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Abstract

Interest Calculation System for a Retail Bank

The **Interest Calculation System** for a retail bank is designed to automate the daily interest calculation for customer accounts with a positive balance. This system addresses the need for accuracy, efficiency, and scalability in managing interest accrual for large volumes of customer data. It calculates interest at a pre-determined rate based on the end-of-day balance for each account, which dynamically adjusts with deposits and withdrawals. The calculated daily interest is stored cumulatively and updated in a database each day. At the end of every month, the cumulative interest is credited to the customer's account, ensuring timely and accurate payouts. This system eliminates the need for manual calculations, reducing the risk of human error and increasing operational efficiency. It is designed to handle real-time balance changes and ensure that customers always receive the correct interest amount based on their current account balance.

The system integrates with the bank's existing infrastructure, providing seamless updates to account balances, interest accruals, and monthly crediting. Its automated design allows it to operate continuously, handling interest calculations for a large customer base without disruption. By delivering daily interest calculations, it enhances customer transparency and satisfaction, as account holders can track their accrued interest throughout the month. This project also offers scalability, supporting the bank's future growth and enabling the easy configuration of interest rates and account types. Overall, the Interest Calculation System improves the reliability, speed, and transparency of retail banking services, streamlining the process of interest management for both the bank and its customers.

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