DPDzero

INDIAN DATA CLUB

SQL MURDER MYSTERY:
Who Killed the CEO?
An Investigation in Data Analytics and Logical Queries

ARINDAM DAS │ Lead Data Detective

TABLE OF **CONTENTS**

01 INTRODUCTION
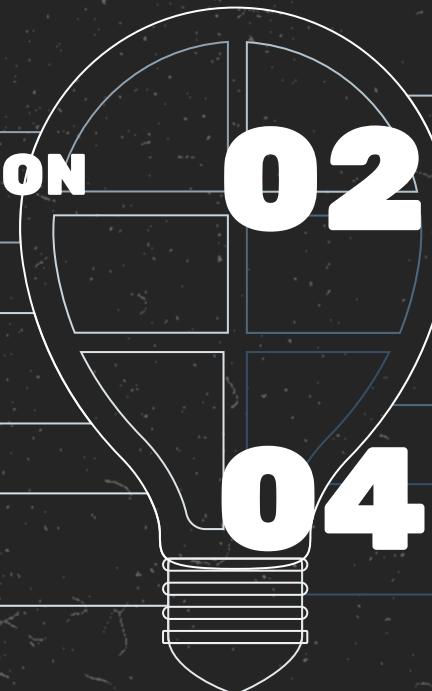
02 INITIAL INVESTIGATION

03 EVIDENCE

04 CONCLUSION

DPDzero

DPDzero

FOLLOWING THE DIGITAL FOOTPRINT

Unmasking the Killer, Query by Query.

PRINCIPAL SIGNS
OF MURDER

The crime follows the *Premeditated Digital Betrayal Pattern.*

This pattern is defined by the suspect's strategic use of the corporate system to execute and then cover up the murder, with the entire sequence recorded in the databases:

Exclusive Access: The killer exploited their system credentials to secure a **private, precise window** in the CEO's Office.
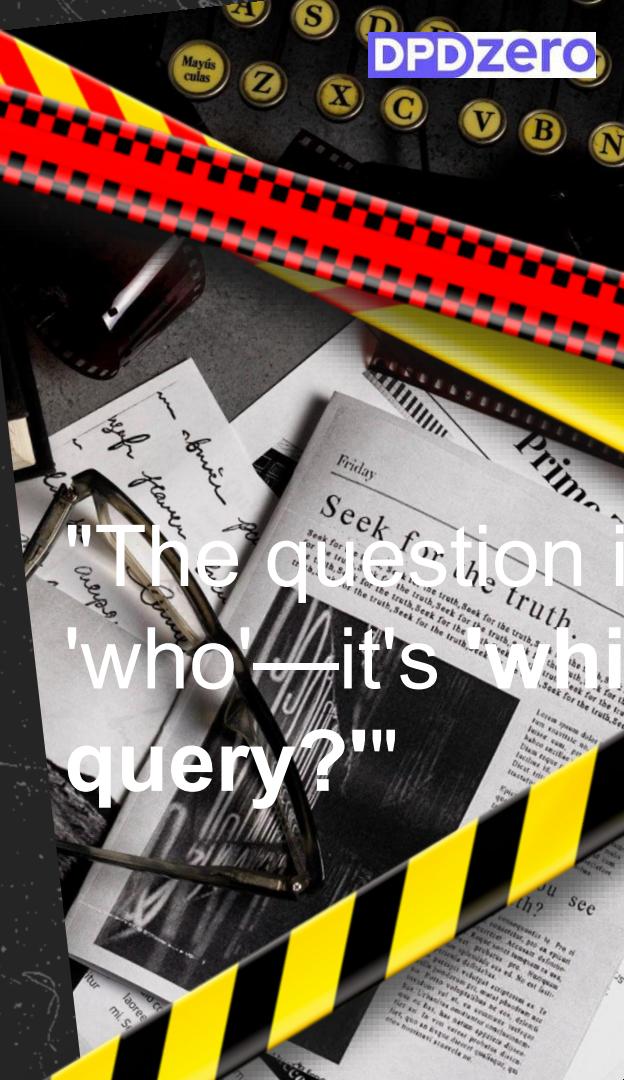
Recorded Deception: The suspect's own actions (filing a false alibi) were **immediately contradicted** by the system's objective access logs.

Corroborated Intent: Communication (a phone call) occurred **during the execution phase,** and physical evidence (fingerprints, log mismatch) confirmed the deliberate effort to tamper with the scene.

WHOA! LET'S DIVE INTO THE CASE IS NOW DIGITAL.

I am Arindam Das; professional detective and I took this case.

"The question i 'who'—it's 'whi query?'"

DPDzero

The Database:
Digital Clue Board

Alibi

alibi_id	employee_id	claimed_location	claim_time
1	1	Office	2025-10-15 20:50:00
2	4	Server Room	2025-10-15 20:50:00
3	5	Marketing Office	2025-10-15 20:50:00
4	6	Office	2025-10-15 20:50:00

employees

employee_id	name	department	role
1	Alice Johnson	Engineering	Software Engineer
2	Bob Smith	HR	HR Manager
3	Clara Lee	Finance	Accountant
4	David Kumar	Engineering	DevOps Engineer
5	Eva Brown	Marketing	Marketing Lead
6	Frank Li	Engineering	QA Engineer
7	Grace Tan	Finance	CFO
8	Henry Wu	Engineering	CTO
9	Isla Patel	Support	Customer Support
10	Jack Chen	HR	Recruiter

Keycard_logs

log_id	employee_id	room	entry_time	exit_time
1	1	Office	2025-10-15 08:00:00	2025-10-15 12:00:00
2	2	HR Office	2025-10-15 08:30:00	2025-10-15 17:00:00
3	3	Finance Office	2025-10-15 08:45:00	2025-10-15 12:30:00
4	4	Server Room	2025-10-15 08:50:00	2025-10-15 09:10:00
5	5	Marketing Office	2025-10-15 09:00:00	2025-10-15 17:30:00
6	6	Office	2025-10-15 08:30:00	2025-10-15 12:30:00
7	7	Finance Office	2025-10-15 08:00:00	2025-10-15 18:00:00
8	8	Server Room	2025-10-15 08:40:00	2025-10-15 09:05:00
9	9	Support Office	2025-10-15 08:30:00	2025-10-15 16:30:00
10	10	HR Office	2025-10-15 09:00:00	2025-10-15 17:00:00
11	4	CEO Office	2025-10-15 20:50:00	2025-10-15 21:00:00

Calls

call_id	caller_id	receiver_id	call_time	duration_sec
1	4	1	2025-10-15 20:55:00	45
2	5	1	2025-10-15 19:30:00	120
3	3	7	2025-10-15 14:00:00	60
4	2	10	2025-10-15 16:30:00	30
5	4	7	2025-10-15 20:40:00	90

evidence

evidence_id	room	description	found_time
1	CEO Office	Fingerprint on desk	2025-10-15 21:05:00
2	CEO Office	Keycard swipe logs mismatch	2025-10-15 21:10:00
3	Server Room	Unusual access pattern	2025-10-15 21:15:00

Identify the Crime Location & Time

🎯 **Goal**

Find where the crime happened and the approximate time

🧩 **Clue Expected**

Earliest evidence in the **CEO Office** = crime location + time window.

```sql
SELECT
        k.room AS crime_location,
        MIN(k.entry_time) AS critical_entry_time,
        MAX(k.exit_time) AS criticak_exit_time
FROM keycard_logs k
WHERE k.room like '%CEO%'
      AND k.entry_time >= '2025-10-15 20:00:00'
GROUP BY k.room;
```

crime_location	critical_entry_time	criticak_exit_time
CEO Office	2025-10-15 20:50:00	2025-10-15 21:00:00

"The little things are infinitely the most important.

— **Sherlock Holmes.**

DPDzero

Seek for the truth

A PICTURE IS WORTH A THOUSAND WORDS

Analyze who accessed critical areas at the time

🎯 Goal

Get all employees who entered/exited the CEO Office around the crime window.

🧩 Clue Expected

Anyone entering 20:40–21:20 becomes a suspect.

```sql
WITH suspect_access AS (
SELECT
    k.employee_id,
    k.entry_time, k.exit_time
FROM keycard_logs k
WHERE k.room = 'CEO Office'
    AND (
        k.entry_time BETWEEN '2025-10-15 20:30:00' AND '2025-10-15 21:30:00'
    OR k.exit_time BETWEEN '2025-10-15 20:30:00' AND '2025-10-15 20:30:00')
)
SELECT
    e.name AS primary_suspect,
    sa.entry_time, sa.exit_time
FROM employees e
JOIN suspect_access sa ON e.employee_id = sa.employee_id;
```

primary_suspect	entry_time	exit_time
David Kumar	2025-10-15 20:50:00	2025-10-15 21:00:00

Cross-check Alibis with logs

```sql
SELECT
    e.name,
    a.claimed_location,
    k.room AS actual_location,
    CASE
        WHEN a.claimed_location <> k.room THEN 'False - LIE DETECTED'
        ELSE 'Match - ALIBI Confirmed'
    END AS Alibi_status
FROM employees e
JOIN alibis a ON e.employee_id = a.employee_id
JOIN keycard_logs k ON k.employee_id = e.employee_id
WHERE k.room = 'CEO Office'
        AND k.entry_time BETWEEN '2025-10-15 20:30:00' AND '2025-10-15 21:30:00'
        AND a.claim_time BETWEEN '2025-10-15 20:30:00' AND '2025-10-15 21:30:00'
        AND a.claimed_location <> k.room;
```

name	claimed_location	actual_location	Alibi_status
David Kumar	Server Room	CEO Office	False - LIE DETECTED

🎯 **Goal**

Check which alibis **don't match keycard logs.**

🧩 **Clue Expected**

If someone **claims** they were somewhere but **no keycard** confirms it → **false alibi.**

Check Suspicious Phone Calls

```
SELECT
    c.call_id,
    ce.name AS caller,
    re.name AS receiver,
    c.call_time,
    c.duration_sec
FROM calls c
LEFT JOIN employees ce ON ce.employee_id = c.caller_id
LEFT JOIN employees re ON re.employee_id = c.receiver_id
WHERE c.call_time BETWEEN '2025-10-15 20:30' AND '2025-10-15 21:30'
ORDER BY c.call_time;
```

call_id	caller	receiver	call_time	duration_sec
5	David Kumar	Grace Tan	2025-10-15 20:40:00	90
1	David Kumar	Alice Johnson	2025-10-15 20:55:00	45

🎯 **Goal**

Find calls made ±30 minutes around the crime.

🧩 **Clue Expected**

Did the suspect talk to someone just before or after the incident?

Match Evidence With Movements

DPDzero

🎯 **Goal**

Check if evidence discovery matches presence of any employee.

🧩 **Clue Expected**

Who was close to the evidence time **and** in the crime room?

```sql
SELECT
    e.name,
    k.room AS actual_location,
    k.entry_time,
    a.claimed_location,
    ev.description AS evidence_found,
    ev.found_time
FROM employees e
JOIN keycard_logs k ON e.employee_id = k.employee_id
LEFT JOIN alibis a ON e.employee_id = a.employee_id
LEFT JOIN evidence ev ON ev.room = k.room
WHERE e.name = 'David Kumar'
    AND k.room = 'CEO Office'
    AND k.entry_time BETWEEN '2025-10-15 20:30:00' AND '2025-10-15 21:30:00';
```

name	actual_location	entry_time	claimed_location	evidence_found	found_time
David Kumar	CEO Office	2025-10-15 20:50:00	Server Room	Keycard swipe logs mismatch	2025-10-15 21:10:00
David Kumar	CEO Office	2025-10-15 20:50:00	Server Room	Fingerprint on desk	2025-10-15 21:05:00

04 CONCLUSION

The real killer's mask is going to be revealed very soon...

Combine of All Findings

🎯 **Goal**

Return **only the killer's name** in required format.

🧩 **Clue Expected**

Exactly one employee fits **all 3 conditions**.

```sql
SELECT
    DISTINCT CONCAT('Full Name of Killer: ', e.name) AS killer
FROM employees e
JOIN alibis a ON a.employee_id = e.employee_id
JOIN keycard_logs k ON e.employee_id = k.employee_id
LEFT JOIN evidence ev ON k.room = ev.room
WHERE k.room = 'CEO Office'
  AND a.claimed_location <> k.room
  AND k.entry_time BETWEEN '2025-10-15 20:30:00' AND '2025-10-15 21:30:00';
```

THE FINAL
KILLER

killer

Full Name of Killer: David Kumar

DAVID KUMAR

DPDzero

CASE SOLVED:
Explanation of Findings

The killer is <u>David Kumar</u>. This conclusion was reached by cross-referencing multiple company databases to establish a pattern of presence and deception.

Presence at the Scene (Keycard Logs): The investigation first filtered the `keycard_logs` for the time of the murder (around 21:00:00). **David Kumar** was identified as the only person logged into the CEO Office from '20:50:00 to 21:00:00', placing him directly at the crime scene.

Alibi Contradiction (Alibis & Keycard Logs): When checking his statement in the `alibis` table, <u>David Kumar</u> claimed to be in the Server Room. This was a confirmed lie, as his keycard logs contradicted this claim.

Suspicious Communication (Calls): The `calls` table showed <u>David Kumar</u> made a critical call to Alice Johnson at 20:55:00, while he was still logged inside the CEO Office. This indicates communication immediately before the crime was completed.

Physical Evidence (Evidence): Final analysis confirmed physical evidence, including a Fingerprint on desk and a Keycard swipe logs mismatch, were found in the CEO Office, further connecting <u>David Kumar</u> to the crime and an attempted cover-up.

All data streams point consistently and exclusively to <u>David Kumar</u> as the culprit.

🕵️‍♂️ Case Summary

- **David Kumar** was the only employee logged in (20:50:00–21:00:00).List all the key concepts to remember
- **David Kumar** claimed the Server Room, which was proven false by the keycard logs.List all the key concepts to remember
- **David Kumar** called Alice Johnson at **20:55:00** while at the crime scene.
- A **Fingerprint on desk** and a **Keycard swipe logs mismatch** were found at the crime scene. **David Kumar's** log entries, false alibi, and call activity all completely contradict his statement.

THANKS!

DO YOU HAVE ANY QUESTIONS?

iarindamdas7@gmail.com

https://www.linkedin.com/in/Arindam-das-analytics

RESOURCES OF
THIS TEMPLATE

ICON PACK

- Icon pack: Crime investigation Lineal

FOR MORE INFORMATION ABOUT EDITING SLIDES, PLEASE READ OUR FAQS OR VISIT OUR BLOG:

- https://slidesgo.com/faqs and

- https://slidesgo.com/slidesgo-school