

# Excelerate Data Visualization Internship: Final Presentation

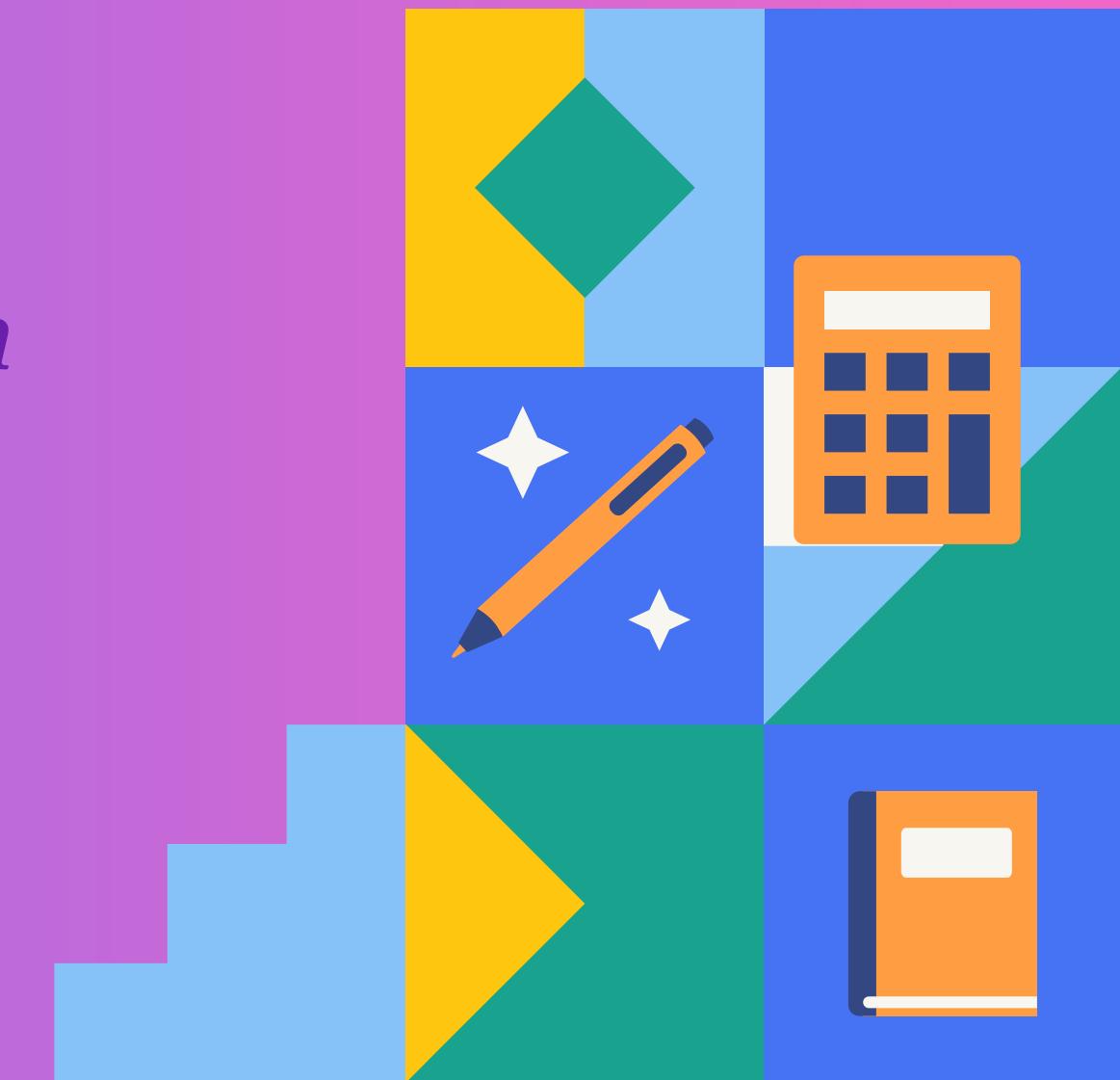
*Leveraging Data for Business Growth*

**TEAM-44B**

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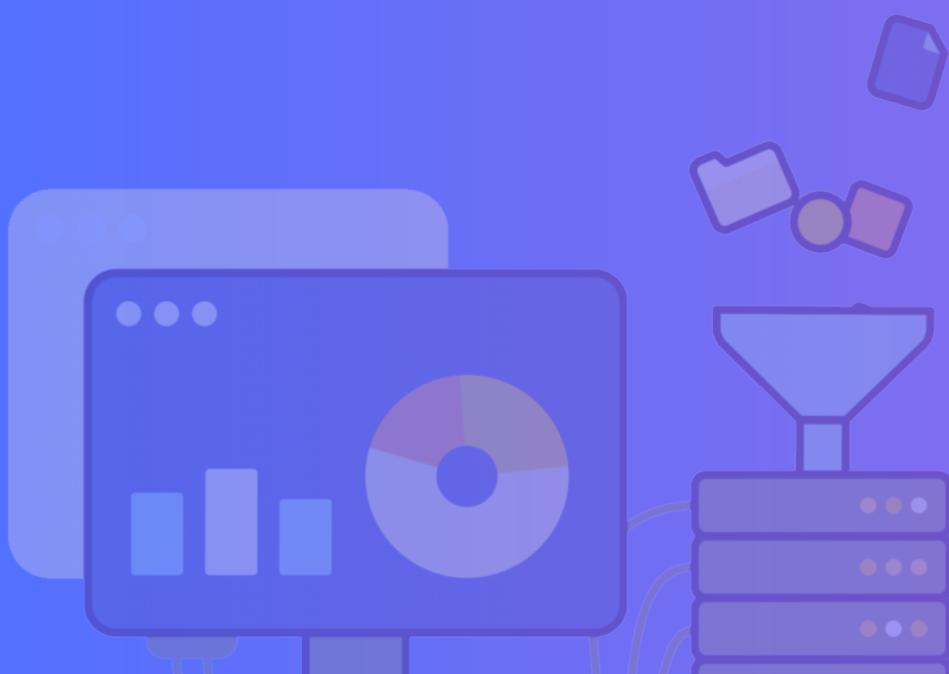


Week 1

Week 2

Week 3

Week 4



# Project Objective & Problem Statement



## *Objective:*

*To analyze business trends and provide actionable insights using data visualization techniques.*



## *Problem Statement:*

- **Current Issue:** Difficulty in tracking customer engagement and retention.
- **Impact:** Limited ability to make data-driven decisions.
- **Goal:** Develop a visualization dashboard to improve decision-making.

Week 1



# Data Collection & Processing

## Key Findings:

⚠️ 5 datasets explored



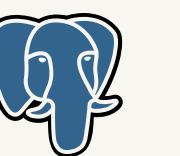
⚠️ 482 missing email entries in learner data.

⚠️ 317 missing completion status values.

⚠️ 236 duplicate cohort records.

## Solutions Implemented:

✓ Imputed missing values (Mean for numerical, Mode for categorical).



✓ Removed duplicates using PostgreSQL deduplication queries.



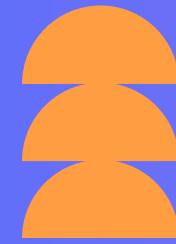
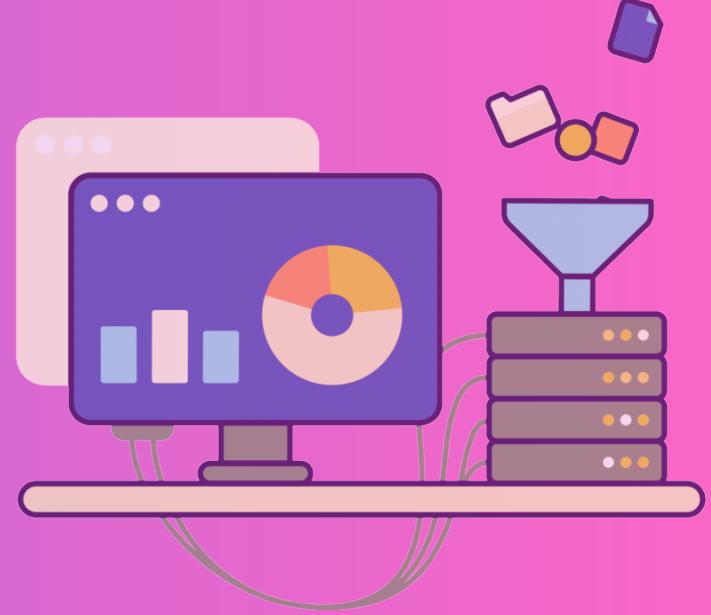
✓ Handled outliers using IQR and capping extreme values.



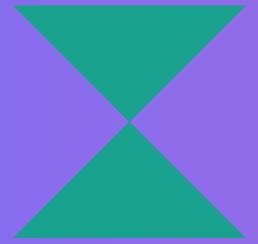


Week 2

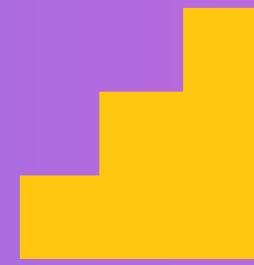
# Data Alchemy (ETL Process)



Extract: CSV → PSQL

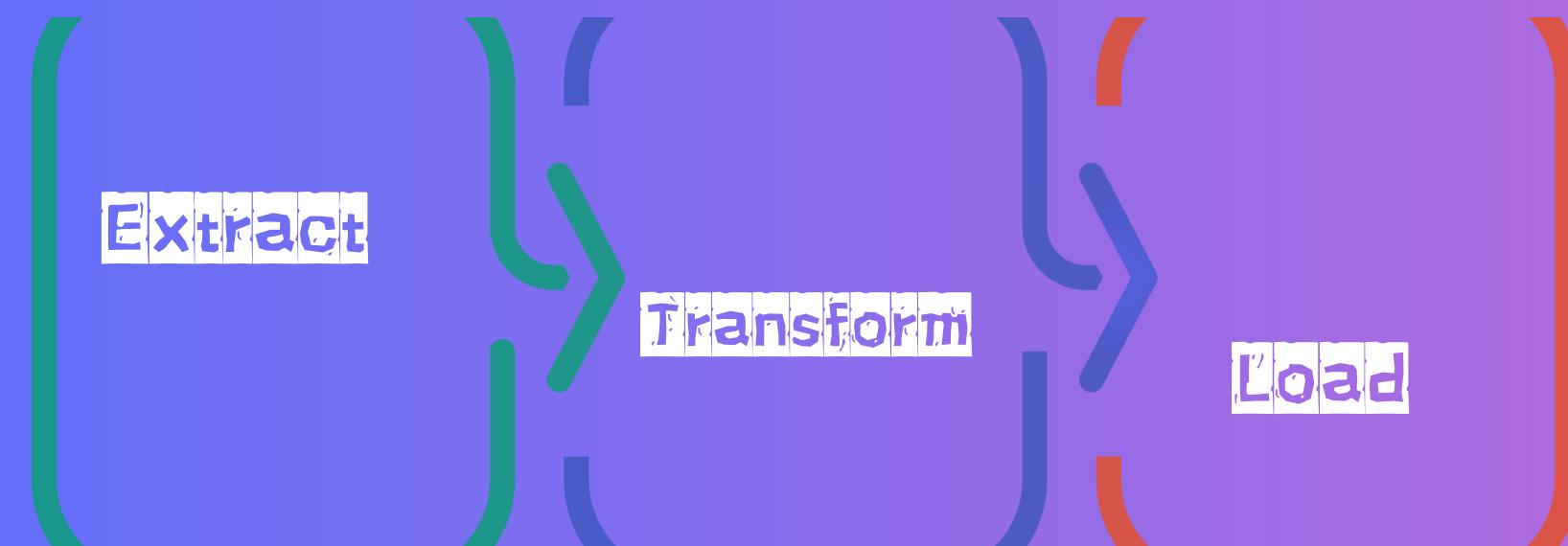


Transform: Fixed dates,  
standardized text



Load: 41 columns in  
master table

- *Composite keys saved us from duplicate cohort errors!"*



# Wireframe Design & Data Mapping

# Wireframe

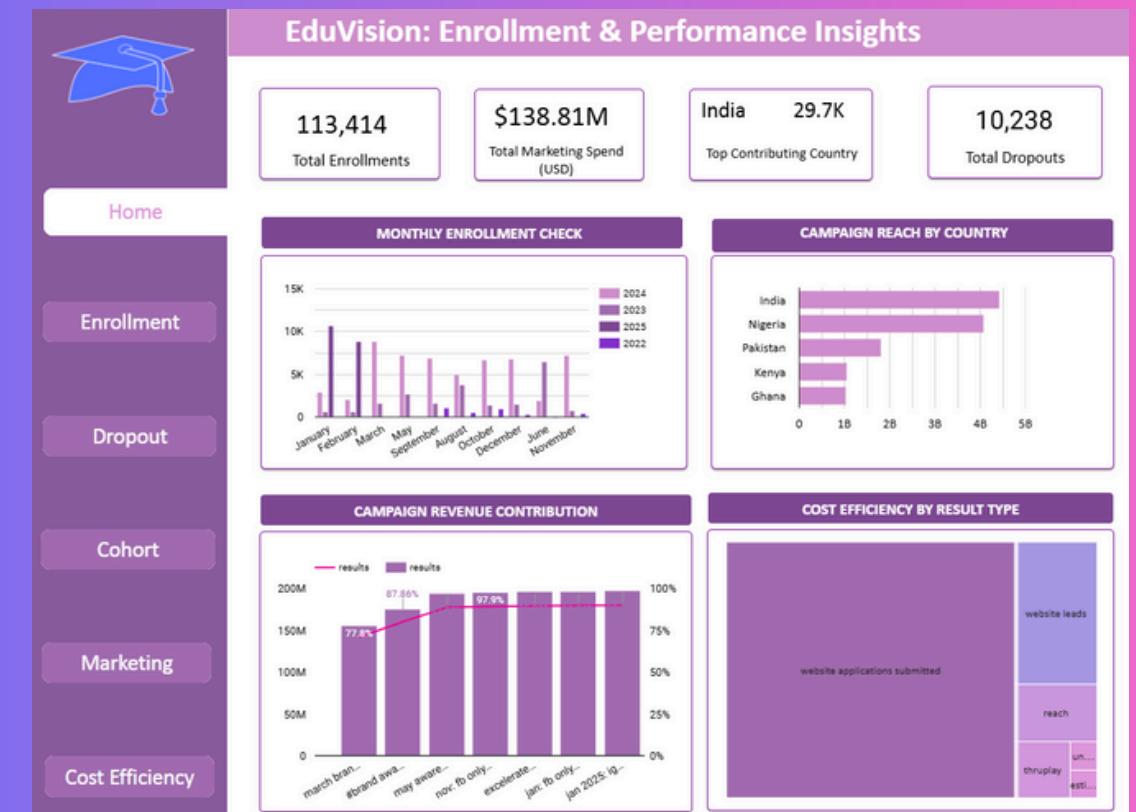


# *Why a Wireframe First?*

- Blueprint for the dashboard layout to ensure clarity.
  - Defines key metrics before visualization implementation.

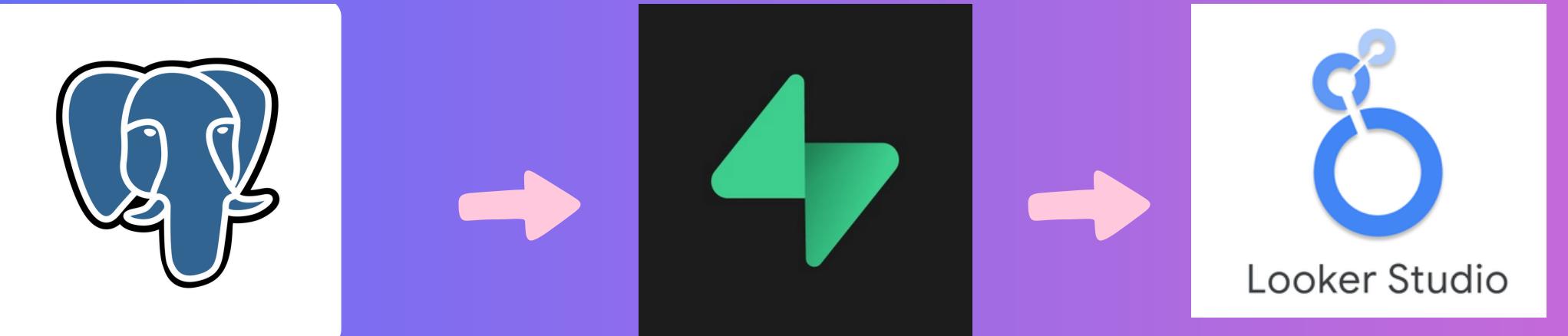
## ***Key Activities:***

# Dashboard





# Database Migration & Dashboard Development



## *Key activities:*

- *Migrated to Supabase Postgresql for real-time collaboration.*
- *Connected Supabase with Looker Studio.*
- *Enabled seamless, remote data visualization.*



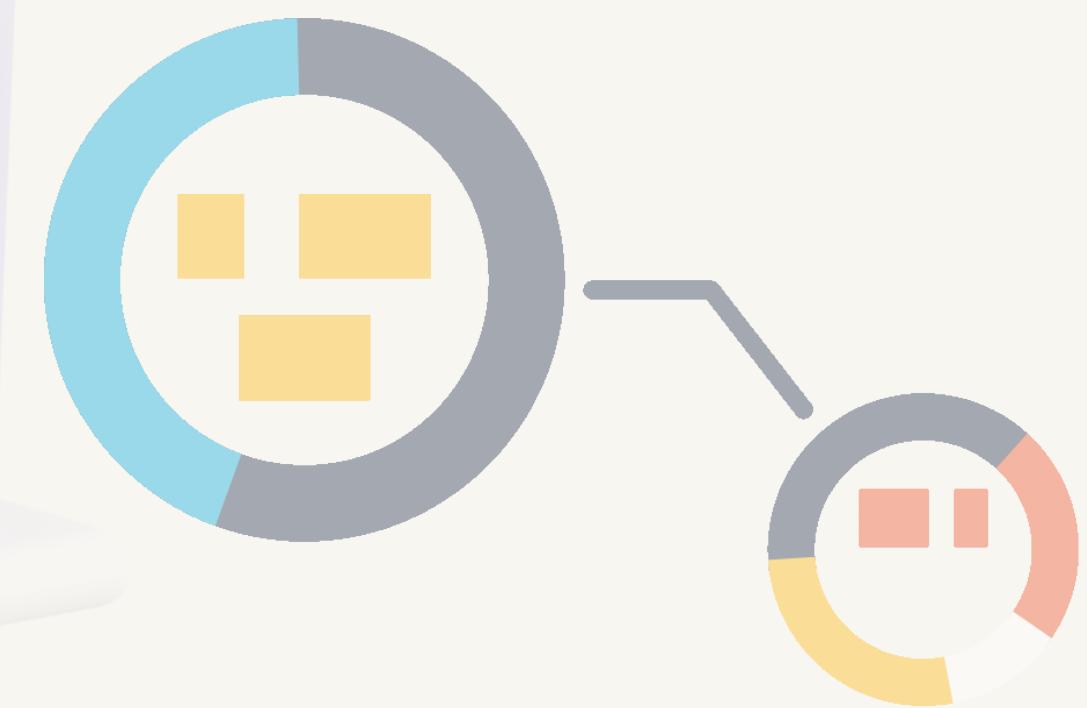
# Insights & Recommendations

## Major Insights

- 📊 +15% Retention → Better engagement strategies
- 📈 Seasonal Sales Peaks → Targeted marketing needed
- 〽️ High Checkout Drop-Off → UX improvements required

## Actionable Recommendations

- Optimize Cohort Sizes → +15% retention
- Target India/Nigeria → +20% enrollments
- Automate Data Checks → Save 10 hrs/week
- 



# Challenges & Solutions

## Problems

- *Duplicate cohort\_id*
- *Slow dashboard*
- *Dashboard issues*
- *Collaboration on local database*



**"We turned chaos into clarity!"**

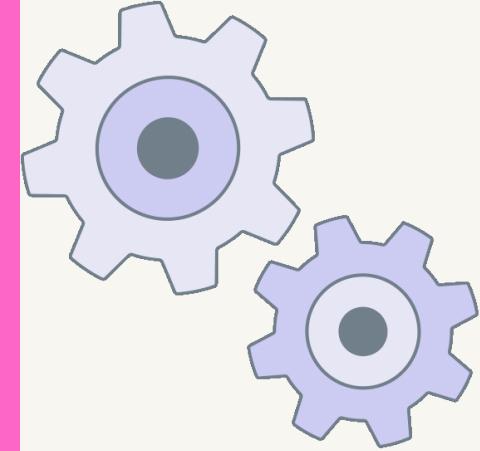
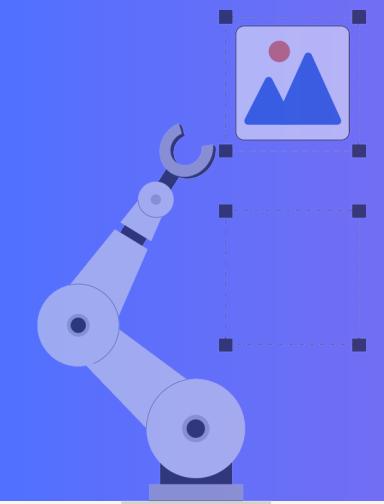
## Solutions

- Composite key hack*
- Query optimization*
- Responsive redesign*
- Cloud hosting(Supabase)*



# Lessons Learned

- Teamwork : *Divide & conquer wins*
- Data Quality : *Garbage in → garbage out*
- UX: Simple : *Powerful = Effective*





# Future Scope & Conclusion

1. *Expand datasets & automate updates.*
2. *Integrate AI for predictive insights.*
3. *Social media integration*



***Our project showcases how data visualization enhances decision-making and business growth.***



# THANK YOU