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Student Research Symposium

Student Research Symposium 2024

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May 8th, 1:00 PM - 3:00 PM

## Improving Tattle-Tale K-Deniability

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Morales, Nicholas G.E., "Improving Tattle-Tale K-Deniability" (2024). *Student Research Symposium. 2.*  
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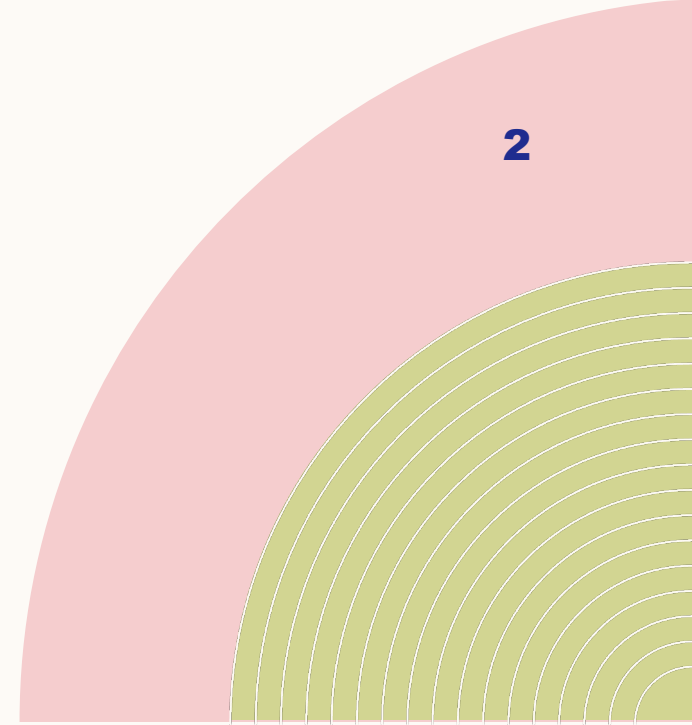
**DON'T BE A TATTLE  
TALE**

# INFORMATION LEAKS

- Databases have sensitive data
- Some data is hidden
- Visible data can hint at hidden values



```
0 1 1 0 0 1 1 0 0 1 1 0
1 1 0 1 1 1 0 1 1 1 0 1
0 0 1 0 0 0 1 0 0 0 1 0
1 0 0 1 1 0 0 1 1 0 0 1
0 1 1 0 0 1 1 0 0 1 1 0
1 0 1 1 1 0 1 1 1 0 1 1
0 1 0 0 0 1 0 0 0 1 0 0
```

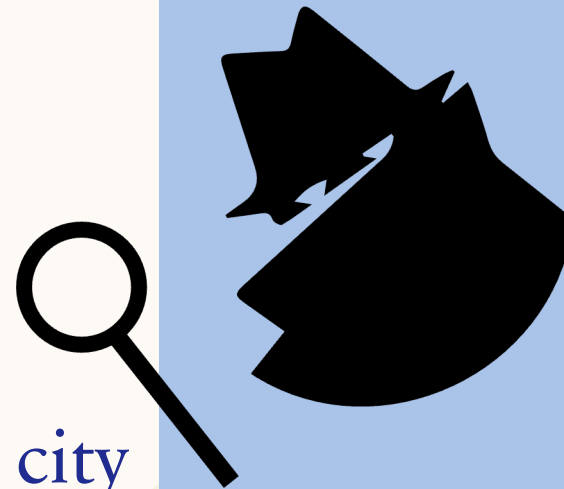


# DATA DEPENDENCIES

- Some data is connected
- Connections leak info
- Hidden values are revealed

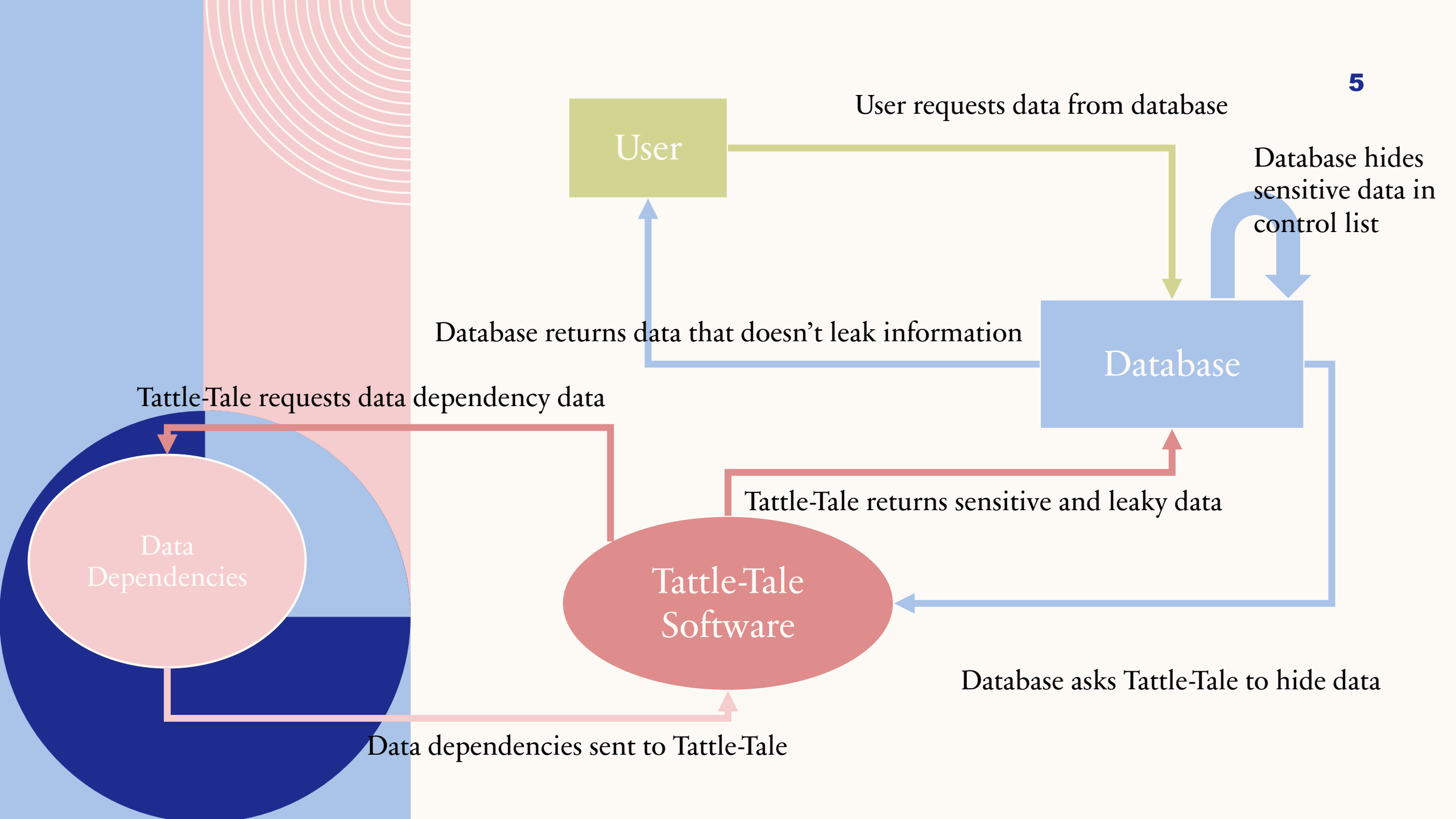
If city = city then state = state

If zipcode = zipcode then city = city



# MY CURRENT WORK

- Inference Protection
  - Strengths
    - Strong privacy
    - Prevents Leakage
  - Weaknesses
    - Can add minutes
    - May hide too much



**QUESTIONS?**