

# Formation of a Collaborative Society

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**Abstract.** The MilUNI knowledge portal, based on the knowledge base developed in ATOM software has been created at the authors' workplace with the aim to form a collaborative society of military universities. The analysis of the collaborative society concept is presented. The description of the MilUNI project is included. Some areas for university cooperation are proposed, as well as the measures facilitating the formation and development of the collaborative society.

**Keywords.** Collaborative society, military university, MilUNI, knowledge management system, ATOM

## Introduction

The Knowledge Management System (KMS) for the military universities (MilUNI) cooperation was created in summer 2012 at the Communication and Information Systems Department, Faculty of Military Technology, University of Defence, Brno, Czech Republic.

The topic was chosen as a suitable task for the internship of the French students from the university of ENSTA (École Nationale Supérieure de Techniques AVANCEES) Bretagne, Brest Engineering Institute, held at our department. The KMS research team at our department has considerable previous experience in the development of knowledge systems using ATOM (Aion Topic Maps engine) software (SW). Therefore, it was not difficult to prepare necessary prerequisites for the students practice.

The ontology was designed, which was gradually adjusted to better meet the objectives of the MilUNI. Students were gradually inserting the contents to the Portal from public sources. The result of their work is described in the article [1]. Further development was focused on the data check and including additional data, but especially on the Portal to ensure a pleasant user access to the system that was prepared in the final part of the project. The whole MilUNI system was ready for use in summer 2013 [2].

Studying and creating the KMS based on ATOM SW is also part of the university education. The students are introduced to the theory of KMS and work with knowledge. They are trained in the use of ATOM SW; they design their own ontology and create the application.

The article includes the analysis and explanation of the term 'collaborative society' and the method of its creation (Chapter 1); it describes a platform for cooperation of

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military universities, MilUNI, (Chapter 2), provides an overview of potential areas of cooperation, (Chapter 3) and comments on attempts to create a collaborative society (Chapter 4).

## 1. Collaborative Society

To better understand the term collaborative let's compare the collaborative society with traditional ones [4]. The traditional groups and organizations tend to be structured vertically. Decisions are made at the top and people derive their influence and authority from their positions within the hierarchy. This is especially true in professional organizations where leadership is centralized, the work is mission-driven, processes are guided by procedures and statutes, and internal communication is mostly confined to departments, workgroups, and committees.

Collaborative groups, by contrast, are structured horizontally. Leadership, to the extent that it exists at all, is broadly distributed. Collaborative efforts tend to be loosely structured, highly adaptive, and inherently creative. Collaborative endeavours take many forms. Some common varieties include [4]:

- Public-private partnerships (sometimes referred to as social partnerships) are ad hoc alliances between otherwise independent organizations that span both the public and the private sectors;
- Future commissions, also known as search conferences, in which citizens and community leaders analyze trends, develop alternative scenarios of the future, and establish recommendations and goals for the community;
- Interagency collaborations aimed at improving social services to children, families, and other members of a community;
- Online networks designed to link various civic, educational, business, and governmental institutions within a community or region;
- School of University community partnerships designed to foster greater collaboration between schools, universities, and key community institutions;
- Networks and coalitions are loosely structured alliances among organizations, and citizens that share a commitment to a particular issue or place;
- Regional collaborative where local governments work together to promote economic development and service delivery.

Some questions to ask before embarking on a collaborative venture include:

- What are the structural relationships between the parties and the possible power issues inherent in the collaborative arrangement?
- Is there a clear understanding among all the parties of the respective goals and what form of leadership is required to facilitate the process?
- Does the project have some form of integrating structure, such as a cross-section of steering committees, to facilitate and coordinate decision-making and implementation?
- Will the project be more effective with a neutral, third-party mediator? Should the media be involved?
- Does the project have enough time, money, and staff support?

Building collaborative communities means finding new and better ways to work together. We need to create spaces where people can find each other, share ideas, and

discover common ground. The MilUNI project is an attempt to build such a collaborative society of military universities. Building a collaborative society is a time consuming and hard dynamic process. The method of building the society [4] consists of the three phases:

1. Problem setting phase.
2. Interest identification and setting the common goal.
3. Implementation phase.

### *1.1. Problem setting phase*

The parties must arrive at a shared definition of the problem, including how it relates to the interdependence of the various stakeholders and must make a commitment to collaborate. Other stakeholders, whose involvement may be necessary for the success of the endeavour, need to be identified.

The parties have to acknowledge and accept the legitimacy of the other participants, they must decide on what type of convener or leader can bring the parties together, and must determine what resources are needed for the collaboration to proceed.

### *1.2. Interest identification and setting the common goal*

This phase includes the following activities:

- Establishing ground rules and setting the agenda;
- Organizing subgroups, if the number of issues to be discussed is large or the number of people exceeds a dozen;
- Undertaking a joint information search to establish and consider the essential facts of the issue involved;
- Exploring of various alternatives and reaching agreement and settling for a course of action.

### *1.3. Implementation phase*

The implementation phase consists of the following tasks:

- Participating groups deal with their constituencies and parties garner support of those who will be charged with implementing the agreement;
- Structures for implementation are established; and finally the agreement is monitored and compliance is ensured.

## **2. Platform for MilUNI Collaboration**

The objective of the MilUNI is to provide a well-arranged platform for collaboration among military universities in teaching, research and exchanges of teachers and students. The system contains information about universities, their structure and focus of study. The university staff members are connected with recorded functions and activities, such as authorship of publications in conference proceedings and journals, and their participation in projects. There are full-text conference papers in the system, which enables the partners to study or quote them. The MilUNI is publicly available at <http://miluni.eu>.

The structure of the system is given by the ontology that consists of these main classes: university, organization, person, conference, collection and article. The MilUNI also includes information from the CIA World Factbook [6], a free source of information on countries of the world which is linked to other stored information. In this case it is the information about continents, countries, cities, and organizations. The system was developed within the research program of the Ministry of Defence [5].

### 2.1. Knowledge Base

The main feature of the MilUNI is a user friendly access to information about the structure of the universities, its main educational areas, research and conference activities, etc. The MilUNI data were collected from public sources on about 100 universities situated in 40 countries, 130 cities.

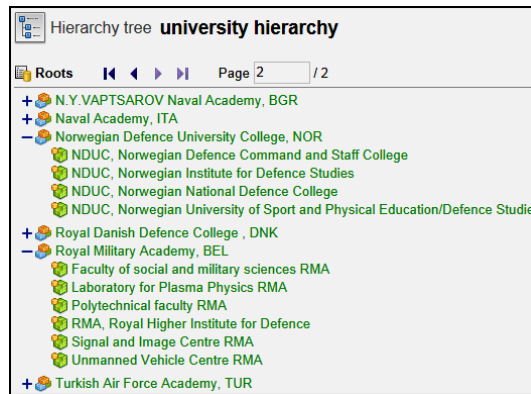


Figure 1. Universities hierarchy

The knowledge base (KB) is accessible and updatable through the ATOM Data editor, which is an environment for a skilled user in the knowledge system. The most common way to obtain the required information is by browsing the KB of a selected class, such as UNIVERSITY; see an example in Figure 2 that shows the university hierarchy.

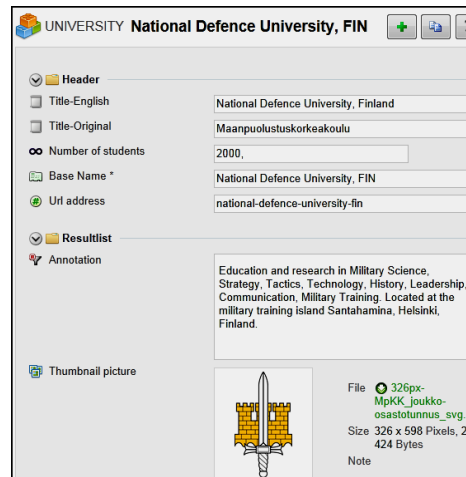


Figure 2. National Defence University, Finland

Required data about the university can be obtained (see Figure 2), then its field of study, the list of its academic staff and students, and perhaps even their publications at conferences.

## 2.2. Knowledge Portal

The knowledge portal (KP) covers the KB in the KMS to shield users from details of implementation. The KP is prepared as a typical portal template that is designed for any similar type of the KMS. The Portal structure and functions are designed with respect to the KB content and is connected with the KB (through ontology), so that it could be simply edited and personalized. The KP includes three types of pages (title, search result list and detail).

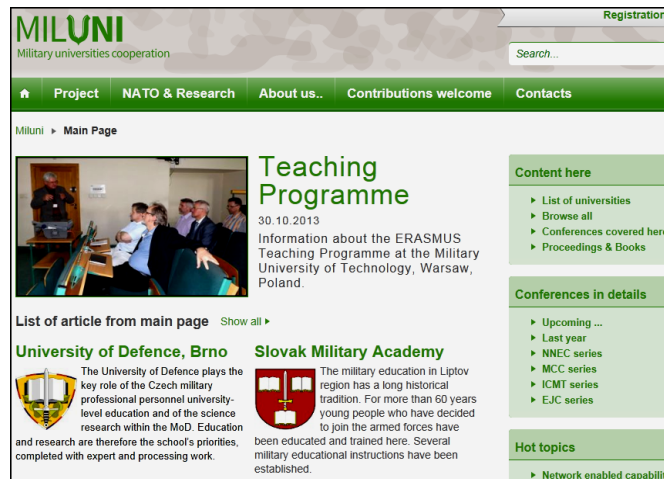


Figure 3. MilUNI – The title page

The title page of the KP consists of the registration box, main menu, news (search result area), full text search box, and results boxes, see Figure 3. The result list of the Finland military universities search list is shown in Figure 4, and the detail page about the National Defence University, Finland, is shown in Figure 5. Compare Figures 5 and 2 that visualize the detail about the same university, but in the different environments.



Figure 4. MilUNI – Search result: Military universities of Finland



**Figure 5.** MilUNI – Detail page: National Defence University, Finland

### 3. Areas of collaboration

Forming the community of cooperating universities is a long term process that should be supported at several university levels. It is true that there are some cases of successful cooperation, for example, between the University of Defense (UoD) in Brno, Czech Republic, and the Academy of the Armed Forces (AOS) in Liptovsky Mikulas, Slovakia, or between the UoD and Theresian Military Academy in Wiener Neustadt, Austria.

Also, some cases of a successful cooperation on the basis of the EU ERASMUS project are worth mentioning. At the Faculty of Military Technology (FMT), UoD, were the teachers from Bulgaria, Poland and Turkey, and, on the other hand, the teachers of the FMT were at the AOS or Military University of Technology in Warsaw, Poland. But still, these are only activities concerning individuals. It is the MilUNI project that should facilitate more intensive collaboration. The account of selected levels and areas of collaboration follows.

#### 3.1. Management of universities, faculties and departments

At the management level at universities, faculties and departments the administrative obstacles hindering cooperation need to be removed, and the conclusion of bilateral and multilateral agreements should be promoted. The cooperation also requires necessary funds. For example, the universities and their faculties concluded an ERASMUS Agreement, which states the structure and content of the mobility of students and teachers. However, this is only a necessary requirement for the implementation of the exchange of students and teachers.

#### 3.2. Joint projects and publishing support

The ideal forms of cooperation are joint projects. They require good personal cognition of partners who share a common, similar or complementary research interests. Now,

the MilUNI project can contribute to the development of such cognition. However, the cooperation from other parties on the MilUNI project is extremely desirable. It would be ideal if the data on their own university were operated by the same cooperative partner who knows the necessary data from their own university.

The general requirement for the university members is the preparation of their publications and the citation of them. There is another ambition of the MilUNI project lying in the recording of such information about conferences and selected articles. The articles could be available in full-text form, so that they could be studied or cited.

### *3.3. Exchange of teachers and students*

Exchange of teachers and students between universities should become an integral part of getting the appropriate teacher qualifications and student achievement of proper education. It is important for teachers not to be afraid of lecturing at other universities, and to spread the good name of their university and demonstrate their expertise on such occasions.

The ERASMUS program is a perfect opportunity for universities to organize teachers and students exchange. Although they might sometimes complain after returning back that not everything was absolutely perfect at the host university, or that sometimes it was not possible to fulfil everything that was planned, they confirm that they have never regretted this life and professional experience.

The MilUNI Portal supports the trips of teachers and students; it should help the actors to quickly contact you, to find a relevant university and to find out the necessary information about it.

## **4. Building the society**

The aim of creating the MilUNI Portal, as already mentioned, is to support the cooperation of military universities. However, it should be pointed out here that the MilUNI conception originated as an assignment for international students. The aim to promote military cooperation among universities emerged only later, as a quality and interesting result.

While the creators of the Portal had in mind in particular the cooperation of universities technical curricula, given that they belong to the Faculty of Military Technology, Department of CIS, in the process of MilUNI development the content was changed into including all military universities, which was related to the idea of creating a platform for cooperation.

We have to admit that our initial idea that just creating a portal accessible from the Internet will form the community automatically was naïve. It was a passive way to create a community. In the face of the demands on the community (see Chapter 1) this way of forming communities is inappropriate, as our experience confirmed.

When no one logged in after a certain time into the community, we understood the need to be more active to create the community. Each member of the team (6 persons) chose two or three universities. Using addresses on their Web sites, they contacted selected persons by an invitation letter with information about the objectives of the project and an appeal for cooperation. Also, the letter stipulated potential benefits for the university and its academic staff.

We waited for the response from the universities. From time to time, some contacts want us to explain something or ask us how to insert new data, but in general, there is no interest in working on the Portal even after 3 months. What is wrong? Are the persons responsible for cooperation between universities interested in new ways of communication? Is it an extra work load which the university staff member is not willing to accept? Did we address the right people? Despite all the proclamations, is the cooperation between universities less significant, and thus an unsupported matter? These were the questions that we were thinking about, but we did not find any relevant answers.

In addition to the above mentioned activities, the Portal has been introduced in professional journals, such as [1], [2] and at international conferences, such as [3]. The collaboration was also treated in the Erasmus Teaching Programme by prof. Burita at the Military University of Technology, Warsaw, Poland in May 2013. Concerning further work on the Portal, we are convinced that we will gradually and patiently upgrade and promote the Portal and its use at all levels of cooperation.

## Conclusion

The article deals with the problem of the creation of the military universities community, and it shows that it is not an easy task. It analyses the concept of the collaborative society. It describes a platform for cooperation between universities, the MilUNI Portal, and the objectives of its creation. Yet unsuccessful attempts to create a collaborative community within military universities are commented, and directions for the further research activities are proposed. There is an entirely appropriate concern that the creation of such communities is not a matter for the research team, but for the institution (organization) which is responsible for the cooperation. But we have not discovered persons responsible in any of the organizations, neither in the European Defence Agency (EDA), nor in NATO. The process we employed for the community creation does not follow exactly the process described in the first part of the article. It can also be the reason for the low success rate.

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