Privacy Violation in Online Multiplayer Games

Survey Results (Key Points)

For full details and bibliography, please refer to our **paper accepted at IEEE CoG 2024**:
https://www.giovanniapruzzese.com/files/papers/cog24/cog24.pdf

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What are Attribute Inference Attacks (AIA)?

- Infer **private information** of players using publicly available gaming data

- Public **tracking websites** as data source

- Potential for **serious misuse** (e.g. data selling, bullying, harassment)
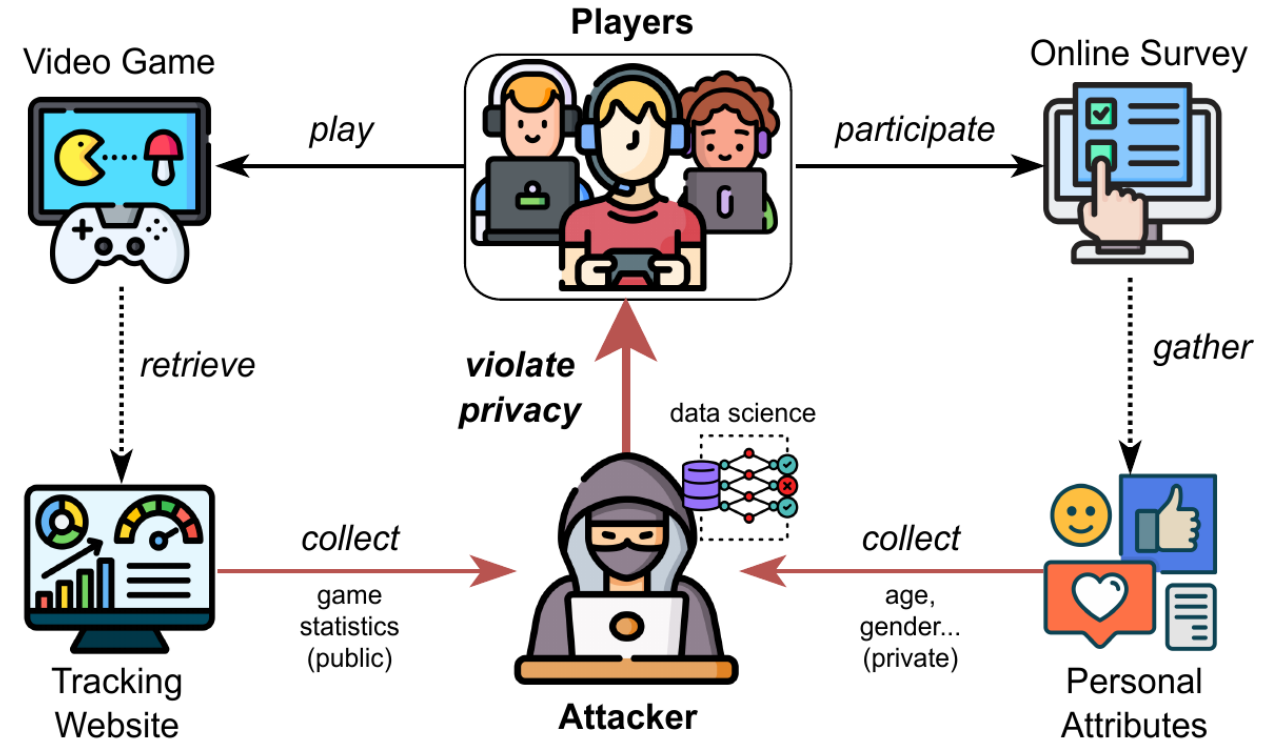
How did we investigate this threat?

1. Identify popular **games** that are prone to AIA:
   o correlations between in-game and personal data exist
   o public gaming data is available
   o players commonly participate in online surveys
2. Identify **communities** where AIA could be staged:
   o large, active, and diverse
   o focus on / interest in above games
   o guidelines / community managers allow posting such surveys
3. Distribute multiple game **surveys** across those communities
4. Analyse the usefulness of **responses** (and more)
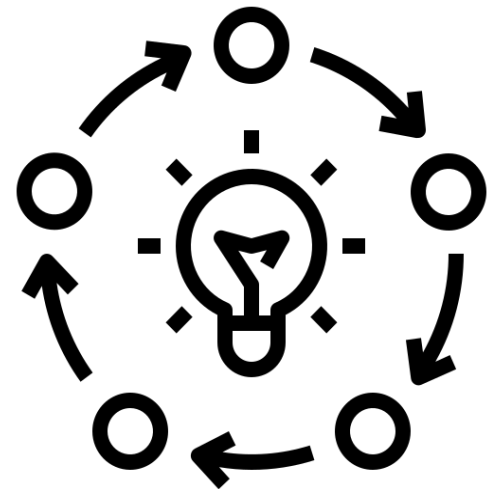
What did we find?

- ~ 80% of the responses are **usable for AIA**

- Participants were largely **unaware of AIA**

- The following games and communities are **particularly prone to AIA**:
  - LoL, WoW, CS, Fortnite, PUBG, OW, Valorant, CoD:WZ, RS:S, Destiny, Dota
  - r/truegaming, r/MMORPG, r/Rainbow6, r/SampleSize, r/wow, r/leagueoflegends, r/overwatch (and more)
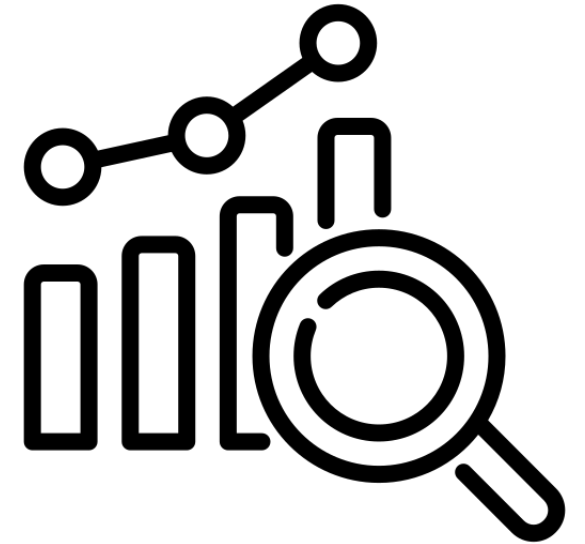
What can *you* do?

- **Be wary** about privacy violations in gaming and **voice your skepticism** (which a few of you did)!

- **Avoid** filling surveys that ask for both personal data and your gamertag (or **make sure you trust** the authors)
  - ○ You can use the *AIA Protector* if you need assistance: https://github.com/lineis/privacy-in-video-games

- **Refine** your privacy settings and consider to **opt out** from publicly sharing your game data (if possible)
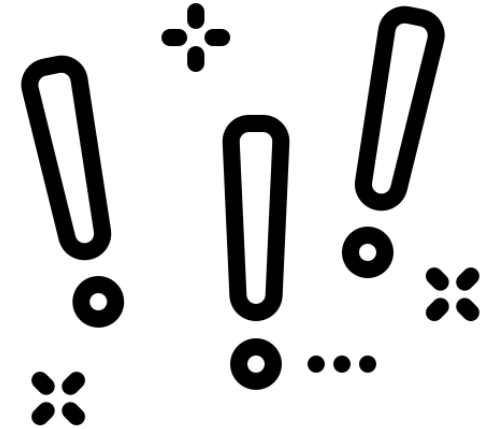
Thank you for participation!

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