PixelFed Project Structure

The federated photo sharing platform. A robust Laravel application that leverages the full power of the PHP ecosystem to build a decentralized, media-centric social network.

Updated 2025-12-30

#pixelfed   #laravel   #php   #vuejs   #activitypub   #federation   #social-network

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Project Directory

```
pixelfed/
  app/               Laravel Applica…
    Models/          Domain entities
    Services/        Business & Fedi…
    Jobs/            Async pipelines
    Http/            Controllers & M…
  resources/         Frontend Assets
    assets/js/components/   Vue.js componen…
    views/           Blade templates
  routes/            API & Web route…
  database/migrations/   Schema definiti…
  composer.json
  package.json
```

Repository Info

Repository - pixelfed/pixelfed
Stars - 10k+
License - AGPL-3.0
Last Analyzed - December 2025

Tech Stack

Backend - Laravel 12 (PHP 8.4+)
Frontend - Vue.js + Blade
Database - PostgreSQL / MySQL
Cache/Queue - Redis + Horizon
Protocol - ActivityPub
Media - FFmpeg integration

Architecture Notes

PixelFed is a 'Service-Oriented Monolith' built on **Laravel**. It makes heavy use of Laravel's built-in features like **Jobs** and **Queues** to handle complex, multi-step processes (Pipelines) for image optimization and ActivityPub delivery. The codebase is organized into specialized services within `app/Services/`, ensuring that the core logic for the Fediverse remains decoupled from the HTTP layer.

Key Directories

`app/Services/` - The brain of PixelFed. Contains specialized logic for ActivityPub delivery, Webfinger lookups, and image processing.

`app/Jobs/` - Handles background processing. PixelFed uses a 'Pipeline' pattern where one job can trigger a sequence of actions (e.g., Optimize Image → Create Post → Broadcast to Followers).

`resources/assets/js/` - The home of the modern, interactive frontend. Built with Vue.js, these components handle the SPA-like features of the web interface.

Why This Structure?

PixelFed is one of the most sophisticated Laravel applications in the open-source world. It demonstrates how to build a high-performance, federated application using modern PHP patterns.