Technology Stack Overview

Frontend: **Next.js**

- React-based framework with SSR, SSG, and API routes.
- High performance, scalability, and ease of use.

Backend: **Actix-Web**

- High-performance, asynchronous Rust framework.
- Ideal for high-concurrency applications.

Comparison Document

Frontend: Next.js vs. Others

Feature	Next.js	React	Angular	Vue.js
Key Functionalities	SSR, SSG, API routes, file-based routing	Component-based, flexible	Full-featured, TypeScript	Lightweight, easy to integrate
Performance	Excellent (SSR/SSG optimized)	Good (depends on setup)	Good (can be heavy)	Excellent (lightweight)
Scalability	Scales well for all sizes	Scales well	Scales well	Scales well
Ease of Use	Easy, minimal configuration	Flexible but requires setup	Steeper learning curve	Easy to learn
Tools	Built-in tools for dev, debug, and deploy (Vercel)	Requires additional tools (e.g., Vite)	Angular CLI	Vue CLI, Vite
Ecosystem	Large, backed by Vercel	Largest ecosystem	Strong enterprise	Growing ecosystem
Community	extensive documentation	Largest community	Smaller than React	Growing community
Pros	SSR/SSG, fast, easy to deploy	Flexible, large ecosystem	Full-featured, TypeScript	Lightweight, easy to learn
Cons	Less flexible than plain React	Requires setup for SSR	Heavy, complex	Smaller ecosystem

Best choice: **Next.js**

- Complete solution with SSR, SSG, and API routes.
- Best for performance, scalability, and ease of use.

Backend: Actix-Web vs. Others

Feature	Actix-Web	Express.js	Django	Spring Boot
Key Functionalities	Async, actor-based, HTTP/1.x/2, WebSockets	Minimalist, flexible	Full-featured, ORM, admin panel	Enterprise-level, Java-based
Performance	Extremely fast (Rust-based)	Good (Node.js)	Good (Python)	Good (Java)
Scalability	Excellent for high concurrency	Good	Good (not for high concurrency)	Good (resource-intensive)
Ease of Use	Steeper learning curve (Rust)	Easy	Easy	Complex
Tools	Cargo for dev, Rust compiler for debugging	NPM, Node.js tools	Django CLI	Maven/Gradle
Ecosystem	Growing (Rust libraries)	Large (NPM)	Large (Python)	Large (Java)
Community	Smaller but active	Largest	Strong	Strong enterprise
Pros	Extremely fast, memory-safe	Easy to use, large ecosystem	Full-featured, easy to use	Enterprise-level, strong typing
Cons	Steeper learning curve	Performance not as fast	Not for high concurrency	Resource-intensive

Best choice: **Actix-Web**

- Unmatched performance and scalability for high-concurrency apps.
- Memory-safe and lightweight, making it future-proof.

Next.js (frontend) and **Actix-Web (backend)** is the best choice because:

- **Next.js** offers a modern, performant, and scalable frontend solution.
- **Actix-Web** delivers top-tier backend performance and reliability.
- Together, they form a robust, high-performance stack for any application size.