DFR DAP/22-05: DREAM

Distributed Reconnaissance And Mapping system

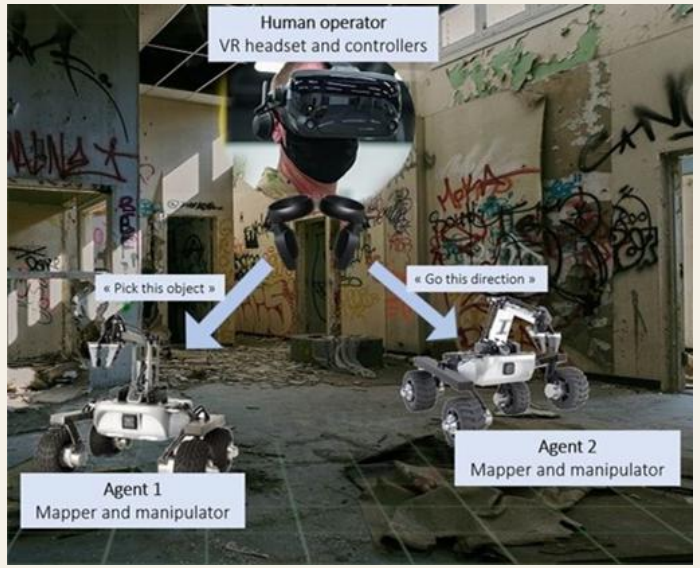
Context

Autonomous robots are being deployed in more and more complex environments (notably with the advent of legged robots).

This study is aimed at **improving the execution of reconnaissance and mapping operations** with a proof-of-concept system consisting of multiple unmanned ground robots with robotic arms that allow basic manipulations in the environment and a VR command console.

Objective

The work consists in integrating the robot platforms, the robotic arms and VR technology in an ensemble system for shared situational awareness that is as accurate, efficient and user-friendly as possible.



Methodology

For robotic platforms: development of single agent 3D mapping system, development and research of multi-agent 3D mapping systems.

For arm manipulations: development of a simple manipulation pipeline, development of a fragile object handling pipeline (e.g. landmine).

Who

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