INVESTMENT FUND MANAGEMENT SYSTEM

Design Document

Introduction:

This Document describes the database design for the Investment Fund Management System. Our Investment Fund Management System aims to improve and enhance the complex world of fund management through a robust database solution. It's designed to handle multiple funds, investors, and assets. This system will allow fund managers to efficiently oversee diverse portfolios, from simple mutual funds to complex hedge funds, all within a single platform. By integrating risk assessment, and detailed transaction tracking, we're creating a tool that simplifies day-to-day operations as well as provide crucial insights for strategic decision making. this project seeks to enhance accuracy, transparency, and scalability in fund management will give firms a competitive edge in the fast-paced financial sector.

Business Objectives:

1. **Ease of use for investors: -** Helps investor manage multiple investment fund with varying structures, strategies, and investor compositions.
2. **Flexibility for Fund Managers: -** It allows fund managers to flexibly create and manage a wide range of fund products - from simple mutual funds to complex hedge funds or fund-of-funds structures – assets, view each index for assets and invest according to the invertors risk appetite.
3. **Regulatory Compliance and Risk Management: -** Risk Assessment body can regularly evaluate and document fund risks by having access to a consolidated data for the whole firm in relation to the investors and the respective investments made by the fund managers.
4. **Ensure Scalability and Flexibility: -** The database created will help in scalability, using partitioning, indexing, and distributed databases to handle growing data volumes, clients, and new investment products.

Entities:

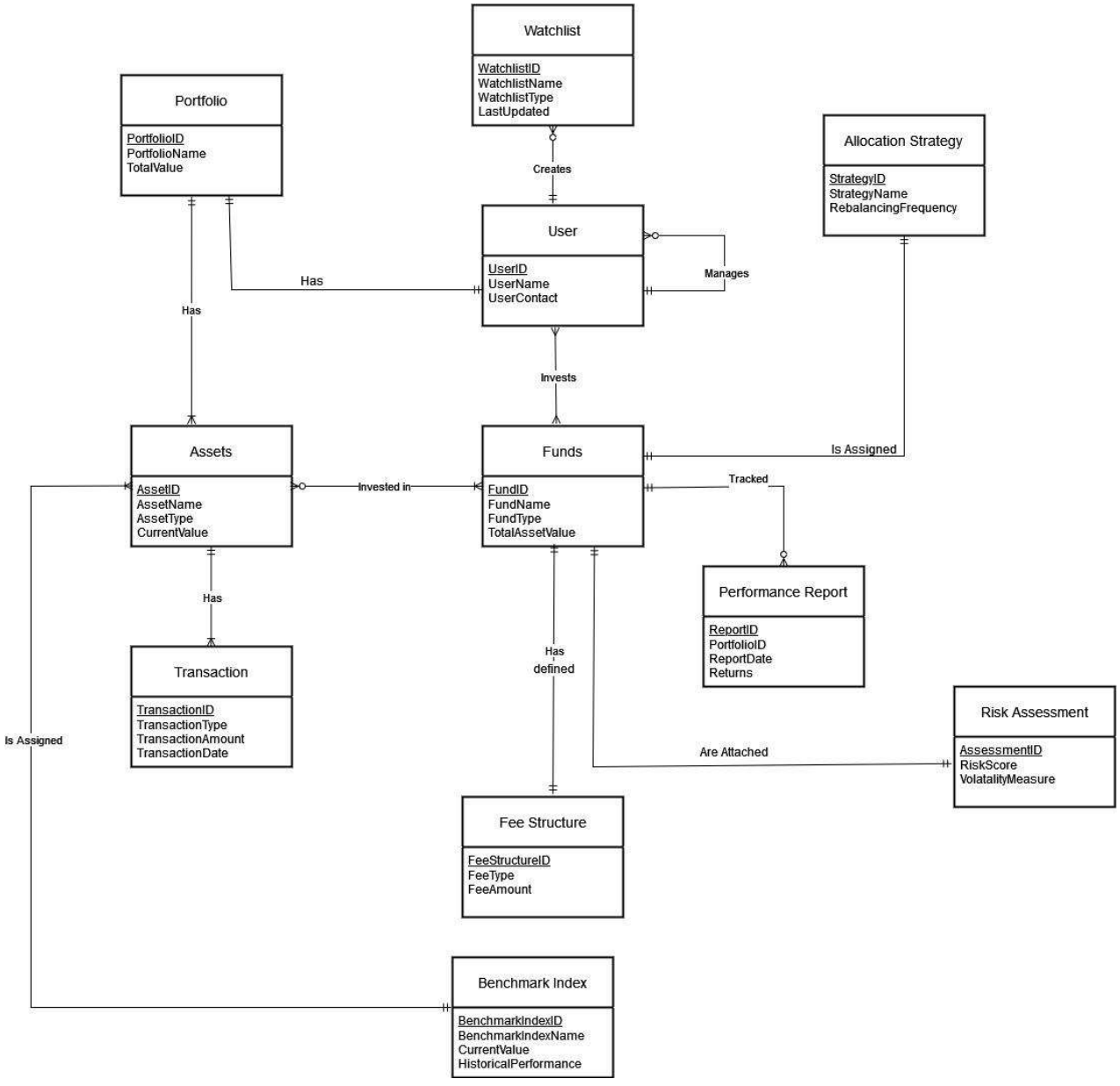
1) **User:** Represents Individual who invests in funds and also represents Individual who manages the funds.
   Attributes: UserID, Name, Contact, Riskprofile, Performancehistroy.
2) **Portfolio:** Holds all the invested details of the user.
   Attributes: portfolioID, portfolioName, Totalvalue.
3) **Funds:** Represents investment funds managed by a company.
   Attributes: FundID, FundName, FundType, TotalAssetvalue
4) **Asset:** Represents various assets held by the fund.
   Attributes: AssetID, AssetName, AssetType, CurrentValue.
5) **Transaction:** Records all the transactions a user has done.
   Attributes: TransactionID, TransactionType, TransactionAmount, TransactionDate.
6) **Fees Structure:** Defines a fee structure for each fund.
   Attributes: FeeStructureID, FeeType, FeeAmount.
7) **Performance Report:** Report on how a fund is performing.
   Attributes: ReportID, PortfolioID, ReportDate, Returns.
8) **Risk Assessment:** Tracks the risk profile and assessment for each fund.
   Attributes: AssesmentID, RiskScore, VolatilityMeasure.
9) **Benchmark Index:** Stores information on indices used to measure fund performance.
   Attributes: BenchmarkIndexID, BenchmarkIndexName, CurrentValue, HistoricalPerformance.
10) **Allocation Strategy:** Defines the asset allocation strategy for each fund.
    Attributes: StrategyID, StrategyName, RebalancingFreqency.
11) **Watchlist:** Holds list of funds to track its performance by individual user.
    Attributes: WatchlistID, WatchlistName, WatchlistType, LastType.

Relationships:

1. Users Invests in multiple funds and Funds have multiple users (M-N).
2. User is managed by Manager (1-M).
3. Funds hold multiple Assets and Assets hold multiple Funds (M-N).
4. Each Fund has a Defined one Fee Structure (1-1).

5. Each Fund has one Risk Assessment associated with it (1-1).
6. Each Fund can have multiple Performance Report, but a Performance Report is tied to one Fund only (1-M).
7. Fund has one Allocation Strategy and each Strategy is assigned to a Fund (1-1).
8. Each Asset has multiple Transactions (1-M).
9. User has one Portfolio and each Portfolio has one User (1-1).
10. Each Portfolio has multiple Assets but Asset has only one Portfolio (1-M).
11. Assets have one Benchmark Index, but Benchmark Index can have multiple Assets (1-M).
12. User can create multiple Watchlist, but Watchlist can only have single User (1-M).

Entity-Relationship Diagram:



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