

NEAR REALTIME UAV-BASED PROCESSING TO SUPPORT DISASTER MONITOR

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ABSTRACT:

The Unmanned Aerial Vehicles (UAV) are a class of aircraft that can fly without the onboard presence of the pilot. The requirement of remote sensed image that acquired via such a platform has a rapid growth in areas such as urban planning and disaster monitor. This paper serves to explain our service-oriented image processing system and demonstrates how it provides near realtime services to improve access and use of UAV-based high-resolution images. The main elements of the system include a web-based portal, the metadata query system, the parallel processing and archiving system, which accomplish routine tasks and receive schedule jobs send by web users. Users can search flying information of UAV and preview image as well as download the specific products on-line. In our cluster-based parallel processing system, we adopt a processing engine with can deal several low level processing algorithms such as correction, mosaic, registration and fusion. From the view of end users, all algorithms are services which register with a proxy or a broke. Users can query the available services from the registry and get the handle with description of current service. The service is then invoked with any necessary input data or parameters and the results are eventually returned. With such scheme, we offer a flexible and dynamical way for a usual user without much knowledge of parallel computing. Although the system is designed to provide data delivery for disaster monitor and management applications, its generic design allows adaptation to other processing and archiving systems.

TOPIC: Operational remote sensing programs

ALTERNATIVE TOPIC: Remote sensing applications