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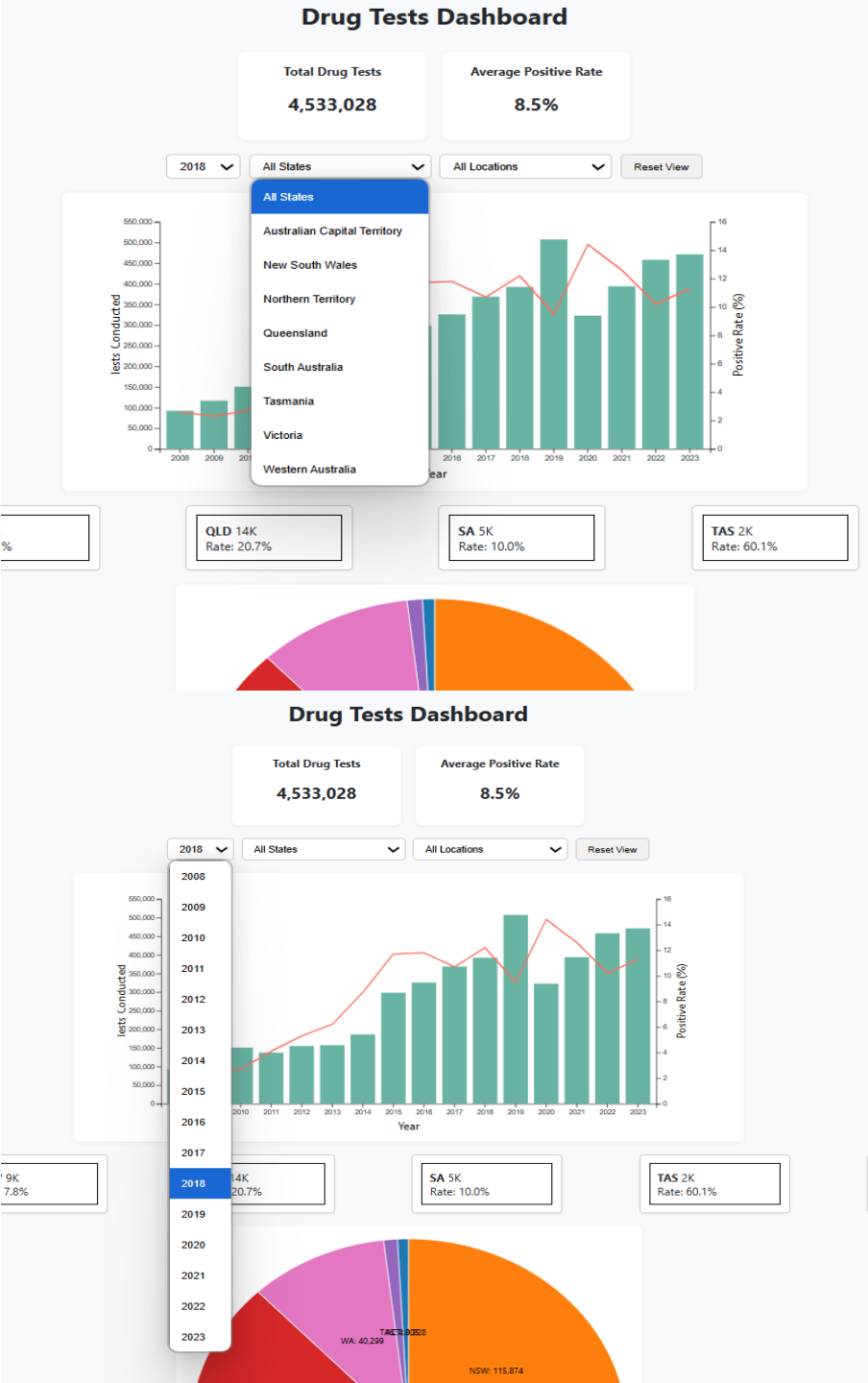
# DRUG TESTING DASHBOARD

- **Team Name:** CL01\_G21(Individual)
- **Name & ID – Yulan Yaneth Karunanayake**
- Stand-Up 3 | Week 12

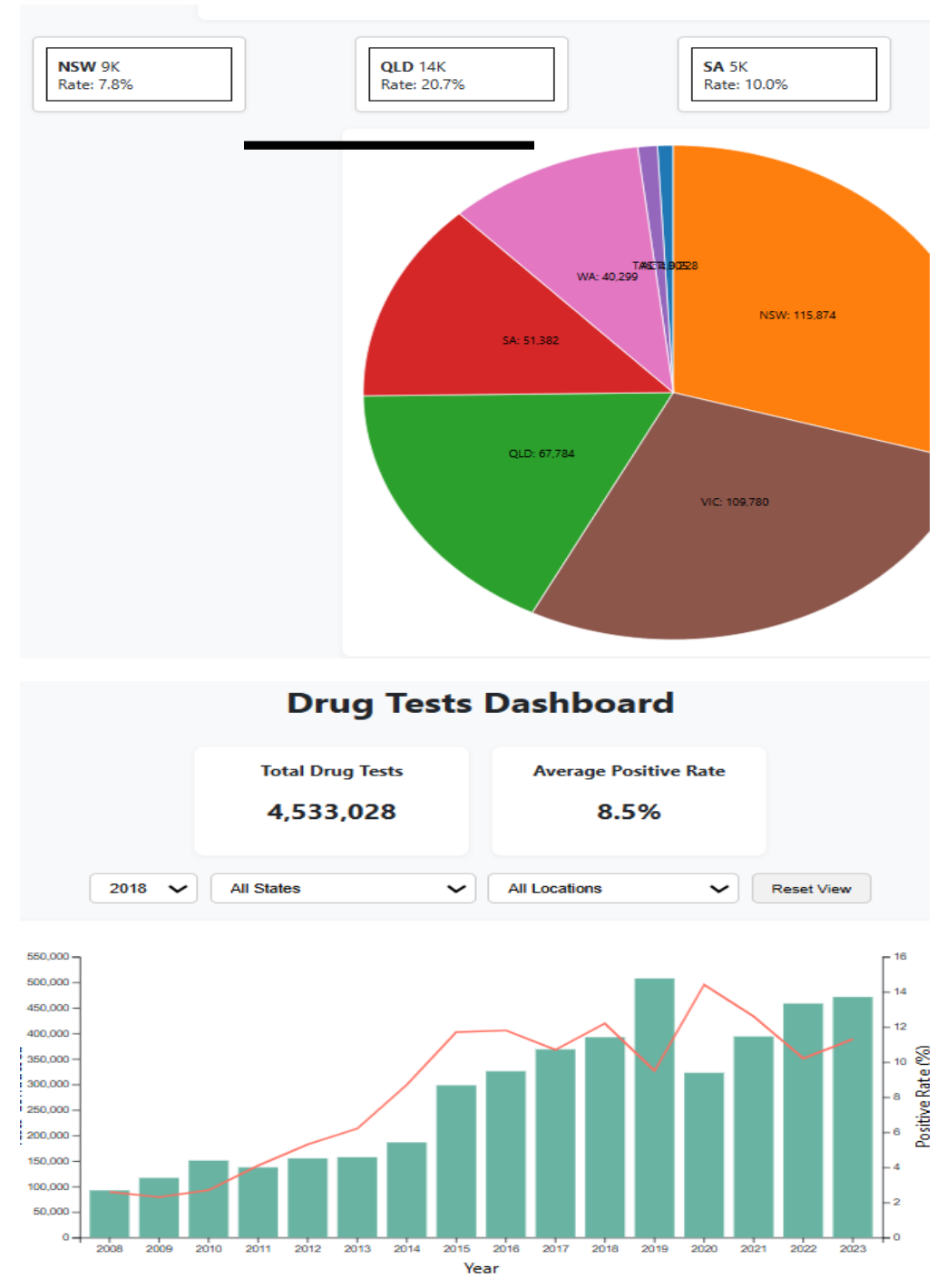
# WORK COMPLETED

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- KNIME preprocessing complete with combined and cleaned datasets
- Built a fully functional dashboard using D3.js
- Implemented interactive filters: Year, State, Region
- Developed 3 dynamic visualisations:
- KPI Tiles: total drug tests, charges, and positive rate
- Bar + Line Chart: yearly trends (tests & positivity)
- Pie Chart: jurisdiction-wise test distribution
- Code modularised: separate JS files for each chart
- Added Reset View button for user convenience



# VISUAL CONTENT

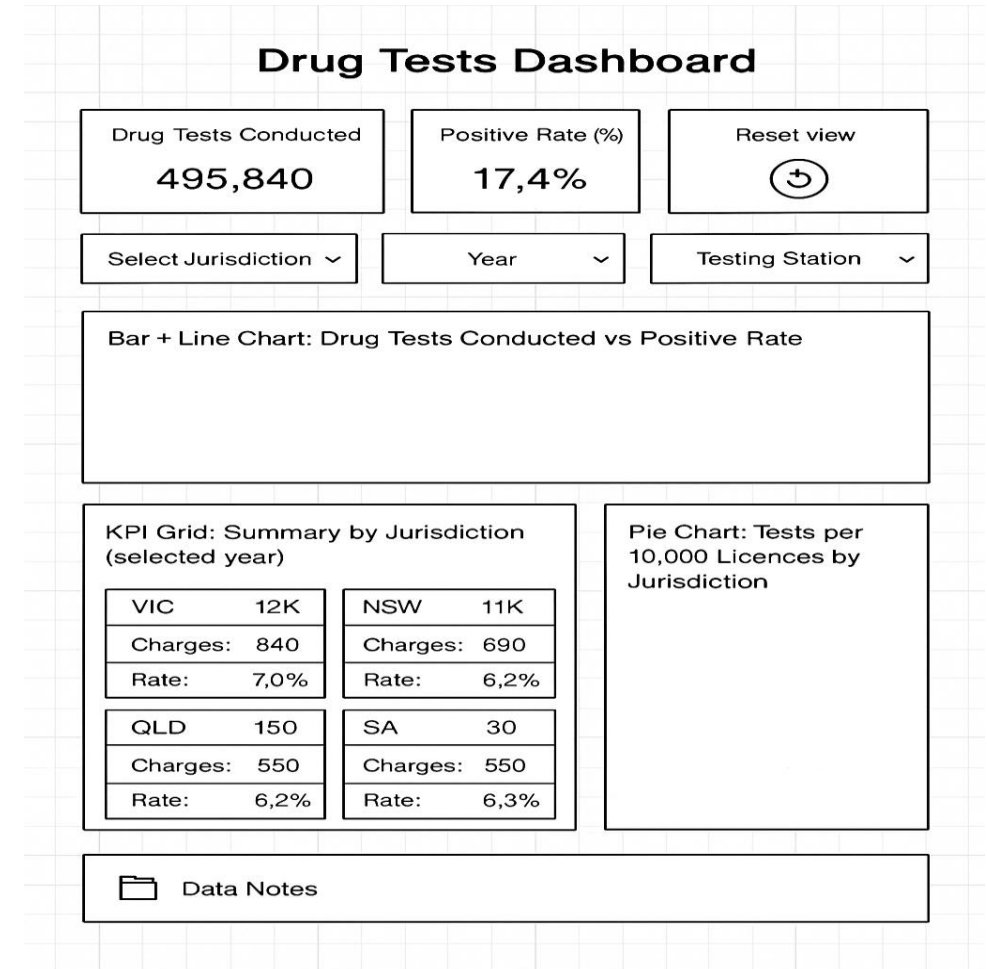


# Updated Layout & User Interface Structure

The dashboard layout is structured for clarity and responsiveness, with filters at the top, KPIs immediately visible, and charts organized in logical flow. Visual hierarchy guides the user to interpret high-level metrics before exploring year and region-specific patterns.

## Key Layout Zones:

- **Top Filters:** Year, State, Region dropdowns
- **KPI Tiles:** Summary of total tests, charges, positive rate
- **Bar + Line Chart:** Trend of tests and positivity over years
- **Pie Chart:** Share of tests by jurisdiction



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## *User Interactions & Functionality*

### **Dropdown Filters**

Users can filter data by:

- **Year**
- **State (Jurisdiction)**
- **Testing Station/Location**

### **Bar + Line Chart with Live Data Updates**

- Bars represent total tests per year
- Line graph represents positive rate

### **KPI Tiles**

- Displays total tests, average positive rate

### **Pie Chart Distribution**

- Compares total tests across jurisdictions
- Updates per year selected
- Includes direct labels for jurisdictions and counts

### **Reset View Button**

- Instantly clears all filters
  - Restores full dataset across all charts
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# VISUAL CONTENT

KPI Grid: Summary by Jurisdiction  
(selected year)

NSW 542  
Rate: 2.7%

QLD 216  
Rate: 2.0%

SA 600  
Rate: 2.3%

TAS 211  
Rate: 51.2%

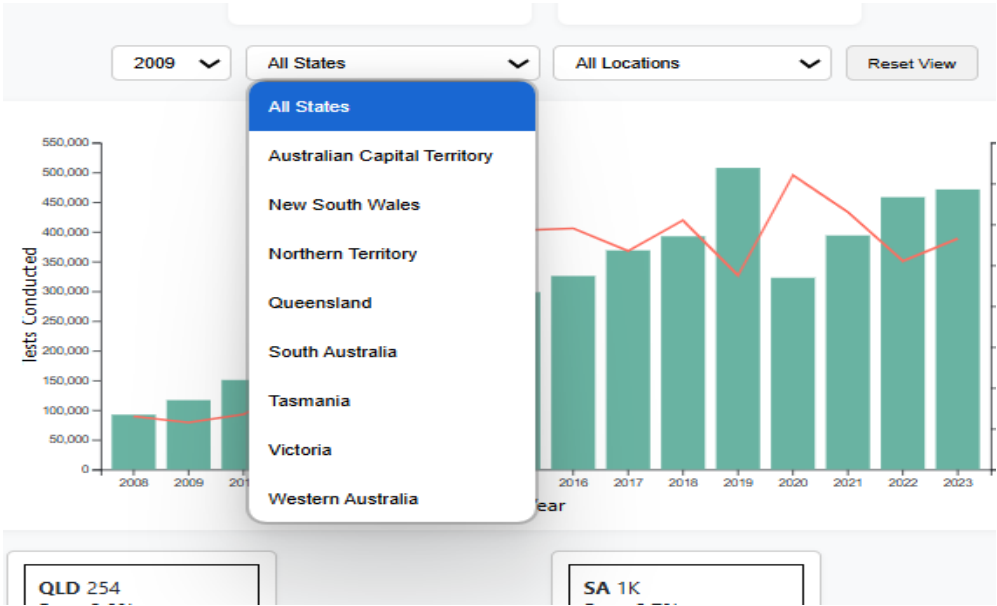
VIC 438  
Rate: 1.8%

WA 406  
Rate: 4.1%

KPI Grid: Summary by Jurisdiction  
(selected year)

NSW 542  
Rate: 2.7%

- All States
- All States
- Australian Capital Territory
- New South Wales
- Northern Territory
- Queensland
- South Australia
- Tasmania
- Victoria
- Western Australia



- All Locations
- All Locations
- All regions
- Inner Regional Australia
- Major Cities of Australia
- Outer Regional Australia
- Remote Australia
- Unknown
- Very Remote Australia

2008

All States

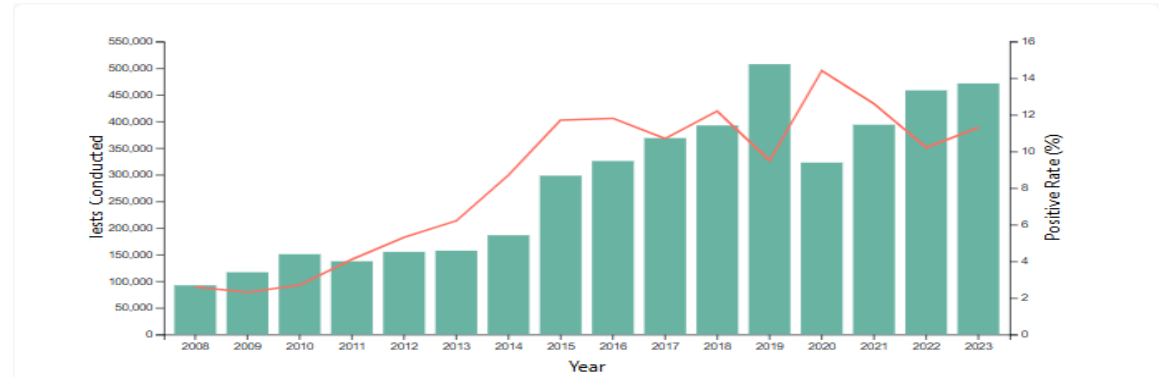
All Locations

Reset View

# Chart Breakdown & Data Insights

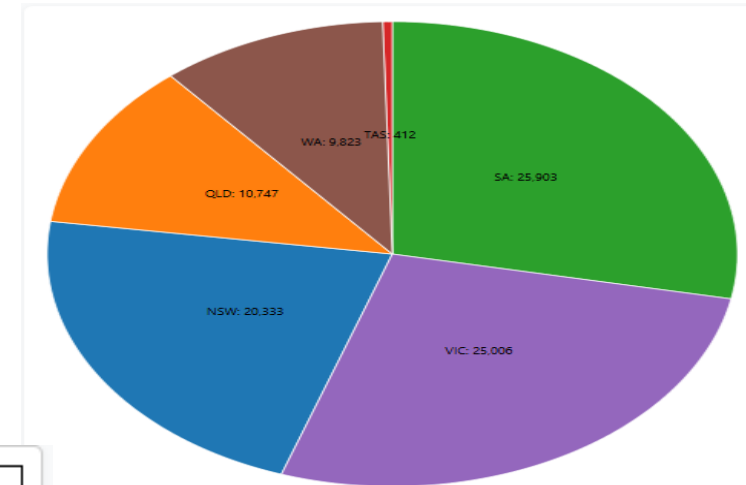
## 1. Bar + Line Chart (Trend Overview)

- **Bars:** Total number of drug tests conducted per year
- **Line:** Corresponding positive test rate
- **Purpose:** Highlights yearly trends and anomalies



## 2. Pie Chart (Jurisdiction Share)

- Shows test distribution per jurisdiction for selected year
  - Each slice sized by total tests in that state/territory
  - Updated live when year filter is changed
- E.g., VIC and NSW often have the highest shares



## 3. KPI Tiles (Jurisdiction Metrics)

- Displays:
  - Total tests (Sum COUNT)
  - Positive rate (%)
- Dynamically shows only relevant jurisdictions based on filters

KPI Grid: Summary by Jurisdiction  
(selected year)

NSW 542  
Rate: 2.7%

QLD 216  
Rate: 2.0%

# Iteration & Validation

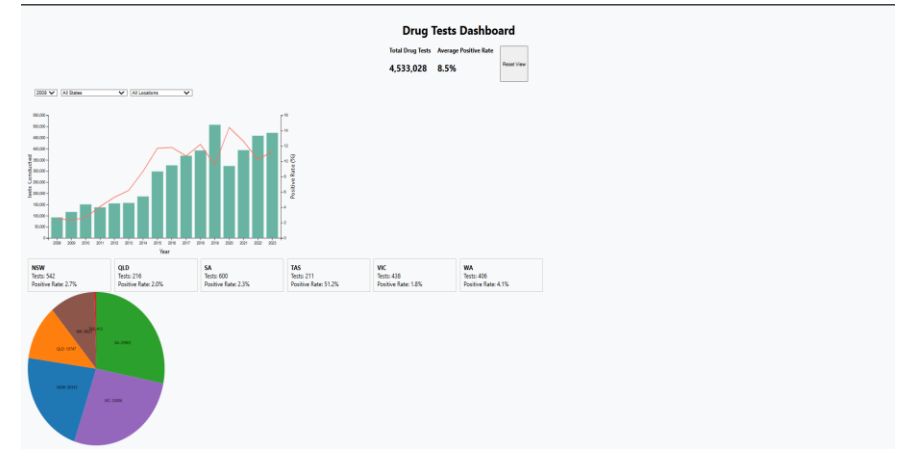
## Layout & Chart Improvements

- Increased pie chart size for readability
- Fixed missing axis labels on bar + line chart
- Reformatted KPI tiles to avoid stretching when filtered to 1 state
- Hid "Charges" line from KPI tiles when not available

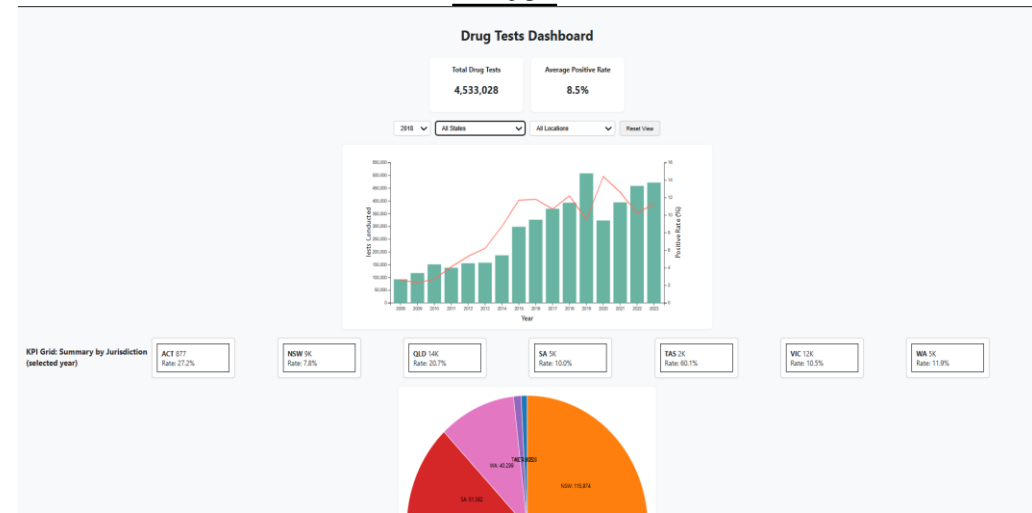
## Visual Testing

- Performed tests on:
  - Chart redraw accuracy after filter changes
  - Tooltip and label readability
  - Reset button functionality
- Ensured correct sync between dropdown selections and data display

Before



After



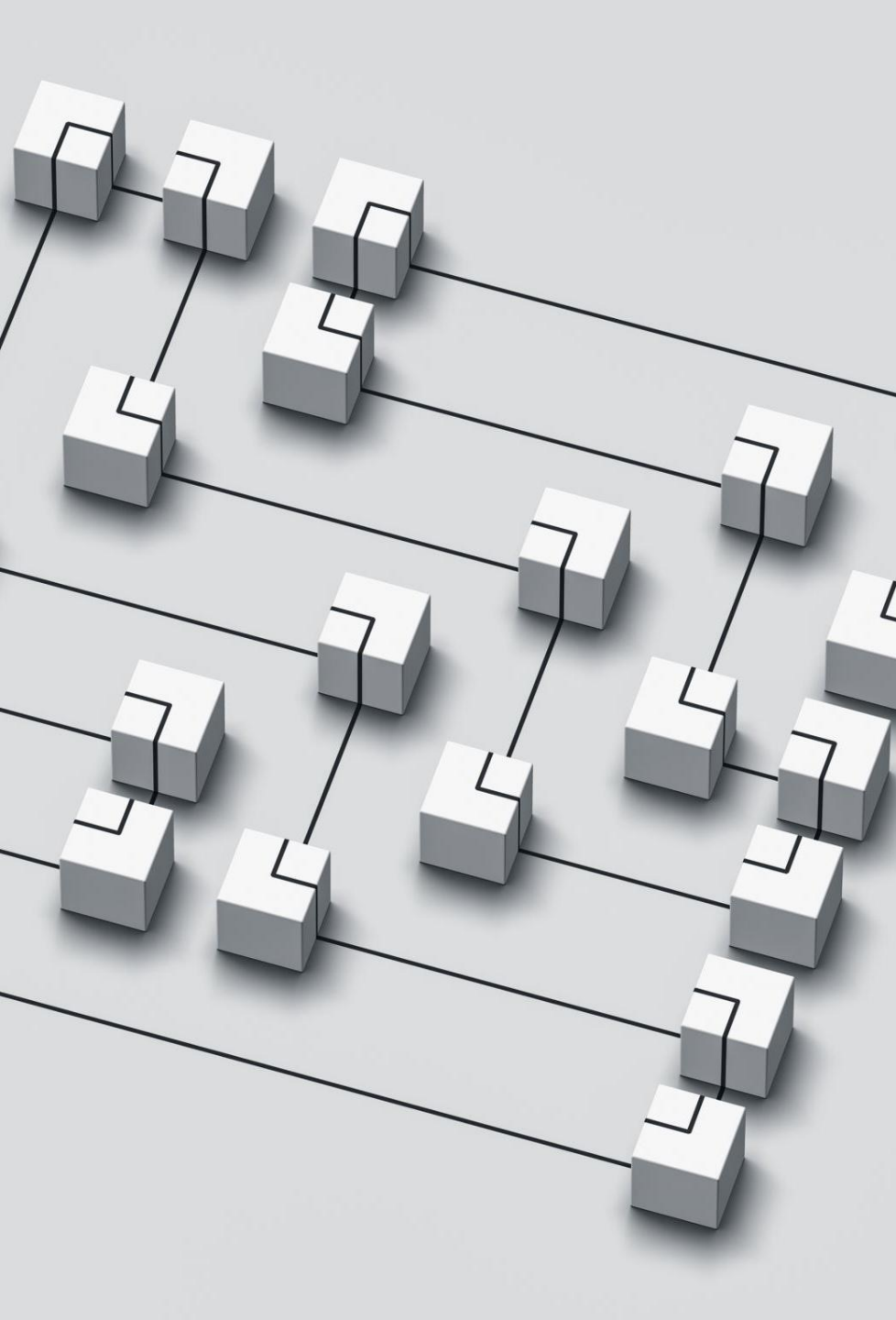


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# BLOCKERS & CHALLENGES

- **Incomplete data (NT, TAS)**
  - Missing values caused display issues
  - Fixed by conditionally hiding blank KPI fields
- **Testing everything alone**
  - No team member to cross-check bugs or layout
  - Took extra time for validation and debugging
- **Chart tooltip clarity**
  - Initial tooltips overlapped or clipped
  - Improved spacing and font size for readability
- **Time management**
  - Balancing chart logic, UI styling, and documentation solo
  - Prioritised working visuals first, then polished design





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# SOLUTIONS & FINAL STEPS

- **Solutions to Challenges:**
  - Handled missing data by hiding empty KPI values (e.g., NT, TAS)
  - Split charts into separate JS files for better structure
  - Improved layout and tile spacing using CSS grid and flex
  - Managed all tasks individually by planning and prioritising carefully
- **Next Steps Before Final Submission:**
  - Complete Design Book sections:
    - 4.1 Iteration & Validation
    - 4.2 Usability Evaluation
  - Refine CSS styling and layout polish
  - Deploy project site on Mercury
  - Push updated files to GitHub Classroom

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## AI Declaration

Generative AI tools were used during this project to assist with specific tasks such as refining written content, generating layout ideas, and improving presentation clarity. All visualisations, coding, KNIME workflows, data processing, and design decisions were independently completed and verified by the student. AI support was used solely to enhance productivity, structure, and communication — not to replace original development or analysis.

