Software Requirements Specification: Revision 0

Group 5

Lu, Daniel - lud1 - 400015933
Abujarad, Razan - abujarar - 400038238
Panunto, Michael - panuntom - 400022970
Samarasinghe, Sachin - samarya - 001430998
Bengezi, Mohamed - bengezim - 400021279

Professor: Dr. Kehdri
Tutorial: T02

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1 Introduction

This section of the SRS should provide an overview of the entire SRS.

1.1 Purpose

This SRS describes both the functional and non-functional requirements necessary for the system-to-be. Specifically, this document is intended for users or any parties interested in the BookZilla application. The objective is to allow potential users and stakeholders to gain insight into the main goals of the application, as well as the thought process behind it. This document aims to describe all the functionalities, necessary requirements, constraints, dependencies, and any other topics that may be of importance to the development of the application.

1.2 Scope

BookZilla is a recognition application that allows users to find books that they may have forgotten about, or simply to help them discover new books. It is designed for the Android platform. The application will take various user inputs, such as genre, theme, or description, and uses a separate expert for each one of these inputs. Using these experts, the application determines a list of books that each expert agrees on. This application has numerous benefits. For example, it has the potential to assist an individual in finally remembering the name of the marvelous book they once read some time ago. As stated above, it also could help in discovering new books, since it outputs a list of books. The goal of BookZilla is to be as accurate as possible with the given inputs, in order to fully realize these stated benefits.

1.3 Definitions, Acronyms, and Abbreviations

Term	Definition
API	(Application Programming interface) Set of subroutines used to assist in the completion of tasks within the application
UI	(User Interface) Section of the application where users can interact with the program
UI Element	Basic graphical elements that make up the UI. Text-boxes, buttons are some examples
Properties of a Book	Attributes of a book that can be used to identify it. For example the author, release date, title

Table 1: Definitions

1.4 References

Google Books **API**:

- https://developers.google.com/books/

1.5 Overview

The remainder of the document is divided among three chapters. Chapter two outlines the general functionality of the application alongside the characteristics and constraints surrounding the application and relevant stakeholders. Additionally, future requirements and functionalities are layed out.

Chapter three defines the technical specifications of the Android application required to perform its functionality. It consists of individual requirements and rationales to be implemented in order to achieve the intended result.

Finally, chapter four specifies criteria used to evaluate the operation of the application based on the requirements outlined in chapter three. It outlines how the system should operate to fulfill its functionality.

2 Overall Description

2.1 Product Perspective

BookZilla is a mobile application designed to make the process of searching for a book straightforward and simple. BookZilla can use different properties of a book to discover similar or related books. The software is not self contained as it requires access to the Google Books API to retrieve books based off of search terms. However this product is not a product that is a component of a larger system since Google Books API is not dependent on BookZilla.

2.2 Product Functions

This software is required to perform a variety of Functions. The major functions required include the following.

1. The Software will search for a list of books based on a distinct and determined set of search terms. For example, a use could use the application to search for books related to the author J.K. Rowling and who's title contains the term Harry or Potter.

2. The software will search for a book that matches the users description of a book. The software will retrieve a list of books with a story related to the description of the book. The user is also able to search for related books based off of search terms. For example, if the user wanted to search for books with the related terms 'alien', 'space', and 'planet', the software would retrieve a list of related science fiction books.

3. The software will provide the user with a detailed description of the book the user has selected from a retrieved list of books. The user will be able to get in depth information such as Author, Title, Publication Date, Publisher, Description, and ISBNs.

2.3 User Characteristics

The user must be able use an Android smart-phone. The user must at-least be able to open an App on an Android smart-phone. Since all Android systems are similar, user's ability use one Android smart-phone can be applied across all Android smart-phones.

The user must be familiar with the Android user interface. The user must be able to use basic components such as buttons and text-boxes.

The user must have some knowledge about the book(s) that they are searching for. The user must have enough knowledge of the book(s) to come up with short description(s) of

the book(s) that they are searching for. This short description will be used by Bookzilla to find any matching books.

2.4 Constraints

BookZilla must be implemented for the Android operating system. The target platform for BookZilla is the Android operating system.

Final version of BookZilla must be delivered on the April 6th, 2018. On April 6th, 2018, the final version of BookZilla must be demonstrated.

BookZilla must follow Google's policies and regulations when using Google Books API. For an example, Google limits the frequency of requests that BookZilla can make to Google Books API. This is done to prevent any misuse of the API. However, it could limit the responsiveness of BookZilla.

2.5 Assumptions and Dependencies

2.5.1 Dependencies

- Dependencies related to searching for books include author, genre, themes, description, etc.
- Google Books API is a dependency since the operation of BookZilla is reliant on the API.
- BookZilla is also dependent on Android operating systems since BookZilla is designed to operate on Android smartphones.

2.5.2 Assumptions

- The user must download the application onto their respective android device in order to use the BookZilla application.
- The user is familiar with operating an android device.
- The android device in which BookZilla is to be deployed on is in working condition.

2.6 Apportioning of Requirements

- The ability of the user to create an account can be developed in version 2.0 or later.
- The ability of the user to store previous searches can be available in version 2.0 or later. The ability to export search history will follow from the ability to create an account on BookZilla.
- BookZilla version 1.0 will be available only in English. Languages other than English may be available in later versions.

3 Functional Requirements

BE1. User desires to **search for a book**

VP1.1 User

i. User must be able to define Genre of the book in mind.
ii. User must be able to define theme of the book in mind.
iii. User must be able to define Author or Description of the book in mind.

BE2. Application outputs answer

VP2.1 User

i. Must be able to look through the outputted by the system
ii. Must be able to see information about each book in the list such as Title, author, and description or syno

User wishes to get **book recommendations** based on author/genre/theme/publisher

VP1.1 User

(a) User must be able to define some viable properties of the book in mind.
- Author
- Genre
- Theme
- publisher
- era

(b) BookZilla must output a list of books that match the criteria of the user's input.

4 Non-Functional Requirements

4.1 Look and Feel Requirements

4.1.1 Appearance Requirements

LF1. The user-interface (**UI**) must be intuitive.

LF2. The UI must be minimal.

LF3. The UI must not appear cluttered.

4.1.2 Style Requirements

LF1. The UI must be modern.

LF2. The UI must be professional.

LF3. **UI elements** must be grouped based on what product function they serve.

4.2 Usability and Humanity Requirements

4.2.1 Ease of Use Requirements

UH1. Every product function must not be more than 3 clicks away from the home screen.

UH2. The text on screen must be large enough to be easily read.

UH3. The UI elements must be large enough to be easily used.

UH4. The UI must only use standard UI elements such as text-boxes, buttons.

UH5. The UI must provide visual cues as to which UI elements belong to the same product function. For an example, a text-box and a button that are part of the same product function are grouped together and placed next to each other.

4.2.2 Personalization and Internationalization Requirements

N/A

4.2.3 Learning Requirements

UH1. The program must provide a built-in help function. This help function provides the user with short descriptions of product functions and how to use them.

UH2. All UI elements must be paired with a textual label that gives a very short description (one or two words on average) of the the purpose of the corresponding element.

4.2.4 Understandability and Politeness Requirements

N/A

4.2.5 Accessibility Requirements

N/A

4.3 Performance Requirements

4.3.1 Speed and Latency Requirements

PR-SL1. The application must return a list of candidate books within 5 seconds.

PR-SL2. The application must travel from launch to the search page within 2 seconds.

4.3.2 Safety-Critical Requirements

PR-SC1. N/A

4.3.3 Precision or Accuracy Requirements

PR-PA1. When 3 or more parameters are provided the application must provide the correct result with a minimum 65% success rate.

PR-PA2. The application must conclude the correct genre from related search parameters in at least 70% of cases.

4.3.4 Reliability and Availability Requirements

PR-RA1. In the event of an internet interruption, the application must retain the previously inputted information.

PR-RA2. The application shall be available for use at all times, provided a suitable internet connection.

PR-RA3. The Android version in use must support over 65% of all current Android devices.

4.3.5 Robustness or Fault-Tolerance Requirements

PR-FT1. The application must inform the user when connection is interrupted.

PR-FT2. The application must notify the user in the event of an inaccessible API or database.

4.3.6 Capacity Requirements

PR-C1. N/A

4.3.7 Scalability or Extensibility Requirements

PR-SE1. The application must use relative size values on the UI, supporting varying device sizes.

PR-SE2. The application must support concurrent identification requests within the desired response times.

4.3.8 Longevity Requirements

PR-L1. The application shall update all deprecated methods following a new Android version.

4.4 Operational and Environmental Requirements

4.4.1 Expected Physical Environment

OE-EPE1. The product shall be used in environments where there is an internet connection for mobile devices.

OE-EPE2. The user is expected to be in a environment where they can access their mobile devices safely.

4.4.2 Requirements for Interfacing with Adjacent Systems

OE-IAS1. NA

4.4.3 Productization Requirements

OE-P1. N/A

4.4.4 Release Requirements

OE-R1. The product shall be released free of any major-function related bugs.

OE-R2. The product shall be available for all Android based devices after Android 5.0.

4.5 Maintainability and Support Requirements

4.5.1 Maintenance Requirements

MS-M1. The project shall be maintained regularly as updates appear for used APIs.

4.5.2 Supportability Requirements

MS-S1. The product shall be accessible from any Android device running Android 5.0 or greater.

4.5.3 Adaptability Requirements

MS-A1. The product should be easily modifiable in the event that new features need to be added.

4.6 Security Requirements

4.6.1 Access Requirements

SR-A1. Users must not be able to access to API keys used in the product.

4.6.2 Integrity Requirements

SR-I1. N/A

4.6.3 Privacy Requirements

SR-P1. User data will not be retained or collected.

SR-P2. The application shall not allow unauthorized users or programs to access any stored data.

4.6.4 Audit Requirements

SR-AU1. N/A

4.6.5 Immunity Requirements

SR-I1. N/A

4.7 Cultural and Political Requirements

4.7.1 Cultural Requirements

CP-C1. The product shall use American spelling.

4.7.2 Political Requirements

CP-P1. The application must not be offensive in it's selection of search results unless the context of the search can be explicitly deemed as offensive, in which case it will display the requested content.

CP-P2. The application shall only display content related to the context of the search properties provided by the user.

4.8 Legal Requirements

4.8.1 Compliance Requirements

LR-C1. Bookzilla must adhere to the guidelines laid out in the Google Books API terms of service.

4.8.2 Standards Requirements

LR-S1. N/A

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Member	Contributions
Daniel	Sections 2.1, 2.2, 4.4, 4.5, 4.6, 4.7, 4.8
Razan	Sections 2.5, 2.6, 3
Sachin	Sections 2.3, 2.4, 4.1, 4.2
Michael	Sections 1.3, 1.4, 1.5, 4.3
Mohamed	Sections 1.1, 1.2, 3

Table 2: Contributions