(Autonomous)

Product Price Comparison Website using Web Scraping .

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Introduction

PURPOSE :

The purpose of this document is to present a detailed description of the Product price comparison System. It will explain the purpose and features of the system, the interfaces of the system, what the system will do, the constraints under which it must operate and how the system will react to external stimuli

PROJECT SCOPE :

First user has to create an account on our website.After logging in he can type the product in the search bar provided to get a list of websites where he can buy the product at affordable prices.

This project is to build a system that will collect the prices of a product from different eCommerce websites and prepare a list of them and then perform some data analysis regarding affordable prices.This system will show you the product prices from different retailers to show you where to buy the product at an affordable price.

Using web scraping we collect the data from websites and store them in a database.The data stored should be analyzed and the best websites must be displayed to the user.

It is important for a web comparison website to return results with the low prices as what the customers want but accurate results are also important so that customers can get what they really want. It also depends on how regular the database is being updated otherwise customers will be confused when they compare it from other sites.

OVERALL DESCRIPTION

PRODUCT PERSPECTIVE:

The Database stores the following information:
Customer description:
It includes customer username,password, name,phone number and email. This information may be used for keeping the records of the customer for verifying user credentials at the time of login.
Product description:
It includes the name of the product and cost of the product in different websites along with their URLs.

PRODUCT FUNCTION:

After a user login into the website he/she can search the product in the search bar provided.User will be displayed with different website urls along with price of that product in a certain website. Users can also create a list and store it in their account and can buy products in future .
User will be redirected to particular website he/she chooses just by clicking at the link provided

USER CHARACTERISTICS:

Users of the system should be able to product price structure and url of the website from the database.User just have to remember his account credentials and does not need any technical knowledge to use the website. Our website will provide a user friendly experience to customers.

OPERATING ENVIRONMENT

Operating environment for the Product price comparision system is as listed below.
- client/server system
- Operating system: Windows.
- database: mysql database
- Platform : using HTML,CSS and Python

DESIGN and IMPLEMENTATION CONSTRAINTS:

1. SQL commands for retrieving and storing data
2. The system should be safe and secure from hacking or data breaches.
3. System must be user friendly and users should also be provided with the feature to save the links for further use.
4. Web scraping tool to extract data from websites and store them in database
5. Python modules to analyze the data and framework to link the web application to the database.

SOFTWARE REQUIREMENTS:

S.NO	Software	System Requirement
1	Languages	HTML,CSS,Python
2	Database	Mysql

HARDWARE REQUIREMENTS:

Operating System: Windows/Linux
Web browser
Processor: Intel dual core or above
RAM: 2 GB or above

EXTERNAL INTERFACE REQUIREMENTS:

USER INTERFACES

- Front-end : HTML,CSS
- Back-end software: Mysql

HARDWARE INTERFACES

- Windows.
- A browser which supports CSS, HTML & Javascript.

SOFTWARE INTERFACES:
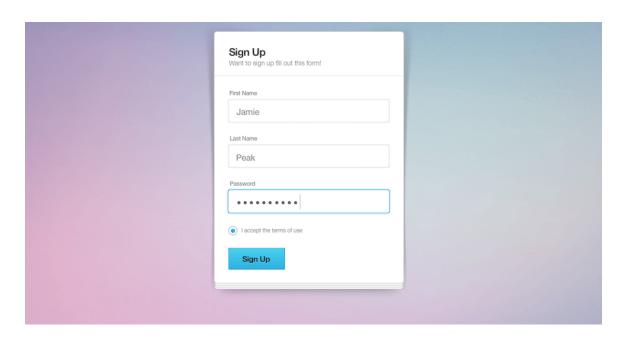
Following are the software used :

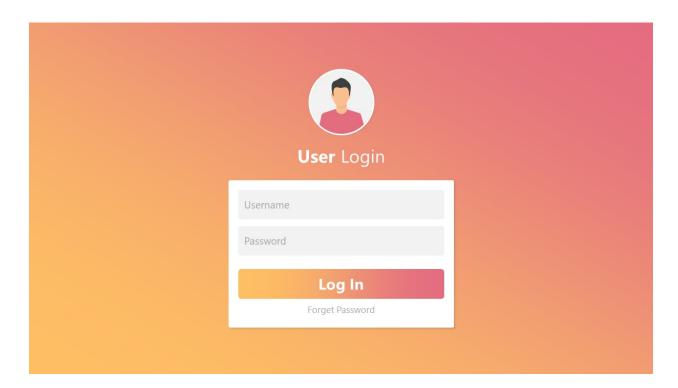| Software used	Description
Operating system	We have chosen the Windows operating system for its best support and user-friendliness.
Database	To save the flight records, passengers records we have chosen MySQL database.
Python and Django	To implement the project we have chosen python language and Django for its more interactive support.

COMMUNICATION INTERFACES

This project supports all types of web browsers.

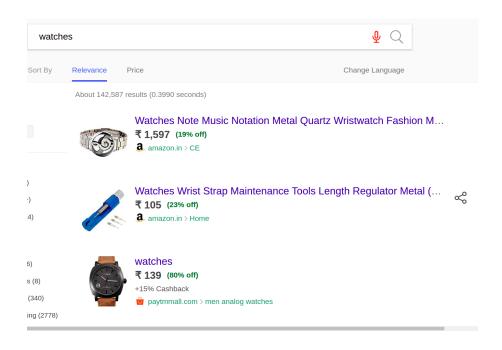*Expected User Interfaces:*

Registration Page:

Login Page:

Search Bar:

Final Websites information for a particular search:

SPECIFIC REQUIREMENTS:

FUNCTIONAL REQUIREMENTS:

A Functional Requirement defines the function of a system or its components.

Create an Account:

Users have to create an account using valid credentials like username,password,email,mobile number etc.

Login :

Using Username and password user can login to the system/website

Search for the product:

In the provided search bar users have to enter the name of the product he/she wishes to buy.

Save the product:

User can save the details of the product ,so that he can buy it in future .He can organize his saved list.

Redirecting to certain website:

Users can click on the link of the website for a certain product , he/he will be redirected to the website . Users can buy or just see the product features and return back to visit other websites.

NON-FUNCTIONAL REQUIREMENTS:

Non-Functional Requirements are the constraints or the requirements imposed on the system. They specify the quality attribute of the software. Non-Functional Requirements deal with issues like scalability, maintainability, performance, portability, security, reliability, and many more. Non-Functional Requirements address vital issues of quality for software systems.

SAFETY :

If there is extensive damage to a wide portion of the database due to catastrophic failure, such as a disk crash, the recovery method restores a past copy of the database that was backed up to archival storage (typically tape) and reconstructs a more current state by reapplying or redoing the operations of committed transactions from the backed up log, up to the time of failure.

SECURITY :

Security comes with utmost importance.User details must be carefully stored and greater security methods must be used while storing username and password of a user.Once data gets breached hackers might misuse email ID,Phone number of users.

MAINTAINABILITY:

The database must be regularly updated otherwise customers will be confused when they compare it from other sites.Thriving the website maintenance from the initial development means cutting the time & cost to determine and resolve the faults of the system in the future.

PERFORMANCE:

The focus should be on loading the system as fast as possible regardless of the number of integrations and traffic on your website.User should not get hesitated while using our website.Website must be responsive and fast.

SCALABILITY:

It will define how the website can grow and increase its features and functionality without impacting the performance of your website.
We want to further extract data from a large number of websites and organize them.We also wish to add features like showing which E-Commerce platform will be providing greater discounts or offers at festive seasons and current trending searches.

PORTABILITY:

As it is a web application,System runs on any Operating System with browser support.

SOFTWARE QUALITY ATTRIBUTES

- *AVAILABILITY*: The Website must be available 24/7,Users can wish to use the website at any time.
- *CORRECTNESS:* The details of the product must be authentic and accurate. No False information can be provided
- *USABILITY:* User should easily understand how to use the website

UML Diagrams:

Sample UML Diagram showing Online E-Commerce Shopping: