PAPER

Real-time Photorealistic Mapping for Situational Awareness in Robot Teleoperation

VIDEO

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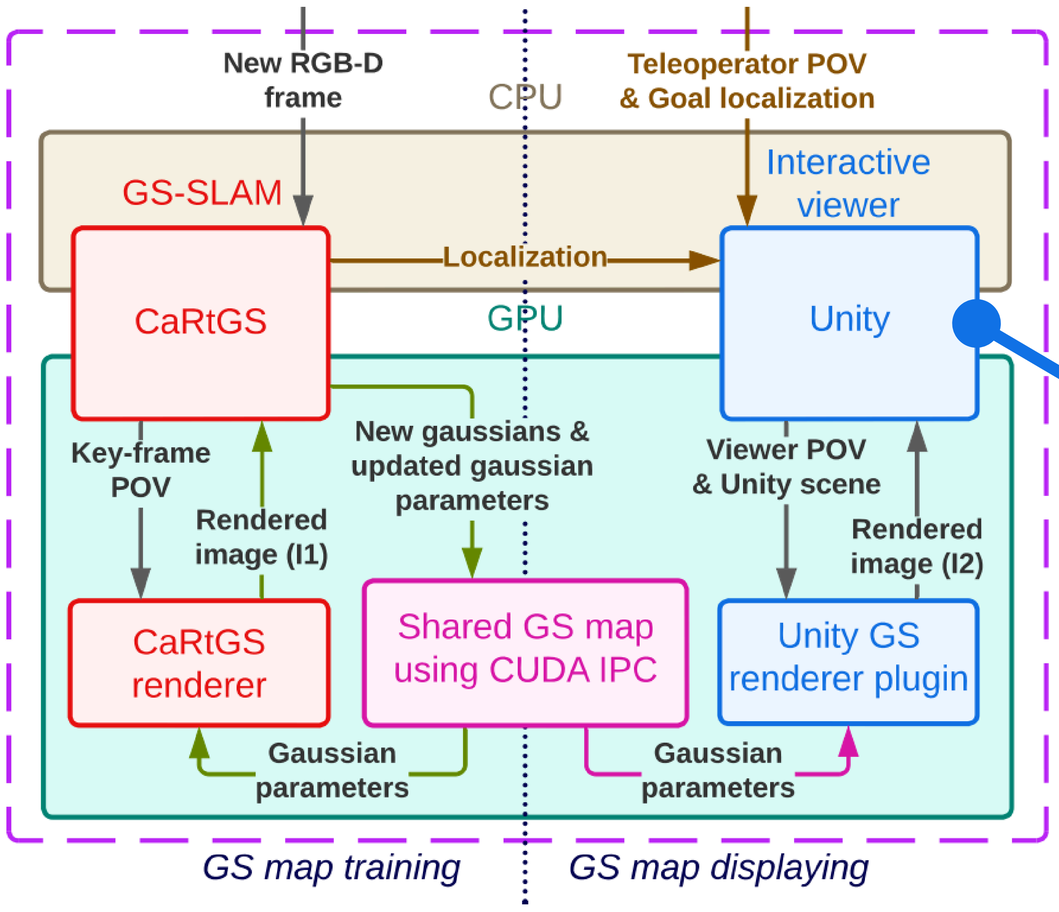
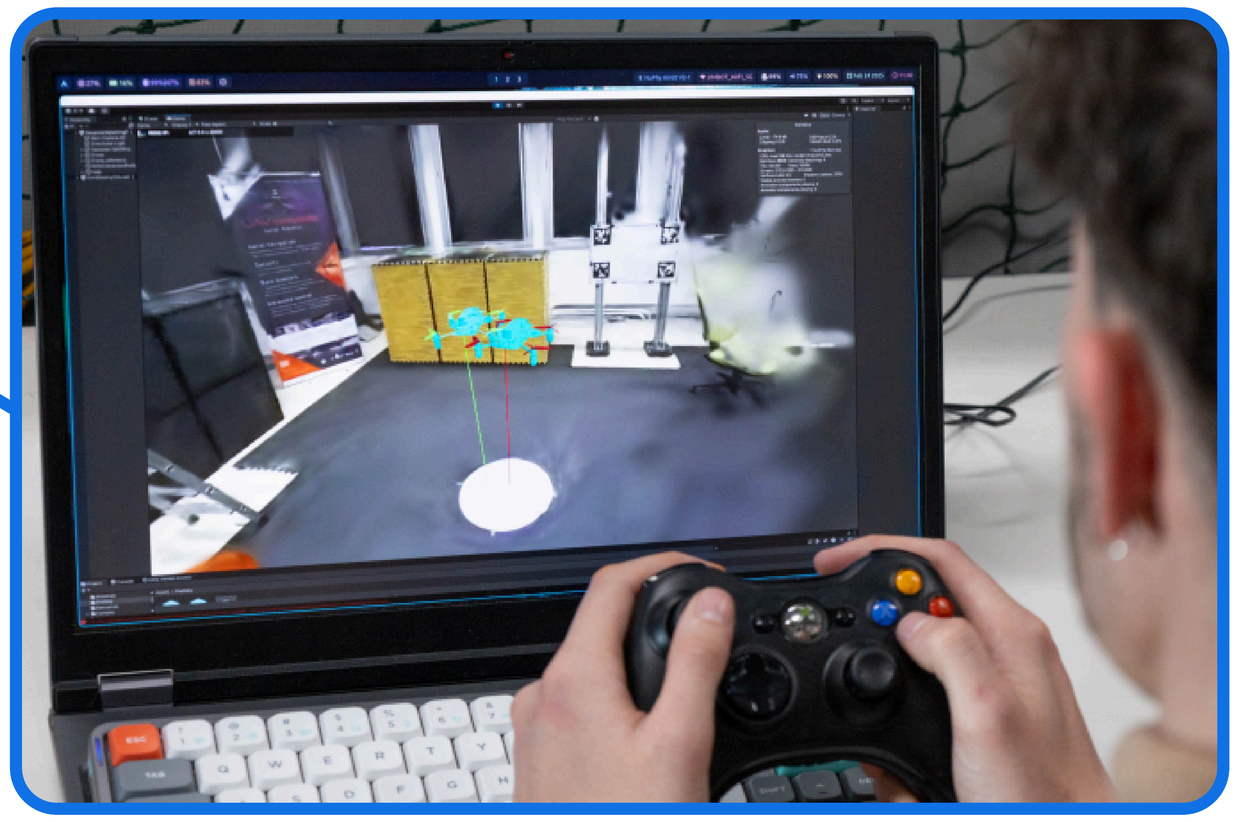
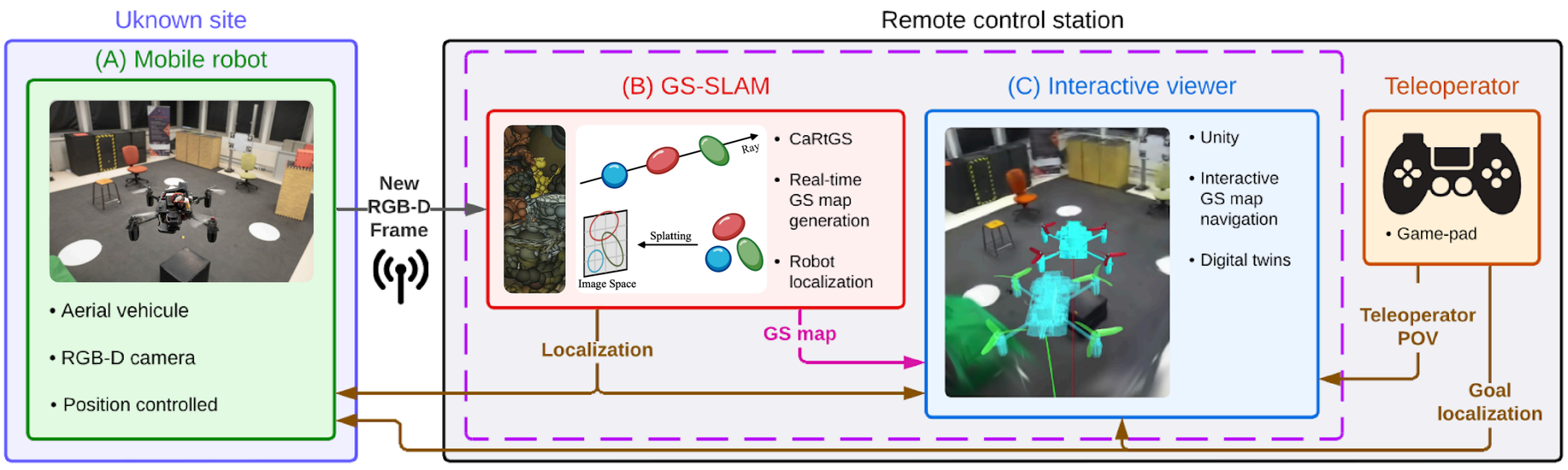
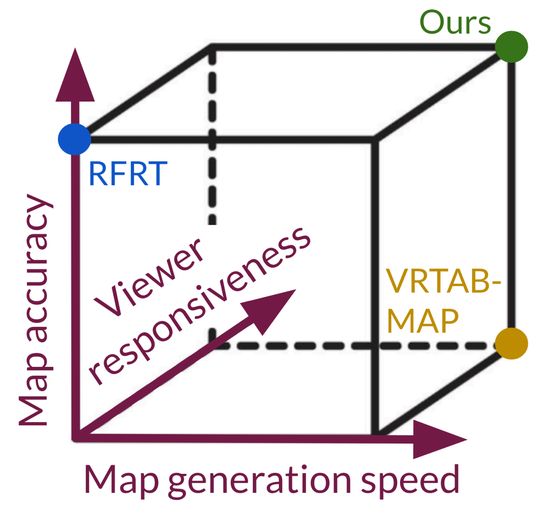
Online map-based teleoperation with GPU-integrated Gaussian Splatting SLAM



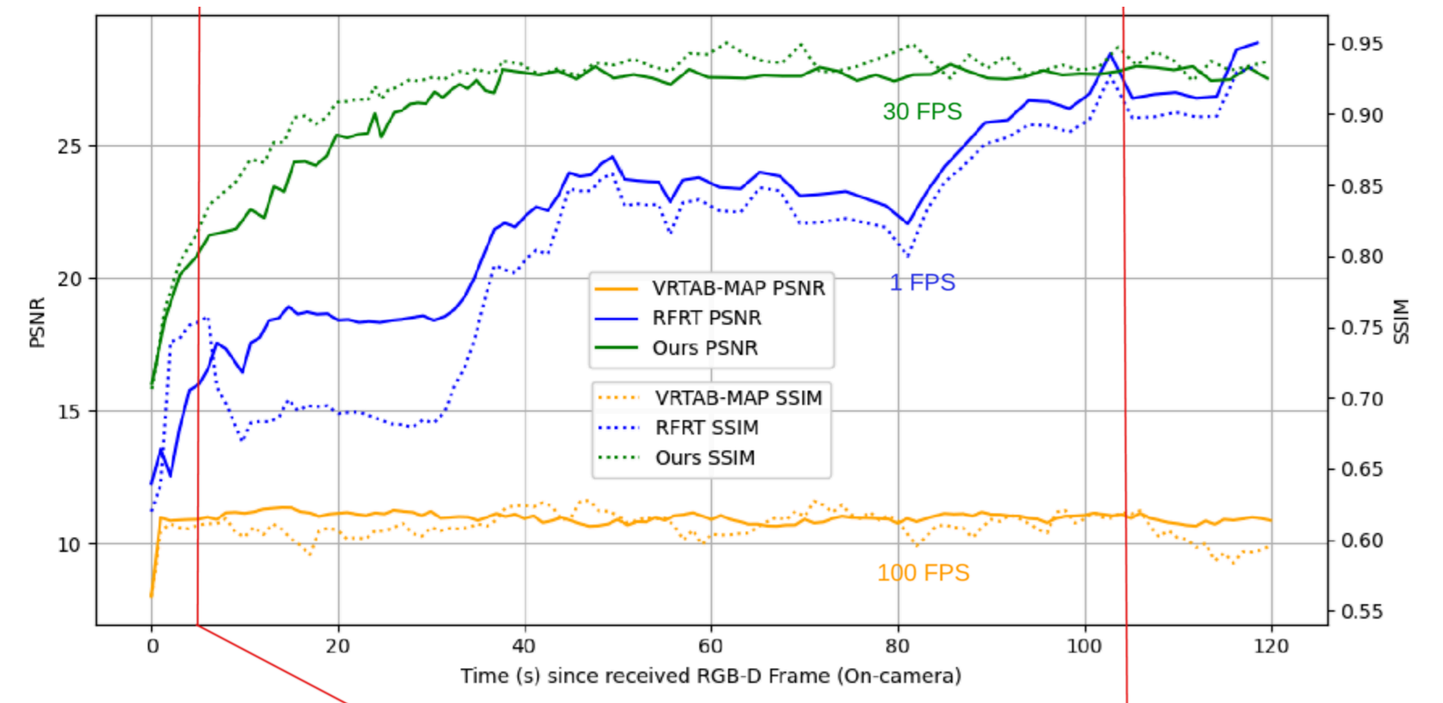


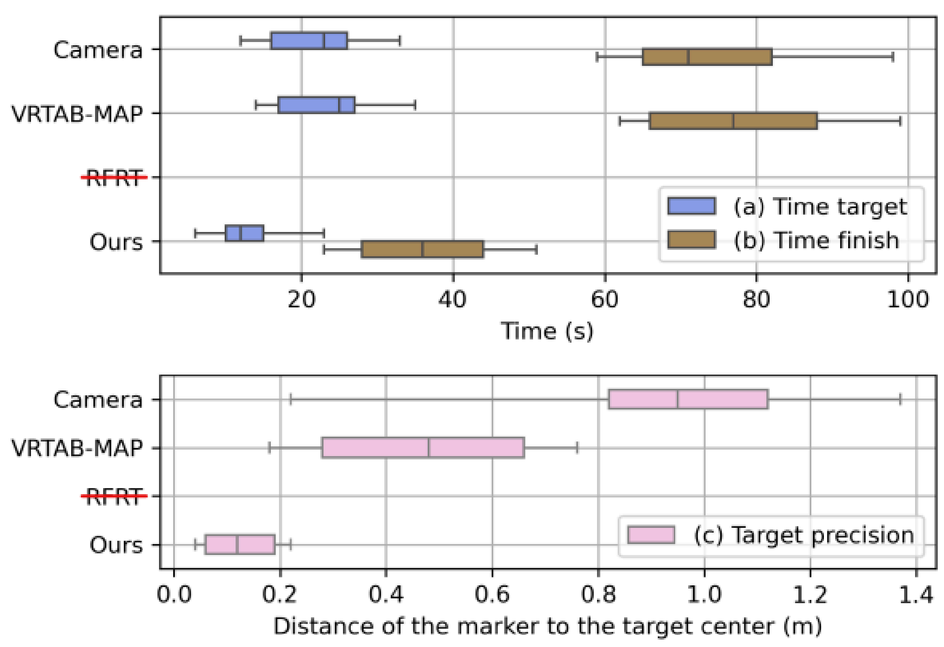
Better speed, accuracy and responsiveness to improve Situational Awareness

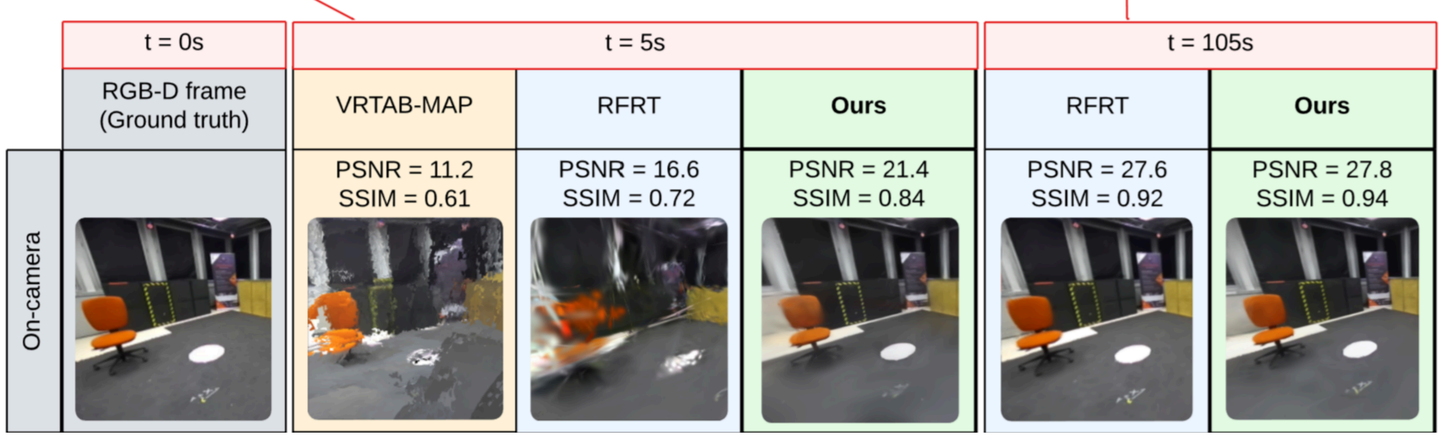




Faster and more precise teleoperation







Our teleoperation system makes no compromise by combining the map generation speed of VRTAB-MAP with the rendering quality of RFRT and a fluid, responsive interface.

- *RFRT: M. Wilder-Smith, V. Patil, and M. Hutter, "Radiance fields for robotic teleoperation", 2025.*
- *VRTAB-MAP: H. Stedman, B. B. Kocer, M. Kovac, and V. M. Pawar, "Vrtab-map: A configurable immersive teleoperation framework with online 3d reconstruction," pp. 104–110, 2022.*
- *P. Stotko, S. Krumpen, M. Schwarz, C. Lenz, S. Behnke, R. Klein, and M. Weinmann, "A vr system for immersive teleoperation and live exploration with a mobile robot," pp. 3630–3637, 2019.*