Low Level Design (LLD)

Airport Data Analysis

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# Document Version Control

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| 06th August 2022 | 1.0 | First Version of Complete HLD | Himani Arande |
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# Introduction

Aviation is the activities surrounding mechanical flight and the aircraft industry. An airline is a company that provides air transport services for traveling passengers and freight. Airlines use aircraft to supply these services. The motive of this project is to analyse airport and airline data to create dashboard using visualization tool and identify where the various flights are going, what is the busiest and most lengthy routes from the airport and various other insights are explained with the help of the BI visualization tool.

# Problem Statement

Learn how to develop airport and airline data analysis dashboard development project in

Power BI

Identifying where the various flights are going.

What is the most busy.

Most lengthy routes from the airport.

Find key metrics and factors and show the meaningful relationships between attributes.

# Database Description

**Geometry Coordinates:** Coordinate geometry is used to manage and regulate air traffic. The coordinates of the flight are used to describe the aircraft's current location.

**Process Ending date:** Accurate Date when process ended.

**Starting Point:** Information related to the starting point of the flights.

**Actual Timestamp:** Actual time taken by flight to occurred at a particular event.

**Airlines:** Airlines names.

**Base Airlines:** Information related to base of the Airlines.

**Base Flight No.:** Flight No of the flights at base airlines.

**Date:** Accurate date when process started.

**Estimated Timestamp:** Estimated calculated time that a flight will take to occur at a particular event.

**Event:** Destination.

**Flight No.:** Flight no. of the flights.

**Route:** Details of the route that the flight took to arrive at the event.

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# Tools used

Business Intelligence tools- Power Bi and Excel



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# Process:



# Narration:

Total count of the base Airlines, Gate and Event is 32, 98 and 2 (A & D) Respectively.

**When actual and estimated timestamp taken by base airlines & route-**

﻿At 53342045399340, had the highest Estimated Timestamp and was 16,84,591.78% higher than AI, which had the lowest Estimated Timestamp at 3166279200.﻿﻿ ﻿

﻿Estimated Timestamp and total Actual Timestamp are positively correlated with each other.﻿﻿ ﻿﻿ accounted for 38.03% of Estimated Timestamp.﻿﻿ ﻿

﻿Estimated Timestamp and Actual Timestamp diverged the most when the Base Airline was AA, when Estimated Timestamp were 11822940 higher than Actual Timestamp.﻿﻿ ﻿

﻿Across all 271 Route, Estimated Timestamp ranged from 1583199300 to 6394111202040 and Actual Timestamp ranged from 1583199300 to 6394113991380.﻿﻿ ﻿

**The Lengthiest route:**

﻿ABQ-SFO﻿

**The busiest route:**

﻿SFO-LAX﻿

**When Actual Timestamp /Count of base Airline / Actual Timestamp taken by Process ending time-**

﻿Actual Timestamp trended down, resulting in a 14.31% decrease between Sunday, March 1, 2020 and Tuesday, March 31, 2020.﻿﻿ ﻿﻿ ﻿﻿

Actual Timestamp started trending down on Monday, March 23, 2020, falling by 22.21% (1000194438600) in 8 days.﻿﻿

﻿﻿Actual Timestamp dropped from 4502990227080 to 3502795788480 during its steepest decline between Monday, March 23, 2020 and Tuesday, March 31, 2020.

﻿﻿Count of Base Airline experienced the longest period of decline (-714) between Friday, March 20, 2020 and Tuesday, March 31, 2020.﻿﻿ ﻿﻿ ﻿﻿

Estimated Timestamp rose by 146062989000 in the last Day.﻿﻿ ﻿﻿

﻿﻿Estimated Timestamp peaked at 18304268418060 in, after hitting a low point of 3122965076100 in Thursday, March 26, 2020.﻿﻿

﻿﻿Across all 32 Process Ending Date, Estimated Timestamp ranged from 3122965076100 to 18304268418060.﻿﻿ ﻿﻿

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**When Count flight number by date  
﻿**Count of Flight Number trended down, resulting in a 30.23% decrease between Sunday, March 1, 2020 and Tuesday, March 31, 2020.﻿﻿ ﻿﻿

﻿﻿Count of Flight Number started trending down on Tuesday, March 17, 2020, falling by 26.29% (788) in 14 days.﻿﻿

﻿﻿Count of Flight Number dropped from 2,997 to 2,209 during its steepest decline between Tuesday, March 17, 2020 and Tuesday, March 31, 2020.﻿﻿ **﻿﻿ ﻿**

# ﻿When Count of Flight by date:

# Count of Flight Number trended down, resulting in a 30.23% decrease between Sunday, March 1, 2020 and Tuesday, March 31, 2020.﻿﻿ ﻿﻿ ﻿﻿Count of Flight Number started trending down on Tuesday, March 17, 2020, falling by 26.29% (788) in 14 days.﻿﻿ ﻿﻿

# Count of Flight Number dropped from 2,997 to 2,209 during its steepest decline between Tuesday, March 17, 2020 and Tuesday, March 31, 2020

# When count of starting point, gate and route by process ending date:

# ﻿﻿Count of Gate experienced the longest period of decline (-223) between Sunday, March 1, 2020 and Tuesday, March 17, 2020.﻿﻿ ﻿﻿ ﻿