

HOW TO DO UNNECESSARY
THINGS IN LONG WINDED
WAYS FOR NO APPARENT
REASON OTHER THAN "I LIKE
BOARDGAMES AND GRAPHS".

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THINGS IN LONG WINDED
WAYS FOR NO APPARENT
REASON OTHER THAN "I LIKE
BOARDGAMES AND GRAPHS".

A HISTORY LESSON







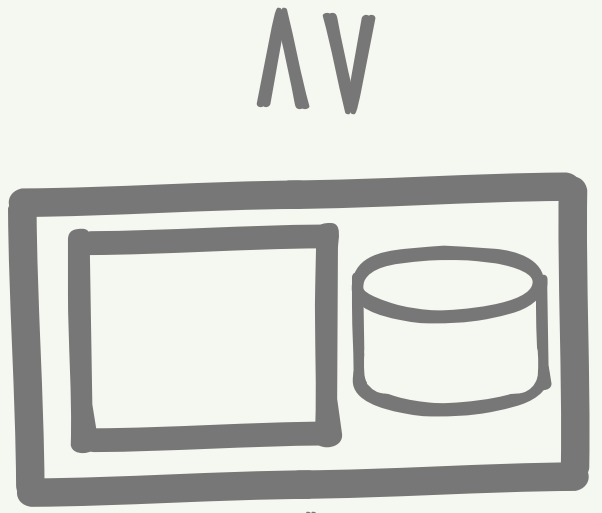
GO BACK
5
SPACES

2

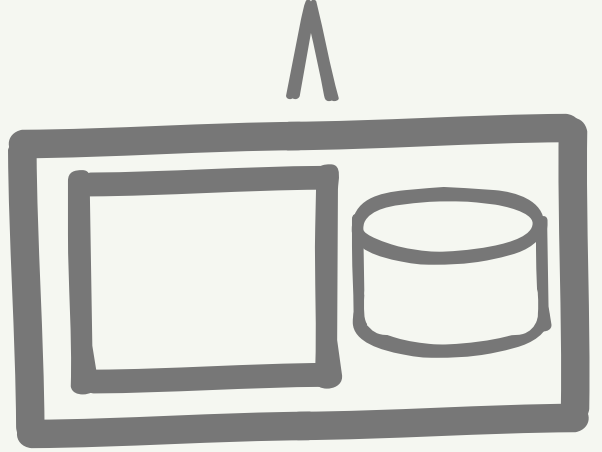
SAFE

2 3 4

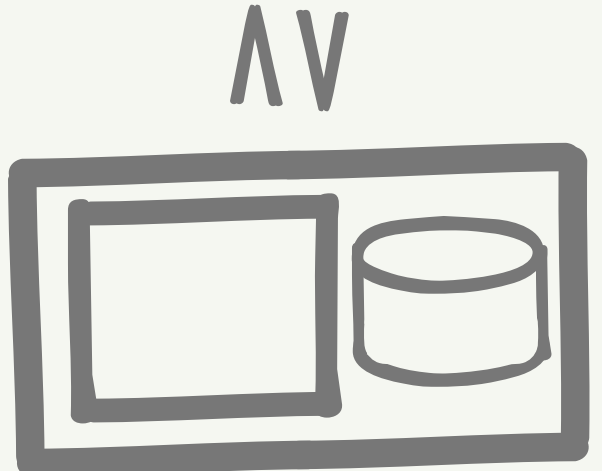
BUILD 2



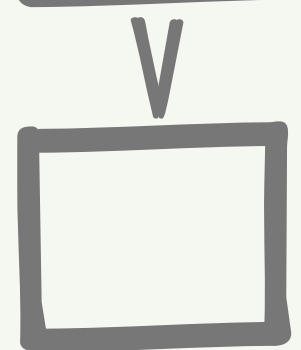
$\wedge V$



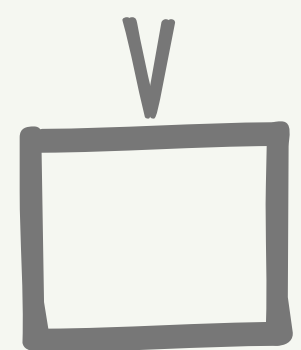
\wedge



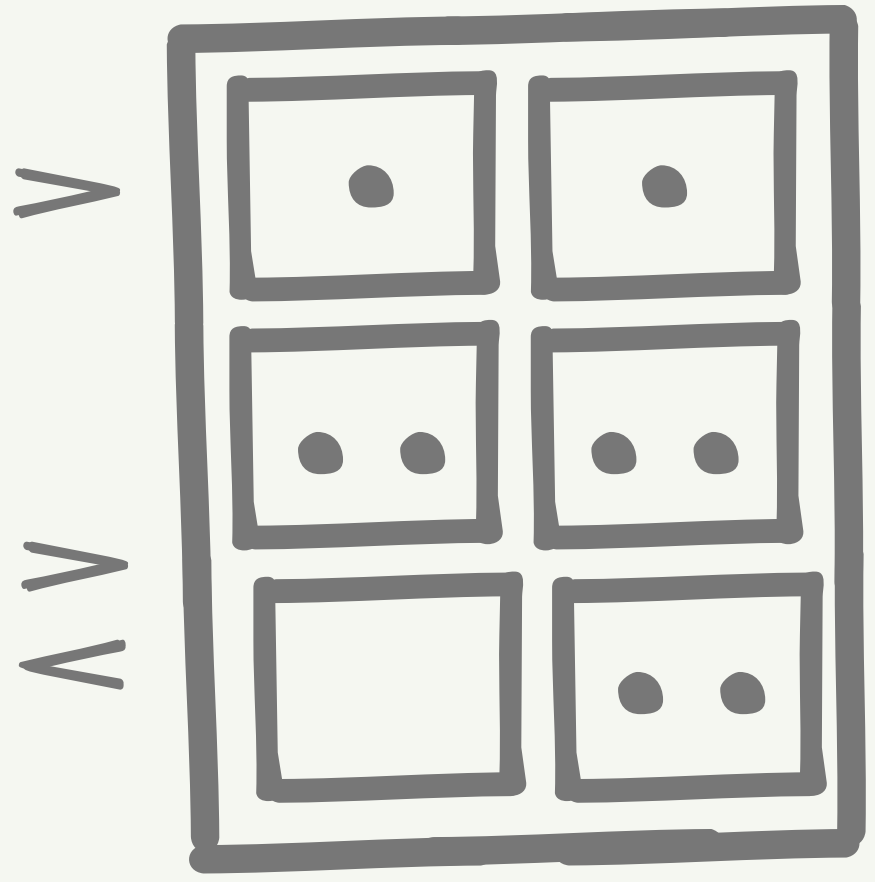
$\wedge V$



V



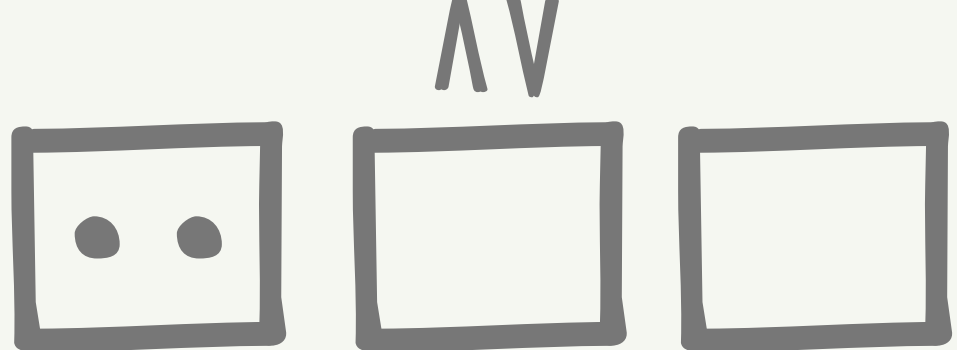
V



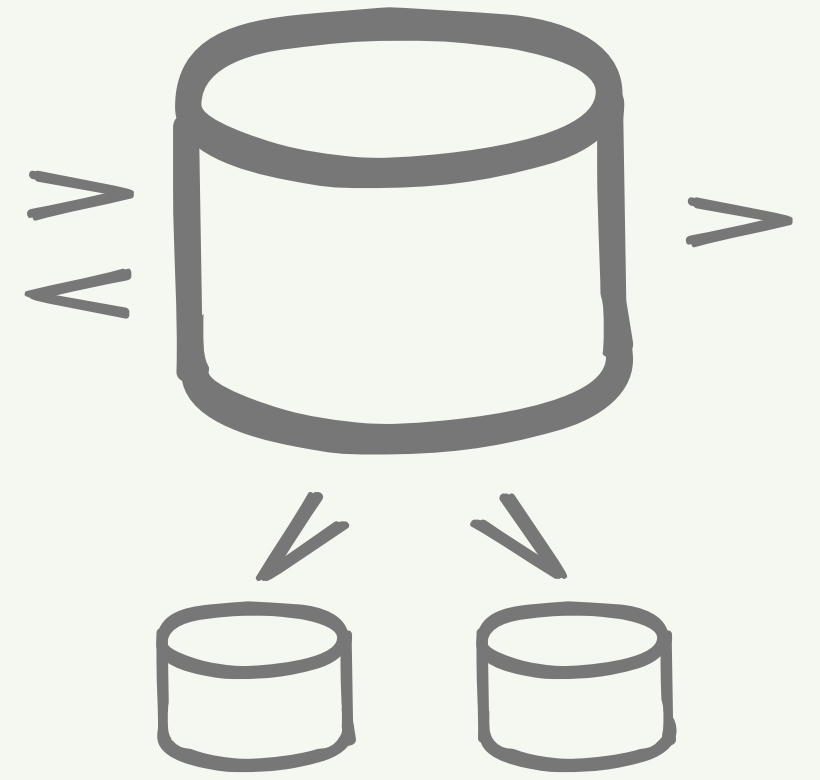
V

$\wedge V$

\wedge

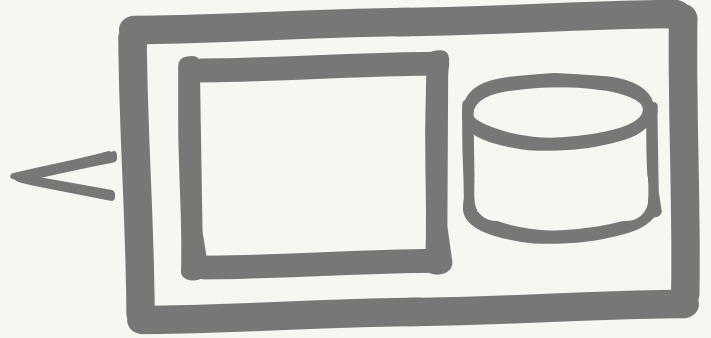
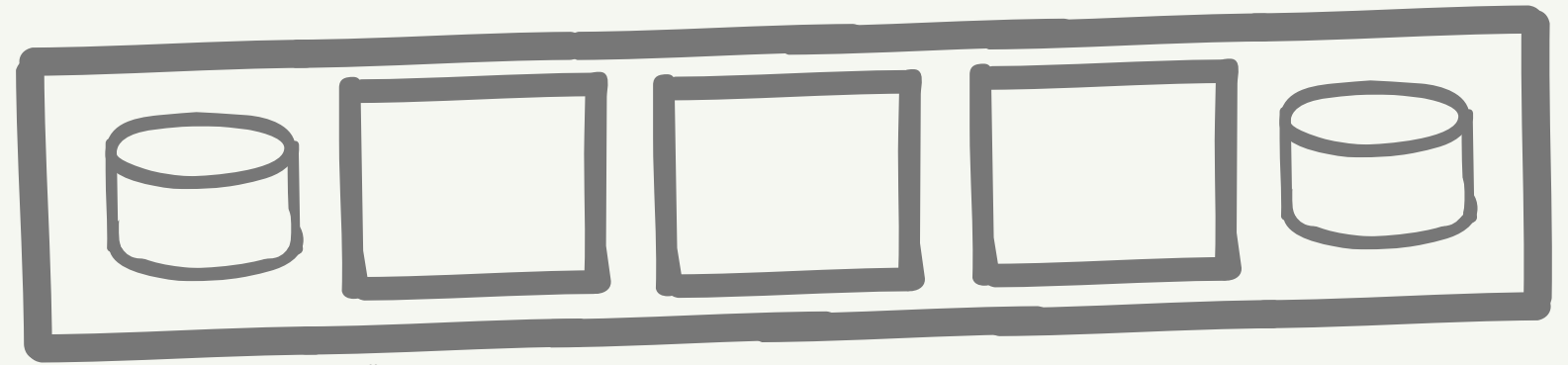


$\wedge V$



$\wedge V$

V



\wedge

BOARD GAMES

• — • — • — • — •

- QUICKBAR
- RECENTLY VIEWED
 - The Cones of Dunshire
 - Pandemic Iberia
 - The Amanda Knox Board Game
 - Splendor
 - Codenames
 - 221B Baker Street: The Master Detective Game
 - Mascarade
 - Sheriff of Nottingham
 - 7 Wonders
 - Tokaido
 - See All »

- THE HOTNESS
- GAMES
 - This War of Mine: The Board... 2017 · Rank: 4042
 - Gloomhaven 2017 · Rank: 5
 - Lords of Hellas 2017
 - Betrayal at Baldur's Gate 2017
 - Terraforming Mars 2016 · Rank: 8
 - The Campaign for North Africa 1979 · Rank: 11917
 - Sine Tempore: The Last Hope 2017 · Rank: 9988



The Cones of Dunshire (2015)

6 Ratings & 6 Comments · GeekBuddy Analysis

2-12 Players
Community: 8-12 — Best: none

Time: --
(Not provided by publisher)

Age: --
(Not provided by publisher)
Community: 18+

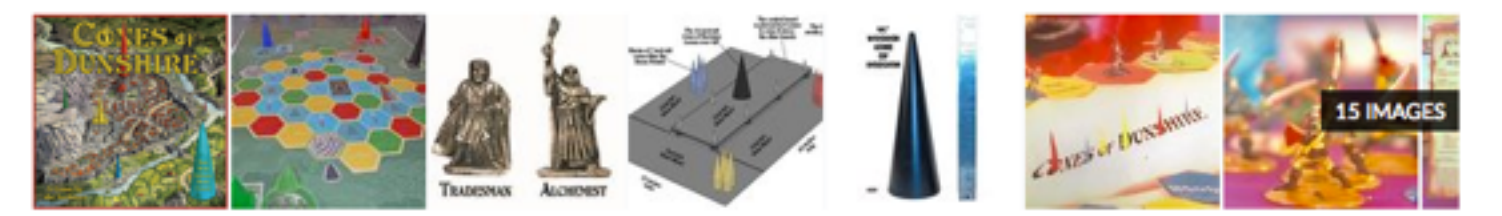
Weight: 3.60 / 5
'Complexity' Rating

Designer: N/A
Artist: Jared Blando, Aaron J. Riley
Publisher: Mayfair Games
[See Full Credits](#)

My rating ★★★★★

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Description

In *Cones of Dunshire*, a gaming experience for 2-12 players, the goal is to accumulate cones: four cones wins, but in order to get a cone you have to build a civilization...which is where the Spirit Cards come in. Each player takes on the identity of one of two wizards, a maverick, the Arbiter, two warriors, a corporal, or a ledgerman (who doesn't play but keeps score while wearing a hat that says "Ledgerman"). Then there's the Challenge Play...the thing about the Challenge Play is that it's basically the game...in reverse.

The published game *Cones of Dunshire* is based on the fictional game *Cones of Dunshire* as seen on the NBC television program

CLASSIFICATION

Type
Uncategorized

Category
Civilization

Mechanisms
Dice Rolling
Variable Player Powers

Family
Admin: Unreleased Games

Advertisement

Feedback

THE MASTER PLAN

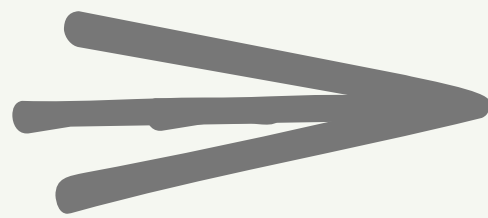
• — • — • — • — •



— ?? —



PLAN A: SCRAPE IT



< TABLE >
 < TABLE >
 < TABLE >
 < TABLE >
 < TABLE >
 < TABLE > ... < /TABLE >
 < /TABLE >
 < /TABLE >
 < /TABLE >
 < /TABLE >
 < /TABLE >

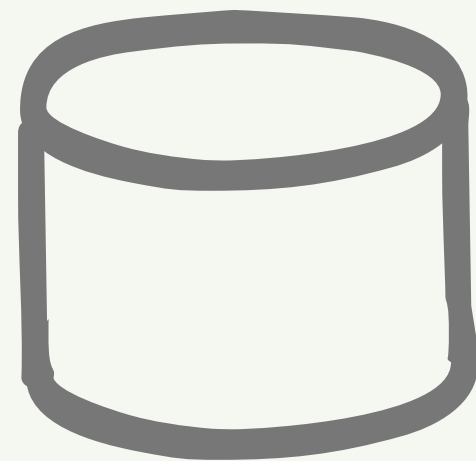
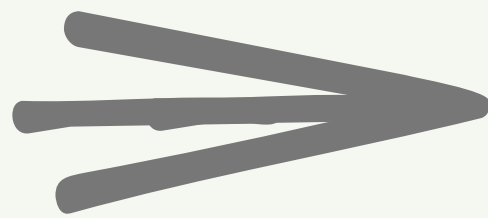
LESSON 1: HTML IS...



- MESSY
- BLOATED
- INCONSISTENT

PLAN B: EHP EYE?
• — • — • — • — •

GET /GAMES
GET /GAME/:ID
<XML>



LESSON 2: APIS ARE...

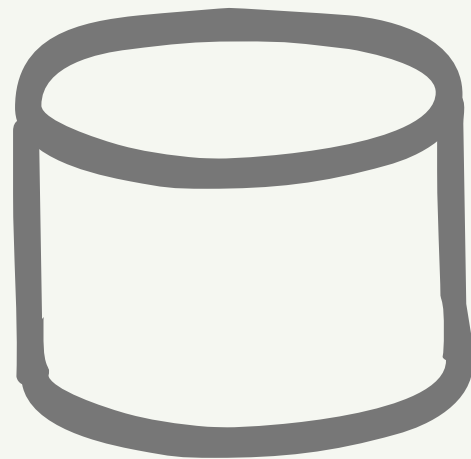
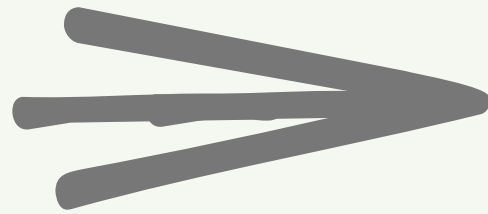


- OFTEN
UNDOCUMENTED
- LIMITED IN CAPABILITY

PLAN C: $A + B = C$

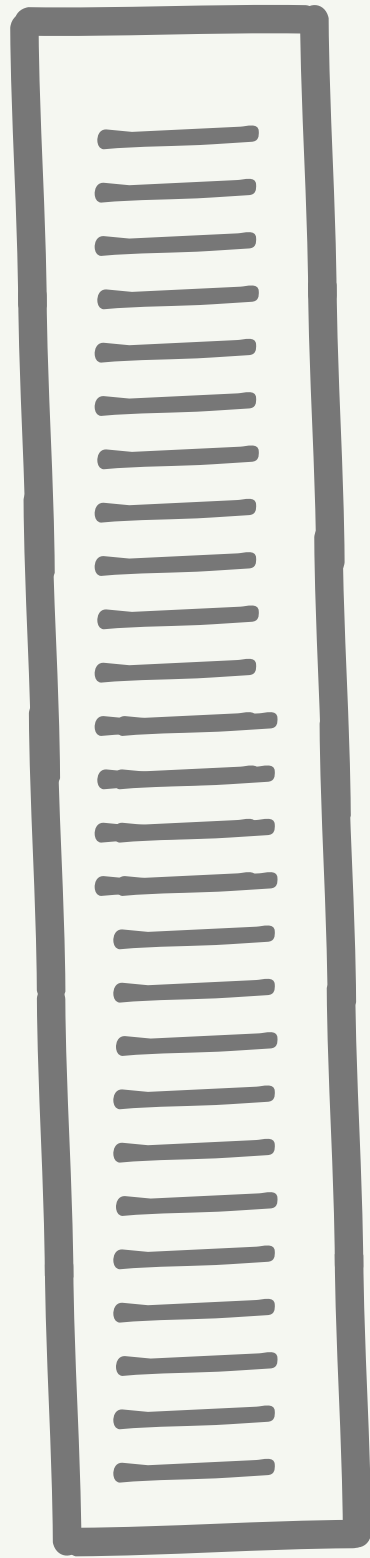


```
GET /GAMES  
GET /GAME/:ID  
<XML>
```

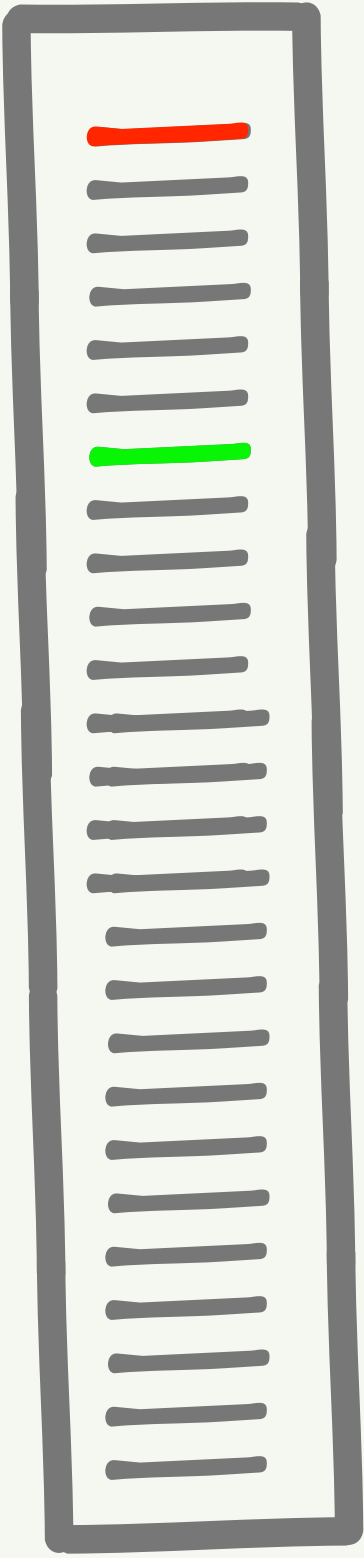


PLAN C: A + B = C

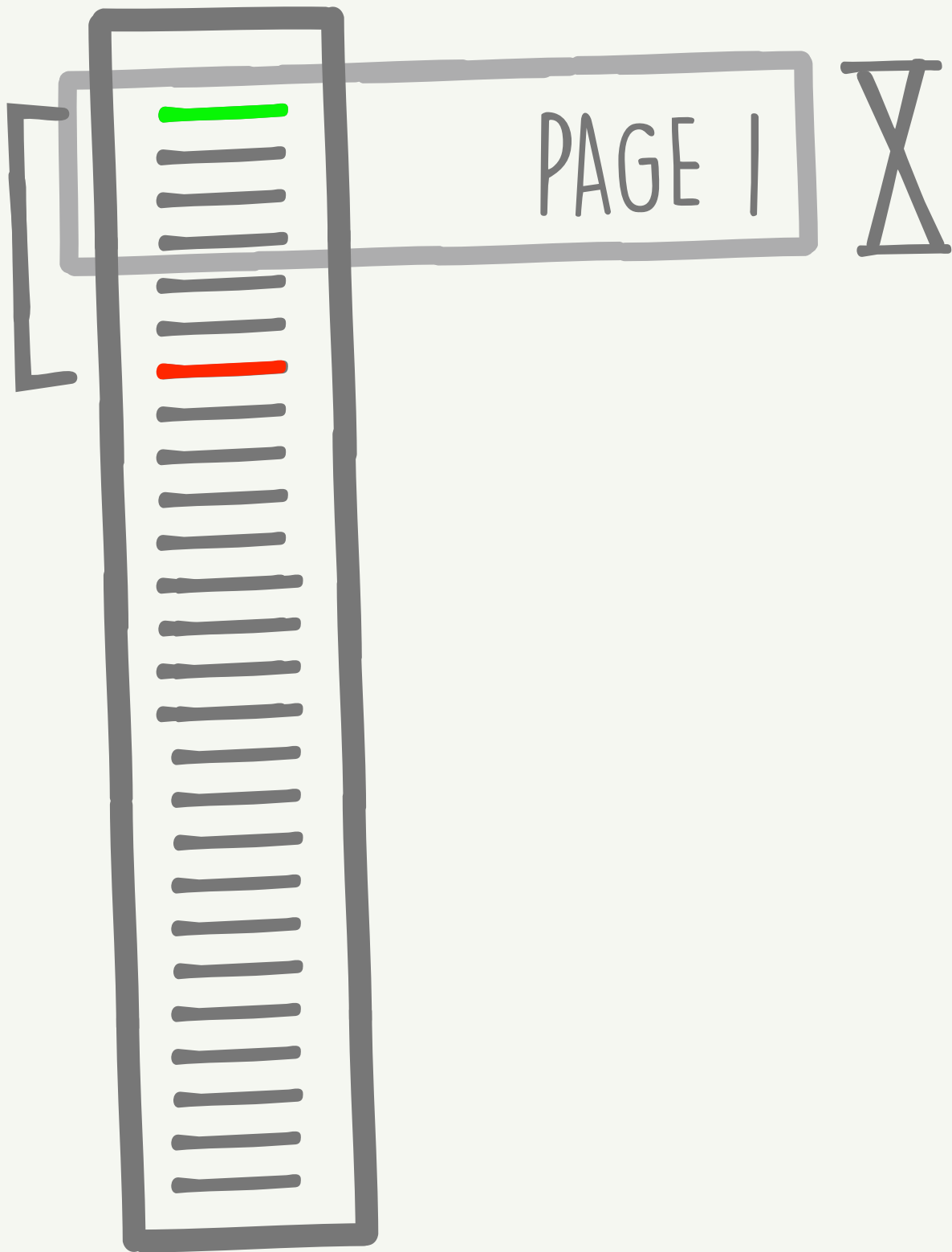
1. GET THE IDS FROM SITE
2. GET THE GAME DATA FROM API
3. MAP THE DATA TO A STORE
4. QUERY THE STORE

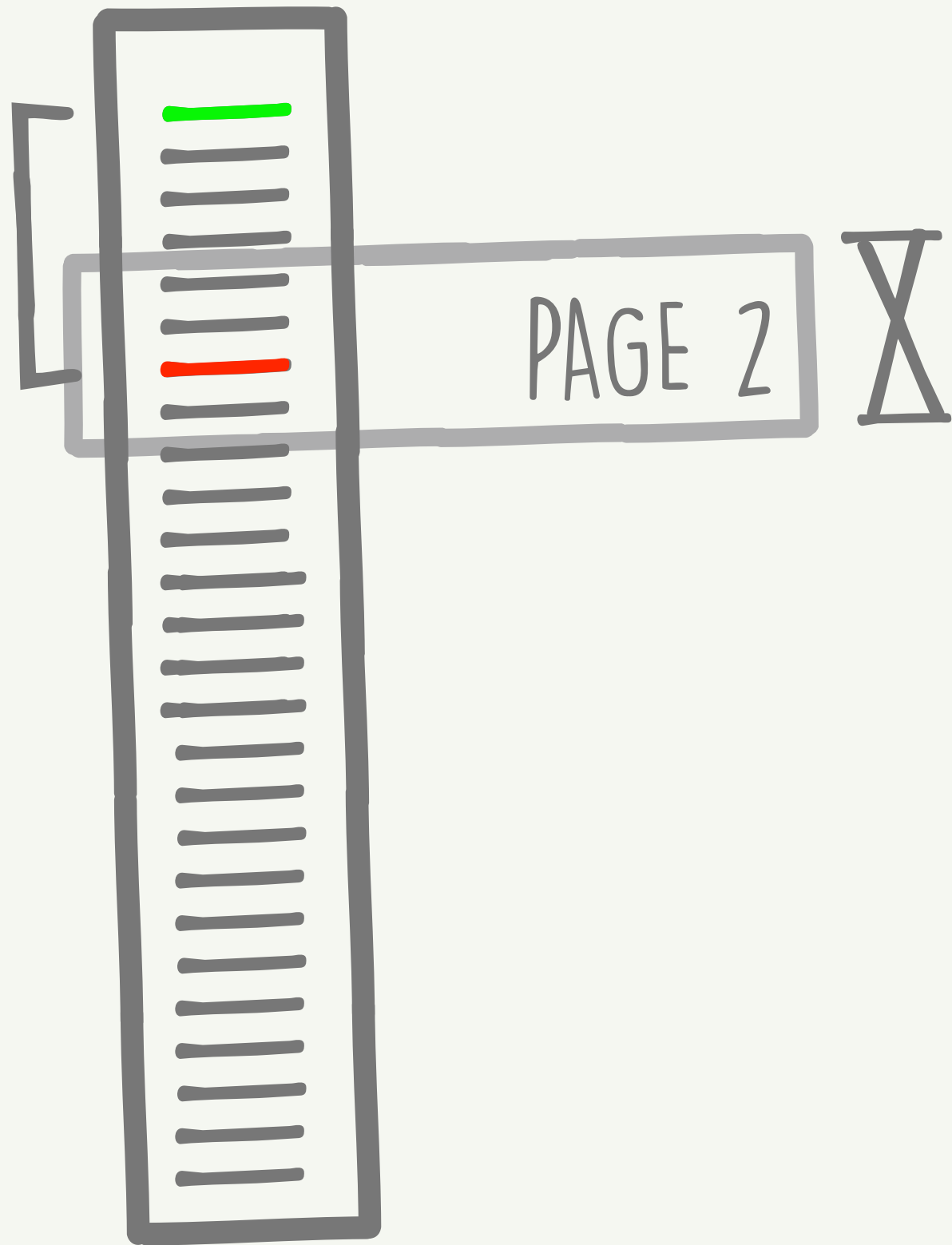


STAGE 1
GET THE IDS
• — • — •







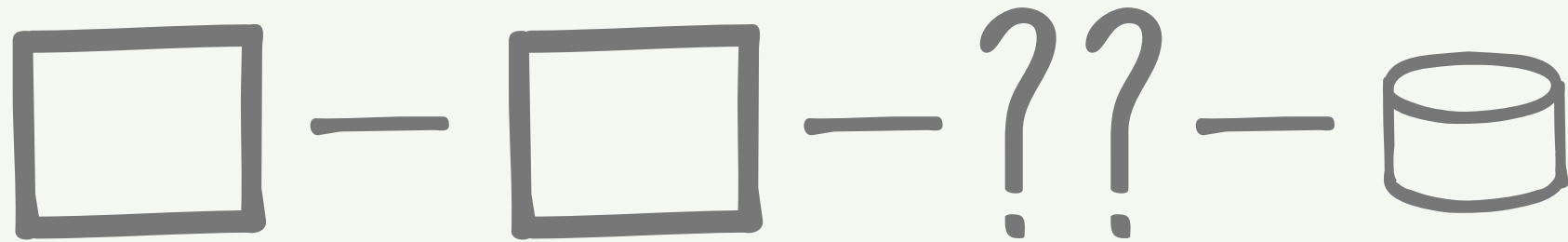


LESSON 3: DATA IS...



- VOLATILE
- PROBABLY STALE
- BEST SCRAPED QUICKLY

STAGE I: GET THE IDS



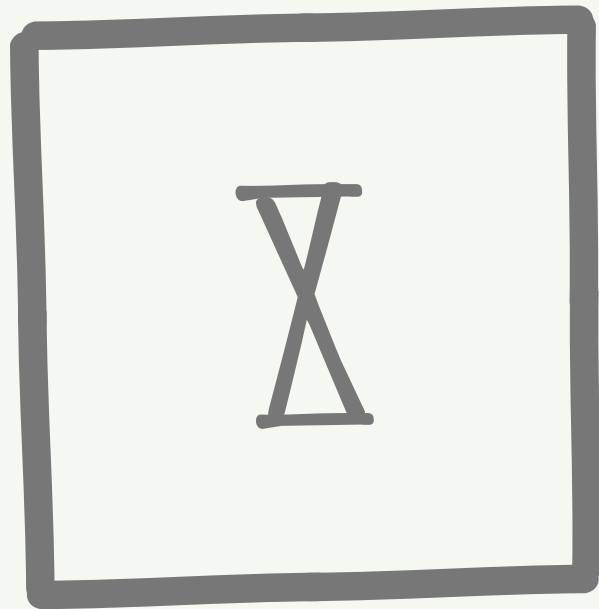
PAGE SCRAPER

ID SCRAPER

DESIGN DECISION

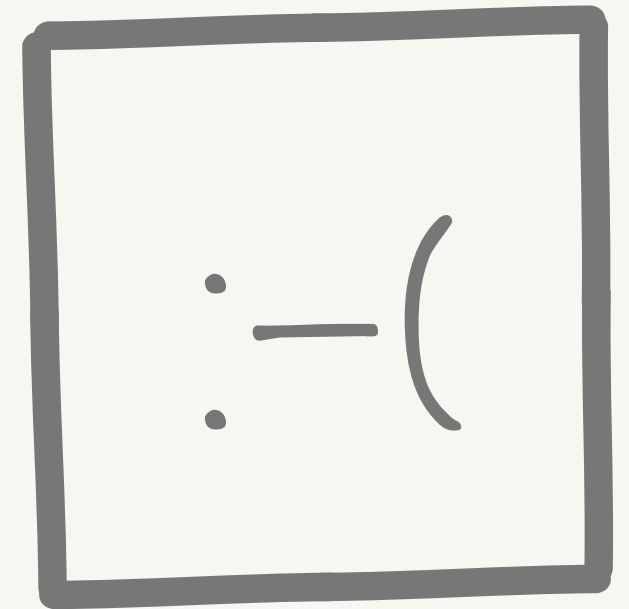


HOW DO OUR COMPONENTS
COMMUNICATE WITH EACH
OTHER?

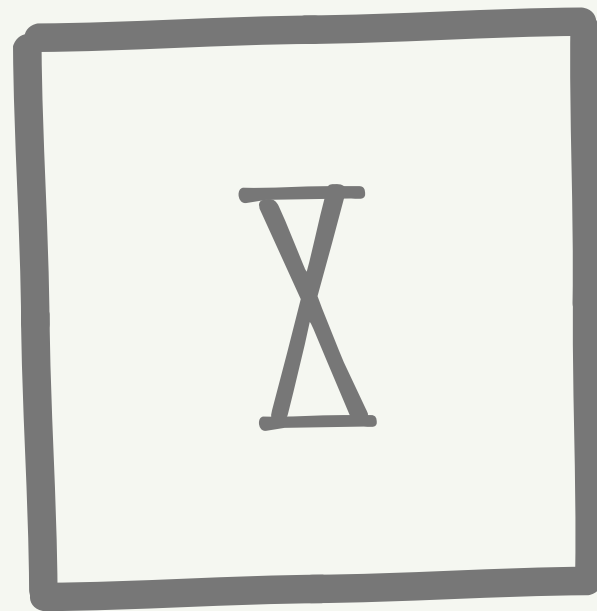


PAGE SCRAPER

— ?? —



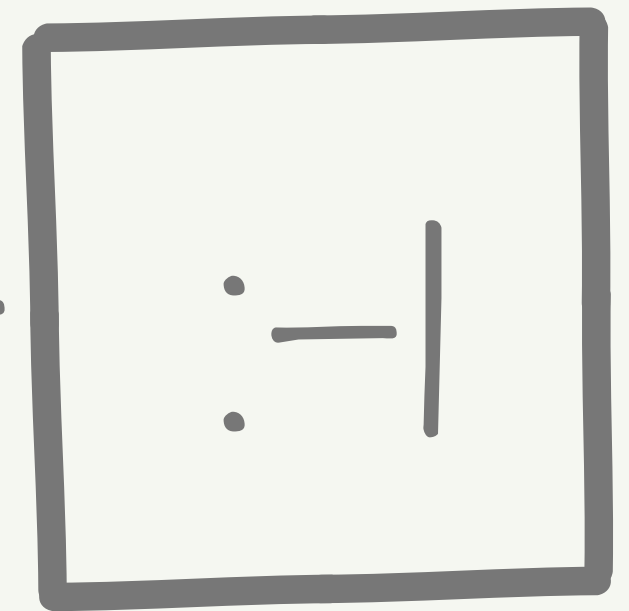
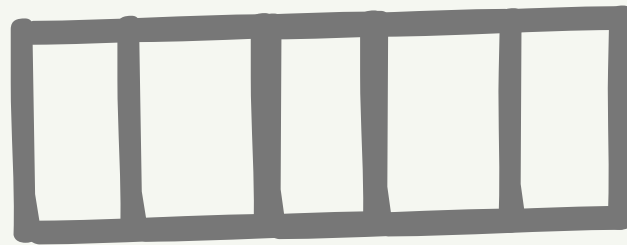
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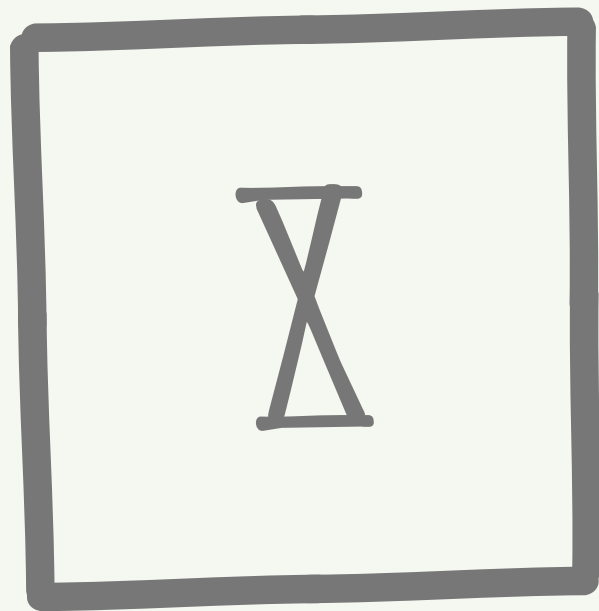
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PAGE QUEUE



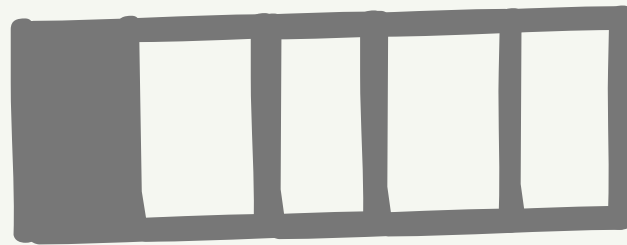
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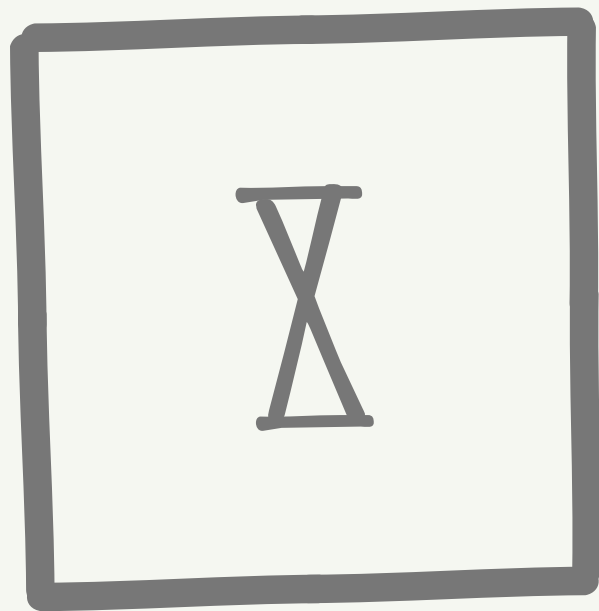
PAGE SCRAPER



PAGE QUEUE



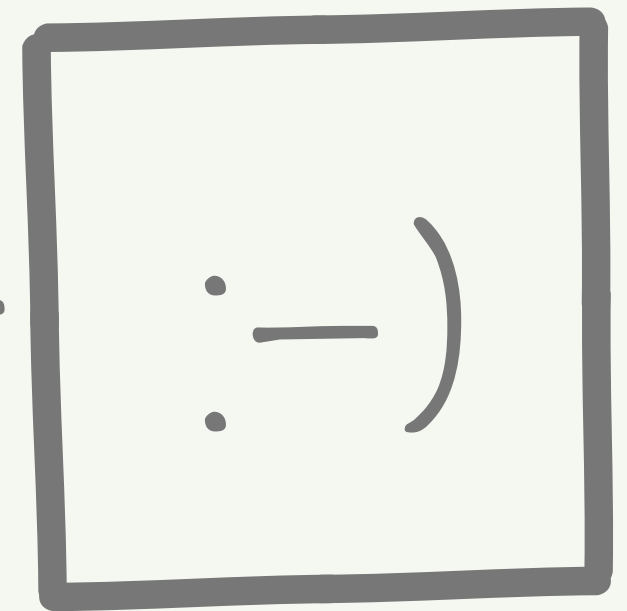
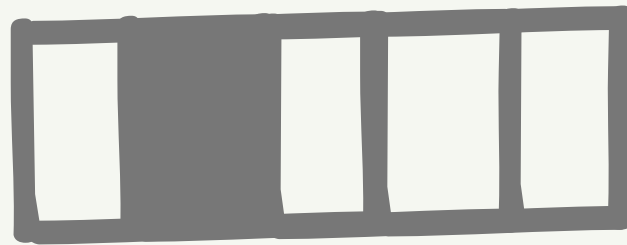
ID SCRAPER



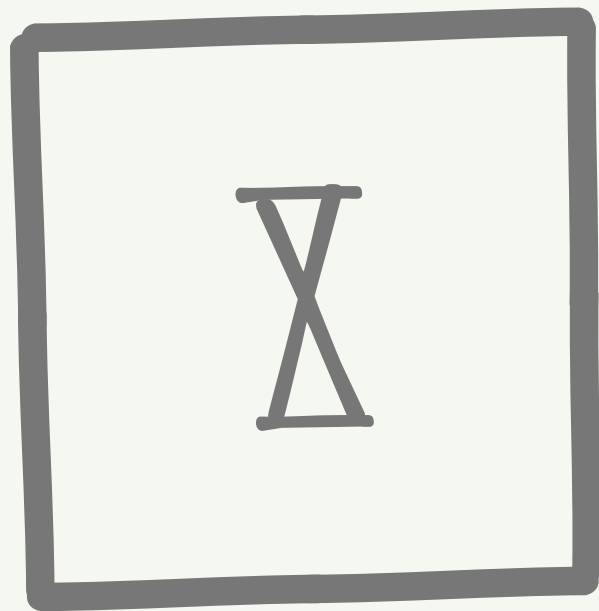
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PAGE QUEUE



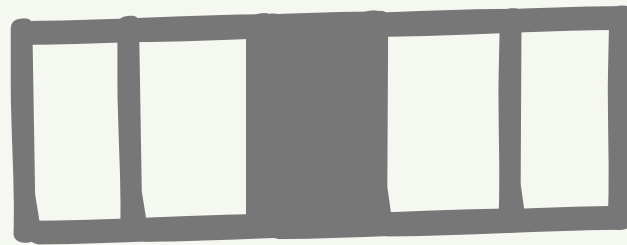
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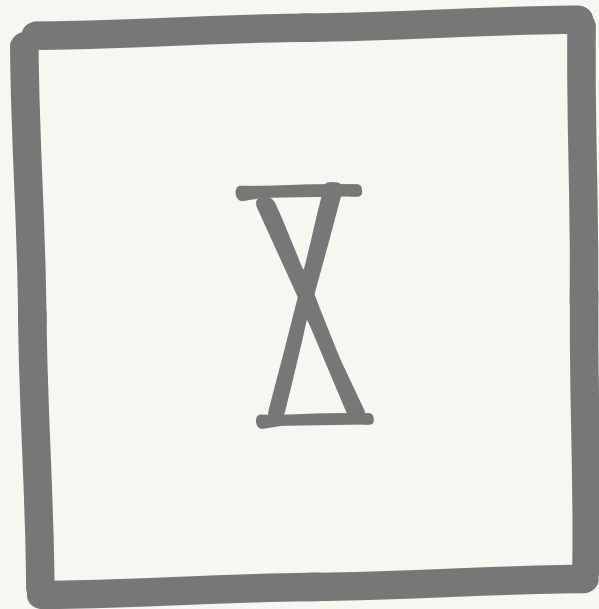
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PAGE QUEUE



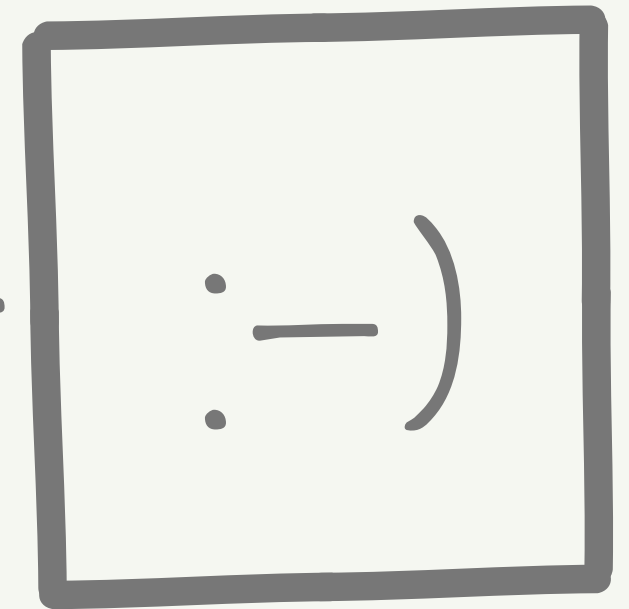
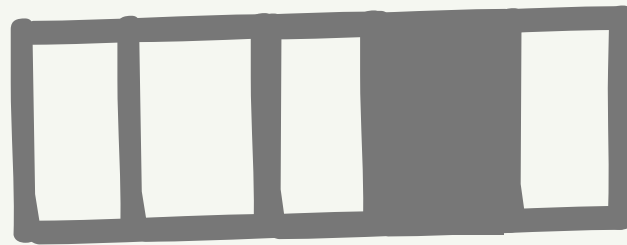
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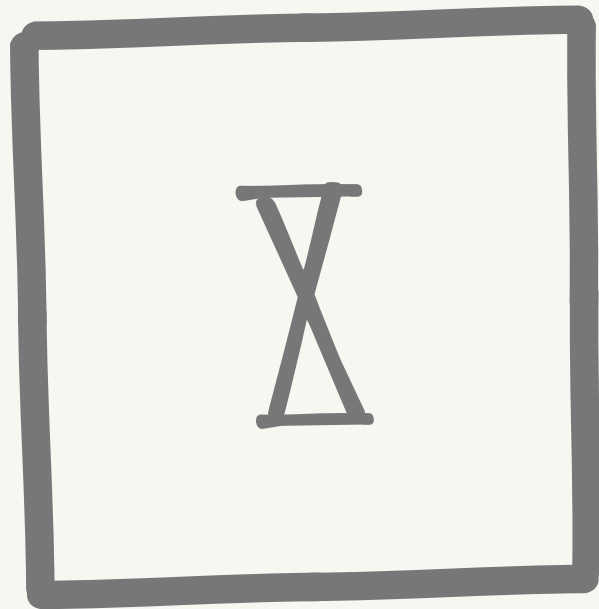
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PAGE QUEUE



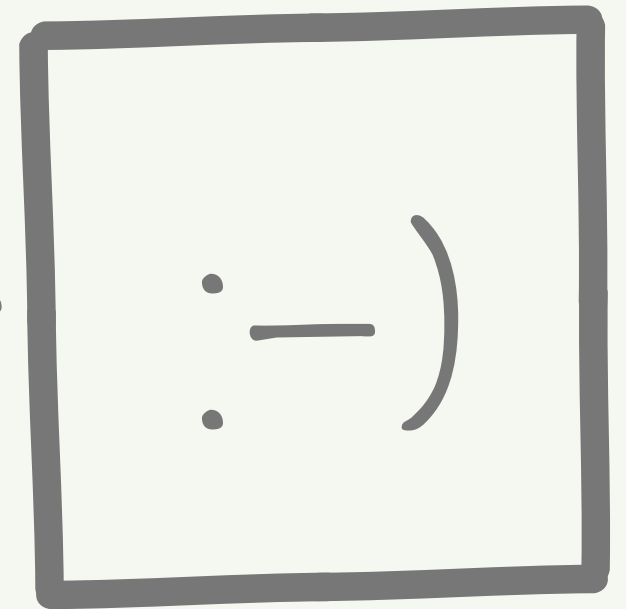
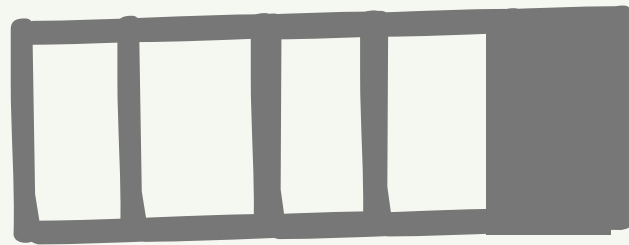
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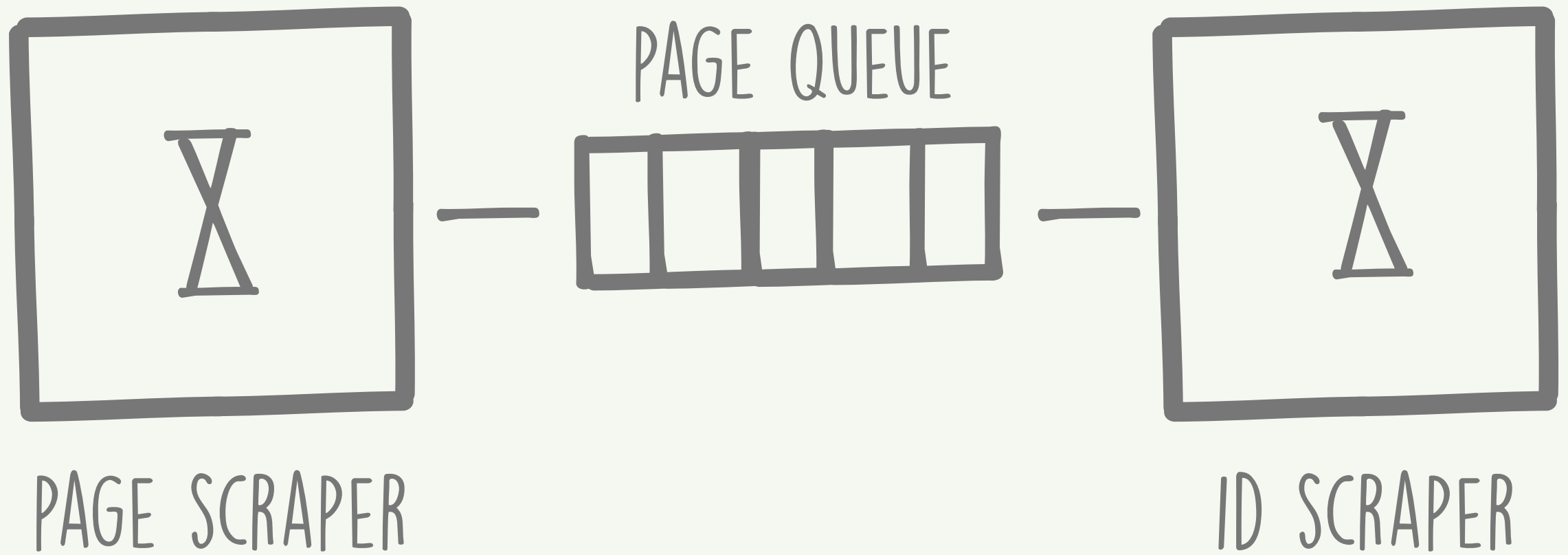
PAGE SCRAPER



PAGE QUEUE



ID SCRAPER



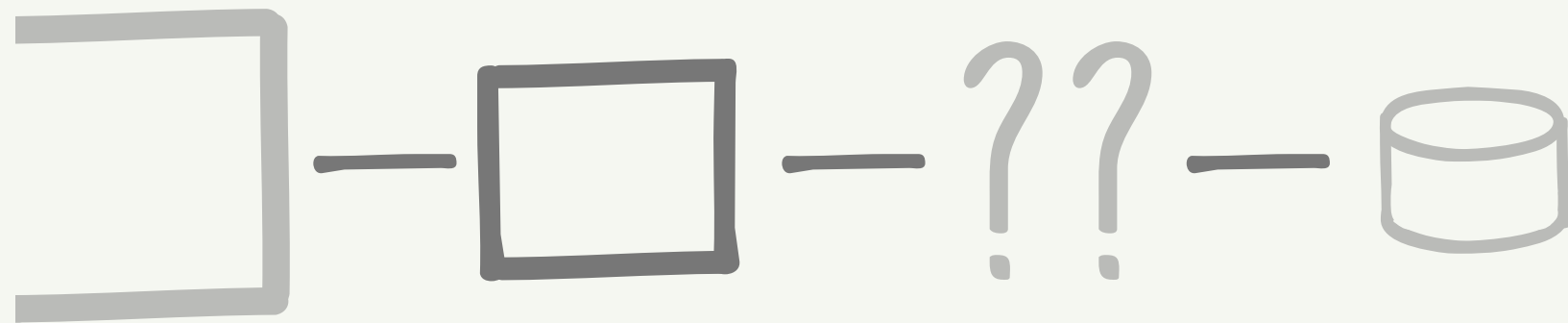
LESSON 4: QUEUES ARE...



- GREAT FOR ISOLATION
- GREAT FOR FAULT TOLERANCE

STAGE 2: GET THE DATA

• — • — • — • — •



DATA SCRAPER

ANATOMY OF A DATA SCRAPER



(WHILE-LET [ID (NEXT-ID)]

(DOWNLOAD-NEXT-THING ID))

WARNING!



PEOPLE DON'T LIKE YOU
ABUSING THEIR WEB
SERVICES

ANATOMY OF A DATA SCRAPER



(WHILE-LET [ID (NEXT-ID)]

(DOWNLOAD-NEXT-THING ID)

(THREAD/SLEEP 1000))

LESSON 5: BAD THINGS...



... HAPPEN TO BAD PEOPLE

TREAT OTHER SYSTEMS WITH RESPECT

ANATOMY OF A DATA SCRAPER

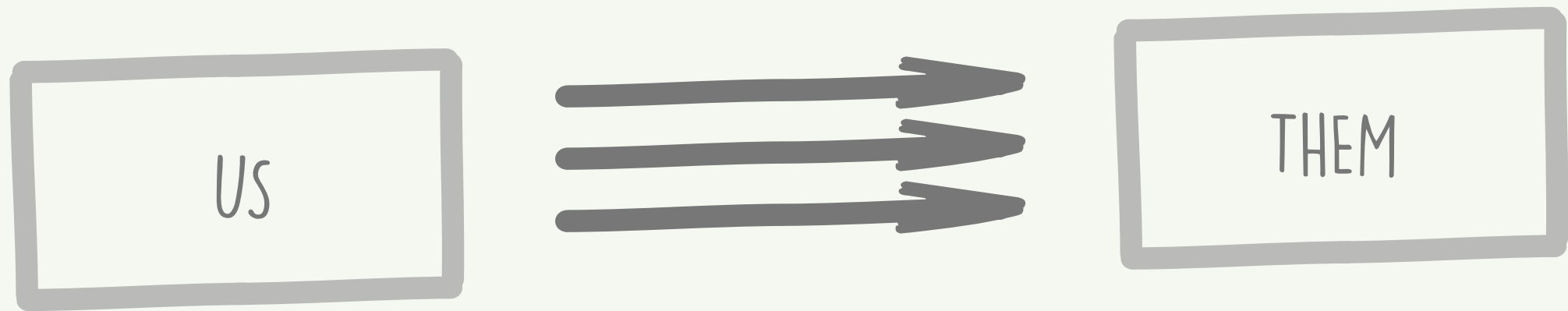


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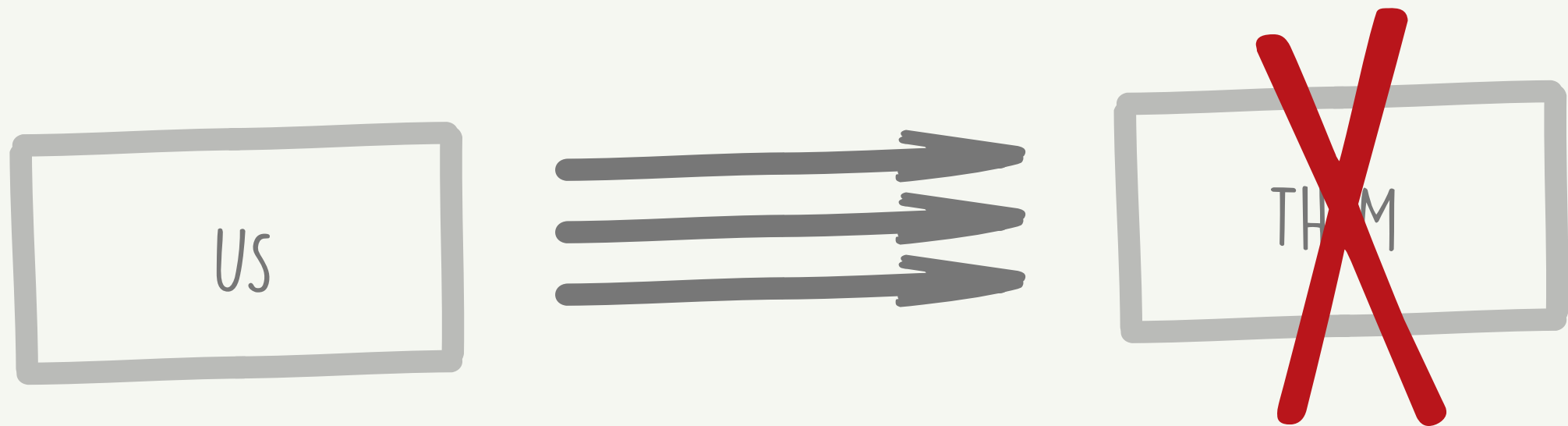
(DOWNLOAD-NEXT-THING ID)

(THREAD/SLEEP 1000))

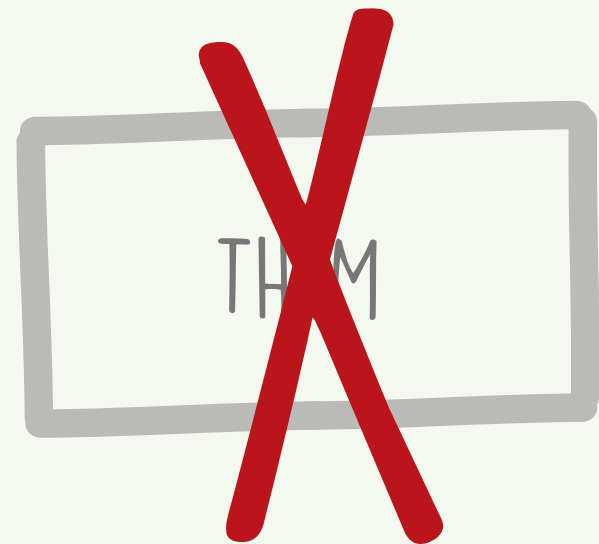
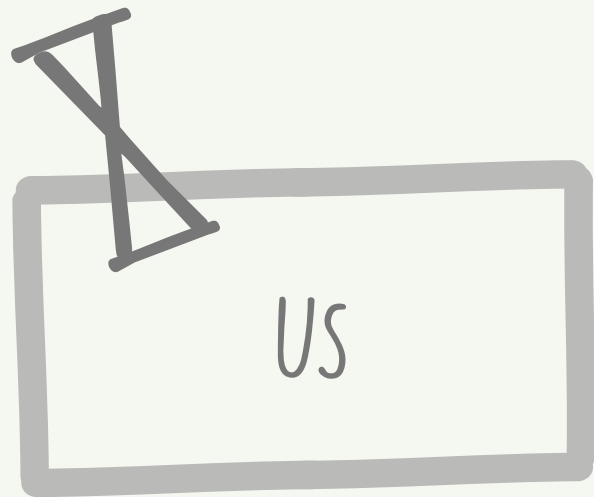
CIRCUIT BREAKERS



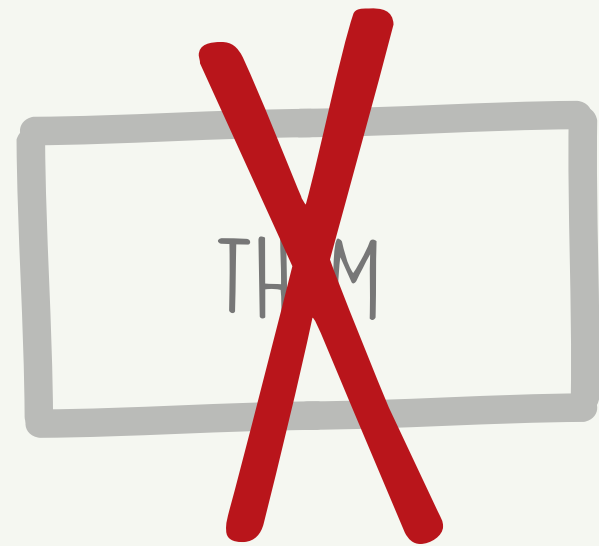
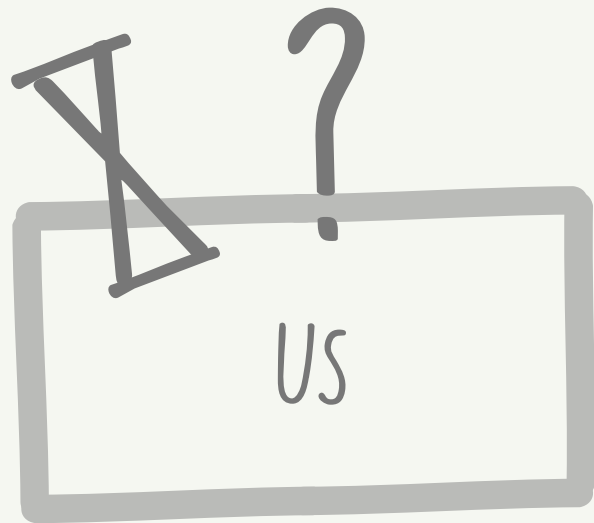
CIRCUIT BREAKERS



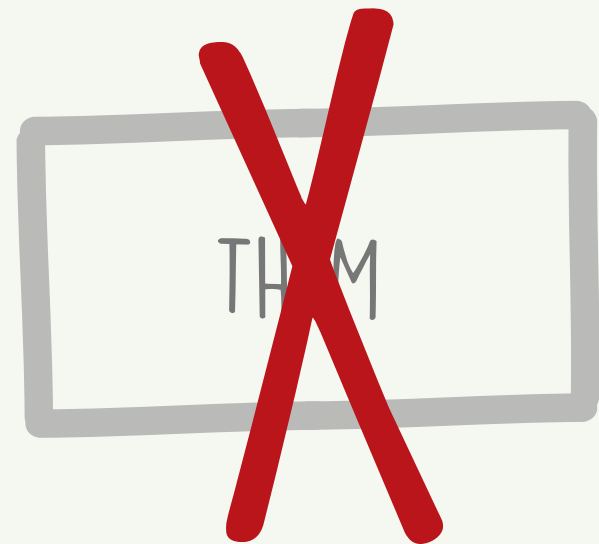
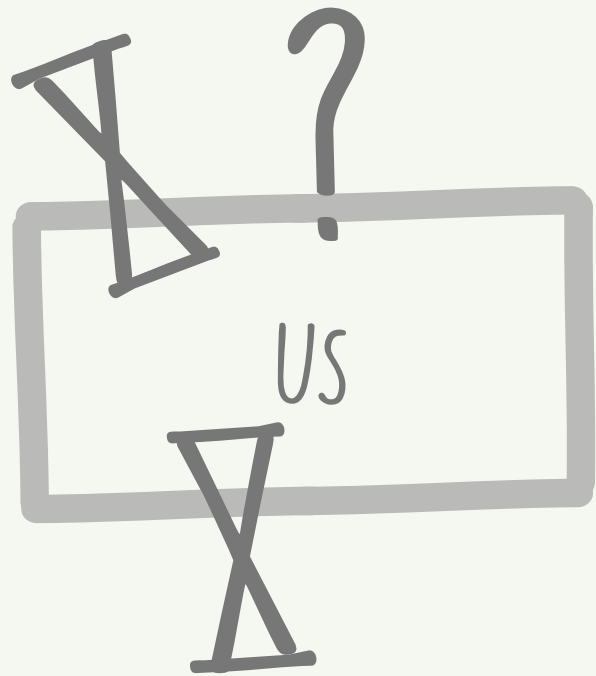
CIRCUIT BREAKERS



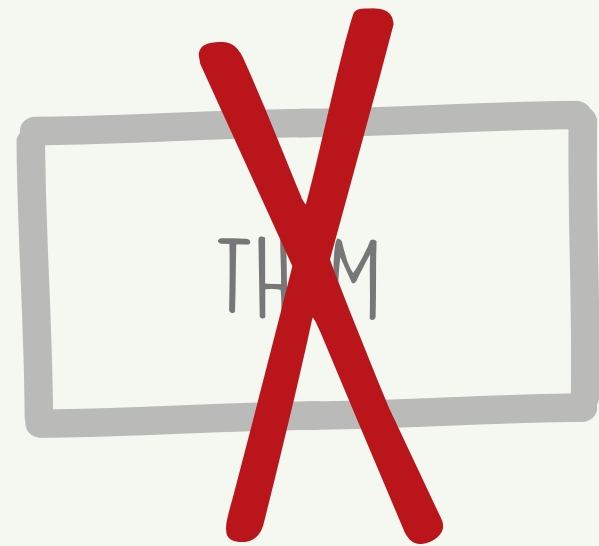
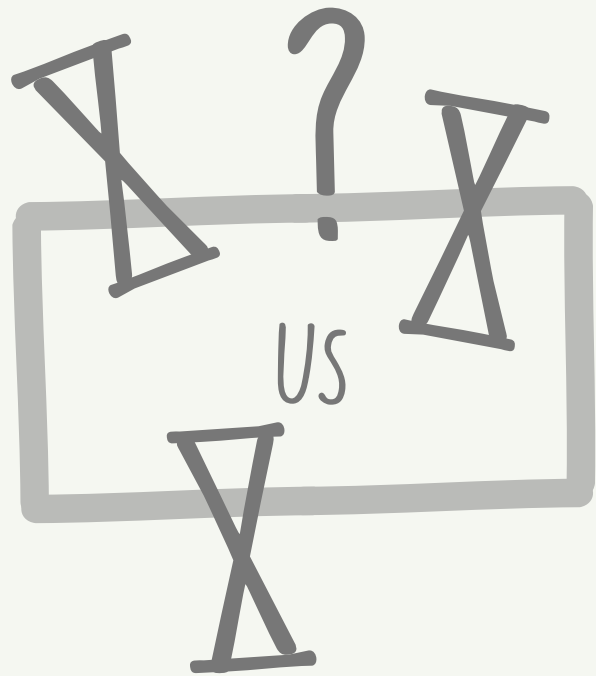
CIRCUIT BREAKERS



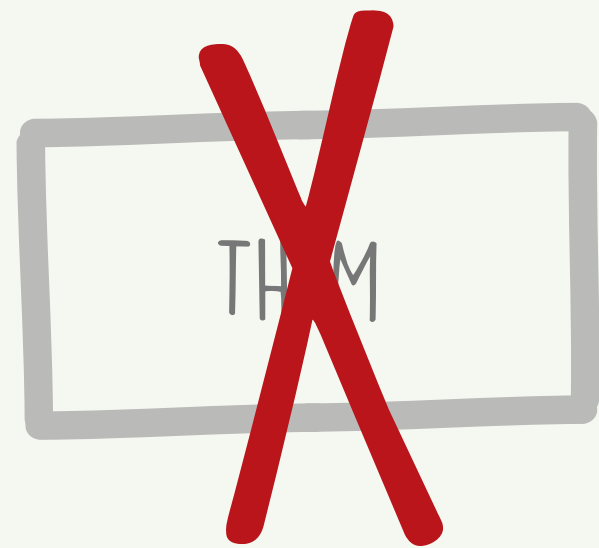
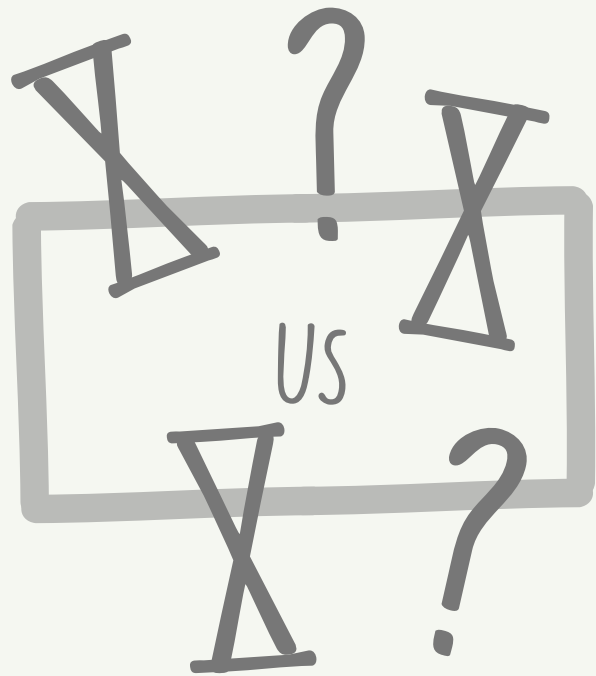
CIRCUIT BREAKERS



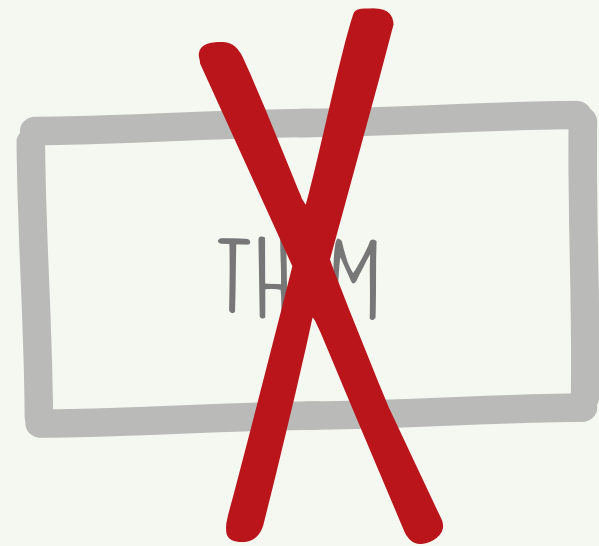
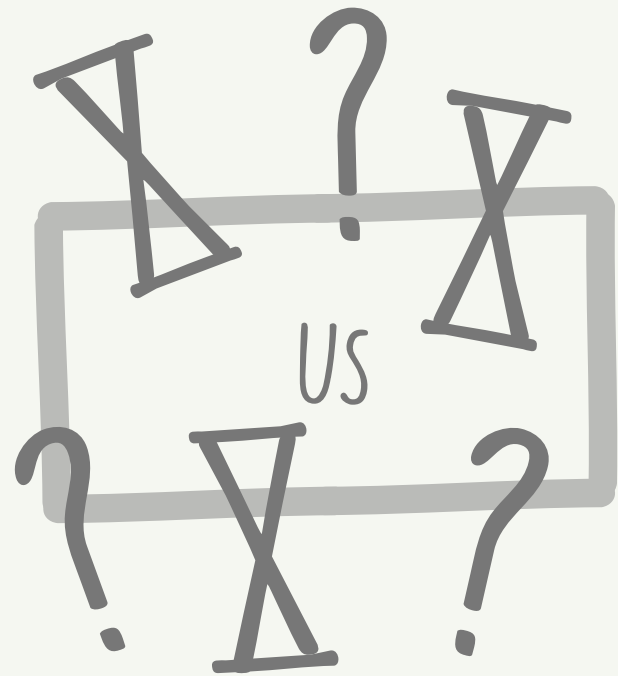
CIRCUIT BREAKERS



CIRCUIT BREAKERS



CIRCUIT BREAKERS



CIRCUIT BREAKERS



YAY



HAPPY

SUCCESS

CIRCUIT BREAKERS



OHNO!

OPEN

ZUT ALORES

WTF?

CLOSED

HALF OPEN

CIRCUIT BREAKERS



OPEN

GOOD TO GO?

CLOSED

HALF OPEN

YOU OK PAL?

IS IT SAFE?

CIRCUIT BREAKERS



OHNO!

OPEN

ZUT ALORES

WTF?

CLOSED

HALF OPEN

CIRCUIT BREAKERS



YAY



HAPPY

SUCCESS

ANATOMY OF A DATA SCRAPER



(WHILE-LET [ID (NEXT-ID)]

(WITH-CIRCUIT-BREAKER

DOWNLOAD-CIRCUIT-BREAKER

(FN [] (DOWNLOAD-THING ID)))

(THREAD/SLEEP 1000))

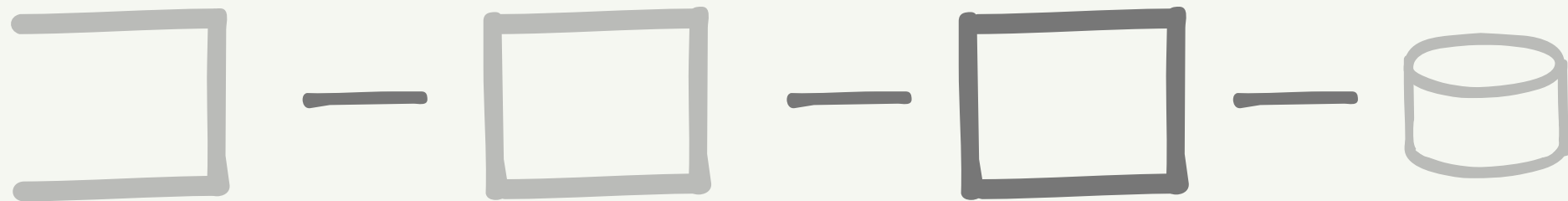
LESSON 6: BAD THINGS...



... HAPPEN TO GOOD PEOPLE

BE PREPARED TO BE UNPREPARED

STAGE 3: MAP THE DATA



DATA MAPPER

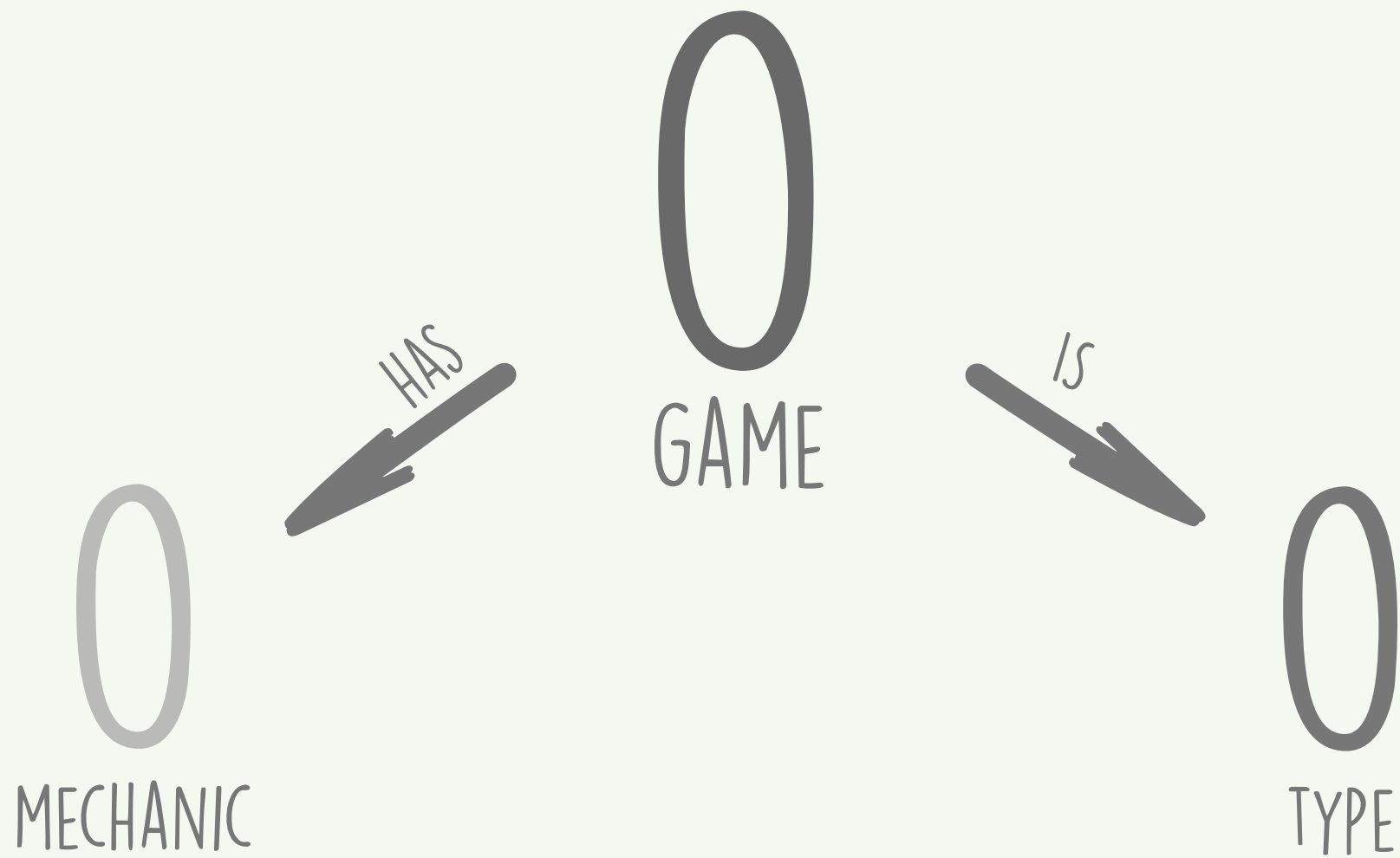
TECHNOLOGY DECISION



HOW DO WE WANT TO
STORE THIS STUFF?

0
GAME





DESIGNER

0

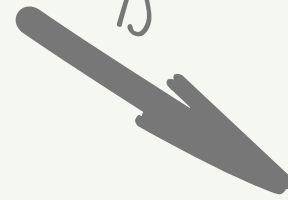
DESIGNED



0

GAME

IS



0

MECHANIC

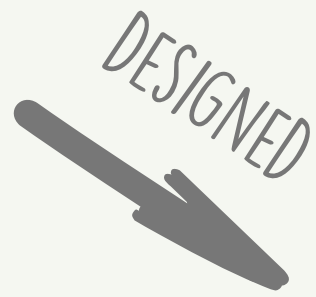
HAS



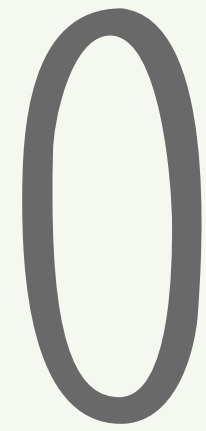
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TYPE

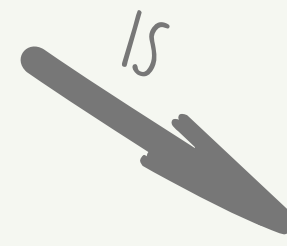
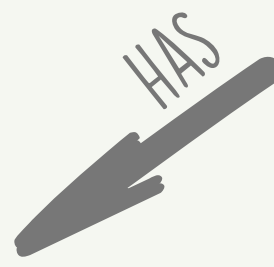
DESIGNER



PUBLISHER



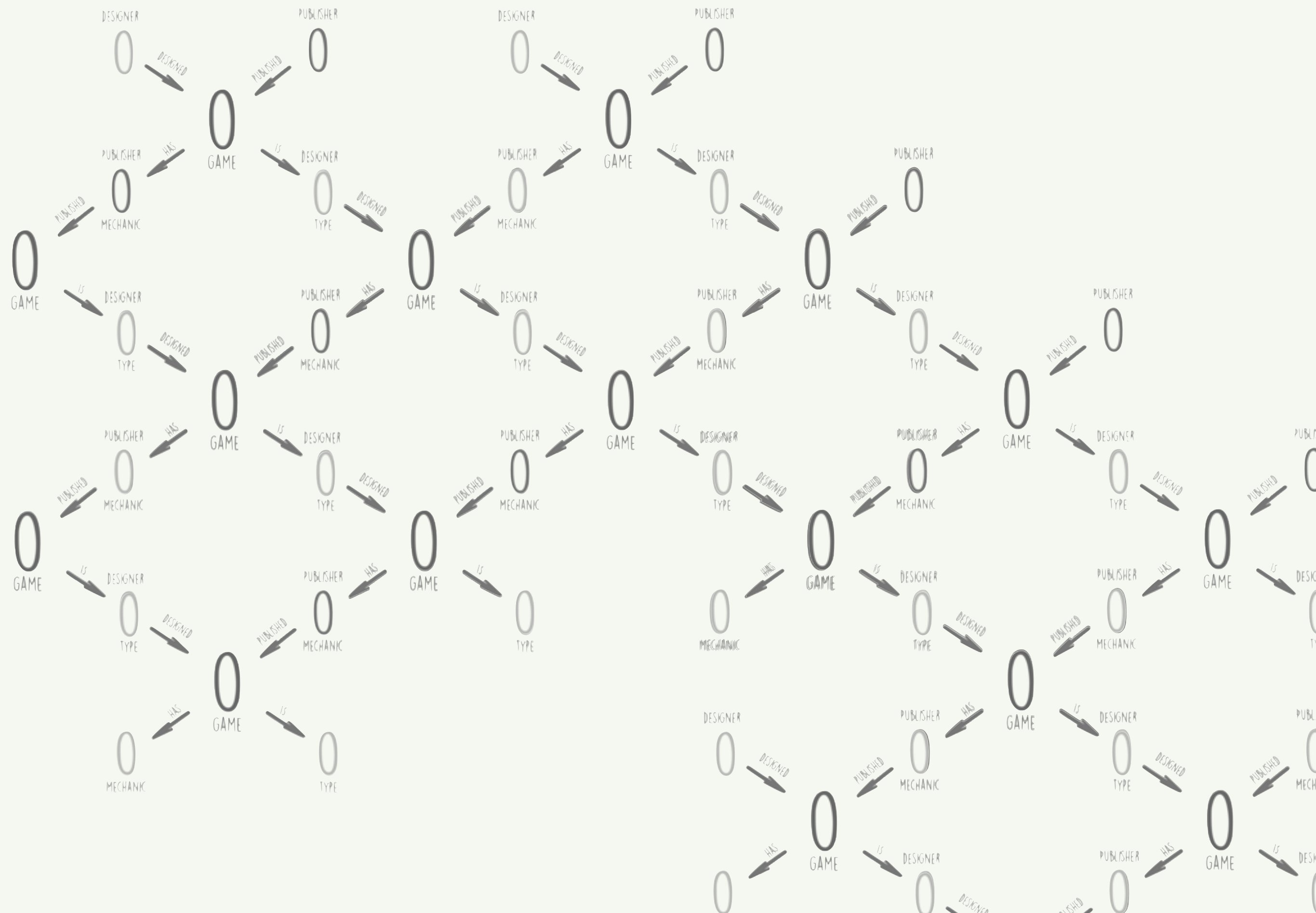
GAME



MECHANIC



TYPE

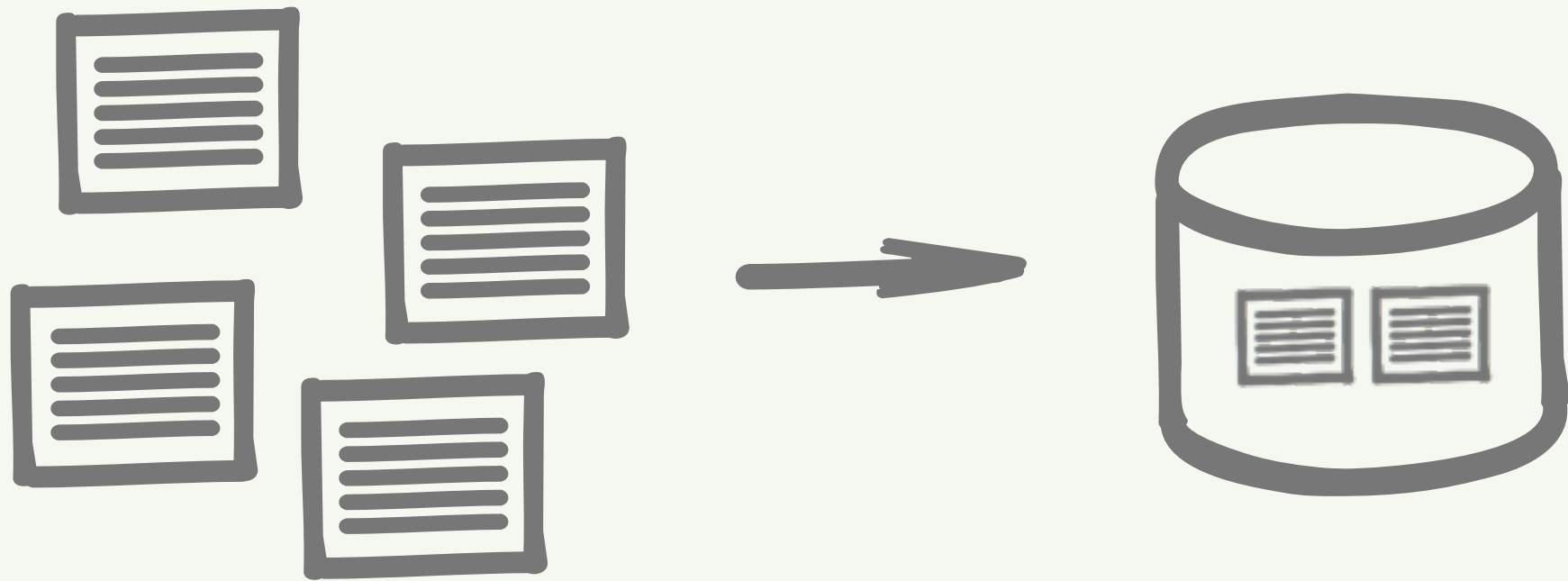


LESSON 7: GRAPHS ARE...



- EVERYWHERE
- A GOOD WAY TO
MODEL RELATIONSHIPS

BUT WAIT, THERE'S MORE...



XML

DATA STORE

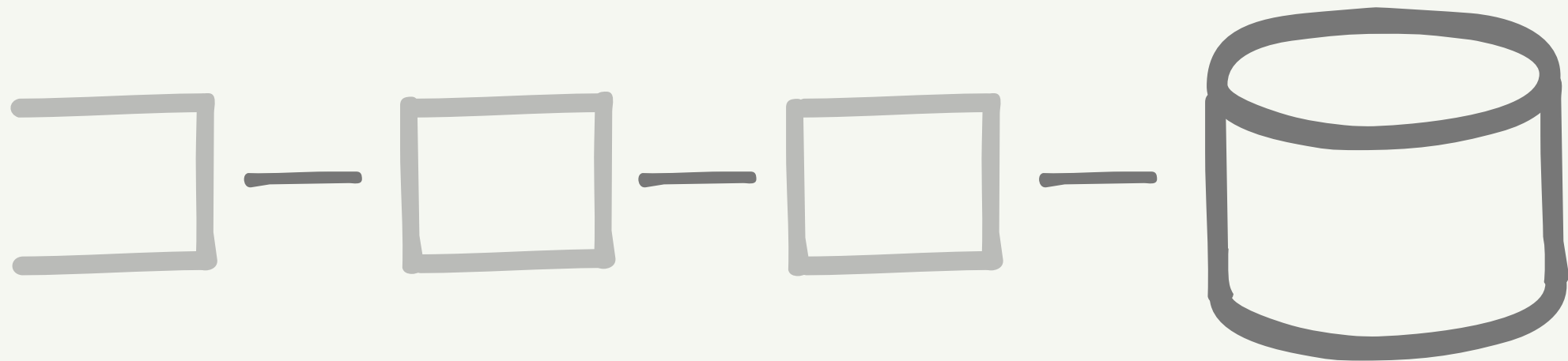
LESSON 8: DATA STORES...



- ARE NUMEROUS
- DIFFICULT TO CHOOSE

STAGE 4: QUERY THE DATA

• ——— • ——— • ——— • ——— •



NEO4J / CYPHER



```
MATCH (D:DESIGNER)-[:DESIGNED]->(B:BOARDGAME)
```

```
WHERE D.NAME = "RALPH"
```

```
RETURN B.NAME
```

```
LIMIT 10
```

Neo4j 2.2.3

Node labels

- accessory
- alternate_name
- artist
- boardgame
- category
- designer
- expansion
- family
- honor
- mechanic
- podcast
- podcasts
- publisher
- subdomain
- version

Relationship types

- accessory
- alternate_name
- artist
- boardgame
- category
- designer
- expansion
- family
- honor
- mechanic
- podcast
- publisher
- subdomain
- version

Property keys

- age
- description
- image
- key
- max-players
- max-playing-time
- min-players
- min-playing-time
- name
- playing-time
- value
- year-published

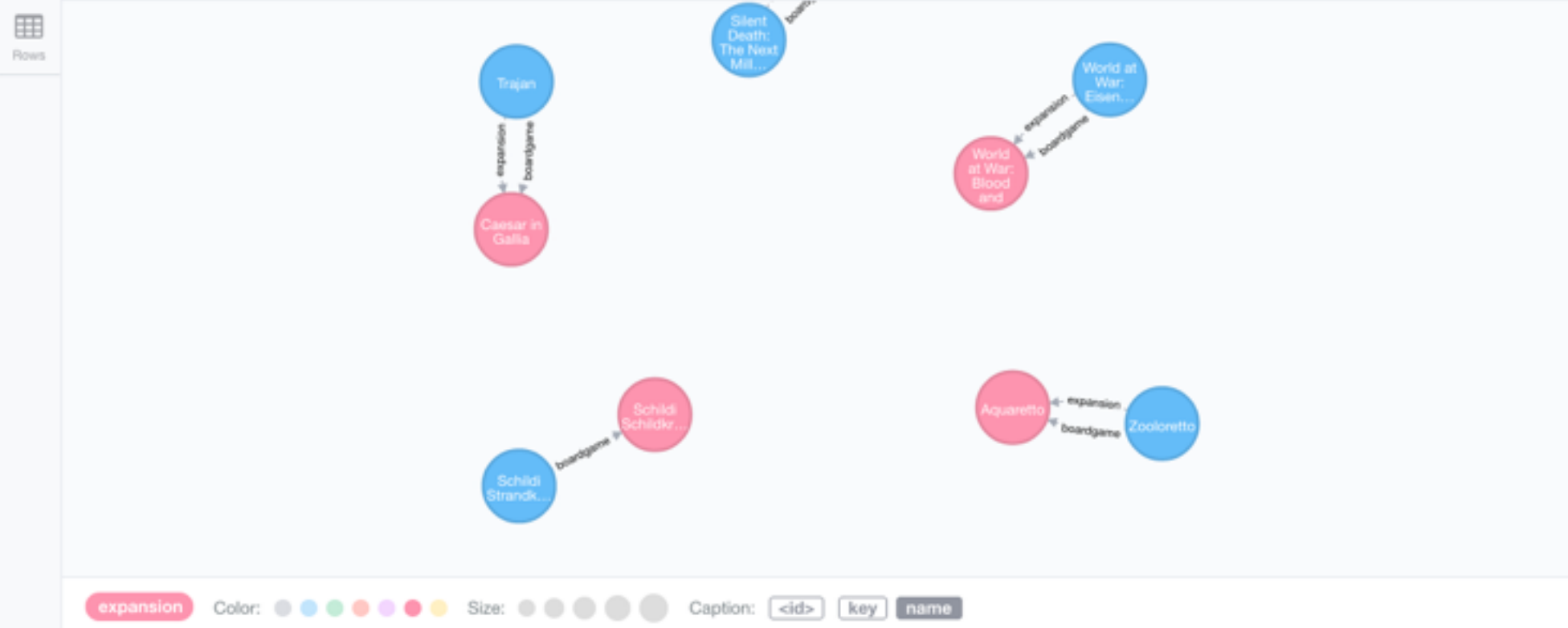
Database

Location: /opt/data/graph
Size: 259.88 MiB

\$

```
$ MATCH ()-[r:boardgame]->() RETURN r LIMIT 25
```

*(12) boardgame(6) expansion(6)
*(11) boardgame(6) expansion(5)



```
$ MATCH (n:honor) RETURN n LIMIT 25
```

*(26) boardgame(1) honor(25)
*(17) honor(17)



BASEX / XQUERY



```
FOR $BOARDGAME IN DB.OPEN('BG')/GAMES/GAME
WHERE $BOARDGAME/PUBLISHER = 'BEARDMAN'
ORDER BY $BOARDGAME/NAME
RETURN $BOARDGAME/NAME
```

Find Find...

file*

Editor

```

1 let $boardgames-db := db:open('xml')
2 let $boardgames := $boardgames-db/boardgames/boardgame
3 let $names := for $boardgame in $boardgames
4               return $boardgame/name[@primary="true"]
5 return $names/text()
6

```

OK

5 : 21




Die Macher
 Elfenland
 Corona
 Roll and Score Poker Game
 The Road Runner Pop-Up Game
 Zoom Zoom Ka-Boom!!
 Littlest Pet Shop
 Gargoyles
 Tarzan Treetop Chase 3-D Game
 Colomino
 Tick Tack Math
 Stretch Call
 Rifle & Saber
 Inspector Moss: House Arrest
 Rummy Rumble
 Vendetta
 Fast Football
 Rush Hour Scramble
 Goju
 Intercity
 La Foi et le Glaive
 Norway 1940
 Society Today
 Safecrack
 Hero of Weehawken
 Strike it Rich
 Seven Sisters
 The World Game of Economics

Result

 Total Time: 300.8 ms

 Query Info
Compiling:

- pre-evaluating db:open("xml")
- atomic evaluation of (@*:primary = "true")
- inlining \$boardgames-db_0
- inlining \$boardgames_1
- atomic evaluation of (@*:primary = "true")
- inlining \$names_2
- simplifying flwor expression

Optimized Query:

```
for $boardgame_4 in (db:open-pre("xml",0), ...)/*:boardgames/*:boardgame return $boardgame_4/*:name[(@*:primary = "true")]/text()
```

Query:

```
let $boardgames-db := db:open("xml") let $boardgames := $boardgames-db/boardgames/boardgame let $names := for $boardgame in $boardgames return $boardgame/name[@primary="true"] return $names/text()
```

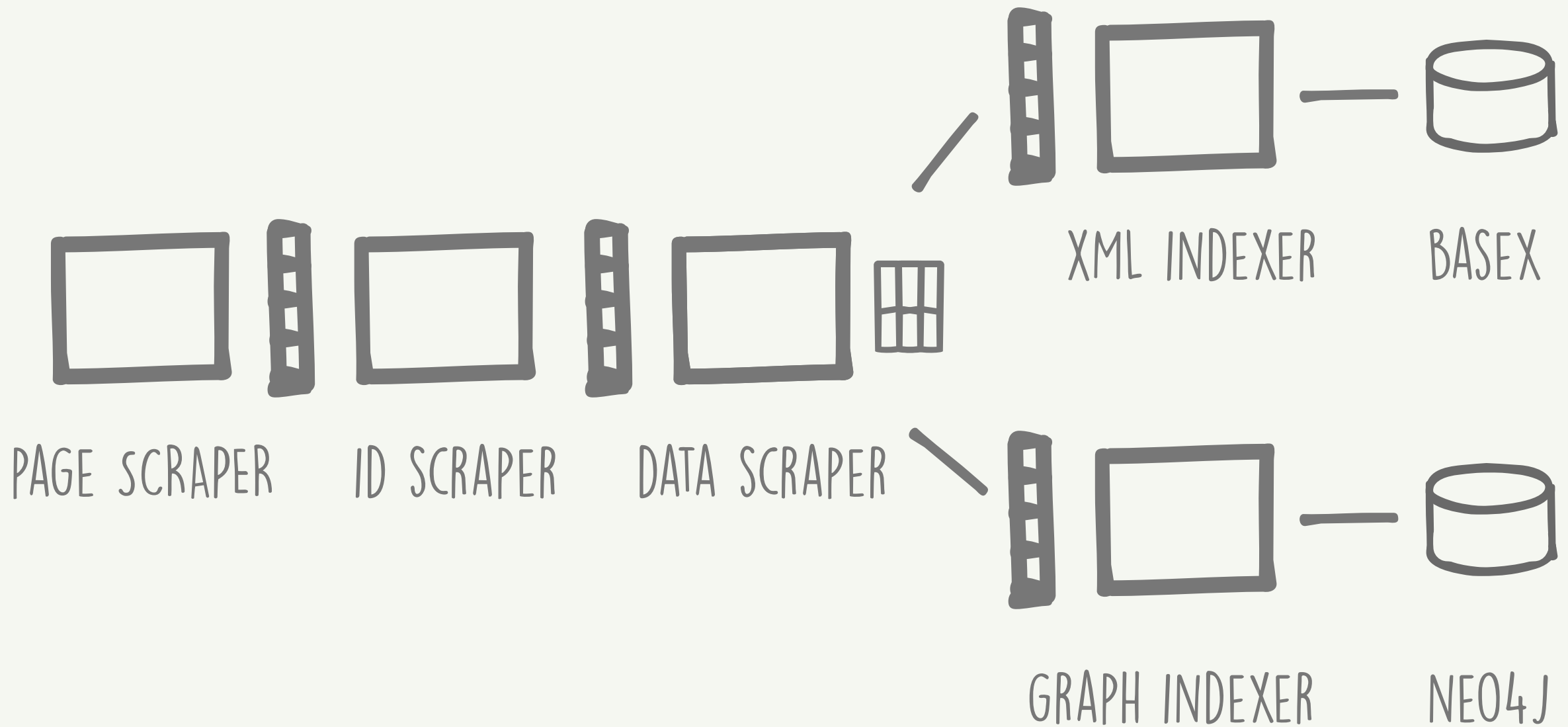
Result:

- Hit(s): 31558 Items
- Updated: 0 Items
- Printed: 581 KB
- Read Locking: xml
- Write Locking: (none)

Timing:

- Parsing: 0.24 ms
- Compiling: 0.79 ms
- Evaluating: 223.97 ms
- Printing: 75.8 ms
- Total Time: 300.8 ms

OUR DATA PIPELINE



LESSON 9: TIME IS...



...FINITE, DON'T WASTE IT
DOING TERRIBLE THINGS

THANK YOU

 KOURHAX

 KOURHAX

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