

Prof. Dr. György Kende – Dr. György Seres:

How to eTeach some aspects of military technology?

Abstract:

Research and Development is an important task of military and civil engineering. That's why "Research and Development in Military Technology" is an accredited subject in BSc, MSc and PhD level education at Zrínyi Miklós National Defence University.

Printed lecture notes of this subject had been issued in 2004, and its multimedia variant was made one year later. The multimedia curriculum has been tested by two groups of correspondent and two groups of PhD students in 2004/2005 and in 2005/2006 academic year. It is in systematic use from 2006/2007 academic year for education of BSc, MSc and PhD students participating in regular and correspondence or distance learning, but it can be used for other related courses as well.

Authors present using of this multimedia curriculum throughout two topics of the adequate chapter in English language, with help of our robot assistant.

Authors took a presentation "**How to e-learn?**" at IVth International Symposium on Defence Technology 2006. Then we tried to answer four questions about e-learning:

- **Who** should be eTaught?;
- **What** to eTeach?;
- **Who** should eTeach?;
- **How** to eTeach?

About the last question we refer our multimedia curriculum "**Research and Development in Military Technology**".



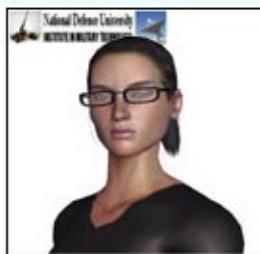
Figure 1 CD of the multimedia curriculum¹

¹ <http://drseres.com/tavoktatas/>

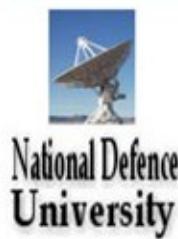
Now we present new methods of eTeaching throughout two topics of the adequate chapter in English language, with help of our robot assistant.



CEO of the Robot-Hosting company, Shahin Maghsoudi² started to develop a robot assistant Luca³ for us.



17- Luca
Assistant Lecturer
National Defense University
Budapest, Hungary



**Modeling
Military
Systems**



22- Nela
Assistant Teacher
Introduction to Astronomy
Course



Astronomy

First we made the English variant of presentation and self test of two lecture of multimedia curriculum “Research and Development in Military Technology“:

² <http://robot-hosting.com/html/n-people.html#SM>

³ http://robot-hosting.com/html/n-current_clients.html

⁴ http://robot-hosting.com/html/n-current_clients.html

Chapter 1, Role of technology in military system
 Lecture 2, Some models of military system

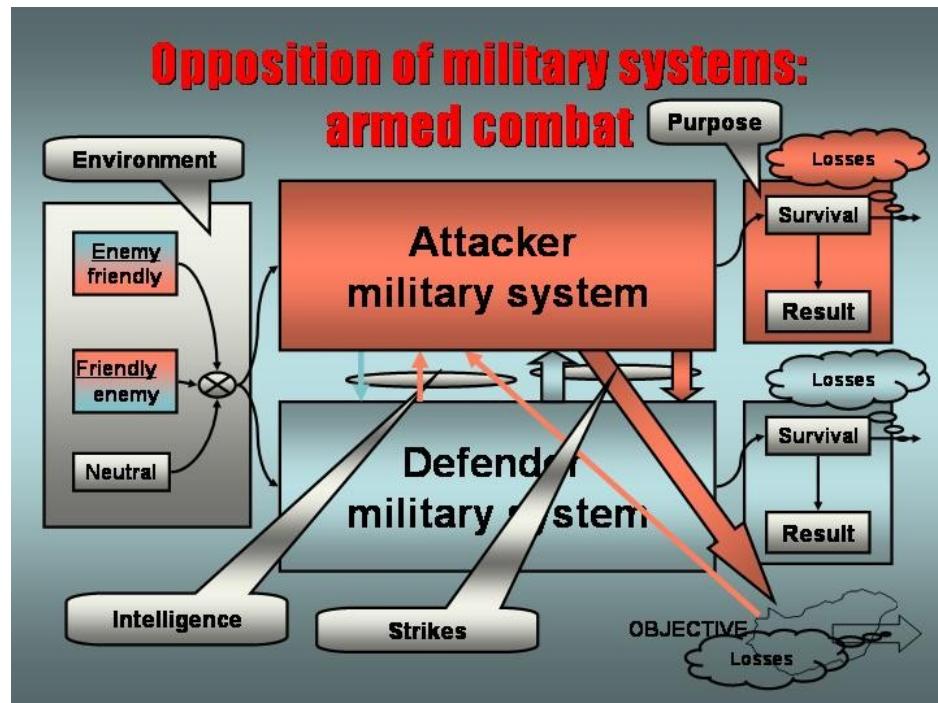


Figure 2 Screen of Lecture 2 of Chapter 1⁵

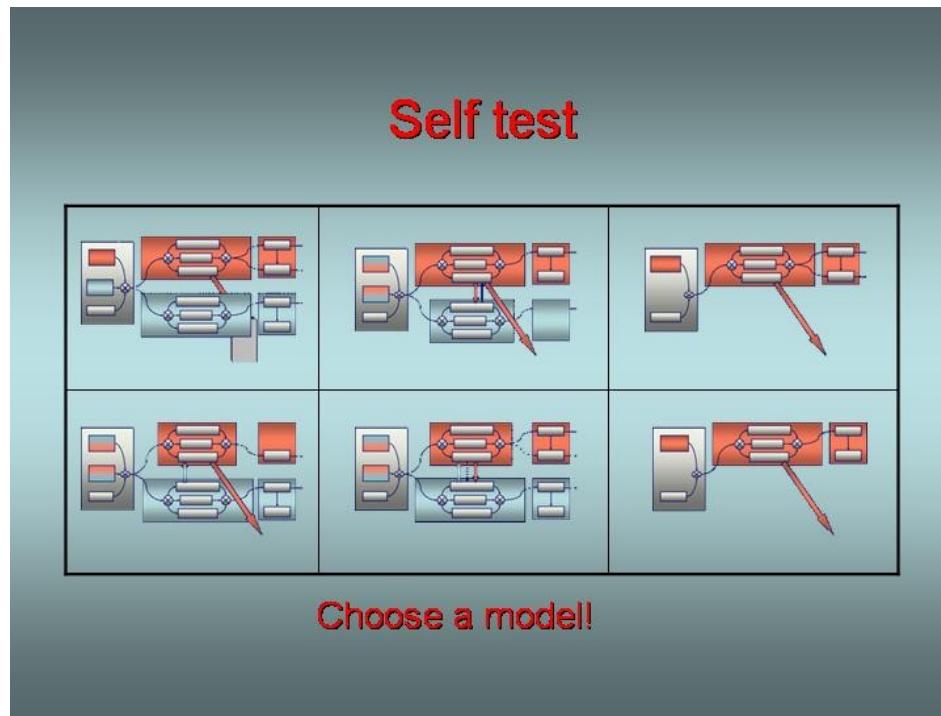


Figure 3 Screen of self test of Lecture 2 of Chapter 1⁶

and

⁵ <http://drseres.com/shahin/system.pps>

⁶ <http://drseres.com/shahin/selftest.pps>

Chapter 4, NATO policy an integrated system
 Lecture 2, Life cycle of military products

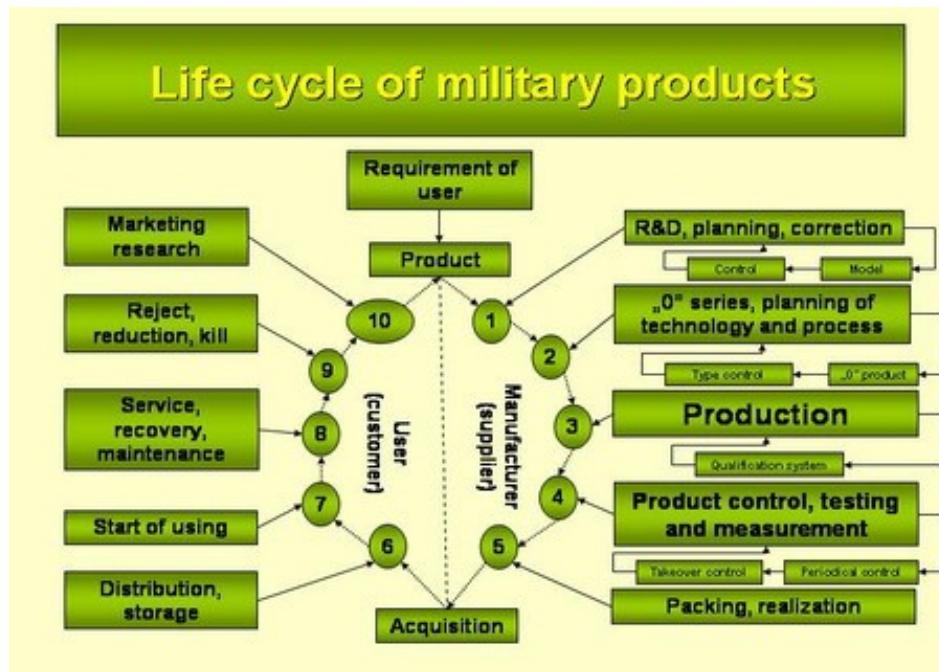


Figure 4 Screen of Lecture 2 of Chapter 4⁷

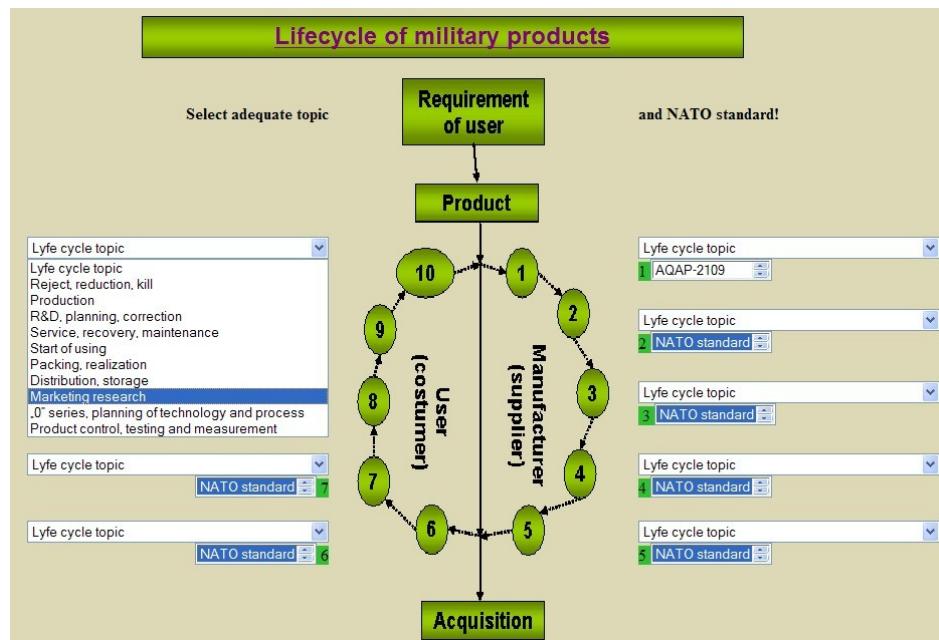


Figure 5 Screen of self test of Lecture 2 of Chapter 4⁸

with help of voice of Microsoft Sam and Mary.

⁷ <http://drseres.com/shahin/lifecycle.pps>

⁸ http://drseres.com/shahin/lifecycle_kerdes.htm

György Kende – György Seres: How to eTeach?

Second step of development was training of robot consultant Nela. She can answer to 9 questions about both of lectures.

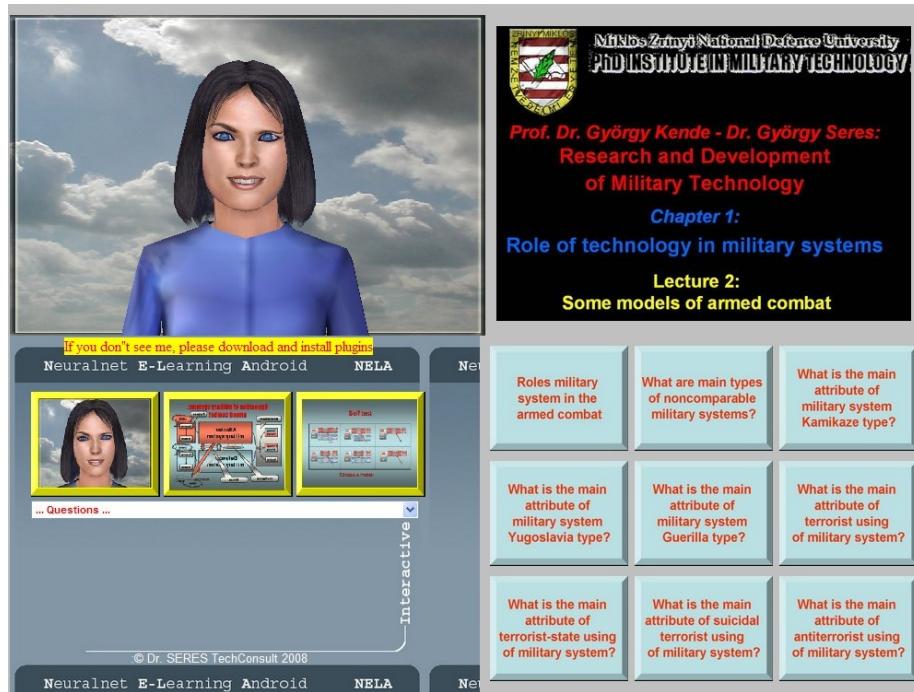


Figure 6 Screen of robot assistant for Lecture 2 of Chapter 1⁹

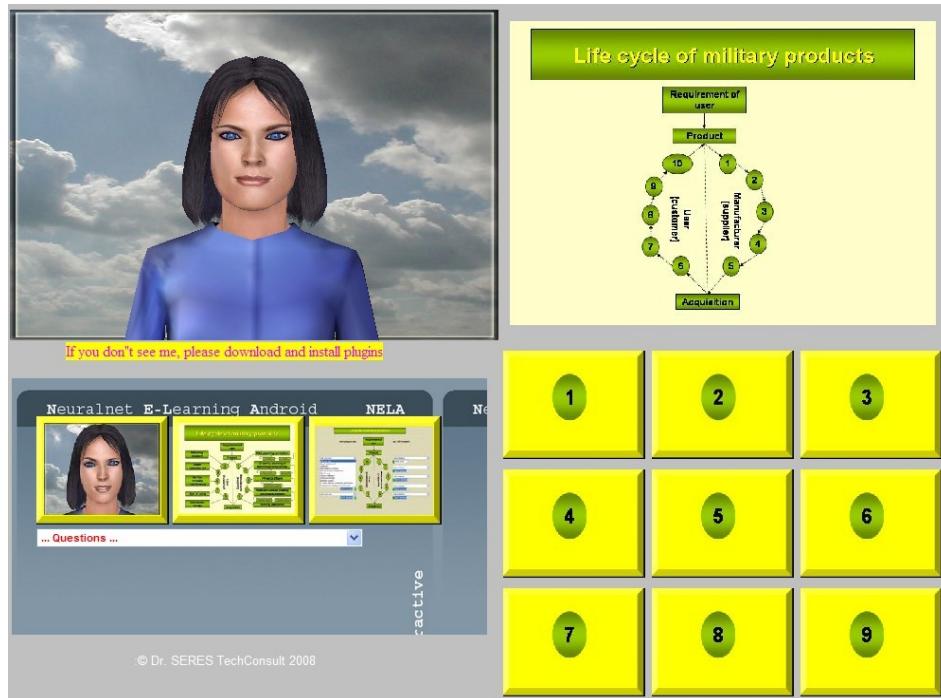


Figure 7 Screen of robot assistant for Lecture 2 of Chapter 4¹⁰

⁹ <http://drseres.com/shahin/system.htm>

¹⁰ <http://drseres.com/shahin/lifecycle.htm>

Domestic possibilities

There are some Hungarian text-to-speech and/or teachable 3D talking robots too, but we had not material possibilities for them.



Figure 8 Eureka the 3D Hungarian talking robot

Conclusion

Software Robots are designed to give students easy access to accurate course information over the Internet 24 hours a day, 7 days a week and 365 days a year.

They perform teaching and administrative tasks associated with high-quality online learning courses.



References

- [1] Kende György – Seres György: **Haditechnikai kutatás-fejlesztés, multimédiás egyetemi tananyag**, ZMNE, 2005. (<http://www.jata.org/drseres/tavoktatas/>)
- [2] Kende György – Seres György: **Robothadviselés és e-tanulás?**, Hadmérnök, Robothadviselés 2006. konferencia különszám, (http://www.zmne.hu/hadmernok/kulonszamok/robothadweiseles6/seres_rw6.pdf)
- [3] György Kende – Erzsébet Noszkay – György Seres: **Tests and Knowledge Management in Modern Higher Education – the e-Learning**, New challenges in the field of military sciences 2007. 5th International Conference, ZMNDU, Budapest, Hungary, November 13-14, 2007, Proceedings I., p. 155-166
- [4] György Kende – Erzsébet Noszkay – György Seres: **Role of the Knowledge Management in Modern Higher Education – the e-Learning**, AARMS, Vol. 6, Issue. 4 (2007), p. 559-573