# Data Documents

a CQRS-style approach for managing data redundancy “the good way”

by Julian Scheuchenzuber @ StripeCon EU 2023

# Case Study **HealthMe App**

presented on German television show
“Die Höhle der Löwen” in 2021

# Do you know which food is good for you?

- Food screening based on original manufacturer data - tested data quality
- Including analysis of additives
- Tailored to your allergy/intolerance profile
- Automatic integration of results from medical laboratory tests (allergy or intolerance tests)
- Enter personal preferences (if desired)

**Download now for free**

GET IT ON Google Play

Download on the App Store

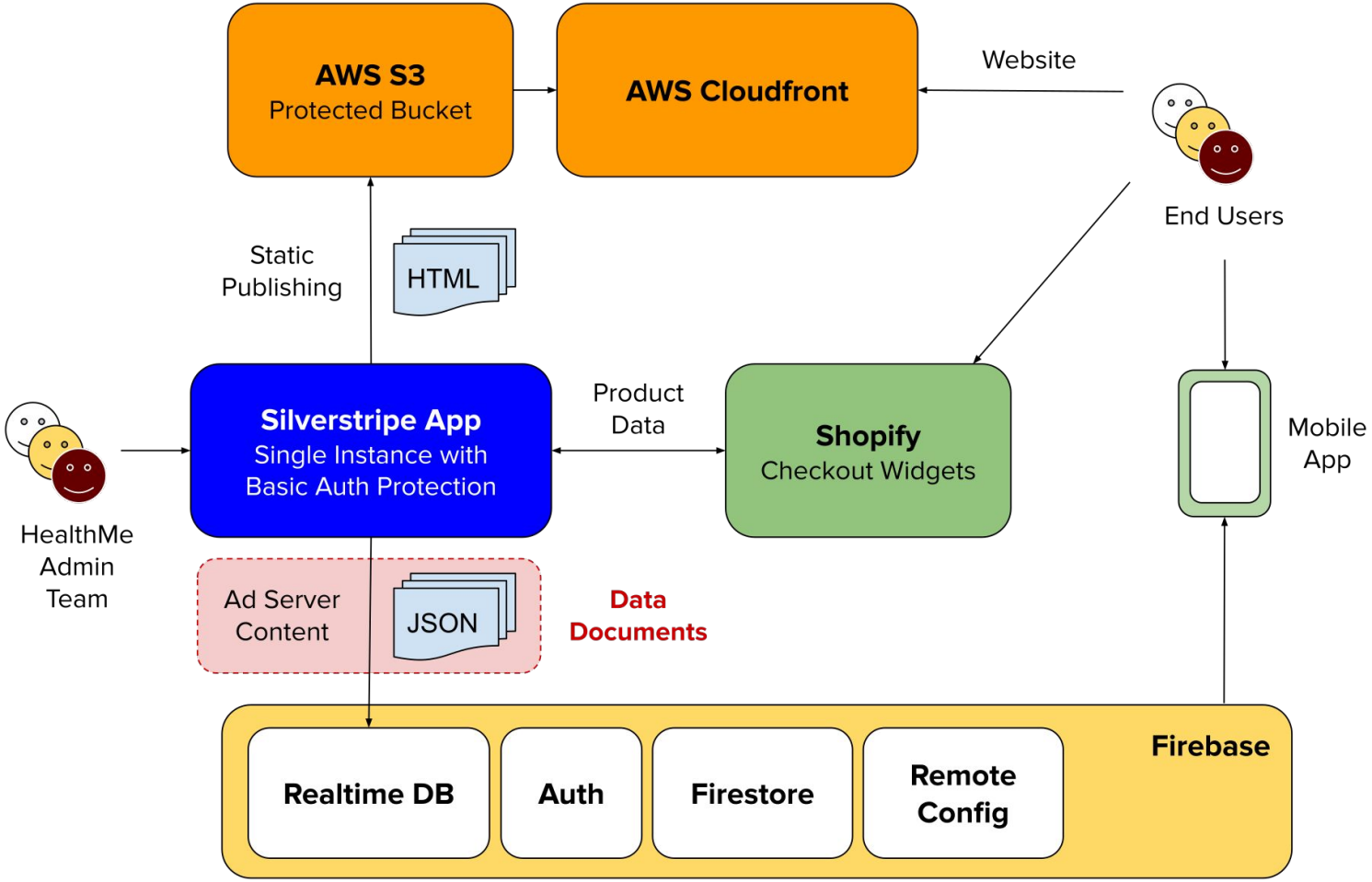
www.healthmeapp.de

# Our goals

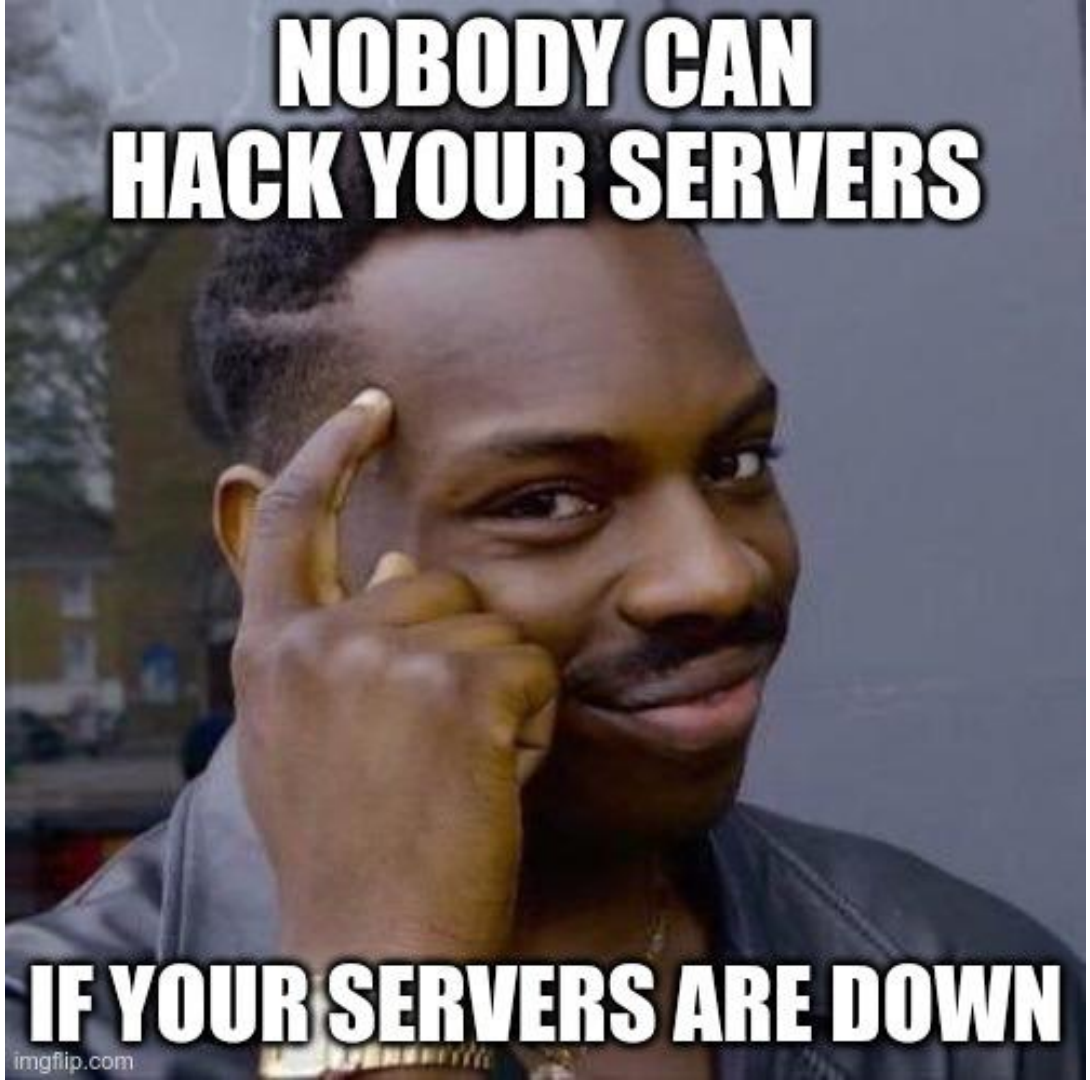
- 👀 Visibility for our product
- 💰 Push sales of our bundle-products
- 📣 Distribute ad content from our partners
- 👥 App user conversions (paid subscriptions)
- 🤝 Close an investor deal

# Challenges and Risks

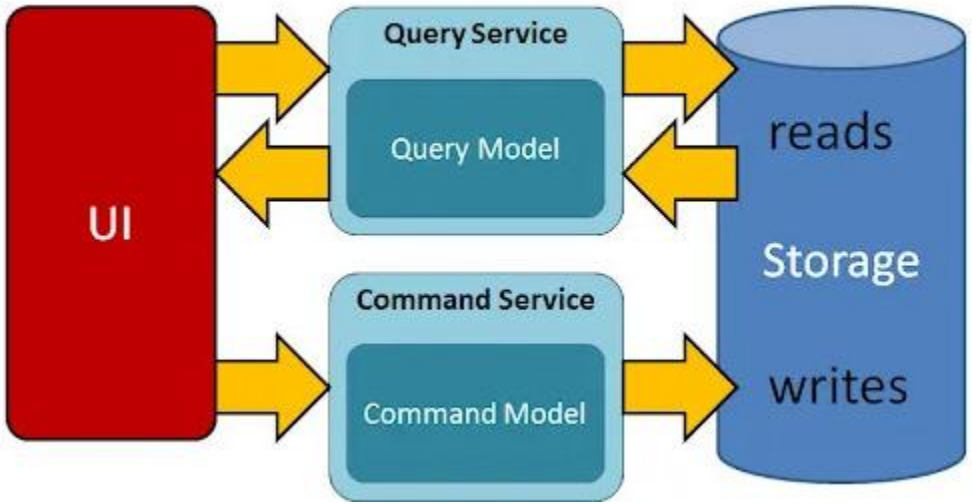
- 🏋️ High load/traffic during TV show airing
- 💸 Easy and stable purchase flows
- 😈 Trolls try to attack and break your systems


AWS S3
Protected Bucket
AWS Cloudfront
Website
End Users
Static
Publishing
HTML
Silverstripe App
Single Instance with
Basic Auth Protection
Product
Data
Shopify
Checkout Widgets
Mobile
App
HealthMe
Admin
Team
Ad Server
Content
JSON
Data
Documents
Firebase
Realtime DB
Auth
Firestore
Remote
Config

So we... shut down our servers during the tv show 😱


NOBODY CAN
HACK YOUR SERVERS
IF YOUR SERVERS ARE DOWN
imgflip.com

# CQRS




Original description by Greg Young

Graphic Copyright: https://medium.com/@darshana-edirisinghe/cqrs-and-mediator-design-patterns-f11d2e9e9c2e

# **Data Documents** Recipe

**Step 1**

Create an adapter for your payload store (Elastic, Redis, ...)

**Step 2**

Implement interface `DataDocument` in your DataObject

**Step 3**

Success! ✨

# **Data Documents** Snippets

```php
<?php

namespace Level51\DataDocuments;

interface DataDocumentStore
{
    public function read(string $documentId): array;

    public function write(string $documentId, array $document, array $options = []): void;

    public function delete(string $documentId): void;
}

```

# **Data Documents** Snippets

```php
<?php

namespace Level51\DataDocuments;

interface DataDocument
{
    public function getDocument(): array;

    public function getDocumentStore(): DataDocumentStore;
}

```

# **Data Documents** Snippets

```php
<?php

use Level51\DataDocuments\DataDocument;
use Level51\DataDocuments\DataDocumentExtension;
use SilverStripe\Core\ClassInfo;
use SilverStripe\ORM\DataObject;

foreach (ClassInfo::implementorsOf(DataDocument::class) as $dataDocumentClass) {
    DataObject::add_extension($dataDocumentClass, DataDocumentExtension::class);
}

```

# **Data Documents** Snippets

```php
<?php

namespace Level51\DataDocuments;

use SilverStripe\ORM\DataExtension;

/**
 * @property DataDocument|DataDocumentExtension $owner
 */
class DataDocumentExtension extends DataExtension
{
    public function onAfterWrite() {}

    /**
     * Used to ensure data is being committed if only relations have been changed
     */
    public function onAfterSkippedWrite() {}

    public function onBeforeDelete() {}

    public function commit(): void {}

    public function undoCommit(): void {}

    public function getDocumentId(): string {}
}

```

# Demo Time 😎

# What we are up to

- 🌳 Dependency Tree Detection via SPL
- 🤔 Support for 3rd party DataObject
- 📚 Basic library of payload store adapters
- 📝 Documentation of API and concepts

# Github Repo
# in the making 👨‍💻

level51/silverstripe-data-documents

https://www.presseportal.de/pm/51868/5043858

thx 🖖