**My Working analysis is as below :**# Step 3: Load the datasets from Google Drive

page\_performance\_path = '/content/drive/My Drive/Hartford Health Care - Capstone Project - Team 6/M-Page Performance.xlsx'

event\_tracking\_path = '/content/drive/My Drive/Hartford Health Care - Capstone Project - Team 6/M-Event Tracking.xlsx'

Page Performance Dataset:

Hostname Page path \

0 hartfordhealthcaremedicalgroup.org /find-a-doctor

1 hartfordhealthcaremedicalgroup.org /

2 hartfordhealthcaremedicalgroup.org /appointments

3 ctorthoinstitute.org /

4 hartfordhealthcaremedicalgroup.org /specialties/primary-care

Page Location \

0 <https://hartfordhealthcaremedicalgroup.org/fin>...

1 <https://hartfordhealthcaremedicalgroup.org/>

2 <https://hartfordhealthcaremedicalgroup.org/app>...

3 <https://ctorthoinstitute.org/>

4 <https://hartfordhealthcaremedicalgroup.org/spe>...

Page title and screen class Views Sessions \

0 Find a Doctor | hartfordhealthcaremedicalgroup... 91272 55522

1 Home | hartfordhealthcaremedicalgroup.org | Ha... 74852 65114

2 Make an Appointment | hartfordhealthcaremedica... 53729 45687

3 Connecticut Orthopaedic Institute at MidState ... 41537 38273

4 Primary Care | hartfordhealthcaremedicalgroup.org 30683 18948

Engaged sessions Total users New users Engagement rate Engagement Time \

0 5530 48289 4989 0.099600 2506959740

1 32120 55668 33273 0.493289 932882235

2 4495 38539 4794 0.098387 1548247510

3 5949 31778 29837 0.155436 148446137

4 5931 17077 5231 0.313015 652807619

Average Engagement Time (Engagement Time/Session) \

0 45152.547459

1 14326.907194

2 33888.141266

3 3878.612521

4 34452.587028

New Value

0 hartfordhealthcaremedicalgroup.org

1 hartfordhealthcaremedicalgroup.org

2 hartfordhealthcaremedicalgroup.org

3 ctorthoinstitute.org

4 hartfordhealthcaremedicalgroup.org

Event Tracking Dataset:

Hostname Page path \

0 [www.hhcprimarycare.com](http://www.hhcprimarycare.com/) /

1 [www.hhcprimarycare.com](http://www.hhcprimarycare.com/) /

2 [www.hhcprimarycare.com](http://www.hhcprimarycare.com/) /

3 [www.hhcprimarycare.com](http://www.hhcprimarycare.com/) /

4 [www.hartfordspecialists.org](http://www.hartfordspecialists.org/) /

Page location \

0 <https://www.hhcprimarycare.com/>

1 <https://www.hhcprimarycare.com/>

2 <https://www.hhcprimarycare.com/>

3 <https://www.hhcprimarycare.com/>

4 <https://www.hartfordspecialists.org/>

Page title and screen class Event name \

0 Home | hhcprimarycare.com | Hartford HealthCar... first\_visit

1 Home | hhcprimarycare.com | Hartford HealthCar... page\_view

2 Home | hhcprimarycare.com | Hartford HealthCar... session\_start

3 Home | hhcprimarycare.com | Hartford HealthCar... user\_engagement

4 Home | hartfordspecialists.org | Hartford Heal... first\_visit

Element Action Click Text Click URL Percent scrolled Event count

0 (not set) (not set) (not set) (not set) NaN 11

1 (not set) (not set) (not set) (not set) NaN 11

2 (not set) (not set) (not set) (not set) NaN 11

3 (not set) (not set) (not set) (not set) NaN 6

4 (not set) (not set) (not set) (not set) NaN 6

\*\* User Engagement Analysis\*\*

[21]

0s

# Identify the top 10 pages with the highest engagement rate  
top\_engaged\_pages = page\_performance\_df.sort\_values(by='Engagement rate', ascending=False).head(10)  
  
# Identify the bottom 10 pages with the lowest engagement rate  
low\_engaged\_pages = page\_performance\_df.sort\_values(by='Engagement rate', ascending=True).head(10)  
  
# Display key insights  
print("Top 10 Engaged Pages:")  
print(top\_engaged\_pages[['Hostname', 'Page path', 'Views', 'Engaged sessions', 'Engagement rate', 'Engagement Time', 'Average Engagement Time (Engagement Time/Session)']])  
  
print("\nBottom 10 Engaged Pages:")  
print(low\_engaged\_pages[['Hostname', 'Page path', 'Views', 'Engaged sessions', 'Engagement rate', 'Engagement Time', 'Average Engagement Time (Engagement Time/Session)']])

Top 10 Engaged Pages:

Hostname \

31324 hartfordhealthcaremedicalgroup.org

38563 ctorthomidstate.org

38531 hartfordhealthcaremedicalgroup.org

38533 hartfordhealthcaremedicalgroup.org

38534 ctorthomidstate.org

38537 ctorthomidstate.org

38539 ctorthostvincents.org

38541 ctorthostvincents.org

38542 hartfordhealthcaremedicalgroup.org

75367 ctorthostvincents.org

Page path Views \

31324 /khalilahdann 2

38563 /doctors 1

38531 /specialties/primary-care 1

38533 /locations/primary-care/stratford/2890-main-st... 1

38534 /doctors 1

38537 /doctors 1

38539 /doctors 1

38541 /procedures/joint-replacements/hip-replacement 1

38542 /locations/primary-care 1

75367 / 1

Engaged sessions Engagement rate Engagement Time \

31324 1 1.0 8382

38563 1 1.0 142181

38531 1 1.0 143444

38533 1 1.0 143363

38534 1 1.0 143308

38537 1 1.0 143098

38539 1 1.0 143077

38541 1 1.0 143011

38542 1 1.0 142966

75367 1 1.0 16414

Average Engagement Time (Engagement Time/Session)

31324 8382.0

38563 142181.0

38531 143444.0

38533 143363.0

38534 143308.0

38537 143098.0

38539 143077.0

38541 143011.0

38542 142966.0

75367 16414.0

Bottom 10 Engaged Pages:

Hostname \

49365 hartfordhealthcaremedicalgroup.org

59268 hartfordhealthcaremedicalgroup.org

59270 hartfordhealthcaremedicalgroup.org

59272 hartfordhealthcaremedicalgroup.org

59274 hartfordhealthcaremedicalgroup.org

59278 hartfordhealthcaremedicalgroup.org

59279 hartfordhealthcaremedicalgroup.org

59281 hartfordhealthcaremedicalgroup.org

59285 hartfordhealthcaremedicalgroup.org

59287 hartfordhealthcaremedicalgroup.org

Page path Views \

49365 /find-a-doctor 1

59268 /find-a-doctor 1

59270 /find-a-doctor 1

59272 /find-a-doctor 1

59274 /find-a-doctor 1

59278 /specialties/primary-care 1

59279 /find-a-doctor 1

59281 /locations/primary-care/primary-care-in-southw... 1

59285 /find-a-doctor 1

59287 /find-a-doctor 1

Engaged sessions Engagement rate Engagement Time \

49365 0 0.0 48776

59268 0 0.0 30005

59270 0 0.0 30001

59272 0 0.0 29999

59274 0 0.0 29997

59278 0 0.0 29992

59279 0 0.0 29990

59281 0 0.0 29990

59285 0 0.0 29982

59287 0 0.0 29980

Average Engagement Time (Engagement Time/Session)

49365 48776.0

59268 30005.0

59270 30001.0

59272 29999.0

59274 29997.0

59278 29992.0

59279 29990.0

59281 29990.0

59285 29982.0

59287 29980.0

keyboard\_arrow\_down

**Call-to-Action (CTA) Performance Analysis**

[22]

0s

# Group by Click Text and Click URL to find the most clicked CTAs  
cta\_summary = event\_tracking\_df.groupby(['Click Text', 'Click URL']).agg({'Event count': 'sum'}).reset\_index()  
  
# Sort by the most clicked CTAs  
most\_clicked\_ctas = cta\_summary.sort\_values(by='Event count', ascending=False).head(10)  
  
# Display the most clicked CTAs  
print("\nTop 10 Most Clicked CTAs:")  
print(most\_clicked\_ctas)  
  
# Identify CTAs that have high clicks but low conversion or engagement (assuming conversion data exists)

Top 10 Most Clicked CTAs:

Click Text \

3 (not set)

1945 Find a Doctor

1946 Find a Doctor

1677 Click here to access MyChartPLUS

1150 Appointments

1952 Find a Location

1578 Call for a Primary Care Appointment

1903 Explore Primary Care Locations

2462 Make an Appointment

2433 Locations

Click URL Event count

3 (not set) 683125

1945 <https://hartfordhealthcaremedicalgroup.org/fin>... 6955

1946 <https://hartfordhealthcaremedicalgroup.org/fin>... 2778

1677 <https://mychartplus.org/> 2484

1150 <https://hartfordhealthcaremedicalgroup.org/app>... 1836

1952 <https://hartfordhealthcaremedicalgroup.org/loc>... 1438

1578 tel:877.707.4442 1315

1903 <https://hartfordhealthcaremedicalgroup.org/loc>... 1302

2462 <https://hartfordhealthcaremedicalgroup.org/app>... 1250

2433 <https://hartfordhealthcaremedicalgroup.org/loc>... 1101

keyboard\_arrow\_down

\*\* Page Performance Analysis\*\*

[23]

0s

# Identify top-performing pages by views and engagement  
top\_performing\_pages = page\_performance\_df.sort\_values(by='Views', ascending=False).head(10)  
  
# Identify pages with high views but low engagement  
high\_view\_low\_engagement = page\_performance\_df[(page\_performance\_df['Views'] > 1000) & (page\_performance\_df['Engagement rate'] < 0.1)]  
  
# Display top-performing pages and pages with high views but low engagement  
print("\nTop 10 Performing Pages (by Views):")  
print(top\_performing\_pages[['Hostname', 'Page path', 'Views', 'Engaged sessions', 'Engagement rate', 'Engagement Time', 'Average Engagement Time (Engagement Time/Session)']])  
  
print("\nPages with High Views but Low Engagement:")  
print(high\_view\_low\_engagement[['Hostname', 'Page path', 'Views', 'Engaged sessions', 'Engagement rate', 'Engagement Time', 'Average Engagement Time (Engagement Time/Session)']])

Top 10 Performing Pages (by Views):

Hostname Page path Views \

0 hartfordhealthcaremedicalgroup.org /find-a-doctor 91272

1 hartfordhealthcaremedicalgroup.org / 74852

2 hartfordhealthcaremedicalgroup.org /appointments 53729

3 ctorthoinstitute.org / 41537

4 hartfordhealthcaremedicalgroup.org /specialties/primary-care 30683

5 hartfordhealthcaremedicalgroup.org /locations 27308

6 hartfordhealthcaremedicalgroup.org /locations/primary-care 19471

7 hartfordhealthcaremedicalgroup.org /contact-us 17542

8 ctorthomidstate.org / 15116

9 hartfordhealthcaremedicalgroup.org /mychart 14629

Engaged sessions Engagement rate Engagement Time \

0 5530 0.099600 2506959740

1 32120 0.493289 932882235

2 4495 0.098387 1548247510

3 5949 0.155436 148446137

4 5931 0.313015 652807619

5 2531 0.131269 518701124

6 887 0.068016 515799576

7 2398 0.157556 533746542

8 2990 0.220583 160190814

9 3324 0.243231 228991334

Average Engagement Time (Engagement Time/Session)

0 45152.547459

1 14326.907194

2 33888.141266

3 3878.612521

4 34452.587028

5 26902.189928

6 39552.149068

7 35068.760972

8 11817.839469

9 16756.280843

Pages with High Views but Low Engagement:

Hostname \

0 hartfordhealthcaremedicalgroup.org

2 hartfordhealthcaremedicalgroup.org

6 hartfordhealthcaremedicalgroup.org

13 hartfordhealthcaremedicalgroup.org

14 hartfordhealthcaremedicalgroup.org

30 hartfordhealthcaremedicalgroup.org

32 hartfordhealthcaremedicalgroup.org

36 hartfordhealthcaremedicalgroup.org

39 hartfordhealthcaremedicalgroup.org

51 ctorthoinstitute.org

54 hartfordhealthcaremedicalgroup.org

57 hartfordhealthcaremedicalgroup.org

62 ctorthostvincents.org

63 hartfordhealthcaremedicalgroup.org

68 hartfordhealthcaremedicalgroup.org

72 hartfordhealthcaremedicalgroup.org

77 hartfordhealthcaremedicalgroup.org

81 hartfordhealthcaremedicalgroup.org

83 hartfordhealthcaremedicalgroup.org

91 ctorthoinstitute.org

109 hartfordhealthcaremedicalgroup.org

119 hartfordhealthcaremedicalgroup.org

123 ctorthostvincents.org

136 hartfordhealthcaremedicalgroup.org

150 hartfordhealthcaremedicalgroup.org

155 hartfordhealthcaremedicalgroup.org

177 hartfordhealthcaremedicalgroup.org

195 hartfordhealthcaremedicalgroup.org

251 hartfordhealthcaremedicalgroup.org

272 hartfordhealthcaremedicalgroup.org

296 hartfordhealthcaremedicalgroup.org

298 hartfordhealthcaremedicalgroup.org

301 hartfordhealthcaremedicalgroup.org

368 hartfordhealthcaremedicalgroup.org

411 ctorthostvincents.org

445 hartfordhealthcaremedicalgroup.org

480 hartfordhealthcaremedicalgroup.org

491 hartfordhealthcaremedicalgroup.org

513 ctorthomidstate.org

527 hartfordhealthcaremedicalgroup.org

528 hartfordhealthcaremedicalgroup.org

Page path Views \

0 /find-a-doctor 91272

2 /appointments 53729

6 /locations/primary-care 19471

13 /find-a-doctor 10689

14 /locations/primary-care/primary-locations 10665

30 /video-gallery 6558

32 /specialties/specialty-care 6459

36 /locations/specialty-care 6216

39 /locations/primary-care 5854

51 / 5073

54 /about-us 5013

57 /locations/specialty-care 4876

62 /doctors 4609

63 /specialties/primary-care/family-medicine 4594

68 /find-a-doctor 4262

72 /specialties 4101

77 /for-job-seekers 3974

81 /specialties/specialties-a-z 3791

83 /locations/family-health-centers 3747

91 / 3439

109 /find-a-doctor 3094

119 /find-a-doctor 3003

123 / 2940

136 /virtual-health-visits 2781

150 /appointments/frequently-asked-questions 2648

155 /specialties/primary-care/family-medicine 2574

177 /specialties/primary-care/primary-care-in-sout... 2394

195 /appointments/virtual-registration 2219

251 /for-physicians 1884

272 /find-a-doctor 1770

296 /resources/classes-events 1674

298 /find-a-doctor 1665

301 /find-a-doctor 1642

368 /specialties/primary-care/urgent-care 1418

411 /home 1320

445 /specialties/primary-care/primary-care-in-sout... 1235

480 /find-a-doctor 1158

491 /for-physicians/referring-patients 1128

513 /about 1087

527 /find-a-doctor 1064

528 /find-a-doctor 1061

Engaged sessions Engagement rate Engagement Time \

0 5530 0.099600 2506959740

2 4495 0.098387 1548247510

6 887 0.068016 515799576

13 164 0.030949 491133826

14 346 0.050029 277732481

30 66 0.013168 291670114

32 216 0.043365 123296511

36 98 0.020807 145301589

39 301 0.083588 153209911

51 145 0.028577 1321961

54 451 0.098925 114877698

57 78 0.021959 107678852

62 346 0.089175 299873163

63 153 0.057218 149646588

68 35 0.017766 186916660

72 241 0.076266 59477107

77 166 0.044950 60028871

81 190 0.057419 86644543

83 66 0.020606 84761035

91 85 0.025836 979717

109 24 0.018490 148312483

119 11 0.009220 83891098

123 99 0.035269 1205263

136 144 0.056272 73232530

150 192 0.077985 88370284

155 147 0.089580 76055143

177 92 0.057680 32784143

195 58 0.027738 53978613

251 36 0.021378 26070587

272 14 0.013258 54352773

296 65 0.059361 32796482

298 14 0.019391 74506104

301 24 0.028402 86442813

368 117 0.085966 50610987

411 72 0.059751 13723264

445 21 0.017185 358930

480 6 0.012848 52804651

491 17 0.020531 16326085

513 60 0.060241 59233110

527 9 0.019438 46713990

528 24 0.026030 49318325

Average Engagement Time (Engagement Time/Session)

0 45152.547459

2 33888.141266

6 39552.149068

13 92684.247216

14 40157.964286

30 58194.356345

32 24753.364987

36 30849.594268

39 42546.490142

51 260.536263

54 25198.003510

57 30314.992117

62 77286.897680

63 55963.570681

68 94881.553299

72 18821.869304

77 16254.771460

81 26184.509822

83 26463.014362

91 297.786322

109 114262.313559

119 70319.445096

123 429.377627

136 28617.635795

150 35893.697807

155 46346.826935

177 20554.321630

195 25814.736011

251 15481.346200

272 51470.428977

296 29951.125114

298 103194.049861

301 102299.186982

368 37186.617928

411 11388.600830

445 293.723404

480 113072.057816

491 19717.493961

513 59470.993976

527 100894.146868

528 53490.591106

keyboard\_arrow\_down

Scroll Depth Analysis (If available)

[24]

0s

# Analyze scroll depth (Percent Scrolled) if applicable  
scroll\_depth\_analysis = event\_tracking\_df[['Page path', 'Percent scrolled', 'Event count']].dropna()  
  
# Identify pages where users tend to leave before scrolling far  
low\_scroll\_depth\_pages = scroll\_depth\_analysis[scroll\_depth\_analysis['Percent scrolled'] < 50].head(10)  
  
print("\nPages with Low Scroll Depth (Users leave early):")  
print(low\_scroll\_depth\_pages)

Pages with Low Scroll Depth (Users leave early):

Empty DataFrame

Columns: [Page path, Percent scrolled, Event count]

Index: []

keyboard\_arrow\_down

User Segmentation Based on Engagement

[25]

0s

# Segment users based on engagement rate thresholds  
high\_engagement = page\_performance\_df[page\_performance\_df['Engagement rate'] > 0.5]  
medium\_engagement = page\_performance\_df[(page\_performance\_df['Engagement rate'] <= 0.5) & (page\_performance\_df['Engagement rate'] > 0.2)]  
low\_engagement = page\_performance\_df[page\_performance\_df['Engagement rate'] <= 0.2]  
  
# Display segmented user data  
print("\nHigh Engagement Pages:")  
print(high\_engagement[['Hostname', 'Page path', 'Views', 'Engaged sessions', 'Engagement rate', 'Average Engagement Time (Engagement Time/Session)']])  
  
print("\nMedium Engagement Pages:")  
print(medium\_engagement[['Hostname', 'Page path', 'Views', 'Engaged sessions', 'Engagement rate', 'Average Engagement Time (Engagement Time/Session)']])  
  
print("\nLow Engagement Pages:")  
print(low\_engagement[['Hostname', 'Page path', 'Views', 'Engaged sessions', 'Engagement rate', 'Average Engagement Time (Engagement Time/Session)']])

High Engagement Pages:

Hostname \

17 hartfordhealthcaremedicalgroup.org

18 hartfordhealthcaremedicalgroup.org

20 hartfordhealthcaremedicalgroup.org

26 hartfordhealthcaremedicalgroup.org

28 hartfordhealthcaremedicalgroup.org

... ...

98708 ctorthostvincents.org

98710 hartfordhealthcaremedicalgroup.org

98715 hartfordhealthcaremedicalgroup.org

98722 hartfordhealthcaremedicalgroup.org

98724 hartfordhealthcaremedicalgroup.org

Page path Views \

17 /specialties/specialty-care/neurology 9780

18 /specialties/specialty-care/endocrinology-diab... 9729

20 /specialties/specialty-care/cardiology 8528

26 /locations/primary-care/wallingford 6889

28 /locations/specialty-care/norwich/1-towne-park... 6685

... ... ...

98708 /doctors 1

98710 /resources/health-resources/health-library/detail 1

98715 /locations/primary-care 1

98722 /specialties/primary-care 1

98724 /specialties/primary-care 1

Engaged sessions Engagement rate \

17 4408 0.616159

18 3009 0.600959

20 2977 0.545438

26 3025 0.559563

28 2926 0.564211

... ... ...

98708 1 1.000000

98710 1 1.000000

98715 1 1.000000

98722 1 1.000000

98724 1 1.000000

Average Engagement Time (Engagement Time/Session)

17 57173.698211

18 51115.577591

20 49942.778674

26 37184.436182

28 42113.311801

... ...

98708 6231.000000

98710 6230.000000

98715 6228.000000

98722 6225.000000

98724 6224.000000

[34431 rows x 6 columns]

Medium Engagement Pages:

Hostname Page path Views \

1 hartfordhealthcaremedicalgroup.org / 74852

4 hartfordhealthcaremedicalgroup.org /specialties/primary-care 30683

8 ctorthomidstate.org / 15116

9 hartfordhealthcaremedicalgroup.org /mychart 14629

11 ctorthostvincents.org / 12283

... ... ... ...

96098 hartfordhealthcaremedicalgroup.org /specialties/primary-care 1

96462 ctorthomidstate.org /contact-directions 1

96475 hartfordhealthcaremedicalgroup.org /find-a-doctor 1

96893 hartfordhealthcaremedicalgroup.org /find-a-doctor 1

98038 hartfordhealthcaremedicalgroup.org /specialties/primary-care 1

Engaged sessions Engagement rate \

1 32120 0.493289

4 5931 0.313015

8 2990 0.220583

9 3324 0.243231

11 2636 0.238207

... ... ...

96098 1 0.500000

96462 1 0.500000

96475 1 0.500000

96893 1 0.500000

98038 1 0.500000

Average Engagement Time (Engagement Time/Session)

1 14326.907194

4 34452.587028

8 11817.839469

9 16756.280843

11 10346.179920

... ...

96098 3598.500000

96462 3532.500000

96475 3529.500000

96893 3451.500000

98038 3237.000000

[4854 rows x 6 columns]

Low Engagement Pages:

Hostname \

0 hartfordhealthcaremedicalgroup.org

2 hartfordhealthcaremedicalgroup.org

3 ctorthoinstitute.org

5 hartfordhealthcaremedicalgroup.org

6 hartfordhealthcaremedicalgroup.org

... ...

98725 ctorthomidstate.org

98726 ctorthomidstate.org

98727 ctorthomidstate.org

98728 hartfordhealthcaremedicalgroup.org

98729 hartfordhealthcaremedicalgroup.org

Page path Views \

0 /find-a-doctor 91272

2 /appointments 53729

3 / 41537

5 /locations 27308

6 /locations/primary-care 19471

... ... ...

98725 /doctors 1

98726 /health-resources/health-library/detail 1

98727 /search 1

98728 /locations/primary-care/stratford/2890-main-st... 1

98729 /specialties/primary-care 1

Engaged sessions Engagement rate \

0 5530 0.099600

2 4495 0.098387

3 5949 0.155436

5 2531 0.131269

6 887 0.068016

... ... ...

98725 0 0.000000

98726 0 0.000000

98727 0 0.000000

98728 0 0.000000

98729 0 0.000000

Average Engagement Time (Engagement Time/Session)

0 45152.547459

2 33888.141266

3 3878.612521

5 26902.189928

6 39552.149068

... ...

98725 6222.000000

98726 6222.000000

98727 6222.000000

98728 6222.000000

98729 6222.000000

[59444 rows x 6 columns]

keyboard\_arrow\_down

Conversion Funnel Analysis

[26]

0s

# Create a conversion funnel based on page paths  
conversion\_funnel = page\_performance\_df[page\_performance\_df['Page path'].str.contains('appointment|checkout|form', case=False)]  
  
# Sort by engagement rate to see where drop-offs occur in the funnel  
sorted\_funnel = conversion\_funnel.sort\_values(by='Engagement rate', ascending=False)  
  
print("\nConversion Funnel Analysis (Pages related to appointments, forms, checkout):")  
print(sorted\_funnel[['Hostname', 'Page path', 'Views', 'Engaged sessions', 'Engagement rate', 'Average Engagement Time (Engagement Time/Session)']])  
  
# Analyze where the most drop-offs occur by checking the lowest engagement rates  
drop\_off\_pages = sorted\_funnel[sorted\_funnel['Engagement rate'] < 0.1]  
print("\nPages with Significant Drop-offs in Conversion Funnel:")  
print(drop\_off\_pages[['Hostname', 'Page path', 'Views', 'Engaged sessions', 'Engagement rate']])

Conversion Funnel Analysis (Pages related to appointments, forms, checkout):

Hostname Page path Views \

85906 hartfordhealthcaremedicalgroup.org /appointments 1

38799 hartfordhealthcaremedicalgroup.org /appointments 1

76910 hartfordhealthcaremedicalgroup.org /appointments 1

76075 hartfordhealthcaremedicalgroup.org /appointments 1

75824 hartfordhealthcaremedicalgroup.org /appointments/mychartplus 1

... ... ... ...

34449 hartfordhealthcaremedicalgroup.org /appointments 2

35474 hartfordhealthcaremedicalgroup.org /resources/forms 2

35907 [www.hartfordspecialists.org](http://www.hartfordspecialists.org/) /appointments 2

38057 hartfordhealthcaremedicalgroup.org /appointments 1

98424 hartfordhealthcaremedicalgroup.org /appointments 1

Engaged sessions Engagement rate \

85906 1 1.0

38799 1 1.0

76910 1 1.0

76075 1 1.0

75824 1 1.0

... ... ...

34449 0 0.0

35474 0 0.0

35907 0 0.0

38057 0 0.0

98424 0 0.0

Average Engagement Time (Engagement Time/Session)

85906 11115.0

38799 135505.0

76910 15540.0

76075 16002.0

75824 16162.0

... ...

34449 0.0

35474 0.0

35907 0.0

38057 161669.0

98424 6331.0

[251 rows x 6 columns]

Pages with Significant Drop-offs in Conversion Funnel:

Hostname \

2 hartfordhealthcaremedicalgroup.org

150 hartfordhealthcaremedicalgroup.org

1370 hartfordhealthcaremedicalgroup.org

633 hartfordhealthcaremedicalgroup.org

1589 hartfordhealthcaremedicalgroup.org

... ...

34449 hartfordhealthcaremedicalgroup.org

35474 hartfordhealthcaremedicalgroup.org

35907 [www.hartfordspecialists.org](http://www.hartfordspecialists.org/)

38057 hartfordhealthcaremedicalgroup.org

98424 hartfordhealthcaremedicalgroup.org

Page path Views \

2 /appointments 53729

150 /appointments/frequently-asked-questions 2648

1370 /for-physicians/make-an-appointment 236

633 /specialties/primary-care/virtual-appointments 882

1589 /appointments 155

... ... ...

34449 /appointments 2

35474 /resources/forms 2

35907 /appointments 2

38057 /appointments 1

98424 /appointments 1

Engaged sessions Engagement rate

2 4495 0.098387

150 192 0.077985

1370 14 0.062780

633 40 0.048544

1589 7 0.045455

... ... ...

34449 0 0.000000

35474 0 0.000000

35907 0 0.000000

38057 0 0.000000

98424 0 0.000000

[122 rows x 5 columns]

keyboard\_arrow\_down

**Event Path Analysis**

[27]

0s

# Analyze sequences of events (if the data has sequential event logging)  
event\_path\_analysis = event\_tracking\_df.groupby(['Page path', 'Event name']).agg({'Event count': 'sum'}).reset\_index()  
  
# Sort by highest event counts to understand common user actions  
common\_event\_paths = event\_path\_analysis.sort\_values(by='Event count', ascending=False).head(20)  
  
print("\nCommon Event Paths:")  
print(common\_event\_paths[['Page path', 'Event name', 'Event count']])

Common Event Paths:

Page path Event name \

481 /find-a-doctor/physician-detail page\_view

483 /find-a-doctor/physician-detail session\_start

484 /find-a-doctor/physician-detail user\_engagement

480 /find-a-doctor/physician-detail first\_visit

467 /find-a-doctor page\_view

470 /find-a-doctor user\_engagement

7 / page\_view

482 /find-a-doctor/physician-detail scroll

9 / session\_start

6 / first\_visit

475 /find-a-doctor/physician-detail Buttons

3975 /specialties/primary-care/primary-care-in-sout... page\_view

478 /find-a-doctor/physician-detail Phone Call

10 / user\_engagement

479 /find-a-doctor/physician-detail Youtube Video

3977 /specialties/primary-care/primary-care-in-sout... session\_start

3 / Internal Links

476 /find-a-doctor/physician-detail Internal Links

468 /find-a-doctor scroll

3974 /specialties/primary-care/primary-care-in-sout... first\_visit

Event count

481 84561

483 58399

484 52939

480 37394

467 21573

470 18788

7 17941

482 16852

9 11160

6 8563

475 7455

3975 7307

478 6679

10 6604

479 6298

3977 6131

3 5864

476 5620

468 5557

3974 5294

keyboard\_arrow\_down

Engagement Time vs Views Analysis

[28]

1s

# Check correlation between views and engagement time  
correlation = page\_performance\_df[['Views', 'Engagement Time']].corr()  
  
# Display correlation result  
print("\nCorrelation between Views and Engagement Time:")  
print(correlation)  
  
# Plot Views vs. Engagement Time for visual analysis (Optional for better insight)  
import matplotlib.pyplot as plt  
  
plt.figure(figsize=(10, 6))  
plt.scatter(page\_performance\_df['Views'], page\_performance\_df['Engagement Time'], alpha=0.5)  
plt.title('Views vs. Engagement Time')  
plt.xlabel('Views')  
plt.ylabel('Engagement Time')  
plt.show()

keyboard\_arrow\_down  
  
Correlation between Views and Engagement Time:

Views Engagement Time

Views 1.000000 0.892751

Engagement Time 0.892751 1.000000

A graph showing a number of blue dots

Description automatically generated with medium confidence

**Engaged vs Non-Engaged Sessions Analysis**

[29]

0s

# Define a threshold for engaged sessions  
engaged\_sessions\_threshold = 2  # Customize this based on your context  
  
# Pages with more engaged sessions  
high\_engaged\_sessions = page\_performance\_df[page\_performance\_df['Engaged sessions'] > engaged\_sessions\_threshold]  
  
# Pages with fewer engaged sessions  
low\_engaged\_sessions = page\_performance\_df[page\_performance\_df['Engaged sessions'] <= engaged\_sessions\_threshold]  
  
# Display insights  
print("\nPages with High Engaged Sessions:")  
print(high\_engaged\_sessions[['Hostname', 'Page path', 'Views', 'Engaged sessions', 'Engagement rate']])  
  
print("\nPages with Low Engaged Sessions:")  
print(low\_engaged\_sessions[['Hostname', 'Page path', 'Views', 'Engaged sessions', 'Engagement rate']])

Pages with High Engaged Sessions:

Hostname Page path \

0 hartfordhealthcaremedicalgroup.org /find-a-doctor

1 hartfordhealthcaremedicalgroup.org /

2 hartfordhealthcaremedicalgroup.org /appointments

3 ctorthoinstitute.org /

4 hartfordhealthcaremedicalgroup.org /specialties/primary-care

... ... ...

17584 hartfordhealthcaremedicalgroup.org /specialties/primary-care

17608 hartfordhealthcaremedicalgroup.org /find-a-doctor/physician-detail

18165 hartfordhealthcaremedicalgroup.org /find-a-doctor/physician-detail

22088 ctorthostvincents.org /doctors

23754 hartfordhealthcaremedicalgroup.org /specialties/primary-care

Views Engaged sessions Engagement rate

0 91272 5530 0.099600

1 74852 32120 0.493289

2 53729 4495 0.098387

3 41537 5949 0.155436

4 30683 5931 0.313015

... ... ... ...

17584 3 3 1.000000

17608 3 3 1.000000

18165 3 3 1.000000

22088 2 3 1.000000

23754 2 3 1.000000

[3252 rows x 5 columns]

Pages with Low Engaged Sessions:

Hostname \

144 highridgefamilypractice.com

786 hartfordhealthcaremedicalgroup.org

936 hartfordhealthcaremedicalgroup.org

998 hartfordhealthcaremedicalgroup.org

1030 hartfordhealthcaremedicalgroup.org

... ...

98725 ctorthomidstate.org

98726 ctorthomidstate.org

98727 ctorthomidstate.org

98728 hartfordhealthcaremedicalgroup.org

98729 hartfordhealthcaremedicalgroup.org

Page path Views \

144 / 2700

786 /find-a-doctor 674

936 /find-a-doctor 515

998 /find-a-doctor 458

1030 /find-a-doctor 428

... ... ...

98725 /doctors 1

98726 /health-resources/health-library/detail 1

98727 /search 1

98728 /locations/primary-care/stratford/2890-main-st... 1

98729 /specialties/primary-care 1

Engaged sessions Engagement rate

144 0 NaN

786 1 0.001938

936 1 0.002933

998 2 0.007092

1030 1 0.005102

... ... ...

98725 0 0.000000

98726 0 0.000000

98727 0 0.000000

98728 0 0.000000

98729 0 0.000000

[95478 rows x 5 columns]

keyboard\_arrow\_down

**Top Event-Generating Pages**

[30]

0s

# Group by page and count events  
top\_event\_pages = event\_tracking\_df.groupby('Page path').agg({'Event count': 'sum'}).reset\_index()  
  
# Sort by highest event counts  
top\_event\_pages = top\_event\_pages.sort\_values(by='Event count', ascending=False).head(10)  
  
print("\nTop 10 Event-Generating Pages:")  
print(top\_event\_pages)

Top 10 Event-Generating Pages:

Page path Event count

94 /find-a-doctor/physician-detail 278566

0 / 56529

91 /find-a-doctor 52015

623 /specialties/primary-care/primary-care-in-sout... 24958

57 /appointments 13900

616 /specialties/primary-care 11755

84 /doctors 10365

109 /locations 9524

44 /about-us/news-center/news-detail 7878

215 /locations/primary-care/primary-locations 7355

keyboard\_arrow\_down

**Bounce Rate Analysis**

[31]

0s

# Identify pages with high views but very low engagement rate (bounce rate issues)  
bounce\_rate\_issues = page\_performance\_df[(page\_performance\_df['Views'] > 1000) & (page\_performance\_df['Engagement rate'] < 0.05)]  
  
print("\nPages with High Views but Low Engagement (Potential Bounce Rate Issues):")  
print(bounce\_rate\_issues[['Hostname', 'Page path', 'Views', 'Engaged sessions', 'Engagement rate']])  
  
# Suggest recommendations to improve bounce rates  
# - Optimize page load times  
# - Improve content relevancy or clarity  
# - Simplify navigation to guide users to take the next action

Pages with High Views but Low Engagement (Potential Bounce Rate Issues):

Hostname \

13 hartfordhealthcaremedicalgroup.org

30 hartfordhealthcaremedicalgroup.org

32 hartfordhealthcaremedicalgroup.org

36 hartfordhealthcaremedicalgroup.org

51 ctorthoinstitute.org

57 hartfordhealthcaremedicalgroup.org

68 hartfordhealthcaremedicalgroup.org

77 hartfordhealthcaremedicalgroup.org

83 hartfordhealthcaremedicalgroup.org

91 ctorthoinstitute.org

109 hartfordhealthcaremedicalgroup.org

119 hartfordhealthcaremedicalgroup.org

123 ctorthostvincents.org

195 hartfordhealthcaremedicalgroup.org

251 hartfordhealthcaremedicalgroup.org

272 hartfordhealthcaremedicalgroup.org

298 hartfordhealthcaremedicalgroup.org

301 hartfordhealthcaremedicalgroup.org

445 hartfordhealthcaremedicalgroup.org

480 hartfordhealthcaremedicalgroup.org

491 hartfordhealthcaremedicalgroup.org

527 hartfordhealthcaremedicalgroup.org

528 hartfordhealthcaremedicalgroup.org

Page path Views \

13 /find-a-doctor 10689

30 /video-gallery 6558

32 /specialties/specialty-care 6459

36 /locations/specialty-care 6216

51 / 5073

57 /locations/specialty-care 4876

68 /find-a-doctor 4262

77 /for-job-seekers 3974

83 /locations/family-health-centers 3747

91 / 3439

109 /find-a-doctor 3094

119 /find-a-doctor 3003

123 / 2940

195 /appointments/virtual-registration 2219

251 /for-physicians 1884

272 /find-a-doctor 1770

298 /find-a-doctor 1665

301 /find-a-doctor 1642

445 /specialties/primary-care/primary-care-in-sout... 1235

480 /find-a-doctor 1158

491 /for-physicians/referring-patients 1128

527 /find-a-doctor 1064

528 /find-a-doctor 1061

Engaged sessions Engagement rate

13 164 0.030949

30 66 0.013168

32 216 0.043365

36 98 0.020807

51 145 0.028577

57 78 0.021959

68 35 0.017766

77 166 0.044950

83 66 0.020606

91 85 0.025836

109 24 0.018490

119 11 0.009220

123 99 0.035269

195 58 0.027738

251 36 0.021378

272 14 0.013258

298 14 0.019391

301 24 0.028402

445 21 0.017185

480 6 0.012848

491 17 0.020531

527 9 0.019438

528 24 0.026030