Paper Outlines

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Novelty+Technique+Art of presentation

- Start documenting only if the work has:
  - Novelty
  - Theoretical impact
  - Practical impact
- The presentation should have:
  - Technical soundness
  - Appropriate depth
  - Elegance

Title

- Reflect the content
- Grab readers attention
- Important keywords towards the beginning
- Avoid unnecessary words
- Concise
- Example:

Semi-partitioned Scheduling Hard Real-time Periodic DAGs in Multicores

Names and affiliations

- Order them by…
- Use organization emails
- Example:

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Keywords

- Reflect the content
- To help readers find your work (e.g. ACM Taxonomy)
- Search engines and indexing services use keywords
- Example
  - Real-time parallel tasks
  - hard deadlines
  - semi-partitioning
  - multicore processors
  - offline scheduling

Abstract

Abstract of the entire article

- General **beginner** sentence
- **Motivation**: this research …
- **Purpose**
- **Importance**
- **Background** (what is known and what is unknown)
- **Method** (describe what was done and how)
- **Results** (The primary take-home message, other findings, viewpoint)
- **Conclusion**
- Include no reference
- Include no Acronyms except well-known ones

Abstract example

Recent trends in real-time systems are towards multicores and parallel processes in the form of directed acyclic graphs. The scheduling aspect of such systems has been worked on and many methods are developed. Nevertheless, the need for more efficient approaches which can use fewer number of cores has not vanished. Semi-partitioned scheduling of hard real-time parallel tasks in multicores is studied in this paper. Since there is no benefit in completing a task much before its deadline, after scheduling a parallel task, if it is beneficial for other tasks, the execution of this task is further moved towards its deadline, i.e., stretching, to make room for tasks with closer deadlines. A new concept, *prior*+, load of tasks is used to rank all tasks of each directed acyclic graph and order them for scheduling. The scheduler is offline and the schedule map is used during run time. One benefit of this is the reduction of the scheduling overhead during run time which helps to safely accept loads. The comparative evaluations show the algorithm's performance is superior to the state of the art ones. It also confirmed that the new concept of prior+ load of a task is very effective in scheduling real-time directed acyclic graphs and suggests that it can as well be useful in scheduling workflows.

Beginner, Motivator +Importance Purpose, Method, Results, Conclusion

Introduction

- Start with the **broader aspect** and narrow down to specifics and specific problem
- **Importance, newness,** its **necessity**
- Defining key **terms** and concepts
- Summary of **previous work**
- **Limitations**
- **Assumptions**
- The **need** for this work and its difference with previous
- **Significance** of the research
- **Aims** of this research
- **Hypothesis**
- **Results**
- The **structure** of the paper
- Hook the reader, present tense

Related work

- Work which inspired you
- Work which is central to the topic
- Work which addressed the same problem with different or similar solutions
- Work which solve related problems
- Be focused
- Organize by ideas rather than dates
- Limitations of previous works
- Uncovered issues
- What you want to cover and why

System model and problem statement

- Describe the environment on which the problem will be stated
- Describe the limitations and assumptions of the environment
- Use known modelling techniques
- Clearly describe the problem you want to solve
- Have in mind the audience and describe in proper level
- Highlight the significance of the problem to be solved
- Be exact into stating what the question of the problem is

Proposed method

- Begin this section by providing an overview of your solution
- Give a good explanation of its rationale, concepts, and mechanisms
- Explain what is especially different about your method
- Give sufficient detail that the reader can reproduce what you did
- When presenting an algorithm, first state what the output is and preferably the key idea, before discussing steps
- Provide examples and figures to describe new concepts and ideas
- Examples better be multipurpose
- Provide good captions for figures, tables, plots, algorithms, …
- Criticize your own idea and contribution

Evaluation

- Evaluation criteria
- Quantitative/Qualitative
- Comparative evaluation/Outcome eve../Impact evaluation/…
- Similar researches
  - Same environment implementation
  - All aspects involved
  - Be honest
  - Deficiencies of present research
- Figures/tables/ graphs/ charts/ Bars
- Discussions
- Important points

Results

- Show you have developed a new solution to a problem
- Show that your achievement is significant
- Provide figures, tables, diagrams, … as needed but do not surfeit
- Diagrams with performance evaluation, should not be overly repetitive
- In all diagrams and tables all values must be clearly visible
- Express limitations of you study; be honest

Conclusion

- Explain the main findings of the paper
- Explain benefits and importance
- Explain shortcomings
- Provide more detail than abstract
- Explain the implications of your work on the field
- Suggest future areas for research
- Few words readers should long remember

Acknowledgements

- Recognize people who have help
  - giving comments
  - technical assistance
- Recognize organizations that have supported the research

References

- Show you have researched the topics
- Show to readers your approach is new
- Follow an standard formatting method
- Make it complete and error-free
- Use automatic formatting tools (Endnote, Mendeley, …)
- Styles: ACM/IEEE/Harvard/Nature/Chicago/American psychology/….

Biography

- Photograph
- Educational and work background
- Research interests
- Publication services