

SecureCheck

Access Contracts, Negotiations, and
Recommendations for Data-Sharing
Minimization

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TEXAS A&M UNIVERSITY
CORPUS CHRISTI

Data Abuse is Pervasive

DHEW MEHETRA

SECURITY APR 17, 2023 7:00 AM

ICE Records Reveal How Agents Abuse Access to Secret Data

Documents obtained by WIRED detail hundreds of investigations by the US agency into alleged database misuse that includes harassment, stalking, and more.

Government Data Abuse

It's perfectly legal for cars to harvest your texts, call logs

Just because they store messages in a way owners can't access doesn't mean it's a privacy violation, US court rules

[Brandon Vigliarolo](#)

Thu 9 Nov 2023 16:05 UTC

Corporate Data Abuse

Security

Hacker leaks millions more 23andMe user records on cybercrime forum

[Lorenzo Franceschi-Bicchieri](#) / 9:33 AM PDT • October 18, 2023

Criminal Data Abuse

Our target in the Data Life-cycle



Our target in the Data Life-cycle

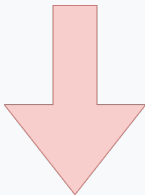


Our Design Philosophy

People should control technology, not the other way around.
People should have a say over their data.

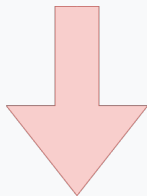
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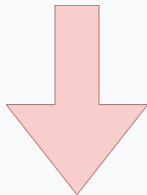
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DO1: *Informed Consent*

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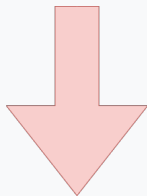


DO1: *Informed Consent* DO2: *Opt-in/Opt-out*

Our Design Philosophy

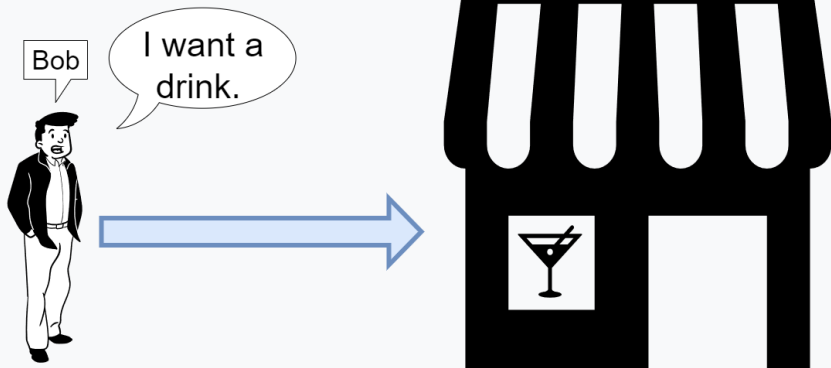
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DO1: *Informed Consent* DO2: *Opt-in/Opt-out* DO3: *Transparency*

Our Approach: *SecureCheck*



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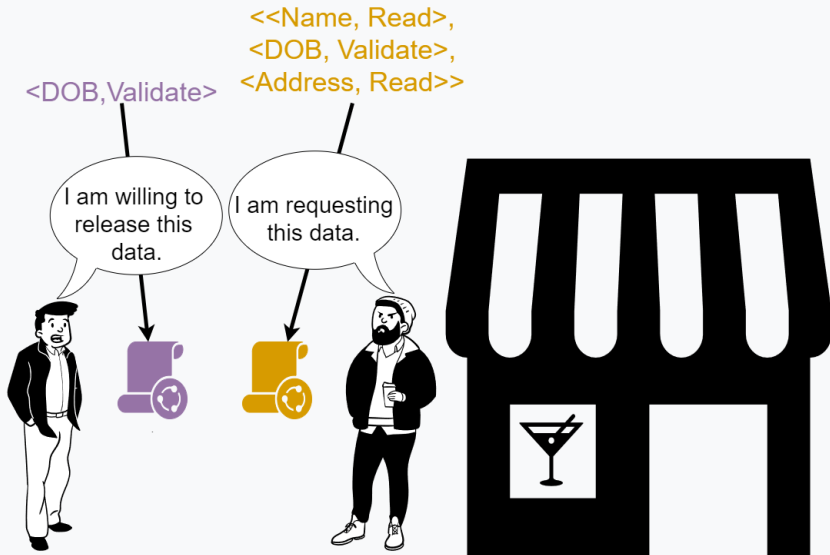
Our Approach: *SecureCheck*

<<Name, Read>,
<DOB, Validate>,
<Address, Read>>

I am requesting
this data.

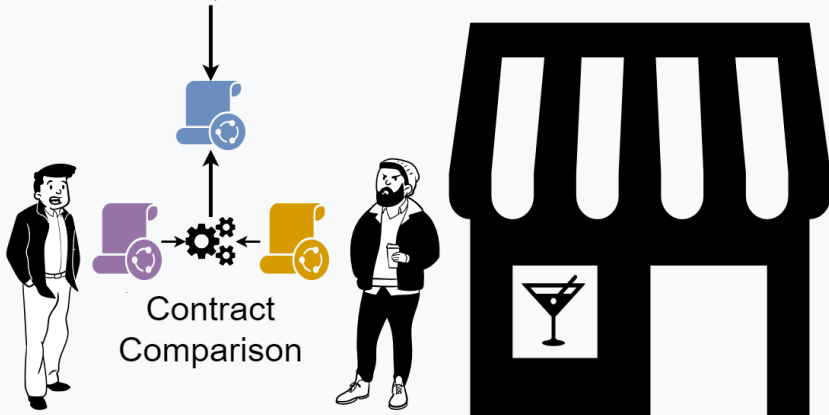


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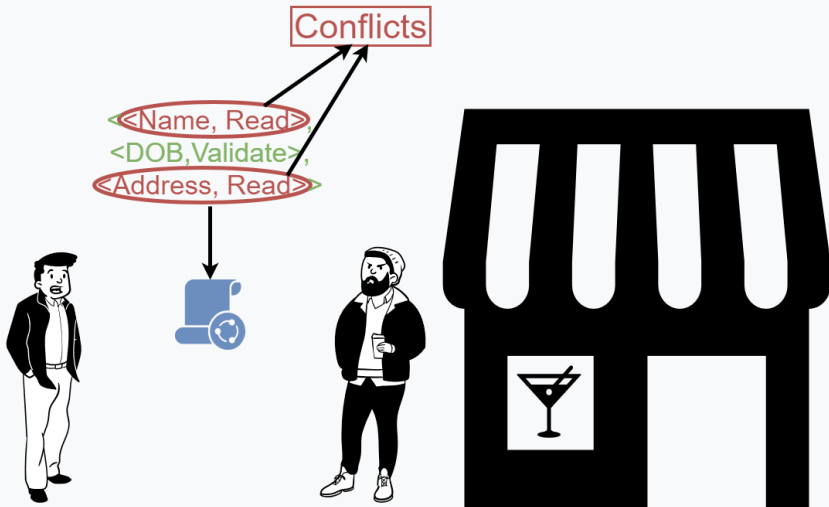


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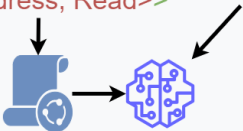


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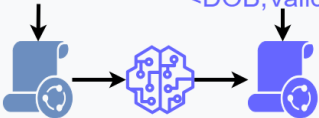


Conflict Resolution
Recommendation
System



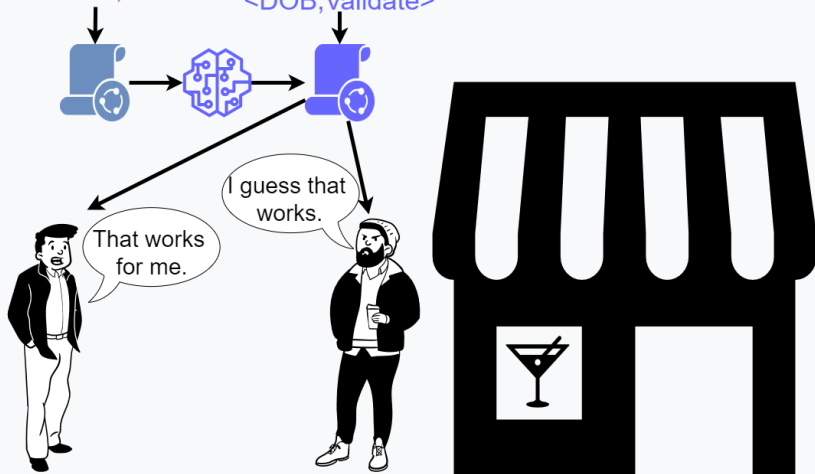
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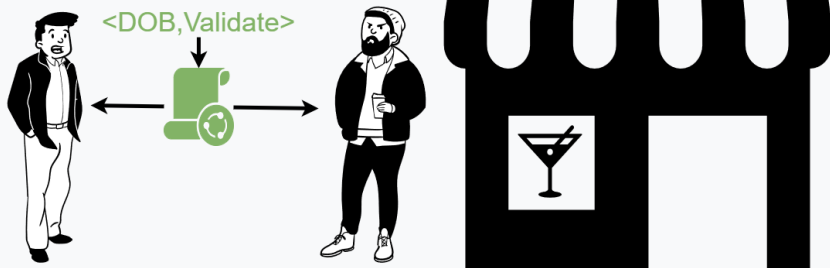


Our Approach: *SecureCheck*

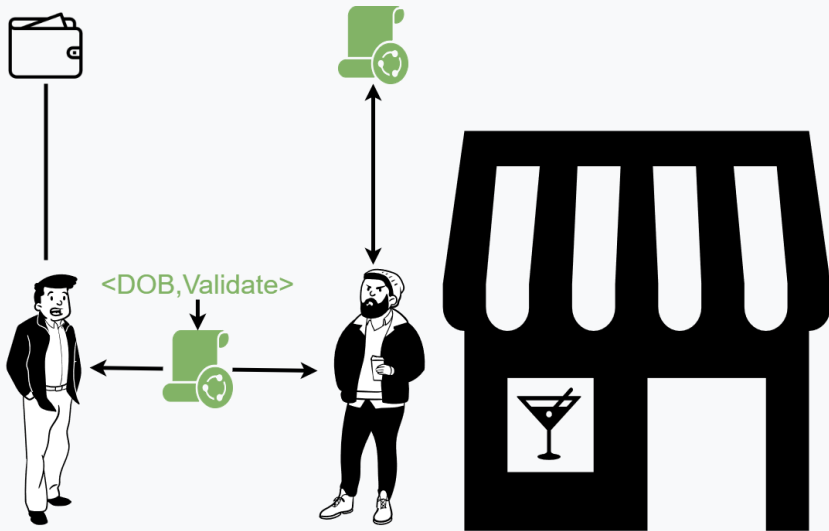
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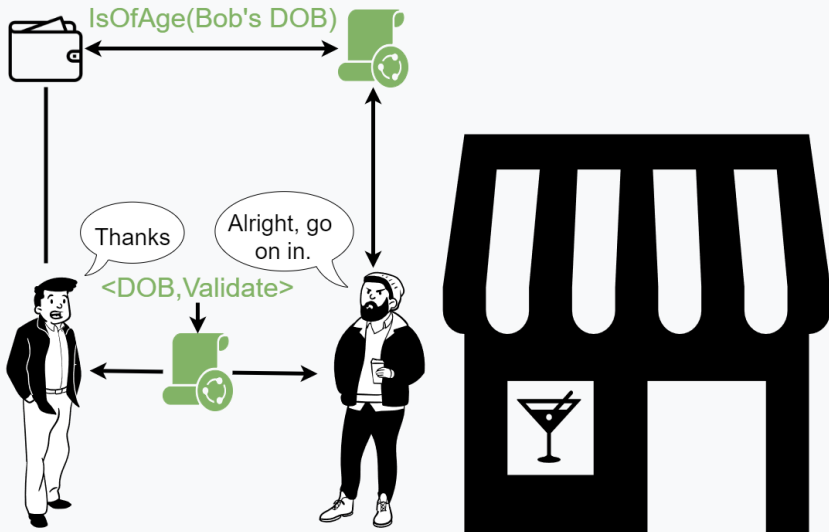
Our Approach: *SecureCheck*



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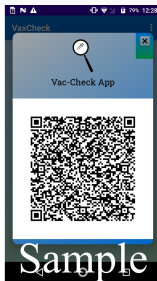
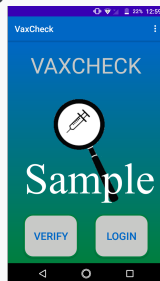
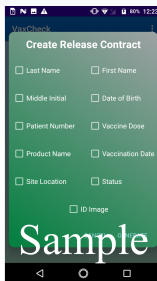
Our Approach: *SecureCheck*



SecureCheck Progress

- Access Mediation Contract Model
 - **Sept 2024**
- Conflict Resolution Recommendation System
 - **May 2025**
- Geolocation based Recommendation System
 - **August 2025**
- Qualitative and Quantitative Studies
 - **December 2025**

Preliminary Results



Thank You,
Questions?



CSRIL
Cybersecurity Research
and Innovation Laboratory

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Work In Progress Article:

SecureCheck: User-Centric and Geolocation-Aware Access Mediation
Contracts for Sharing Private Data. ACM SACMAT 2024.

<https://doi.org/10.1145/3649158.3657050>