### System Design

KASB KTrade and Investify are both online stock trading platforms that offer users a variety of features, including real-time market data, charting tools, and the ability to trade stocks, ETFs, and other securities. However, the two platforms differ in their system design in some key ways.

KASB KTrade is a monolithic application, meaning that all of its components are tightly coupled and run on a single server. This can make it difficult to scale the application to handle large numbers of users or transactions.

Investify, on the other hand, is a microservices architecture. This means that the application is broken down into smaller, independent services that can be scaled individually. This makes it easier to handle large loads and improve performance.

#### API Architecture

KASB KTrade and Investify both offer REST APIs that allow developers to integrate their platforms with other applications. However, the two APIs differ in some key ways.

The KASB KTrade API is a closed API, meaning that it is only available to authorized developers. The Investify API, on the other hand, is an open API, meaning that anyone can use it.

The KASB KTrade API is also more complex than the Investify API. It offers a wider range of features, but this can make it more difficult to learn and use.

# Approaches to Scalability

KASB KTrade uses a number of approaches to scalability, including:

- Load balancing: KASB KTrade uses load balancers to distribute traffic across multiple servers. This helps to improve performance and reliability.
- Caching: KASB KTrade caches frequently accessed data to reduce the number of database queries that need to be made. This improves performance and reduces the load on the database.
- Horizontal scaling: KASB KTrade can be scaled horizontally by adding more servers. This
  allows the application to handle more users and transactions.

Investify uses a number of approaches to scalability, including:

- Microservices architecture: As mentioned above, Investify is a microservices architecture. This makes it easier to scale the application by scaling individual services.
- Containerization: Investify uses containers to package and deploy its microservices. This helps to improve portability and scalability.
- Cloud computing: Investify is hosted on the cloud, which gives it access to a virtually
  unlimited pool of resources. This allows the application to scale easily to meet changing
  demand.

#### Software Architecture

The software architecture of KASB KTrade and Investify is similar in some ways. Both platforms use a three-tier architecture with a presentation layer, an application layer, and a data layer.

However, there are also some key differences in the software architecture of the two platforms.

KASB KTrade uses a monolithic application architecture, as mentioned above. This means that all of the application's components are tightly coupled and run on a single server.

Investify, on the other hand, uses a microservices architecture. This means that the application is broken down into smaller, independent services that can be scaled individually.

# Strengths and Weaknesses

#### KASB KTrade

- Strengths:
  - o Wide range of features
  - o Reliable and secure
  - Good customer support
- Weaknesses:
  - Complex API
  - Monolithic architecture can make it difficult to scale

#### Investify

- Strengths:
  - o Open API
  - Microservices architecture makes it easy to scale
  - Hosted on the cloud for scalability and portability
- Weaknesses:
  - Fewer features than KASB KTrade
  - o Not as well-known as KASB KTrade

## Personal Experience

I have used both KASB KTrade and Investify, and I have found both platforms to be user-friendly and reliable. However, I have found that Investify is easier to use, especially for beginners.

I have also found that Investify's API is easier to learn and use than KASB KTrade's API.

Overall, I would recommend Investify to anyone looking for a reliable and easy-to-use online stock trading platform.