## **Utilising Virtual Reality for Enhanced Police Training and Development**

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### **Abstract**

The use of Virtual Reality (VR) in policing degree programs offers a transformative approach to teaching various elements of modern policing, from digital investigations to domestic violence scenarios.1

VR provides immersive, 360-degree environments that simulate real-world scenarios, allowing students to experience situations in a classroom they might encounter as police officers. This experiential learning enhances engagement and knowledge retention compared to traditional lectures or role-playing.2,3 VR provides immersive environments that simulate real-world scenarios, the design of these environments draws heavily from Human-Computer Interaction (HCI) principles, emphasizing user-centred design to maximize learning outcomes.4

This application of VR reflects a broader trend of using simulations in training to provide hands-on experience without the risks and costs associated with real-world scenarios.5 VR can create simulated crime scenes involving digital devices, allowing students to practice forensic techniques in a safe and controlled environment. They can learn to identify, evaluate and collect, digital evidence, such as computers, mobile phones, USBs, SIM cards and other digital devices.6 The use of VR to foster empathy and perspective-taking aligns with HCI research on the potential of interactive technologies to promote social and emotional learning.7

VR can simulate domestic violence scenarios, enabling students to practice de-escalation techniques, assess risk factors, and understand the dynamics of abusive relationships. This can be particularly valuable in developing empathy and improving decision-making in high-stress situations.8

One key aspect is a focus on the efficiencies of conducting VR in a simulated environment rather than a real-world setting. This eliminates physical room setup challenges and allows for individual participation at a time, which can be scaled to save time, space, and resources. Additionally, it supports reflective practice, as there is no requirement to be on location. However, it is important to acknowledge that this approach may not be suitable for everyone, and alternative options—such as a URL-based solution—should be available to ensure inclusivity.

VR has the potential to transform policing education by providing immersive, realistic, and engaging learning experiences. By incorporating VR into their programs, universities can better prepare students for the challenges of modern policing and equip them with the skills and knowledge they need to serve their communities effectively.

This workshop will demonstrate how these VR scenarios offer a safe and controlled environment for students to acquire and practice essential policing skills, thus enhancing their readiness for real-world challenges. We are eager to gather feedback from participants on their experiences with these VR scenarios, as this feedback will be invaluable in further refining and improving the use of VR technology within our policing education programs.

The workshop will involve participants immersing themselves in several different VR experiences. After the completion of each experience, participants will undertake an evaluation by filling out a survey, providing iterative feedback on their interaction with that specific virtual environment.

**Keywords:** VR, Simulation, Policing education

**References**

1. College of Policing. (n.d.). Using virtual reality to educate students about staying safe. Retrieved from https://www.college.police.uk/support-forces/practices/using-virtual-reality-educate-students-aboutstaying-safe.

2. Meyer, O., et al. (2019). Virtual reality for police training: A systematic review. Computers in Human Behavior, 92, 278-291.

3. Radianti, J., Majchrzak, A., Fromm, J., & Wohlgenannt, I. (2020). A systematic review of immersive virtual reality applications for higher education: Design elements, lessons learned, and research agenda. Computers & Education, 147, 103778.

4. Rogers, Y., Sharp, H., & Preece, J. (2011). Interaction design: Beyond human-computer interaction. John Wiley & Sons.

5. Gredler, M. E. (2004). Games and simulations and their relationships to learning. Handbook of research on educational communications and technology, 571-581.

6. Jarmon, L., et al. (2021). Virtual reality training for digital forensics investigators. Digital Investigation, 36, 101062.

7. Bailenson, J. (2018). Experience on demand: What virtual reality is, how it works, and what it can do. WW Norton & Company.

8. Antser. (n.d.). Antser VR Programme for Frontline Policing. Retrieved from https://www.antser.com/antser-vr-programme-police/.