

Design Thinking for BI

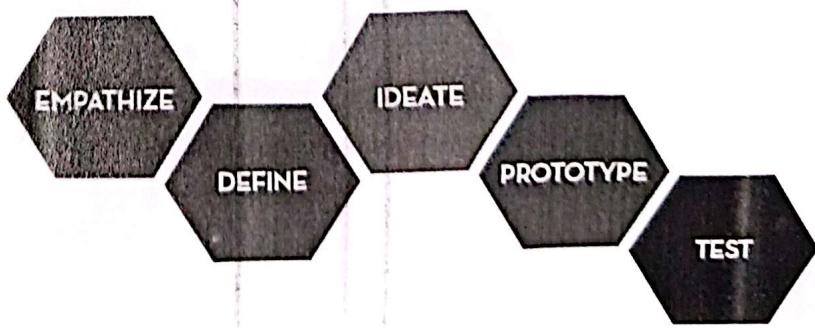
Team Members and Roles

Zehra Ahmad

Kisa Fatima

Zuhra Arqib

Farah Inayat



Design Thinking for BI

Potential Facts

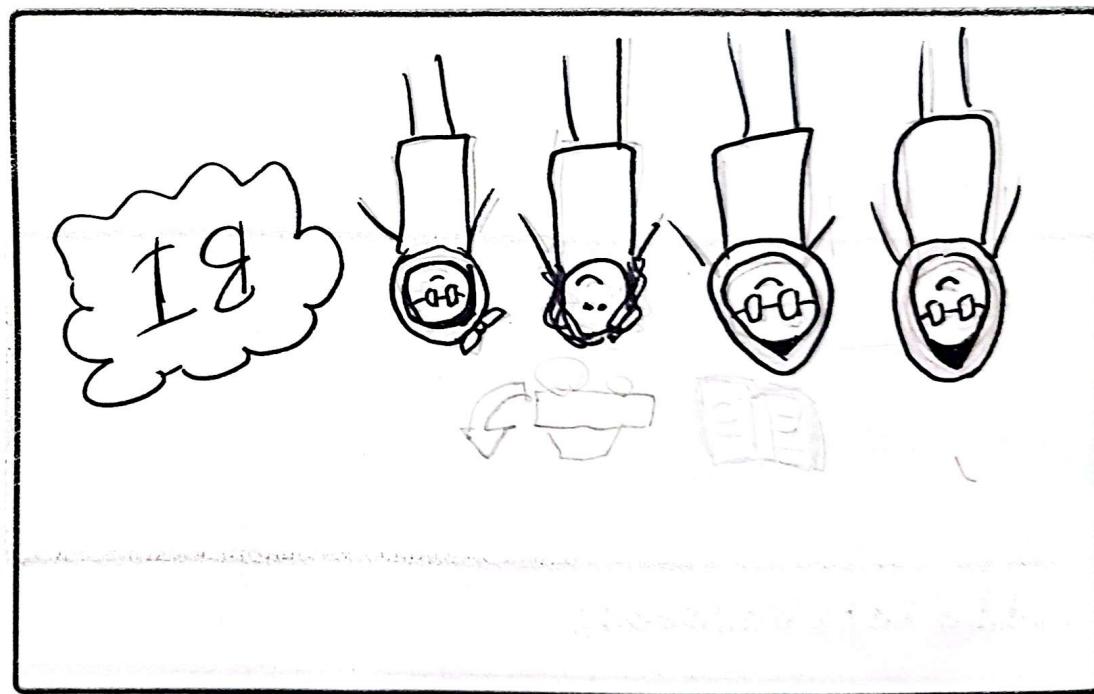
- Origin - city - name
- Carrier - delay
- Weather - delay
- NAS - delay
- Security - delay
- Late - aircraft - delay
- Early - departure

Potential Dimensions

- Origin - city - name
- Dest - city - name
- Origin - state - nm
- Dest - state - nm
- Cancellation code

Flight cancellation and delays

What's your dataverse?



Create a doodle of your team - be creative!

YOUR BI TEAM

AI Prompt example:

Act as a [Job role] working in [Industry or domain]. I'm a student working on a Business Intelligence project, and I want to understand your needs. Can I ask you a few questions?

Interview questions examples:

- What does your everyday look like?
- What decisions do you make regularly in your role?
- What challenges do you face when trying to make data-driven decisions?
- What kind of reports or dashboards are most helpful to you?
- What would make your job easier from a BI or analytics perspective?

Come up with more questions and jot them down. Make sure to keep the chat safe as you will be submitting it.

Act as a Civil Aviation Minister working with various flight cancellation & delays from India - India's flight cancellation with many reasons

student writing ...

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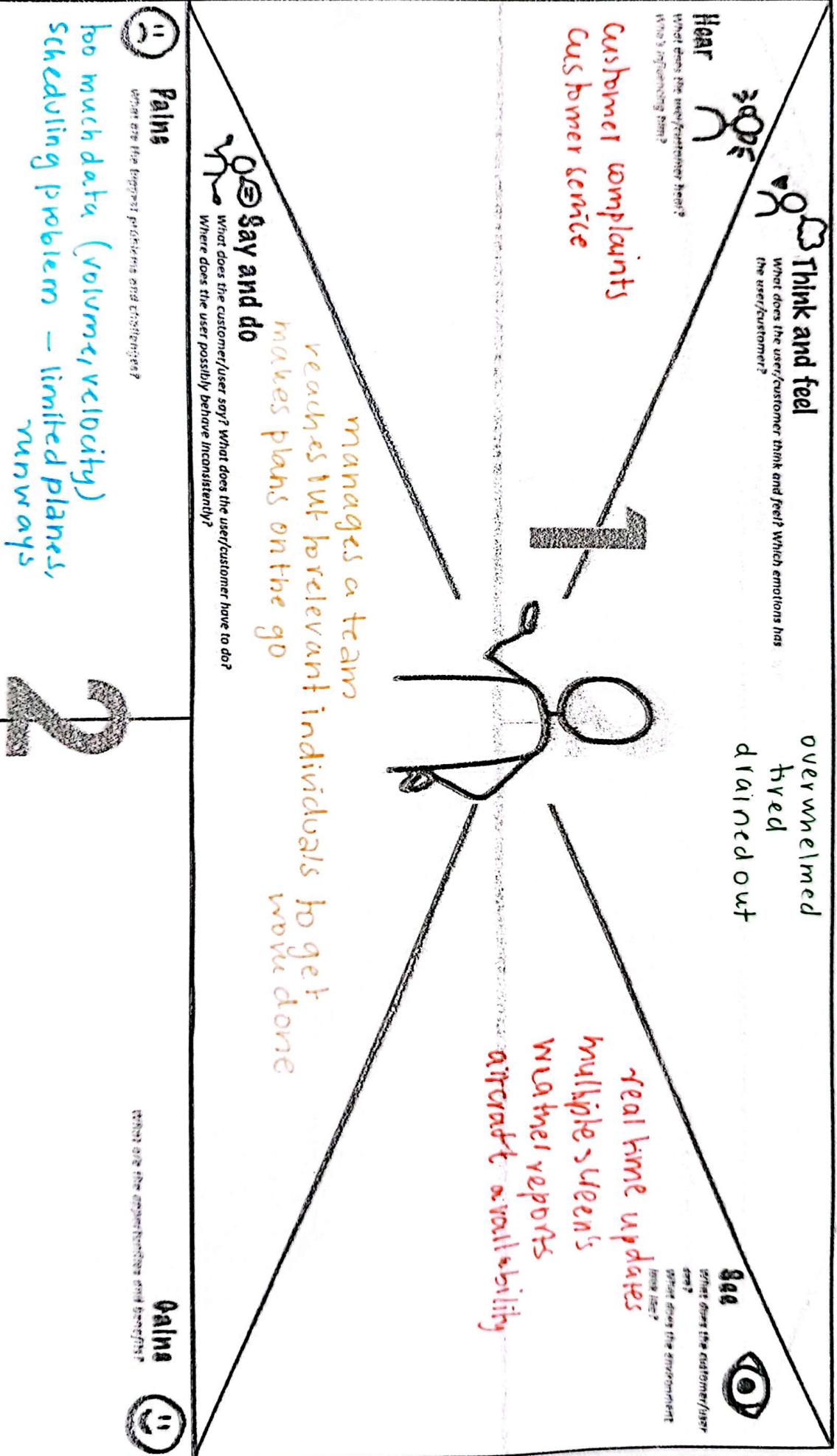
For this design sprint, AI will act as your domain expert.

BI DESIGN SPRINT - EMPATHIZE

BI DESIGN SPRINT - EMPATHIZE

Design
Thinking
for BI

Know Your Manager - Empathy Map



BI DESIGN SPRINT - DEFINE

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So what's the business problem?

"[Stakeholder], a [role] from [company], needs a way to [need] because [insight]. Fulfilling this need will help the organization [business impact]."

Fatima Kisa, a civil aviation manager from Jinnah International Airport, needs a way to manage excessive flight delays and cancellation due to recent political turmoil. Fulfilling this will help improve customer satisfaction and smoother flight schedules.

How might we... (1 or 2 statements - Focus on a clear BI problem)

- How might we figure out the actual cause of the problem to tackle the problem at last of a particular airline.
- How might we reduce the overall flight delays during high periods of travel e.g. xmas break.

BI DESIGN SPRINT - IDEATE

TEAM MEMBER 1 NAME

KISA FATIMA

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Come up with as many ideas. One idea per sticky note.



No judgement - Go for volume - Be creative

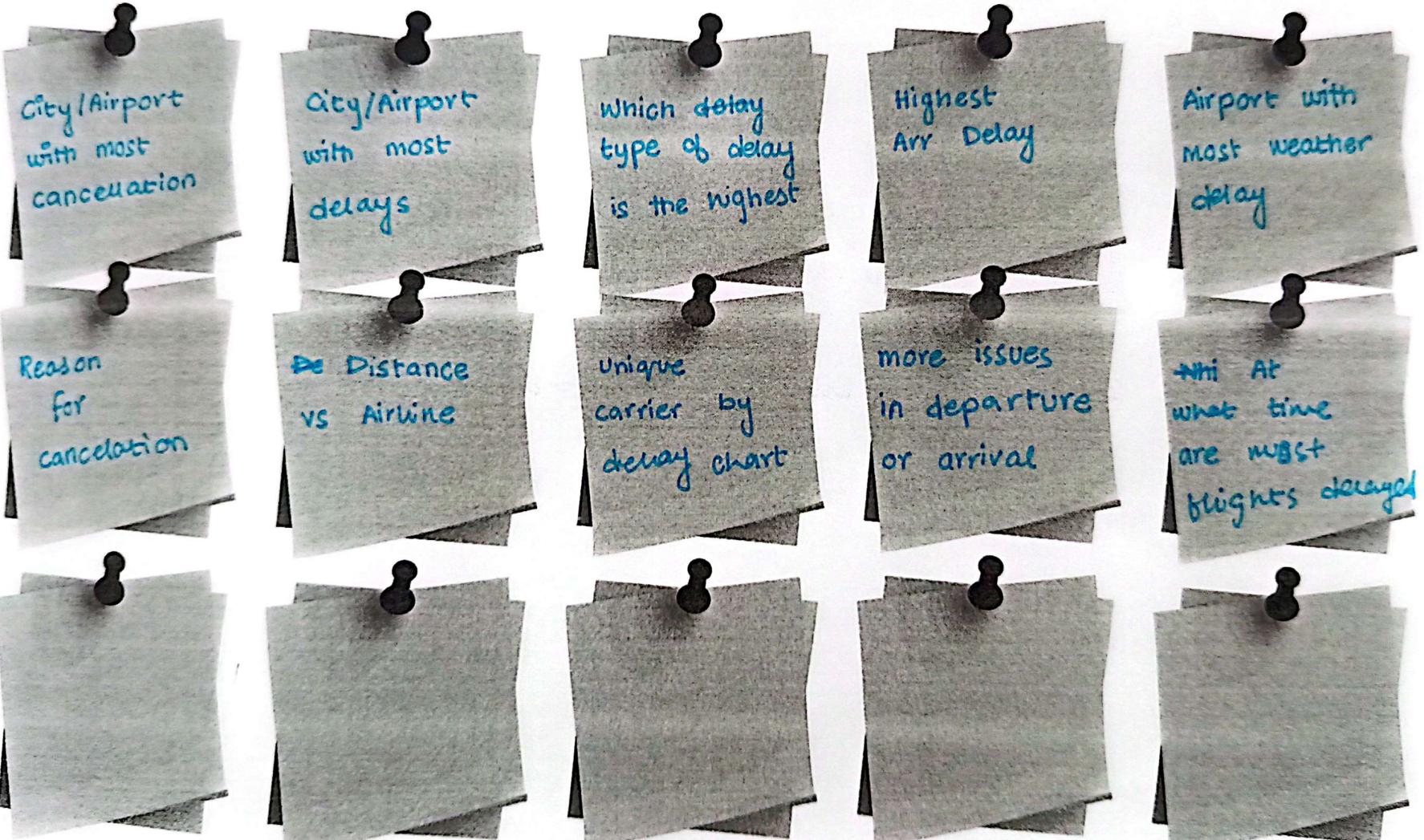
BI DESIGN SPRINT - IDEATE

TEAM MEMBER 2 NAME

Farah Inayat

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Come up with as many ideas. One idea per sticky note.



No judgement - Go for volume - Be creative

(WE LISTEN. AND WE DONT JUDGE)

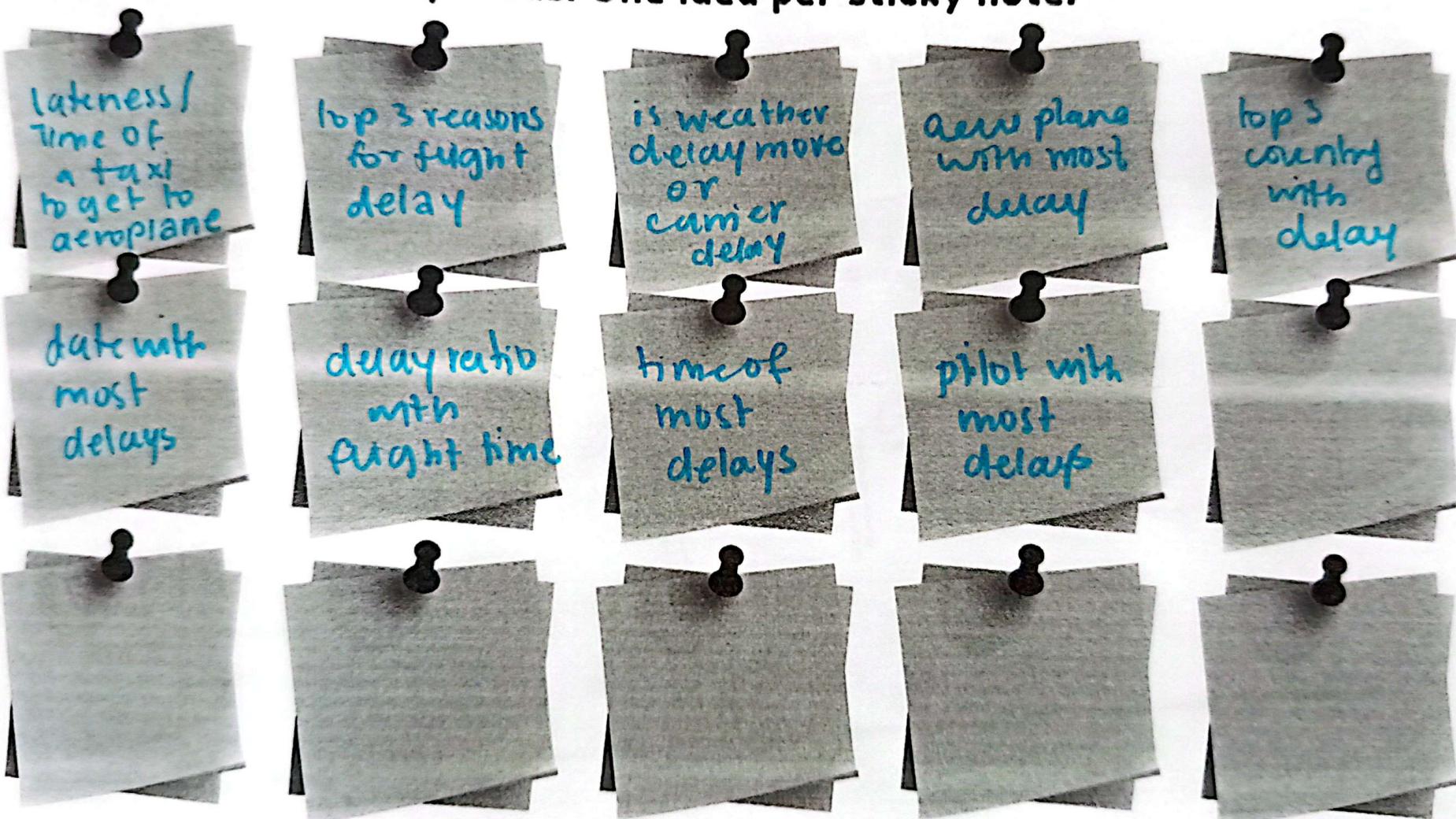
BI DESIGN SPRINT - IDEATE

Design
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TEAM MEMBER 3 NAME

ZUHA AQIB

Come up with as many ideas. One idea per sticky note.



No judgement - Go for volume - Be creative

BI DESIGN SPRINT - IDEATE

TEAM MEMBER 4 NAME

Zehra Ahmed.

Come up with as many ideas. One idea per sticky note.

TOP 3 Airlines causing delay (Bar chart)

Most frequent cause of delay (Bar chart of # of flights)

Highest flight delay.

Scatter plot of heavy trend & weather

Saving flight dest & source countries.

Most popular connection routes.

City with the most delays.

Flight Atto Tornado Dept CIV Animal issues

Distance vs time

Recent delays
Timeline.

Avg delay vs distance

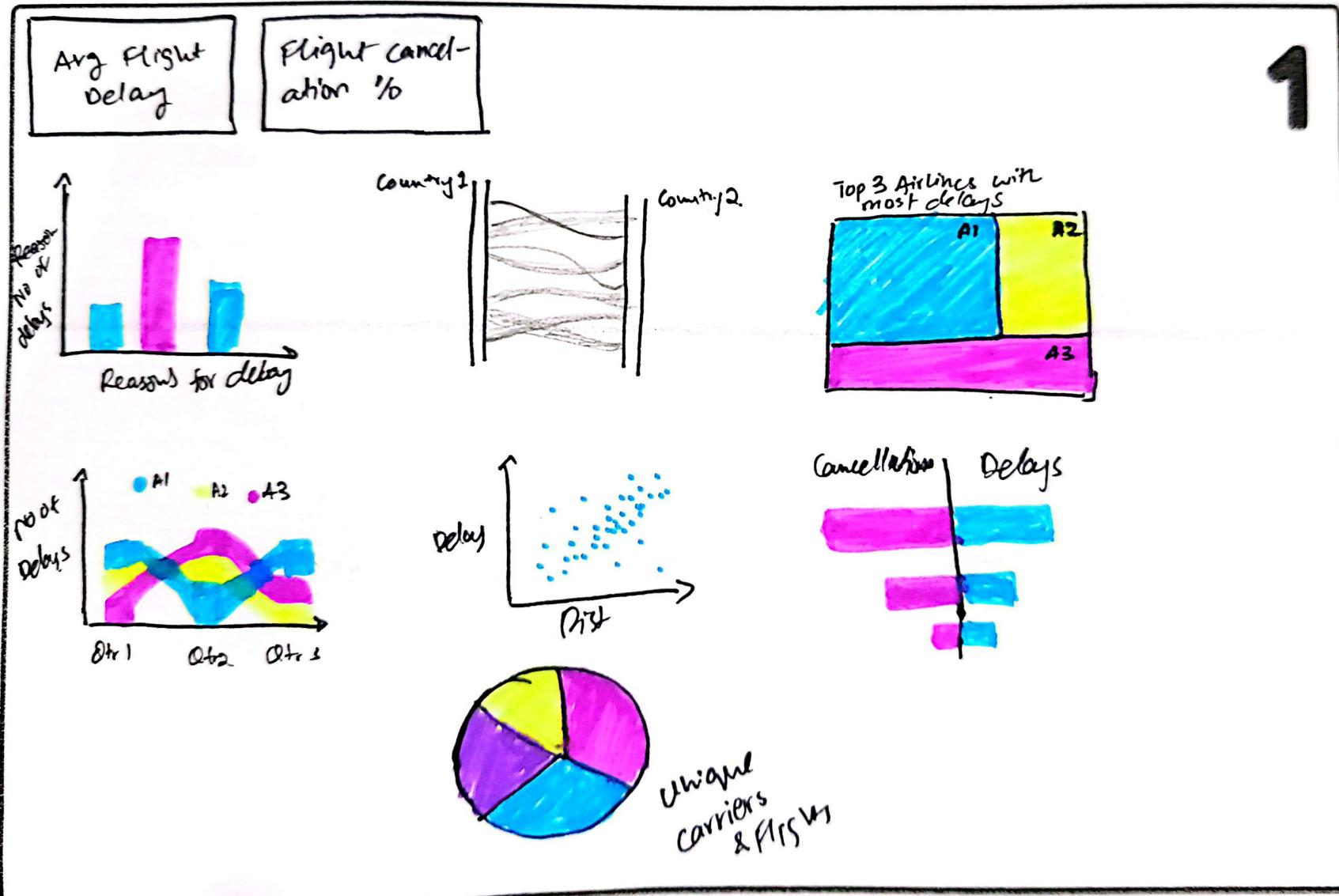
Avg delay vs count

No judgement - Go for volume - Be creative

BI DESIGN SPRINT - IDEATE

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Crazy 4s - Sketch ideas that might be a BI solution
Each member will create this individually.



Team member Name

Kisa

Fatima

2

3

4

BI DESIGN SPRINT - IDEATE

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Crazy 4s - Sketch ideas that might be a BI solution
Each member will create this individually.

FLIGHT DELAYS AND CANCELLATIONS

flight no.
with highest
delay

dep. country
with highest
delays

dest. country
with highest
delays

Time of Delay



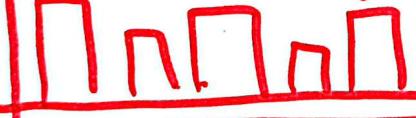
Earlier flights and
Unique carriers



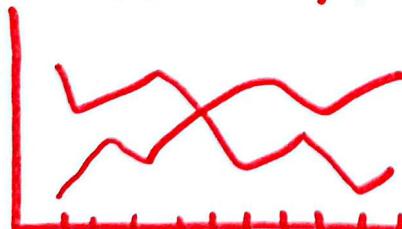
Top 5 reasons of delay

- 1
- 2
- 3
- 4
- 5

Security Delay in
day-time range



Carrier Delay vs
Weather Delay (Time)



3

Team member
Name

Zuhra
Ayib

1

2

4

~ ~

Crazy 4s - Sketch ideas that might be a BI solution

Each member will create this individually.

Airport with most delays Airport with most cancellations Highest Arr Delay Percentage of flights with Arr-Delays

Bar Chart for Delays
Bar for each type of delay

Piechart Count of Delay vs Count of cancellation

Arrival vs Departure legend . Airport

Line chart Cancellation & Date

2

Team members

Name

Farah

Irayat

1

1

3

4

BI DESIGN SPRINT - IDEATE

Design
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Crazy 4s - Sketch ideas that might be a BI solution
Each member will create this individually.

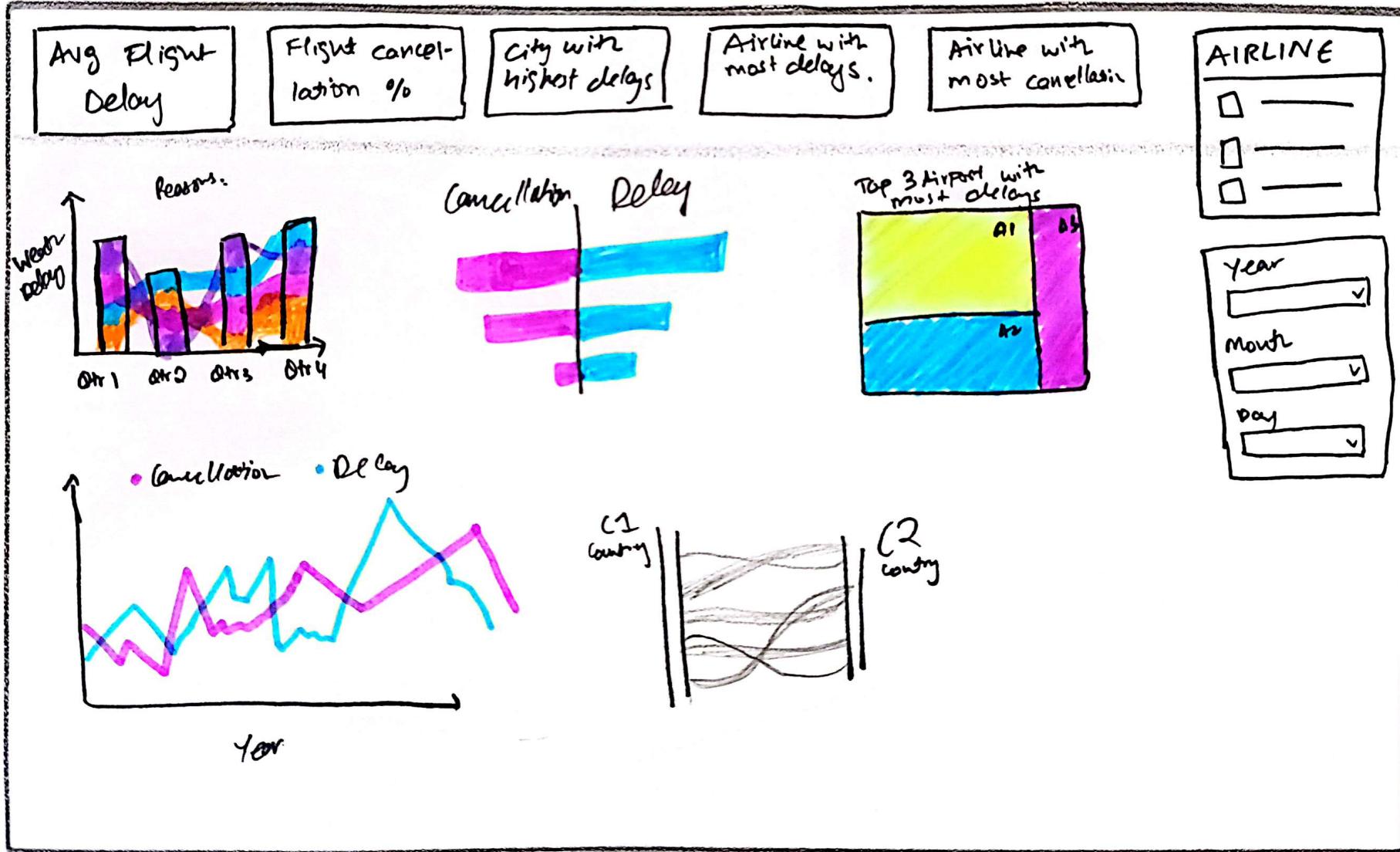
AVERAGE	TOTAL DELAY	CITY HIGHEST	MONT HIGHEST	FLIGHTNAME	Team member Name
AIRLINE V/S DELAY	CANCELLATION V/S DELAYS	Year	Month	Day	Zehra
COUNTRIES V/S DELAY	ARRIVAL VS DEPT	▼	▼	▼	Ahmed
TIME SERIES	SCATTER PLOT	1	2	3	

Detailed description: This image shows a hand-drawn sketch for a BI design sprint. It consists of a grid of 10 boxes. The first four rows have 4 boxes each, and the last row has 5 boxes. The boxes are outlined in blue and contain various sketches of data visualizations like bar charts, line graphs, scatter plots, and tables. The fifth row contains numbered boxes (1, 2, 3) and a box for team member names. The first four rows are labeled with categories at the top: 'AVERAGE', 'TOTAL DELAY', 'CITY HIGHEST', 'MONT HIGHEST', 'FLIGHTNAME', and 'Team member Name'. The second row contains sketches for 'AIRLINE V/S DELAY' and 'CANCELLATION V/S DELAYS'. The third row contains sketches for 'COUNTRIES V/S DELAY' and 'ARRIVAL VS DEPT'. The fourth row contains sketches for 'TIME SERIES' and 'SCATTER PLOT'. The fifth row contains numbered boxes (1, 2, 3) and a box for team member names, with handwritten names 'Zehra' and 'Ahmed' written in it.

BI DESIGN SPRINT - PROTOTYPE

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Choose your favourite idea from the Crazy 4s. Make it as a group!



BI DESIGN SPRINT - TEST

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for BI

Upload the prototype picture & ask your AI expert for feedback!

Axis & legend missing.

Comparative view to be added (Timeline A vs B)

Morning Flights vs evening.

Why it happened.

Heatmap density.

What can you improve? Reflect as a team!

Use Good Practices learned in the last class. There's repetition in filters and charts that could act as filter.

Positioning