Porting a Django View to an MFE

An Open edX lightning talk by Nathan Sprenkle

Why MFEs?

+ Standalone React / Redux applications
+ **Outside of `edx-platform`** ← *Deconstructing the Monolith*
+ Client heavy instead of server heavy
+ Paragon: component reuse, branding, and accessibility

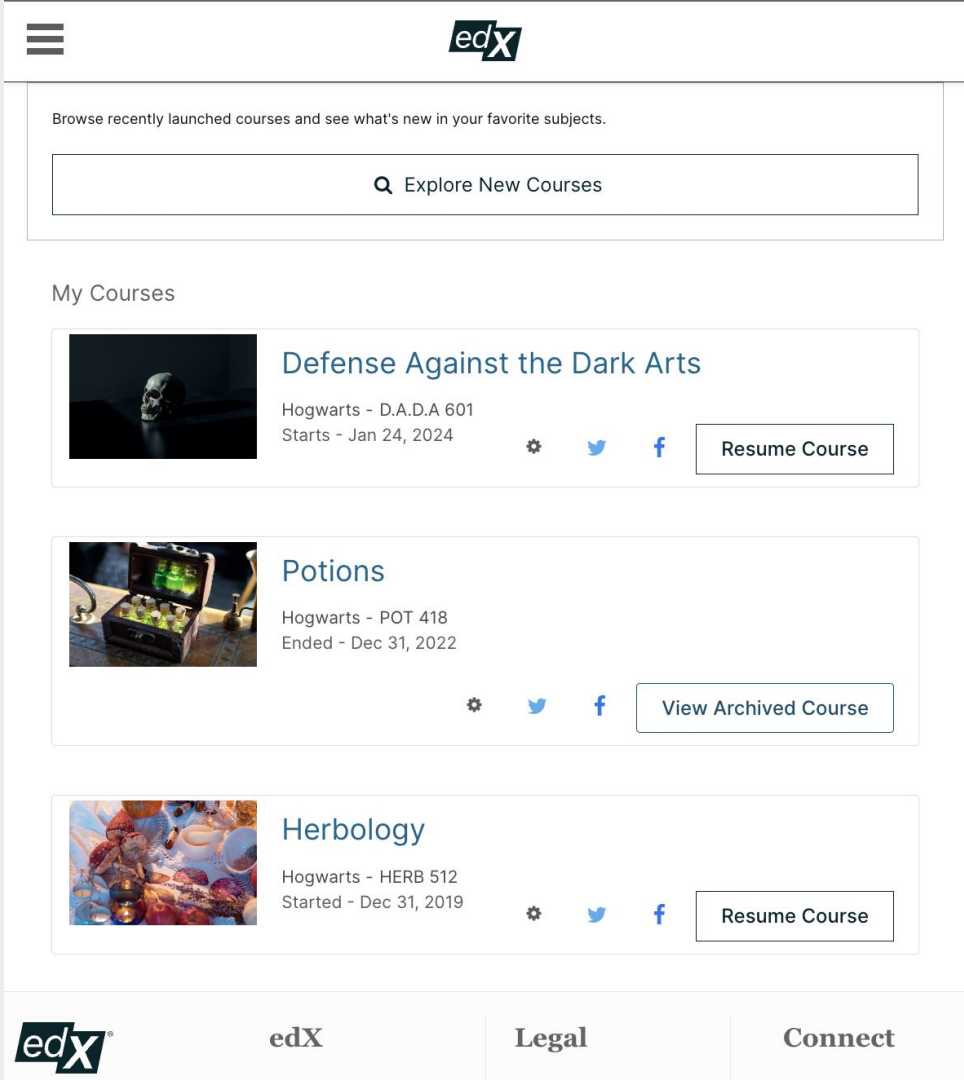
Talk Inspiration:

Create a new Student Dashboard

Page is **high visibility, high complexity**.

Requires near **feature parity.**

~ 1K lines of code for gathering & composing page context.



Problem!

Challenging to reimplement from scratch and meet requirements.

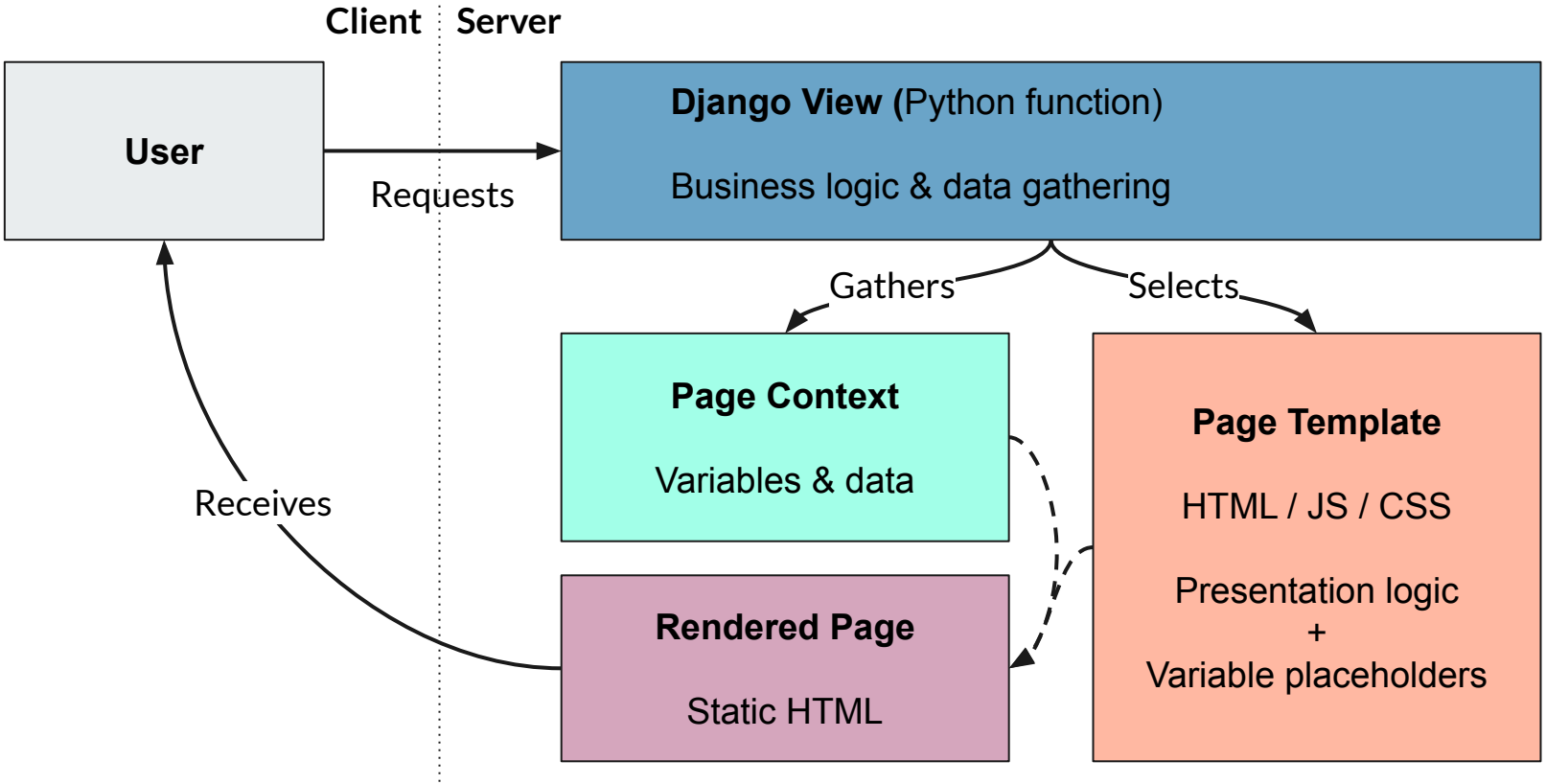
But we found a ***useful pattern***…

… from investigating these 2 architectures

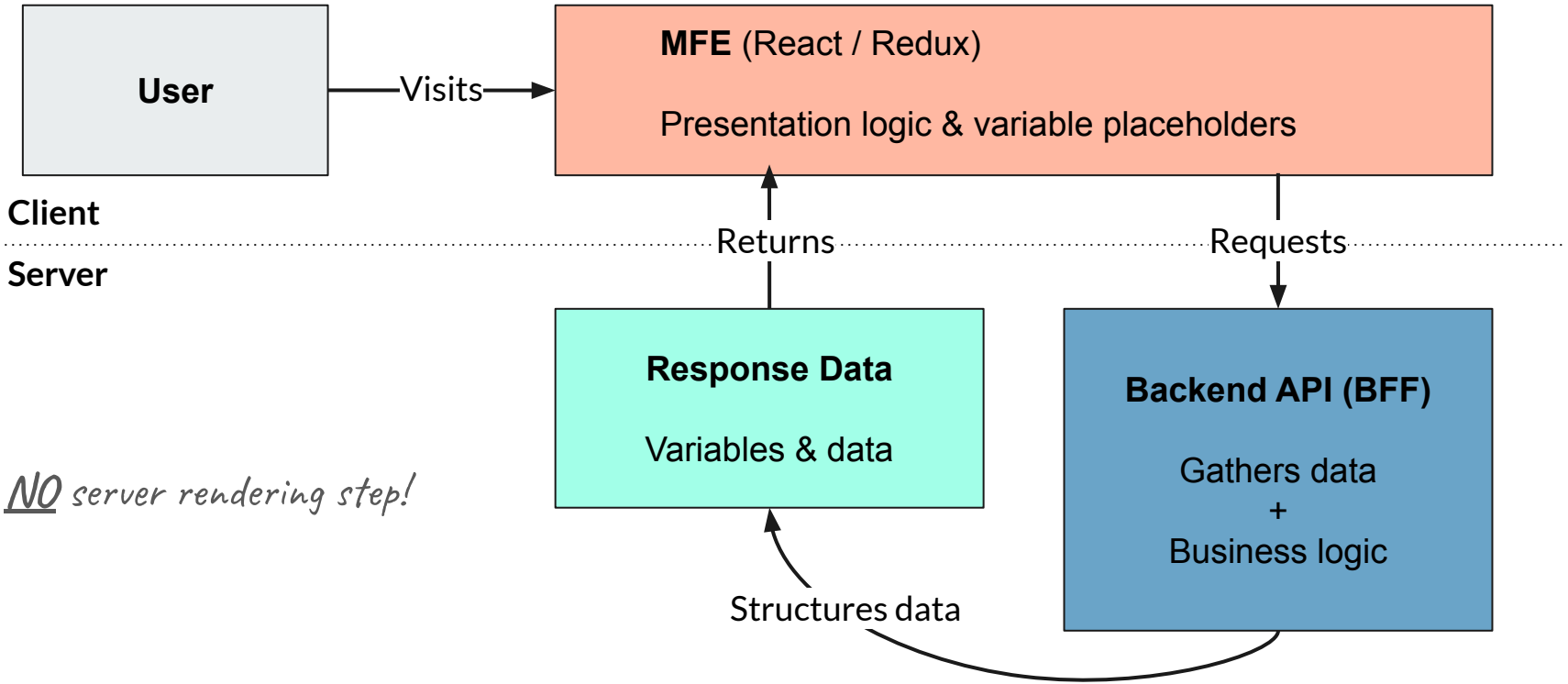
Mirror as much of the core logic and structure as possible…

… while allowing for clearly scoped refactors & following best-practices.

Let's see how by digging into those architectures…



Django views! What are?



But what about Micro-frontend Applications (MFEs)?!?!

Hopefully you're thinking...

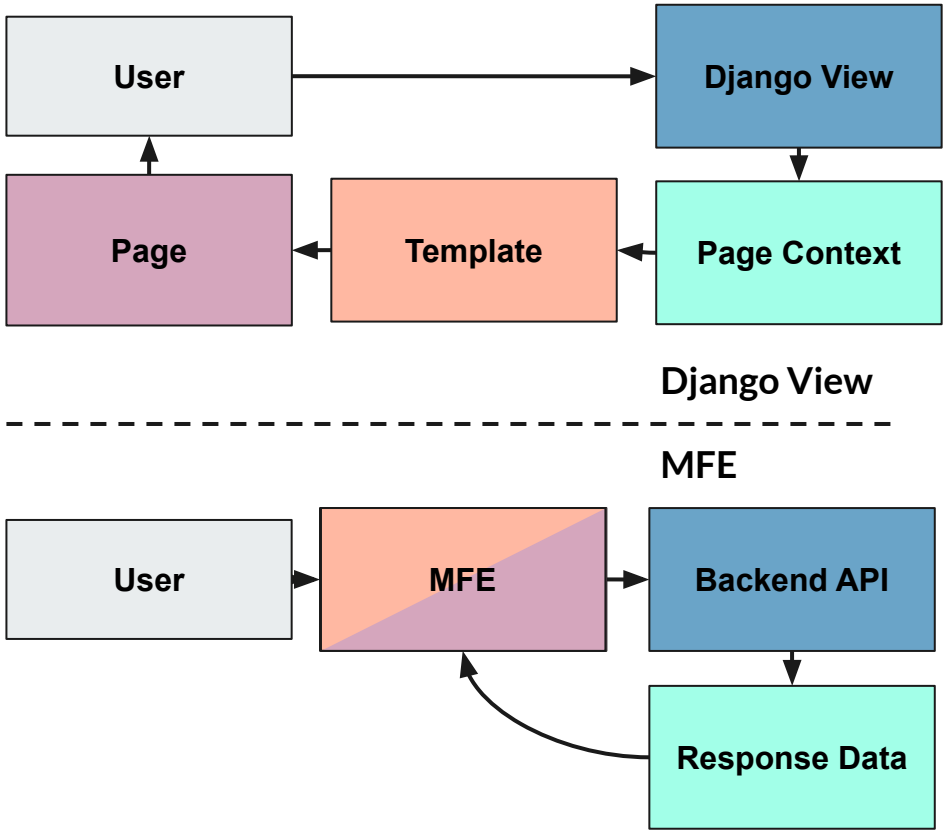
"Wow, these have some clear similarities!"

Yes!

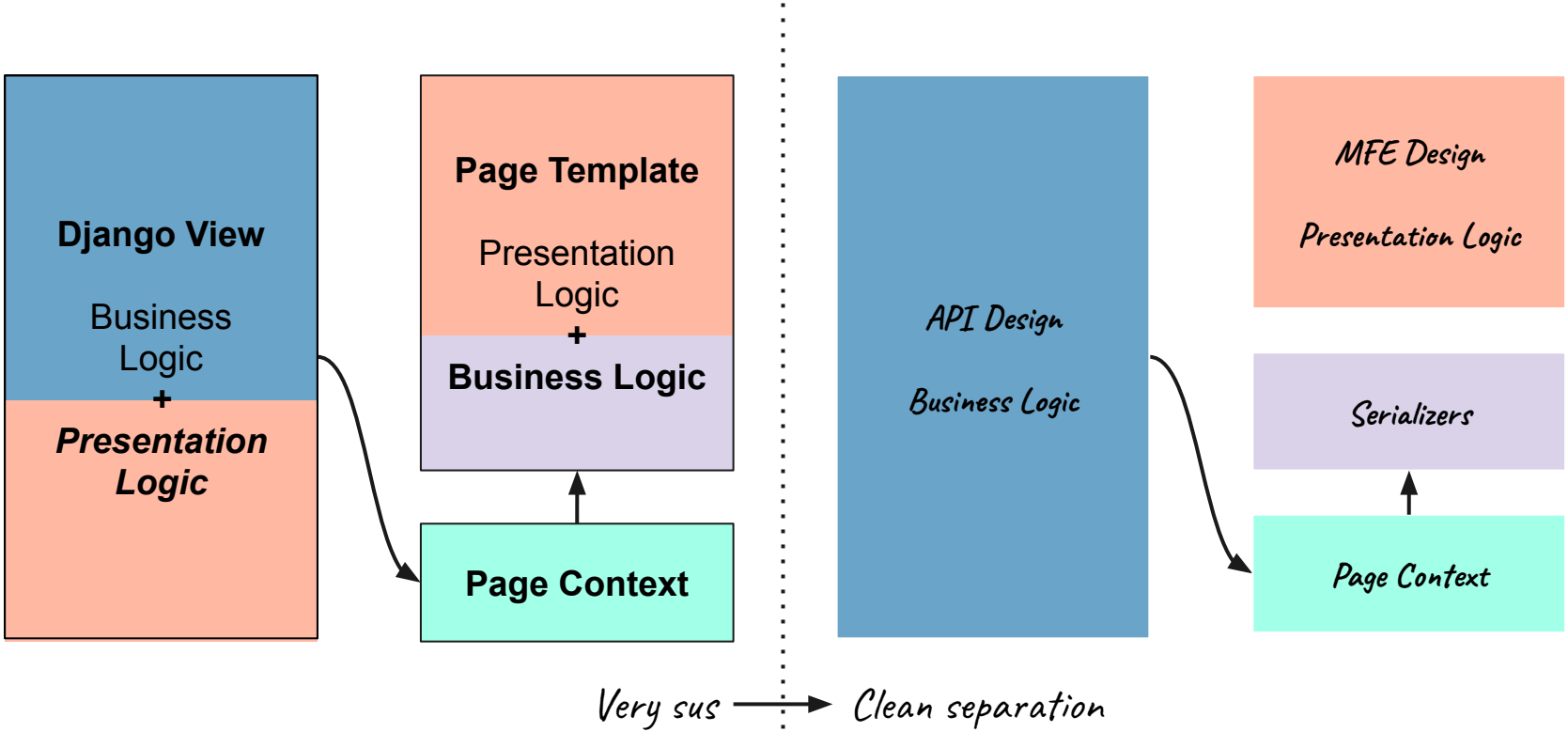
And we can use those similarities...

Tto map logic to our new implementation

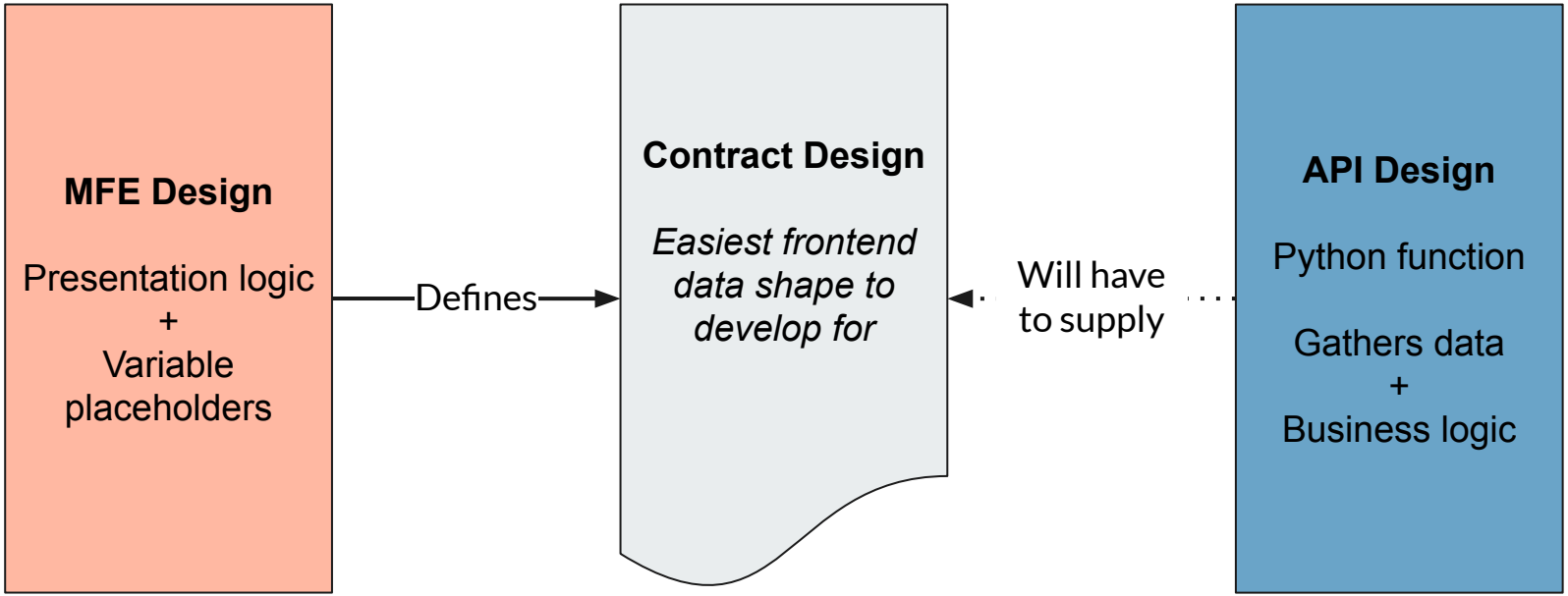
1. BFF : Django View
2. MFE : Template / Rendered Page
3. Page context : Response Data



Our Process, in 4 steps:

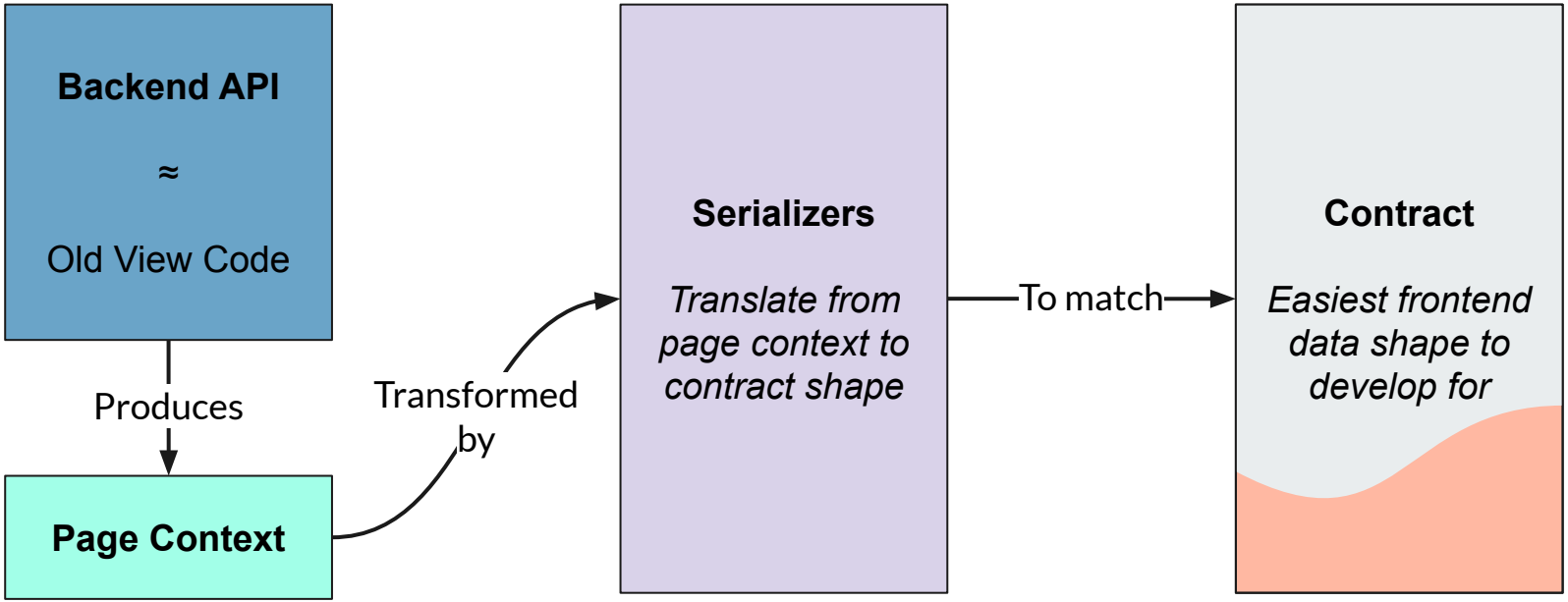


Step 1: Duplicate backend logic, clearly delineate logical boundaries

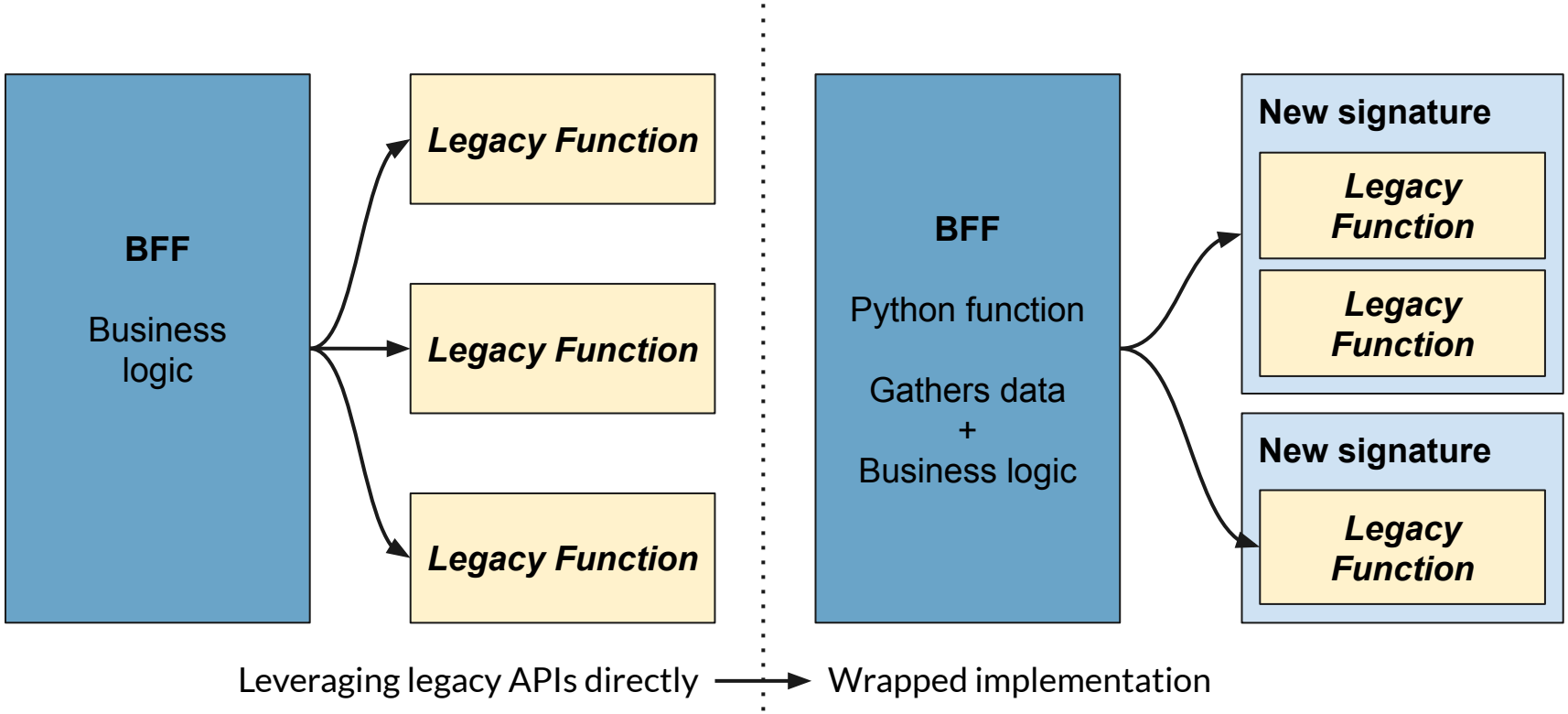


Backend-informed frontend-driven development

Step 2: Define frontend contracts, start building MFE



Step 3 : Translate data from backend to frontend



Step 4: Wrap calls to legacy APIs, selectively profile and refactor

Pattern TL;DR

1. Duplicate backend logic, clearly delineate logical boundaries
2. Define frontend contracts, start building MFE
3. Translate data from backend to frontend
4. Wrap calls to legacy functions, profile and selectively refactor

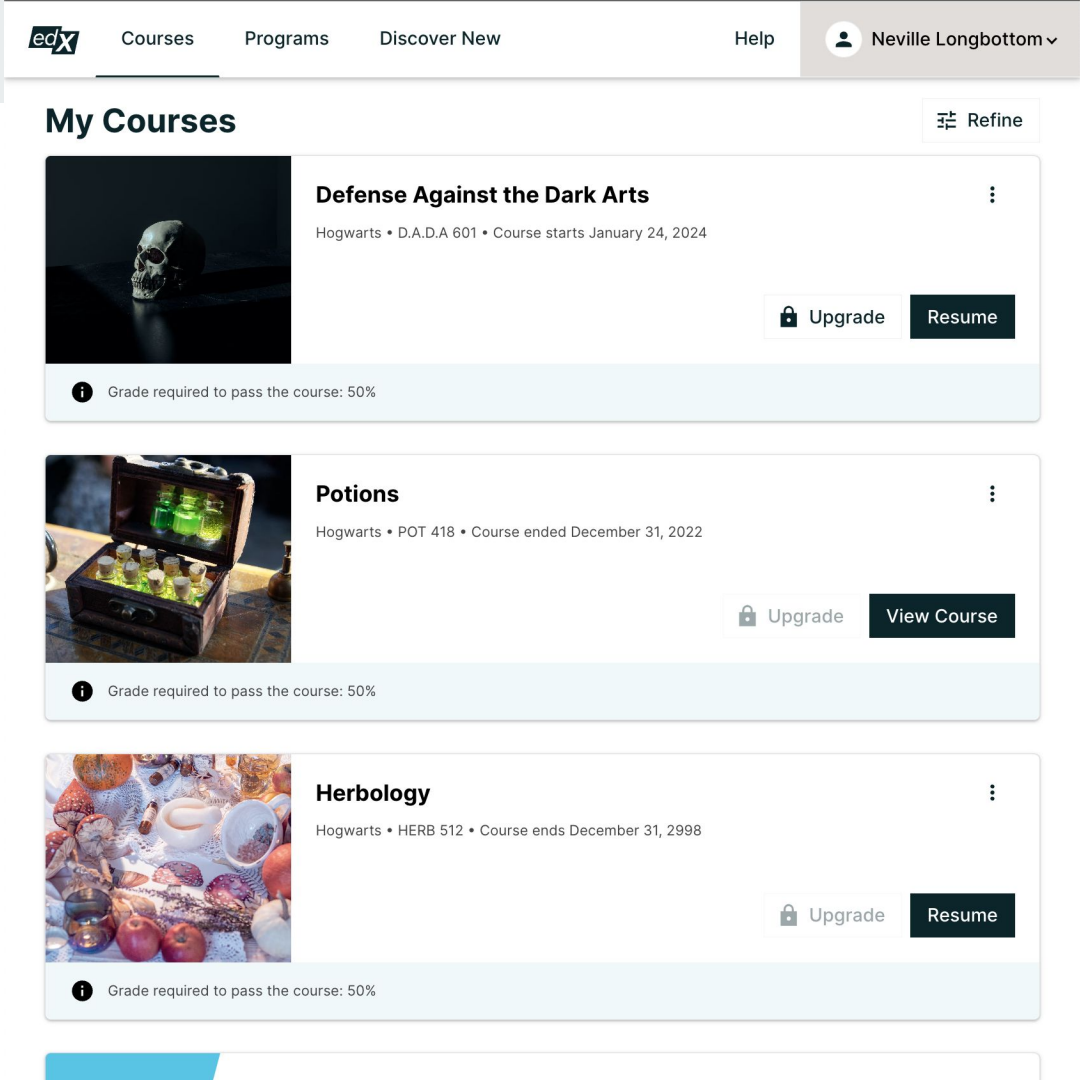
End Result:

Clean, new MFE frontend.

Retains much existing logic & nuance.

Allows for refactorability.

Quick development process.



Hope this is useful!

Questions? Want to nerd out?

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Look for this guy!

Thank You