

## PREPARING TO WRITE AN ACADEMIC RESEARCH PAPER PRESESSIONAL (MSc in Computer Science)

1) Students were assigned the following pre-writing task for homework.



### What general areas of Computer Science are you interested in?

Jane Sjoberg

For your preessional assessment, you will write a 3,000-4,000 word Academic Research Paper on a topic relating to Computer Science/Computer Security/Human & Computer Interaction at postgraduate level. What aspects of your major interest you? Write a few sentences about the topics that you find interesting and explain why these topics interest you.

Feedback was given online by the teacher and subject specialist TA.

2) Once topics were agreed, students were assigned the next task for homework.



### ARP Rationale For Tuesday 12th August 08.00am

Jane Sjoberg

Your written rationale should include 3 academic sources (providing a full reference) you intend to use and you should explain:

- (1) the topic or question you are going to write about
- (2) why you have chosen this topic
- (3) which specific aspects of the topic you will investigate

Example of a student's proposal:

#### The Problems of Internet Security in Electronic Commerce

My academic background belongs to business and management. Now, I have chosen computer science. I want to link two majors of specific knowledge between business and computer together. I believe that computers and mobile electronic devices that are based on the internet are very useful tools especially in the area of business because they are convenient for customers and bring potential benefits to business. However, at the same time, there has been a rise in cybercrime which is a major threat to e-commerce. Therefore, in my research, I will analyse the main problems of Internet Security in Mobile Electronic Commerce and then propose and evaluate some solutions.

#### References:

- Ghosh, A. K., & Swaminatha, T. M. (2001). Software security and privacy risks in mobile e-commerce. *Communications of the ACM*, 44(2), 51-57.
- Yazdanifard, R., Edres, N. A., & Sevedi, A. P. (2011). Security and Privacy Issues as a Potential Risk for Further E-commerce Development. In *International Conference on Information Communication and Management-IPCSIT* (Vol. 16), IPCSIT Press, Singapore.
- Zhang, Y., Deng, X., Wei, D., & Deng, Y. (2012). Assessment of E-Commerce security using AHP and evidential reasoning. *Expert Systems with Applications*, 39(3), 3611-3623.

The discussion was set to allow threaded replies so that students would be able to reply to each other and reply to secondary threads if necessary.

3) Here is an example of one student's rationale. The ensuing discussion activity took place in a computer lab during class time.

Students continued posting queries and replies after the session, a brief example is provided below.



**Chuang Wang**

Aug 11, 2014

An evaluation of the suitability of MPLS (Multi-protocol label switching) VPN (Virtual Private Network) and IPsec (IP security) VPN for Campus Networks

During the process of my undergraduate course, I had spent my rest time learning a little knowledge about VPN. I believe that this technology will be as a leader in the field of network. With the development of Internet, more and more people need a private network space to transfer their information. The aim of this technique is reaching the request of people: faster and more security. As a student, I consider about our campus networks. There are different types of VPN we can choose to apply in our campus networks. Thus, my APR want to write some information about MPLS and IPsec VPN suitability for our campus networks. I think I can analyze different advantages and disadvantages of them. We can compare their QoS (quality of Service) and finally make a choice that is better.

#### References

Lu, J., & Dong, C. (2011). Study on the application of VPN technology based on IPsec in the modern universities. In *2011 IEEE 2nd International Conference on Software Engineering and Service Science* (pp. 881-883).

Zhang M, Tao Z P. Application Research of MPLS VPN All-in-One Campus Card Network Based on IPsec[C]//Computational and Information Sciences (ICCIS), 2012 Fourth International Conference on. IEEE, 2012: 872-875.

Ren, R., Feng, D. G., & Ma, K. (2004, August). A detailed implement and analysis of MPLS VPN based on IPsec. In *Machine Learning and Cybernetics, 2004. Proceedings of 2004 International Conference on* (Vol. 5, pp. 2779-2783). IEEE.

**Meng Wang** Aug 12, 2014

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Why did you choose Campus Net work for you research environment?

**Chuang Wang** Aug 12, 2014

As the reason of this, i think there are two points i can explain. As a student, we always contact this kind of network. Maybe the network of library is a good example. In addition, i think campus networks are sample model of network. It is a basic network. I am familiar with this type of network. Thus , i chose campus net work as my research environment.

**Lin Lin** Aug 12, 2014

what is MPLS?

**Chuang Wang** Aug 12, 2014

MPLS is a kind of network that add label on the data and transfer this data on their own tunnel. The key word of MPLS is L, means Label. We always use it based on complex network environment.