Software Requirements Specification

For

Mobile Investment Application

Submitted by

Money On The Go

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# Introduction

The Software Requirements Specification (SRS) document is part of IEEE Standard 830-1998 that is used in the Money on the go App. This SRS document is written in accordance with the Institute of Electrical and Electronics Engineers (IEEE). It includes an overview, purpose, scope, functions, user characteristics, constraints, assumptions and dependencies made on Money on the go App.

## Purpose

The purpose of the SRS document is to represent a detailed description, specifications and benefits of Money on the go App (MOG) to our stakeholders. This document specifies the requirements or dependencies within the scope of MOG App and methods to ensure that each requirement has been met .It will explain the overview of the system, purpose and features, the interfaces of the systems, what the system will do, and the constraints under which it must operate. Similarly, it contains use cases, data and information flows that will explain how users will make use of MOG App.

## Scope

The aim of this project is to develop an App called Money on the go (MOG) that allows user to track and/or manage investment they own across every device of choice. The App will have the capability to function on any mobile device, tablets, desktops and/or laptops. This particular release (Read-only version), which will be free of charges will allow users to sync their entire portfolio from various accounts like investment, retirement, and/or personal funds into a single dashboard, reduce fees and taxes. The App will provide a recommendation link to buy cheaper and effective mutual fund directly from the respective firms and different advisors that charge less and more efficient based on the customer profile. The future release (Premium version), will have a charge and more features listed in this documentation that does not show on the free version. For this release, the development team will focus on establishing the main architecture of the system. The overall user interface will be designed, developed, tested and released. The functional requirements that will be covered include the ability for the user to track entire investment portfolio into a single dashboard; the ability to add more account; to get advises and recommendation; the option to eliminate unnecessary fess and increase profitability, more resource for stock news, and the ability to fix underperforming investments.

## Definitions, Acronyms, and Abbreviations

|  |  |
| --- | --- |
| Terms | Definitions |
| Money On The Go ( MOG) | Refers to the product name and the project as a whole |
| Consumer/Users/Investors | The targeted group of persons that will make use of the product, when the App is released |
| App | This refers to application software |
| 401(K)S | A 401k retirement plan is a special type of account funded through pre-tax payroll deductions |
| IRA | This refers to individual retirement arrangements |
| Dashboards | This is a high-impact visualization tool that helps users make better, more informed decisions |
| Input Data | The data about a specific choice that the user inputs into the mobile device that is used to identify the portfolio. Detail on this data entity can be found in Section 3.4 |
| Receive Data | The data returned to the user that includes information about the account, charts and tool, & real time markets. Detail on this data entity can be found in Section 3.4 |
| Mobile Device | The application allowing the consumer to enter product input data into the system and view the pricing result data. |
| Admin Console | The interface to the system that allows the system administrator to manage the MOG server. |
| MOG Server Management Parameters | The data controlled by the system administrator that regulates the MOG server. A list of server management parameters can be found in Section 3.4 |
| MOG Server Status Updates | The data about the status of the MOG server conversed to the system administrator via the admin console. Detail on this data entity can be found in Section 3.4 |
| Open Financial Exchange (OFX) | Is a unified specification for the electronic exchange of financial data between financial institutions, businesses and consumers via the Internet. |

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## Overview

This SRS document describes the Money on the go App and its functions. It is divided into different sections as described below:

* **Section 1** - This section describes the purpose of the document and the project scope. It also includes the definition, acronyms, abbreviations, and references used throughout this documentation.
* **Section 2** - Provides the product perspective, the key functions and features of the product. This section also describes the uses and advantages of Money on the go app. The constraints, assumptions, dependencies and allocation of requirements for MOG app are also outlined in this section.
* **Section 3** - This section describes the external interfaces to the ID-Touch system that allows communication across the system's boundary. This section also includes the list of functional requirements that are included in the Money on the go app. As well as all non-functional (quality) requirements and logical database requirements. Additionally, design constraints and standards compliance requirements needed for Money on the go app are also described.

# 

# Overall Description

The goal of this mobile Application is to enable its user to view and analyze their investment portfolio performances as well as account cash flow activities in real time through ideal communication via the device that is hosting the application software, data network service provided and financial institution that is holding the web app users’ accounts and referred financial advisors or experts.

Web App users constitute a portion of factors that are driving the conception, production and delivery of this software product; however, they are just one of the few component of the factors. A well listed product demand factors are as follows:

1. **Contracts**

These are legal binding documents that are agreed upon by application owners or suppliers, application users, banks /financial institute and the stock markets. The legal binding document involve with the use of application are:

1. Web App Users’ Agreement.
2. Non-Public Information disclosure agreement between Banks/Financial Institute, Web App Suppliers, Stock market s and the Web App Users.
3. Technical Information, Data and Network Protocol Agreement between Banks/Financial Institute, Suppliers, Mobile Device Manufacturers, Stock market s and the Web App Users.
4. **Customers or Users/Investors**

This party is identified as the client of the web app developer or producers who will in turn use the application for their desired needs. This party drives user’s requirement in terms of Quality, Efficiency, Cost, Security, Performance and Time.

1. **Owners/Producers or Suppliers**

This party produces the product or the web application for the customer or consumers. Their objectives are to satisfy the user’s requirement while managing and mitigating risk involved with the software application development processes.

## Product Perspective

The Web Application is designed to work on all Mobile device Operating Systems. While the user will be required to have a data network service, he or she will also be required to secure account with a Bank or financial investment institution. While this current Application (*read-only version*) will not enable the user to perform trade transaction, it will serves as investment analytic and monitoring tool by obtaining, displaying and comparing real time investment market performance data with respect to user’s portfolio allocation; alert users regarding gains, losses and excess fees incurred due to market activities while forecasting future market performance. The user will be able to monitor portfolio effectively. The illustration of the different type of external interfaces is at follow:

MOG

Account Data



**Consumer/User**

Account Data

Banks/Financial Institutes

Receive Data

Input Data

MOG App

MOG server status update

MOG management parameters



**System Administration**

**Figure 2.1 - Schema of Money On The Go External Interfaces**

## Product Functions

The product function or key features of the “Money On the GO” application rely on ideal executions and interactions between the module that makes up the whole software application. These functions modules are as follow:

* ***Account Creation***: This interface enables the user to register or sign up for an Account with “Money on the Go” provided he or she has external valid investment account with a third party financial institute, and valid email address.
* ***Log-In***: This interface module will enable the user to access his or her account with valid username and protected password.
* ***Account Synchronization***: This interface enables the access and retrieval of the of account information from all investment institutes in one single dashboard.
* ***Hidden Fees and High Tax Alert***: This interface enables the comparison of investment high fees and taxes incurred from user’s investment returns, and view all the hidden fees and extra taxes being induced by all investments’ institutes (401k, mutual funds, IRAS). The app will help find out if users are paying too much in 401k and other funds while simultaneously sending alert messages to the user and generating alternative choice of solutions by referrals to financial investment performance evaluation experts. This interface also enables real time updates of investment fees and taxes.
* ***Financial Account Add/Delete***: This interface enables the user to modify list of investment portfolio account managed via the application as they pleased.
* ***Portfolio Manager***: This interface enables the user to view and identify allocation of financial investment entities while evaluating and tracking the performances of these entities such account, asset, class, or individual securities.
* ***Mobile Widgets***: This interface enables the user to track, monitor investment reports by sending a complete breakdown of weekly and monthly investment performance, current list of gainers, losers and the top news that impacts portfolio performances.
* ***Application Security***: This interface enables the encryption of transmission, retrieval storing, utilization and authentication of data related to customer’ account activities.
* ***Charts & Analytics***: This interface enables the user to view graphical display of charts pictorial bar graphs to analyze investments performance, allocation, risk and more.
* ***Real Time Software Support***: This interface enable the application to continually get automatic updates to current software or when new software versions are released. Also, it enables the user to have access to software technical support representative when application technical assistance is required.
* ***Recommendation and investment advices***: This interface enables the user to obtain referral guidance and solutions to underperforming investments by, recommending investment financial experts for complex portfolio performance or aiding alternative market investment search for securities with consistence achieving performance.

## User Characteristics

The groups of individual or parties involved with utilization of the application are:

1. ***Users/Investors***: These are customers of “Money on the Go” that serves as consumer of the product. They use the application product for their benefit.
2. ***Security Exchange Markets (Stocks Markets)***: This is the investment environment in which daily activities on exchange or trading of stocks, bond and mutual funds and other form of retirement or index funds are conducted. The application obtains data activities regarding daily performance, gains and losses of securities in the market and composes it in a format that is easily analyzed by the consumer of the application product.
3. ***Banks and Financial Institutes***: are grouped into two components which are:

* *Banks and Investment Institutes*: This group holds the investment portfolios and accounts of the users.
* *Financial Institutes*: This group is also known as the combination of financial experts that are referred by the application for consultation on complex investment portfolios.
* **Use Case Diagram**

Figure 2.3 below illustrates the three core actors of the MOG system. These use cases are defined more in the sections that follow.

 **Figure 2.3 MOG Use Case Diagram**

**2.3.1 Different Types of Use Cases**

**Use Case 1: Register to use the MOG application**

**CHARACTERISTIC INFORMATION**

**Goal in Context:** User/Investor wants to create a new account to use Money On The Go (MOG) Application in order to manage his/her financial investments.

**Scope:** Home Page of MOG

**Level:** System-level: user goals – “Sea-level” (goals of specific users)

**Primary Actor:** User/Investor

**Secondary/supporting Actors:** Bank, Stock Institutes

**Preconditions:**

* User/Investor has a valid credit/debit card, and financial investments
* User/Investor has an Email address, account number and passcode of all investments.
* User/Investor decides to use the App
* User/Investor downloads MOG App

**Success End Condition:**

* User/Investor has successfully created a new account with MOG App and successfully synched all financial investments

**Failed End Condition:**

* User/Investor can’t complete the registration to create a new account in MOG App

**Trigger:** n/a

**Sunny Day Scenario:**

Step 1: App prompts User/Investor for email address

Step 2: User/Investor enters an email address

Step 3: App asks for new (first-time) user to create a username and password as a MOG signing

Step 4: User/Investor enters username and password

Step 5: Apps check to see if username and password are complex enough. If not, it will prompt the user to reenter a more complex username or password depending on MOG requirement.

Step 6: App asks for 3 security questions in order to reset username/password and for security purpose

Step 7: User/Investor answers all questions

Step 8: App asks user/investor to select and/or add bank/investments information

Step 9: User/Investor selects and/or enters bank/investments information

Step 10: App asks for new (first-time) user to enter their username and password to each of the bank or investments institutes in order to sync them all

Step 11: User/Investor enters username and password

Step 12: User/Investor has successfully synched all their accounts using MOG App

**Extensions:**

Step 1a: This email address already exists or incorrect

1a1: User/Investor requests for forget email address or reenter a new email

1a2: App asks for security questions

1a3: User/Investor answers all questions

1a4: App sends email to User/Investor’s email address or through text message depending on the prior User/Investor set preferences.

1a5: App continues with Set 2

Step 3a: App asks for new (first-time) user to create a username and password as a MOG signing

3a1: User/Investor requests for forget username/password or password reset if applicable.

3a2: App asks for security questions

3a3: User/Investor answers all questions

3a4: App sends email to User/Investor or through text message depending on the prior User’s set preferences with username and password or a password code for reset.

3a5: App continues with Step 4

Step 6a: User/Investor doesn’t have a bank account or is not valid

6a1: App notifies User/Investor for invalid or wrong account, reenter information

6a2: User/Investor reenters account number

6a3: If correct, App continues with the registration process if it’s the first time or redirects the user/investor to their dashboard

6a4: Otherwise, after the third failed attempts, apps ask the user to contact the corresponding financial institute and close the registration

6a5: App continues with Step 7

Step 8a: User/Investor enters wrong/mismatch username and password

8a1: App notifies User/Investor for invalid or wrong/mismatch username and password

8a2: User/Investor reenters account either username and/or password.

8a3: if correct, App continues with the registration process if it’s the first time or redirects the user/investor to Step 10.

8a4: Otherwise, after the third failed attempts, apps ask the user to contact the corresponding financial institute and close the registration and/or the apps.

**Variations:**

Step 1a: App prompts User/Investor for email address

1a1: using variation of type or combination of email address

Step 3a: App asks for new (first-time) user to create a username and password as a MOG signing.

3a1: using variation of type or combination of username & password.

Step 6a: App asks for security questions in order to retrieved username/password

6a1: using variation type of questions and answers.

**RELATED INFORMATION:**

Priority: High

Performance Target: depends on the user/investor

Frequency: once

Superordinate Use Case: None

Subordinate Use Cases: None

**SCHEDULE:**

Due Date: March 27th, 2013

**Use Case 2: Login to MOG App**

**CHARACTERISTIC INFORMATION**

**Goal in Context:** User/Investor wants to login to MOG App

**Scope:** Home Page of MOG

**Level:** System-level: user goals – “Sea-level” (goals of specific users)

**Primary Actor:** User/Investor

**Supporting Actors:** None

**Preconditions:**

* User/Investor has an active MOG account

**Success End Condition:**

* User/Investor has successfully logged into MOG account

**Failed End Condition:**

* User/Investor can’t login to MOG account

**Sunny Day Scenario:**

Step 1: App prompts for username and password

Step 2: User/Investor enters username and password

Step3: User/Investor has successfully logged into MOG account

**Extensions:**

Step 2a: User/Investor enters wrong/mismatch username and password

Step 2a1: App notifies User/Investor for invalid or wrong/mismatch username/password.

Step 2a2: User/Investor asks for forgot/reset password

Step 2a3: App prompts for an email address

Step 2a4: User/Investor enters the email address

Step 2a5: App asks for security questions

Step 2a6: User/Investor answers all questions

Step 2a7: App sends current/temporary username/password to the User/Investor‘s email address.

Step 2a8: User/Investor retrieves or resets username/password and enters them.

Step 2a9: App continues with Step 3

**Variations:**

Step 2: User/Investor enters username and password

Step 2a: using username

Step 2b: using an email address

Step 2c: using touch screen

Step 2d: using non-touch screen

Step 2a5: App asks for security questions in order to retrieved username/password

2a5-1: using variation type of questions and answers

**RELATED INFORMATION:**

Priority: High

Performance Target: From 30sec +, depending of the user/investors and outside forces.

Frequency: Many times

Superordinate Use Case: None

Subordinate Use Cases: None

**SCHEDULE:**

Due Date: March 27th, 2013

**Use Case 3: View Stock Markets in Real Time**

**CHARACTERISTIC INFORMATION**

**Goal in Context:** User/Investor wants to watch Stock markets in real time via MOG App

**Scope:** Stock Markets Page

**Level:** System-level: user goals – “Sea-level” (goals of specific users)

**Primary Actor:** User/Investor

**Supporting Actors:** Stock Market institutes

**Preconditions:**

* User/Investor has an active MOG account
* User/Investor has successfully logged in to his MOG account

**Success End Condition:**

* User/Investor has successfully watched Stock markets in real time via MOG App

**Failed End Condition:**

* User/Investor can’t watch Stock markets in real time via MOG App

**Sunny Day Scenario:**

Step 1: Investor requests for watching Stock markets

Step 2: App prompts for stocks that want to be viewed

Step3: Investor chooses the stocks

Step4: App displays the stocks

**Extensions:**

None

**Variations:**

Step3: Investor chooses the stocks

Step 3a: choosing all stocks

Step 3b: choosing a category of stocks

Step 3c: choosing a stock

**RELATED INFORMATION:**

Priority: High

Performance Target: depends on User/Investor

Frequency: once

Superordinate Use Case: None

Subordinate Use Cases: None

**SCHEDULE:**

Due Date: March 27th, 2013

**Use Case 4: View all Investments via MOG Charts**

**CHARACTERISTIC INFORMATION**

**Goal in Context:** A user wants to view all investments via MOG App’s chart.

**Scope:** Chart/Tools Page

**Level:** System-level: user goals – “Sea-level” (goals of specific users)

**Primary Actor:** User/Investor

**Supporting Actors:** Bank and Stock Market institutes

**Preconditions:**

* User/Investor has an active MOG account
* User/Investor has successfully logged in to his MOG account

**Success End Condition:**

* User/Investor has successfully viewed all investment via MOG App’s chart

**Failed End Condition:**

* User/Investor can’t view all investment via MOG App

**Trigger:** None

**Sunny Day Scenario:**

Step 1: App prompts User/Investor to select the Chart tool links

Step 2: User/Investor clicks on the link

Step 3: App displays all investment in chart

**Extensions:**

Step 3a: App displays all investment in chart

Step 3a1: User/Investor asks to view all investment in chart

Step 3a2: App doesn’t display chart due to slow or no connection

Step 3a3: User/Investor restarts the phone or acquires a better data network

Step 3a4: if better reception, User/Investor will redo Step 1 and Step 2, then the App will continue with Step 3.

Step 3a4: Otherwise, user/Investor has to contact is/her mobile carrier.

**Variations:** None

**RELATED INFORMATION:**

Priority: High

Performance Target: depends on User/Investor

Frequency: once

Superordinate Use Case: None

Subordinate Use Cases: None

**SCHEDULE:**

Due Date: March 27th, 2013

## Constraints

The constraints involve with the development of this application are as follows:

* ***Economic constraints***: These are the budget cost of human resource or labor, hardware and other resources needed in the development and deployment and operation support of the application software.
* ***Schedule constraints***: This is the scheduled time frame which guides every activity involving the development, deployment of the software application.
* ***Quality constraints***: This is the level of quality of the software product which will be justified by consumer’s level of satisfaction.
* ***Management constraints***: These are decisions made by management, and internal or external reporting structures of the organization that affects the development and deployment of the software application product.
* ***Technical Data constraints***: These are limitations on technical data accessible to system’s component hardware or software suppliers that are needed for ideal development of Software Application.
* ***Regulation Constraints***: These are limitations from federal regulation regarding consumer information protection and financial Institutions’ policies regarding sharing, authentication and transfer of consumer information and data. These constraints are as follows:

1. *Federal Financial Institutions Examination Council (FFIEC) issued guidance entitled “Authentication in an Electronic Banking Environment (2001 Guidance)”*: This guidance focused on risk management controls necessary to authenticate the identity of commercial customers accessing Internet-based financial services. In consistent with the “FFIEC Information Technology Examination Handbook, Information Security Booklet, December 2002,” financial institutions are required to periodically:

* Ensure that their information security program:
  + Identifies and assesses the risks associated with Internet-based products and services.
  + Identifies risk mitigation actions, including appropriate authentication strength.
  + Measures and evaluates customer awareness efforts.
* Adjust, as appropriate, their information security program in light of any relevant changes in technology, the sensitivity of its customer information, and internal or external threats to information.
* Implement appropriate risk mitigation strategies.

1. *Title V, Subtitle A of the Gramm-Leach-Bliley Act (‘‘GLBA’’):* This regulation governs the treatment of nonpublic personal information about consumers by financial institutions. Several section of the GLBA applies strictly to the treatment of non-public information and they are as follows:

* Section 502- This section subject to certain exceptions, prohibits a financial institution from disclosing non-public personal information about a consumer to non-affiliated third parties, unless the institution satisfies various notice and opt-out requirements, and provided that the consumer has not elected to opt out of the disclosure.
* Section 503- This section requires the institution to provide notice of its privacy policies and practices to its customers.
* Section 504- This section authorizes the issuance of regulations to implement these provisions.
* USA PATRIOT Act- Customer identity verification during account origination is required by section 326 of this Act and is important in reducing the risk of identity theft, fraudulent account applications, and unenforceable account agreements or transactions.

1. *External Financial Institution Policy Guidance and Regulation*: This is a limitation resulting from conformance and dependence of Application product on different financial institutions policies so as to allow smooth interface of the software application with the systems’ network of third party financial institute.

* ***Security Constraints***: These are concerns regarding the protection of users’ investment account data and Personal Identifiable Information (P.I.I) and methods of addressing the encryption and authentication of P.I.I, application account data and external account data held by the user at a third party financial institute.
* ***Hardware Configuration & Interface Disparate Technology Constraints***: These are limitations resulting from different technologies used by different device platform. Many software architectures use Microsoft and Java technologies. Applications developed in these disparate technologies have to communicate seamlessly with each other. Data transfer protocol technologies like HTTP, WEB Service and TCP should be carefully utilized to enable efficient flow of data throughout the entire enterprise system.
* ***Software Deployment Upgrades Constraints***: These are concerns regarding appropriate selection and implementation of technologies that would enable efficient real time application support and updates across multiple device platforms.
* ***User Interface Constraints***: These are limitations resulting the designing of Graphical User Interface (GUI) and small physical characteristics nature of mobile devices. Methods by which GUI design will be executed should be carefully considered and implemented.
* ***Performance Constraints***: These concerns result from limitation of processing speeds and system configuration of mobile devices due to complex user interface, CPU intensive algorithms and data processing. Strict care and consideration must be applied during application development so as to avoid pitfalls.
* ***Memory Management***: This is limitation resulting from small amount and non-upgradable nature of mobile device memory storage which can cause havoc in the utilization, storing and transfer of large amount of data. Efficient data storage and low –level interfaces may be required to make most of the memory available.

## Assumptions and Dependencies

Ideal utilization of software application is dependent on the application user having investment account with third party financial institute, social security number or driver’s license or state identification number and place of residence, establishment of user ID and protected password and data network service.

## Allocation of Requirements

* ***Cycle 1:*** The MOG team will gather data, create information architecture, code content, develop, implement, and test the application.
* ***Cycle 2:*** This cycle includes the list of user stories from the product backlog, use case diagram and use case stories listed on the project management document.
* ***Cycle 3:*** All the remaining requirements in section 3 will be delivered. This involves the completion of the MOG app.

# Specific Requirements

This section describes the external interfaces, functional requirements, non-functional requirements, logical database representations, design constraints, and standards compliance of MOG system if applicable.

## External Interfaces

There are four external interfaces to the MOG system. The external interfaces are illustrated in Figure 2.3.1 and are grouped into data interfaces and user interfaces.

### Data Interface

* *Interface to the Banks/Investments Institutes Data*

The interface to the banks/investments Data is the avenue by which the MOG server gathers the account data. The interface will be responsible for extracting account data from those locations and loading the data into the MOG server.

* *Interface to the MOG Data*

The interface to the MOG data is another avenue by which the server gathers the login account data and check for security compliance. The interface will be responsible for extracting login account data from that location and loading the data into the MOG application.

### User Interface

This section refers to the data flows that involve consumer/users/investors.

* *Interface to Consumer/User/Investor*

The interface to the consumer or user is the way by which the consumer provides the product input data and receive them, like viewing all portfolio and account performance or by adding more account to their portfolio.

* *Interface to the System Administrator*

The interface to the system administrator provides an avenue for the system administrator to source MOG server management parameters and to view MOG server status updates.

## Functional Requirements

The functions itemized below are required to provide the product features listed in Section 2.2. The functions are distributed by the user that delivers the function’s input. Figure 2.1 above provides a logical overview of the data flows involved with the MOG system.

### Consumer/User/investor

|  |  |
| --- | --- |
| **Select For Register or Login Entry Method** | |
| Input | The user selects the option for login or register if it is the first time in order to access and use the MOG application |
| Action | The mobile device validates the selected method input data entry type. |
| Output | The mobile device displays the corresponding page on the screen. |
| Note | A future enhancement to this requirement is to provide both option into one page |

|  |  |
| --- | --- |
| **Select Banks or Financial Institutes Method** | |
| Input | The user selects the option for one or more of the institutes affiliated with in order to sync all into one dashboard. |
| Action | The mobile device validates the selected choice input data entry type. |
| Output | The mobile device displays the corresponding choice input data entry type screen for the user to input their corresponding username and password. |
| Note | A future enhancement to this requirement is to add a feature input data entry type that captures a finger print sign in. |

### System Administration

|  |  |
| --- | --- |
| **Add System Administrator Account** | |
| Input | The system administrator enters the following into the admin console for the new system administrator account:   * Username * Password * Confirmation password   The system administrator then selects the option to create the new system administrator account. |
| Action | The admin console validates the following:   * The username is between 6 and 10 alphanumeric characters * The password and confirmation password are   + Equal   + Between 6 and 10 characters   + Contain at least one number   + Contain no white space |
| Output | IF  The username or password standards are not met  THEN  The admin console displays an error message  ELSE  The admin console creates a new system administrator record and displays a  confirmation |
| Note | By default, the installation includes one system administrator account with:   * Username: “admin” * Password: “admin1” |

|  |  |
| --- | --- |
| **Delete Admin Console User Account** | |
| Input | The system administrator selects the account they wish to delete and confirms their selection. |
| Action | The admin console confirms the deletion of the selected account with the system administrator. |
| Output | The system administrator is asked to confirm the deletion of the selected account  AND  [  IF  The system administrator confirms the deletion of the selected account  THEN  The select system administrator account record is deleted  ]  ] |
| Note | None |

## Non-Functional (quality) Requirements

Non-functional requirements are constraints placed on the development process or the system itself. The target platform must be an android and iOS. The implementation language must be COBOL. The documentation standard Scrum must be used as well as dataglove and ActiveX must be used. The system must interface to a papertape reader from Html5, JavaScript, AJAX, JQuery and more.

3.3.1. Performance

Users must be given feedback within 1 sec of issuing a command. The user interfaces of the system should prevent users from issuing commands in the wrong order. Are there any speed, throughput, or response time constraints on the system? Are there size or capacity constraints on the data to be processed by the system?

3.3.2. Availability

* *MOG shall be available to the user/investor 24/7 -* It’s at the users/investors discretion to use the application as it pleases them and wherever they are. There are no restrictions on when and where a user/investor will take advantage of the MOG application.
* *MOG shall be available to the user/investor on any devices -* It’s at the users/investors discretion to use the application as it pleases them and wherever they are. There are no restrictions on how a user/investor will take advantage of the MOG application. The different type of devices might be phones (Android & iOS), Tablet/ iPad, and computer.

3.3.3. Security

User will establish a secure connection with single sign on based on blind password security. Security Token uses 256-bit SSL Security for information exchange. Security issues must access to any data or the system itself in order to be controlled; and question like “Is physical security an issue?” should and will be address. MOG is committed to maintaining the confidentiality, integrity and security of any personal information about our users. This Privacy & Security Policy explains how we protect personal information provided through our website https://export.writer.zoho.com/images/spacer.gifwww.moneyonthego.comhttps://export.writer.zoho.com/images/spacer.gif (the “Site”) and how we use that information in connection with our service offered through the Site (the “Service”). “Personal information” for purposes of this Policy means information that identifies you, such as your name, username, password or email address. MOG stresses its privacy and security standards to guard against identity theft and provide security for your personal information. We regularly re-evaluate our privacy and security policies and adapt them as necessary to deal with new challenges.

​​MOG is certified through the TRUSTe Web Privacy Seal Program. TRUSTe is an independent organization whose mission is to build user’s trust and confidence in the Internet by promoting the use of fair information practices. In order to obtain certification, MOG disclosed its information privacy practices to TRUSTe for its review to ensure compliance with TRUSTe’s requirements. If you contact us with a privacy-related concern as directed in this Policy and do not receive acknowledgment of your inquiry or if your inquiry is not satisfactorily addressed, you should contact TRUSTe at https://export.writer.zoho.com/images/spacer.gifhttp://www.truste.org/consumers/watchdog\_complaint.phphttps://export.writer.zoho.com/images/spacer.gif. TRUSTe will then serve as a liaison with us to resolve your concerns. Furthermore, MOG has been verified by VeriSign for using 256–bit SSL encryption which is at the same level with bank or brokerage firm, to safeguard you and your financial information. In addition, MOG tests the Site daily for any failure points that would allow hacking.

*For Security Authentication* – MOG uses 256–bit SSL encryption — the same level your bank or brokerage uses — to safeguard all our client financial information. Brokerage credentials are used to form a secure connection between MOG and brokerage firms. This allows us to import our client’s financial information and instantly build their portfolio. This one-time process is completely secure and no one - including our own employees can see their login credentials. The data gathered during this process is "read-only" which means it cannot be used as a means of transaction but you can only look at the information for decision purposes. If you have more questions about our security, send us an e–mail at [support@moneyonthego.com](mailto:support@moneyonthego.com).

*For Portfolio Data Exchange* - MOG will be using something called OFX (Open Financial Exchange) to get the information in the user/investor bank account. If by any means which won’t probably happen, someone accessed your MOG account, they would not be able to perform any transactions with your bank. All they would be able to do is view the same information you do, which some of it could be personal but harmless.

Generally, the weakest point in security is with the user. An "attacker" is far more likely to get your account information from you than from the site.

*Password and Portfolio Credentials* - For passwords to MOG itself, we compute a secure hash of the user's chosen password and store only the hash. Hashing is a one-way function and cannot be reversed. It is not possible to ever see or recover the password itself. When the user tries to login, we compute the hash of the password they are attempting to use and compare it to the hashed value on record. For banking/Stock/Investment credentials, we generally must use reversible encryption for which we have special procedures and secure hardware kept in our secure and guarded datacenter. The decryption keys never leave the hardware device (which is built to destroy the key material if the tamper protection is attacked). This device will only decrypt after it is activated by a quorum of other keys, each of which is stored on a smartcard and also encrypted by a password known to only one person. So in a database if someone looked up your password they would see it something like this "31435008693ce6976f45dedc5532e2c1. Furthermore, the device requires a time-limited cryptographically-signed permission token for each decryption. The system (which I designed and patented) also has facilities for secure remote auditing of each decryption.

*Your Privacy is not for sale* - Simply put, we do not and will not sell or rent your personal information to anyone, for any reason, at any time. MOG uses and discloses your personal information only as follows:

* to analyze site usage and improve the Service
* to deliver to you any administrative notices, trade alerts and communications relevant to your use of the Service;
* to fulfill your requests for certain products and services;
* for market research, project planning, troubleshooting problems, detecting and protecting against error, fraud or other criminal activity;
* to enforce MoneyOnTheGo’s Terms of Use; and
* as otherwise set forth in this Privacy and Security Policy.

*Online session information and use is only used to improve your experience -* When you visit MoneyOnTheGo.com, we may collect technical and navigational information, such as computer browser type, Internet protocol address, pages visited, and average time spent on our Site. This information may be used, for example, to alert you to software compatibility issues, or it may be analyzed to improve our Web design and functionality. “Cookies” are alphanumeric identifiers in the form of text files that are inserted and stored by your Web browser on your computer’s hard drive. MOG may set and access cookies on your computer to track and store preferential information about you. MOG may gather information about you through cookie technology. For example, MOG may assign a cookie to you, to limit the amount of times you see a particular MOG Offer or to help better determine which MOG Offers to serve to you. Please note that most Internet browsers will allow you to stop cookies from being stored on your computer and to delete cookies stored on your computer. If you choose to eliminate cookies, the full functionality of the Service may be impaired for you. We encode our cookies so that only we can interpret the information stored in them.

Web beacons are images embedded in a Web page or email for the purpose of measuring and analyzing site usage and activity. MOG, or third party service providers acting on our behalf, may use Web beacons to help us analyze Site usage and improve the Service. We may use third party service providers to help us analyze certain online activities. For example, these service providers may help us measure the performance of our online campaigns or analyze visitor activity on www.moneyonthego.com. We may permit these service providers to use cookies and other technologies to perform these services for MOG. We do not share any personal information about our customers with these third party service providers, and these service providers do not collect such information on our behalf. Our third party service providers are required to comply fully with this Privacy and Security Policy.

3.3.4 Other….

Other requirements might be the

* Performance characteristics
* System interfacing by answering questions like “is input coming from systems outside the proposed system?”, “Is output going to systems outside the proposed system?”, and “Are there restrictions on the format or medium that must be used for input or output?”

## Logical Database Requirements

As labeled in Section 1.3 (Input Data & Receive Data), there are couple main data objects. The following classification is in no way a proposal of design but somewhat a logical classification of those data entities as well as their attributes.

|  |  |  |
| --- | --- | --- |
| Data | Attributes | Use |
| Account Input Data | * Consumer Phone Number * Product Name or UPC Code * GPS Location | This data is used to identify the product and search for product pricing data. |
| Account Result Data | * Product Name * Store Name(s) * Store Location(s) * Price(s) * Price Type (Sale/Regular) * Price Validation Date(s) * Distance to Store(s) | The pricing result data is used to inform the consumer of competitors and their prices for the consumer-specified product. |
| MOG Server Management Parameters | * Mobile Device Connection Timeout * Product Pricing Data Location(s) * Product Pricing Data Refresh Rate | This data is used to configure the behavior of the MOG server. |
| MOG Server Status Updates | To be specified in design. | This data is used to inform the system administrator of the MOG server status. |

## Design Constraints

Below is the list of design constraints that MOG might be facing

* Response time: ensuring that our design provides fast or quick information back to the user in a timely fashion.
* Performance and reliability: ensuring a high level of security and performance to satisfy or ease the user mind with their information.
* Making sure that collections of objects exchanged among subsystems are done in a consistent manner.
* Make certain that each actor have an access policy as what data and functionality will be available to each actor.
* Guaranty that the AP is consistent with the nonfunctional security requirement
* Ensure that our application is unique and cannot be easily replicated

## Standards Compliance

The codes used in the MOG system need to follow the standards validation details defined for merchants PCI by Visa at <http://usa.visa.com/merchants/risk_management/cisp_merchants.html>. MOG system will be using the latest PCI Data Security Standard (DSS) guidance documents on point-to-point encryption, tokenization and virtualization to better secure data and, in many cases, eliminate credit card data from their environment. Also, MOG will use a 256–bit SSL encryption — the same level your bank or brokerage uses — to safeguard user/investor and their financial information. The MOG system stocks GPS-related date in the form of Latitude and Longitude degrees north and west.

# Other Requirements

No other requirements have been identified.

# Open Issues

No more global issues that were not captured under the Issues section of individual Use Cases.

**Appendix A: Supporting Analysis Information**

Data Flow Diagrams



**Figure 5.1 DFD 0: MOG Contextual Diagram**



**Figure 5.1.2 DFD 1: MOG Decomposition Diagram**



**Figure 5.1.3 DFD 2:P1- Read & Check Registration or login**

Information Flows (BNF)

Back End of the System

MOG Dashboard

**Register (R)**

**Figure 5.2 MOG Information Flows Diagram**

Register(R) 🡺 mog\_profile + acc\_investmentType + acc\_institutionName + acc\_login

mog\_profile 🡺 name + email + mog\_username + mog\_password

name 🡺 f\_Name + l\_Name

email 🡺 α + (n) +(“.”) + “@” + α + “.” + 2{α}3

mog\_username 🡺 4{α}15

mog\_password 🡺 6{α}10 + 1{n}2

acc\_investmentType 🡺 [“Stocks”| “Inv\_Firm(IRAs, etc.)” | “Personal\_fund”]

acc\_institutionName 🡺 [“Vanguard” | “E\*trade” | “Fidelity” | “BoA” | “Citi\_Bank” | + “Wells\_Fargo” | “JPM” | “UBS” | “…”]

acc\_login 🡺 acc\_username + acc\_password

acc\_username 🡺 institution login username

acc\_password 🡺 institution login password