



My Money

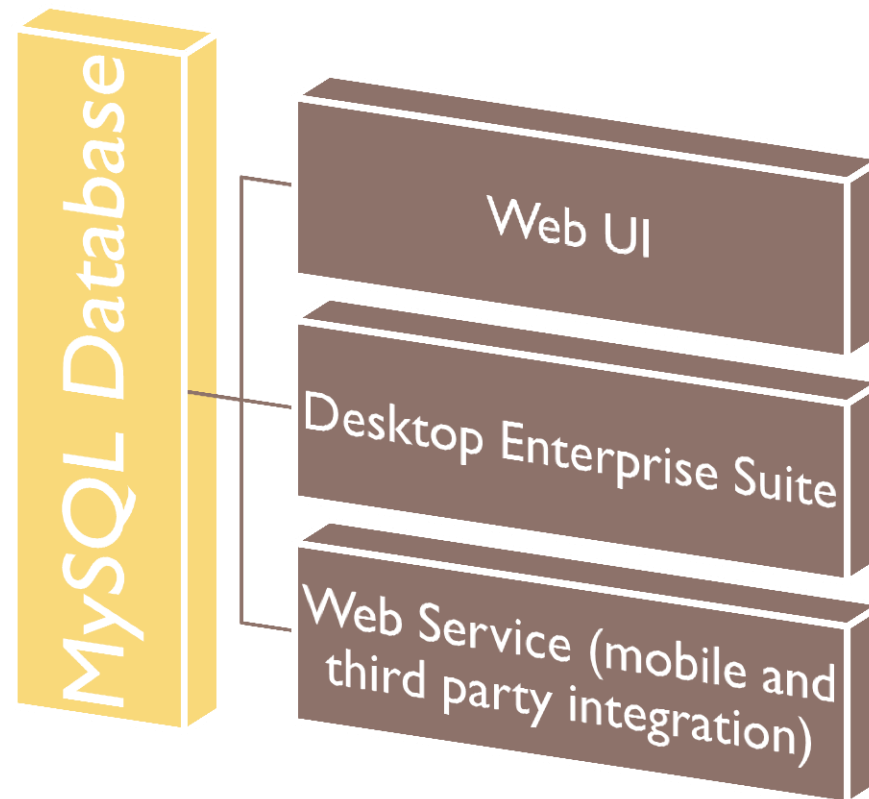


Development plan

Introduction

- ▶ This document will explain the technical architecture and plan of the **MyMoney** application suite.
- ▶ This document version is : 1.3
- ▶ The document creator is :Vlad Butnaru
- ▶ NDA rules : **Confidential**
- ▶ You shall not share and/or show this document to any other person outside the organization.

Data architecture



Data architecture

- ▶ The database engine is **MySQL** (latest version possible).
- ▶ There will be 2 databases (replicated), one main and one backup.
- ▶ Tables are normalized and optimized for performance.
- ▶ Estimated number of rows / day : 30000
- ▶ Estimated number of DB operations / day : 100000
- ▶ Engine update policy: security fixes, major versions.
- ▶ Optimization policy: quartz jobs.
- ▶ Parallel and multithreading policy: always
- ▶ Data replication: on the backup database, daily

Data architecture

► Tables:

- Users
- Products
- Categories
- Locations
- Prices
- Accounts
- Earning_Sources
- Recurring_Transactions
- Transactions
- History
- Cities
- Countries
- Cars
- Currencies

Data architecture **HIGH TRAFFIC**

► Users:

- ID (A_I, PK)
- FirstName (Text)
- LastName (Text)
- Password (Text, encrypted)
- DateOfBirth (Date)
- Email (Text)
- PhoneNumber (Text, prefix)
- City (Number, Ref->Cities)
- Country (Number, Ref->Countries)
- Smoker (Number, 0/1)
- HasDriversLicence (Number, 0/1)
- HasCar (Number, 0/1)
- CarID (Number, Ref->Cars)
- Married (Number, 0/1)
- NumberOfKids (Number)
- PreferredCurrency (Number, Ref->Currencies)
- IsAdmin (Number, 0/1)
- UserType (Number, 1/2/3/...)
- AgreedWithProcessingTerms (Number, 0/1)
- IsPremium (Number, 0/1)
- NumberOfLogins (Number, Default 0)
- LastLogin (Date, ON_UPDATE: Current_Timestamp)
- DateRegistered (Date, ON_UPDATE: Current_Timestamp)
- ProfileImagePath (Text, local path to image)
- Active (Number, 0/1)

Data architecture

▶ Products:

- ▶ ID (A_I, PK)
- ▶ ProductName (Text)
- ▶ ProductDescription (Text)
- ▶ ProductCategoryID (Number, Ref->Categories)
- ▶ CreationDate (Date, Default: Current_Timestamp)
- ▶ Deleted (Number, 0/1)

Data architecture

- ▶ **Categories:**
 - ▶ ID (A_I, PK)
 - ▶ CategoryName (Text)
 - ▶ CategoryDescription (Text)
 - ▶ DateCreated (Date, Default: Current_Timestamp)

Data architecture

▶ Locations:

- ▶ ID (A_I, PK)
- ▶ LocationName (Text)
- ▶ LocationDescription (Text)
- ▶ LocationCity (Number, Ref->Cities)
- ▶ LocationCountry (Number, Ref->Countries)
- ▶ LocationCoordinates (Text, Lon-Lat)
- ▶ CreationDate (Date, Default: Current_Timestamp)
- ▶ Deleted (Number, 0/1)

Data architecture **HIGH TRAFFIC**

▶ Prices:

- ▶ ID (A_I, PK)
- ▶ ProductID (Number, Ref->Products)
- ▶ LocationID (Number, Ref->Locations)
- ▶ TransactionID (Number, Ref->Transactions)
- ▶ DateAdded (Date, Default: Current_Timestamp)
- ▶ Price (Decimal)

Data architecture

▶ Accounts:

- ▶ ID (A_I, PK)
- ▶ AccountName (Text)
- ▶ IDUser (Number, Ref->Users)
- ▶ Currency (Number, Ref->Currencies)
- ▶ Amount(Decimal)
- ▶ AccountType(Number, 1/2/3/...)
- ▶ AccountDescription (Text)
- ▶ Deleted (Number, 0/1)

Data architecture

- ▶ **Earning_Sources:**
 - ▶ ID (A_I, PK)
 - ▶ EarningName (Text)
 - ▶ EarningDescription (Text)
 - ▶ EarningUser(Number, Ref->Users)
 - ▶ Deleted (Number, 0/1)

Data architecture

- ▶ **Recurring_Transactions:**
 - ▶ ID (A_I, PK)
 - ▶ Transaction_Name (Text)
 - ▶ Transaction_Description (Text)
 - ▶ Transaction_StartDate (Date)
 - ▶ Transaction_EndDate (Date)
 - ▶ NumberOfDays (Number)
 - ▶ NumberOfRepetitions (Number)
 - ▶ Amount (Double)
 - ▶ Currency (Number, Ref->Currencies)
 - ▶ Account_ID (Number, Ref->Accounts)
 - ▶ Product_ID (Number, Ref->Products)
 - ▶ Transaction_Type (Number, 1/2)

Data architecture **HIGH TRAFFIC**

▶ Transactions:

- ▶ ID (A_I, PK)
- ▶ TransactionName (Text)
- ▶ TransactionDescription (Text)
- ▶ Amount (Double)
- ▶ Transaction_Type (Number, 1/2)
- ▶ IDAccount (Number, Ref->Accounts)
- ▶ IDProduct (Number, Ref->Products)
- ▶ Transaction_Type (Number, 1/2)
- ▶ Currency (Number, Ref->Currencies)
- ▶ TransactionTime (Date, Default: Current_Timestamp)
- ▶ Deleted (Number, 0/1)
- ▶ IDLocation (Number, Ref->Locations)

Data architecture

- ▶ History:
 - ▶ UNDER DISCUSSION
 - ▶ UTILITY TABLE

Data architecture

- ▶ **Cities:**
 - ▶ ID (A_I, PK)
 - ▶ Name (Text)
 - ▶ Country (Number, Ref->Countries)

Data architecture

- ▶ **Countries:**
 - ▶ ID (A_I, PK)
 - ▶ Name (Text)

Data architecture

- ▶ Currencies:
 - ▶ ID (A_I, PK)
 - ▶ Name (Text)

Data architecture

- ▶ **Cars:**

- ▶ ID (A_I, PK)
- ▶ Name (Text)
- ▶ Model (Text)
- ▶ UNDER DISCUSSION

Web UI

- ▶ Bootstrap based design.
- ▶ JSP + JavaScript + CSS + HTML + AJAX + JAVA EE 8
- ▶ 3 main portals:
 - ▶ Main Page (application description, promoting pictures/videos)
 - ▶ Customer Portal (the main functionality for customers)
 - ▶ Business Portal (to allow businesses to promote and advertise)
- ▶ Mobile support
- ▶ Responsive design
- ▶ Multiple chaching mechanisms and policies

Desktop Enterprise Suite

- ▶ Data visualisation software for any data generated in MyMoney application
- ▶ Java SE 8 (support for any OS)
- ▶ Only usable by MyMoney admins
- ▶ Functionality:
 - ▶ Service status and monitoring
 - ▶ Data visualization and analysis
 - ▶ Report generation
 - ▶ Maintenance jobs

Web Service

- ▶ While building MyMoney functionalities, be aware of the Servlets you expose and make them accessible to any integration mechanism (i.e Sonar, PayPal, Mobile Apps, etc...)
- ▶ Each servlet should have at least 80% visibility and code coverage.
- ▶ Security is the priority!

Third party plugins

- ▶ The application should be decoupled and allow external developers to create extra plugins that integrate in the application.
- ▶ We will build a DEV documentation and explain the usage of our API's with code examples.

History

- ▶ 1.0 – Creation of the presentation
- ▶ 1.1 – Created Desktop Application Suite description
- ▶ 1.2 – Created Web Service description
- ▶ 1.3 – Created Third Party Plugins description