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E-collaboration in Russian science space missions: conceptions of evolution.

Vladimir Nazarov, Ravil Nazirov, Alexander Abakumov, Oleg Batanov, Fedor Korotkov, Anton Ledkov, Anton Melnik, Nikolay Sanko, and Alexey Tretiakov

Space Research Institute, Academy of Science, Moscow, Russian Federation (vnazarov@romance.iki.rssi.ru)

In all of modern information systems designed for scientific space projects, Web tools are used for users interface. Therefore, it seems evident that the use of modern web technologies will increase the efficiency of these systems. And the Web 2.0. can be safely attributed as one of them. Since the famous publication of O Reilly, the systems based of Web 2.0 are widely used in various fields of human activity. The rapid growth of social networks using this technology promises a quick and easy way to improve information systems by using of the Web 2.0 approach. However, in practice there are some problems associated with this implementation.

In contrast to public social networks, the scientific web-portals can't to demonstrate bright output of this technology immediately. And it's explicable because one the main metric of Social networks efficiency is number of its members and their activity. But these characteristics are not representative for science information systems (for example, number of users of science information system defined by management of the mission in general). Should also be noted that main goal of the information support system for science missions is effective science output and Web 2.0 technology should be treated as one of the tools for reaching of it.

Correct understanding of the role of the Web 2.0 approach allows us to design the conception of its evolution in frame of information systems for space researches. For convenience, the needed activities may be divided on strategically and tactical.

The first group covers the tasks relative to "paradigm shift" in science community and its management. For most efficient work it needs to change collaborative policy and make it more opened. It doesn't need to change existing "data sharing policies" for science space missions dramatically but it's possible to organize them more flexible, to allow investigators to share their data with other users without copyright violations, increasing references on their results.

The second group includes technical tasks which help to satisfy requirements which was noted above from on the one hand and may make works of the users more comfortable on the other one.

The first step should be the consolidation of the various web portals of scientific space projects into a single information environment. Thus we have a few web-portals for a number of prospective Russian science space missions. All of them use Web 2.0 approach and each of this portals intended for separate space mission. And it's explicable if interpret web-portal as gate for user' access for ground information system of a given mission which was some specific characteristics distinct from other space missions. But web-portals have many common traits and major of them are humans. Thus the same people involved in the different mission, and all of them need to get results of telemetry processing and some ancillary information (for example navigation data), change modes of onboard instrument functioning and collaborate with others. However, these web portals have many common traits and basic of them is that they are intended for use by humans. Thus all of them need to get results of telemetry processing and some ancillary information (for example navigation data), change modes of onboard instrument functioning and collaborate with others. Also of note, the same scientists are involved in different missions. Hereby consolidation of Web 2.0 portals in Web 2.0 network allows resolving the main problem of introduction of this technology in practice – it expands the area of users of these systems and allows increasing interactions between them.

And as always, a new technical decision not only brings benefit but also poses new challenges. So on the one hand, this approach can improve the efficiency of ground information systems and reduce the cost of implementation of scientific space projects in general. This is achieved by sharing of services and common application between missions, simplification of the systems maintenance and extension, etc. On the other hand the successful implementation of this approach updates the new technical challenges, one of the most important of which include a system to identify users (Identity management - IdM).

The article describes some problems of introduction of Web 2.0 technology in information system for space researches and shows respective solutions on the base of design of web-portals for the prospective Russian space mission. Potential elaboration of these systems is discussed too.