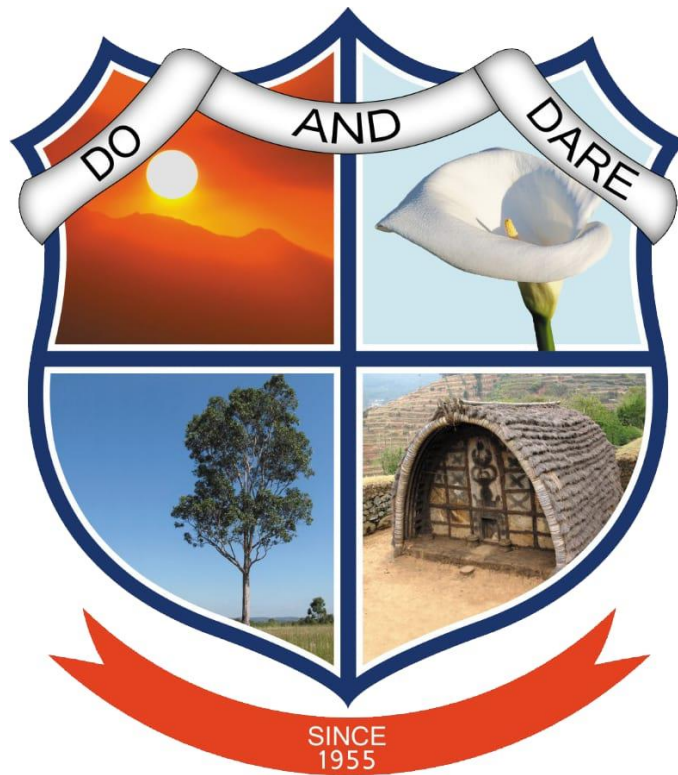


GOVERNMENT ARTS COLLEGE, OOTY

DEPARTMENT OF PHYSICS

**UNLOCKING INSIGHTS INTO THE GLOBAL
AIR TRANSPORTATION NETWORK WITH TABLEAU**



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Submitted by

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1.INTRODUCTION

1.1:OVERVIEW

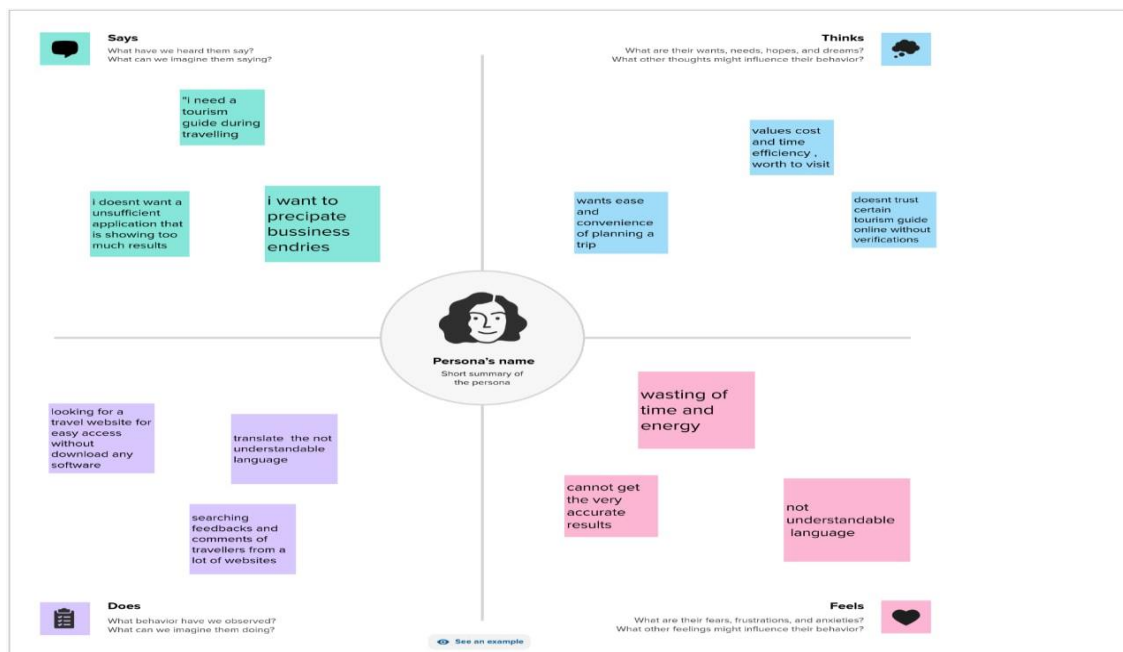
This Global Air Transportation Network dataset is a comprehensive collection of information on airports, airlines and their routes. It contains information such as names, cities, countries, codes (IATA and ICAO) longitudes, latitudes and altitudes of airports across the world with detailed time zone and daylight saving time data. Additionally, this includes information about airlines including their IDs, name aliases, IATA and ICAO codes, callsigns country of origin and active/inactive status. Similarly, it also covers route details such as airline sources to destination airports along with essential details like codeshare stakeholder if any stops required during this journey along with the type of aircraft being used for that particular journey. This dataset has been compiled through meticulous labor by researchers all over the world to give you a comprehensive detail into air transportation networks from around the globe.

1.2 : PURPOSE

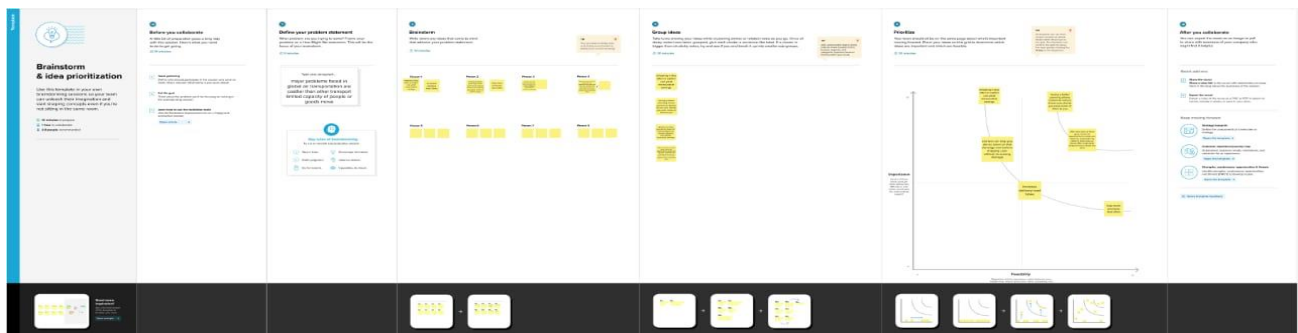
Air transportation plays a critical role in connecting people and businesses around the world, providing faster and more efficient transportation options than other modes of transportation.

2.PROBLEM DEFINITION & DESIGN THINKING

2.1 :EMPATHY MAP



2.2:IDEATION & BRAINSTORMING MAP



3.1: DASHBOARD

No. of
Airports
25Country (airport(s))
Angola

Airlines within a country				Airports at higher altitude within a country				Country (airports, etc.)	
Index ID	Name	IATA	Call sign	Index no	Name (airports, etc.)	City	ICAO (airp...)	Active	Alphabetical
235	Air France	AF	AF	1	Zurich Airport	Zurich	LSZH	✓	A
305	Air France	AF	AF	2	Torin Kewit Airport	Torin Kewit	QATN	✓	B
491	Austrian Airlines	AA	AUSTRIAN	3	Shindand Airport	Shindand	QASD	✓	C
429	Austria Air	AT	EXPRESS						
895	ABC Redair	RT	FLY THROU						
872	Airbus	JA	AIRBUS						
895	Airbus	JA	AIRBUS						
1040	Air Alps Airlines	AP	AIR ALPS						
1058	Air Alps Airlines	AP	AIR ALPS						
1226	Air Alps Airlines	AP	AIR ALPS						
1358	Air Alps Airlines	AP	AIR ALPS						
1364	Air Alps Airlines	AP	AIR ALPS						
1525	Air Alps Airlines	AP	AIR ALPS						
1727	Air Alps Airlines	AP	AIR ALPS						
1727	Air Alps Airlines	AP	AIR ALPS						
1999	Air Alps Airlines	AP	AIR ALPS						
2146	Air Alps Airlines	AP	AIR ALPS						
2408	Air Alps Airlines	AP	AIR ALPS						
2546	Air Alps Airlines	AP	AIR ALPS						
2584	Air Alps Airlines	AP	AIR ALPS						
2617	Air Alps Airlines	AP	AIR ALPS						
2702	Air Alps Airlines	AP	AIR ALPS						
2788	Air Alps Airlines	AP	AIR ALPS						



3.2: STORY



Global Air Transportation Network

world map showing countries
with details of airports

Table showing number of airports
within a country

Table showing airlines within a country
and Airports at higher altitude within a

Bar graph showing count of airlines
and no. of records

Airlines within a country

Airline ID	Name	Icao	Callsign
235	Avia Can..	AIF	AVIACONSU..
305	Amerer..	AMK	AMER AIR
491	Austrian..	AUA	AUSTRIAN
629	Amira Air	XPE	EXPERT
895	ABC Bad..	FTY	FLY TYROL
972	Airlink..	JAR	AIRLINK
989	Aera Cn..	KPK	KRIPKA AIR
1040	Air Alps..	LPV	ALPAV
1058	Avag Air	MBA	AVAG AIR
1326	Tyrolean..	TYR	TYROLEAN
1358	BannerT..	BBA	BANAIR
1364	BACH Fl..	BCF	BACH
1525	Business..	AUJ	AUSTROJET
1737	Charter..	CHW	CHARTER WI..
1777	Christop..	DEC	CHRISTOPH..
1999	Dadala..	JAY	JASON
2246	Euramen..	EMX	EUROMANX
2408	Flugwer..	FWZ	Nudl
2566	Global Jo..	GLI	GLOBAL AU..
2584	Goldack..	GDK	GOLDECK FL
2617	Grossma..	HTG	GROSSMANN
2702	Heli Amb..	ALI	ALPIN HELI
2788	Heustet..	GEV	GREGG AIR
2810	IJM Inter..	IJM	JET MANAGE..
2916	Intersky..	ISK	INTERSKY
3034	Jetallian..	AG	JETALLIANCE
3040	Jetfly Air..	JFL	LINEFLYER
3212	LTU Aust..	LTO	BILLA TRAN..
3239	Lauda Air	LDA	LAUDA AIR
3318	Lufthacht..	LVD	AIR SANTI
3347	MAP-Ma..	MPJ	MAPJET
3368	Magna Air	MGR	MAGNA AIR
3379	Mali Air	MAE	MALI AIRER..
3661	Niki	NAV	FLYNIKI

Airports at higher altitude within a country

index no	Name (ai.. City	ICAO (air..	
1	Zaranj Ai.. Zaranj	OAZJ	1,572
	Tariz Ko.. Tariz Kewt	OATN	4,429
	Shindard.. Shindard	OASD	3,773

Country (airports.cs...
Afghanistan

Active

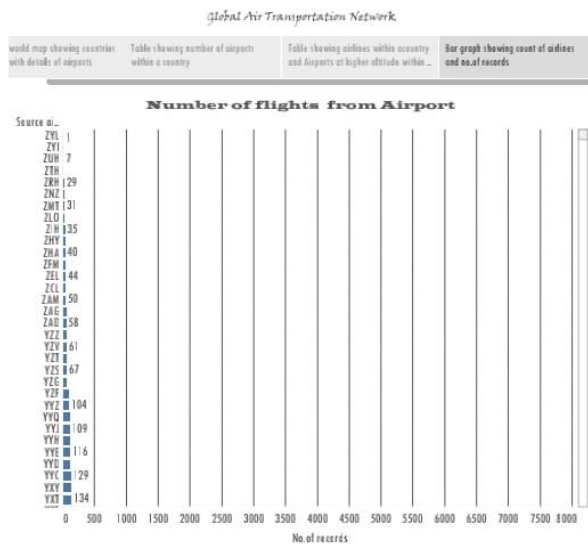
Y
N
Y

Country

Austria

Active

N
Y



4.ADVANTAGES AND DISADANTAGES

4.1:ADVANTAGES OF AIR TRANSPORTATION

1. High Speed

Air is the type of freight capable of traveling long distances in short periods of time. This makes this model an optimum choice if the client has an urgent need to ship a product or if their freight demands special standards of protection or acclimation. It is the quickest transport mode and is therefore ideal for long-distance transport of goods. It takes less time.

2. Fast Service

Air transportation offers convenient, reliable and fast services of transport. It is considered the cheapest way to ship peregrinated goods. It offers a standard, convenient, reliable and fast service.

3. Send almost everywhere your freight

In regions that are not readily accessible to other modes of transport, air transport is considered to be the only means of transport. Open to all regions, irrespective of land interference. A vast network of airlines covering nearly the whole globe is available for many airlines. This ensures that the package can be sent almost anywhere.

4. High Standard of Security

High standard of protection with a low risk of robbery and injury. Shipping by air has a high degree of security since airport safety restrictions on cargo are strictly enforced. Tightly controlled airport controls also minimise cargo theft and loss.

5. Natural Route

An aircraft can fly to any location without seeing any natural obstacles or barriers. Since customs formalities are easily compiled. It eliminates the need for more time to seek clearance. Air travel is used for relief operations during earthquakes, floods, accidents, and famines.

6. There is less need for heavy packaging

Air exports, in general, entail less hard packaging than ocean shipments. This ensures you save both time and money by not having to provide extra packaging services.

4.2: DISADVANTAGES OF AIR TRANSPORTATION

1. Risky

Air travel is the riskiest mode of transport, since there can be considerable losses to goods, customer and crews as a result of a minor crash. Compared to other means of travel, the risks of collisions are higher.

2. Cost

Air travel is considered to be the most expensive means of transportation. The cost of maintaining aircraft is higher and the costs for the building of aerodromes and avions are much higher. That's why air travel is so expensive that it gets beyond ordinary people's grasp.

3. Some Product Limitation

There is a whole variety of materials not suitable for such products, from explosives, gases, batteries, fired solids and liquids, which cannot be shipped by air to name but a few.

4. Capacity for Small Carriage

The aircraft have no room and therefore are not ideal for carriage of voluminous and cheaper materials. As is seen for rails, the load volume cannot be raised.

5. Enormous investment

Air travel calls for enormous spending in aerodrome building and servicing. It also calls for professional, qualified and qualified staff that need a significant investment.

5.APPLICATIONS

Air transport is currently used in almost all industrial sectors and distribution chains. Most companies use air transport to market goods and products internationally or to deliver samples and documents related to foreign trade operations.

6.CONCLUSION

The air transport industry is not only a vital engine of global socio-economic growth but is also of vital importance as a catalyst for economic development in most countries and for many regions within each country. Its importance arises not only from its ability to facilitate the movement of people but also its ability to expedite the movement of goods. Currently, rising operating costs, stoked by the high price of aviation fuel combined with slowing or even negative demand growth, will lead to dramatic restructuring of the airline industry and the collapse of many airlines especially smaller ones. Reduced access to air services for both passengers and freight may put many communities at a disadvantage.

7.FUTURE SCOPE

1.OPPORTUNITIES FOR GROWTH

The aviation industry is an highly diverse field that offers a multitude of carrier opportunities, ranging from pilots and air traffic controlers to engineers and maintenance technicians.

2.HANDS-ON LEARNING

Aviation programs offer a unique learning experience that is both challenging and exciting. You will have the opportunities to learn in a

hands-on environment, working with real aircraft, engines, and other aviation equipments.

3.EXCITING WORK ENVIRONMENT

The aviation industry offers an exciting work environment that is constantly changing and evolving.

THANK YOU.....!