**Project Synopsis**

***on***

**Siftly**

***In partial fulfillment of requirements for the degree***

***of***

**BACHELOR OF TECHNOLOGY**

**IN**

**COMPUTER SCIENCE & ENGINEERING**

***Submitted by:***

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***Under the guidance of***

PROF. Virendra Dani

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**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

**SHRI VAISHNAV INSTITUTE OF INFORMATION TECHNOLOGY**

**SHRI VAISHNAV VIDYAPEETH VISHWAVIDYALAYA, INDORE**

**JUL-DEC-2024**

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Abstract

Siftly is a site comparison engine designed to address the complexities consumers face when searching for the best product deals across various online platforms. In today’s market, users often struggle with evaluating prizes due to their varied types, values, and terms, leading to confusion and poor decision-making. Additionally, the lack of transparency in how information on prizes and offers is presented further complicates the process. Siftly aims to solve these issues by aggregating data from multiple sources, including major platforms like Amazon, Flipkart, and lesser- lesser-known and emerging brands. This comprehensive data collection provides users with a detailed overview of product availability, pricing, and ongoing offers.

The engine simplifies decision-making by offering clear, unbiased comparisons and personalizing results based on individual user preferences, such as such as prioritizing both cost efficiency and quality. To prevent information overload, Siftly narrows down choices by filtering and ranking the most relevant options for the user. Moreover, Siftly includes a unique feature that tracks and visualizes the history of product prices over time, allowing users to make more informed decisions by understanding pricing trends.

By giving exposure to smaller brands and platforms, Siftly also democratizes the marketplace, making it easier for users to discover new options outside the dominant players like Amazon and Flipkart. This not only benefits consumers but also supports smaller businesses in gaining visibility. Ultimately, Siftly offers a solution that enhances transparency, reduces complexity, and empowers users to make better purchasing decisions in an increasingly cluttered online marketplace.

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## Introduction of the Project

In today’s e-commerce landscape, consumers face significant challenges when attempting to compare products across various online platforms. This often leads to confusion, missed opportunities for better deals, and an overwhelming reliance on major platforms like Amazon and Flipkart, while potentially better options remain undiscovered. The absence of a transparent and centralized system for comparing products and offers exacerbates this issue, making it difficult for consumers to make informed purchasing decisions. Existing research in the e-commerce domain underscores the critical need for tools that can simplify the comparison process, enhance transparency, and reduce the cognitive load on consumers.

Siftly is designed to address these challenges by aggregating and presenting data from a wide array of platforms, including both prominent and emerging ones, in a clear, organized, and user-friendly manner. This site comparison engine simplifies the shopping process by offering personalized filters, transparent comparisons, and insights into price trends over time. By employing advanced data aggregation techniques and machine learning algorithms, Siftly tailors the user experience, ensuring that the most relevant and high-quality brands and services are suggested based on consumer preferences, such as prioritizing price, quality, or a combination of both.

Through its focus on transparency, usability, and inclusivity, Siftly empowers consumers to navigate the complexities of online shopping with greater confidence and efficiency. This innovative approach not only enhances consumer choice but also contributes to the broader discourse on improving decision-making processes within the e-commerce landscape, ensuring that consumers are equipped with the best tools to find the most suitable products.

## Problem Domain

In the e-commerce landscape, consumers face significant challenges in evaluating prizes across various platforms:

* **Complexity in Prize Evaluation:** The wide variety of prizes, each with distinct values, terms, and types, overwhelms users during decision-making.
* **Lack of Transparency:** Information about prizes and offers is often scattered, leading to confusion and uncertainty.
* **Diverse User Preferences:** Consumers have unique preferences—some prioritize cost savings, while others focus on product quality.
* **Information Overload:** The sheer volume of available options makes it challenging for users to selectively visit and make informed decisions.
* **Prize Fluctuation:** Different prizes and offers at different times significantly impact decision-making.
* **Platform Bias:** Major platforms like Amazon and Flipkart often dominate search results, leading users to miss out on potentially better deals from smaller or lesser-known platforms.
* **Decision Fatigue:** The complexity and variety of choices can lead to decision fatigue, where users either make suboptimal choices or abandon the decision process altogether.

## Solution Domain

Siftly addresses the challenges in the e-commerce landscape with a multi-faceted approach designed to simplify decision-making and enhance user experience:

**Aggregating Data:**  
Siftly meticulously collects and organizes prize information from a diverse array of sources, including major platforms like Amazon and Flipkart, as well as lesser-known and emerging sites. This centralized data hub enables users to access comprehensive prize details from a single platform, streamlining the comparison process and facilitating better-informed choices. The aggregation process involves scraping data from various sources, normalizing it for consistency, and storing it in a structured database to ensure accuracy and reliability.

**Transparency and Unbiased Comparisons:**  
Siftly is committed to providing clear, unbiased comparisons of prizes, whether they are cash rewards, discounts, or product features. By utilizing advanced algorithms to ensure transparency, the platform allows users to easily compare different options based on their specific criteria. This unbiased approach helps users make confident decisions without being influenced by platform biases or incomplete information.

**Personalization:**  
Understanding that consumer preferences vary widely, Siftly employs sophisticated filtering and ranking algorithms to tailor prize recommendations to individual preferences. Whether users prioritize cost savings, product quality, or a balance of both, Siftly adjusts the search results to match these criteria. The personalization engine leverages user data and behavior to refine recommendations and improve the relevance of results.

**Reducing Information Overload:**  
To combat information overload, Siftly uses data curation techniques to filter and present only the most relevant options. The platform employs machine learning models to analyze user preferences and past behavior, narrowing down choices to avoid overwhelming users with excessive data. This approach ensures that users receive a manageable list of options that meet their needs.

**Prize History Graphs:**  
Siftly provides historical data on prize fluctuations over time through intuitive graphs. This feature allows users to track price trends and assess whether they are getting the best deal. By visualizing historical data, users can make informed decisions based on past pricing patterns and current offers.

## Application Domain

**Integrated Prize Comparison Engine (PCE):** Siftly centralizes product information from various e-commerce platforms, such as Adidas, Nike, and Puma, simplifying prize comparison for users.

**Real-Time Data Aggregation:** Provides up-to-date information on offers and prizes from multiple sources, ensuring accurate and current details.

**Personalized Recommendations:** Tailors suggestions based on individual user preferences and browsing history to enhance decision-making.

**Notifications and Alerts:** Sends updates about significant prize changes and new offers to keep users informed.

**Historical Data and Trends:** Offers insights into price fluctuations over time through historical data and trend analysis, aiding in more informed purchasing decisions.

**Enhanced Transparency and Reduced Information Overload:** Improves the overall shopping experience by making comparisons clearer and managing data efficiently to help users discover the best deals more effectively.

**System Domain**

The development of "Siftly," a prize comparison engine, involves a structured methodology to ensure effective execution:

1. **Requirement Analysis:** Engage with users and e-commerce managers to define key features and system requirements, documenting user stories and use cases.
2. **System Design:** Establish the system architecture, including data aggregation methods and database structure. Develop UI wireframes and mock-ups to enhance user experience, and design the database schema for storing product and user data.
3. **Development:** Implement the comparison engine, focusing on user interfaces, real-time data integration, and recommendation algorithms.
4. **Testing:** Perform unit, integration, and user acceptance testing to address bugs and ensure performance and data accuracy.
5. **Documentation:** Prepare comprehensive user manuals, system documentation, and API references for maintenance and scalability.

**Tools and Technologies:**

* **Programming Languages:** JavaScript (React.js), Python for data aggregation.
* **Database:** PostgreSQL or MongoDB for structured and unstructured data.
* **Frameworks:** Bootstrap for UI design, SpringBoot for backend development.
* **Hosting and Infrastructure:** AWS or Azure for cloud hosting and scalability.

### Expected Outcome

Comprehensive Prize Comparison: Provides a centralized platform for users to compare prizes, offers, and product details from multiple e-commerce sites, enabling well-informed decisions.

Enhanced Transparency and User Experience: Improves transparency and simplifies prize evaluation through real-time updates, a user-friendly interface, and advanced filtering options.

Data-Driven Insights: Allows users to track and analyze historical data and trends of prizes, enhancing decision-making with graphical representations.

Feature Enhancements: Plans to incorporate advanced analytics and additional data sources based on user feedback.

Integration with Other Platforms: Expands data scope by integrating with more e-commerce platforms and services.

User Experience Improvements: Continuously refines the system to maintain an intuitive, efficient, and valuable user experience.

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