

Birthday Gift Idea Application
Team 2

Turki Alrefai, Andrew Batzel, Ryan Darras, Jason Goodall,
Michael Massey, George Pavlis, Simon Schneider, Kevin
Smith, Patrick Stauch

**Software Requirements Specification
Document**

Version: DRAFT 0.0.4

Date: 11/18/2018

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1 Introduction

The client is looking to create an application that will be used to generate birthday gift ideas, while providing links to the locations at which the specified item can be purchased.

1.1 Purpose

To create an easy method of gift shopping by offering a single location that can suggest ideas to make the hard part of gift shopping easy.

1.2 Scope

Birthday Gift Idea Application

- This software will populate a list of suggested gift ideas for the user.
- This software will NOT serve as an ecommerce site in which the user purchases directly from our client.
- This software will be monetized by offering online retailers ad space for their merchandise or the option to have their products pushed to a higher rank.
- This software will offer the following options to help refine the search:
 - Target gender
 - Target age
 - Target profession/hobbies
 - Target relationship with purchaser
 - Price range
- This software will allow retailers to register their merchandise so that it can be displayed on the app.
- This software will offer a wishlist listing that users can send to their friends and family to suggest viable options.
- This software will search for the best deal available.

1.3 Definitions, Acronyms, and Abbreviations.

Definitions

- A -
- B -
- C -

Acronyms

- ADA – American with Disabilities Act
- GUID – Globally Unique Identifier
- API – Application Programming Interface

Abbreviations

- DB – Database
- B –
- C –

1.4 References

In this subsection:

- (1) *Provide a complete list of all documents referenced elsewhere in the SRS*
- (2) *Identify each document by title, report number (if applicable), date, and publishing organization*
- (3) *Specify the sources from which the references can be obtained.*

This information can be provided by reference to an appendix or to another document. If your application uses specific protocols or RFC's, then reference them here so designers know where to find them.

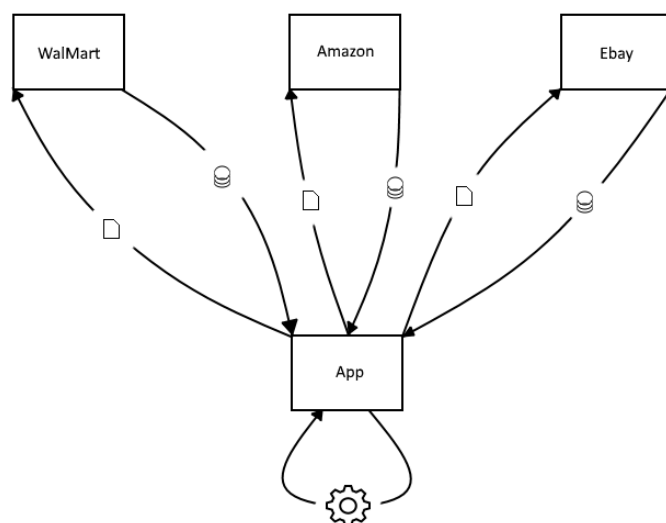
1.5 Overview

The remainder of this document will describe in detail the specifications of the requested software. Section 2 is an overview of the application using verbiage and descriptions targeted towards common stakeholders. Section 3 defines system requirements, architecture, design, security and database details which will be targeted towards developers and high level stakeholders.

2 The Overall Description

2.1 Product Perspective

The user will be able to open the application and have easy access to view merchandise from many different vendors in an order that will serve as a recommendation for purchase based on the provided information. Upon finding an appropriate item, and the decision to purchase has been made, the user will then be directed to that item's page on the retailers site that offers the best deal. The diagram demonstrates the relationship between this application and the vendors.



2.2 System Interfaces

API – If chosen, retailers can offer their API and/or access to their database so that we can access a list of their items that we can include in our query.

2.3 Interfaces

- The software will demonstrate a clear interface that maximizes ease of use.
- The application will keep a menu button on every page that will allow the user to easily navigate the app without finding themselves to be lost.
- Each page will be strickly limited to the objective of that page. For all individual elements, a page will be provided.
- The app will meet the requirements stated by the American with Disabilities Act.

2.3.1 Hardware Interfaces

This application will be on the Google Play Store (Android) and the Apple Store (iOS) and all applicable hardware requirements will be met.

2.3.2 Software Interfaces

Microsoft Xamarin – The application will be developed using Xamarin, an all-platform targeting IDE. All applicable interfaces will be included.

Microsoft SQL Server 2017 – The applation must use SQL Server as its database component.

2.3.3 Communications Interfaces

Amazon API
WalMart API
Ebay API

2.3.4 Memory Constraints

The software must maintain a maximum memory usage limit. This limit is defined by Android and iOS standards.

2.3.5 Operations

Log in as user

- Enter your username and password
 - If you forgot your password, click forgot password to reset
- View friends wishlists

- Update your wishlists
- Update account information
 - Email
 - Password
 - Preferences
- Search for items

Log in as vendor

- Enter your username and password
 - If you forgot your password, click forgot password to reset
- View your displayed items
- Update your displayed items
- View your analytics

2.3.6 Site Adaptation Requirements

No site adaptation requirements necessary.

2.3.7 Product Functions

- This application will use various selection and input boxes to perform a query on many different online retailers databases to get a list of appropriate gift ideas.
- This application will serve as a hub for online retailers to list their merchandise and advertise their merchandise if they so choose.

2.3.8 User Characteristics

There is no expected characteristics of the consumer, so this application will be built with the basic mobile app user in mind. This results in an application with an easy to use interface with clear instruction. Because we cannot assume our users have any technical expertise, our query will be done in the back end based on simple user input fields and selection boxes as opposed to offering a complicated but more accurate querying system.

2.3.9 Constraints

API access

Private Policy

2.4 Assumptions and Dependencies

Assumptions

- The user is running Android or iOS on their mobile device.
- The user has at least a basic understanding of traditional mobile app standards.

Dependencies

- Android and iOS keep a standard framework to allow the application to run into the future.
- Xamerin and SQL Server to remain updated to support the most recent Android and iOS changes.
- Legal constraints that allow a deal-seeking application to exist.

2.5 Apportioning of Requirements.

- Option for in-store pickups for local vendors.
- In-house purchasing and production.
- Advancements on searching algorithm, query, and/or heuristic.
- Web application.

3 Specific Requirements

3.1 User Stories - User

3.1.1 Download Mobile Application

Description: A user should be able to download the mobile application through either an application store or similar service on the m,obile phone. The application should be free to download.

Rational: In order for the user to download the mobile application.

Checklist:

- Application available on iOS store.
- Application available on Google Play store.

3.1.2 Access Web Application

Description: A user should be able to access the web version of the application via a https address.

Rational: In order for the user to access the web application

Checklist: (see [How to get https](#))

- Obtain/Activate SSL certificate.
- Install SSL certificate.
- Update web app to use https.
- Verify site is available on https.

3.1.3 Account Registration

Description: A user should be able to register for an account by providing basic information such as email address, password, name, age, gender, etc.

Rational: In order to provide this user access to the application.

Checklist:

- Design database.
- Create stored procedure to create an account within the database.

- Create page that allows user to add information that they want on their account.

3.1.4 Account Log-in

Description: A user should be able to log in to their account after they have registered giving them access to the registered user only part of the application.

Rational: In order for the user to log in to the site.

Checklist:

- Provide page for user to input email and password.
- Verify login information.
- Change user state in application once password is accepted.

3.1.5 Account Preferences

Description: A user should be able to access their account preferences after logging in to the application. Here they can change their preferences so that the app can better suit the user.

Rational: In order for the user to change their preferences.

Checklist:

- Create page that allows user to modify the information contained within their database entry.
- After the user changes information, verify that the changes are correctly reflected across the application.

3.1.6 Account Wish List

Description: A user should be able to create and access previously created wish lists.

Rational: In order for the user to share their wishlist with others.

Checklist:

- Design wish list database.
- Create stored procedures to interact with wish list database.
- Create page for user to access their own wish lists.
- Create page for users to access others wish lists.

3.1.7 Gift Query

Description: A user should be able to query gift ideas by offering information regarding the person they want to get a gift for.

Rational: In order for the user to find a great gift idea.

Checklist:

- Design query system.
- Design 3rd party API system.
- Optimize search algorithms.
- Create page to allow user to perform search.

3.1.8 User Wish List Search

Description: A user should be able to search for a wishlist posted by another user.

Rational: In order for the user to find a gift idea they know will suffice.

Checklist:

- Offer redirects from wish list page to search page pre-filled with information.
- Query a search of that specific item through all vendors.

3.2 User Stories – Vendor

All User Stories – User apply to Vendors.

3.2.1 Register Account as a Vendor Account

Description: A vendor should be able to apply to have their account upgraded to a vendor account.

Rational: In order for the vendor to start advertising and posting items.

Checklist:

- Design database to differ vendor accounts vs regular accounts.

3.2.2 Create Store

Description: A vendor should have the option to create a store in which they can add items to be listed.

Rational: In order for the vendor to give customers access to their items.

- Design database to allow for stores (very similar to wish lists).
- Create page where vendors can add items to their store.

3.2.3 Add Items to Store

Description: A vendor should be able to add an item to the store with information such as price, image(s), availability, etc.

Rational: In order for the vendor to sell the item.

Checklist:

- Design database for items.
- Implement integration of items into stores.
- Create web page to allow vendors to do this easily.

3.2.4 Sell Items

Description: After a vendor has posted a store and items, they should be able to sell the items through their own means (ie paypal, credit, debit, etc).

Rational: In order for the vendor to sell items to users.

Checklist:

- Implement 3rd party payment as chosen by vendors.
- Create a page for users to browse stores.

3.2.5 Advertise

Description: A vendor should be able to purchase advertising for their store based on what some users are searching (similar to google ads).

Rational: In order to gain recognition of their store.

Checklist:

- Offer different tiers of advertisement space. 1 day, 3 day, 7 day, 14 day, 28 day.
- Allow for customization of the advertisement settings.

3.3 User Stories – Developer/Manager

3.3.1 Access to the database

Description: A manager/developer should have access directly to the database for things like troubleshooting and customer support.

Rational: In order to manage the database.

Checklist:

- Remote access to the database for developers/managers only.
- Security protocol in place to prevent malicious access.

3.3.2 Access to queryable logging

Description: A developer/manager should have direct access to easily look through logs produced by the system

Rational: In order to troubleshoot and assist customer support.

Checklist:

- Create a web interface for managers to query logs.
- Web interface should not require SQL knowledge.

3.3.3 Account spoofing

Description: A system should be put in place that allows developers/managers to spoof a users account (IE log in as that user) so they can experience the issue the customer is having first hand.

Rational: In order to troubleshoot a customers issue directly at the source.

Checklist:

- The developer/manager doing the spoofing is not given access to any private information such as account password.
- The spoof is an absolute representation of what the client would see if they were to log in except for a notification bar at the top of the screen that states they are in spoof mode.

3.3.4 Analytics

Description: The managers should be able to pull up analytics of the app to get information about what items are being searched, what shops are the most successful, what class of person is having gifts purchased for them, etc. Also includes analytics for the app interface such as, what page users are on the most, is there anywhere people are getting stuck, etc.

Rational: In order to determine the success and operations of the application.

Checklist:

- Every action that a user makes should be recorded and used for analytics.
- The recorded analytics are easily accessible and formatted to provide useful information.

3.4 External Interfaces

- This software shall accept only touch user input. Touch user input is defined as one finger, two finger, and swipe controls.
- This software shall accept data formats in any form, but will compress the data into the following form:
 - Item Name
 - Item Description
 - Item Price
 - Item recommended for ... (men, women, teachers, engineers, etc)
 - Available vendors
 - Price
 - Estimated delivery time
 - URL

3.5 Functions

- This software shall validate user input by verifying that no contradictory inputs be applied.
- This software shall recommend to the user modifications to their search inputs to yield better results.
- This software shall handle all errors by logging them to a log database. No errors will cause the application to freeze and/or crash.

3.6 Performance Requirements

- Searches must be processed and results returned to the user in less than 3 seconds.
- Application may not use more than 5% of a systems cpu usage when idle (idle = not currently searching).
- Application will not use any networked data excluding when user prompts a search.

3.7 Logical Database Requirements

Database is to be designed such that no table contains a list or any other sort of collection. A hashing algorithm will be used to optimize searching and selecting items.

User accounts

- Name, Username, GUID, System Settings

Wish lists

- User's GUID, Wishlist GUID, Wishlist Name

Wish list items

- Wishlist GUID, Item GUID

Vendor accounts

- Name, Username, GUID, System Settings, Analytics

Vendor items

- Vendor GUID, Item GUID, Name, Price, Description

3.8 Design Constraints

3.8.1 Standards Compliance

Design practices must be done with the ADA in mind.

3.9 Software System Attributes

3.9.1 Reliability

Access to the application must maintain a 99% uptime or better. Systems will be designed for project updates to cause a minimum amount of down time.

3.9.2 Availability

This software will be accessible by anyone running an Android or iOS device. Software updates will be downloaded at the users convenience through their app stores.

3.9.3 Security

- The users password will be protected by the PBKDF2 hashing algorithm.
- App must be thoroughly checked and protected and SQL injection practices. The user must not be able to inject custom SQL into the application.

3.10 Maintainability

Software will be maintained by the original developer at the expense of the client. Prices will be negotiated at a later date. This includes software updates, new features, bug fixing and troubleshooting.

4. Change Management Process

Any updates must be done via our project management tool. The client will be able to log in using the provided username and password, at which point they can make tickets with information regarding their thoughts and ideas. Any changes large enough to warrant a meeting will invoke a phone conversation to discuss a time to meet. Every bit of

information regarding this application must be written down in electronic form as to not get lost in translation.

5. Document Approvals

At the end of development, we require the main stakeholders as well as the project manager and lead developer to sign an approval letter stating that the project has been completed as expected.

6. Supporting Information

To be determined through following user meetings.