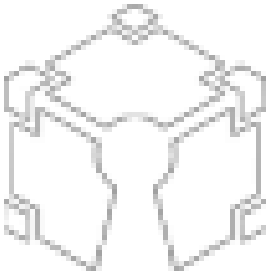

Contribution ID: **22** Type: **Talk**

Open Source Lessons Learned with Open MCT

Tuesday, 25 September 2018 10:00 (20 minutes)

In 2014, a software development team from NASA's Ames Research Center (ARC), working in collaboration with NASA's Advanced Multimission Operations System (AMMOS), set out to build a new software system for data visualization for missions. Our functional goal was to build a modular multi-mission software system that empowered users to build and compose their own visualizations of data across mission domains, with no programming required from the users to assemble these displays. Our broader goal was to build an open software system that enables participation across government and private space programs, as well as outside the space community. The software, Open Mission Control Technologies (Open MCT) is in use on operational CubeSat missions, including the Mars Cube One (MarCO) missions and the Arcsecond Space Telescope Enabling Research in Astrophysics (ASTERIA).

Open source enables flexible use, and reduces or eliminates the proprietary nature of software that can impede collaboration. While still in the early stages, we have built a community of users and contributors, with participation inside and outside of the space community. The model for collaboration is to empower missions by enabling them to adopt the software as their own, make modifications and contributions, and see those contributions used in a larger space community. All missions benefit from the larger user base enabled by open source, as each critical eye on the software results in improvements. The Open MCT user base ranges from missions, to industry outside the space industry, to research and student projects.

The participation of the open source community has resulted in improvements to code, usability, documentation and feature suggestions. Open MCT is available on GitHub at https://github.com/nasa/openmct. An informational web site with tutorials, documentation and an online demo is available at https://nasa.github.io/openmct/.

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