm Part	y Suggest	0-520-35216-5	5	Jeffrey	Gutierrez	https://gutierrez.com	Garcia, Walton and	1,981	1985-12-18 AD	2.58
3			3 N	light Me	edia Whom	0-653-41523-0	D	Joseph	Jackson	https://josephjackso	Wood, Whitaker and	1,940	1960-11-27 AD	12.38
4			4 T	hink An	yone Along	1-5291-1308-3		Kimberly	Williams	NULL	Daniels-Ray	1,921	1983-09-11 AD	2.63
5			5 T	hink An	yone Along	1-5291-1308-3		Kimberly	Williams	NULL	Daniels-Ray	1,921	2006-05-20 AD	4.03
6			6 0	ne Hea	rt Oil Half T	0-564-15589-0	6	Theodore	Ramos	https://ramos.com	Manning and Sons	1,944	1944-11-20 AD	7.75
7			7 S	tart Sig	n East Ope	1-936802-33-3	3	Amanda	Vega	https://amandavega	Porter Ltd	1,970	1976-07-06 AD	11.61
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9			9 L	earn Th	us Necessa	0-7188-2166-1		Barbara	Rich	NULL	Garcia, Walton and	1,932	2011-09-10 AD	8.94
10			10 L	earn Th	us Necessa	0-7188-2166-1		Barbara	Rich	NULL	Garcia, Walton and	1,932	1973-10-20 AD	7.48
11			11 L	earn Th	us Necessa	0-7188-2166-1		Barbara	Rich	NULL	Garcia, Walton and	1,932	2022-01-18 AD	3.87
12			12 L	earn Th	us Necessa	0-7188-2166-1		Barbara	Rich	NULL	Garcia, Walton and	1,932	1997-06-29 AD	12.17
13			13 L	earn Th	us Necessa	0-7188-2166-1		Barbara	Rich	NULL	Garcia, Walton and	1,932	2001-12-16 AD	8.79
14			14 L	earn Th	us Necessa	0-7188-2166-1		Barbara	Rich	NULL	Garcia, Walton and	1,932	1984-06-20 AD	0.99
15			15 L	earn Th	us Necessa	0-7188-2166-1		Barbara	Rich	NULL	Garcia, Walton and	1,932	2007-11-28 AD	11.31
16			16 L	earn Th	us Necessa	0-7188-2166-1		Barbara	Rich	NULL	Garcia, Walton and	1,932	1972-12-01 AD	10.95
17			17 L	earn Th	us Necessa	0-683-18476-8	В	Barbara	Rich	NULL	Garcia, Walton and	1,995	2021-11-21 AD	8.62
18			18 L	earn Th	us Necessa	0-683-18476-8	В	Barbara	Rich	NULL	Garcia, Walton and	1,995	2015-05-10 AD	9.83
19			19 L	earn Th	us Necessa	0-683-18476-8	В	Barbara	Rich	NULL	Garcia, Walton and	1,995	2008-07-30 AD	8.85
20		:	20 L	earn Th	us Necessa	0-683-18476-8	3	Barbara	Rich	NULL	Garcia, Walton and	1,995	2015-05-30 AD	2.4









11

What's happening?

User is redirected to the Books table after successful import

Design intentions

To reinforce the main Mathesar working interface and show other parts of it.

Design work needed

See Storyboard #5

Engineering work needed

See Storyboard #5



What's happening?

User extracts Authors table using first name and last name columns

Design intentions

- Introduce the concept of relationships (Links)
- Introduce the concept of data modeling
- Introduce the UI of data modeling

Design work needed

The entire flow, including supporting features like how to access links once they are created.

Engineering work needed

API and frontend work.

DB work is already done.

New Linked Table from

Create Linked Table

My Databas	e LM library_manager	ment 🗕 New	Search or Jump To
Author \	Filter Sort	Group	
Id	Author First Name	Author Last Name	Author Website
1	Harper	Lee	www.tokillamockingbird.com
			This mockup shows three columns
Assin	ned to	Priority	Action
		M:	2. Table Creation
Œ	B		4 Data Modeling

13

What's happening?

User is directed to the new Authors table

Design intentions

- Explain the concept of relationships further (user should understand that each record can now be linked to the main books table)
- Allow user to navigate to linked tables easily

Design work needed

- Should be covered by Storyboard #5 and #12
- We might need additional work for explaining that this was created as a result of a data modeling step

Engineering work needed

Mainly design implementation, should be minor.

E books	sim													
Tabl	e 🗸	▼ Filters	\$ Sor	t 🔳 Gro	up	+ New Record	𝔗 Link 1	able						
	# id		• =	itle	~	\equiv isbn	~	author_first_n 🗸	\equiv author_last_n 🗸	🌐 author_website 🖌	\equiv publisher 🗸	# publication_y ¥	? acquisition_d 🗸	? acquisition_pr 🗸
1			1 Beg	in Act West	One	1-78132-991-5	K	elly	Stephenson	https://stephenson	Daniels-Ray	1,901	1973-10-10 AD	13.81
2			2 Film	Party Sugg	est	0-520-35216-5	Je	ffrey	Gutierrez	https://gutierrez.com	Garcia, Walton and	1,981	1985-12-18 AD	2.58
3			3 Mig	ht Media Wh	nom	0-653-41523-0	Jo	oseph	Jackson	https://josephjackso	Wood, Whitaker and	1,940	1960-11-27 AD	12.38
4			4 Thir	k Anyone A	long	1-5291-1308-3	K	mberly	Williams	NULL	Daniels-Ray	1,921	1983-09-11 AD	2.63
5			5 Thir	ik Anyone A	long	1-5291-1308-3	K	mberly	Williams	NULL	Daniels-Ray	1,921	2006-05-20 AD	4.03
6			6 One	Heart Oil H	alf T	0-564-15589-6	Т	neodore	Ramos	https://ramos.com	Manning and Sons	1,944	1944-11-20 AD	7.75
7			7 Star	t Sign East (Ope	1-936802-33-3	A	manda	Vega	https://amandavega	Porter Ltd	1,970	1976-07-06 AD	11.61
8			8 Star	t Sign East (Ope	1-936802-33-3	A	manda	Vega	https://amandavega	Porter Ltd	1,970	2008-06-14 AD	0.09
9			9 Lea	n Thus Nec	essa	0-7188-2166-1	B	arbara	Rich	NULL	Garcia, Walton and	1,932	2011-09-10 AD	8.94
10			10 Lea	n Thus Nec	essa	0-7188-2166-1	B	arbara	Rich	NULL	Garcia, Walton and	1,932	1973-10-20 AD	7.48
11			11 Lea	n Thus Nec	essa	0-7188-2166-1	B	arbara	Rich	NULL	Garcia, Walton and	1,932	2022-01-18 AD	3.87
12			12 Lea	n Thus Nec	essa	0-7188-2166-1	B	arbara	Rich	NULL	Garcia, Walton and	1,932	1997-06-29 AD	12.17
13			13 Lea	n Thus Nec	essa	0-7188-2166-1	B	arbara	Rich	NULL	Garcia, Walton and	1,932	2001-12-16 AD	8.79
14			14 Lea	n Thus Nec	essa	0-7188-2166-1	B	arbara	Rich	NULL	Garcia, Walton and	1,932	1984-06-20 AD	0.99
15			15 Lea	n Thus Nec	essa	0-7188-2166-1	B	arbara	Rich	NULL	Garcia, Walton and	1,932	2007-11-28 AD	11.31
16			16 Lea	n Thus Nec	essa	0-7188-2166-1	B	arbara	Rich	NULL	Garcia, Walton and	1,932	1972-12-01 AD	10.95
17			17 Lea	n Thus Nec	essa	0-683-18476-8	B	arbara	Rich	NULL	Garcia, Walton and	1,995	2021-11-21 AD	8.62
18			18 Lea	n Thus Nec	essa	0-683-18476-8	B	arbara	Rich	NULL	Garcia, Walton and	1,995	2015-05-10 AD	9.83
19			19 Lea	n Thus Nec	essa	0-683-18476-8	B	arbara	Rich	NULL	Garcia, Walton and	1,995	2008-07-30 AD	8.85
20		2	20 Lea	n Thus Nec	essa	0-683-18476-8	B	arbara	Rich	NULL	Garcia, Walton and	1,995	2015-05-30 AD	2.4









14

What's happening?

User navigates back to Books table

Design intentions

Show how easy it is to navigate linked tables

Design work needed

Should be covered by Storyboard #12

Engineering work needed

- Ensure FK implementation is working (to show Author FK)
- Otherwise, should be covered by Storyboard #12

My Database	e LM library_managem	nent 🔶 New	Search or Jump To]	
Author 🗸	Filter Sort	Group			
Id	Author First Name	Author Last Name	Author Website		
1	Harper	Lee	www.tokillamockingbird.com		
•					
Assign	ed to	Priority	Action		
		N :	4. Data	deling	
Ш					
Tean	n A	1			
Bre	nt				

What's happening?

User realizes Author website is still in Books, moves the column to Author

Design intentions

- \cdot Show how easy it is to fix data modeling mistakes
- Show off moving columns from one table to another and reconciling data

Design work needed

This entire flow needs to be designed, but should build on Storyboard #12

Engineering work needed

API and frontend work.

DB work is done.



What's happening?

User extracts Publisher column to its own table

Design intentions

- Explain the concept of each table representing a type of entity
- Continue to demonstrate ease of data modeling
- Continue to explain relationships

Design work needed

Should be covered by Storyboard #12

Engineering work needed

Should be covered by Storyboard #12

New Linked Table from

Create Linked Table

My Databa	se LM library_manager	ment 🕂 New	Search or Jump To
Author	∽ Filter Sort	Group	
Id	Author First Name	Author Last Name	Author Website
1	Harper	Lee	www.tokillamockingbird.com
			This mockup shows Authors, not Publishers
Assig	ned to	Priority	Action 2. Table Creation
Teo	H m A	U	4. Data Modeling

Team A

17

What's happening?

User is redirected to the Publishers table and then goes back to Books

Design intentions

Same as Storyboard #13-14

Design work needed

Same as Storyboard #13-14

Engineering work needed

Same as Storyboard #13-14



What's happening?

User extracts ISBN, Title, Author ID, Publisher ID, and Publication Year into a Publications table

Design intentions

Continue to demonstrate

- the concept of each table representing a type of entity
- ease of data modeling
- relationships •

Design work needed

Should be covered by Storyboard #12

Engineering work needed

Should be covered by Storyboard #12

New Linked Table from

Create Linked Table

My Database	e LM library manager	nent New	Search or Jump To
Author ~	Filter Sort	Group	
Id	Author First Name	Author Last Name	Author Website
1	Harper	Lee	www.tokillamockingbira.com
			shows Authors, not Publications
Acciar	ned to	Priority	Action
		M :	2. Table Creation
Ħ	B	U	4 Data Modelina

What's happening?

User is redirected to the Publications table and then goes back to Books

Design intentions

Same as Storyboard #13-14

Design work needed

Same as Storyboard #13-14

Engineering work needed

Same as Storyboard #13-14

	Barbara	Rich	NULL	Gar	cia
	Banama haaka a	in Table		× Gar	cia
	Rename books_s			Gar	cia
	Collection			Gar	cia
				Gar	cia
3	← Cancel			✓ Save Gar	cia
3	Darbara	Non	NOLL	Gar	cia
3	Barbara	Rich	NULL	Gar	cia
255					











What's happening?

User renames Books to Collection

Design intentions

- Explain the concept of naming tables after the entity contained
- Show ease of renaming tables
- Show natural language in table names

Design work needed

Review workflow and design, make improvements

Engineering work needed

Implement design improvements as needed, frontend only.

~	author_first_name	Ē
	Kelly	Ste
	Jeffrey	Gu
	Joseph	Ja
	Kimberly	Wi
	Kimberly	Wi
	Theodore	Ra
	Amanda	Ve
	Amanda	Ve
	Barbara	Ric











What's happening?

User renames columns using Title Case as needed

Design intentions

- Show ease of renaming columns
- Show that column names can use natural language

Design work needed

Review workflow and design, make improvements

Engineering work needed

Implement design improvements as needed, frontend only.

My Databas	se LM libra	ry_management	1	New Searc	ch or Jump) То				
Checkou	uts ~									
Id	Book Id	Title ∽ via E	Book Id	Patron Id	Email	✓ via Patron Id	Checko	ut Time	Due Date	٦
1	123	To Kill a Mocking	bird	345	john@	email.com?	05:00		02/05/22]
2*		Lean	Q]
Book	Title ▼ con	tains 🔻 Lean								
Id	Title		ISBN			Author Id				ך
123	Lean Sta	rtup	75835	969040		1335				
124	Lean Thir	nking	43630	560345		4567				
								Th ent Che but t	is depicts try into the ockout table, the concept is similar	
Assi	gned to		Prior	ity		Action 6. Rec	orc	l Ed	iting	

Brent

22

What's happening?

User records new inventory item

Design intentions

- Demonstrate ease of data entry
- Demonstrate ease of relationship lookup during data entry

Design work needed

The entire flow, including how to view and find related items through many-to-many fields

Engineering work needed

DB, API, frontend work

Having virtual columns and using filtering is one way to solve the problem of lookup for Many-to-Many fields, but it's an early design concept at this stage. The actual design will need to be worked out during the cycle. 23 My Database LM library_management
New Search or Jump To...
Checkouts ~

Id Add Column
Add Column
Add Column
Add Column
Add Link Column



What's happening?

User creates new Checkouts table

Design intentions

Demonstrate table creation from scratch (not import)

Design work needed

Review existing flow and make UX improvements if needed

Engineering work needed

Implement UX improvements if needed

My Datab	ase LM libra	ry_managemer	nt 🛉 Ne	Search or Jump To)		
Checko	outs ∽						
Id 1	Book Id 123	Title ∨ Title	via Book Id				Select Link Colo ⊞ Book Book Id Title
						Title	ISBN ⊞ Author ∨ First Nar Last Nar
							⊞ Author First Name Last Name
							⊞ Patron First Name Last Name Email



What's happening?

User adds columns to Checkouts table

- Collection (FK to Collection)
- Patron (FK to Patron)
- Checkout time (Datetime)
- Due date (Date)

Design intentions

- Show how to build up a table from scratch
- Show how to build relationships to existing tables
- Show how relationships are represented once they are set up

Design work needed

Review entire flow and come up with new designs as needed. Use some of the relationship concepts we came up with for the query builder. Potentially use virtual columns.

Engineering work needed

API and frontend work as needed to implement the new flow.

nn

Author Id

3

è

Γ	My Database	ELM libra	ry_management	+ ►	lew Searc	h or Jump	То					
	Checkout	ts v										
	Id	Book Id	Title ∽ via E	Book Id	Patron Id	Email	~	via Patron Id	Checko	ut Time	Due Date]
	1	123	To Kill a Mocking	bird	345	john@	ema	il.com	05:00		02/05/22]
	2*		Lean	Q]
	Book Tit	tle 🔻 Cor	ntains 🔻 Lean								-	_
	Id	Title		ISBN			Au	ithor Id				
	123	Lean Sta	rtup	758359	969040		13	35				
	124	Lean Thi	nking	43630	560345		45	67				

Assigned to	Priority	Action
		6. Record Editing
Brent		

What's happening?

User records a checkout

Design intentions

- Show how quick and easy data entry is for frequent operations
- Show how easy it is to find related records

Design work needed

Should be covered by Storyboard #22

Engineering work needed

Should be covered by Storyboard #22

1y Databo	ase LM libra	iry_manager	ment 🕂	New Searc	ch or Jump To		
hecko	outs ∨						
Id	Book Id	Title ∨	via Book Id	Patron Id	Email ∽ via Patron Id	Checkout Time	Due Date
1	123	Title		345	john@email.com	05:00	02/05/22
	-						
Assig	gned to		Priori	ty	Action		
Assig	gned to		Priori	ty	Action		
Assig	gned to		Priori	ty	Action 7. Defc	ult Val	ues
Assig	gned to		Priori	ty	Action 7. Defc	ult Val	ues

What's happening?

User sets dynamic defaults to automatically calculate checkout date and due date

Design intentions

Show how to configure the product to simplify data entry further

Design work needed

Entire flow

Engineering work needed

DB, API, frontend work

necko	outs 🗸								
d	Book Id	Title ∨ via E	Book Id	Patron Id	Email	✓ via Patron Id	Checko	ut Time	Due Date
1	123	To Kill a Mocking	bird	345	john@	email.com	05:00		02/05/22
2*		Lean	Q						
ook [Title 🔻 cor	ntains 🔻 Lean							
Id	Title		ISBN			Author Id			
123	Lean Sta	irtup	758359	969040		1335			
124	Lean Thi	nking	43630	560345		4567			

Assigned to	Priority	Action
		7. Default Values
Team B Brent	3	6. Record Editing

What's happening?

User records a checkout with new defaults

Design intentions

Show how data entry is simplified further with dynamic defaults

Design work needed

The whole flow, although Storyboard #26 should cover most of it.

Engineering work needed

Storyboard #26 should cover most of it, some additional frontend work may be needed here for the UX of entering records with defaults.

To Be Designed



28

What's happening?

User records a book return

Design intentions

- Show how easy it is to find and update a specific existing record.
- Show off UX for locating records that involve FK and many-to-many relationships

Design work needed

Update existing FK flow as needed, new flow for many-to-many relationships

May be covered by Storyboard #22

Engineering work needed

Will be probably covered by Storyboard #22

To Be Designed







Action

8. Data Explorer
 5. Table Actions

29

What's happening?

User groups checkout data by month and clicks something like "view summary"

Design intentions

- Show how we can start looking at data through the table interface and smoothly go into reporting
- Introduce the concept of reporting

Design work needed

- Review UX for grouping in tables
- "View summary" UI and UX

Engineering work needed

Frontend work for going from table to data explorer

xploring 🖾 Movie - Open	Table		
blumns (2) +	Result Query Run Succesfully		Column
Person_fullName_director	T Person_fullName_director	T ≡ title	Name
ansform Steps (1)	J.J. Abrams	Star Wars: The Rise of Skywalker	title Source
- Add Step -		Super 8 Star Trek	Table Movie
■ Summarize 0 © ⊡ Column T Person_fullName_director ~ Summarize By			Aggregation Formula Columns containing multiple records are aggregated to be displayed in a single row. I≡ List
ggregations title			Filter Linked Records Add a filter to narrow down the linked records that will be include in this column.
IIST			+ Add Filter
	4 Records		面 Delete Column







8. Data Explorer

30

What's happening?

User is taken to data explorer with a summary view

Design intentions

- Introduce Data Explorer
- Introduce Queries
- \cdot Continue introduction to the concept of reporting
- Introduce the Summarization step in the Data Explorer

Design work needed

Review flow, make UX improvements as needed. Should be minimal since the Data Explorer is already designed.

Engineering work needed

Data Explorer DB, API, frontend work

To Be Designed









9. Data Visualization

31

What's happening?

User clicks "view as bar chart" button and sees a visualization of the chart

Design intentions

Show how easy it is to get a quick visualization of data

Design work needed

Flow for viewing visualization in the Data Explorer

Engineering work needed

- Frontend work for the chart
- \cdot Logic for when to show visualization option for bar chart

	e Table 👻	
Columns (0) +		Query Details
Transform Steps (0)	Select a base table to get started	Save Options
Select Step -		Query Name
		New Query (0)
		Sav
		Close wi
		SQL Query This view is a virtual tal statement's result set. to recreate this view.
		Views



Reset

e Query hout Saving le based on a SQL he SQL below can be used

QL Query

What's happening?

User goes to data explorer to create a new query to track overdue books

Design intentions

Introduce location of data explorer

Design work needed

Finalize data explorer navigation

Engineering work needed

Frontend work to implement data explorer navigation

My Database LM library_management 🔶 New Search or Jump To... Explore Books Add Column Title Checkout Id 🖽 Book To Kill a Mockingbird 356, 453, 446, 645 Id 345,768,34,566 Lean Startup Title ISBN First Name Last Name E Checkout Id 🖽 Book via Book Id Id Book Id ISBN I Author via Author Id First Name Last Name



33

What's happening?

User creates overdue book report

Design intentions

- Introduce creating reports in data explorer from scratch
- Introduce the column drag and drop interface
- Introduce how we represent links

Design work needed

Review and update UX as needed

Engineering work needed

Data Explorer DB, API, frontend work

How to generate overdue book report Base table Check outs Filter where due date < TODAY() Join in title from Publications via Collection items Join in email from Patrons Summarize over email, aggregate titles to list

Hathor via Author Id

To Be Designed

Assigned to





Action

8. Data Explorer 10. Views

34

What's happening?

User saves View

Design intentions

Introduce the concept of saving a report for later use

Design work needed

Flow for saving a query as a view

Engineering work needed

Views DB, API, backend work

Prototype							
≡	Tracks by Artist						
88	ר 🏭	Top Grossing Movies ~ T Filter ~	□ Group · ↑↓ Sort ·				
		T Movie Title	# Annual Stats	# Average Production Budget	# Combined Worldwide Box Office		
	0	Fine Line	80	\$6,338,700	\$370,206,084		
	1	FIP	32	\$0	\$340,114,773		
	2	Music Box Films	116	\$5,881,250	\$339,207,693		
	3	Bleecker Street	55	\$12,038,667	\$337,174,687		
	4	Self Distributed	443	\$6,872,500	\$327,205,322		
	5	Warner Independent	22	\$12,025,000	\$310,226,675		
	6	Entertainment One	76	\$14,080,000	\$309,349,735		
	7	AMC Independent	10	\$1,800,000	\$305,065,293		
	8	Freestyle Releasing	164	\$11,649,839	\$292,650,085		
	9	Focus/Rogue Pictures	10	\$16,064,286	\$288,869,913		
	10	Great India Films	9	\$30,000,000	\$287,302,731		
	11	New World	89	\$1,520,000	\$280,029,744		
	12	Avco Embassy	39	\$5,025,000	\$279,934,545		
	13	Filmways Pictures	10	\$10,800,000	\$268,776,788		







10. Views

35

Reset

What's happening?

User is redirected to View

Design intentions

Introduce the Views interface

Design work needed

Revise and update UX as needed

Engineering work needed

DB, API, frontend work for displaying views



Proto	type 🛛 My Database / Al album_collection 💿	New	Q Search or Jump To			
≡	Q Type to Search	Tracks by Artist				
88	All (B) Views (1) Taples (3) Queries (0)		Top Grossing Movies - T Filt	er • ☐ Group •		
	Views +		T. Movie Title	# Appual State	# Average Production Budget	# Combin
	III Top Grossing Movies				# Average Production Budget	" Office
		0	Fine Line	80	\$6,338,700	\$370,206,0
		1	FIP	32	\$0	\$340,114,77
		2	Music Box Films	116	\$5,881,250	\$339,207,69
		3	Bleecker Street	55	\$12,038,667	\$337,174,68
		4	Self Distributed	443	\$6,872,500	\$327,205,32
		5	Warner Independent	22	\$12,025,000	\$310,226,62
		6	Entertainment One	76	\$14,080,000	\$309,349,7
		7	AMC Independent	10	\$1,800,000	\$305,065,2
		8	Freestyle Releasing	164	\$11,649,839	\$292,650,0
		9	Focus/Rogue Pictures	10	\$16,064,286	\$288,869,9
		10	Great India Films	9	\$30,000,000	\$287,302,73
		11	New World	89	\$1,520,000	\$280,029,7
		12	Avco Embassy	39	\$5,025,000	\$279,934,5
		13	Filmways Pictures	10	\$10,800,000	\$268,776,7
		14	Vestron	14	\$0	\$261,205,6
		15	Variance Films	55	\$7,850,000	\$261,109,77







10. Views

What's happening?

User locates existing view through the interface

Design intentions

Introduce the location of Views in the Mathesar interface

Design work needed

Revise and update Views listing UX as needed

Engineering work needed

DB, API, frontend works for listing and finding Views

ned Worldwide Box

Reset

Additional Work

Product work

- UI Styling
- Table Colors

Assigned to



To be done while working on the relevant features

Research/Groundwork for Demo

Branding Marketing Copy Website Real demo data Script for demo Narrator for demo Email collection mechanism

Assigned to



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Workflow Notes

Sub-Team organization		
Each team should meet ASAP and organize and prioritize their work	· Sub-	
 Break the storyboard down into tasks 	acco	
 Figure out dependencies (especially on other teams) 		
 Prioritize and order the tasks 	• Ever	
 Make requests to other teams. 		
Core Team organization		
 Continue checking in with the smallest possible group to get something decided. 	 Plea 	
Use email instead of GitHub discussions or Matrix	idea	
- core-team : Core team only		
- community-team: Invitation-only, community team	Other Cho	
- mathesar-developers: Public	\cdot The	
 Current team events will be core team only. 	· We're	

Community organization

- Monthly community team social call, starting in June.
- Community will also be updated through mailing lists and Matrix.
- $\cdot\,$ We should continue to mark issues as help wanted if we can accept PRs for them.

New communication rituals

What	When	Sender	Recipients
Cycle kickoff	First week of new cycle	Kriti	community-team & n
Standup	Mondays and Wednesdays	All core team members	core-team
Weekly updates	Fridays	One person from each sub-team	community-team
Cycle retrospective	During cool down	Kriti	community-team & n

n Track

-teams should be checking in at least 3 times a week to keep each other ountable to staying on track with the plan.

- This can be either on chat or on a call.

ryone should be aiming to spend 1-2 days per PR or problem.

- Break things down into small enough tasks that this is practical.

- Take extra time to plan in the beginning, that will save time later.

- If something is taking longer, talk to somebody with fresh eyes.

use email the **core-team** list ASAP if stuck on something, someone else may have

anges

roadmap will be updated to be cycle based rather than feature based re still hiring a localization engineer and we'll need to figure out our interview plan.

nathesar-developers

nathesar-developers