Cheetah Games

Applying Behavioral Analysis
to Digital Deviance
in Multiplayer Online Worlds

Sandra Adiarte
Kim Covent

Trustworthiness and Reliability Assessments: practices of the radioactive source security community

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Kim Covent

Advisor, Ghent Local Police, Belgium
- Complaint handling
- Crime Prevention Projects
- Insider Threat Mitigation
- Behavior Detection & Analysis

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2 Hypotheses

- **The boundaries between digital gameplay and real-life experiences are increasingly indistinct.** Focus on massively multiplayer online (role playing) games or MMO(RP)Gs.

- **Online havioral patterns emerge that are traceable, interpretable, and possibly predictive of deviance or harm.** If these behaviors can be flagged early through behavioral detection and analysis, they can be investigated and mitigated proactively.

Behavioral Detection in real life

Traditional behavioral analysis uses six primary channels (Matsumoto, Frank & Hwang, 2013; CEPOL, 2025)

1. Psychophysiology (e.g., sweating, heart rate, nervous tics)
2. Body language (posture, gestures, micro expressions)
3. Facial expression (e.g., neutral, anger, sadness, surprise)
4. Voice (tone, pitch, rhythm)
5. Verbal style (how someone says something)
6. Verbal content (what is said)

Behavioral Detection online

Ask about our paper: "Cheetah Games: Applying Behavioral Analysis to Digital Deviance in Multiplayer Online Worlds"

1. Avatar construction and identity signals
2. Engagement and presence patterns
3. In-game communication
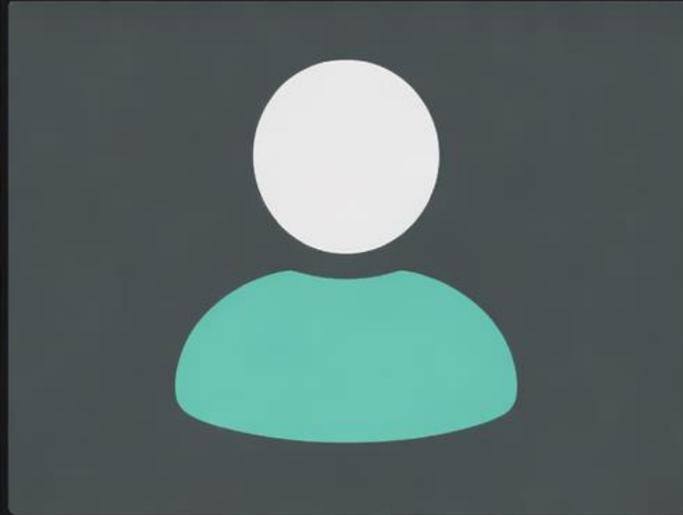4. Interaction behavior
5. Toxicity

Objective reporting

A real hurdle for most people is passing on information. Objective reporting can be obtained answering:

1. 4W1H (who, what, where, when, how)
2. "What did I see that the other person didn't see?"
3. Separation between observation & interpretation
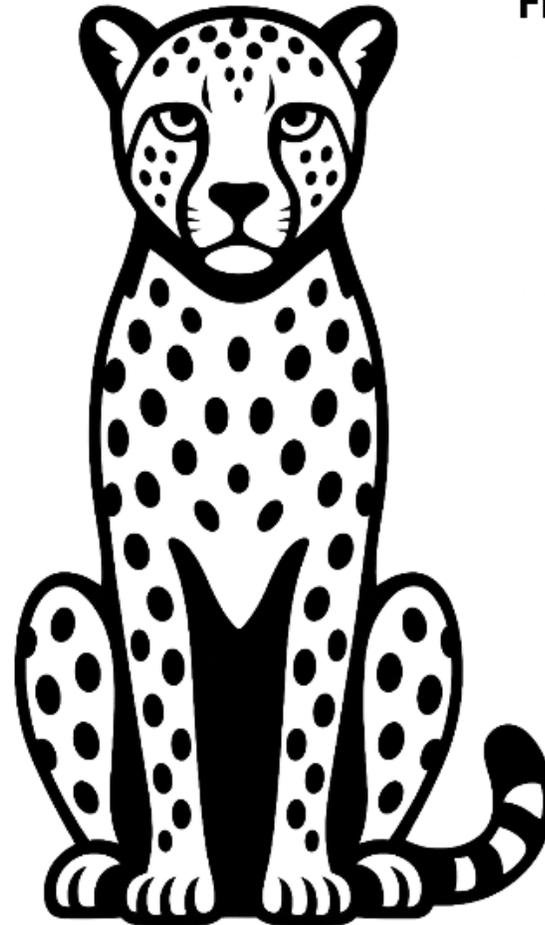4. Objectivity markers: color, distance, size, location, dimensions…
5. Use the baseline

Five-channel risk assessment model

- AVATAR CONSTRUCTION & IDENTITY SIGNALS
- ENGAGEMENT & PRESENCE PATTERNS
- IN-GAME COMMUNICATION
- INTERACTION BEHAVIOR
- TOXICITY

Five-channel threat assessment model

- GRIEVANCE
- IDEATION
- SURVEILLANCE & RESEARCH
- PLANNING
- PREPARATION
- BOUNDARY VIOLATION
- IMPLEMENTATION
- POST-OFFENSE

3 Questions for the audience

- How does the **cheetah metaphor** apply specifically for your sector to explain deviant behavior online?

- Have you seen cases where the five-channel or threat model **could have helped**?

- Would you be open to **sharing anonymized cases** to refine the framework?

Questions?

Kim Covent

kim.covent@police.belgium.eu

+32 476 34 41 42

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