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CURATING INSTITUTIONAL MEMORY IN HIGH-PACED SPACE ORGANIZATIONS

Abstract

Building and curating institutional memory and transferring knowledge between projects is critical for ensuring the success and sustainability of any organization. Orbit NTNU, Norway's largest student-led space initiative, faces the challenge of maintaining institutional knowledge amidst its recent rapid growth in membership and multiple ongoing Small Satellite projects. This paper explores the strategies employed by Orbit NTNU to capture, document, and distribute knowledge from past satellite missions and teams, with a particular focus on the transition from SelfieSat (from 2018) and FramSat-1 and 1.5 (from 2020), to the newest project BioSat (from 2022). In Orbit NTNU a project manager has usually been replaced every one or two years. For example, when Orbit NTNU's first satellite, the SelfieSat, was launched in 2022, this particular satellite mission had seen three different project managers in the course of four years. All three current projects are led by project managers who started without any previous experience with the project they are leading, nor project leadership experience. One of the most crucial aspects of success is mentorship programs, both with previous Orbit NTNU leaders and externals, which will be elaborated further during the paper. We present a report that gives insights into how Orbit NTNU has established efficient knowledge transfer methods on a management and technical level, and how the organization has established routines, training and mentorships to ease member transitions. These methods include the transition from a project-based to a matrix-based organization structure, along with mentorship programs for both technical members and leaders. The transition to a matrix-based team structure has facilitated collaboration and knowledge-sharing across projects, enabling members to implement lessons learned from a growing organization history. Furthermore, weekly discussion forums for both the project managers and team leaders have improved the learning rate of the leadership roles. On a technical level, they include the implementation of several documenting platforms and guidelines. Another important set of strategies has been implemented to make members thrive and stay within the organization, keeping the turnover from year to year as low as possible. By documenting best practices and lessons learned, this paper will contribute to other student teams that want to preserve institutional memory in the context of student-led space initiatives or in other smaller, high-paced space organizations.