Chapter 1: Introduction, Problem Definition/Statement and Proposed Model

# 1.1 INTRODUCTION

New technology and techniques are implemented in Ecommerce websites to visually present information due to significant growth in shopping worldwide. A web application that also allows visually impaired and blind users to access and shop. The system gives voice instructions with welcome messages which assist users to use the website and an input is requested from the user. The user is required to hover over the entire page using the cursor to access different voice messages for various fields. The user provides input using the keyboard keys thus taking the process forward. The website also provides recommendations based on customer selection using collaborative filtering algorithms. It is a process of filtering information or patterns using techniques involving collaboration of data gathered from different agents and data sources. The system processes the voice output, and asks for the input by pressing the button of their desired choices.

This will help them to buy their desired things online. Every kind of instruction will give them in mode of audio they need to hear and follow the instructions.

# 1.2 PROBLEM DEFINITION/STATEMENT

According to WHO, globally 1 billion people suffer from partial or severe vision impairment or blindness. When the number is so huge, it is needless to say that your e-commerce store design should consider web accessibility for shoppers with partial or complete blindness. Consider a blind individual who lives alone, but wants to make a purchase from an ecommerce site. He doesn’t have anybody there by his side, at the moment, to either guide him on what to do on the site, or make the purchase for him. Traditionally users type in a query into a search box to fetch answers this will some time take more time and not too friendly like consumers to shop when they’re cooking, multitasking, or even driving.

It is also difficult for blind people to choose clothes with different colors or they find it difficult to shop online. People with complete blindness use screen readers to access the web content. Screen readers are software that allows people with blindness to read the web content either with a Braille display or a sound synthesizer. Now it often happens that the screen readers don’t work properly due to browser compatibility issues. People with visual impairments find it difficult to differentiate between the foreground and background when they encounter low-contrast color schemes. With this in mind, how can any seller make sure that e-commerce store stands out from the crowded competition? Further to it, to make online shopping more convenient, voice-enabled searches are becoming immensely popular and are being widely adopted.

# 1.3 PROPOSED MODEL

A system is developed to assist people by automatically recognizing product patterns and colors. The system processes the voice output, and asks for the input by pressing the button of their desired choices. This will help them to buy their desired things online. Every kind of instruction will give them in mode of audio they need to hear and follow the instructions. Just try to keep our online store website as simple and minimalistic as possible. In short, our website is less flashy in terms of graphics. We wil try to use high-contrast color schemes when choosing colors for your online store. We can take the help of tools like Wave and CheckMyColours to figure which component of your online store is high contrast or low contrast. A rise in adoption of smart speakers by consumers, plus the growing usage in voice-enabled searches, combined with an increasing inclination to use voice assistants for shopping, voice-based eCommerce will be the next major disruption for online retail. This is just the right time for retailers to focus on voice search optimization strategy in their eCommerce business to stay ahead of the curve. When users can do pretty much everything by their voice, they are more likely to spend less time on device keyboards. From how the things are shaping currently, voice commerce is all poised to gain more traction.

Chapter 2: Objective, Scope & Limitations

# 2.1 Objective

# 2.2 Scope of Project

This website is created so that it helps visually impaired and blind people to use the e-commerce websites with ease. This will also help other normal users to shop easily. In future with the new studies additional technologies can be integrated with the existing website which further prove to be helpful for the audience in better navigation. In the future the website can also be converted to a mobile application which can help users navigate with the help of gestures. With the increasing efforts by major companies like Google, Netflix, Uber, Apple, and Samsung to incorporate accessibility, in future the technologies used in the website can also act as an extension to other e-commerce websites so that it increases target audience on a global level.

# 2.3 Limitations

# 2.4 Planning

# 2.5 Feasibility

# 2.6 Hardware & Software Requirements

## 2.6.1 Client Side

|  |  |  |
| --- | --- | --- |
|  | **DESCRIPTION** | **ALTERNATIVE (if any)** |
| **HARDWARE** | PC with 20 GB hard-disk and minimum 512 MB RAM with Internet facility. | Not Applicable |
| **SOFTWARE** | Internet Explorer | Mozilla Firefox / Google Chrome / Apple Safari |

Table 1.1: Client Side Requirements

## 2.6.2 Server Side

|  |  |  |
| --- | --- | --- |
|  | **DESCRIPTION** | **ALTERNATIVE (if any)** |
| **HARDWARE** | PC with 1 TB hard-disk and minimum 2 GB RAM with Internet facility. | AWS(or any other cloud platform) |
| **SOFTWARE** | Python & MySQL Server | Not Applicable |

Table 1. : Server Side Requirements