E-COMMERCE WEBSITE WITH REVIEW RATING HANDLING

A Main Project Report

submitted by

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in partial fulfillment of the requirements for the award of the Degree

of

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DECLARATION

I undersigned hereby declare that the project report **E-COMMERCE WEBSITE WITH REVIEW RATING HANDLING**, submitted for partial fulfillment of the requirements for the award of degree of Master of Computer Applications the APJ Abdul Kalam Technological University, Kerala, is a bonafide work done by me under supervision of Dr. Geevar C Zacharias, Assistant Professor, Department of Computer Applications. This submission represents my ideas in my own words and where ideas or words of others have been included, I have adequately and accurately cited and referenced the original sources. I also declare that I have adhered to ethics of academic honesty and integrity and have not misrepresented or fabricated any data or idea or fact or source in my submission. I understand that any violation of the above will be a cause for disciplinary action by the institute and/or the University and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been obtained. This report has not been previously formed the basis for the award of any degree, diploma or similar title of any other University.

Place:KUTTIPPURAM

IJAS AHAMMED M(MES20MCA-2021)

Date: 06-07-2022

DEPARTMENT OF COMPUTER APPLICATIONS
MES COLLEGE OF ENGINEERING, KUTTIPPURAM

CERTIFICATE

This is to certify that the report entitled **E-COMMERCE WEBSITE WITH REVIEW RATING HANDLING** is a bona fide record of the Mini Project work carried out by **IJAS AHAMMED M(MES20MCA-2021)** submitted to the APJ Abdul Kalam Technological University, in partial fulfillment of the requirements for the award of the Master of Computer Applications, under my guidance and supervision. This report in any form has not been submitted to any other University or Institution for any purpose.

Internal Supervisor(s) External Supervisor(s)

Head Of The Department

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Abstract

This system is a web application where user will view various products and purchase products online and can give review about the merchandise and online shopping services.The System takes review of various users, based on the review, system will specify whether the products and services provided by the E-commerce enterprise is good, bad, or worst. Registered shops can add product and show their offers . This system will help many E-commerce enterprises to improve or maintain their services based on the customer review as well as to improve the merchandise based on the customer review.The user can see the product category base, for example by searching for furniture all the furniture in the database is displayed. Product search is done by voice search. You can see it in text form and see the product list.

Keywords:E-commerce Website ,Online Shopping, Rating System,Speech to text

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Chapter 1

Introduction

1.1 Background

E-commerce (electronic commerce or EC) is the buying and selling of goods and services, over an electronic network, primarily the internet. These business transactions occur either as business-to-business, business-to-consumer, consumer-to-consumer or consumer-to-business. E-commerce shops have become part of our daily lives. Technological advancement has made it possible for people to sit in the convenience of their homes and still shop online

There are many users who purchase products through E-commerce websites. Through online shopping many E-commerce enterprises were unable to know whether the customers are satisfied by the services provided by the firm. This boosts us to develop a system where various customers give reviews about the product and online shopping services, which in turn help the E-commerce enterprises and manufacturers to get customer opinion to improve service and merchandise through customer reviews. An algorithm could be used to track and manage customer reviews, through mining topics and sentiment orientation from online customer reviews. In this system user will view various products and can purchase products online. Customer gives review about the merchandise and online shopping services. Certain keywords mentioned in the customer review will be mined and will be matched with the keywords which are already exist in the database based on the comparison, system will rate the product and services provided by the enterprise. This system will use text mining algorithm in order to mine keywords.

The System takes review of various users, based on the review, system will specify whether the products and services provided by the E-commerce enterprise is good, bad, or worst. We use a database of sentiment based keywords along with positivity or negativity weight in database and then based on these sentiment keywords mined in user review is ranked. This system is a web application where user will view various products and purchase products online and can give review about the merchandise and online shopping services. This system will help many E-commerce enterprises to improve or maintain their services based on the customer review as well as to improve the merchandise based on the customer review.

The user can see the product category base, for example by searching for furniture all the furniture in the database is displayed. Product search is done by voice search. You can see it in text form and see the product list.

1.1.1 Motivation

Persuasive strategies are used to influence the behavior or attitude of people without coercion and are commonly used in online systems such as e-commerce systems. However, in order to make persuasive strategies more effective, research suggests that they should be tailored to groups of similar individuals. Research in the traits that are effective in tailoring or personalizing persuasive strategies is an ongoing research area. In the present study, we propose the use of shoppers' online shopping motivation in tailoring six commonly used influence strategies: scarcity, authority, consensus, liking, reciprocity, and commitment. We aim to identify how these influence strategies can be tailored or personalized to e-commerce shoppers based on the online consumers' motivation when shopping.

The result of our structural model suggests that persuasive strategies can influence e-commerce shoppers in various ways depending on the shopping motivation of the shopper. Balanced buyers—the shoppers who typically plan their shopping ahead and are influenced by the desire to search for information online—have the strongest influence on commitment strategy and have insignificant effects on the other strategies. Convenience shoppers—those motivated to shop online because of convenience—have the strongest influence on scarcity, while store-oriented shoppers—those who are motivated by the need for social interaction and immediate possession of goods—have the strongest influence on consensus. Variety seekers—consumers who are motivated to shop online because of the opportunity to search through a variety of products and brands, on the other hand, have the strongest influence on authority.

1.2 Objective

- System will take review of the customer about the merchandise and online shopping service and will rate the merchandise and online shopping services.
- The system takes review of various users, based on the review; system will specify whether the products and services provided by the E-Commerce enterprise are good, bad or worst.
- System use text based analysis along with positivity or negativity weight in database and then based on these sentiment keywords mined in customer review, product and services provided by the E-commerce enterprise is ranked.
- This system will help many E-commerce enterprises to know about their customers.
- Text data mining used in this system to derive high quality information from text. High-quality information is typically derived through the devising of patterns and trends.
- This system scans a set of text written in natural language.
- The system will use Web-Speech recognition in JavaScript.JavaScript provides us with methods to enable speech recognition with web speech API

1.3 Report Organization

The project report is divided into Five sections. Section 2 describes the Literature Survey that is the iterative process, assessing and distilling information . Section 3 describes the methodology used for implementing the project. In methodology, workflow of the project, and sprints details are described. Section 4 describes the result and Discussions, Finally Section 5 gives the conclusion.

Chapter 2

Literature Survey

A massive internet penetration has added to growth of E-commerce. Internet and smart phones are becoming an integral part of every life. Internet is no more a source of information but has become an important tool for shopping, learning, communicating and even getting service from plumbers, carpenters, doctors etc. Supply chain is also becoming leaner and smarter as digital platforms are helping to better connect with the customers which significantly reduces the waste and supporting to green businesses.

Over the past 15 years the ICT revolution has driven global development in an unprecedented way. With an immense progress in technology, internet and its services have led to creation of new markets (D'silva et al., 2010). The internet user population was small during the 1980s, experiencing a slow but steady growth until 1994 due to an increasing number of text-based users (eg, those using email and file transfer functions).Then, with the introduction of the World Wide Web and subsequent multimedia content expansion, the number of net users exploded. Infact, the internet has grown much more quickly than any other medium in history (Strauss et al., 2007). The International Telecommunication Union (ITU), a United Nations body, recently predicted in 2015 that 3.2 billion people will be online.

The population in May 2015 stood at 7.2 billion. In the year 2000 there were just 400 million internet users worldwide. Internet in India took more than a decade to move from 10 million to 100 million and 3 years from 100 to 200 million, it took only a year to move from 300 to 400 million users. Clearly, Internet is mainstream in India today. This number is expected to further surge to 462 million by June this year as more people come online, especially through their mobile devices. The total Internet user base stood at over 300 million in December 2014, which grew to 375 million by October last year. Currently, India has the second largest Internet user base in the world recently overtaking the US (now the third largest user base). China currently leads with more than 600 million Internet users. Mobile Internet user base in 2015 in urban India has grown 65 per cent over 2014 to reach 197 million, while the rural user base surged 99 per cent to 80 million by October 2015. This is expected to grow to 219 million (urban) and 87 million (rural), respectively (IAMAI and IMRB, 2015).

Most of the research studies done on this topic are narrowly focused on culture and how the cultural factors are influencing e-commerce. The adoption of e-commerce across cultures is very important for countries' economic development (Hofstede, 1980; Hofstede, 1991; Flood, 2014; Kang, 2005; Belkhamza and Wafa, 2014). It is obvious that to compete in the global market, the ecommerce website designers need to consider the influences of the regional and local cultures when designing the e-commerce website (Lin, 2015). This will allow the e-commerce website to reach out to the global consumer community to maximize the revenue for its business.

Australia, the United States, Canada, and the United Kingdom will be some ideal developed countries in which to conduct the research. All of these countries have stateof-the-art technology infrastructures. People of these developed nations are very comfortable with technology and willing to conduct businesses through e-commerce websites (Gould, 2006). Therefore, finding data to analyse for research will be effective.

Chapter 3

Methodology

3.1 Introduction

In this system user will view various products and can purchase products online. Customer gives review about the merchandise and online shopping services. Certain keywords mentioned in the customer review will be mined and will be matched with the keywords which are already exist in the database based on the comparison, system will rate the product and services provided by the enterprise. This system will use text mining algorithm in order to mine keywords. The System takes review of various users, based on the review, system will specify whether the products and services provided by the E-commerce enterprise is good, bad, or worst. We use a database of sentiment based keywords along with positivity or negativity weight in database and then based on these sentiment keywords mined in user review is ranked. This system is a web application where user will view various products and purchase products online and can give review about the merchandise and online shopping services. This system will help many E-commerce enterprises to improve or maintain their services based on the customer review as well as to improve the merchandise based on the customer review.

3.2 Review handling

There is an option in it which customer can write reviews about the product, After receiving reviews from customers it automatically generate its rating . For generating the automatic rating we use Natural Language Processing (NLP) . Natural Language Processing strives to build machines that understand and respond to text or voice data and respond with text or speech of their own in much the same way humans do.

NLP drives computer programs that translate text from one language to another, respond to spoken commands, and summarize large volumes of text rapidly—even in real time. I use Sentimental Analysis functions in existing in NLP for generate rating . Sentiment analysis (or opinion mining) is a natural language processing (NLP) technique used to determine whether data is positive, negative or neutral.

3.3 Web speech recognition

The user can see the product category base, for example by searching for furniture all the furniture in the database is displayed. Product search is done by voice search. You can see it in text form and see the product list.I implement Web-Speech recognition in JavaScript.JavaScript provides us with methods to enable speech recognition with web speech AP This API acts as a controller in the interface for the recognition service, along with an event handler called speechrecognition which fires the event. Declare global variable speechrecognition or the window. This resides in the browser. To make it accessible in chrome also, there is another variable known as webkitspeechrecognition. Declare all of them to a variable and then call it as a constructor of new later on.Then the AJAX is used to communicate with server.Ajax stands for Asynchronous JavaScript and XML. AJAX is a new technique for creating better, faster, and more interactive web applications with the help of XML, HTML, CSS, and java script. Ajax uses XHTML for content, CSS for presentation, along with document object model and JavaScript for dynamic content display. Conventional web applications transmit information to and from the server using synchronous requests

3.4 Review Analysing

3.4.1 Algorithm

```
Step1: Start
Step2: Input Review(k)
Step3: import SentimentIntensityAnalyzer library from nltk package
step4: Set positivity,negativity,neutral = 0
step5: Find polarity scores(k)
Step6: Set rating=2.5
Step7: If Polarity score of neutral> Polarity score of positive and
    Polarity score of neutral >Polarity score of negative then return rating go to step:8
Step8: If Polarity score of negative > Polarity score of positive then go to step:9
    else go to step:11
Step9: Set negvar= 5-(5*Polarity score of negative)
Step10:If negvar > 2.5 then negvar=negvar-2.5 set rating=negvar
Step11:If negvar < 2.5 then negvar=negvar+2.5 set rating=negvar
Step12:Return Rating
step13: Stop
```

3.4.2 Input and Output

The input of the algorithm will be review statement in the form of string. The input may contain key words, special characters and stop words. The input goes through nltk algorithm and output polarity score. The polarity score will contain 3 values - Polarity score of Neutral, Positive and Negative. These 3 values will decide the type of the sentence. By analysing the polarity score we will get a single value that varies from 0 to 5. 0 means very bad and 5 means Excellent.

3.4.3 NLTK sentence handling

This process contain 5 steps

- Step 1 : Tokenization.

  Tokenization is the process of converting text into tokens before transforming it into vectors. It is also easier to filter out unnecessary tokens. For example, a document into paragraphs or sentences into words. In this case we are tokenising the reviews into words

- Step 2 : Cleaning the data.

  Data cleaning in sentiment analysis is the process of removing redundant and incorrect values in data that is meant for analysis.

- Step 3 : Removing Stop Words in sentiment analysis.

  Stop words are the very common words like ’if’, ’but’, ’we’, ’he’, ’she’, and ’they’. We can usually remove these words without changing the semantics of a text and doing so often (but not always) improves the performance of a model.

- Step 4 : Classification.

  Sentiment classification is the automated process of identifying opinions in text and labeling them as positive, negative, or neutral, based on the emotions customers express within them. Using NLP to interpret subjective data, sentiment classification can help you understand how customers feel about your products, services, or brand.

- Step 5 : Calculation

  From polarity scores will be calculated. And a single value will be obtained varies from 0 to 1.

3.4.4 NLTK Sentimental analysis

The ultimate goal of this blog is to predict the sentiment of a given text using python where we use NLTK aka Natural Language Processing Toolkit, a package in python made especially for text-based analysis. So with a few lines of code, we can easily predict whether a sentence o review(used in the blog) is a positive or a negative review.

3.5 Flask - framework

This project is developed using flask framework in python. Flask is a micro web framework written in Python. It is classified as a microframework because it does not require particular tools or libraries. It has no databastraction layer, form validation, or any other components where pre-existing third-party libraries provide common functions. However, Flask supports extensions that can add application features as if they were implemented in Flask itself. Extensions exist for object-relational mappers, form validation, upload handling, various open authentication technologies and several common framework related tools.

3.6 Module

3.6.1 Admin

- Approve shop
- View users
- Block/Unblock users
- View ratings
- View complaints and reply

3.6.2 Users

- Registration
- View products
- Voice Search
- View category base product
- Add reviews
- view offers

- Book products
- Send complaint and view reply
- View booking status
- Send feedback

3.6.3 Shop

- Registration
- Add and manage products
- Add offers
- View rating
- View booking
- Update status
- View feedback
- View complaints and send reply

3.7 Developing environment

- HARDWARE REQUIREMENTS:

  The selection of hardware is very important in the existence and proper working of any software. Then selection hardware, the size and capacity requirements are also important.

  - Processor - intel x86,
  - Speed - 1.1 ghz,
  - RAM – 700 MB (min),

  - Hard disk - 150 MB
  - Key board - standard windows keyboard
  - Mouse - two or three button mouse
  - Monitor - SVG

- SOFTWARE REQUIREMENTS

  One of the most difficult tasks is selecting software for the system, once the system requirements is found out then we have to determine whether a particular software package fits for those system requirements. The application requirement:

  - Operating system - windows 7 or above ,android
  - Frontend - HTML, CSS, JAVASCRIPT
  - Backend – mysql
  - Platform used – pycharm , sqlyog
  - Web browser - google chrome, fire fox, microsoft edge
  - Frame work - flask

3.8 Agile Methodology

The Agile methodology is a way to manage a project by breaking it up into several phases. It involves constant collaboration with stakeholders and continuous improvement at every stage. Once the work begins, teams cycle through a process of planning, executing, and evaluating. Continuous collaboration is vital, both with team members and project stakeholders. The project is divided into 4 sprints

- Sprint1
  - Table design
  - Form design
  - Basic coding
- Sprint2
  - Manage products details
  - Rating management
- Sprint3
  - User history mapping
  - Speech recognition
- Sprint4
  - Testing data
  - Output generation

3.8.1 User Story

A key component of agile software development is putting people first, and user-stories put actual end users at the center of the conversation. Stories use non-technical language to provide components of an agile program. They help provide a user-focused framework for daily work which drives collaboration, creativity, and a better product overall. The user story of system is given in the below table.

UserStoryID	**As a type of user**	**I want to**	**So that I can**
1	Admin	Login	Login successful with correct Username and password
2	Admin	view user	view user
3	Admin	view feedback	view feedback from users
4	Admin	Approve shop	Approve shop of users
5	Admin	Block unblock users	Block unblock users
6	Admin	View ratings	View ratings
7	Admin	View complaints and reply	View complaints and reply to user
8	User	Registration	Registration by given shop detail
9	User	login	Login successful with correct Username and password
10	User	Voice Search	User's can speech category base product
11	User	View category base product	User's can view category base product
12	User	View and book product	View and book product
13	User	View offers	View offers
14	User	Send complaints and View reply	Send complaints and View reply
15	User	View booking status	View booking status
16	User	Feedback	View Feedback
17	Shop	Registration	Registration by given shop detail
18	Shop	login	Login successful with correct Username and password
19	Shop	Add and manage product	Add and manage product
20	Shop	Add offers	Add offers
21	Shop	View booking and Update status	View booking and Update status
22	Shop	View feedback and rating	Understand the general idea about the article
23	Shop	View complaint and Send reply	The admin can redress the grievances of the user

Table 3.1: User story

3.8.2 Product Backlog

A product backlog is a list of the new features, changes to existing features, bug fixes, infrastructure changes or other activities that a team may deliver in order to achieve a specific outcome.The product backlog is the single authoritative source for things that a team works on. That means that nothing gets done that isn't on the product backlog. Conversely, the presence of a product backlog item on a product backlog does not guarantee that it will be delivered. It represents an option the team has for delivering a specific outcome rather than a commitment.It should be cheap and fast to add a product backlog item to the product backlog, and it should be equally as easy to remove a product backlog item that does not result in direct progress to achieving the desired outcome or enable progress toward the outcome. The Scrum Product Backlog is simply a list of all things that needs to be done within the project. It replaces the traditional requirements specification artifacts. These items can have a technical nature or can be user-centric e.g. in the form of user stories.The product backlog of the system is given below table

User Story ID	Priority	Size	Sprint	Status	Release Date
1	Medium	3	1	Completed	22/04/2022
2	High	7	1	Completed	30/04/2022
3	Medium	2	1	Completed	03/05/2022
4	Medium	3	2	Completed	06/05/2022
5	Medium	3	2	Completed	15/05/2022
6	High	7	3	Completed	27/05/2022
7	High	7	3	Completed	03/06/2022
8	Medium	2	4	Completed	08/06/2022
9	Medium	3	4	Completed	12/06/2022
10	High	7	4	Completed	20/06/2022
11	Medium	2	5	Completed	22/06/2022
12	High	3	5	Completed	25/06/2022
13	High	6	5	Completed	01/07/2022
14	High	3	5	Completed	04/07/2022

Table 3.2: Product Backlog

3.8.3 Project Plan

A project plan that has a series of tasks laid out for the entire project, listing task duration, responsibility assignments, and dependencies. Plans are developed in this manner based on the assumption that the Project Manager, hopefully along with the team, can predict up front everything that will need to happen in the project, how long it will take, and who will be able to do it. Project plan is given below figure. The project has four sprints

User Story ID	**Task name**	**Start date**	**End date**	**Days**	**Status**
1	Sprint 1	20/04/2022	22/04/2022	3	Completed
2	Sprint 1	24/04/2022	30/04/2022	7	Completed
3	Sprint 1	2/04/2022	03/05/2022	2	Completed
4	Sprint 2	4/05/2022	06/05/2022	3	Completed
5	Sprint 2	13/05/2022	15/05/2022	3	Completed
6	Sprint 3	21/05/2022	27/05/2022	7	Completed
7	Sprint 3	28/05/2022	03/06/2022	7	Completed
8	Sprint 4	7/06/2022	08/06/2022	2	Completed
9	Sprint 4	10/06/2022	12/06/2022	3	Completed
10	Sprint 4	14/06/2022	20/06/2022	7	Completed
11	Sprint 5	21/06/2022	22/06/2022	2	Completed
12	Sprint 5	23/06/2022	25/06/2022	3	Completed
13	Sprint 5	26/06/2022	01/07/2022	6	Completed
14	Sprint 5	2/07/2022	04/07/2022	3	Completed

Table 3.3: Project Plan

3.8.4 Sprint Backlog

The sprint backlog is a list of tasks identified by the Scrum team to be completed during the Scrum sprint. During the sprint planning meeting, the team selects some number of product backlog items, usually in the form of user stories, and identifies the tasks necessary to complete each user story. Most teams also estimate how many hours each task will take someone on the team to complete.

Backlog Item	Status & completion date	Original estimate in hours	Day1	Day2	Day3	Day4	Day5	Day6	Day7	Day8	Day9	Day10	Day11	Day12	Day13	Day14
User story #1,#2,#3		hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs
Table design	22/04/2022	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0
Form design	30/04/2022	7	0	0	0	0	1	1	1	1	1	1	1	0	0	0
Coding	3/05/2022	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1
User story #4,#5																
Manage products details	6/05/2022	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0
Rating management	15/05/2022	3	0	0	0	0	0	0	0	0	0	1	1	1	0	0
User story #6,#7																
Registration	27/05/2022	7	1	1	1	1	1	1	1	0	0	0	0	0	0	0
User history mapping	3/06/2022	7	0	0	0	0	0	0	0	1	1	1	1	1	1	1
User story #8,#9,#10																
Login	8/06/2022	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Registration	12/06/2022	3	0	0	0	1	1	1	0	0	0	0	0	0	0	0
Add manage products	20/06/2022	7	0	0	0	0	0	0	0	1	1	1	1	1	1	1
User story #11,#12,#13,#14																
View Rating	22/06/2022	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Edit Details	25/06/2022	3	0	0	1	1	1	0	0	0	0	0	0	0	0	0
editing data	1/07/2022	6	0	0	0	0	0	1	1	1	1	1	1	0	0	0
Testing & Output generation	4/07/2022	3	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total		58	5	5	4	3	4	4	3	4	4	5	5	4	4	4

Table 3.4: Sprint Backlog

3.8.5 Sprint Actual

Actual sprint backlog is what adequate sprint planning is actually done by project team there may or may not be difference in planned sprint backlog. The detailed sprint backlog (Actual) is given below.

Backlog Item	Status & completion date	Original estimate in hours	Day1	Day2	Day3	Day4	Day5	Day6	Day7	Day8	Day9	Day10	Day11	Day12	Day13	Day14
User story #1,#2,#3		hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs
Table design	22/04/2022	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0
Form design	30/04/2022	7	0	0	0	0	1	1	1	1	1	1	1	0	0	0
Coding	3/05/2022	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1
User story #4,#5																
Manage products details	6/05/2022	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0
Rating management	15/05/2022	3	0	0	0	0	0	0	0	0	0	1	1	1	0	0
User story #6,#7																
Registration	27/05/2022	7	1	1	1	1	1	1	1	0	0	0	0	0	0	0
User history mapping	3/06/2022	7	0	0	0	0	0	0	0	1	1	1	1	1	1	1
User story #8,#9,#10																
Login	8/06/2022	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Registration	12/06/2022	3	0	0	0	1	1	1	0	0	0	0	0	0	0	0
Add manage products	20/06/2022	7	0	0	0	0	0	0	0	1	1	1	1	1	1	1
User story #11,#12,#13,#14																
View Rating	22/06/2022	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Edit Details	25/06/2022	3	0	0	1	1	1	0	0	0	0	0	0	0	0	0
editing data	1/07/2022	6	0	0	0	0	0	1	1	1	1	1	1	0	0	0
Testing & Output generation	4/07/2022	3	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total		58	5	5	4	3	4	4	3	4	4	5	5	4	4	4

Table 3.5: Sprint Actual

Chapter 4

Results and Discussions

4.1 Datasets

The term data set refers to a file that contains one or more records. The record is the basic unit of information used by a program running on OS. Any named group of records is called a data set. Data sets can hold information such as medical records or insurance records, to be used by a program running on the system. Data sets are also used to store information needed by applications or the operating system itself, such as source programs, macro libraries, or system variables or parameters. For data sets that contain readable text, you can print them or display them on a console (many data sets contain load modules or other binary data that is not really printable). Data sets can be cataloged, which permits the data set to be referred to by name without specifying where it is stored. In simplest terms, a record is a fixed number of bytes containing data. Often, a record collects related information that is treated as a unit, such as one item in a database or personnel data about one member of a department. The term field refers to a specific portion of a record used for a particular category of data, such as an employee's name or department. The records in a data set can be organized in various ways, depending on how we plan to access the information. If you write an application program that processes things like personnel data, for example, your program can define a record format for each person's data. There are many different types of data sets in OS, and different methods for accessing them. Among the most commonly used types are:

Sequential In a sequential data set, records are data items that are stored consecutively. To retrieve the tenth item in the data set, for example, the system must first pass the preceding nine items. Data items that must all be used in sequence, like the alphabetical list of names in a classroom roster, are best stored in a sequential data set.

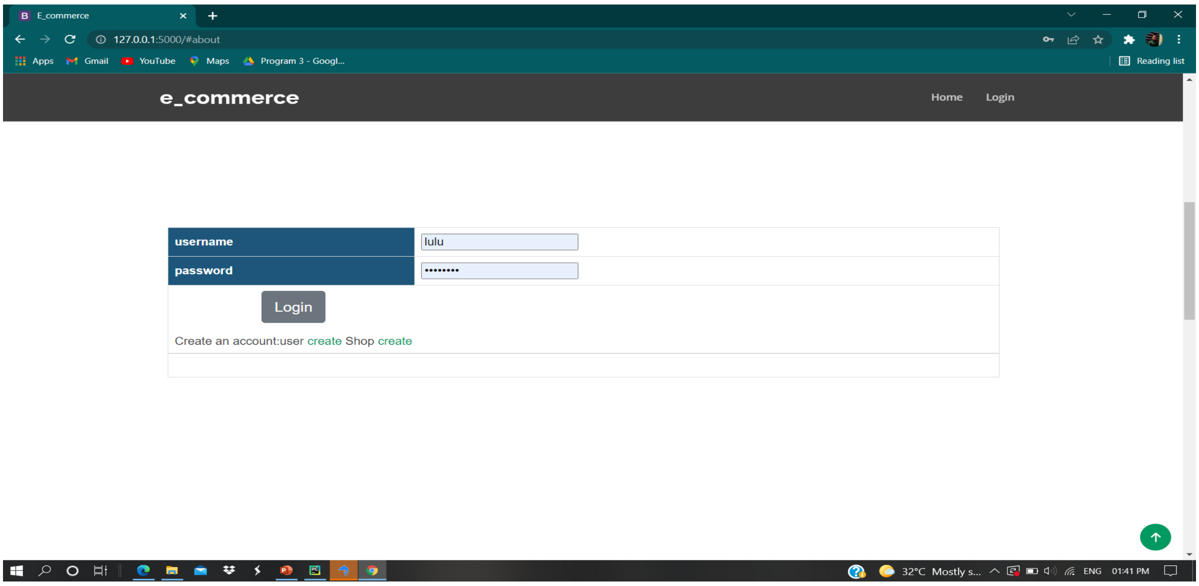
Partitioned A partitioned data set or PDS consists of a directory and members. The directory holds the address of each member and thus makes it possible for programs or the operating system to access each member directly. Each member, however, consists of sequentially stored records. Partitioned data sets are often called libraries. Programs are stored as members of partitioned data sets. Generally, the operating system loads the members of a PDS into storage sequentially, but it can access members directly when selecting a program for execution.

VSAM In a Virtual Storage Access Method (VSAM) key sequenced data set (KSDS), records are data items that are stored with control information (keys) so that the system can retrieve an item without searching all preceding items in the data set. VSAM KSDS data sets are ideal for data items that are used frequently and in an unpredictable order.

4.2 Results

This system is a web application where user will view various products and purchase products online and can give review about the merchandise and online shopping services.I have implemented text mining algorithm in order to mine keywords. The System takes review of various users, based on the review, system will specify whether the products and services provided by the E-commerce enterprise is good, bad, or worst. We use a database of sentiment based keywords along with positivity or negativity weight in database and then based on these sentiment keywords mined in user review is ranked.The user can see the product category base, for example by searching for furniture all the furniture in the database is displayed. Product search is done by voice search. You can see it in text form and see the product list.

4.2.1 Screenshots

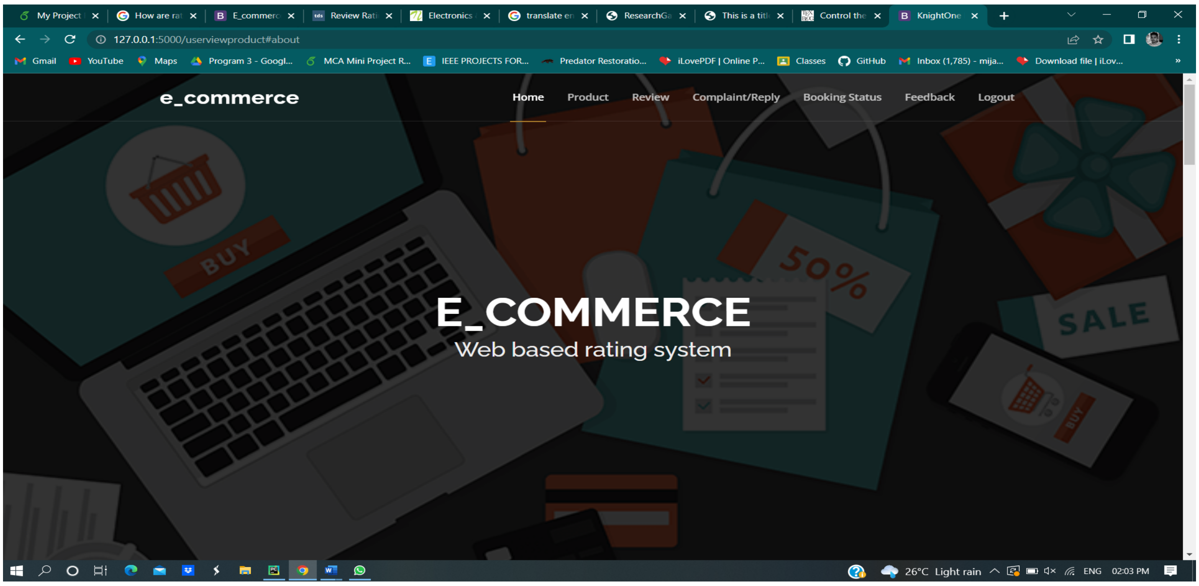


username	lulu
password	••••••••

Login

Create an account:user create Shop create

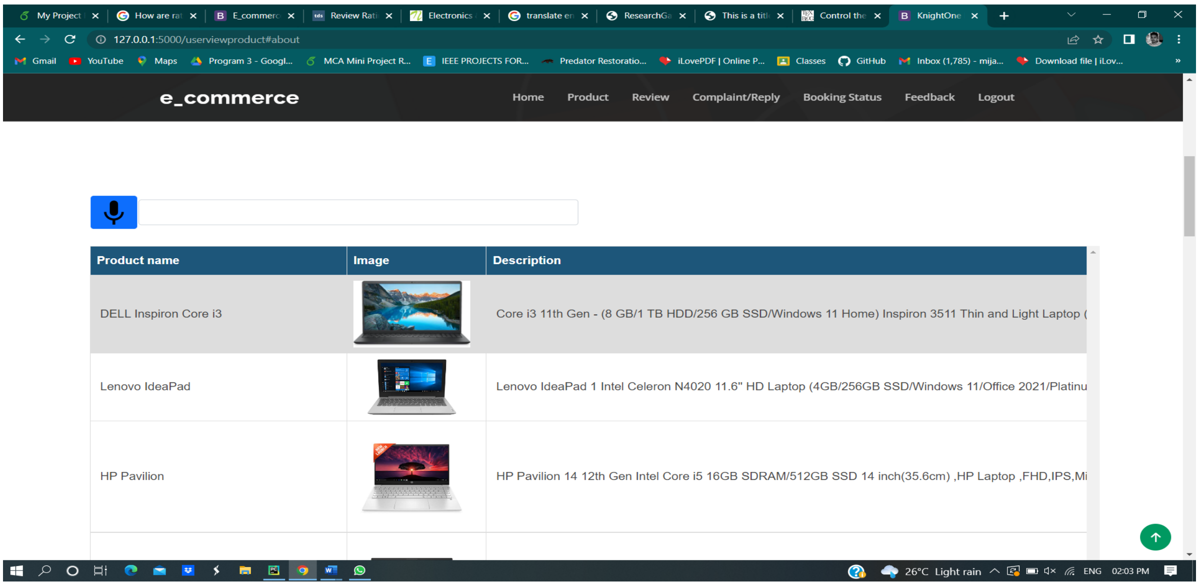
Figure 4.1: User Interface1



E_COMMERCE

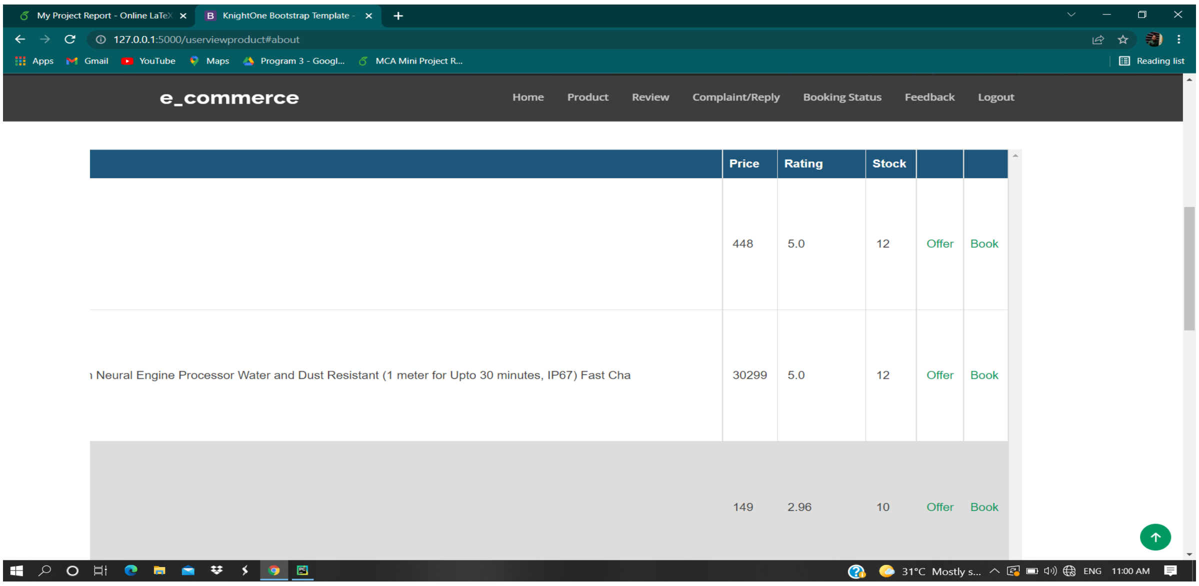
Web based rating system

Figure 4.2: User Interface2



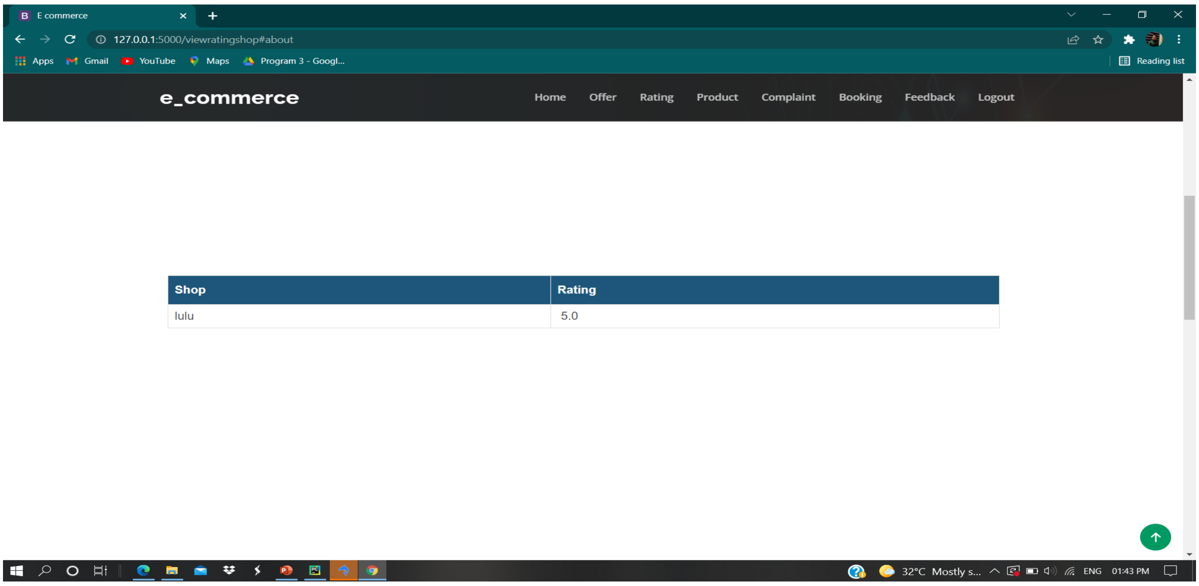
Product name	Image	Description
DELL Inspiron Core i3		Core i3 11th Gen - (8 GB/1 TB HDD/256 GB SSD/Windows 11 Home) Inspiron 3511 Thin and Light Laptop (
Lenovo IdeaPad		Lenovo IdeaPad 1 Intel Celeron N4020 11.6" HD Laptop (4GB/256GB SSD/Windows 11/Office 2021/Platinu
HP Pavilion		HP Pavilion 14 12th Gen Intel Core i5 16GB SDRAM/512GB SSD 14 inch(35.6cm) ,HP Laptop ,FHD,IPS,Mi

Figure 4.3: User Interface3


My Project Report - Online LaTeX
KnightOne Bootstrap Template -
127.0.0.1:5000/userviewproduct#about
e_commerce
Home
Product
Review
Complaint/Reply
Booking Status
Feedback
Logout
31°C Mostly s...
ENG
11:00 AM

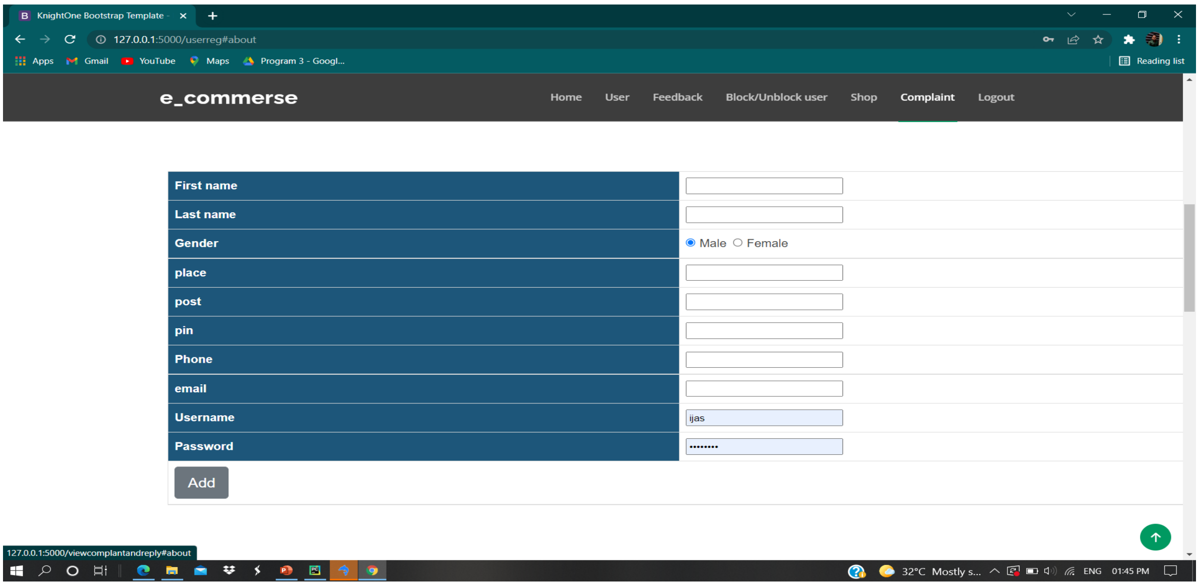
	Price	Rating	Stock		
	448	5.0	12	Offer	Book
ı Neural Engine Processor Water and Dust Resistant (1 meter for Upto 30 minutes, IP67) Fast Cha	30299	5.0	12	Offer	Book
	149	2.96	10	Offer	Book

Figure 4.4: User Interface4



Shop	Rating
lulu	5.0

Figure 4.5: User Interface5


KnightOne Bootstrap Template
127.0.0.1:5000/userreg#about
e_commerse
Home
User
Feedback
Block/Unblock user
Shop
Complaint
Logout
Add
127.0.0.1:5000/viewcomplantandreply#about

First name	
Last name	
Gender	● Male ○ Female
place	
post	
pin	
Phone	
email	
Username	ijas
Password	••••••••

Figure 4.6: User Interface6

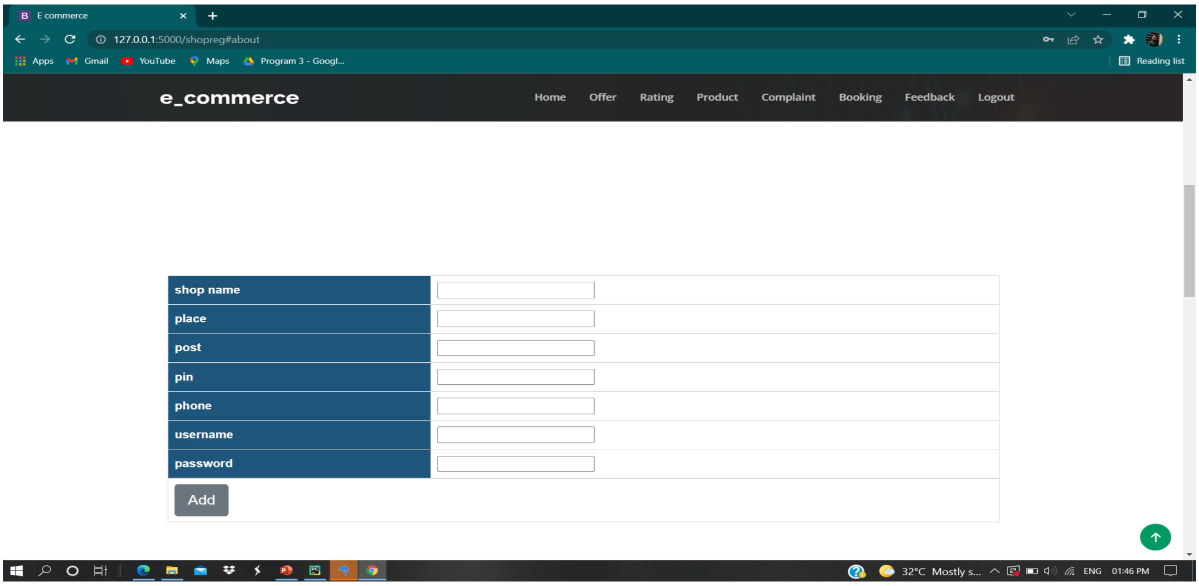


Figure 4.7: User Interface7

Chapter 5

Conclusions

This project has so far given a good output as per our expectation.The system takes review of various users, based on the review; system will specify whether the products and services provided by the E-Commerce enterprise are good, bad or worst.By keeping the reviews up to date, calculates five star review which could potentially have a rating of anywhere from 0-5 stars. The system calculates an average rating by just analyzing the whole rating which is provided by the customers so fake reviews can easily damage the product review in this system and product review is not up to date .The user can see the product category base, for example by searching for furniture all the furniture in the database is displayed. Product search is done by voice search. You can see it in text form and see the product list

References

[1] **ElshrifElmurngi, AbdelouahedGherbi,** “Detecting Fake Reviews through Sentiment Analysis Using Machine Learning Techniques”, École de TechnologieSupérieure Montreal, Canada, DATA ANALYTICS 2017: The Sixth International Conference on Data Analytics.

[2] **RAYMOND Y. K. LAU, S. Y. LIAO, RON CHI WAI KWOK, KAIQUAN XU, YUNQING XIA, YUEFENG LI.** TextMining and Probabilistic Language Modeling for Online Review Spam Detection ACM Trans. Manag. Inform. Syst. 2, 4, Article 25 (December 2011).

[3] **B. Jiang, R. Cao, B. Chen,** “Detecting Product Review Spammer using Activity Model,” Proceeding of International Conference on Advanced Computer Science and Electronics Information(ICACSEI 2013), pp. 650-653, 2013.

[4] **Malbon,** “Taking fake online consumer reviews seriously,” Journal of Consumer Policy, vol. 36, no. 2, 2013, pp. 139–157.

Appendix

Source Code

```
   # Copyright (c) 2022 Ijas Ahammed M
   # Code written by : Ijas Ahammed M
   # Email ID : mijasahammed@gmail.com

  #
#
# import nltk
#
# nltk.download(’vader_lexicon’)

from flask import *
import uuid

from src.sentimental import sent

app=Flask(__name__)
from src.dbconnector import *

app.secret_key="123"




import functools
def login_required(func):
   @functools.wraps(func)
   def secure_function():
      if "lid" not in session:
         return redirect ("/")
      return func()
   return secure_function

@app.route("/logout")
# @login_required

def logout():
   session.clear()
   return render_template("login.html")
```

Appendix

```
@app.route('/')
def log():
    return render_template('login.html')

@app.route('/login',methods=['post'])
def login():
    uname=request.form['textfield']
    pword=request.form['textfield2']
    qry="SELECT * FROM `login` WHERE `username`=%s AND `password`=%s"
    val=(uname,pword)
    res=selectone(qry,val)
    if res is None:
        return '''<script>alert('invalid enrty');window.location="/"</script>'''
    else:
        if res[3]=='admin':
            session['lid']=res[0]
            return '''<script>alert('welcome');window.location="/adminhome"</script>'''
        elif res[3] == 'shop':
            session['lid']=res[0]
            return '''<script>alert('welcome');window.location="/shophome"</script>'''
        elif res[3] == 'user':
            session['lid']=res[0]
            return '''<script>alert('welcome');window.location="/userhome"</script>'''
        else:
            return '''<script>alert('invalid entry');window.location="/"</script>'''



@app.route('/adminhome')
def adminhome():
    return render_template('adminhome.html')


@app.route('/viewusers')
@login_required
def viewusers():
    qry="SELECT * FROM `user_reg` join login on login.id=user_reg.lid and login.type='user'"
    res=select(qry)
    return render_template('view users.html',val=res)

@app.route('/viewfeedback')
@login_required
def viewfeedback():
    qry="SELECT `feedback`.*,`user_reg`.`firstname`,`lastname` FROM `feedback` JOIN `user_reg` ON `feedback`.`useerid`
        =`user_reg`.`lid`"
    res=select(qry)
    return render_template('viewfeedback.html',val=res)


@app.route('/blockunblock')
@login_required
def blockunblock():
    qry="SELECT `user_reg`.*,`login`.`type` FROM `login` JOIN `user_reg` ON `user_reg`.`lid`=`login`.`id`"
    res=select(qry)
    return render_template('blockunblockusers.html',val=res)

@app.route('/block')
def block():
    id=request.args.get('id')
    qry="UPDATE `login` SET `type`='block' WHERE `id`=%s"
    val=str(id)
    iud(qry,val)
```

```
   return ’’’<script>alert("blocked....!!!!");window.location="/blockunblock"</script>’’’
@app.route(’/unblock’)
def unblock():
   id=request.args.get(’id’)
   qry="UPDATE ‘login‘ SET ‘type‘=’user’ WHERE ‘id‘=%s"
   val=str(id)
   iud(qry,val)
   return ’’’<script>alert("unblocked....!!!!");window.location="/blockunblock"</script>’’’




@app.route(’/approveshop’)
@login_required
def approveshop():
   qry="SELECT ‘shop_reg‘.*,‘login‘.‘type‘ FROM ‘shop_reg‘ JOIN ‘login‘ ON ‘shop_reg‘.‘lid‘=‘login‘.‘id‘ WHERE
         ‘login‘.‘type‘=’pending’"
   res=select(qry)

   return render_template(’approve shop.html’,val=res)


@app.route(’/approve’)
def approve():
   id=request.args.get(’id’)
   qry="UPDATE ‘login‘ SET ‘type‘=’shop’ WHERE ‘id‘=%s"
   val=str(id)
   iud(qry,val)
   return ’’’<script>alert("Approved....!!!!");window.location="/approveshop"</script>’’’


@app.route(’/viewcomplantandreply’)
@login_required
def viewcomplantandreply():
   qry="SELECT ‘user_reg‘.‘firstname‘,‘user_reg‘.‘lastname‘ ,‘complaint‘.* FROM ‘user_reg‘ JOIN ‘complaint‘ ON
         ‘complaint‘.‘user_id‘=‘user_reg‘.‘lid‘ WHERE ‘complaint‘.‘reply‘=’pending’"
   res=select(qry)
   return render_template(’view complant and reply.html’,val=res)

@app.route(’/reply’)
def reply():
   id=request.args.get(’id’)
   session[’cid’]=id

   return render_template(’send reply.html’)

@app.route(’/reply1’,methods=[’post’])
def reply1():
   id=session[’cid’]
   reply=request.form[’textarea’]
   qry="UPDATE ‘complaint‘ SET ‘reply‘=%s WHERE ‘id‘=%s"
   val=(reply,str(id))
   iud(qry,val)

   return’’’<script>alert("Replyed...!!!");window.location="/viewcomplantandreply"</script>’’’





@app.route(’/viewrating’)
@login_required
def viewrating():
   qry = "SELECT ‘shop_reg‘.‘shopname‘,‘review‘.‘rating‘,‘review‘.‘date‘,‘product‘.‘shop_id‘ FROM ‘review‘ JOIN ‘product‘
        ON ‘product‘.‘id‘=‘review‘.‘productid‘ JOIN ‘shop_reg‘ ON ‘shop_reg‘.‘lid‘=‘product‘.‘shop_id‘"
   res = select(qry)
   return render_template(’view rating.html’,val=res)


# __________________________________________SHOP_____________________________________________________



@app.route(’/shophome’)
def shophome():

   return render_template(’shophome.html’)

@app.route(’/shopreg’)
def shopreg():


   return render_template(’shopreg.html’)


@app.route(’/shopreg1’,methods=[’post’])
def shopreg1():
   try:
      shop = request.form[’textfield’]
      place = request.form[’textfield2’]
      post = request.form[’textfield3’]

      pin = request.form[’textfield4’]
      phone = request.form[’textfield5’]
      uname = request.form[’textfield6’]
      paswrd = request.form[’textfield7’]

      qry = "insert into login values(null,%s,%s,’pending’)"
      val = (uname, paswrd)
      login_id = iud(qry, val)
      qrynew = "insert into shop_reg values(null,%s,%s,%s,%s,%s,%s)"
      val1 = (shop, place, post, pin, phone, login_id)
      iud(qrynew, val1)
      return ’’’<script>alert("sucess");window.location="/"</script>’’’
   except Exception as e:
      return ’’’<script>alert("Duplicate entry");window.location="/shopreg"</script>’’’



@app.route(’/addoffers’)
@login_required
def addoffers():
   qry="select * from product"
   res=select(qry)

   return render_template(’addoffers.html’,val=res)

@app.route(’/addoffers1’,methods=[’post’])
def addoffers1():
   product=request.form[’select’]

   offer=request.form[’textarea’]

   qry = "insert into offer values(null,%s,%s,curdate())"
   val = (product, offer)
   iud(qry, val)
   return’’’<script>alert("Added...!!!");window.location="/shophome"</script>’’’


@app.route(’/viewratingshop’)
@login_required
def viewratingshop():
   qry="SELECT `shop_reg`.`shopname`, AVG(`review`.`rating`) FROM `review` JOIN `product` ON
         `product`.`id`=`review`.`productid` JOIN `shop_reg` ON `shop_reg`.`lid`=`product`.`shop_id` GROUP BY
         `shop_reg`.`lid`"
   res=select(qry)
   return render_template(’viewrating.html’,val=res)


@app.route(’/addandmanageproduct’,methods=[’post’,’get’])
@login_required
def addandmanageproduct():
   qry="SELECT * FROM `product` where `shop_id`=%s"
   val=session[’lid’]
   res=selectall(qry,val)
   return render_template(’addandmanageproduct.html’,val=res)
@app.route(’/addproduct’,methods=[’post’,’get’])
def addproduct():

   return render_template("add product.html")


@app.route(’/addproduct1’,methods=[’post’,’get’])
def addproduct1():
   image = request.files[’image’]
   path = ’static/images/’+str(uuid.uuid4())+image.filename
   image.save(path)
   product=request.form[’textfield’]
   description=request.form[’textarea’]
   price=request.form[’textfield2’]
   stock=request.form[’textfield3’]
   qry="insert into product values(null,%s,%s,%s,%s,%s,%s)"
   val=(product,description,price,stock,session[’lid’],path)
   iud(qry,val)
   return’’’<script>alert("Added...!!!");window.location="/addandmanageproduct"</script>’’’

@app.route(’/edit_product’)
def edit_product():
   id = request.args.get(’id’)
   session[’cid’] = id
   qry="select * from product where id=%s"
   val=(str(id))
   res=selectone(qry,val)
   return render_template("editproduct.html",val=res)

@app.route(’/edit_product1’,methods=[’post’])
def edit_product1():
   product = request.form[’textfield’]
   description = request.form[’textarea’]
   price = request.form[’textfield2’]
   stock = request.form[’textfield3’]
   qry = "update product set`productname`=%s,`description`=%s,`price`=%s,`stock`=%s WHERE `id`=%s"
   val = (product, description, price, stock,session[’cid’])
   iud(qry, val)
   return ’’’<script>alert("Edited...!!!");window.location="/addandmanageproduct"</script>’’’
```

Appendix

```
<html>
  <head>
    <title>How to Add Speech Recognition to the Website - JavaScript</title>
    <link href=’style.css’ rel=’stylesheet’ type=’text/css’>
    <script src="jquery-3.2.1.js"></script>
    <script type=’text/javascript’>
    var recognition = new webkitSpeechRecognition();

    recognition.onresult = function(event) {
      console.log(’result’);
      var saidText = "";
      for (var i = event.resultIndex; i < event.results.length; i++) {
          if (event.results[i].isFinal) {
             saidText = event.results[i][0].transcript;
          } else {
             saidText += event.results[i][0].transcript;
          }
       }

       document.getElementById(’speechText’).value = saidText;

        // Search Posts
        searchPosts(saidText);
    }

    function startRecording(){
      recognition.start();
    }

    // Search Posts
    function searchPosts(saidText){

      $.ajax({
        url: ’getData.php’,
        type: ’post’,
        data: {speechText: saidText},
        success: function(response){
          $(’.container’).empty();
          $(’.container’).append(response);
        }
      });
    }

    </script>
  </head>
  <body>

    <div class=’search_container’>
      <!-- Search box-->
      <input type=’text’ id=’speechText’ > &nbsp; <input type=’button’ id=’start’ value=’Start’
           onclick=’startRecording();’>
    </div>

    <!-- Search Result -->
    <div class="container"></div>

  </body>
</html>
```

Database Design

Attribute Name	**Datatype**	**Width**	**Description**
id	Integer	11	Primary Key
username	Varchar	200	Unique Key
password	Varchar	200	
type	Varchar	200	

Table A.1: Login Table

Attribute Name	**Datatype**	**Width**	**Description**
id	Integer	11	Primary Key
shopname	Varchar	200	
place	Varchar	200	
post	Varchar	200	
pin	Integer	11	
phone	Bigint	20	
lid	Integer	11	

Table A.2: Shopreg Table

Attribute Name	**Datatype**	**Width**	**Description**
id	Integer	11	Primary Key
firstname	varchar	200	Primary Key
lastname	Varchar	200	
gender	Varchar	200	
place	Varchar	200	
post	Varchar	200	
pin	Integer	11	
phone	Bigint	20	
email	Varchar	200	
lid	Integer	11	

Table A.3: Userreg Table

Attribute Name	**Datatype**	**Width**	**Description**
id	Integer	11	Primary Key
productname	Varchar	200	
description	Varchar	200	
price	Integer	11	
stock	Varchar	200	
shopid	Integer	11	
image	Varchar	500	

Table A.4: Product Table

Attribute Name	**Datatype**	**Width**	**Description**
id	Integer	11	Primary Key
Userid	Integer	11	
review	Varchar	300	
date	Varchar	200	
productid	Integer	11	
rating	Varchar	200	

Table A.5: Review Table

Attribute Name	**Datatype**	**Width**	**Description**
id	Integer	11	Primary Key
Userid	Integer	11	
amount	Varchar	200	
quantity	Varchar	300	
status	Varchar	90	

Table A.6: Order Table

Attribute Name	**Datatype**	**Width**	**Description**
id	Integer	11	Primary Key
pid	Integer	11	
offer	Varchar	200	
date	Varchar	300	

Table A.7: Offer Table

Attribute Name	**Datatype**	**Width**	**Description**
id	Integer	11	Primary Key
feedback	Varchar	200	
date	Varchar	200	
userid	Integer	11	

Table A.8: Feedback Table

Attribute Name	**Datatype**	**Width**	**Description**
id	Integer	11	Primary Key
userid	Integer	11	
complaint	Varchar	200	
date	Varchar	200	
reply	Varchar	200	

Table A.9: Complaints Table

DaTaflow Diagram

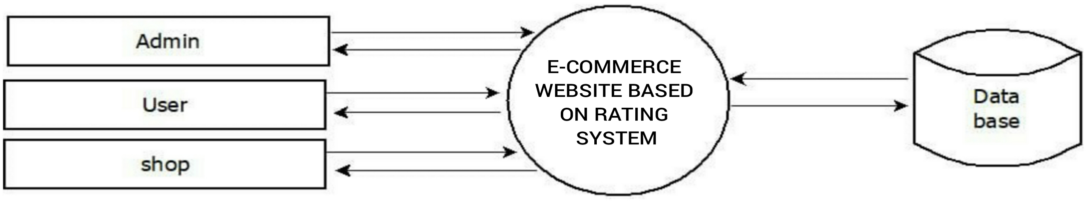


Figure A.1: LEVEL 0

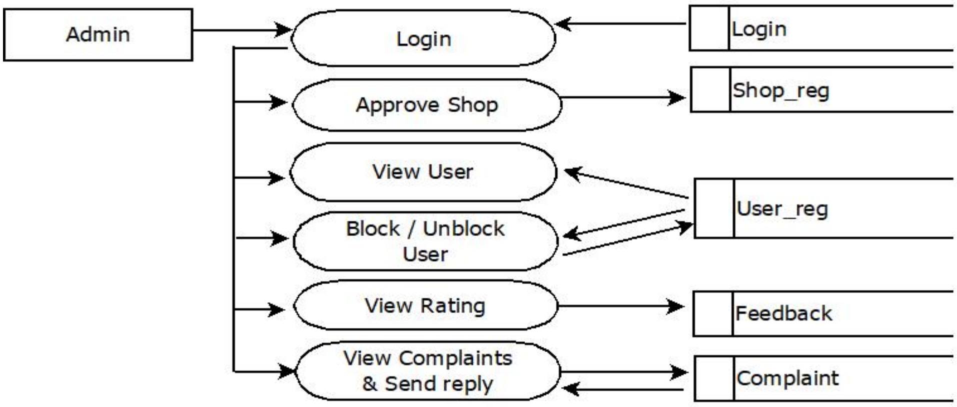


Figure A.2: LEVEL 1.1

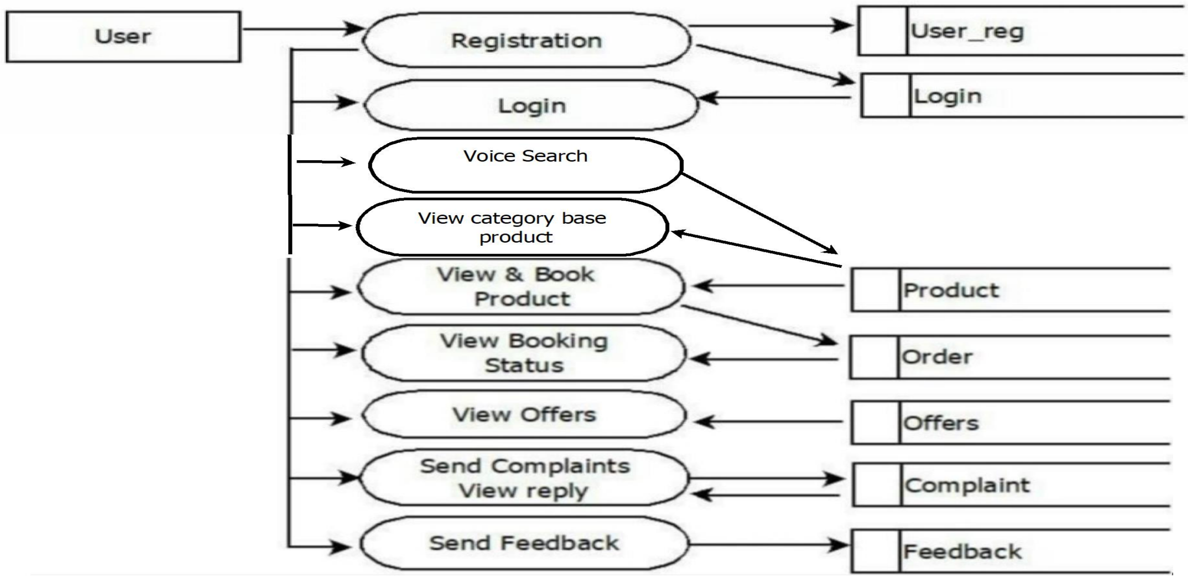


Figure A.3: LEVEL 1.2

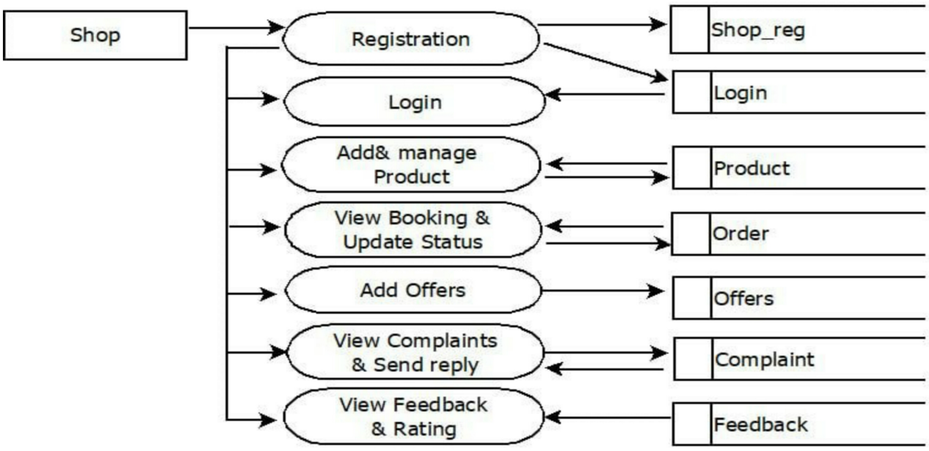


Figure A.4: LEVEL 1.3