**PRICE SPY**

Software Requirements Specification

1.3

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Submitted in partial fulfilment

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# **Revision History**

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| **Date** | **Description** | **Author** | **Comments** |
| 12/05/2023 | 1.0 | Ganga Mogaparthi | Added 1st and 2nd module |
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# **Document Approval**

The following Software Requirements Specification has been accepted and approved by the following:

|  |  |  |  |
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| Ganga | Ganga Mogaparthi | PS | 12/06/2023 |
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**Table of Contents**

**Table of Contents Page Number**

1. Introduction 4
   1. Purpose 4
   2. Scope 4
   3. Definitions, Acronyms, and Abbreviations 5
   4. References 5
   5. Overview 5
2. General Description 6
   1. Product Perspective 6
   2. Product Functions 6
   3. User Characteristics 6
   4. General Constraints 6
   5. Assumptions and Dependencies 7
3. Specific Requirements 7
   1. Functional Requirements 7
   2. Non-Functional Requirements 7

4.Functionalities 8

4.1.Web Scraping 8

4.2.Comparison Logic 8

4.3.AWS S3 8

4.4. iOS Application 8

4.5.Protopie 8

5.Snapshots 9

**Introduction**

Introducing our revolutionary solution to the ever-changing landscape of online shopping – the Price Spy! In a world where prices fluctuate across platforms and change dynamically, hunting for the best deals can be a challenging and time-consuming task. We understand the struggle of trying to snag a fantastic deal in a short period, and that's why we've developed an innovative IOS Application to simplify and streamline your shopping experience.

Our app is designed to be your go-to companion in the quest for unbeatable bargains. We have curated a seamless platform that scours various online sites, bringing you the most competitive prices for your desired products. No more wasting time navigating through multiple websites or tirelessly comparing prices – Price Spy does the heavy lifting for you.

With a user-friendly interface, our application allows you to effortlessly search for specific products and instantly reveals the lowest prices available. What sets us apart is our commitment to transparency – we not only showcase the product with the most budget-friendly tag but also provide information about the site where you can make your purchase.

Say goodbye to the frustration of missing out on incredible deals and welcome a new era of stress-free and budget-conscious shopping. Price Spy is not just an app; it's your smart shopping companion, making sure you never pay more than you must for the products you love.

**1.1 Purpose:**

The purpose of the app described in the introduction is to address the challenges associated with online shopping, specifically the fluctuating prices and the difficulty in quickly finding the best deals.

**1.2 Scope:**

The scope of Price Spy includes the following key features.

* The project involves the creation of a mobile application specifically designed for iOS devices, emphasizing a seamless and user-friendly interface.
* The app requires a robust backend system or price comparison engine that dynamically searches and analyzes prices across multiple online platforms in real time.
* The app needs to integrate with various e-commerce platforms and aggregate product data, including prices, product descriptions, and availability, to provide comprehensive and accurate information.
* The app should offer robust search functionality, allowing users to easily find specific products, and filtering options to refine search results based on criteria such as price range, brand, or reviews.

**1.3 Definitions, Acronyms, and Abbreviations:**

**Definitions:**

* **Protopie:** It is a prototyping tool used for creating interactive and high-fidelity prototypes.
* **AWS S3:** Amazon Simple Storage Service (Amazon S3) is a scalable and highly durable cloud storage service provided by Amazon Web Services (AWS).

**Acronyms:**

* **PS:** Price Spy

**1.4 References:**

iOS Mobile Application Development, [Industry Standards Committee]

Usage of S3, [Amazon Web Services]

Python Script Development, [Python Coding Standards]

**1.5 Overview:**

Prices vary from point to point and from time to time. The hectic thing is finding a damn cheap deal in a short period. We have come up with a solution by creating an IOS Application that brings the best deals on products from different sites. It displays the product of a specific search with a low price and the site in which it is available.

**2. General Description**

**2.1 Product Perspective:**

In a fast-paced world where prices fluctuate dynamically across various online platforms, finding the best deals on products within a short timeframe can be a daunting task. Recognizing this challenge, we present Price Spy, an innovative iOS Application designed to revolutionize the way users discover and seize budget-friendly opportunities in the online shopping landscape.

**2.2 Product Functions:**

* **Real-Time Tracking:** Price Spy employs a sophisticated price tracking mechanism that operates in real-time. Users can rest assured that the displayed prices are always up to date, allowing them to make well-informed purchase decisions.
* **User-Friendly Interface:** The application boasts an intuitive and user-friendly interface, ensuring a seamless and enjoyable experience for users of all levels of tech proficiency. Shopping for the best deals has never been this straightforward.
* **Transparent Information Display:** Transparency is paramount. Price Spy not only highlights the products with the lowest prices but also provides detailed information about the respective sites where these deals can be found. Users can trust the app to deliver accurate and reliable data.

**2.3 User Characteristics**

* **Tech-Savy Shoppers:** Users who are comfortable with using mobile applications and are tech-savvy enough to navigate through various features and settings.
* **Budget-Conscious Consumers:** Users who are mindful of their budget and are actively seeking ways to save money on their purchases by capitalizing on discounts, promotions, and low prices.
* **Deal Hunters:** Enthusiastic deal hunters who enjoy the thrill of finding the best discounts and bargains. These users actively engage in the pursuit of cost-effective deals on a wide range of products.

**2.4 General Constraints**

* **Platform Dependency:** Price Spy is specifically designed for iOS devices, which limits its accessibility to users of Apple products. Compatibility issues may arise for individuals using non-iOS devices.
* **Internet Connectivity:** The application relies on a continuous and stable Internet connection to fetch real-time data, prices, and updates. Users in areas with poor connectivity may experience limitations in functionality.
* **Third-Party Integration Challenges:** Integration with various third-party e-commerce platforms and websites might face challenges due to changes in their APIs, policies, or technical constraints. This could impact the accuracy and reliability of data retrieval.

**2.5 Assumptions and Dependencies**

* **API Availability and Stability:** Price Spy assumes that the APIs provided by various e-commerce platforms for data retrieval remain available, stable, and consistent. Any changes or disruptions in these APIs could impact the app's ability to fetch accurate and timely data.
* **User Internet Connectivity:** The application assumes that users have access to a stable internet connection while using Price Spy. The effectiveness of real-time data updates, notifications, and overall functionality relies on a reliable internet connection.
* **External E-commerce Platforms:** Price Spy is dependent on the availability and cooperation of external e-commerce platforms. Any changes to their policies, APIs, or partnerships may affect the app's ability to aggregate deals from these platforms.

**3. Specific Requirements**

**3.1 Functional Requirements:**

* Python
* AWS S3
* SWIFT
* API
* GitHub

**3.2 Non-Functional Requirements:**

* iOS Developer Access
* AWS account

**4. Functionalities**

**4.1 Web Scraping:** Web scraping is an automatic method to obtain large amounts of data from websites. Most of this data is unstructured data in an HTML format which is then converted into structured data in a spreadsheet or a database so that it can be used in various applications. We are using a Python module called **‘Beautiful Soup’**. We will be scraping data from different E-Commerce websites such as Amazon, Walmart, etc., Refer to **Figure: 1**

**4.2 Comparison Logic:** Using Python, we are comparing data obtained from web scraping based on price, review, rating, etc., We will be storing the output in a separate Excel sheet. Refer to **Figure: 2**

**4.3 AWS S3:** The output file from the comparison logic is stored in AWS S3.

**4.4 iOS Application:** We are using Swift Storyboard to develop our iOS application to display the product details. We are including features like filter, sorting, search, login page, adding to cart, etc., Refer to **Figure: 3**

**4.5 Protopie:** It is a prototyping tool used for creating interactive and high-fidelity prototypes. Prototypes are essential in the design and development process as they allow designers and developers to visualize and test the user experience before the actual implementation of a product. Refer to the prototype([protopie](https://cloud.protopie.io/p/c0d7ccf15bfbfee8363e4ec3)).

**5. Snapshots:**

A screen shot of a computer

Description automatically generated

**Figure: 1**

A screen shot of a computer

Description automatically generated

**Figure: 2**

A cell phone with a green screen

Description automatically generated

**Figure: 3**