

Garnet & Gold Mobile

Software Research Specification

Team G&G Mobile

Daniel Hazy
Sudhanshu Rath
Saiprassad Gunasegaran
Thomas Wilson

Contents

Contents.....	2
1 Introduction.....	3
2 General Description.....	7
3 Functional Requirements.....	9
4 Non Functional Requirements.....	10
5 System Architecture.....	10
6 System Model.....	11
7 Appendices.....	17

1 Introduction

1.1 Purpose

This SRS is intended to describe to university professors and the staff of Garnet and Gold the scope of design and requirements for the application Garnet and Gold Mobile. Garnet and Gold mobile will provide a product browsing catalog as well as coupons and access to a blog all run by Garnet and Gold. It will outline the Functional and Non-functional requirements as well as outline the system architecture and model.

1.2 Scope

This system is designed to allow customers of the business Garnet and Gold go through the product catalog and view the prices and available sizes of various products contained within the store. It uses a SQLite database to store these aspects of the catalog, and as well provides a selection of coupons and a blog viewer within separate screens.

1.3 Definitions

Term	Definition
Blog	This term is used specifically to refer to a mobile web blog provided by blogspot, presumably run by Garnet and Gold.
Coupon	Images created by Garnet and Gold that include barcodes, represented as JPGs or PNGs that can be used for discounts in the Garnet and Gold Store.
Customers	Users who will be utilizing the application to browse through the catalog. It is presumed that these users will be viewing the app on some form of Apple device. Additionally, it can be assumed that these users regularly visit the Garnet and Gold Store.
Database	In this SRS, database refers to a SQLite database for the prototypical version of the application, and an undefined, unimplemented database schema dependent on Garnet and Gold's facilities (or any other business) for the non-prototypical version
Garnet and Gold / Garnet & Gold	This refers generically to the corporate entity <i>GARNET & GOLD, INC</i> which owns the Garnet and Gold Store, and is used as a substitute to represent what their interests may be or have been

	described to be.
Garnet and Gold Store / Garnet & Gold Store	The physical location where customers can make purchases.
Prototypical and Non- Prototypical	The final version of this app presented in class will be the Prototypical version. This application will not be ready for launch, however it will demonstrate most of the capabilities and functionality desired by Garnet and Gold. The non-prototypical version of the app will be launch-able, and will include more functionality. The reasoning for distinguishing here is that the non-prototypical version could vary depending on the resources provided by Garnet and Gold or any other business that may be interested in the application concept.
SQLite & SQLite3	SQL is the Structured Query Language model of databases use within this application. For the prototypical version of the database, this SRS refers to a SQLite3 implementation, which is a more lightweight on-board database. It is assumed that the non-prototypical version of this database will use another SQL based database.
User	Any person who might wish to use the application.
Xcode	The development platform used for creating and modifying code that runs native on iOS applications. In this SRS, 7.1.1 will be the baseline version of Xcode used.
Software Requirements Specification	A document that completely describes all of the functions of a proposed system and the constraints under which it must operate. For example, this document.

1.4 Acronyms & Abbreviations

3G	Third Generation Mobile Telecommunication Technology
App	Application
FSU	Florida State University
G&G	Garnet and Gold
IOS	iPhone Operating System
JPG/JPEG	Joint Photographic Experts Group (<i>Image Format</i>)

PNG	Portable Network Graphics (<i>Image Format</i>)
RDBMS	Relational Database Management System
SRS	Software Requirements Specification
UI	User Interface
URL	Uniform Resource Locator
Wi-Fi	Wireless Fidelity

1.5 References

IEEE. *ISO/IEC/IEEE 29148 INTERNATIONAL STANDARD*. IEEE Computer Society, 2011.

1.6 Overview

In chapter 2, the General Description, the general functionality of Garnet & Gold Mobile is covered. It informally lays out some of the functions and characteristics of the ideal product. Chapters 3 through 6 specify in depth the requirements both functional and non-functional, as well as the overall system environment in terms of both architecture and model. These sections are intended for developers and reviewers of this document. Finally, chapter 7 contains the appendices of the document, and information that can supplement understanding of the previous chapters.

All chapters describe the complete functionality and design of project Lynx, although the General Description and subsequent chapters cover the information in ways keyed for different audiences.

Organizational flow is as follows:

Section II: General Description

- Product Perspective
- Product Functions
- User Characteristics
- General Constraints
- Assumption, and Dependencies

Section III: Functional Requirements

Section IV: Non-functional Requirements

Section V: System Architecture

Section VI: System Model

Section VII: Appendices

- Data Dictionary
 - Actor, Use Case, Class, and Attribute Descriptions
- Raw Use Case Point Analysis
- Actor Summary Table
- Use Case Summary Table
- Screens and Reports with Navigation Matrix

2 General Description

2.1 Product Perspective

The G&G Mobile App is a piece of software developed for iOS, specifically iOS 8 and up. The system is designed with the company Garnet and Gold in mind, but is prototyped in a loose enough way that it could easily be ported to suit the needs of other businesses.

The main purpose of the app is to provide users with a hand-held viewing catalog for the Garnet and Gold Store's inventory. While this is similar to the web-store already implemented by Garnet and Gold, it is the incentive is that users will acquire coupons through the app that can be used at the the G&G store. Additionally, it provides a blog view that allows users to keep up with current events of and relating to both G&G and FSU in general.

2.2 Product Functions

G&G Functions:

- Update App
- Modify and Update Database (*non-prototypical*)
- Add, Delete, and Modify Products within the App
- Add and Delete Coupons within the App
- Make updates to the G&G blog.

Customer Functions:

- View list of items in catalog
- View specific details about products in catalog
- Purchase items in catalog (*non-prototypical*)
- View Coupons
- Share blog postings on-line

2.3 User Characteristics

Garnet and Gold Characteristics:

Garnet and Gold employees will speak English. They will be trained and informed of the Garnet and Gold inventory. The employees responsible for maintenance of the app will be trained specifically with the database used by the application in the non-prototypical form. At least one employee will be trained in Xcode 7.1.1

Customer Characteristics:

Customers will speak English. They will have widely varying education and training for utilization of the application. As such, the app should be as easy to use and straightforward as possible. It can be assumed that users of the application will reside within Tallahassee. It is also likely that users of the application are or are related to students or alumni of FSU, therefore tailoring the app's UI to these themes is appropriate.

2.4 General Constraints

The product catalog will be limited by the database design. In this prototypical version, a SQLite database is used, therefore the product catalog is limited to what is in the release version of the application. In non-prototypical versions, the database may be linked to a different style database. It will subsequently be limited by the design and interface of those databases.

The application is also limited by the capabilities of Xcode 7.1.1 and iPhone 5s running iOS 7 or higher. The display of images within the app and the display of the blog is also limited to a viable Internet connection either via Wi-Fi or 3G connections.

The online communications will be limited by https.

2.5 Assumptions and Dependencies

This SRS assumes that queries to a database whether on-board or on-line will never exceed the throughput of either the iPhone platform or wireless connection. It is also assumed that the iPhone on which the app is being utilized will either be running iOS 7.1.1 or have backwards compatibility for that platform. It will be assumed that G&G developers have access to Xcode 7.1.1 or higher.

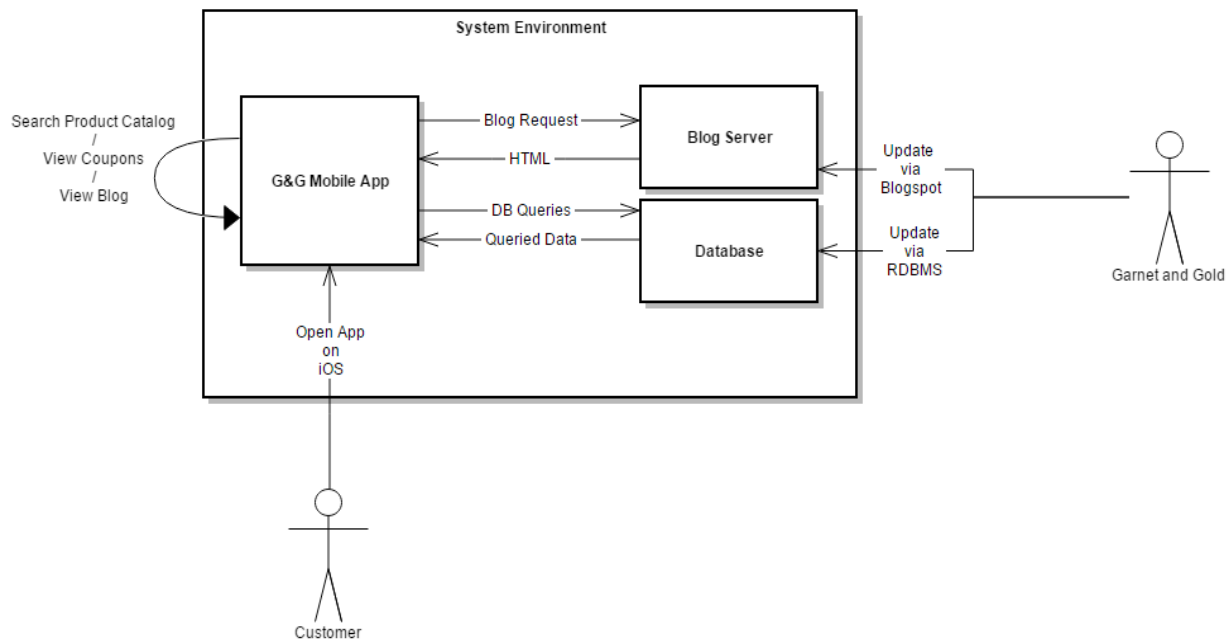


Figure 1 | System Environment

3 Functional Requirements

System Requirements:

Entity	Requirement Description
Garnet and Gold	G&G shall be able to maintain, update, and modify the source code.
Garnet and Gold	G&G shall be able to modify the database, either via SQL queries or by whatever DBMS they are utilizing.
Garnet and Gold	G&G shall be able to create and delete blog postings via blogspot.
Garnet and Gold	G&G shall be able to create new coupons at their discretion.
Garnet and Gold	G&G shall be able to use and test the application as a customer.
Customer	User shall be able to view the product catalog.
Customer	User shall be able to search the product catalog by keyword.
Customer	User shall be able to view coupons available.
Customer	User shall be able to view the mobile blog.
Customer	User shall be able to share blog postings via social media.
Customer	User shall be able to share postings from the mobile blog.

4 Non Functional Requirements

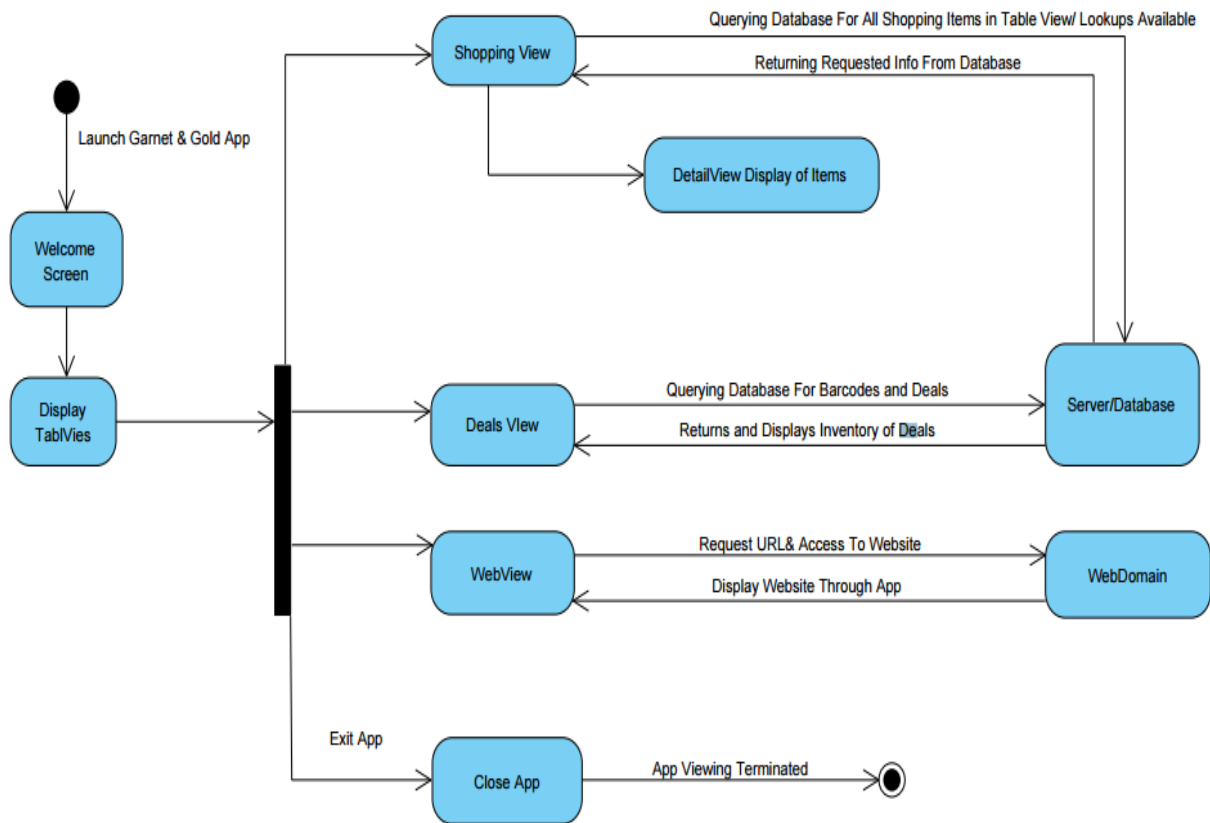
Desirable User Interface	The UI should be easy to use, and visually pleasing.
Scalable Database	A potential database must have a high level of scalability, since the app is intended for expansive, frequent use.
Accuracy of Data	Product Catalog should be up to date with the current product catalog available in store
Exception Handling	App should have cases to deal with uncommon but predictable behaviors.
Coupon Validity	Coupons present on the app should be valid usable coupons within the Garnet and Gold Store.
Internet Connectivity	Internet should be available at all times for the users.
Server Maintenance	A potential database must be easily serviced and data must be organized.

5 System Architecture

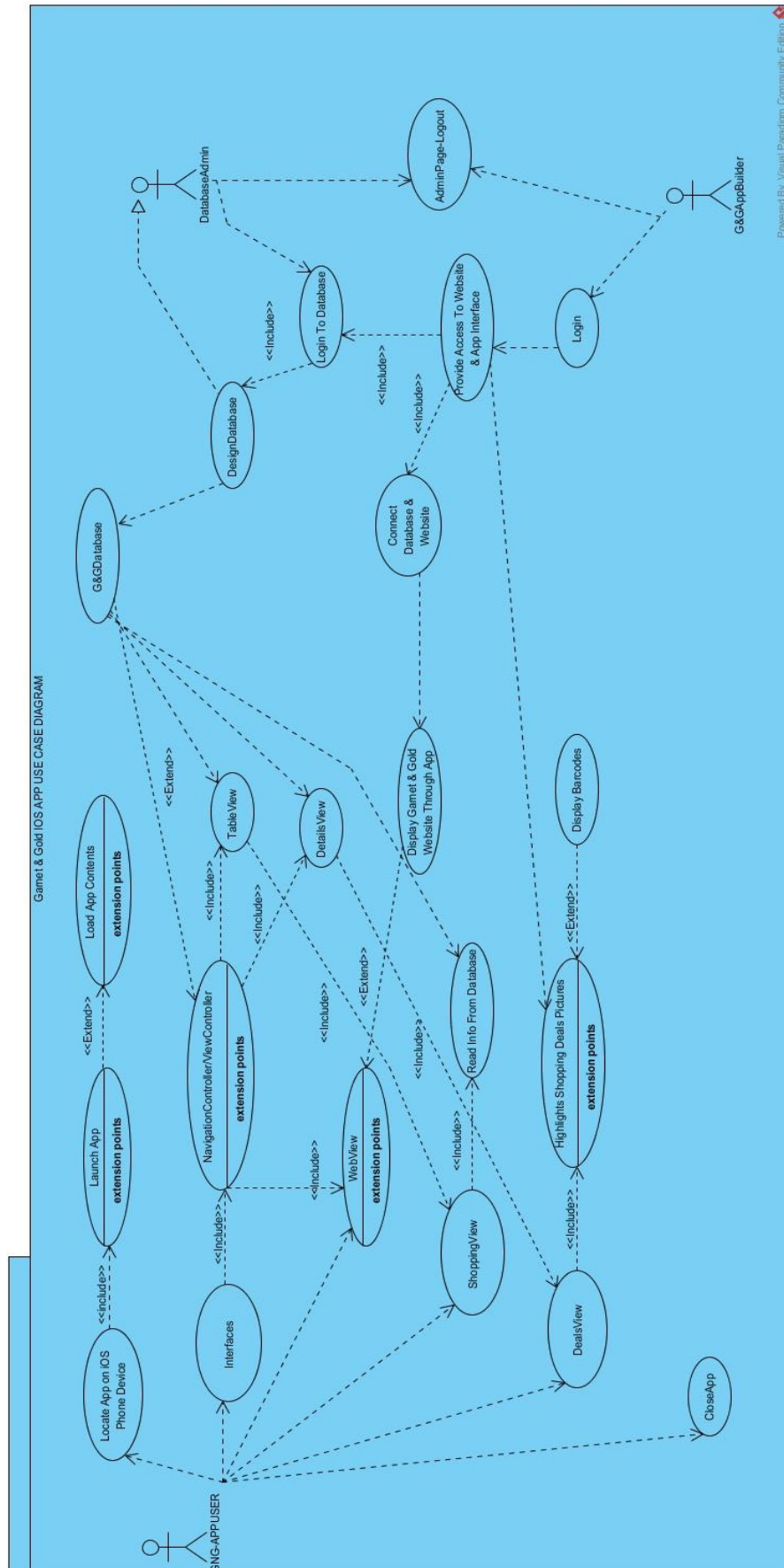
The system is designed to work primarily with iOS 7.1.1 and above. Therefore it shall work on all Apple products that have support of iOS 7.1.1 and up, with the iPhone 5 specifically in mind. The database is programmed as a SQL based architecture, and will be presumed to be so in the non-prototypical version of the application. The source code was created as Objective-C code in Xcode 7.1.1 and Xcode 8.0 both.

6 System Models

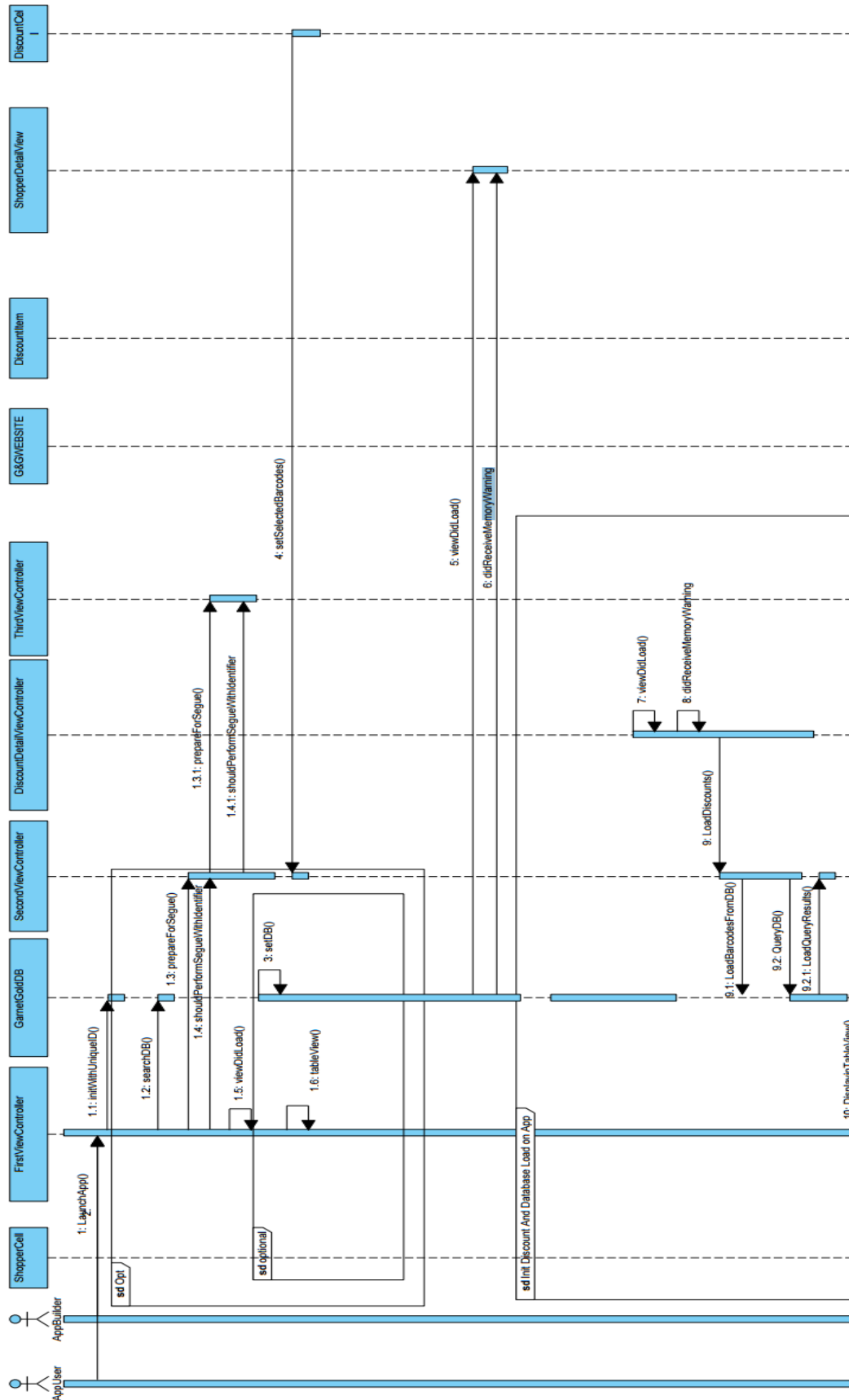
1. Activity Diagram:



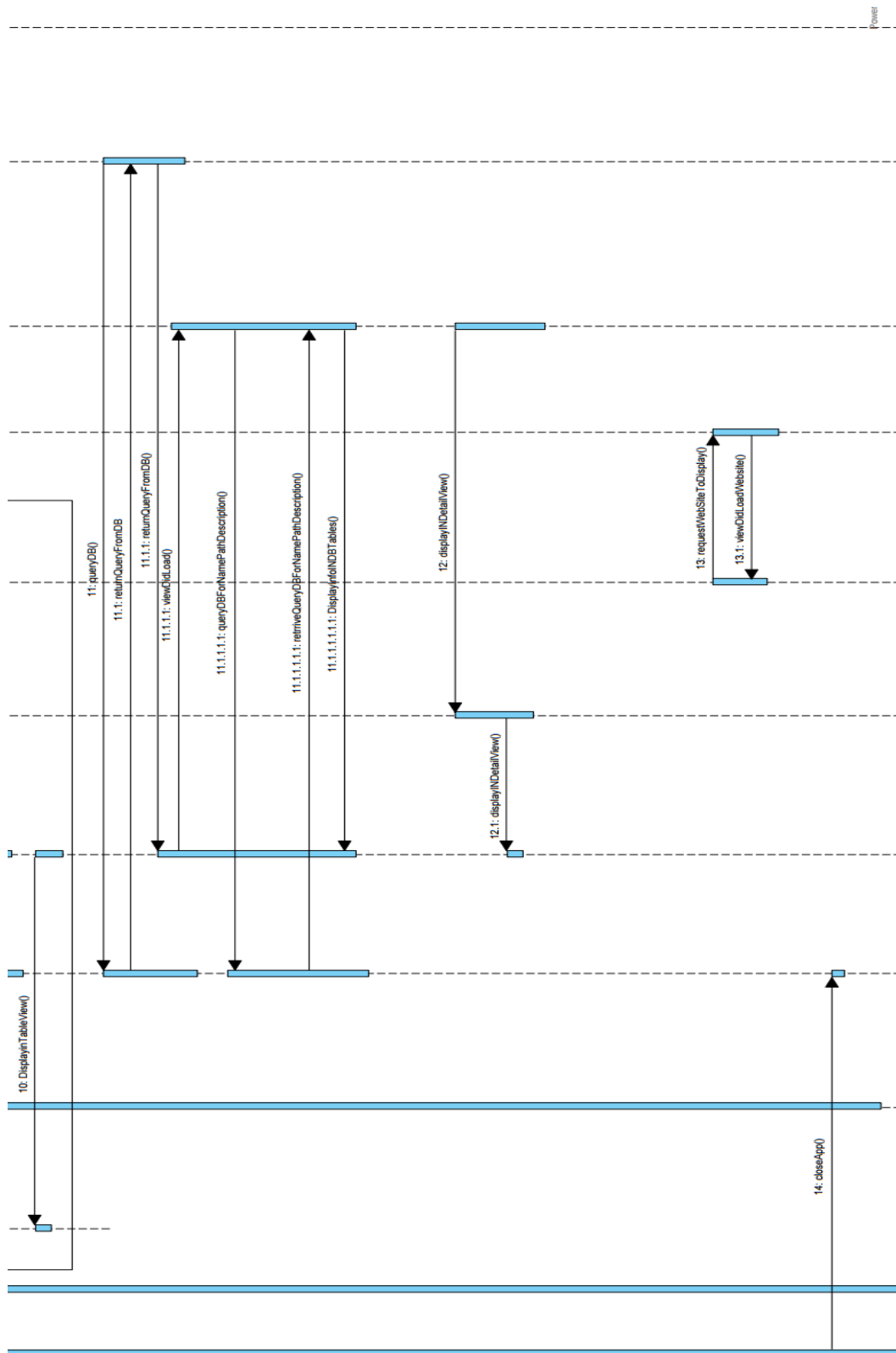
2. Use-Case Diagram:



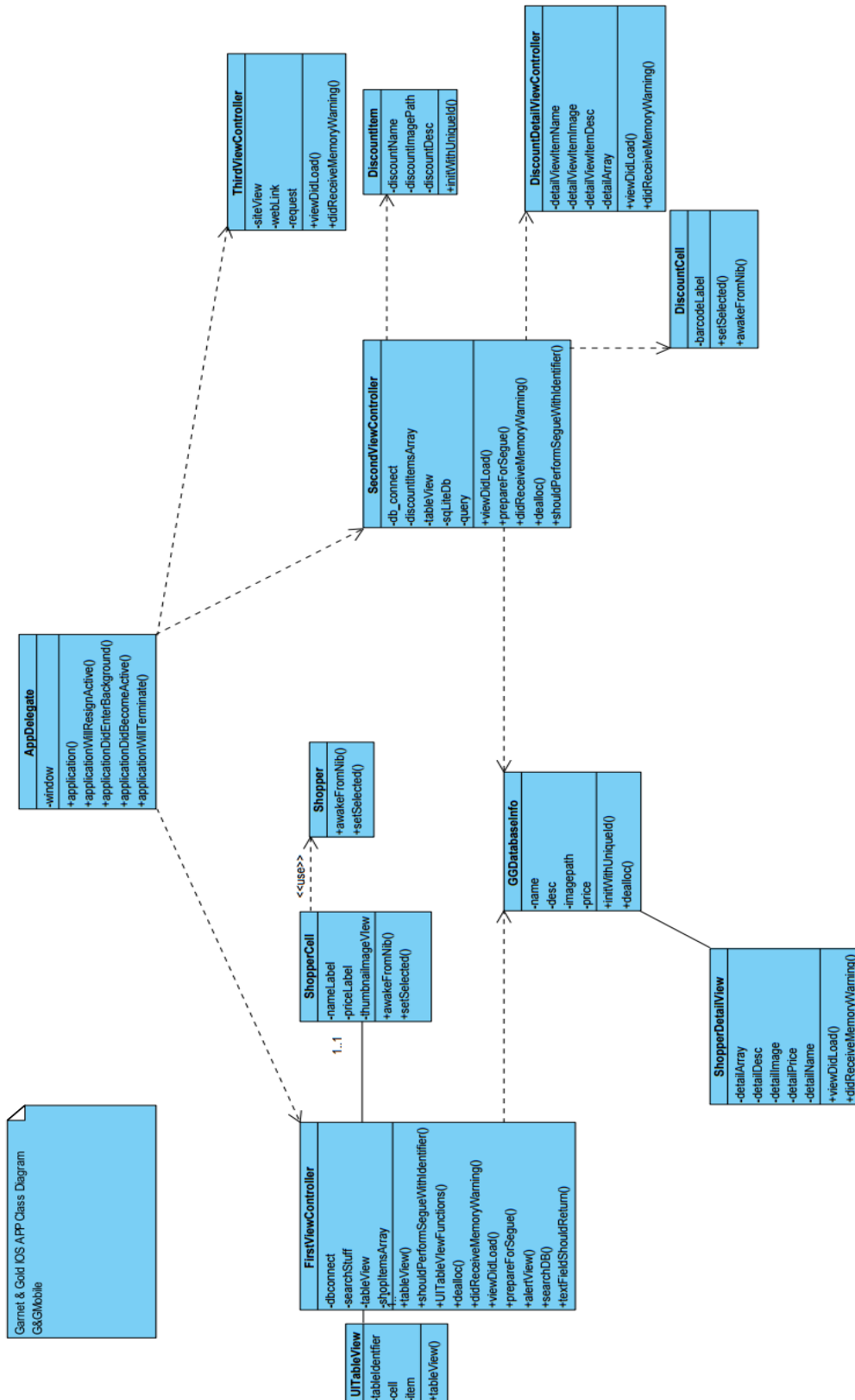
3. Sequence Diagram:



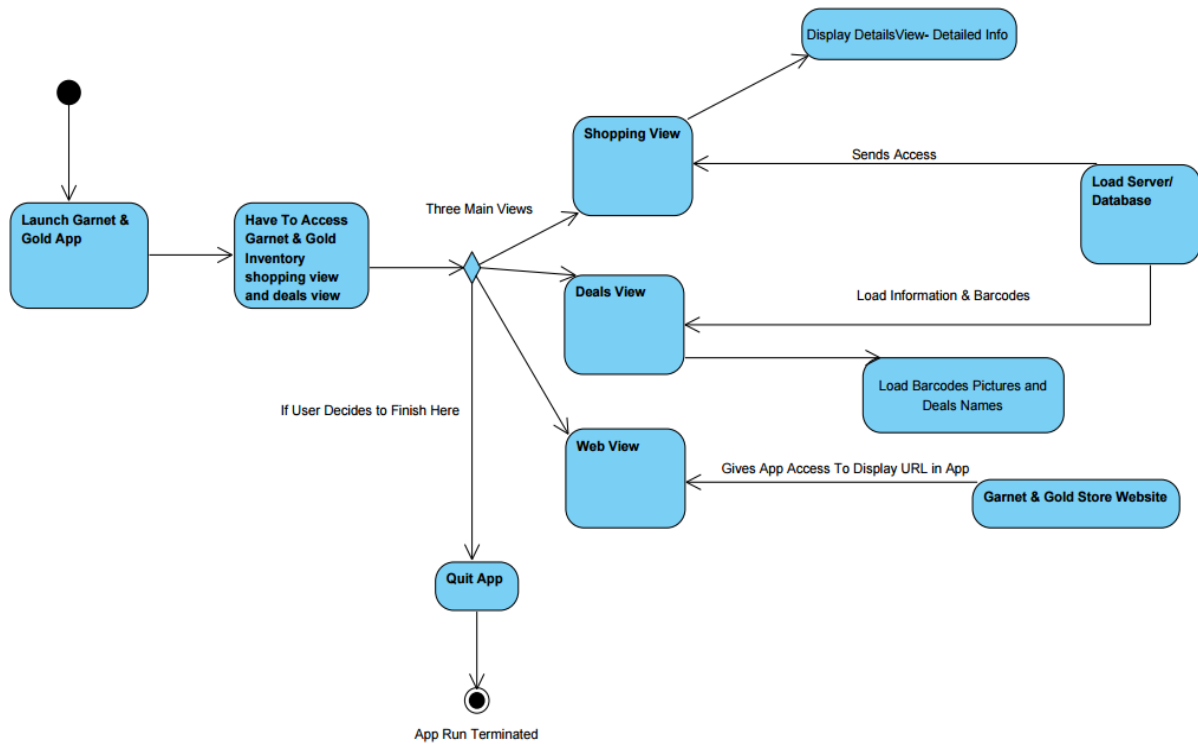
Sequence diagram pt 2:



4. Class Diagram:



5. State Diagram:



7 Appendices

71 Data Dictionary

7.1.1 Actor Descriptions

Actor	Description
G&G App User	Any individual who is utilizing the G&G Mobile app.
G&G app builder	Any entity who modifies the application on behalf of Garnet and Gold
Database admin	Any entity who modifies the database on behalf of Garnet and Gold

7.12 Use Case Descriptions

Use Case	Description
Launch app & Close app	User finds and selects app within iOS main menu or exits app back to main menu.
Table View	User selects Table view from the navigation view controller Prompting the product catalog
Detail View	User clicks a product, bringing up a detailed description of the Item they have selected
View Information	Users can view all of the data contained within the application as one master list at any given time.
Shopping View	User selects the second view from the navigation view Controller prompting a view of coupons available

7.13 Class Descriptions

Class	Description
User	This class mirrors the actor User. Therefore it can handle information unique to each user and insert them into forms. The data in each user class is unique, but the generalized attributes of all user classes are similar to one another.
Form	This class contains a number of attributes that are filled out by users. This class can be updated by communicating with a database, and can be distributed to third parties. By default this class contains no information but is filled via users
Third Party System	This class represents all third party entities. These classes can receive forms from client applications. They can also be used to display and interact with the data.

72 Raw Use Case Point Analysis

7.2.1 Actor Summary Table

Actor	Actor Type	Actor Points
Customer	Complex	3
G&G	Complex	3
Database	Simple	1
	TOTAL	7

7.22 Use Case Summary Table

Use Case	Number of Transactions	Use Case Type	Use Case Points
Launch & Close	1	Simple	2
Table View	3	Average	3
Detail View	3	Average	3
View Information	3	Average	3
Shopping View	3	Average	3
		TOTAL	12

7.23 Screens and Reports with Navigation Matrix

7.2.3.1 User Interface Navigation Matrix Template and Instructions

	Product Catalog	Deal View	Detail View	Blog View
Product Catalog	N/A	Button Press	Product Selected	Third Menu Button
Deal View	First Menu Button	N/A	Coupon Selected	Third Menu Button
Detail View	First Menu Button	Second Menu Button	N/A	Third Menu Button
Blog View	First Menu Button	Second Menu Button	N/A	N/A