如何撰寫文獻回顧

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文獻回顧 (Related Work)之目的

- 告訴審查委員與讀者
  - 本研究是一個新的研究
  - 本研究解決了現有方法無法解決的問題
  - 我們已經完整調查相關研究，沒有遺漏
  - 我們是該領域的專家

文獻回顧必須達到的標準

- 一定要評論 10 ~ 15 篇以上之相關論文
- 一定不可遺漏重要相關研究
- 一定要說明每個相關研究之缺點
- 一定要說明每個相關研究與本研究不同處
- 一定要說明本研究為解決該問題之最好方法
- 文獻回顧屬於送分題，分數要全拿

進行文獻回顧之步驟

- Step 1: 查詢相關資料庫
  - IEEE Explore, ACM Digital Library (主)
  - Google Scholar (輔)
  - 徹底搜尋，缺一不可
  - 文獻調查不完全，會被直接退稿
- Step 2: 詳細閱讀
  - 寫下該論文之缺點
  - 寫下該論文與本論文之差異
  - 此為批判思考 (critical thinking)的訓練

進行文獻回顧之步驟 (續)

- Step 3:確定本研究所屬領域與定位
  - 大領域，例: Low power embedded system
  - 小領域，例: Dynamic voltage scaling
  - 確定本研究之定位與關鍵字
- Step 4:確定最後要收錄之相關研究
  - 由最相似的開始，依相關性依序排列
  - 明確寫下每個研究不同之處與其缺點

初步判斷論文品質的方法

- 依論文型態判斷
  - 期刊論文(Journal paper)
  - 會議論文(Conference paper)
  - 研討會論文(Workshop)
  - 海報論文(Poster)
  - 技術報告(Technical report)
- 依作者之單位判斷
  - 例如:美國CS排名前 50大學或國際知名研究機構
- 依論文頁數判斷

初步判斷論文品質的方法(續)

- 期刊論文等級
  - 可參考交大資工之A級期刊列表
- 會議論文等級
  - 可參考委員會(Committee)之委員所屬學校
  - 可參考贊助單位，若有國際大公司贊助者佳
- 本地論文(Local paper)
  - 台灣國內之會議論文可以不看
  - 中文論文可以不看

嵌入式系統相關國際會議

- Real-Time Systems Symposium (RTSS)
- Real-Time and Embedded Technology and Applications Symposium (RTAS)
- International Conference on Embedded and Real-Time Computing Systems and Applications (RTCSA)
- Euromicro Conference on Real-Time Systems (ECRTS)
- Symposium On Applied Computing (SAC)
- Design, Automation and Test in Europe (DATE)
- International Conference on Compilers, Architecture and Synthesis for Embedded Systems (CASES)
- International Conference on Hardware Software Codesign (CODES+ISSS)

嵌入式系統相關國際會議(續)

- International Conference on Computer Aided Design (ICCAD)
- Information Processing In Sensor Networks (IPSN)
- International Symposium on Low Power Electronics and Design (ISLPED)
- International Conference Languages, Compilers, Tools, and Theory for Embedded Systems(LCTES)
- International Symposium on Microarchitecture (MICRO)
- International Conference On Mobile Systems, Applications And Services (MobiSys)
- Conference on Programming Language Design and Implementation (PLDI)
- International Conference On Embedded Software (EMSOFT)
- European Conference on Computer Systems (EuroSys)

嵌入式系統相關國際會議(續)

- Principles and Practice of Parallel Programming (PPoPP)
- ACM Symposium on Operating Systems Principles (SOSP)
- Conference On Embedded Networked Sensor Systems (SenSys)
- IEEE International Parallel & Distributed Processing Symposium (IPDPS)
- Symposium on Operating Systems Design and Implementation (OSDI)
- USENIX series conference: http://www.usenix.org/
- 國際會議相當多，以上均為高水平國際會議，其他未列之國際會議可以由會議委員會(Committee)之委員所屬學校或由贊助單位判斷

嵌入式系統相關期刊論文

- *IEEE Transactions on Computers*
- *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*
- *IEEE Transactions on Parallel and Distributed Systems*
- *IEEE Transactions on Dependable and Secure Computing*
- *IEEE Transactions on Vehicular Technology*
- *ACM Transactions in Embedded Computing Systems*
- *ACM Transactions on Design Automation of Electronic Systems*
- *ACM Transactions on Computer Systems*
- *ACM Transactions on Programming Languages and Systems*

文獻回顧鋪成方式

- 綜述大領域分類
- 由大領域到小領域 (由疏而親)
  - 由以前到現在 (由遠而近)
- 每一個研究用至多三句話描述其方法及與本研究不同之處與其缺點
  - 若為最相近的研究可以用較多的句字描述，但一般不超過 5 句

文獻回顧常見句型與轉折詞

- Method A ……
  - However, method A did not consider
  - Without considering .., method A cannot
  - In addition, method A did not consider
  - Furthermore, both A and B cannot….
  - However, none of them…

文獻回顧常見轉折詞 (續)

- Method A assumes that …
  - As a result, +負面語句
  - Therefore, +負面語句
  - Hence, + 負面語句
- Without considering .., A cannot..
- Failing to consider..., A cannot..

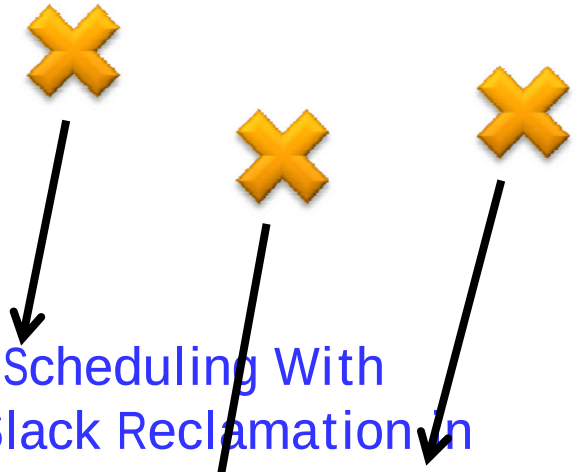
文獻回顧常見轉折詞 (續)

- Method A is possible if …
- Method A performs well if…
- Without this information, A may not
- Our work, on the contrary,…
- 語意強度
  - Cannot (強) / could not
  - May not (稍弱) / might not

參考文獻格式

- 基本原則為前後一致
  - 所有期刊論文格式需統一
  - 所有會議論文格式需統一
- 不一致的文獻格式將給與審稿委員極度不佳與馬虎的印象->退稿

參考文獻格式範例



- 錯誤:

[1] Dakai Zhu, R. Melhem, and B. R. Childers, "Scheduling With Dynamic Volt-age/speed Adjustment Using Slack Reclamation in Multiprocessor Real-Time Systems," IEEE Transactions on Parallel and Distributed Systems, vol. 14, no. 7, pp. 686–700, 2003.

[2] H. Aydin, R. Melhem, D. Mossé, and P. Mejía-Alvarez, "Power-aware scheduling for periodic real-time tasks," IEEE Trans. Comput., vol. 53, no. 5, pp. 584–600, May 2004.

[3] S. Hua, G. Qu, and S. S. Bhattacharyya, "Energy-efficient embedded software implementation on multiprocessor system-on-chip with multiple voltages," *ACM Trans. Embed. Comput. Syst.*, vol. 5, no. 2, pp. 321–341, May 2006.

參考文獻格式範例 (續)

- 正確:

[1] D. Zhu, R. Melhem, and B. R. Childers, “Scheduling with dynamic volt-age/speed adjustment using slack reclamation in multiprocessor real-time systems,” *IEEE Transactions on Parallel and Distributed Systems*, vol. 14, no. 7, pp. 686–700,Jul. 2003.

[2] H. Aydin, R. Melhem, D. Mossé, and P. Mejía-Alvarez, “Power-aware scheduling for periodic real-time tasks,” *IEEE Transactions on Computers*, vol. 53, no. 5, pp. 584–600, May 2004.

[3] S. Hua, G. Qu, and S. S. Bhattacharyya, “Energy-efficient embedded software implementation on multiprocessor system-on-chip with multiple voltages,” *ACM Transactions in Embedded Computing Systems*, vol. 5, no. 2, pp. 321–341, May 2006.