

Real-Time Embedded Systems

DT8025, Fall 2016
<http://goo.gl/AZfc91>

Lecture 7

Mohammad Mousavi
m.r.mousavi@hh.se



Center for Research on Embedded Systems
School of Information Technology

Acknowledgements

Used resources:

- ▶ Luca Aceto's slides on research methodology
- ▶ Chris Johnson, Basic Research Skills in Computing Science, and What is Research in Computing Science?

Topics

1. Synchronization protocols and their programming language support
2. Concurrent models of computation and concurrency theory
3. Scheduling and schedulability analysis
4. Testing and verification of concurrent (embedded) software
5. Test-driven development
6. Domain-specific models and languages for embedded and mobile platforms

Type and Length

1. Preferably **survey papers** (also very much cited old papers also fine);
2. Approx length **20 pages**;
3. related shorter papers may be combined, longer papers may be divided between groups.

How to Find Papers

- ▶ Course page,
- ▶ Search engines:
 - ▶ Google Scholar,
 - ▶ ACM DL, and
 - ▶ IEEEXplore,
 - ▶ Scopus, and
 - ▶ Springer Link.

Check the number of citations as a (rough) measure of significance (above 100: probably influential result / good survey).

Deadlines

Form groups of 4 by merging 2 groups

Email Masoumeh (m.taromirad@hh.se) the group members and the subject by **October 10**, 12:00.

Hand in your reports as a single pdf by **October 25**, 12:00.

Report Structure

1. Title, authors and contact information
2. Abstract: 2-3 lines summary of the main results
3. Introduction: background, methodology, results, report structure
4. 2-3 main sections: methodology, analyses, results
5. Conclusions: summary of the results (possibly also: future work)
6. References: reference the original paper + anything else YOU READ to understand it

Typesetting

1. Typeset in **LaTeX**
2. Use the **template** available from the course page
3. **NEVER copy-paste** from the original paper, re-phrase in your own words

Aftermath

1. Read your report **several times**,
2. Have it read by **at least one** friend,
3. Submit an email with a **single pdf** attachment to my email address.

Reports with:

1. too many typos,
2. poor logical structure, or
3. verbatim copy-paste,

will be **sent back** for revision (each revision: **-0.1** from the final mark).

Presentation Structure

1. First design a logical flow: preferably use the onion model,
2. Stick to the main points: avoid too many details,
3. Total length: 10 min presentation + 5 min questions.

The Message

A talk is centered around a **message**:

- ▶ **identify** it
- ▶ find a punch line to **communicate** it
a presentation is **not a paper**
- ▶ repeat the message in a couple of different **forms**
emphasize what they should remember from your talk

The Audience

- ▶ Do not **assume** too much
- ▶ Do not take too much of their **time** (never more than your time-slot)
- ▶ **Relate** to your audience
Tip: Everyone in the audience has come to listen to your lecture with the secret hope of hearing **their work** mentioned.
- ▶ Give them something to **take home**
All the rest will be forgotten

Preparation: Structure

- ▶ Find a logical **structure** to present your message:
the onion-**layered** model seems to work best
- ▶ Fit your **message** in the structure
Omit unnecessary details, refer to texts
Examples and stories help

Preparation: Form

- ▶ The media should fit the message
Powerpoint is **not** the solution to everything
- ▶ Varying the form helps (esp. for longer lectures)
- ▶ Let your audience think and work with you

Preparation: Content

- ▶ Prepare the content well in advance
- ▶ Design the form, even for using the blackboard

Slides

1. Use: LaTeX (Beamer Package, pdf), Power Point, Google Presentation, or Keynote,
2. Count 3-5 minutes per slide,
3. Face the audience.

Preparation: Slides

- ▶ Slides are to **help** your **audience**, not to help you
- ▶ Never clutter up your slides: **5 × 5 rule**
- ▶ Make the **structure** and the **message** clear upfront
- ▶ Give them a **break**, let them **think** with you
- ▶ **Challenge** them with easy puzzle, but **wrap up** properly

Preparation: Before the Talk

- ▶ Rehearse, rehearse, rehearse (I can also be there for rehearsal: email me at least a week before),
- ▶ Write down notes for the **first 2 slides** and memorize them
- ▶ Breathe deeply, immerse yourself in the content (above all: message)

Preparation: Your Show

- ▶ **Face** your audience
- ▶ Stand **firmly**, slightly bend your knees
- ▶ Control your **hands**, keep them open before you
- ▶ **Breath deeply** before the start, speak slowly using your deep breath

Preparation: Your Show

- ▶ Use your **hands** appropriately, avoid unnecessary moves
- ▶ Walk to the scene, **face** the audience, **welcome** them and smile
- ▶ **Introduce** yourself, your colleagues and your subject
- ▶ Speak **loudly** and slowly,
- ▶ Keep **eye-contact**

Preparation: Your Show

- ▶ Be enthusiastic
- ▶ Change your tone

Preparation: The End

- ▶ Summarize the message and mention future work
- ▶ **Announce** the end
- ▶ Thank your audience

Preparation: The End

- ▶ Receive questions
- ▶ Re-phrase and confirm them
- ▶ Answer them if you know, otherwise leave it to later discussion
- ▶ Never apologize, if you have not done something wrong!

Presentations

On **October 18** and **October 20** from 13:15 to 15:15

Presence mandatory for all groups: presence list will be signed.