Introduction To Micro Frontends

In this lesson, we will understand what are micro frontends

We'll cover the following

What Are Micro Frontends?

Micro frontends are separate loosely coupled components of the user interface of an application that are developed applying the principles of microservices on the front end.

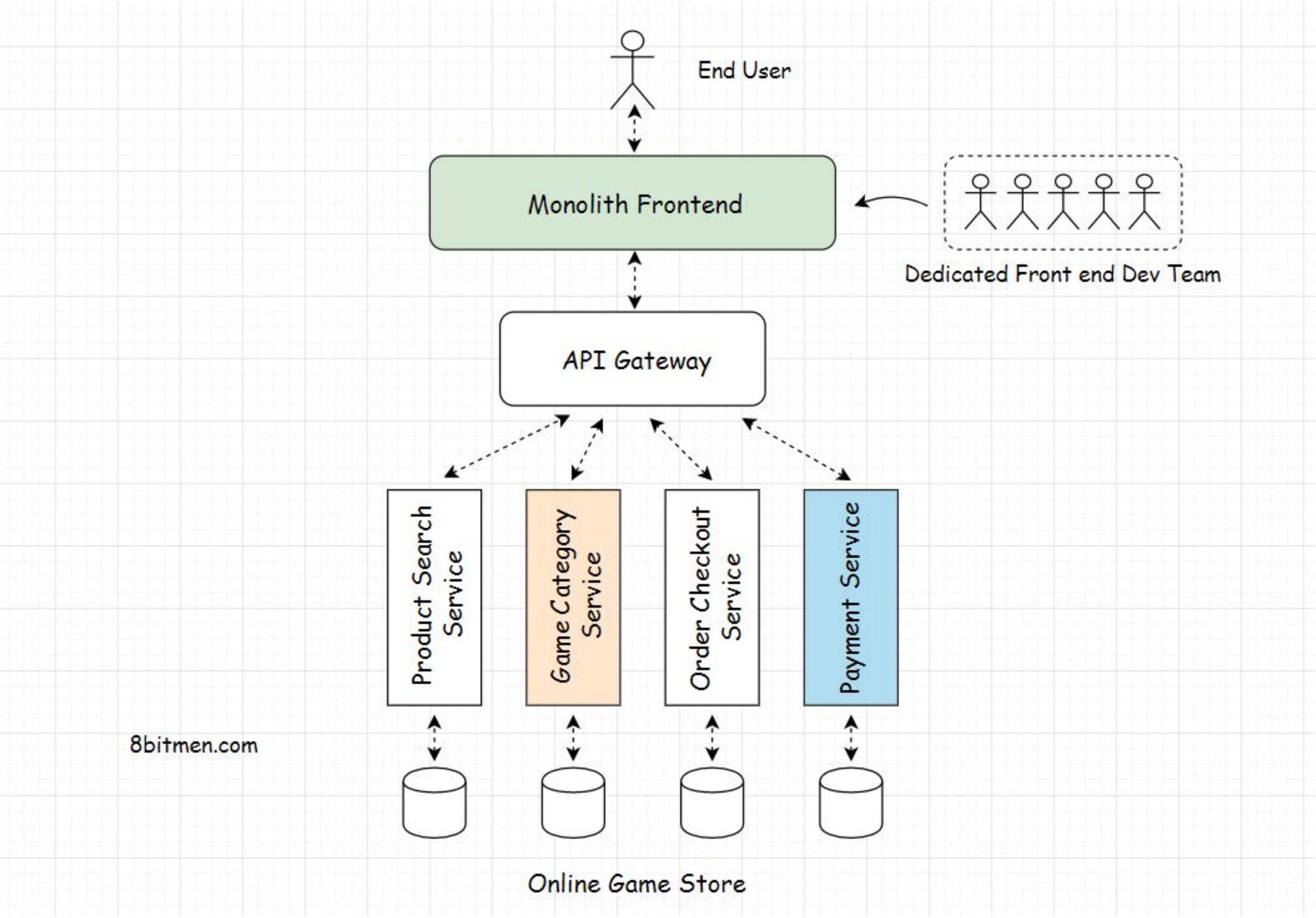
Writing micro frontends is more of an architectural design decision & a development approach as opposed to it being a technology.

What does applying the principles of microservices to the front end means?

Microservices provide complete autonomy to the teams developing them. They are loosely coupled, provide fault isolation also offer the freedom to pick the desired technology stack to the individual teams to develop a certain service.

Micro frontends offer the same upsides to the front-end development.

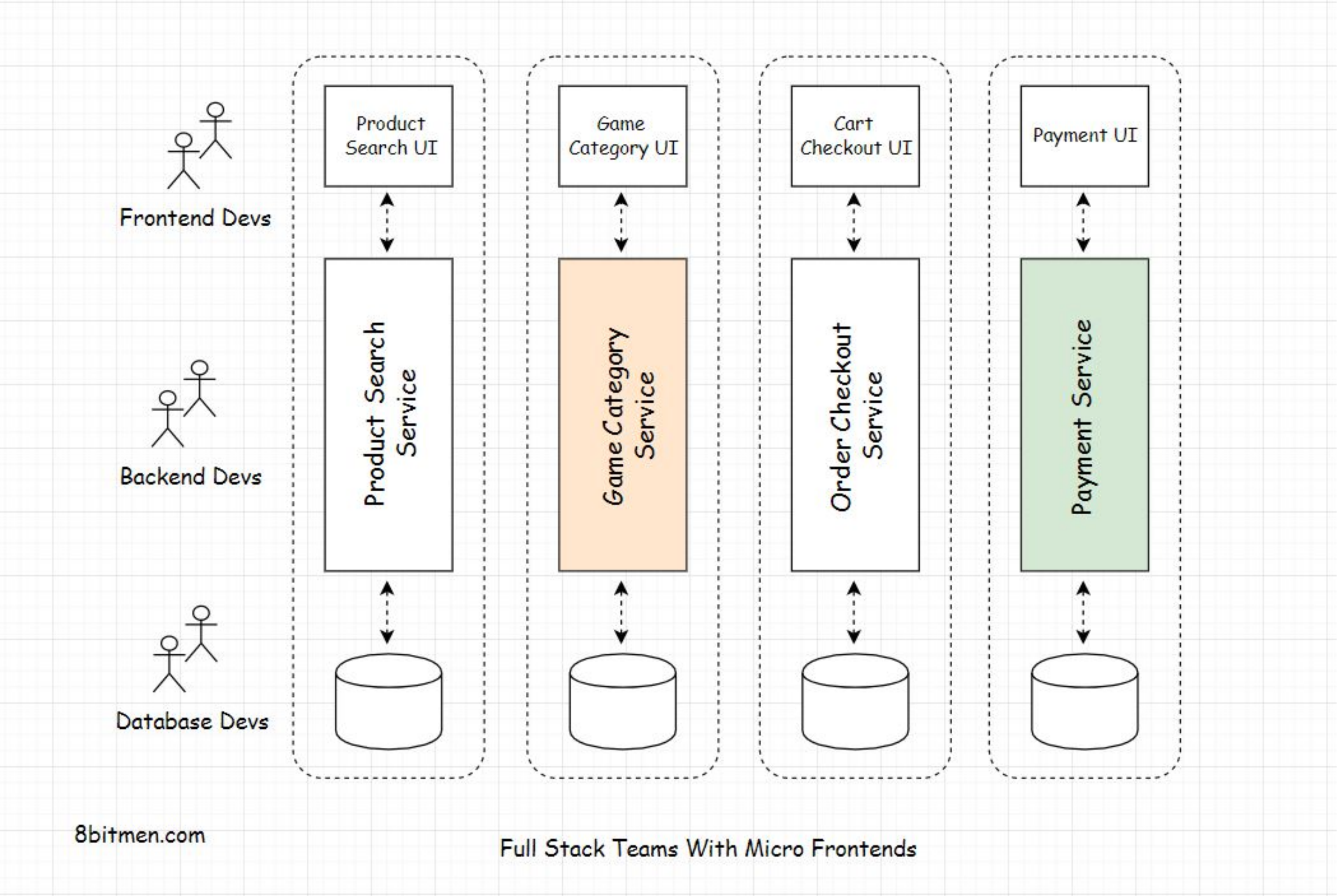
Generally, in application development, despite having a microservices architecture on the backend, our front end is a monolith that is developed by a dedicated front-end development team.



But with the micro frontends approach, we split our application into vertical slices. Where a single slice goes end to end right from the user interface to the database.

Every slice is owned by a dedicated team. The team besides the backend devs also includes the front-end developers who have the onus of developing the user interface component only of that particular service.

Every team builds its own user interface component choosing their desired technology and later all these components are integrated together forming the complete user interface of the application. This micro frontend approach averts the need for a dedicated centralized user interface team.



Let's understand this further with the help of an example.

Micro Frontends E-Commerce Application Example

I've taken the example of an e-commerce application because the micro frontends approach is pretty popular with e-commerce websites.

Alright, let's imagine an online game store that home delivers the *DVDs* of all kinds of video games for both desktops and consoles such as *Xbox, Nintendo Switch, Play Station* & the related hardware.

Our online gaming store will have several different UI components. A few key components out of those are –

The Search Component – This is a search bar on the top centre of the website that enables the users to search games based on the keywords they enter.

Once the user runs a search the component then enables the user to filter their search results based on several options such as the price range, type of console, game genre and so on.

The Game Category Component – This component displays the popular and widely searched games for different categories on the home page of the website.

Add To Cart & Checkout Component – This user interface component enables the users to add the games of their liking to the cart and proceed with the checkout filling in their address & other required information to make the final payment.

During the checkout, the website may recommend related games to the user as upsells. Also, a user can apply coupons & gift cards if he has any.

The Payment Component – The payment *UI* component offers different payment options to the user & facilitates the order payment once the user enters his card details on the page.

Every *UI* component has a dedicated microservice running on the backend powering that particular user interface component. And all these different components are developed and managed by dedicated full-stack teams.

The complete user interface of the application is rendered combining all these different individual UI components, also called *Micro Frontends*.

Let’s continue this discussion in the next lesson.