

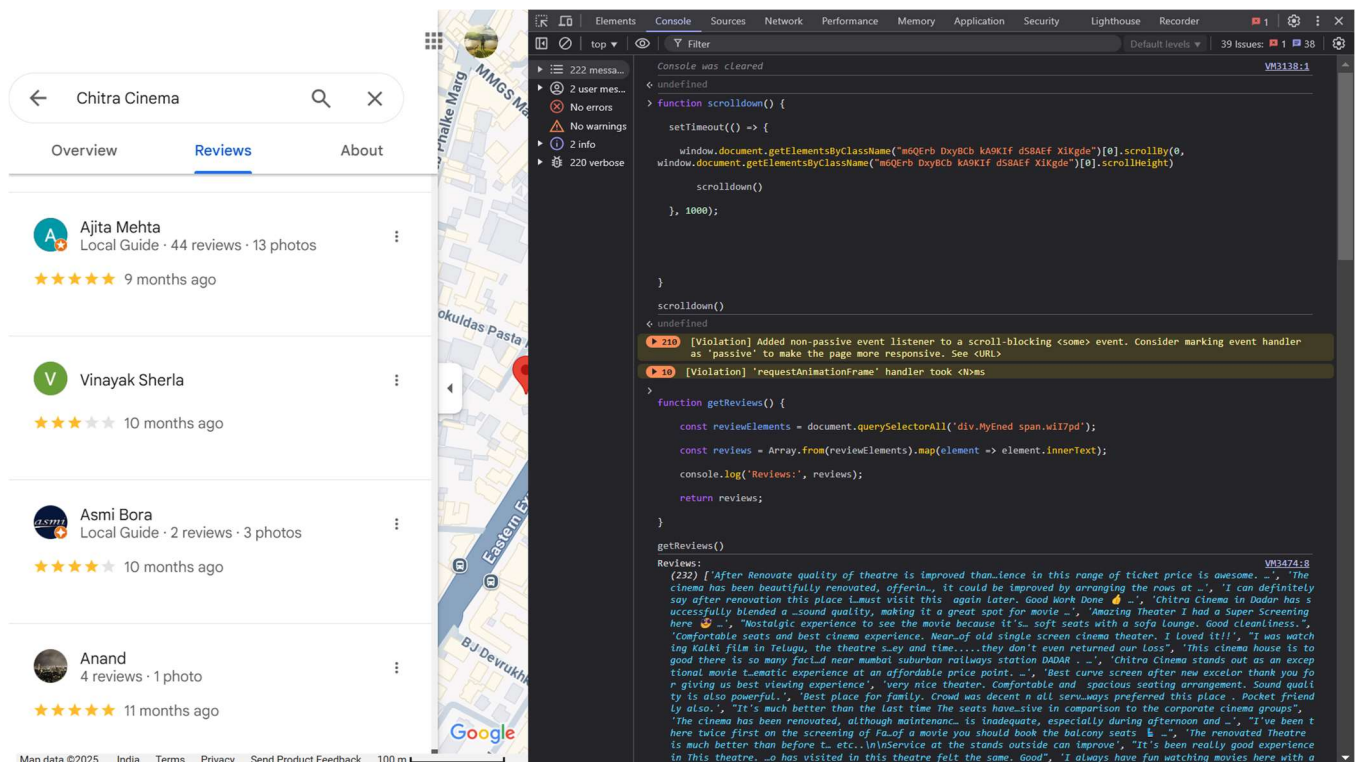
**Experiment No. 02**

Semester	B.E. Semester VIII – Computer Engineering
Subject	Social Media Analytics
Subject Professor In-charge	Prof. Amit Alyani
Academic Year	2024-25
Student Name	Deep Salunkhe
Roll Number	21102A0014

**Title:** Scrape customer reviews from Google & perform sentiment analysis

**Implementation:**

Scraping : Using standard js in console



The image shows a Google Maps interface on the left with a search for "Chitra Cinema". The "Reviews" tab is selected, showing five reviews from users: Ajita Mehta (44 reviews, 13 photos, 9 months ago), Vinayak Sherla (10 months ago), Asmi Bora (2 reviews, 3 photos, 10 months ago), and Anand (1 photo, 11 months ago). The right side of the image shows a browser's developer console with JavaScript code for scraping reviews. The code includes a `scrollDown` function to load more reviews and a `getReviews` function to extract the review text. The console also shows a warning about a non-passive event listener and a violation of the `requestAnimationFrame` handler.

```

function scrollDown() {
  setTimeout(() => {
    window.document.getElementsByClassName("mQEPb DwyBcb KA9KIf dSBAEF XIKgde")[0].scrollBy(0,
    window.document.getElementsByClassName("mQEPb DwyBcb KA9KIf dSBAEF XIKgde")[0].scrollHeight);
    scrollDown();
  }, 1000);
}

scrollDown()

[Violation] Added non-passive event listener to a scroll-blocking <some> event. Consider marking event handler as 'passive' to make the page more responsive. See <URL>

[Violation] 'requestAnimationFrame' handler took <ms>

function getReviews() {
  const reviewElements = document.querySelectorAll('div.MyEmed span.wI7pd');
  const reviews = Array.from(reviewElements).map(element => element.innerText);
  console.log('Reviews:', reviews);
  return reviews;
}

getReviews()
Reviews:
(22) ['After Renovate quality of theatre is improved than...ence in this range of ticket price is awesome. ...', 'The cinema has been beautifully renovated, offerin... it could be improved by arranging the rows at ...', 'I can definitely say after renovation this place I must visit this again later. Good Work Done ...', 'Chitra Cinema in Dadar has s... successfully blended a sound quality, making it a great spot for movie ...', 'Amazing Theater I had a Super Screening here ...', 'Nostalgic experience to see the movie because it's... soft seats with a sofa lounge. Good Cleanliness.', 'Comfortable seats and best cinema experience. Near of old single screen cinema theater. I loved it!!', 'I was watch ing Kolai film in Telugu, the theatre say and time... they don't even returned our loss', 'This cinema house is to good there is so many fac...d near mumbai suburban railways station DADAR ...', 'Chitra Cinema stands out as an excep tional movie t...ematic experience at an affordable price point. ...', 'Best curve screen after new excelar thank you fo r giving us best viewing experience', 'very nice theater. Comfortable and spacious seating arrangement. Sound quali ty is also powerful.', 'Best place for family. Crowd was decent n all ser...ways preferred this place. Pocket friend ly also.', 'It's much better than the last time The seats have...sive in comparison to the corporate cinema groups', 'The cinema has been renovated, although maintenanc... is inadequate, especially during afternoon and ...', 'I've been t here twice first on the screening of Fa...of a movie you should book the balcony seats ...', 'The renovated Theatre is much better than before ... etc...inService at the stands outside can improve', 'It's been really good experience in This theatre. ... has visited in this theatre felt the same. Good', 'I always have fun watching movies here with a

```

✓  
10s

```
[2] from textblob import TextBlob

def analyze_sentiment(review):
    # Create a TextBlob object
    blob = TextBlob(review)

    # Get polarity: -1 = negative, 0 = neutral, 1 = positive
    polarity = blob.sentiment.polarity

    # Determine sentiment based on polarity
    if polarity > 0:
        sentiment = "Positive"
    elif polarity < 0:
        sentiment = "Negative"
    else:
        sentiment = "Neutral"

    return sentiment, polarity

# Example: Analyze sentiment of the first 10 reviews
for idx, review in enumerate(reviews, start=1):
    sentiment, polarity = analyze_sentiment(review)
    print(f"review {idx}: Sentiment = {sentiment}, Polarity = {polarity}")
```



```
review 1: Sentiment = Positive, Polarity = 0.4166666666666667
review 2: Sentiment = Positive, Polarity = 0.38333333333333336
review 3: Sentiment = Positive, Polarity = 0.32299999999999995
review 4: Sentiment = Positive, Polarity = 0.3880952380952381
review 5: Sentiment = Positive, Polarity = 0.46666666666666667
review 6: Sentiment = Positive, Polarity = 0.13333333333333333
review 7: Sentiment = Positive, Polarity = 0.4628571428571428
review 8: Sentiment = Negative, Polarity = -0.39999999999999997
review 9: Sentiment = Positive, Polarity = 0.325
review 10: Sentiment = Positive, Polarity = 0.19166666666666665
```



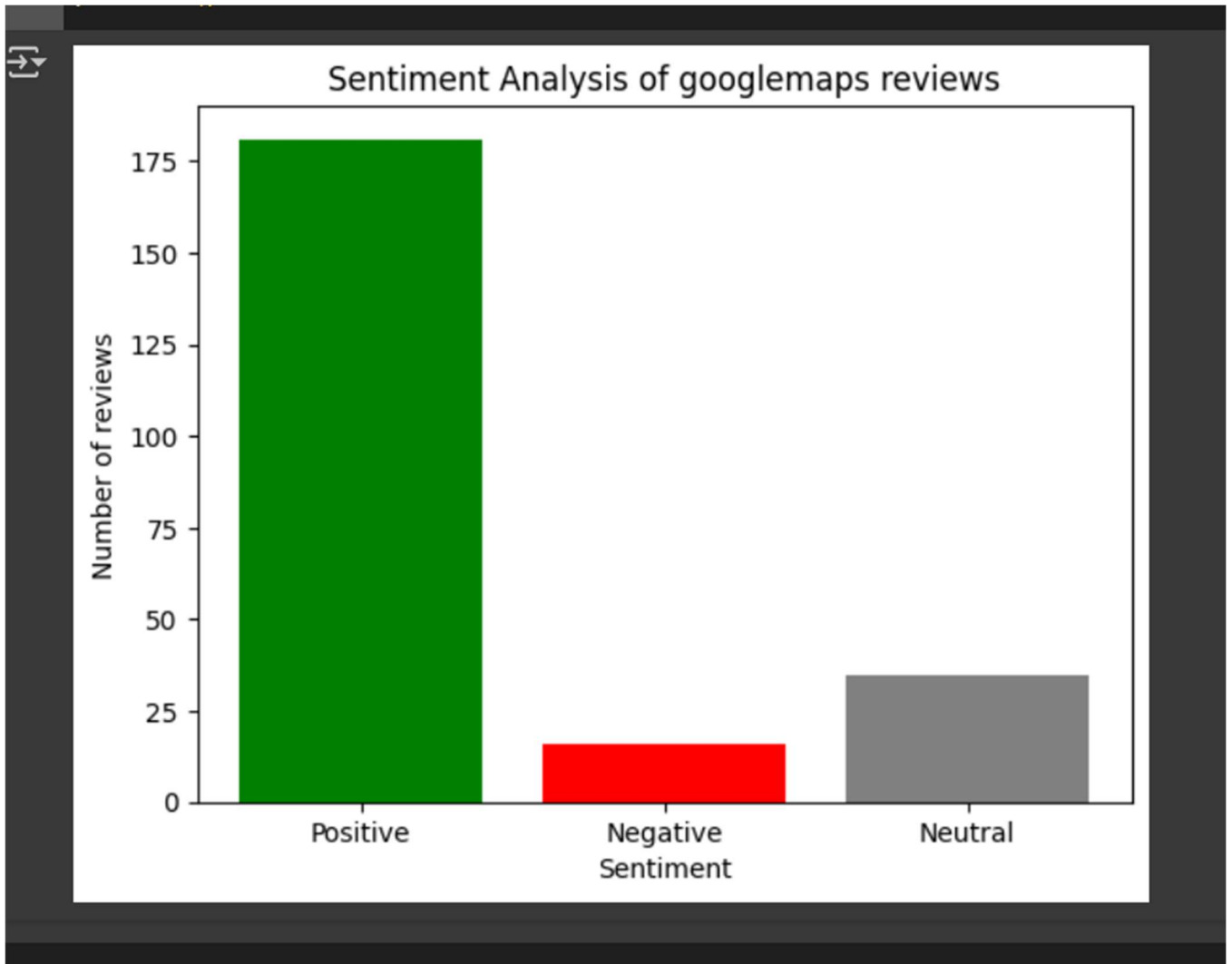
```
import matplotlib.pyplot as plt

# Analyze sentiment of the reviews
sentiments = {"Positive": 0, "Negative": 0, "Neutral": 0}

for review in reviews:
    sentiment, _ = analyze_sentiment(review)
    sentiments[sentiment] += 1

# Create a bar graph for the sentiments
labels = list(sentiments.keys())
values = list(sentiments.values())

plt.bar(labels, values, color=["green", "red", "gray"])
plt.title("Sentiment Analysis of googlemaps reviews")
plt.xlabel("Sentiment")
plt.ylabel("Number of reviews")
plt.show()
```



**Insights:**

- Most of the people has positive response
- Some have negative response due to bad experience due to technical issues during movie