EARTH OBSERVATION SYMPOSIUM (B1)
Earth Observation Data Management Systems (4)

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SPYMESAT MOBILE APP FOR IMAGING SATELLITE AWARENESS AND ACCESS

Abstract

Orbit Logic will present the ops concept and supporting architecture for a mobile app that provides imaging satellite awareness, on-demand access to satellite imagery archives, and the ability to request new tasking directly from the mobile device. Orbit Logic has implemented the architecture and brought this ops concept to fruition in the commercial SpyMeSat mobile app for iPhone and Android devices available on iTunes and Google Play, respectively.

SpyMeSat was originally targeted at consumers outside the aerospace, defense, and intelligence communities, but the solution is also finding strong interest from within those communities. The implementation uses NORAD orbit data published online and available public information about commercial and unclassified imaging satellites to compute and dynamically display satellite overflights and imaging pass information. SpyMeSat works even with intermittent and limited network connectivity because all pass calculations are performed on the mobile device. The mobile app also includes the ability to preview and purchase the most recent, highest resolution commercial satellite images of any location through an easy in-app purchase process. The entire process of preview, select, purchase and delivery is completed in seconds, delivering satellite imagery for any location on demand. The design also includes the ability to task imaging satellites directly from the mobile device to collect new images of almost any location on Earth. Tasking status updates inform users of tasking request acceptance, imaging time, and imagery processing and delivery status. Similar to the archive imagery process, the entire process is user-friendly and tasking payments are conveniently performed through the mobile app.

The SpyMeSat ops concept and capabilities described above are supported by an architecture including the mobile app and a cloud-based server with interfaces to public orbit data catalogs, archive satellite imagery servers, satellite operators, and payment systems. The architecture supports the implementation of custom solutions including a dedicated server for use only by authorized custom versions of the mobile app with access to private/secure image archives and the tasking of limited-access satellites.