Rekari: Intuitive Collaboration Platform for Various Drone Missions

Arnold, Tim (School: Hanns-Seidel-Gymnasium Hösbach)
von Ludowig, Felix (School: Staatliche Fachoberschule Aschaffenburg)

Rekari enables teams to collaborate on drone missions. We built an all-in-one cloud solution to supercharge in-field operations, with a special focus on teamwork. The Rekari platform allows a convenient workflow directly on one's smartphone. Many applications take advantage of collecting data from a bird's eye view. However, existing approaches come with practical limitations in specific use cases. Utilizing these systems is commonly very complicated and frictional. Beyond the missing collaboration features, commercial offers frequently fail to leverage flight time efficiently. As a result, the use of UAVs often fails to materialize, even though they could potentially save the lives of humans and animals. Regardless of whether fawns need to be rescued, fires found, or infrastructure monitored, the entire process is organized in the Rekari app. A typical workflow starts by defining corners of the desired area on a satellite map. Then our integrated algorithm calculates the optimal flight path. All information regarding an operation is bundled within the app. Thereby, team members can directly view all relevant details in real-time as the drone follows its trajectory. Images taken by the onboard camera are right away analyzed for application-specific occurrences. In conclusion, locating oneself amidst peers, found points, and the drone is a pivotal feature of the app. This capability facilitates the team to finish the task successfully by using obtained data directly on the spot. All these improvements for users were made possible by fundamentally rethinking the basic building blocks of this engineering problem. From implementing a custom server architecture to embedded programming, the new platform requires a wide bandwidth of interdisciplinary techniques.

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