What is a Survey Paper??

CSE594 Fall 2009

Jennifer Wong

Oct. 14, 2009

A survey paper is…

"a paper that summarizes and organizes recent research results in a novel way that integrates and adds understanding to work in the field. A survey article assumes a general knowledge of the area; it emphasizes the classification of the existing literature, developing a perspective on the area, and evaluating trends."

As described by ACM Computing Surveys

Goals of a Survey

- Provide reader with a view of existing work that is well organized and comprehensive
  - Not all details must be included, which one's should/shouldn't?
  - Make sure to cover all relevant material completely
  - Logical structure of organization
  - State-of-the-art view

Your survey paper should …

- Summarize the research in 5-8 papers on a particular topic
- Include your own commentary on the significance of the approach and the solutions presented in each paper
- Provide a critical assessment of the work that has been done
- Include a discussion on future research directions

- **REMEMBER**
  - Everything you write in this survey paper has to be in your own words
  - All ideas, paraphrases of other people's words must be correctly attributed in the body of the paper and in the references
  - Any evidence of it in the survey paper will result in a fail grade

How To Find Articles

- Search various digital libraries
  - ACM
  - IEEE
  - Google Scholar
- Try to identify research groups/faculty in the area
  - Dig into their work and pointers

How To Pick Articles – In General

- When picking papers to read - try to:
  - Pick a recent survey of the field so you can quickly gain an overview,
  - Pick a paper that you can easier understand – book chapters often give easier understandable materials and lengthy explanation that may give you a head start, although they may not be as up-to-date as papers,
  - Pick papers that are related to each other in some ways and/or that are in the same field so that you can write a meaningful survey out of them,
  - Favour papers from well-known journals and conferences,
  - Favour “first” or “foundational” papers in the field (as indicated in other people’s survey paper),
  - Favour more recent papers,
  - Once you have identified an interesting technology to report upon, follow developments in that strand of technology (e.g. time-wise and technology-wise developments).
  - Find relationships with respect to each other and to your topic area (classification scheme/categorization)

Article Structure

- It should not be just a concatenation of paper reviews
- A typical structure of a paper includes:
  - Title
  - Abstract
  - Introduction
  - Body of paper
  - Conclusion/Future Work
  - References

Article Structure

- Introduction
  - Importance and significance of the topic
  - Discuss the background and target audience
  - Summarize the surveyed research area and explain why the surveyed area has been studied
  - Summarize the classification scheme you used to do the survey
  - Summarize the surveyed techniques with the above classification scheme

Article Structure

- Survey details/Body of paper
  - Present the surveyed techniques using the classification scheme in detail
  - Identify the trends in the surveyed area. Give evidences for your decision
  - Identify some leading research/products/companies/web-sites
  - Identify the unresolved problems/difficulties, and future research issues

Article Structure

- Conclusions/Future work
  - Summarize the conclusions of your survey
- References
  - List all the citations referenced in your paper

Figures

- Can be taken from papers as long as appropriate credit is given
  - “Figure taken from [28]”.
- Draw your own figures to show classification or structure of the survey
- Use tables to organize comparisons between applications/systems/etc

How to Cite a Reference

- Cite the full info about the paper
  - Author names
  - Paper title
  - Publication details
  - Page numbers
  - Year, etc

  [1] Adomavicius G, Tuzhilin A., “Toward the Next Generation of Recommender Systems: A Survey of the State-of-the-Art and Possible Extensions”, IEEE Transactions on Knowledge and Data Engineering, Vol. 17, No. 6. (June 2005), pp. 734-749.

In the text, use "[1]" to refer

There are many bibliography formats. Select one and **stick to it**.

http://standards.ieee.org/guides/style/2009_Style_Manual.pdf (Chap 19)

http://sgs.umkc.edu/pdfs/ACM-STYLE-EXAMPLES.pdf

General Rules for Bibliography

- Avoid use of et al. in a bibliography unless list is very long (five or more authors).
- Internet drafts must be marked ``work in progress''.
- Book citations include publication years, but no ISBN number.
- It is now acceptable to include URLs to material, but it is probably bad form to include a URL pointing to the author's web page for papers published in IEEE and ACM publications, given the copyright situation. Use it for software and other non-library material. Avoid long URLs; it may be sufficient to point to the general page and let the reader find the material. General URLs are also less likely to change.
- Leave a space between first names and last name, i.e., "J. P. Doe", not "J.P.Doe".

What not to do….

8.References:

- Embedded systems security

  http://www.ece.cmu.edu/~koopman/security/koopman04_embedded_security.pdf
  Philip Koopman, Carnegie Mellon University

- Security in embedded systems [ACM, TECS]:
  http://portal.acm.org/citation.cfm?id=1015049 Srivaths Ravi ,Anand Raghunathan NEC Laboratories America

- C. Mulliner, G. Vigna, D. Dagon, and W. Lee, UCSB, "Using Labeling to Prevent Cross-Service Attacks Against Smart Phones [DIMVA]".
  http://www.cs.ucsb.edu/~vigna/publications/2006_mulliner_vigna_dagon_lee_DIMVA.pdf

- Symbian OS Project http://www.symbian.com/symbianos/index.asp

- Mobile code security for MMS, SMS type data.
  http://www.cs.ucsb.edu/~vigna/publications/2005_felmetsger_vigna_ICECCS05.pdf

What not to do….

Bibliography

Deng, J., Han, R., & Mishra, S. (2006). INSENS: Intrusion-tolerant routing for wireless sensor networks. *Computer Communications* , 216-230.

Deng, J., Han, R., & Mishra, S. (2003). Security support for in-network processing in Wireless Sensor Networks. *SASN '03: Proceedings of the 1st ACM workshop on Security of ad hoc and sensor networks* (pp. 83-93). Fairfax: ACM.

Karlof, C., & Wagner, D. (2003). Secure Rouing in Wireless Sensor Networks: Attacks and Countermeasures. *Ad Hoc Networks* , 293-315.

Shokri, R., Poturalski, M., Ravot, G., Papadimitratos, P., & Hubaux, J.-P. (2009). A practical secure neighbor verification protocol for wireless sensor networks. *Second ACM conference on Wireless network security* (pp. 111-122). Switzerland: ACM.

Wood, D., Fang, L., Stankovic, J., & He, T. (2006, 10 30). SIGF: a family of configurable, secure routing protocols for wireless sensor networks. *SASN '06: Proceedings of the fourth ACM workshop on Security of ad hoc and sensor networks* , pp. 35-48.

V. References

1. Two Fast Handover Solutions for the IMS Handover in the Presence of Mobile IPv6 by using Context Transfer Procedures
   Reza Farahbakhsh, Naser Movahhedinia
   , University of Isfahan
   ,Computer Engineering Department
   , Isfahan, Iran

2. QoS-Conditionalized Handoff for Mobile IPv6 (2002)
3. QoS in Mobile Ipv6, Zhigang KAN, Dongmei ZHANG, Runtong ZHANG, Jian MA

4. Quality of Service in the IP Multimedia Subsystem, A. Hernández, M. Álvarez-Campana, E. Vázquez Departamento de Ingeniería de Sistemas Telemáticos, Universidad Politécnica de Madrid, E.T.S.I. de Telecomunicación, Av. Complutense, s/n, E-28040 Madrid, Spain.{albertoh, mac, enrique}@dit.upm.es
5. Comparative Analysis of Network Layer and Application Layer IP Mobility Protocols for IPv6 Networks A. Dutta, S. Das, Telcordia Technologies, NJ, T. Chiba, H. Yokota, A. Idoue, KDDI Labs, Japan,K. D Wong, Malaysia University of Science and Technology,H. Schulzrinne, Columbia University, NY
6. http://www.newport-networks.com/whitepapers/IMS-2.html
7. http://en.wikipedia.org/wiki/IP_Multimedia_Subsystem