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

Improving Tattle-Tale K-Deniability

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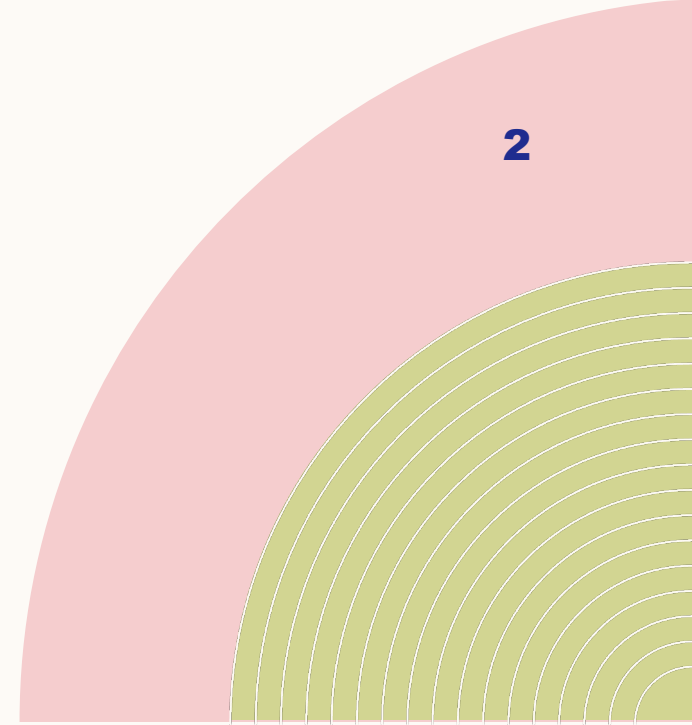# DON'T BE A TATTLE TALE

INFORMATION LEAKS

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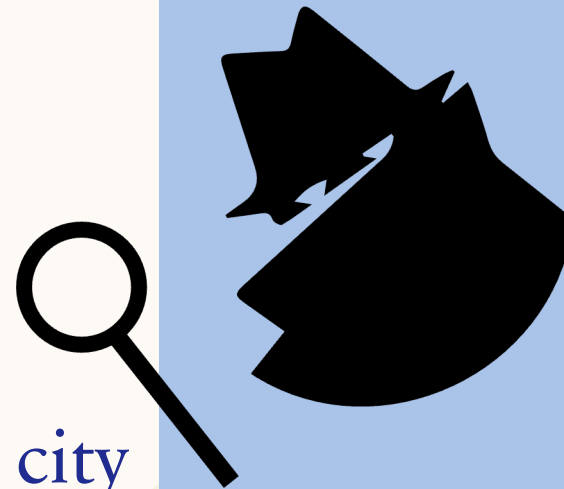- Visible data can hint at hidden values

DATA DEPENDENCIES

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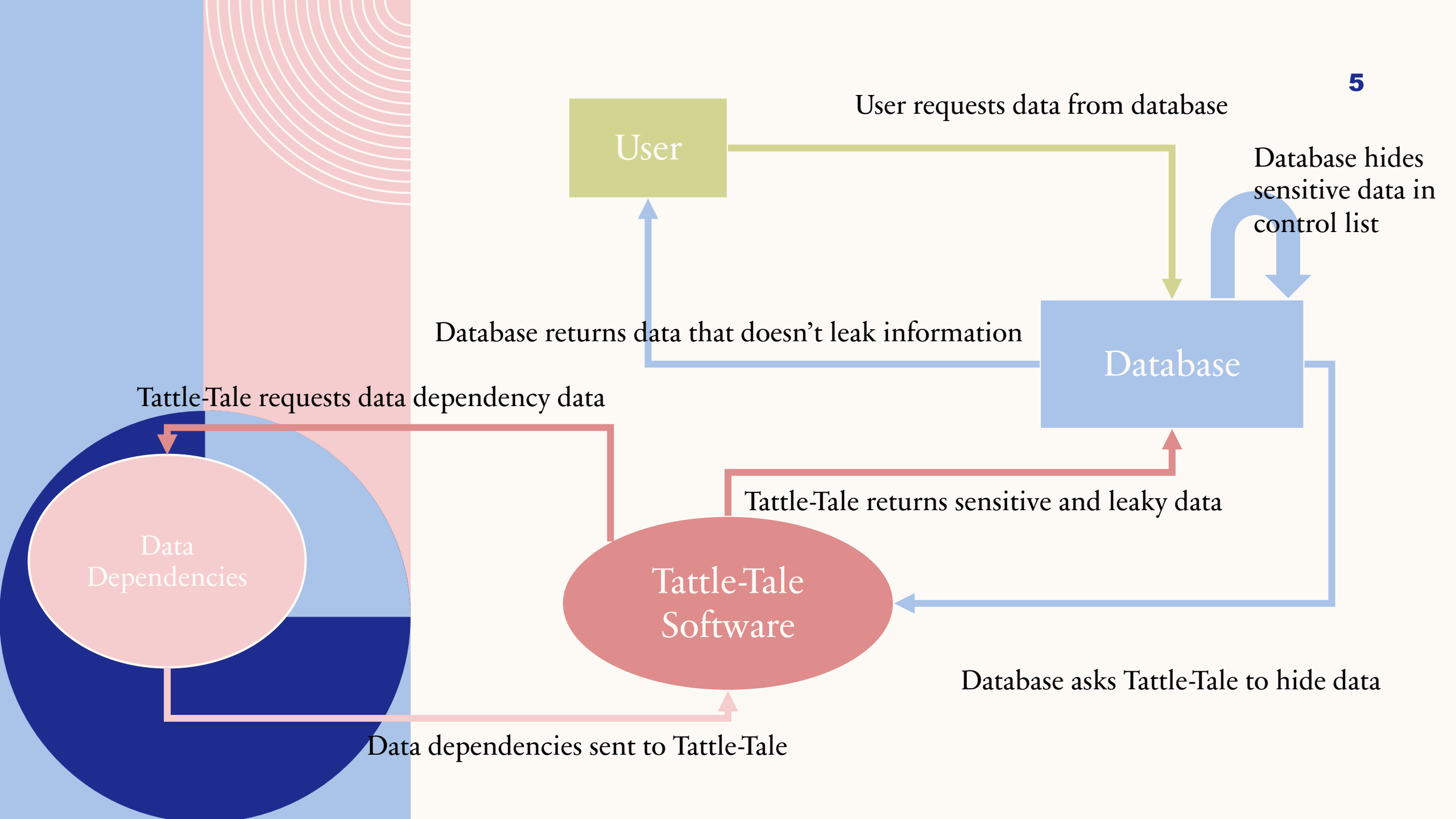- Connections leak info
- Hidden values are revealed

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

User requests data from database

Database hides sensitive data in control list

Database returns data that doesn't leak information

Tattle-Tale requests data dependency data

Tattle-Tale returns sensitive and leaky data

Database asks Tattle-Tale to hide data

Data dependencies sent to Tattle-Tale

User

Database

Data Dependencies

Tattle-Tale Software

QUESTIONS?