Erbut: An Elegant Web-Based Linkfolio

Yazeed AlKhalaf, Khalil Melhem, Khaled Hazzam

SWE 302 - Software Design & Architecture

Dr. Ahmed Ghoneim, Instructor

25 Mar, 2024

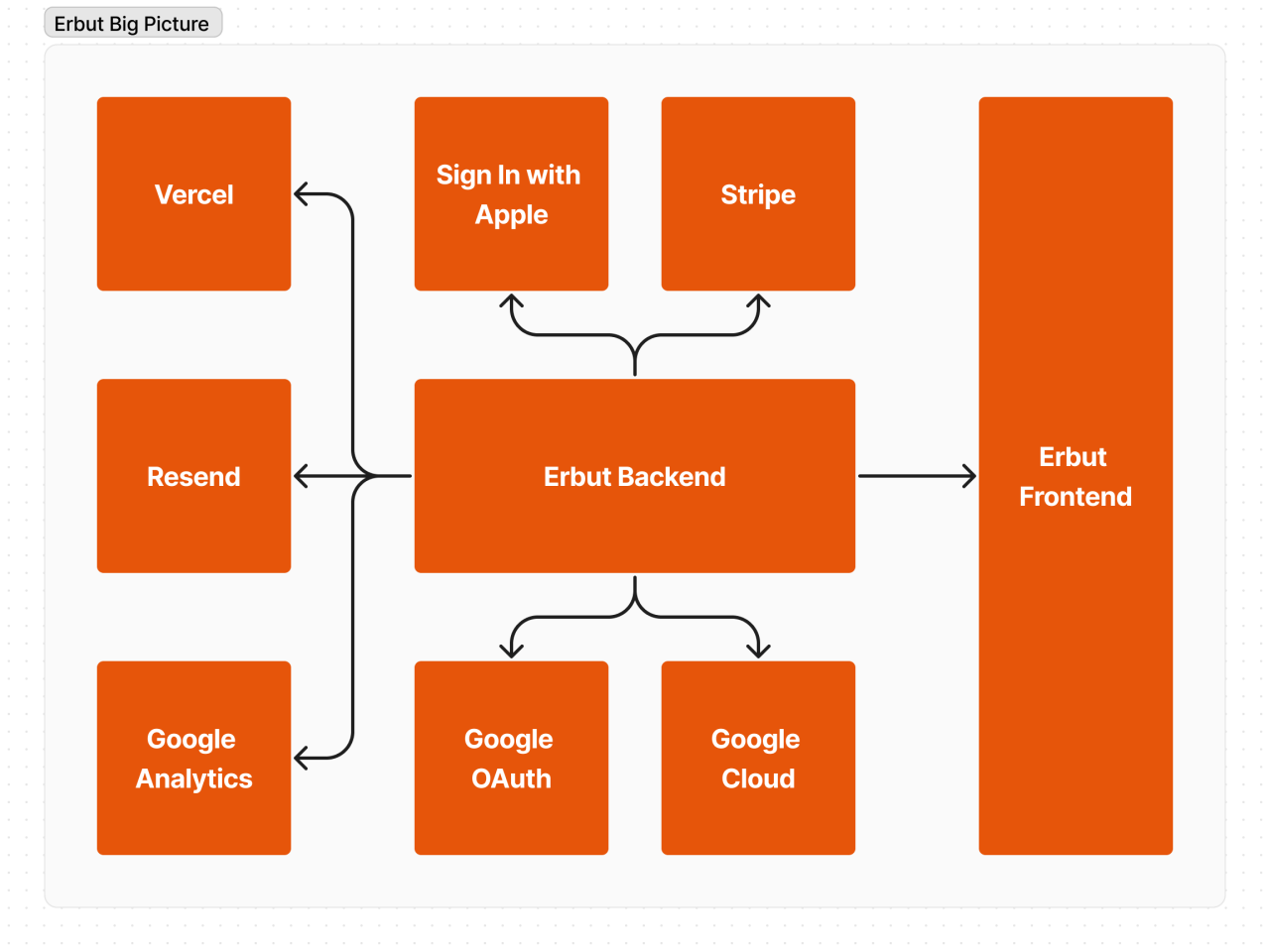
Introduction

Erbut offers a dynamic, web-based platform for creating 'Erbuts'—personalized linkfolios. These elegant portfolios showcase curated links, supporting both subdomains and custom domains. Integration with Google Analytics and a subscription model via Stripe enhance the user experience, making Erbut a versatile solution for professional and personal online presence.

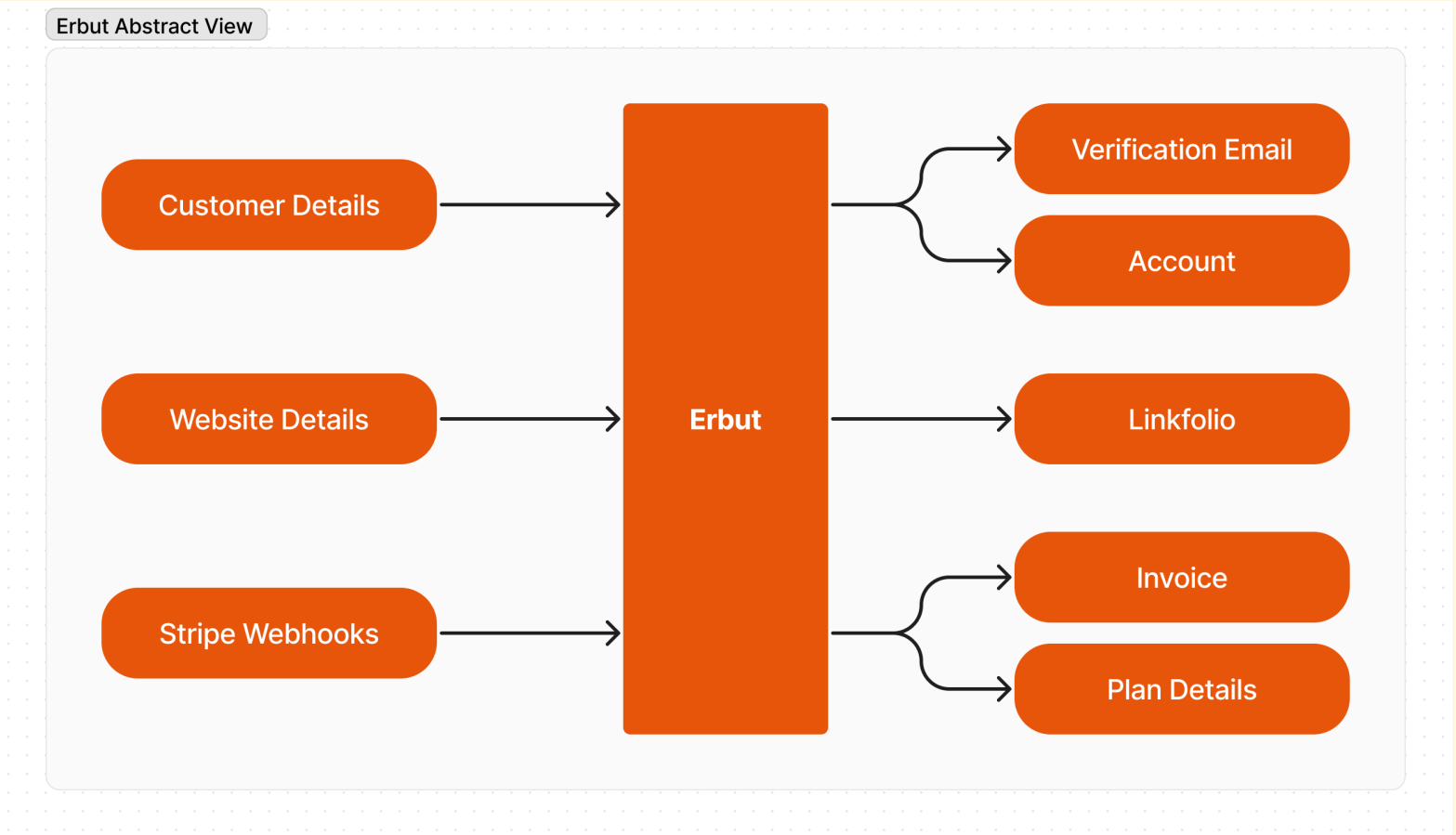
System Overview

Erbut's architecture integrates with various services such as **Vercel, Stripe, Google Analytics**, and more, providing a scalable backend and user-friendly frontend. This section uses UML diagrams for a high-level understanding.

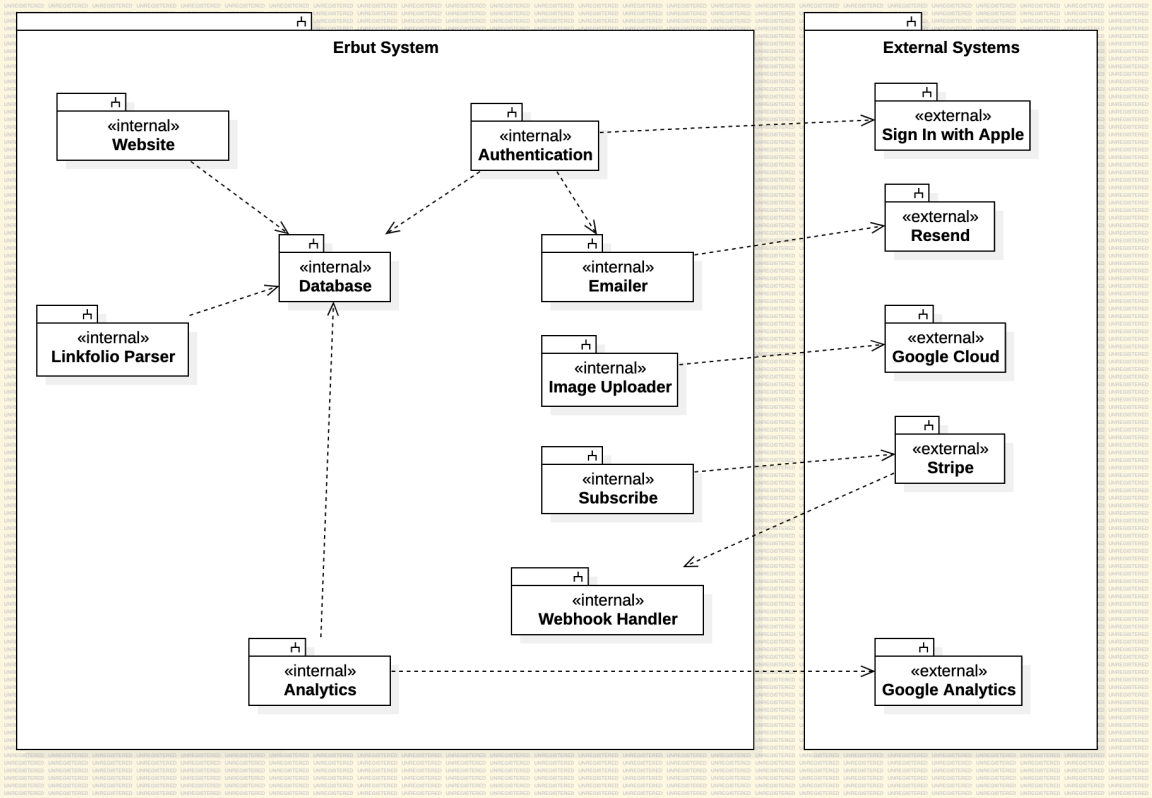
Big Picture


Erbut Big Picture
Vercel
Sign In with Apple
Stripe
Resend
Erbut Backend
Erbut Frontend
Google Analytics
Google OAuth
Google Cloud

Abstract View



Subsystem View



Displays internal and external components of Erbut, showcasing the modularity and integration capabilities of the system.

Functionalities of The Subsystems

Detailing internal subsystems like **Database, Authentication, Website & Linkfolio Parser, Emailer, Image Uploader**, and external subsystems including **Google Analytics, Google Cloud**, and **Stripe**.

Key Internal Subsystems

- **Database:** Stores customer and website data.
- **Authentication:** Manages user login, integrating with **Google OAuth** and **Sign in with Apple**.
- **Website & Linkfolio Parser:** Customizes linkfolios based on database data.

Data Flow Diagrams

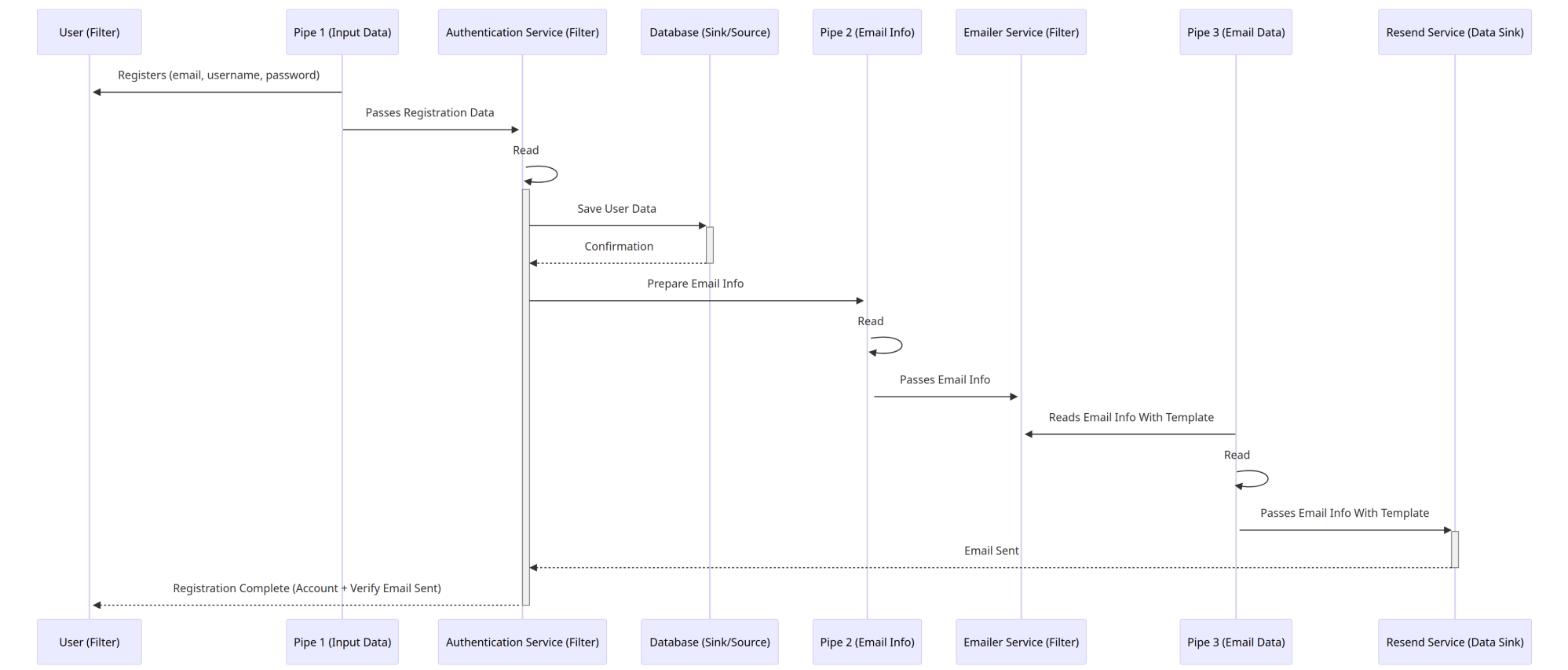
Batch Sequential & Pipe and Filter

Diagrams showcasing the subscription process and user registration data flow, highlighting steps from payment to subscription activation and user registration to email verification.

Batch Sequential Process

Explains the subscription process from payment info to Stripe payment processing and subscription activation.

Pipe and Filter Process

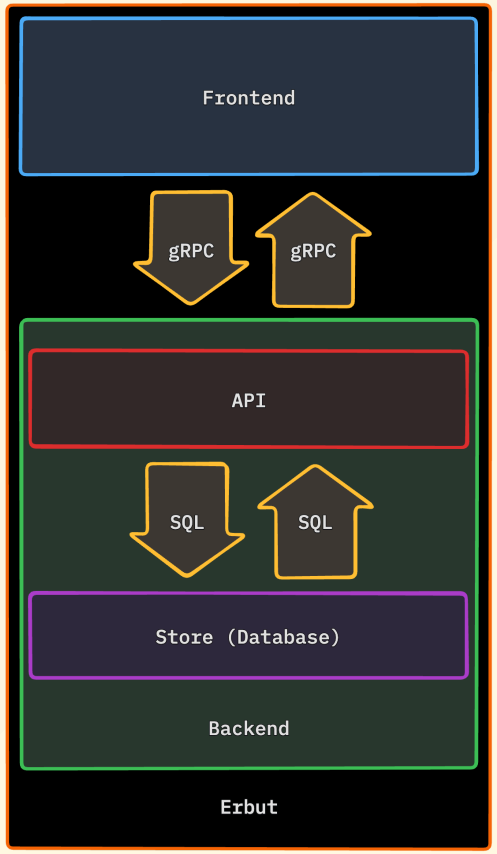


Details the user registration process, from data input through authentication to email verification.

Architecture Deep Dive

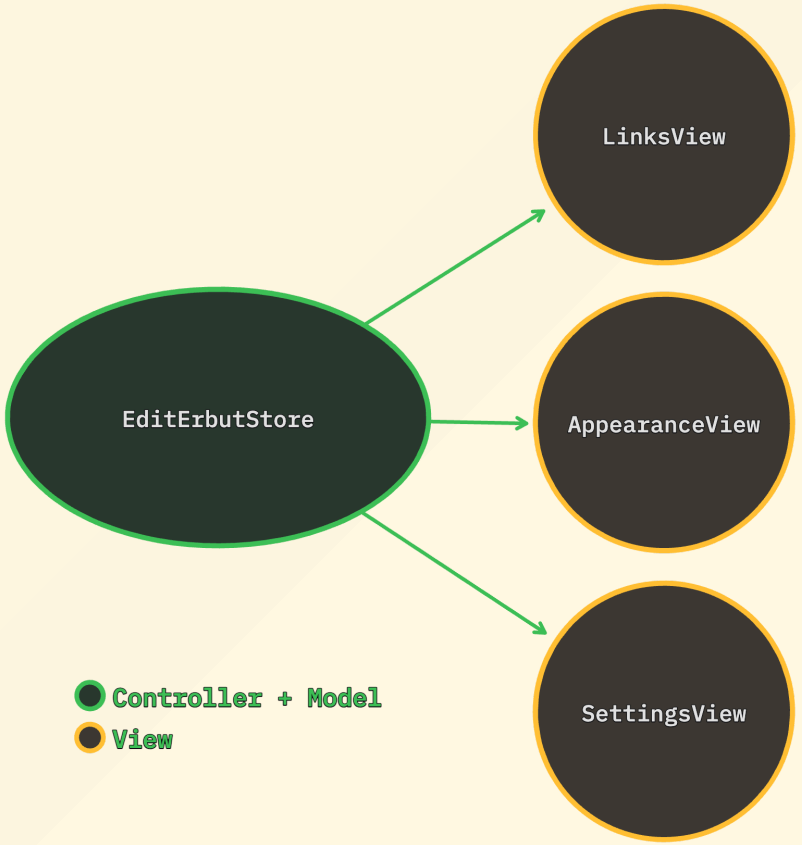
- **Layered Architecture:** Divides the system into **Presentation, Application, and Data layers**.
- **MVC Architecture:** Utilizes Model-View-Controller pattern in frontend development with React and Zustand for state management.

Layered Architecture



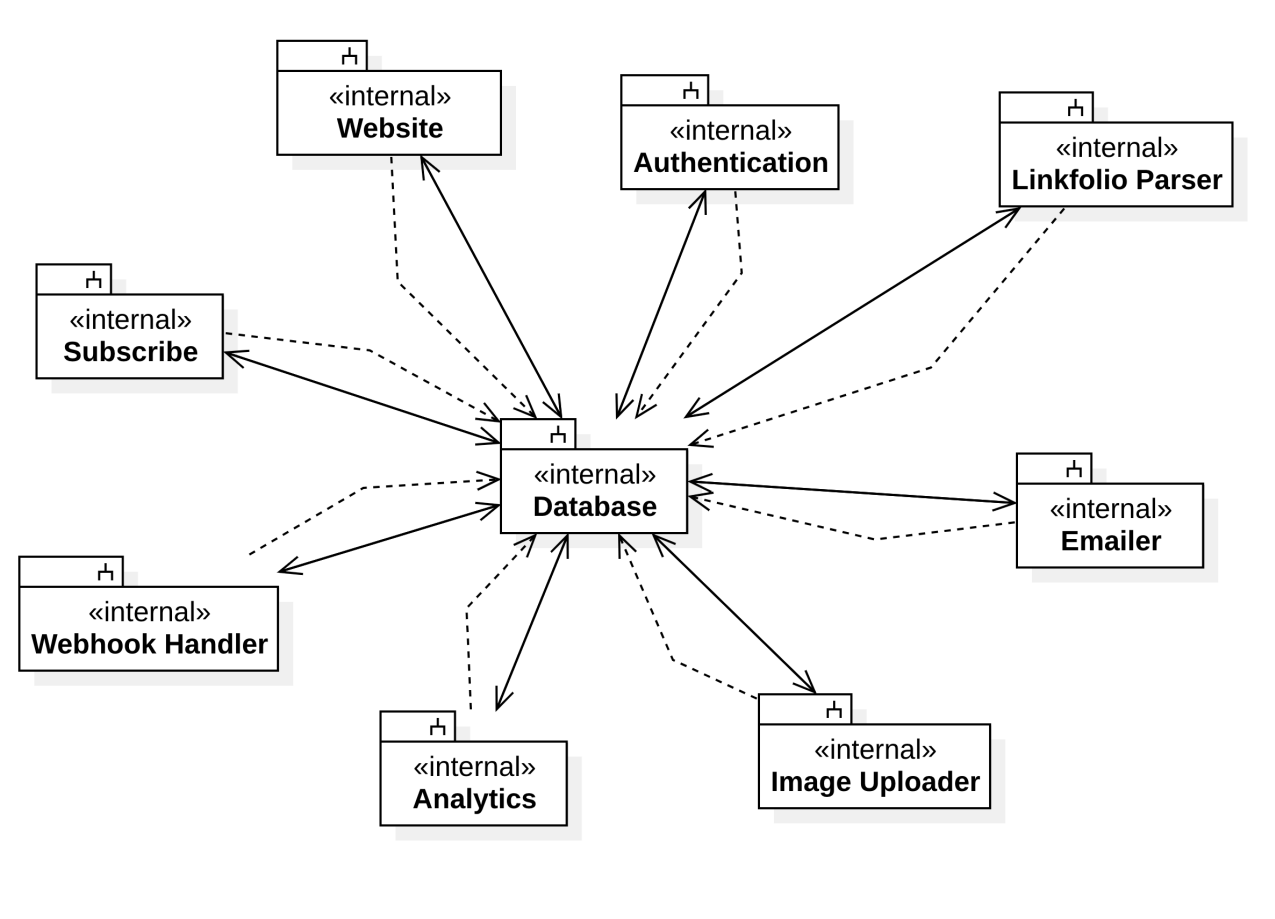
Showcases the separation into presentation, application, and data layers, each responsible for specific functionalities within Erbut.

MVC in Action



Highlights the MVC pattern in frontend development, emphasizing the connection between the model, view, and controller components.

Repository Diagram



Illustrates centralized data management and subsystem interactions, underlining the significance of the central database in facilitating efficient data flow.

Conclusion

Erbut combines scalable architecture with user-centric design, employing a layered structure and MVC pattern for a unique online presence. Its integration with key external services enhances functionality and user experience.