Airbnb Price Prediction

Weekly Project Meeting Minutes
Date of meeting: 03/27/2023 – 03/31/2023
Group: 6
Section: 4

Group members:

Name	ID
Joyal Patel	0792200
Raihaanah Abubakkar Sidiq	0785786
Ezekiel Ayeni	0778486
Jyoti Bala	0792019
Harsh Kumar	0791250

Specific Activities that were completed/worked on:

List brief description of activities carried out by group members.

- During the week of 27th to 31st March 2023, the team met to review the progress made since the last meeting.
- All member of the team to participate in taking minutes of every meeting within the period under review, this would be collated by Ezekiel Ayeni for final submission.
- Jyoti Bala, Rihaanah Sidiq Ezekiel Ayeni, Harsh Kumar, and Joyal Patel, all applied the K-means algorithm clustering, this will help to identify clusters based on regions with respect to density and price.
- Jyoti Bala, Harsh Kumar, Ezekiel Ayeni, Rihaanah Sidiq, and Joyal Patel commenced work to complete preparation of models.

Specific Output from work:

Include a brief summary of any written work or any code developed.

- Clustering algorithm gave the team a reasonable direction on what location, region, and cities are densely used by guests with respect to price.
- K-means algorithm was used in developing the clustering as stated below:

Standardizing the data

```
i=[]
f=['price', 'number_of_reviews', 'reviews_per_month', 'availability_365']
scaler = StandardScaler()
normalized_data = scaler.fit_transform(df[f])

for a in range(1,10):
   kmeans = KMeans(n_clusters=a)
```

```
kmeans.fit(normalized_data)
i.append(kmeans.inertia_)
```

Calculate within-cluster sum of squares (WCSS)

```
wcss = kmeans.inertia_
print('WCSS:', wcss)
```

```
df1=list(zip(df["price"],df["availability_365"]))
```

Plotting the cluster

```
kmeans = KMeans(n_clusters=2 ,random_state=32)
kmeans.fit(df1)
plt.scatter(df["price"],df["availability_365"], c=kmeans.labels_)
plt.xlabel('price')
plt.ylabel('Availability_365')
plt.title('Airbnb Clusters')
plt.show()
```

On Target:

- Indicate the current status of your project:
  - _____ green: everything on track for completion by due date

Challenges/Disagreements:

List any challenges identified/discussed and possible solutions.

- One minor challenge is allocating different sections of storytelling to each group members.
- The status of the project remains green.

List any notable disagreements and subsequent discussion and resolution.

- At this stage of the project, there was no major disagreements within the team. All concerns were duly resolved.

Planned Activities for coming week:

List brief description of activities by group members

- The team to complete storytelling documents for presentation. Harsh Kumar, Jyoti Bala, Ezekiel Ayeni, Joyal Patel, and Rihaanah Sidiq to forward their section of storytelling to Ezekiel Ayeni for compilation.
- Rihaanah Sidiq, Jyoti Bala, Joyal Patel, Harsh Kumar and Ezekiel Ayeni to finalize the models.