

A Project Report
on
“PHONEFITS”
A Personality based Smartphone Recommendation System

*submitted in fulfillment of the requirements
for completion of SE project of*

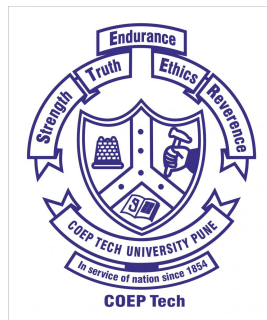
TY COMP
in
Computer Engineering

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PROJECT TITLE

PhoneFits : A Personality based Smartphone Recommendation System

PROBLEM STATEMENT

The problem is that many people are making uninformed smartphone purchase decisions that do not align with their specific needs and preferences, resulting in dissatisfaction with their device and potential wasted money. This can be due to the overwhelming number of options available, the difficulty of comparing features and specifications, and a lack of personalized recommendations. As a result, individuals may end up with a device that does not meet their specific needs or fully utilize its capabilities.,

PhoneFits website provides a quiz which analyses your personality based requirements and recommends smartphones which is best suited to your personality with your requirements.

OBJECTIVES

1. Personalized recommendations : Provide personalized recommendations to users based on their personality traits and preferences.
2. Improved user experience : Provide an intuitive and easy-to-use interface that enhances the user experience and encourages users to return.
3. Increased customer satisfaction : By providing accurate recommendations, the website can increase customer satisfaction and help users find a smartphone that meets their needs.
4. Data collection: The website can collect data on users' preferences and behaviors, which can be used to improve the accuracy of recommendations and to inform marketing strategies.

FUNCTIONALITIES

1. User registration and profile creation: Allow users to register for an account and create a profile that includes relevant information.
2. Personality assessment: Provide a personality assessment tool that helps users identify their personality traits and preferences related to smartphones.
3. Smartphone recommendation : Suggests smartphones based on users' personality traits, preferences, and other relevant information.
4. Smartphone comparison: Allow users to compare different smartphones based on their features, specifications, and prices that are already given while displaying them on suggestion page.
5. Buy Links: Users are redirected to Ecommerce websites like Flipkart and Amazon where they can find their selected phone.
6. User feedback: Allow users to provide feedback on the recommendations they received, which can help improve the accuracy of future recommendations.

CODING SCREENSHOTS

```
login.html
1 <!DOCTYPE html>
2 <html lang="en">
3
4 <head>
5   <meta charset="UTF-8">
6   <meta http-equiv="X-UA-Compatible" content="IE=edge">
7   <meta name="viewport" content="width=device-width, initial-scale=1.0">
8   <title>PhoneFits-Login</title>
9   <link rel="icon" type="image/x-icon" href="/images/PhoneFits.png">
10  <link rel="stylesheet" href="style.css">
11  <link rel="stylesheet" href="login.css">
12  <script>
13    function navToHomePage() {
14      // window.location.href = "index.html";
15      window.location.replace("index.html");
16    }
17  </script>
18  <!-- <script src="firebase_auth.js"></script> -->
19 </head>
20
21 <body>
22   <div id="logo" style="text-align: center;">
23     <h1 class="heading"><span class="logo">Phone<span class="fits">Fits</span></span> &nbsp;<i
24       class="fas fa-mobile"></i></h1>
25   </div>
26   <div id="loginhead">
27     <a href="#start">Log In</a>
28     <a href="#end">Sign Up</a>
29   </div>
30   <div id="loginbody" class="float">
31     <div id="start"></div>
32     <div id="loginsection">
33       <input type="email" name="useremail" id="loginuseremail" placeholder="Email">
34       <input type="password" name="userpassword" id="loginuserpassword" placeholder="Password">
35       <input type="submit" value="Log In" id="login" name="loginbtn">
36       <a href="#end">Do not have account? Sign Up</a>
37     <!-- <button id="login" onclick="navToHomePage()">Login</button> -->
38   </div>
39   <div id="signupsection">
40     <input type="text" name="username" id="signupusername" placeholder="Name">
41     <input type="email" name="useremail" id="signupuseremail" placeholder="Email">
42     <input type="password" name="userpassword" id="signupuserpassword" placeholder="Password">
43     <input type="submit" value="Sign Up" id="signup" name="signupbtn">
44     <a href="#start">Already have an account? Sign In</a>
45     <!-- <button id="login" onclick="navToHomePage()">Login</button> -->
46   </div>
47   <div id="end"></div>
48 </div>
49 <!-- <a href="index.html">Login</a> -->
50 </body>
```

```
# login.css
1 @import url('https://fonts.googleapis.com/css2?family=Alkatra:wght@600&family=Lobster&display=swap');
2
3 :root {
4   --theme-logo: #000000;
5   --theme-pri: #000000;
6   /* --theme-sec: red; */
7   --theme-ter: blue; /*
8
9
10 * {
11   padding: 0;
12   margin: 0;
13   transition: all .5s ease;
14   font-family: 'Alkatra', cursive;
15   scroll-behavior: smooth;
16
17   box-sizing: border-box;
18   scrollbar-color: transparent transparent;
19   scrollbar-width: 0px;
20 }
21
22
23 body {
24   /* border: 2px solid blue; */
25   width: 100vw;
26   height: 100vh;
27   display: flex;
28   flex-direction: column;
29   padding: 10%;
30   justify-content: center;
31   align-items: center;
32
33   background-image: url(/images/landingpage01m.png);
34   background-attachment: fixed;
35   background-size: cover;
36 }
37
38 body>* {
39   border: 2px solid red;
40   width: 500px;
41   height: max-content;
42   background-image: linear-gradient(180deg, #000000 0, #000000 0.5, #000000 0.5, #000000 1);
43   border: 2px outset #000000;
44   box-shadow: 0px 0px 20px var(--theme-logo);
45   backdrop-filter: blur(2px);
46 }
47
48 #loginhead {
49   display: flex;
50   flex-direction: row;
```

```
File Edit Selection View Go Run Terminal Help style.css - SE-PhoneFits - V...
index.html x
frontend > index.html > {} "index.html"
411 </head>
412
413 <body>
414   <div class="body">
415     <div class="appHead">
416       <div id="logo">
417         <h1 class="heading"><span class="logo">Phone<span class="fits">Fits</span></span> &nbsp;&nbsp;&nbsp;<i
418           class="fas fa-mobile"></i></h1>
419       </div>
420       <div id="headlinks">
421         <ul>
422           <li><a href="#landingpage">Home</a></li>
423           <li><a href="#quizpage">Quiz</a></li>
424           <li><a href="#feedbackform">Feedback</a></li>
425           <li><a href="#about">About</a></li>
426           <!-- <li><a href="login.html">SignIn</a></li> -->
427           <input class="btn" type="submit" value="Log Out" id="logout" name="logoutbtn">
428         </ul>
429       </div>
430     </div>
431
432     <div id="landingpage">
433       <span>Welcome to <span class="logo">Phone<span class="fits">Fits</span></span></span>
434       <span style="margin-top: -20px;">A Personality based Smartphone Recommendation Platform</span>
435       <a href="#quizpage" class="btn" style="margin-top: 10px;">Take Quiz</a>
436     </div>
437
438     <div id="quizpage">
439       <div id="quizhead">Quiz Page</div>
440       <div id="questions" class="slides">
441         <div id="que1" class="quecard">
442           <div class="que">Q. Main stuff you will be doing on your smartphone.</div>
443           <div class="options">
444             <select name="q1" id="personality" required>
445               <option value="Minimal User">Nothing much, just for common use
446                 like calling, messaging, etc</option>
447               <option value="Gamer Person">Gaming</option>
448               <option value="Camera Person">Clicking Photos or/and Content
449                 creation</option>
450               <option value="Official Person">Online meetings</option>
451               <option value="Content Consumer Personality">For entertainment like Youtube,
452                 Netflix, ZEE5, Amazon Prime, etc</option>
453               <option value="Student Personality">For study stuff</option>
454               <option value="Average User" selected>Just what an average people
455                 does</option>
456             </select>
457           </div>
458         </div>
459         <div id="que2" class="quecard">
460           <div class="que">Q. Do you often click photos on your phone?</div>
461           <div class="options">
462             <select name="q2" id="personality" required>
463               <option value="Minimal User">Nothing much, just for common use
464                 like calling, messaging, etc</option>
465               <option value="Gamer Person">Gaming</option>
466               <option value="Camera Person">Clicking Photos or/and Content
467                 creation</option>
468               <option value="Official Person">Online meetings</option>
469               <option value="Content Consumer Personality">For entertainment like Youtube,
470                 Netflix, ZEE5, Amazon Prime, etc</option>
471               <option value="Student Personality">For study stuff</option>
472               <option value="Average User" selected>Just what an average people
473                 does</option>
474             </select>
475           </div>
476         </div>
477       </div>
478     </div>
479   </body>
480 </html>
```

```
Visual Studio Code
style.css x
frontend > # style.css > ...
10 * {
11   padding: 0;
12   margin: 0;
13   transition: all .5s ease;
14   font-family: 'Alkatra', cursive;
15   scroll-behavior: smooth;
16
17   box-sizing: border-box;
18   scrollbar-color: transparent transparent;
19   scrollbar-width: 0px;
20
21   /* flex-wrap: wrap; */
22 }
23
24 .logo {
25   color: var(--theme-logo);
26 }
27
28 body {
29   padding: 0;
30   margin: 0;
31   display: flex;
32   flex-direction: column;
33   background-image: linear-gradient(180deg, #39, 0, 144), #rgb(7, 0, 29));
34   color: #whitesmoke;
35 }
36
37 body>div {
38   /* border: 2px solid red; */
39   display: block;
40 }
41
42
43 #landingpage {
44   /* border: 2px solid red; */
45   padding-left: 85;
46   min-width: 100vw;
47   min-height: 100vh;
48   display: flex;
49   flex-direction: column;
50   justify-content: center;
51   align-items: left;
52   /* animation: B0landingpage 1s steps(1, end) 1; */
53   background-image: url(/images/landingpage.PNG);
54   background-attachment: fixed;
55   background-size: cover;
56   box-shadow: 0px 10px 20px #rgb(1, 0, 27, 1);
57 }
58
59
```

```
File Edit Selection View Go Run Terminal Help sendmail.js - SE-PhoneFits

main.py M X

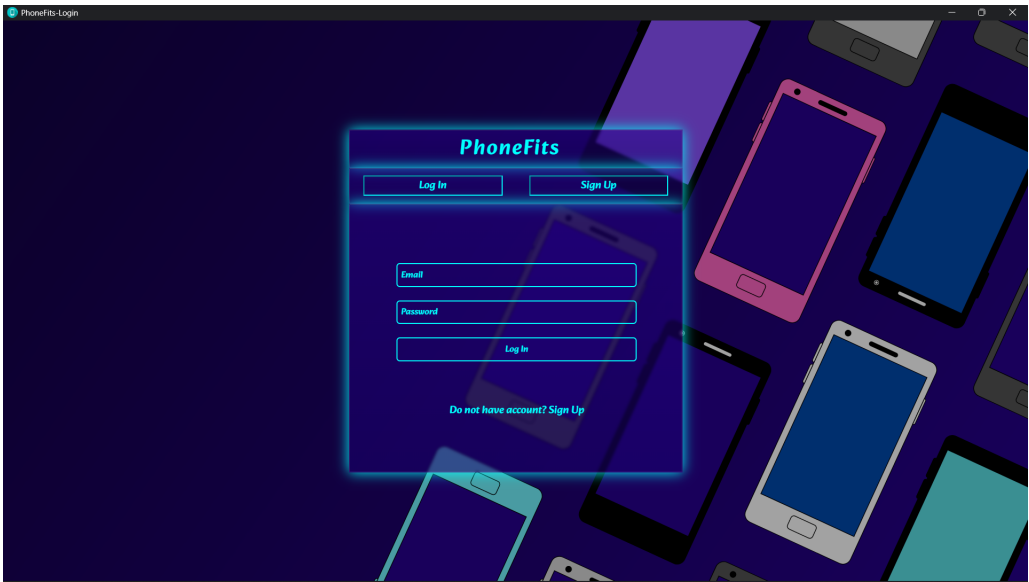
main.py > ...
1 import get
2 import json
3 import pandas as pd
4 import numpy as np
5 from sklearn.feature_extraction.text import CountVectorizer
6 from sklearn.metrics.pairwise import cosine_similarity
7
8
9 @eel.expose
10 def recieveDataToPython(jsToPy):
11     # this function is accessible from js
12     # print("Hello,Function called from js")
13     print(jsToPy)
14     # print(jsToPy['ram'])
15     # 0) Get user data and make a df
16     data = {
17         "Name": ['User Req name'],
18         "Rating": [jsToPy['rating']],
19         # "Price Rs": [jsToPy['budget']],
20         "RAM Gb": [jsToPy['ram']],
21         "ROM Gb": [jsToPy['rom']],
22         "Expandable GB": [' '],
23         "Size Cm": [' '],
24         "Size Inch": [jsToPy['size']],
25         "R1 Cam MP": [jsToPy['camera']],
26         "R2 Cam MP": [' '],
27         "R3 Cam MP": [' '],
28         "R4 Cam MP": [' '],
29         "Battery Mah": [jsToPy['battery']],
30         "Processor": ' ',
31         "Image": ' '
32     }
33     userDf = pd.DataFrame(data)
34     # 1)Read the dataset
35     # df = pd.read_csv("../frontend/reference_Dataset_2.csv", encoding='unicode_escape')
36     df = pd.read_csv("https://raw.githubusercontent.com/GeetSahani/Survey-Form/experiment/reference_Dataset_2.csv")
37     # print(df.columns)
38
39     # 1.1)Append the dataframe
40     df = userDf.append(df, ignore_index=True)
41     df = pd.concat([df], ignore_index=True)
42
43     # 2)Select Features
44     # features=["Price Rs","Rating","RAM Gb","ROM Gb","Size Inch","R1 Cam MP","Battery Mah"]
45
46     # 3)Create a column which will contain all these feat
47
48     def combineFeatures(row):
49         return str(row['RAM Gb'])+" "+str(row['ROM Gb'])+" "+str(row['Size Inch'])+" "+str(row['R1 Cam MP'])+" "+str(row['R2 Cam MP'])+" "+str(row['R3 Cam MP'])+" "+str(row['R4 Cam MP'])+" "+str(row['Battery Mah'])+" "+str(row['Processor'])+" "+str(row['Image'])
50     # this will create a seperate colm of combined features
```

```
Visual Studio Code

JS sendmail.js X

frontend > JS sendmail.js > sendFeedback
1 function sendFeedback() {
2     var params = {
3         name: document.getElementById("name").value,
4         email: document.getElementById("email").value,
5         feedback: document.getElementById("feedback").value,
6     };
7
8     const serviceID = "service_47w1pc";
9     const templateID = "template_hhrlesn";
10
11     emailjs.send(serviceID, templateID, params)
12         .then(
13             res => {
14                 document.getElementById("name").value = "";
15                 document.getElementById("email").value = "";
16                 document.getElementById("feedback").value = "";
17                 console.log("Feedback Form entries : ", res);
18                 alert("Your feedback has been sent. Thank you!");
19             },
20             err => console.log("Error occured : ", err)
21         )
22     }
23 }
24
```

RESULT DEMO



Login Page

PhoneFits-Auth

Authentication

Users | Sign-in method | Templates | Usage | Settings | Extensions **NEW**

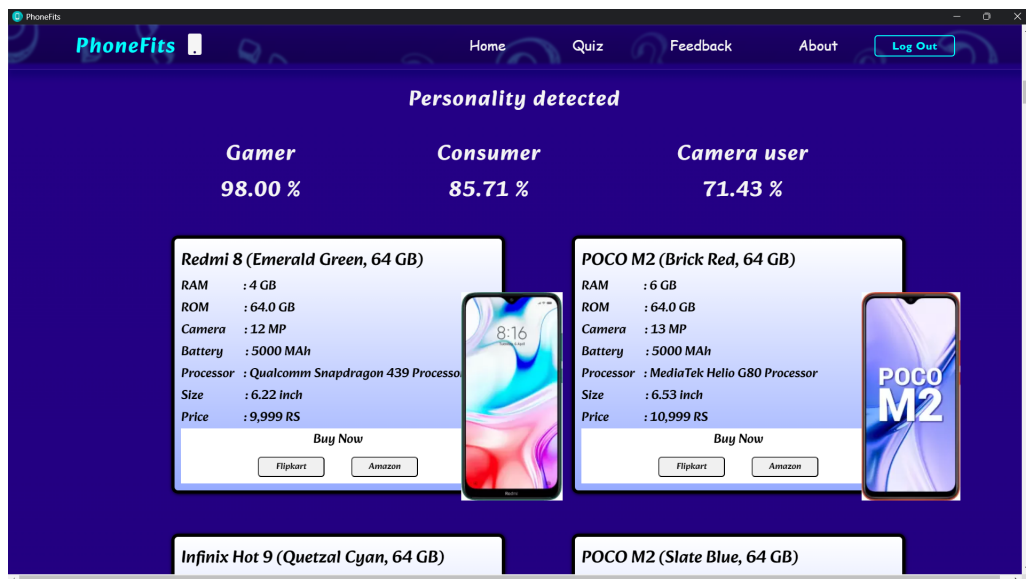
Search by email address, phone number, or user UID Add user

Identifier	Providers	Created ↓	Signed In	User UID
bajiraomastani@gmail.com	✉	Apr 20, 2023	Apr 20, 2023	Pgfl6rCPVTRN3O6bYYktnzmBFEu2
chetanbhanuse4@gmail.c...	✉	Apr 17, 2023	Apr 17, 2023	7bfdDWuQalaKtFp68XZSv9W0iL42
subodhchoudahri@gmail.c...	✉	Apr 17, 2023	Apr 17, 2023	hTrSa5f0d7NL4ji8d9veM4h9Xzv1
mohseen23@gmail.com	✉	Apr 16, 2023	Apr 16, 2023	3ukyusqmWfdLSEmvGRLXZ3WMg...
mohseen@gmail.com	✉	Apr 16, 2023	Apr 16, 2023	BtKfLoQZjPbQg4i8yBSkbYRCyzd2
user9@gmail.com	✉	Apr 16, 2023	Apr 16, 2023	JJx8bA7IzIzdKF5ihpAnvWtv2BV2
user8@gmail.com	✉	Apr 16, 2023	Apr 16, 2023	cwYJ6JfulEa8ND0kyfZndCvme0Y2
test7@gmail.com	✉	Apr 16, 2023	Apr 21, 2023	MJpcJGJnKHRgAYwSRrkvKSsFIN1
test6@gmail.com	✉	Apr 16, 2023	Apr 16, 2023	fWiurGm0l5NrwF8ZlqeG36JecnC3

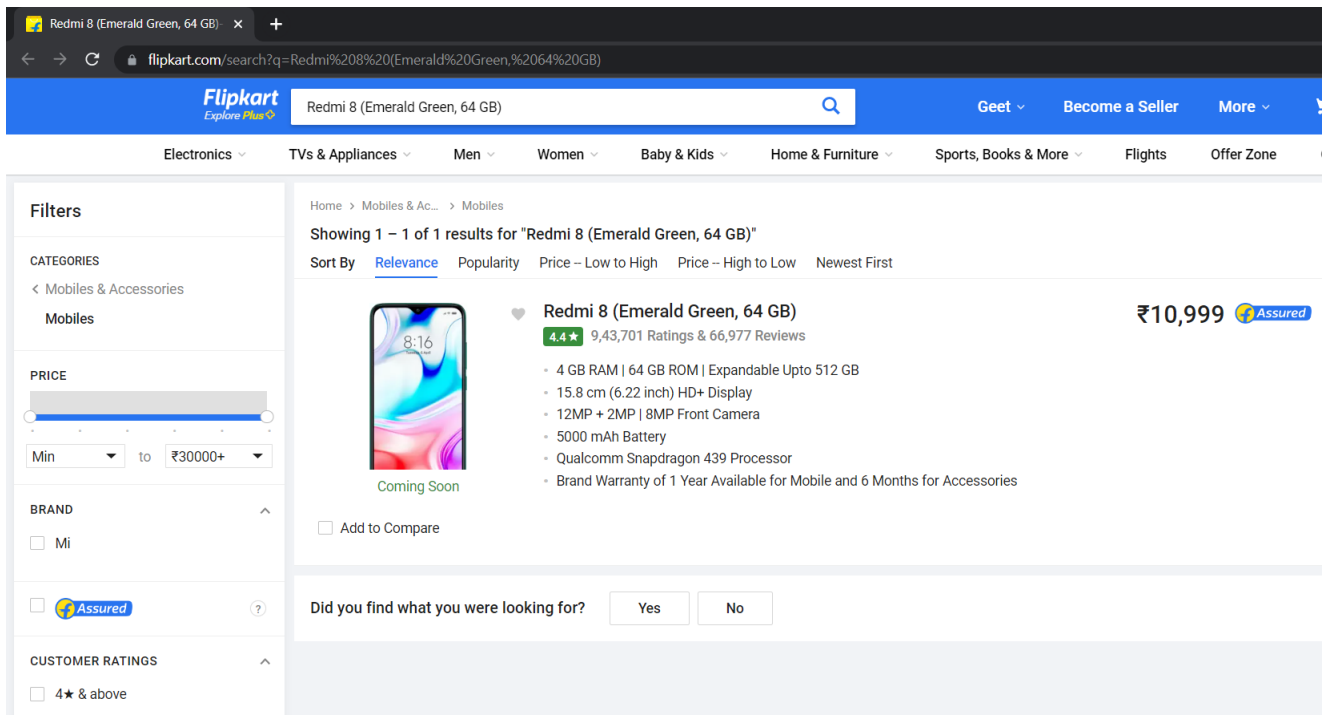
User Login data stored



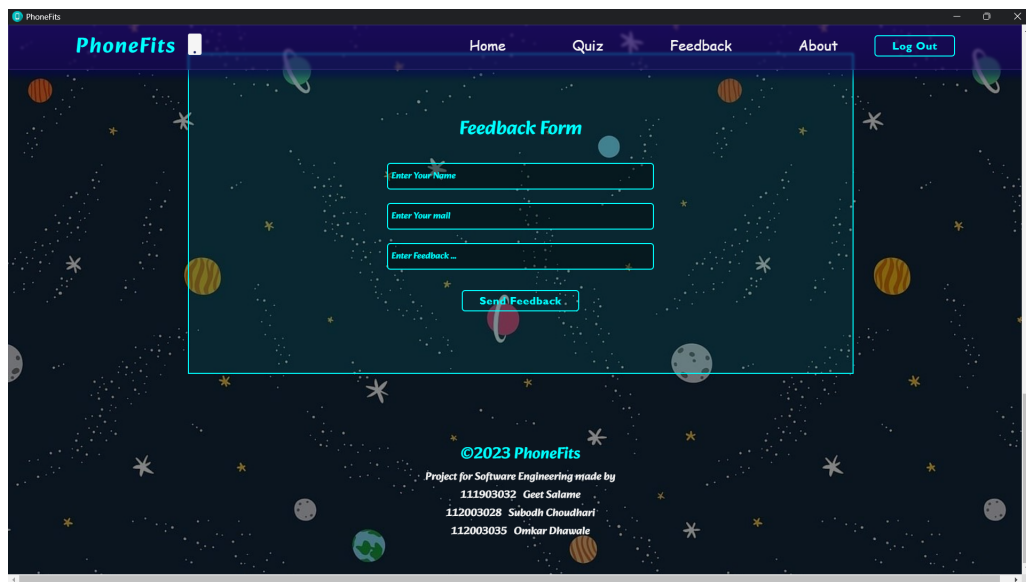
Quiz Page



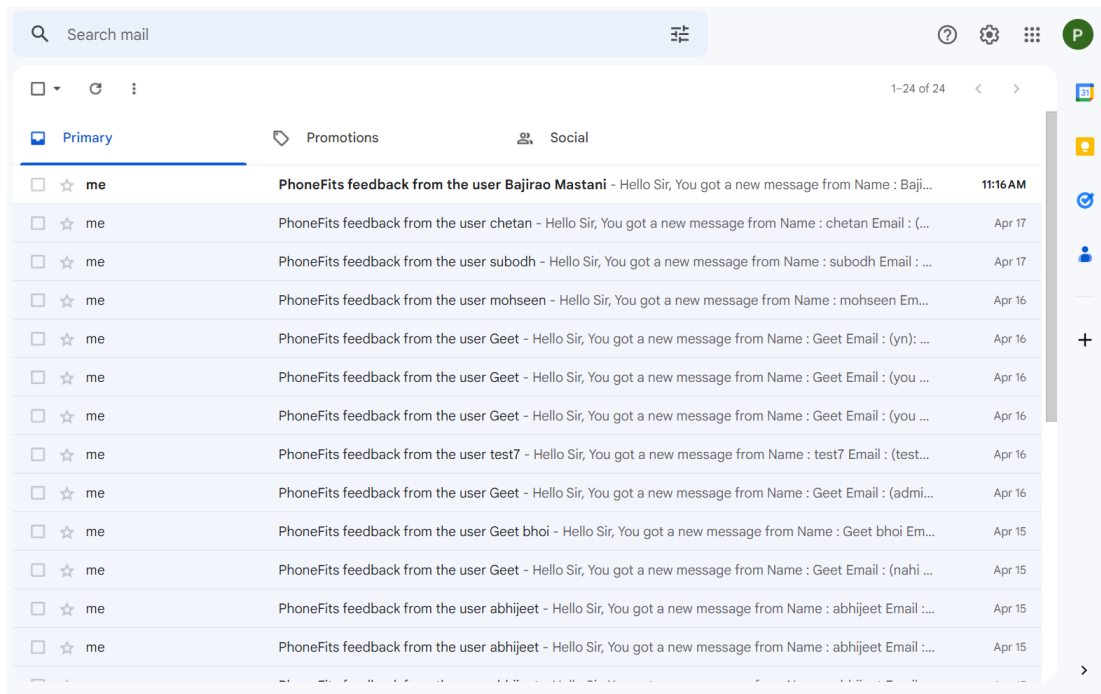
User getting suggestions



User redirected to Ecommerce site



Feedback Page



User Feedback getting mail to PhoneFits

FUTURE SCOPE

1. Integration with emerging technologies: The website can integrate with emerging technologies such as Artificial Intelligence (AI) and Machine Learning (ML) to improve the accuracy of recommendations and provide a more personalized experience for users.

2. Expansion to other consumer products: The website can expand its services to suggest other consumer products such as laptops, tablets, and wearables based on user personality traits and preferences.

3. Internationalization: The website can expand its services to cater to international markets and provide recommendations for smartphones and other consumer products in different languages and currencies.

4. Customization: The website can allow users to customize their recommendations by prioritizing specific features or specifications based on their preferences.

5. Data privacy and security: The website can enhance its data privacy and security measures to protect user information and comply with emerging data privacy regulations.

6. Personalized marketing: The website can use the user data collected to provide personalized marketing to users and offer targeted promotions and discounts based on their preferences and behaviors.