

# DESIDOC Services on Social Networking Application: A Case Study

Faizul Nisha

V Senthil

## *Abstract*

*Defence Research & Development Organization (DRDO) provides various scientific information services to the user community through web using social networking technology. This paper highlights the concept, methodology, and need of social networking technology adapted by DESIDOC to some of the specialised services. Special focus has been given on DRDO Blog and DRDO Wiki. Paper also discusses the customisation and experience in using Wordpress software for DRDO Blog and creation of multi-lingual web pages to the multi-faceted library community. This software was tested for nearly three months before it was made available to the entire DRDO user community. In addition to Blog and Wiki, the paper also addresses the implementation of DRDO Institutional Repository. The paper concludes that using blogs and wikis is an effective way for library community to stay current and for libraries to disseminate information in a timely manner with presentation of updated content.*

**Keywords:** Defence Research & Development Organization (DRDO), DRDO Institutional Repository, Web 2.0, Open Source Software, DESIDOC, Wordpress

## **1. Introduction**

Along with the human being web technologies are also growing. During recent times the advances in web technologies have enabled libraries to create new interactive services, such as virtual reference services, personalised interfaces of online catalogues, and audio-visual media that can be downloaded by the user community irrespective of their physical location. Thus, these emerging web-based features (Web 2.0) are opening new avenues and giving libraries the ability to offer the improved customer-driven services to the user communities. Web 2.0 applications work for the user, and are able to locate and assemble content that meets our needs as users, rather than focusing us to conform to the paths laid out for us by content owners or their intermediaries.

The terms like blog, wiki, really simple syndication (RSS), E-mail forums, online office, personal web learning, shared videos, video online and podcasting are gaining popularity in the present scenario. Web 2.0 technologies, specifically, blog and wiki provide the ability to publish or broadcast on a network that has facilitated a higher level of interaction in sharing user experiences. The scientists and academicians who are having a rich experience of a particular technology can publish their tacit knowledge through these to expedite/assist their followers who are working in the same areas. This is the area where DESIDOC is keeping a vigilant eye to provide a platform for the DRDO communities for sharing their valuable knowledge and experiences through DRDO Blog and DRDO Wiki being hosted and maintained by DESIDOC. In the process, DESIDOC is helping in managing a great pool of knowledge which is inhabited in the minds of scientists and engineers who are engaged in R&D activities related to Defence Science and Technology and related applications. Following DRDO Services are Web 2.0 enabled which are administered by DESIDOC.

## **2. DRDO Blog**

DRDO blog service started on 12 February 2008 by DESIDOC for the DRDO scientists to share their knowledge, not only in their own field, but extended to all subject areas and general topic as well. This blog supports Unicode, if one is familiar with Unicode system, they can directly post their queries in any one of the Indian languages. Presently five Indian languages are covered in the Blog are Hindi, Punjabi, Tamil, Kannada and Telugu.

The DRDO blog is powered by Word Press 2.0. The software is having MySQL as back-end and PHP as front-end running on Linux environment. Before implementation of the software, many other blogging software have been evaluated and decided to implement Wordpress due to its flexibility. This software was evaluated by the user team for more than three months before made it operational. Using its themes, the look and feel has been changed without any loss of data. The archives of posting/comments are also maintained by year and month-wise. In addition to Really Simple Syndication (RSS) feeds, an email alerting also made available on the Blog. The user will be updated through their registered email whenever any comments are posted against their query at any time.

Like other blogs, DRDO blog is being used by DRDO community in a number of ways. Users may use/post information/promotion of particular technology and systems related to the subject areas like Aeronautics, Armaments, Combat Vehicles, Computers, Debate, Electronics, Environment Science, General, Library and Information Science, Life Sciences, Materials, Missiles, and Naval Research. In addition to the above subjects, many of them posted their queries on the listed Indian languages. It has been understood that majority of the DRDO research community is well versed with the Unicode system and are able to post their queries and comments in Indian languages.

## **3. How to Post Queries/Comments**

DRDO users can register with this blog by giving user name and DRDO intranet e-mail ID to share their knowledge/comments with other colleagues of DRDO. The user can access the blog without registration, but in order to post ones queries/ comments, one should have the valid User Name and Password by registering with the system. For registration process one should have DRDO Intranet email ID. In case the user lost his/her username or password; it can be retrieved from the system through submitting the e-mail ID which was used for the registration purpose. After that one can post his queries/comments on the selected subject categories. If any user wants to post a query besides the above mentioned subject categories, he has to request the Director, DESIDOC to include his subject category in DRDO blog. Figure 1 shows DRDO Blog and Table 1 displays the number of posts made by research community till December 2012 subject-wise.

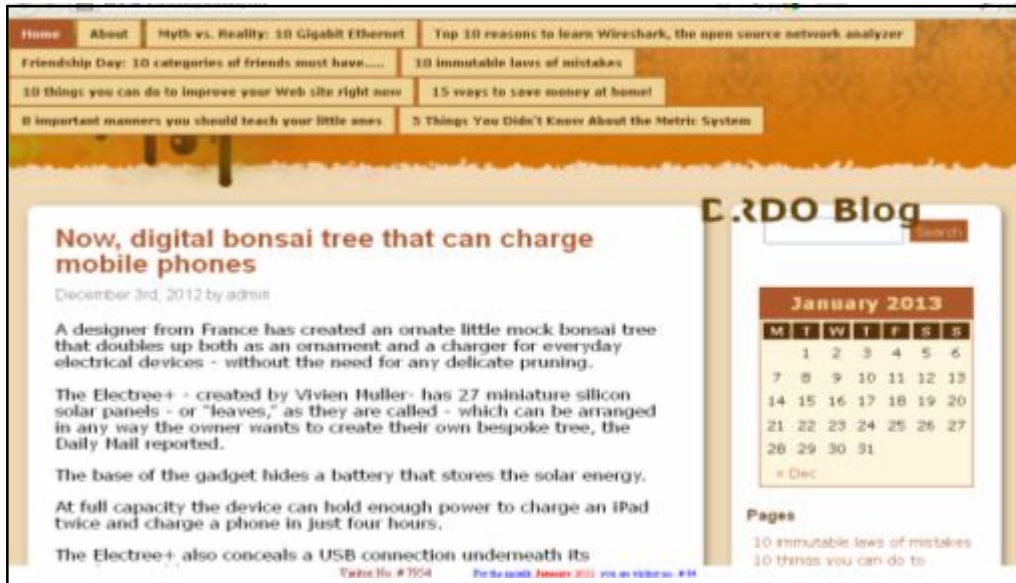


Figure 1: DRDO Blog

Table 1: Subject-Wise Postings

| Sl. No | Subject               | No. of Posts |
|--------|-----------------------|--------------|
| 1      | Aeronautics           | 69           |
| 2      | Armaments             | 36           |
| 3      | Combat Vehicles       | 31           |
| 4      | Computers             | 252          |
| 5      | Debate                | 386          |
| 6      | Electronics           | 174          |
| 7      | Environmental Science | 201          |
| 8      | General               | 576          |
| 9      | Library & Information | 418          |
| 10     | Life Sciences         | 224          |
| 11     | Materials             | 95           |
| 12     | Missiles              | 22           |
| 13     | Naval Research        | 16           |

#### 4. DRDO Wiki

DRDO wiki, a great tool for E-learning and researching information, has been successfully launched by DESIDOC on 22 September 2007. As an internal solution it will enable users from all DRDO labs to add, modify, and edit information on website through their own web browsers. Using Wikipedia, every user is

reader, author, and editor at the same time. The success of this project builds on the tight involvement of the users, the sense of the community, and a dedication to develop a powerful knowledge repository. The collaborative efforts of contributors and experts from all labs will populate DRDO wiki and in future it will be more beneficial for the major projects of DRDO.

Like DRDO Blog, DRDO Wiki is also maintained and hosted by DESIDOC. DRDO wiki is powered by media wiki version 1.01. The software is having back-end of MySQL and entire software is coded in PHP. User permission is open to all DRDO employees who have DRONA connection. Any employee of DRDO can edit the wiki. Before editing a page in DRDO wiki, one has log in to DRDO wiki or else it gives a warning like: You are not logged in. User IP address will be recorded in this page's edit history. So anyone can be traced by wiki administrator. In that process, the quality can be maintained over a period of time. Figure 2 highlights the DRDO Wiki's main page.



Figure 2: DRDO Wiki

## 5. DRDO Wiki's Statistics

There are 1705 total pages in the database. This includes “talk” pages, pages about DRDO wiki, minimal “stub” pages, redirects, and others that probably don’t qualify as content pages. Excluding those, there are 45 pages that are probably legitimate content pages. Over 59 files have been uploaded till December 2012. There have been a total of 7341 page views, and 1409 page edits since DRDO wiki was set up. That comes to 1.21 average edits per page, and 4.3 views per edit. There are 126 registered users.

The information on DRDO wiki is segmented into different subject areas like art and culture, psychology, information technology and engineering, DRDO for you, knowledge and information technology. It has different menu options like view page, edit page, post comment etc. Separate links are given for the information on current events, recent changes and community portal.

The news related to DRDO is also uploaded on DRDO Wiki on daily basis with the help of DESIDOC news paper clipping service. DRDO Wiki is also getting good response from DRDO community for information

sharing regarding particular technology and systems. It has been normally observed that a scientist and his team working on a particular project has a great amount of tacit knowledge with them. If that scientist got retired, transferred or leaves the project his/her valuable knowledge also goes which inherently affects the projects in a great manner. DESIDOC through DRDO Wiki has provided the support to DRDO community to document/capture their knowledge for followers.

## 6. DRDO Institutional Repository

An institutional repository is an online resource for collecting, managing, disseminating and preserving academic and scholarly materials, such as theses, dissertations and research articles created in digital form by faculty and students in individual universities, institutions and colleges. It is an online archiving tool to collect, preserve, index, & disseminates digital form of intellectual assets of research institution (or organisation) and can be accessed through network environment. It also used for long term preservation of digital documents.

DESIDOC has created an Institutional Repository called Gyansrota for archiving of DRDO intellectual output using DSpace open source software in the year 2007. DRDO IR is available on DRDO Intranet.

Presently DRDO IR contains four types of main communities named as DRDO Headquarters, Image Gallery, Laboratories, and Women. It contains the collections of 3745 articles/papers related to Biographies of eminent DRDO scientists, research papers, and articles published by DRDO research community in various journals and conferences. The major features of DRDO IR are as follows;

**Metadata Submission:** The web based modules are available for entering/editing a metadata from user's own desktop. Those having the rights to submit metadata can directly enter the digital documents.

**Search Facility:** Users can search the entire collection or bibliographic data by using simple and advanced search facility. Browsing facilities are also provided by various fields like – Title, Author, Date, & Subject.

Web based module for administration is available so that administrator can edit, change, modify, & delete information (like – manage communities, collections, authorisation of users, digital rights management, etc.) globally. Figure 3 shows the DRDO Institutional Repository

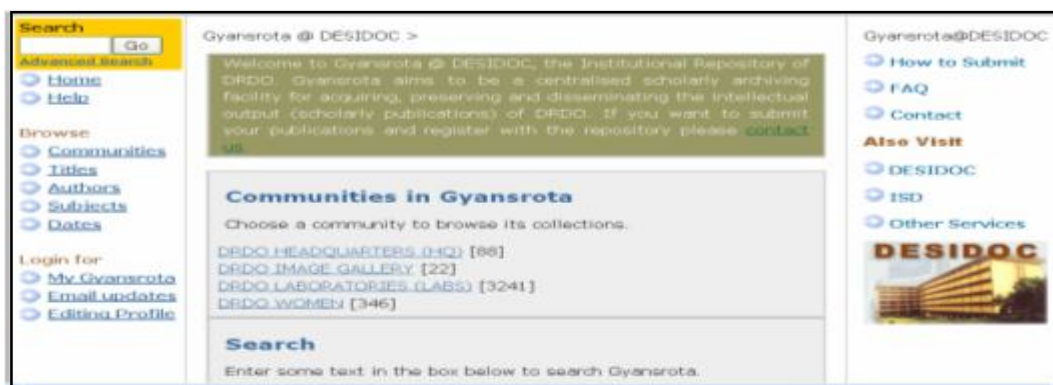


Figure 3: DRDO Institutional Repository

## 7. Implementation of DRDO IR

This project has been taken to set-up an Institutional Repository of DRDO research output since the research community has published articles and presented papers in different journals and conferences. There was no system to monitor these valuable outputs so DESIDOC had taken the initiative to bring all these research output under one single umbrella. The open source D-Space and E-Prints software were evaluated. Based on the requirement D-Space has been chosen to set-up IR on Linux platform. The main challenging task was to collect the published articles from the research community since the scientists and researchers are scattered in different labs located in various parts of India. The requests have been sent to the research community to upload their research output in IR or send the copy of their published work to DESIDOC. Most of the scientific community was unaware of the IR and its methodology; they sent their published papers to DESIDOC for uploading on IR. The request was also sent to the Librarian of the each laboratory for collection of data. In receipt of data, DESIDOC uploaded most of the content into IR.

After data collection, it was decided to build/upload the content lab-wise for easy accessing and usage by the common user. So under the DRDO community, sub communities were created by the lab names. The look and feel also has been changed as per DRDO requirement. The latest uploaded contents are displayed on the right side of the home page and browsing facility has been given in the left side of the home page. The facility is being provided to the users to register with the IR for uploading the content. DESIDOC has the authorisation for checking the metadata and all relevant fields and approving the content for its display in IR.

## 8. Conclusion

In recent times most of the common library users are becoming net savvy and libraries are required to satisfy the user demands at their desktop itself. The users may not visit the library in future, but the library visits its users at their door step. To satisfy the user requirements, DESIDOC has already taken initiatives to implement web 2.0 technologies so that relevance of its services may be maintained among the DRDO community. Further necessary steps should be taken up by DESIDOC to fulfil user requirements in an interactive and informative manner being an information facilitator. The members of the DRDO research community understand the current trends and value of information. They have adopted these technologies to fulfil their research needs.

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**About Authors**

**Ms. Faizul Nisha**, Defence Scientific Information and Documentation Centre, Defence Research and Development Organisation, Metcalfe House, Delhi - 110054  
E-mail: faizul16k@gmail.com

**Ms. V Senthil**, Defence Scientific Information and Documentation Centre, Defence Research and Development Organisation, Metcalfe House, Delhi - 110054  
E-mail: senthil@desidoc.drdo.in