

# Project Overview

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## Introduction

This document provides an overview of Vydeo, a feature-rich React-based social video platform. The application allows users to share and consume video content, chat with friends, and engage with a community of content creators. Built on React 18 with Material UI components, the application delivers a responsive and modern user experience on all devices.

## Project Architecture

The application follows a modular component-based architecture built with React 18 and uses Redux Toolkit for state management. It implements a single-page application (SPA) model with client-side routing via React Router v6. The application communicates with multiple backend services (Java and Python) via RESTful APIs and uses WebSockets for real-time features such as chat and notifications.

Architecture Diagram:

## Key Features

- Secure JWT-based authentication with token refresh mechanism
- Real-time chat with message history, WebSocket notifications, and online status indicators
- Video content management with support for uploads, playback, and comments
- Social features including friends list, activity feeds, and user profiles
- Advanced search capabilities with instant results and filters
- Theme switching between light and dark modes with persistent user preferences
- QR code scanning functionality for quick connections
- Role-based access control for administrative features

The application integrates with multiple backend services:

- Java API (<https://apis.vydeo.xyz/java>): Primary backend for core functionality
- Python API (<https://apis.vydeo.xyz/py>): Specialized services for data processing and AI features
- WebSocket Server (<wss://apis.vydeo.xyz/ws>): Real-time communication for chat and notifications
- Download Service: Dedicated service for handling large file downloads

## **Target Audience**

The application is designed for content creators, social media users, and video enthusiasts:

- Content creators who want to share videos and build a following
- Users seeking to discover and engage with video content
- Social media users looking for real-time interaction with friends
- Communities centered around specific video content categories

## **Application Modules**

The application is organized into several key functional modules:

- Authentication: User registration, login, and account management
- Video Platform: Video browsing, playback, and interaction
- Social Network: Friend management, activities, and profile features
- Messaging: Real-time chat with individuals and groups
- Content Management: Upload, edit, and manage video content
- Search: Advanced search capabilities across all content types
- Settings: User preferences and application configuration
- Admin Tools: User management and system administration