

# Research report: design of a collaborative virtual environment for training security agents in big events

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This paper describes a design of a collaborative virtual environment (CVE) for training security agents in big events. The CVE was modeled with Autodesk 3ds Max, while Unity 3D was used to create the terrain and implement the features that make up a virtual environment [1].

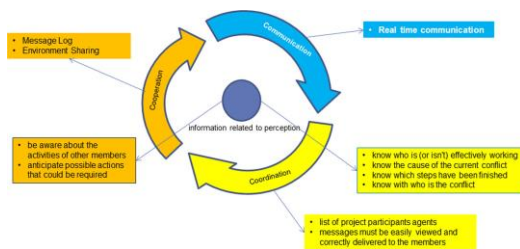


Figure 1. Model used in CVE

We chose the surroundings of the Brazilian soccer stadium known as Maracanã as the counterpart of the CVE. The usability of the CVE was evaluated through simulations involving security agents dealing with threats related to suspects carrying radioactive material in big events [2], [3].



Figure 2. Maracanã's model.

To perform these simulations, we use the same procedures used during 2014 FIFA World Cup and planned to be used in Rio 2016 Olympic Games. The main objective of this work is to verify the feasibility of designing a CVE and its usability for training security agents involved in big events

issues. Results indicated that the proposed CVE has been successful concerning both, design and usability, besides of helping to improve the ability of each member of the security team on performing his duty.

## References

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