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CMSI 402
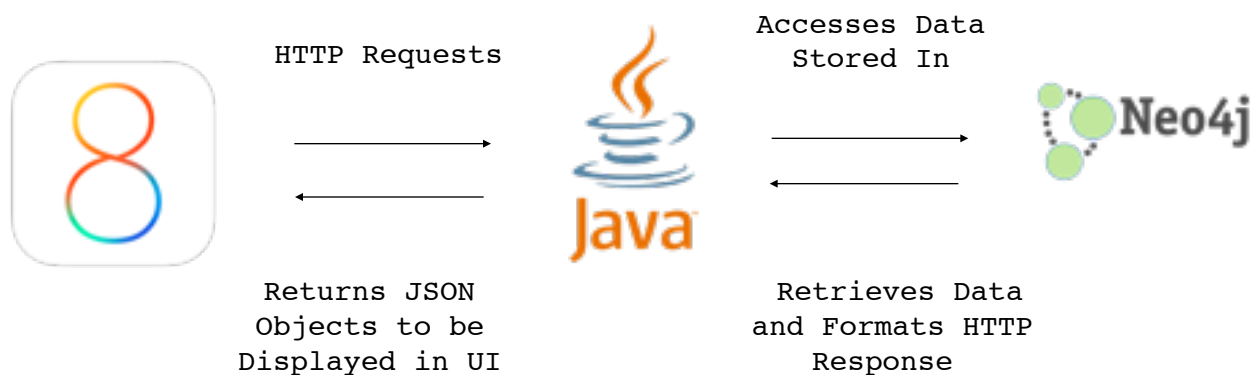Requirements Document
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5.1 Introduction

Gifter's system will be mobile-centric. It will include an iOS client written in Apple's new programming language, Swift. This client will perform HTTP RESTful requests to the Java API hosted on a server. From there, the Java API will interface with a Neo4j database running on a different server. This flow of data can be seen below in Figure 5.1a.


```
                    HTTP Requests                Accesses Data
                                                   Stored In

        [iOS 8]        ───────────►    [Java]     ───────────►    [Neo4j]
                       ◄───────────                ◄───────────

                    Returns JSON                 Retrieves Data
                    Objects to be               and Formats HTTP
                    Displayed in UI                 Response
```

Figure 5.1a

The following sections are organized as follows: Section 5.2 contains the functional requirements of the overall system, Section 5.3 contains performance requirements with regards to the above components, and section 5.4 contains the environment in which each of these components will live in.

5.2 Functional Requirements

5.2.1 Graphical User Interface

The Graphical User Interface (GUI) designed in Xcode will allow the user to interact with the application.

5.2.1.1 The GUI shall provide a tabular system to access the various functionalities within Gifter.

5.2.1.2 The GUI shall provide a login feature that allows the user to keep his/her information secure and private.

5.2.1.3 The GUI shall provide a view that lists the items that the user has favorited.

5.2.1.4 The GUI's favorited items view will also contain a button that will allow the user to search for other items to favorite via key search terms.

5.2.1.5 The GUI shall provide a friends list view that will allow the user to view their friends they have searched for and added after approval of the friend.

5.2.1.6 The GUI shall provide a button on the friends list view that allows the user to search for other friends to add with a button to friend request the desired user.

5.2.1.7 The GUI's friends list view will allow the user to swipe left on a user in the list. This will provide a optional delete button from the friends list.

5.2.1.8 The GUI shall allow the user to click on their friends to view their list of favorited items with an optional button to purchase the item for the specified friend.

5.2.1.9 The GUI shall provide a third tabular view that will contain all of the user's editable information with fields that include, but are not limited to, the following: username, email, password, phone number, credit card and billing information.

5.3 Performance Requirements

5.3.1 User Info Pull Down Time

5.3.1.1

At the launch of the application, Gifter will have to perform a query to pull down the user's information from the API's data storage. The user's item list, friend list, and personal information should be pulled down in 10 seconds or less (pending connection quality).

5.3.2 Search for Other Users Response Time

5.3.2.1

From the moment the user types in a username, email, or phone number into the search box the system should take 10 seconds or less to retrieve the possible matches. This does not include the time it takes to display the information either.

5.3.3 Search for Items to Favorite

5.3.3.1

     The search for other items to favorite will be based upon the performance of Amazon's inventory API. Given their amount of resources and the performance seen in their iOS applications, the retrieval of possible search matches should be 8 seconds or less.

5.3.4 Purchasing an Item

5.3.4.1

     When a user purchases an item, he/she knows that their own money and credit card information is on the line. In order to achieve a feeling of security and sufficient performance, the process of conducting a transaction should take no more than 8 seconds.

5.4 Environment Requirements

5.4.1 Hardware Requirements

Category	Requirement
Phone/Tablet	Apple Mobile Device
Server	Virtual Machine running a linux distribution, 16 Gigs of ram, 4 Ghz Quad-Core Processor, 1 Tb of hard drive space

5.4.2 Software Requirements

Category	Requirement
iOS	Version 7 or higher
API Language	Java
Mobile Device Language	Swift
Additional Libraries for API	Jersey
Additional Libraries for iOS	Alamofire, SwiftyJSON
Mobile Development Environment	Xcode 6
API Development Environment	Eclipse Luna