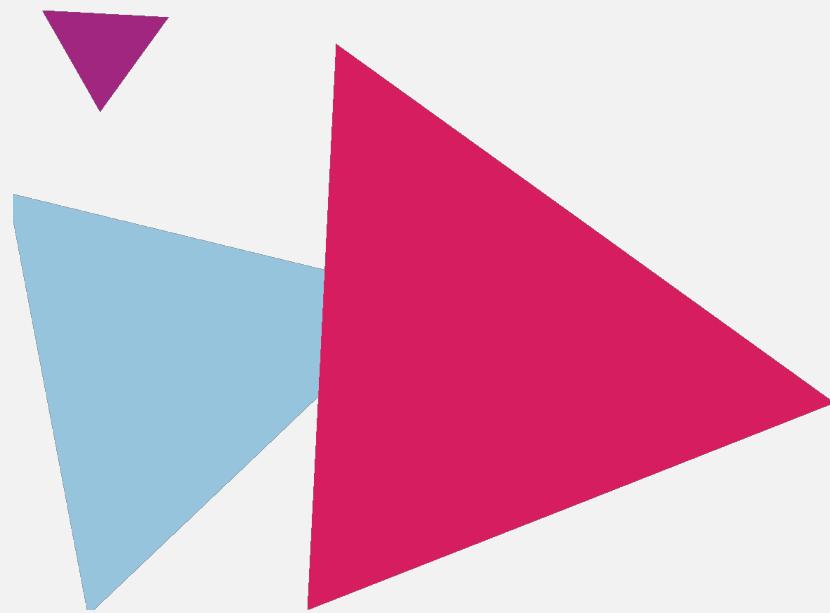


ALEXANDER VARWIJK - 29TH OF SEPTEMBER 2024

WHY A BIG DEAL ASYNC DRUPAL IS



Join us for contribution opportunities!

Mentored Contribution

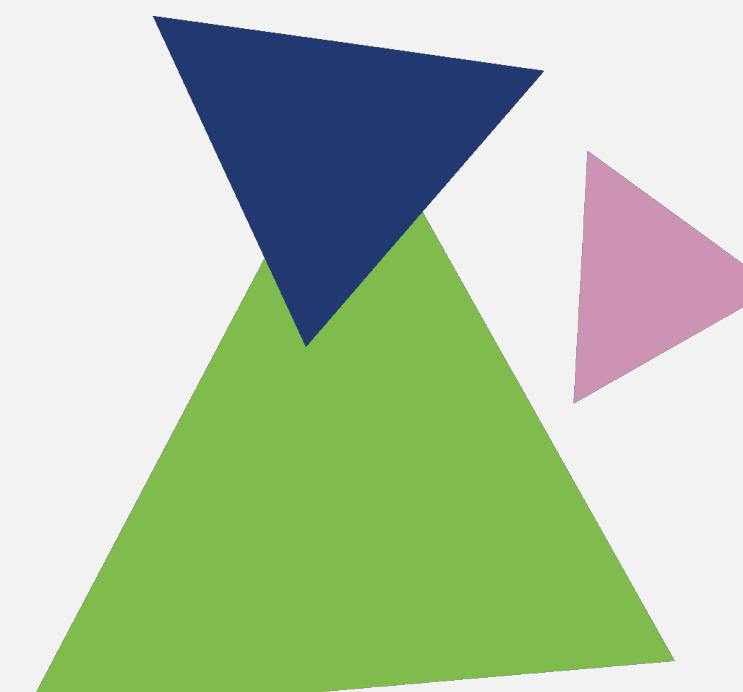
27 September:
09:00 – 18:00
Room 111

First Time Contributor Workshop

24 September: 16:30 - 17:15
Room BoF 4 (121)
25 September: 11:30 - 12:15
Room BoF 4 (121)
27 September: 09:00 - 12:30
Room 111

General Contribution

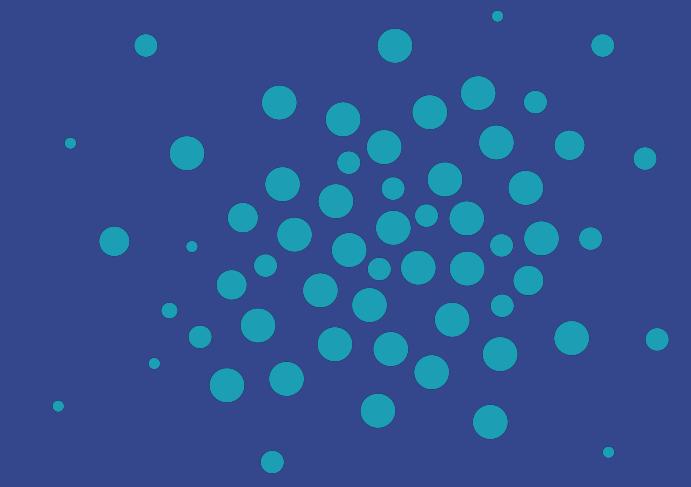
24-26 September: 9:00 - 18:00
Area 1
27 September: 09 - 18:00
Room 112



#DrupalContributions

ALEXANDER VARWIJK

Technical Architect



open[®]
social

Enjoy Travelling

(Co-)Maintainer of Real-Time SEO,
GraphQL, and Config Modify modules

www.alexandervarwijk.com



GET TO KNOW THE AUDIENCE

**WHY SHOULD
YOU CARE?**

ASYNCHRONOUS (NOT-SYNCHRONOUS)

♡ Our recipe pick

Chicken, garlic and mushroom tagliatelle

[VIEW RECIPE >](#)



Recipe

Vegan double chocolate brownies

[VIEW RECIPE >](#)



Feature

Tips for growing and storing herbs

[VIEW FEATURE >](#)



In this month's issue

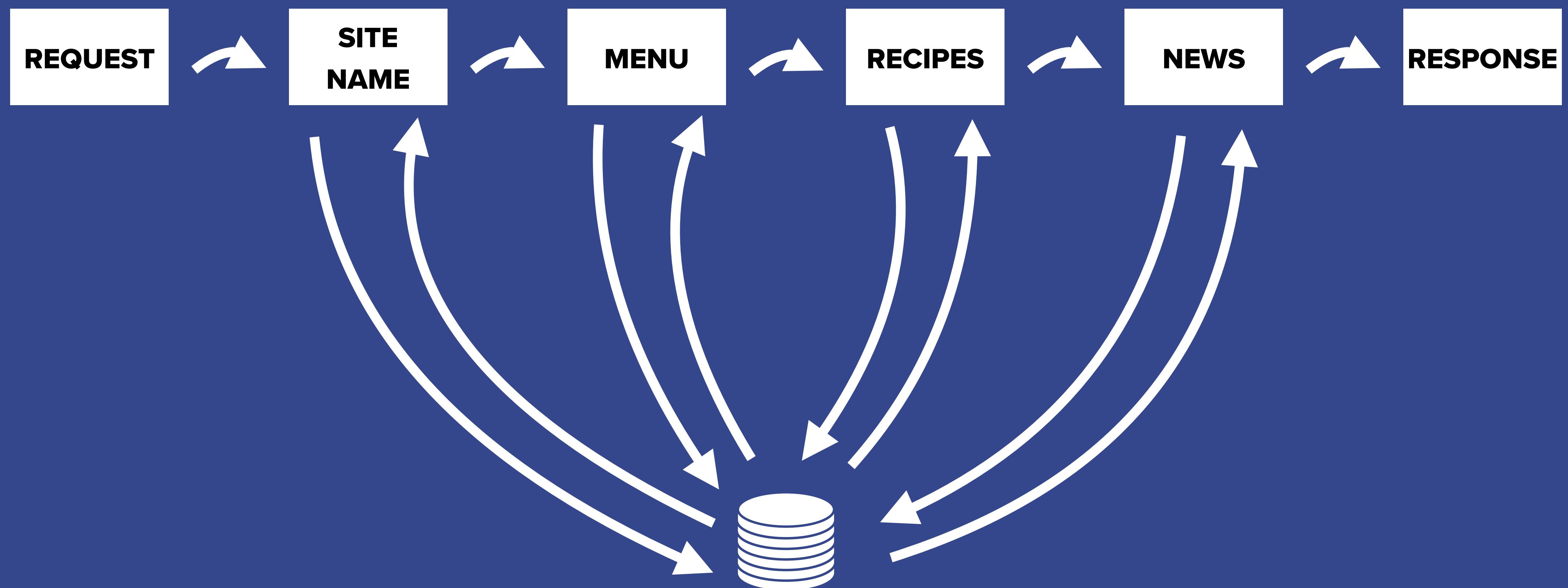
Praesent commodo cursus magna, vel scelerisque nisl consectetur et.

Comforting Winter Puddings • Introduction to Icelandic Food • 15 Hearty Meals Under 500 Calories • Winter Warmers • Are all Sugars the Same? • Profile on Head Chef Jeremy Watson • And Much More...

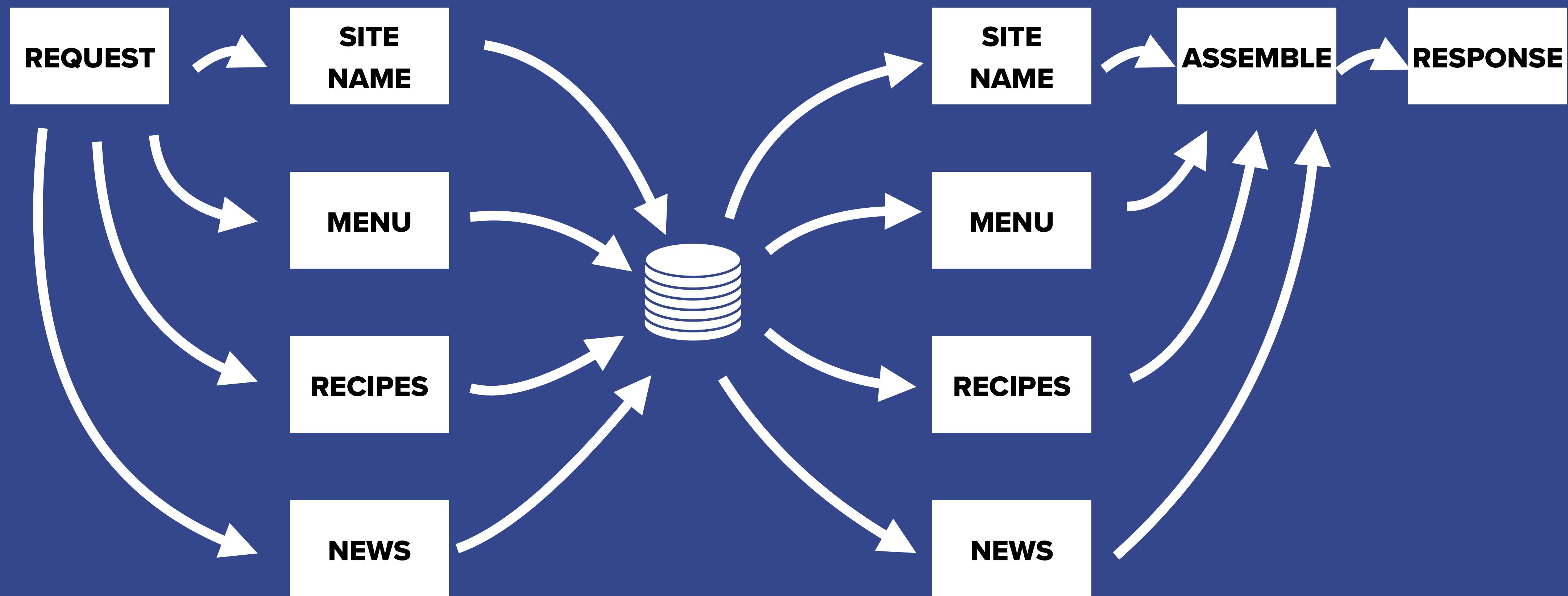
[More umami](#)



SYNCHRONOUS (ONE AFTER THE OTHER)



ASYNCHRONOUS (PARALLEL)



Events

Route
Request

Site
Name

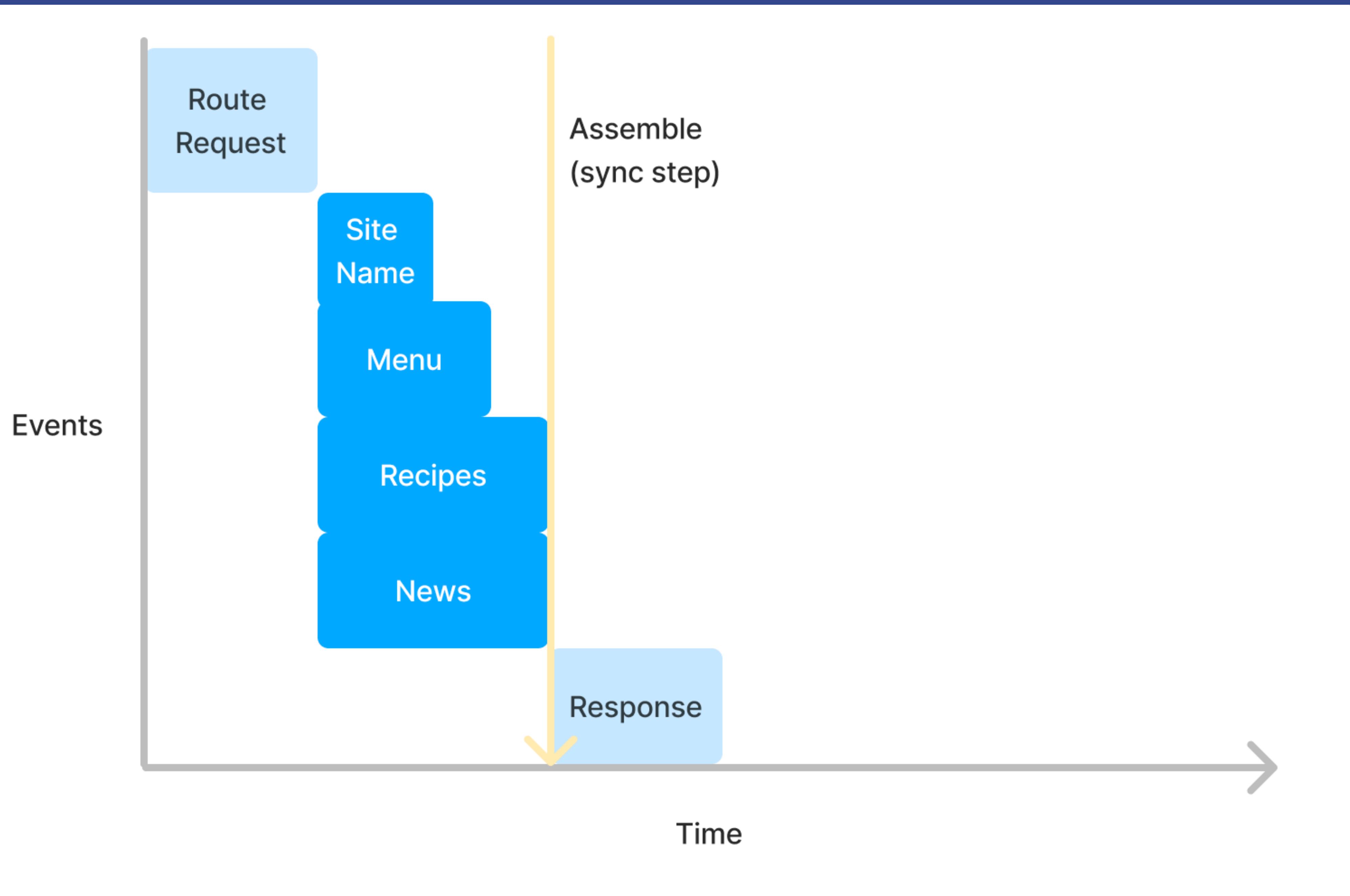
Menu

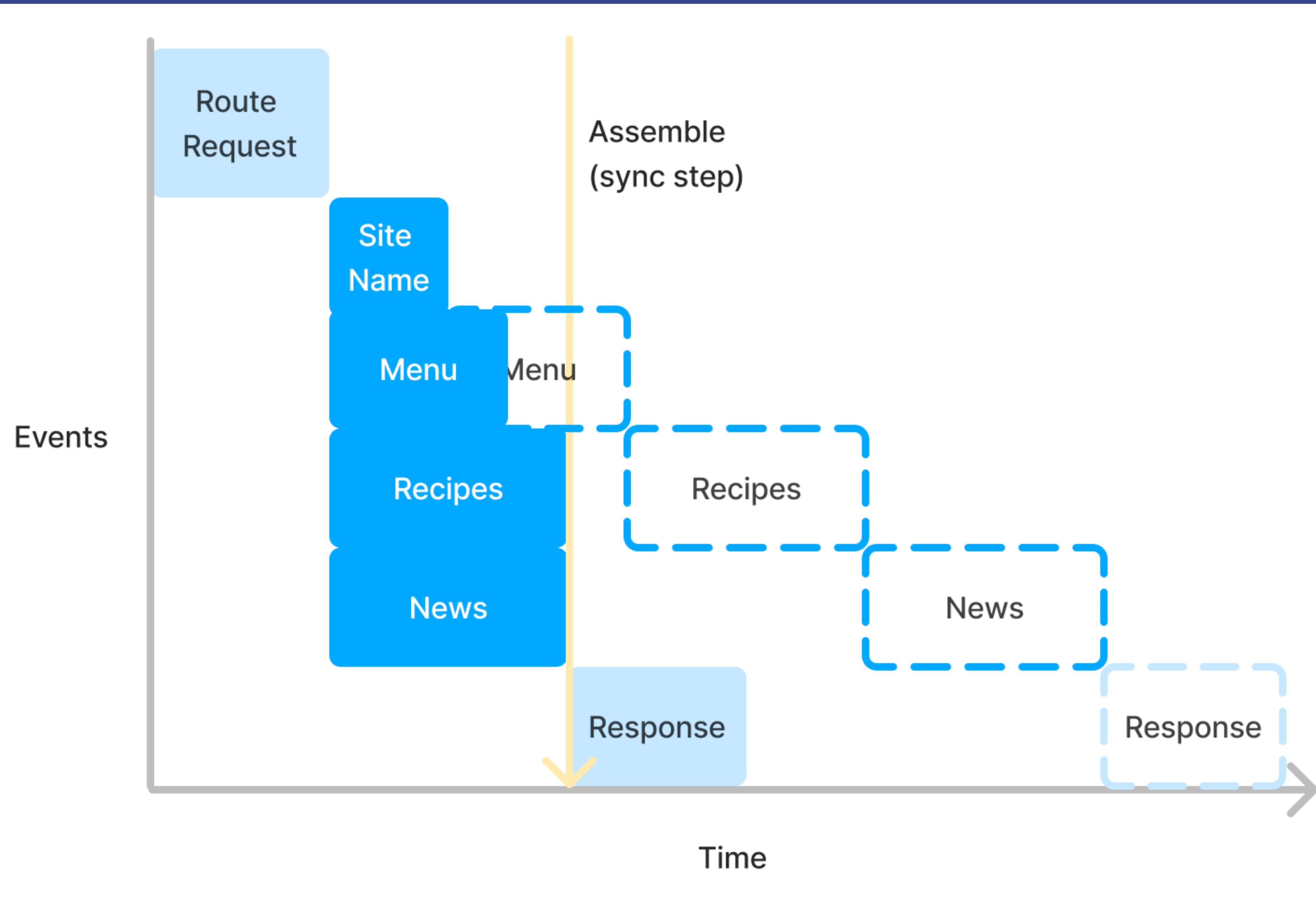
Recipes

News

Response

Time





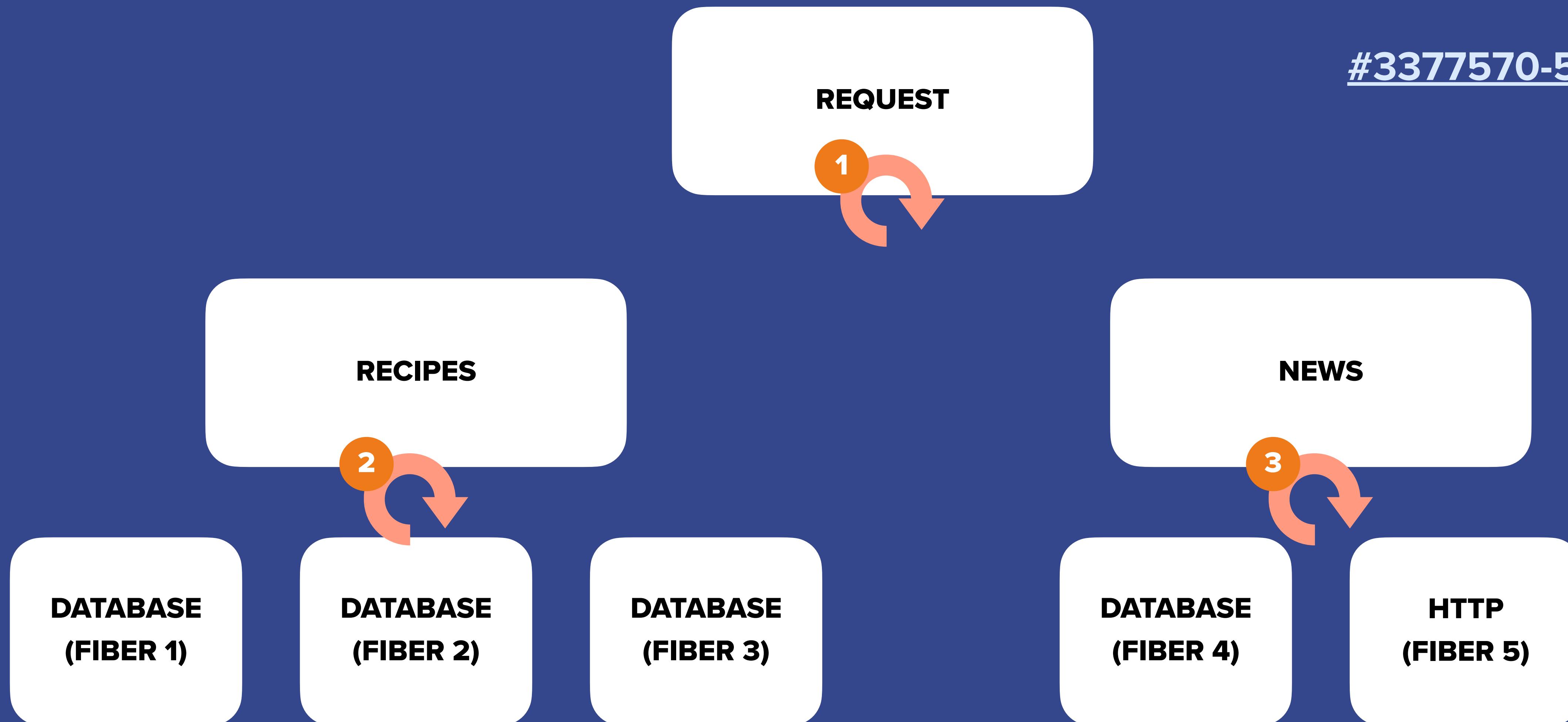
HOW DO WE GET THERE?

FIBER

- As of PHP 8.1
- Solves “What color is my function?”
- Enables asynchronous I/O
- Already implemented for
 - Big-Pipe (#3377570)
 - Renderer (#3383449)
- Work in-progress for
 - Cache pre-warming (#3257725)
 - Database (#3384763)



FIBER MANAGEMENT



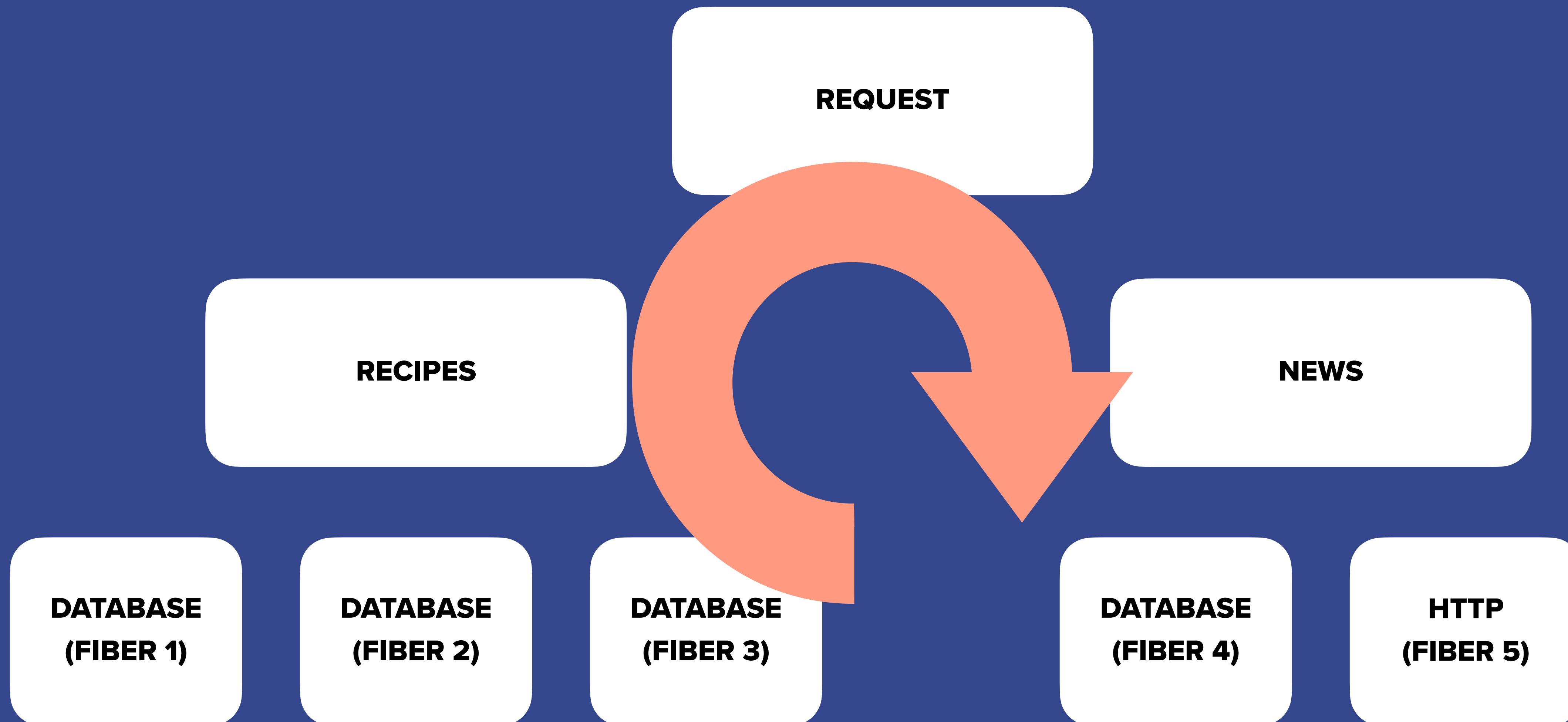


THE EVENT LOOP

- One event loop per application*
- Introducing: Revolt
 - Collaboration between AmPHP and ReactPHP
 - By the authors of the Fiber RFC
 - Provides low level scheduling primitives
 - Delegates to commonly available PHP extensions for the loop
 - (The main PHP Event Loop Extension is older than NodeJS)
- Revolt is on track to land in Drupal Core ([#3425114](#))
- Migrate BigPipe/Renderer ([#3425212](#)); Cache Pre-warm ([#3257725](#))

* Technically per process, but PHP generally doesn't multi-thread well

EVENT LOOP MANAGEMENT



DRUPAL'S ACTUAL POWER (BEYOND THE WEBPAGES)

DRUPAL
=

THE LEGO OF THE WEB

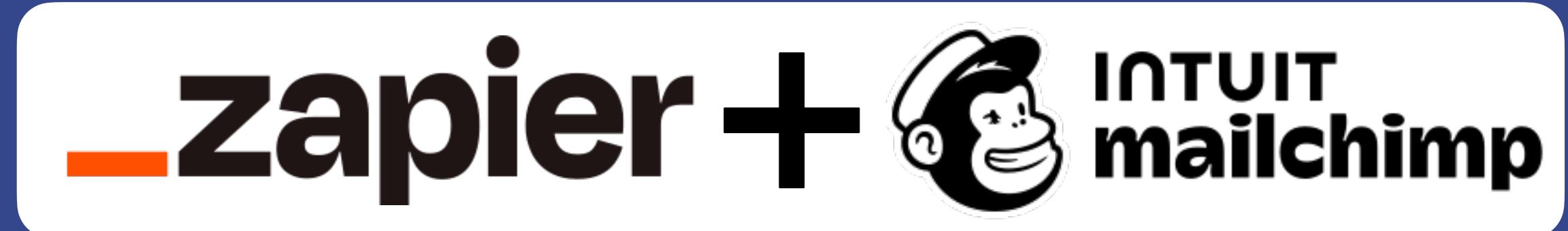
**CONNECTED
APPLICATIONS**

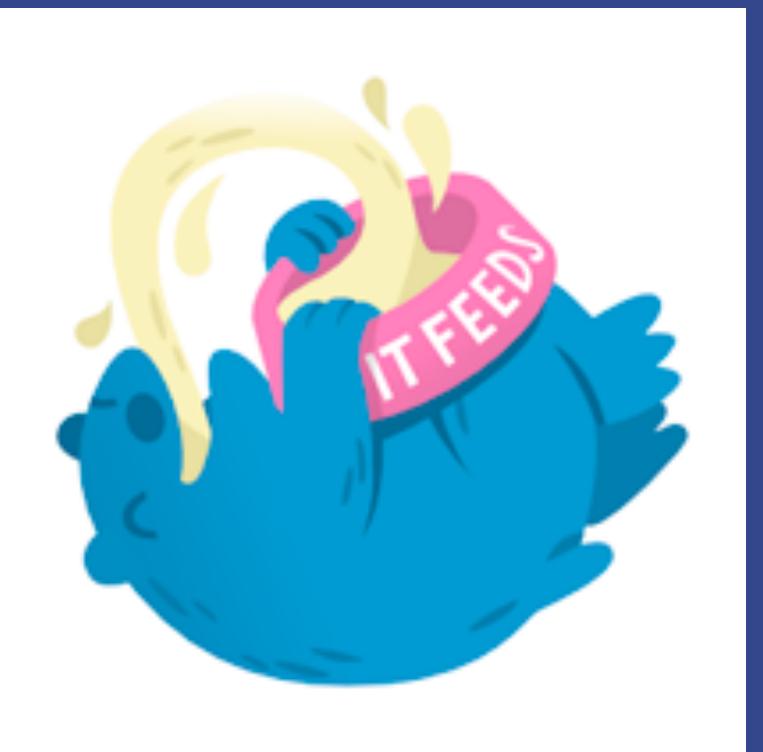


CONNECTED APPLICATIONS

EXAMPLE: AGGREGATED NEWSLETTER

- A newsletter that aggregates content from different sources
- Sent at the recipient's preferred time
- Filter content from the sources based on user interests

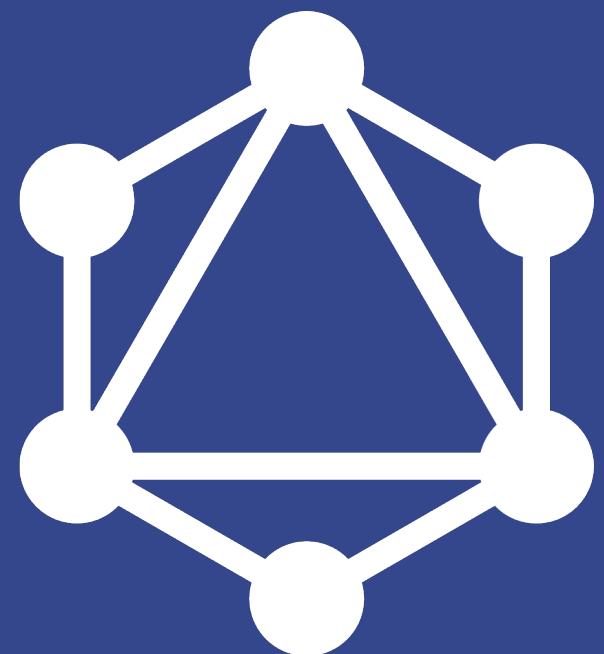
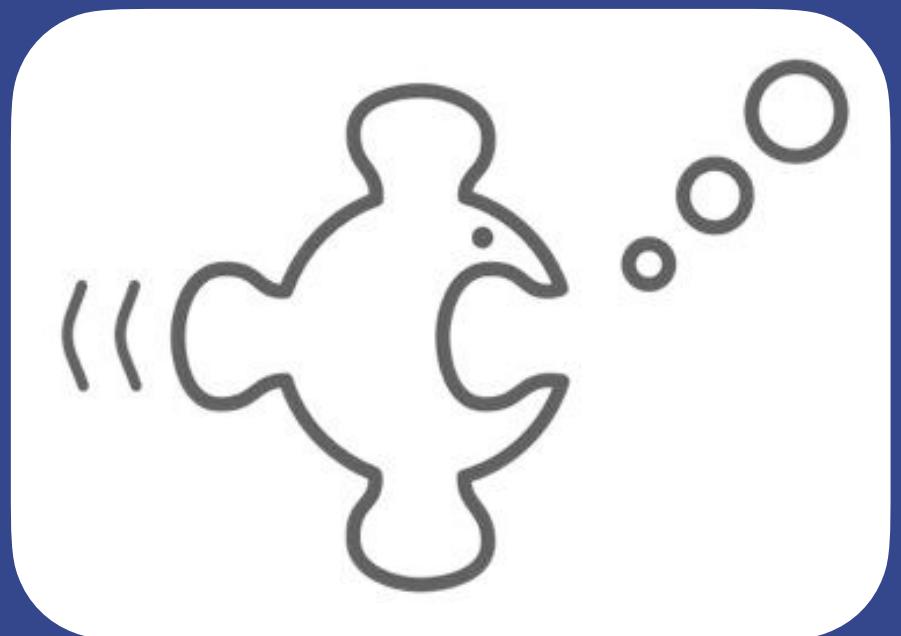






EXAMPLE: REAL-TIME CHAT

- Should deliver messages to users directly without requiring them to act
- Should support diverse (enterprise-level) SSO methods for user authentication
- Should have rich media support
- Should support one-on-one and group chats
- Should have flexible permissions for the different chat types



React



ADDITIONAL CHALLENGES FOR CONNECTED APPLICATIONS

- Async database is a must ([#3259709](#), [#3384763](#))
- Drupal (contrib) code assumes it handles only a single short-lived task at a time
 - MemoryCache might go stale
 - Services sometimes keep global state
- Drupal is very (single-)request oriented

IN SUMMARY

- Your help is needed!
- It's challenging but worth it!
- Focus first on in-request performance, then on connected applications
- Unlock powerful new things we can build with our existing modules.
- First
 - Adopt Revolt event-loop ([#3425114](#))
 - Migrate BigPipe/Renderer ([#3425212](#))
 - Migrate Cache Pre-warm ([#3257725](#))
- Then
 - Async database ([#3259709](#), [#3384763](#))
 - Multiple-requests or no-requests (no issues yet)
 - Other async opportunities



What did you think?

Please fill out the **Individual session survey**
(in the Mobile App using QR code)



Thank You! Questions?