



Requirements Specification

Virtual Shopping Assistant

JAKMAN Solutions

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Requirements Specifications

Requirement Gathering and Justification

For the design and building of this system the methodology used is the Agile methodology [6]. This methodology focuses on continuous interaction with the stakeholders throughout the duration of the project to gather its major requirements. The design of the system grouped these requirements into the functional requirements and non-functional requirements. The interactions were in the form surveys conducted between the stakeholders. Based on the insights obtained from the specification elicitation, the team was able to assess the essential requirements for the systems.

In developing the system requirements, the team conducted a survey to get end users' insights into their view of using coupons in online shopping. The survey got a total of 32 responses. The survey targeted questions specific to the user's shopping journey. From the results, 30 out of the 32 respondents had previously shopped online, 1 was an online store owner/ retailer and the other one respondent specified they belonged to the "other" category. Respondents were asked to specify their most used web browser. When asked, 47% (15 respondents) said they used Chrome, 28% (9 respondents) said they used Microsoft Edge and the remaining used either Safari or other browsers such as Brave. When respondents were asked how likely they are to use coupons or discounts when shopping, 44% (14 respondents) said they were "very likely", 34% (11 respondents) said they are "likely", 9% (6 respondents) said they are "neutral", and 3% (1 respondent) said they are "unlikely." Aside from that, the survey asked about the most exciting features of the Jakman Assist system, and users highly expressed interest in the predictive coupon prediction using AI (36%). The next rated feature was real-time price monitoring (33%), followed by coupon scraping (26%), and then 5% of the respondents expressed interest in none

of the features. Lastly, the survey inquired from users about additional functionalities they would like to have in the system and a majority of users were satisfied with the current system features, while a minority were indifferent. Other personal interactions with potential end users highlighted the convenience the system would provide to them as a browser extension as they usually shop online via web browsers.

System Requirements

The system needed to be designed with a focus on user-friendliness and seamless integration into their current web browser environment. Based on this as well as the results from requirements gathering process, these were the requirements for the system. The set of functional and non-functional requirements is provided below.

Functional and Non-Functional Requirements

[FR001] - The UI subsystem must allow users to pin items that they are looking for a price reduction on

[FR002] - The UI subsystem can show available and predicted coupon codes on products.

[FR003] - The UI subsystem can show price drops on previously pinned products selected for price reduction tracking.

[FR004] - The price tracking subsystem shall track prices of products pinned by the user.

[FR005] - The web scraping subsystem can pool coupons from various sources that are relevant to the product category/ specific product.

[FR006] - The AI coupon prediction subsystem can generate coupon codes related to the product category/ specific product.

[FR007] - The alert subsystem can process results from the couponing subsystems and submit the results to the UI subsystem.

Non-Functional Requirements

[NFR001] – The system should offer a user-friendly interface and straightforward navigation, ensuring that users can quickly become acquainted with it and grasp its operation effortlessly.

[NFR002] – The system should have high availability.

[NFR002] - The system must ensure data integrity.

[NFR003] – The system must ensure optimization and efficiency for its background processes.

User identification

1. End users who use online shopping platforms via a web browser
2. Retailers and affiliate partners looking to promote their businesses through coupon dispensary.