DSMM – DISNEY WORLD (week 3)

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2024W-T4 CPL 5559 – WIL Project 04 (DSMM Group 1)

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I. WEEK 3: DELIVERABLES

Your tasks this week include:

- Analyze historical data sets and compare them to present-day data sets related to wait times at one of the following Magic Kingdom attractions:
    - Pirates of the Caribbean
    - Big Thunder Mountain
    - The Haunted Mansion
    - Jungle Cruise
    - Space Mountain
    - It's a Small World
    - Peter Pan's Flight

- Next, pick one of the following options to focus on for your team's deliverable this week:
    - **Option #1** - What would that look like if you and your team were responsible for developing a comprehensive system that can collect and organize wait time data from various sources? Develop a schematic on how to complete this task effectively.
    - **Option #2** - Utilize data analysis techniques to identify patterns and trends in wait times, such as peak hours or days with higher wait times. Develop visuals and written reports that draw meaningful conclusions.
    - **Option #3** - Implement strategies for predicting future wait times based on historical data and external factors like park attendance and weather. This can help with ride planning and queue management.

Whichever option you choose, ensure this week's deliverable gets put into your portfolio.

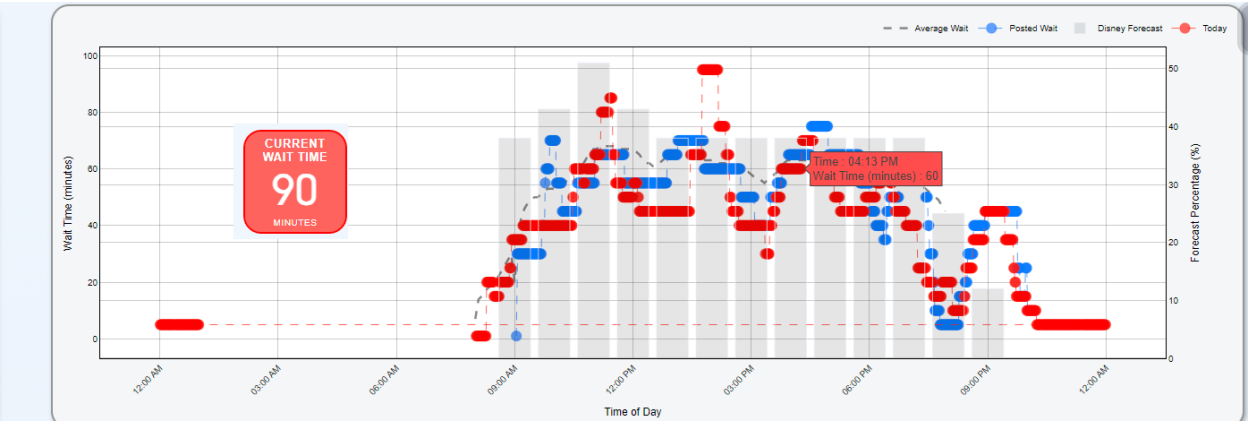
II. WEEK 3 DELIVERABLES STATUS

- **Dataset**:
  - These 7 ride attractions like Pirates of the Caribbean, Big Thunder Mountain, the haunted mansion, Jungle cruise, space mountain, It's a small world, and Peter Pan's are synthetic data we created in python that is factual to our research.
  - The data is for the month of January only.
  - We choose Jungle cruise attraction among the 7 rides.

Task 1: Analyze historical data sets and compare them to present-day data sets related to wait times at one of the following Magic Kingdom.

Jungle Cruise- this attraction is located in Adventureland Magic kingdom, we choose this ride base on its popularity and it is suitable for all ages. Since it is suitable for all ages and no height requirement it can attract more visits.

Present day as of this writing.



Historical days

Daytime	Average of WaitTime
09:00 AM	66.34
10:00 AM	64.92
11:00 AM	64.94
12:00 PM	67.13
01:00 PM	64.22
02:00 PM	65.64
03:00 PM	66.73
04:00 PM	64.47
05:00 PM	65.18
06:00 PM	65.37
07:00 PM	65.15
08:00 PM	64.85
09:00 PM	66.63
10:00 PM	65.99
Total	**65.54**

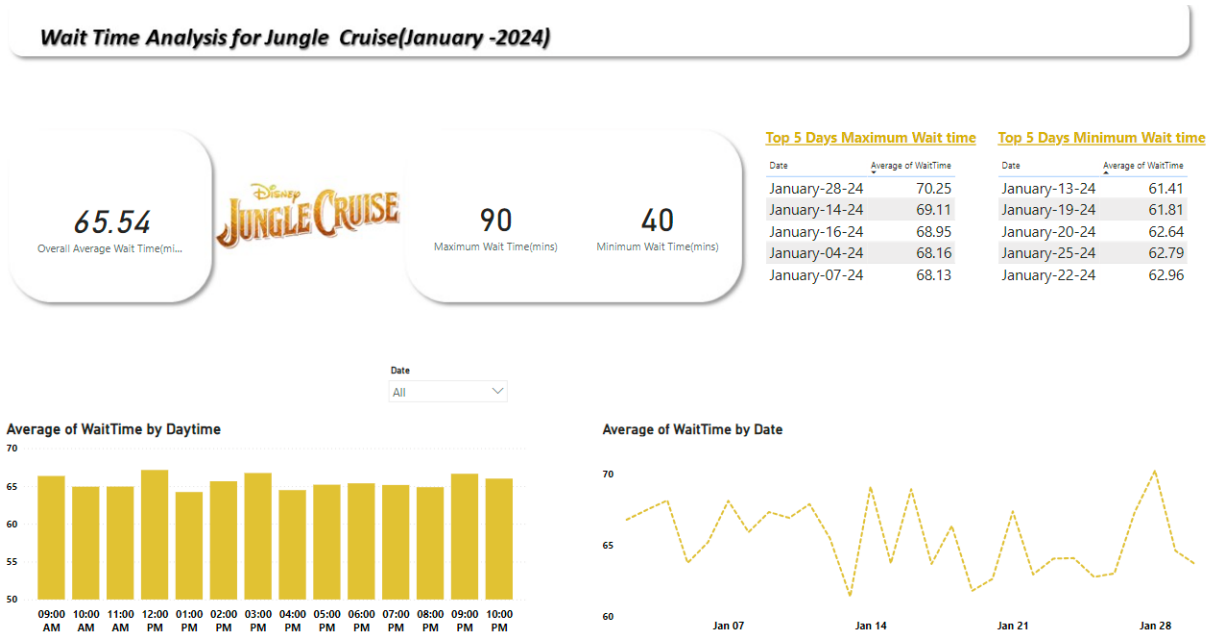
Date	Average of WaitTime
January-02-24	66.80
January-03-24	67.50
January-04-24	68.16
January-05-24	63.77
January-06-24	65.21
January-07-24	68.13
January-08-24	65.93
January-09-24	67.34
January-10-24	66.93
January-11-24	67.90
January-12-24	65.50
January-13-24	61.41
January-14-24	69.11
January-15-24	63.74
January-16-24	68.95
January-17-24	63.70
January-18-24	66.37
January-19-24	61.81
January-20-24	62.64
January-21-24	67.39
January-22-24	62.96
January-23-24	64.07
January-24-24	64.11
January-25-24	62.79
January-26-24	63.03
January-27-24	67.34
January-28-24	70.25
January-29-24	64.63
January-30-24	63.66
Total	**65.54**

Analyzing historical and present-day data sets, particularly focusing on the waiting time averages, reveals a notable shift in visitor experiences. The historical data exhibits a range of waiting times, as evident in the hourly averages, with peak periods reaching 67.13 minutes at 12:00 PM. However, the present-day data indicates a substantial increase in waiting times, with an average of 90 minutes in one day. This significant rise suggests a potential shift in demand, park attendance, or operational efficiency. The comparison underscores the importance of adapting strategies to manage the heightened demand and enhance visitor satisfaction. Organizations may need to explore measures such as optimizing ride operations, implementing advanced reservation systems, or adjusting staffing levels to address the increased waiting times and ensure a more enjoyable experience for park attendees. Understanding these changes through historical and present-day data analysis is crucial for informed decision-making and effective management of visitor expectations in theme park settings.

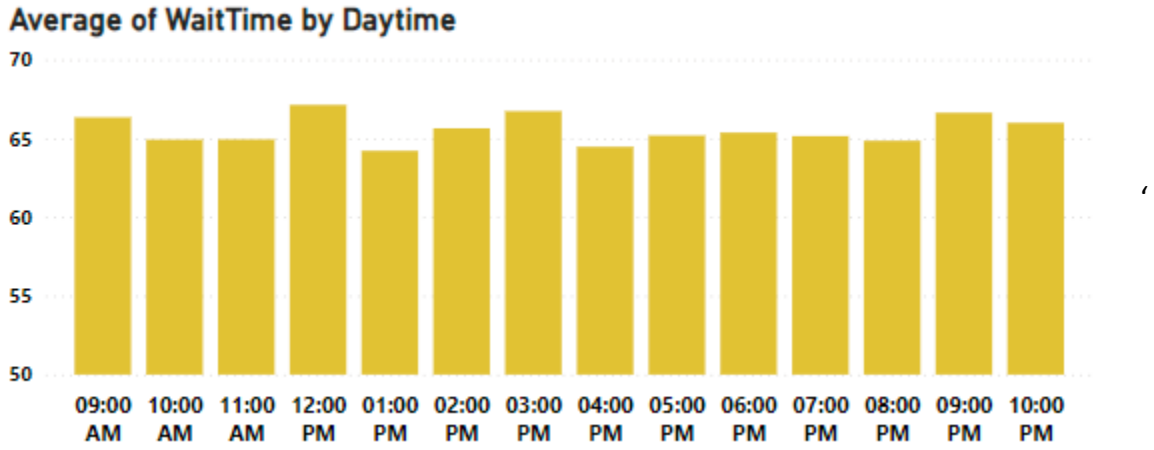
Task 2: Next, pick one of the following options to focus on for your team's deliverable this week:

We choose:

Option#2: Utilize data analysis techniques to identify patterns and trends in wait times, such as peak hours or days with higher wait times. Develop visuals and written reports that draw meaningful conclusions.



Day Time Analysis



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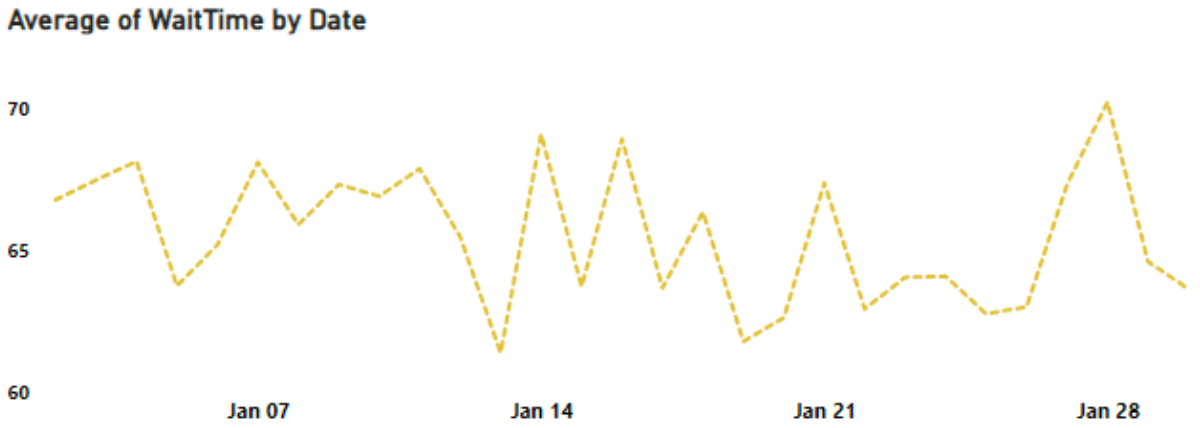
The day-time analysis of the Jungle Cruise ride at Disney World reveals interesting patterns in average wait times throughout the operational hours. The ride opens at 09:00 AM and closes at 10:00 PM. The average wait time starts at 66.34 minutes at the opening hour, slightly decreases to 64.92 minutes by 10:00 AM, and remains relatively consistent until the early afternoon. At 12:00 PM, there's a slight increase in the average wait time to 67.13 minutes. The afternoon hours from 01:00 PM to 05:00 PM show varying wait times, with a notable dip at 06:00 PM with an average wait time of 65.37 minutes. The wait time then gradually increases, reaching 66.63 minutes at 09:00 PM and remaining relatively high until closing at 10:00 PM.

Considering the absence of height restrictions and age limitations for the Jungle Cruise ride, several factors may contribute to these hourly fluctuations. The initial spike in wait times at 09:00 AM could be attributed to the influx of visitors eager to experience the ride as soon as it opens. The subsequent decrease until 10:00 AM might be a result of efficient ride operations or spreading out of visitors. The midday increases at 12:00 PM could be influenced by factors such as lunchtime crowds or staffing adjustments. The dip at 06:00 PM might be due to dinner-related activities, reducing the number of people in line. The evening increase could be influenced by visitors attempting to enjoy the ride before the park closes. Overall, understanding

these hourly patterns allows for strategic planning, helping visitors choose optimal times to minimize wait times and enhance their overall experience on the Jungle Cruise ride.

Time series analysis



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Time series analysis of Jungle Cruise ride wait times provides valuable insights into the variations throughout the day and week, allowing for strategic planning and optimization of visitor experiences. Hourly wait times exhibit fluctuations, with the highest average wait time of 67.13 minutes observed at 12:00 PM and the lowest at 65.37 minutes at 06:00 PM. These patterns may be influenced by factors such as the park's opening, mealtimes, and visitors' preferences.

Daily, the data reveals diverse wait time averages, ranging from 61.41 minutes on January 13, 2024, to 70.25 minutes on January 28, 2024. Weekdays show varying trends, with Mondays having both relatively lower (e.g., 65.93 minutes on January 08, 2024) and higher (e.g., 67.34 minutes on January 09, 2024) wait times. Sundays, such as January 07 and January 14, exhibit comparatively higher averages, emphasizing potential peak periods during weekends.

Identifying reasons for hourly variations involves considering factors like park opening, meal times, and visitor flow patterns. The midday spike at 12:00 PM might be attributed to the convergence of visitors after the park opens, while the evening dip at 06:00 PM could be linked to dinner-related activities, reducing the number of people in line. Similarly, daily variations could be influenced by special events, holidays, and the overall visitor turnout.

To optimize the Jungle Cruise experience, visitors may consider visiting during lower average wait times, such as the early morning hours or weekdays, to minimize wait times and enhance overall enjoyment. Additionally, avoiding peak periods identified through the analysis, like Sunday afternoons or evenings, could contribute to a more efficient and enjoyable visit. This time series analysis offers actionable insights for both park management and visitors, aiding in strategic planning and enhancing the overall theme park experience.