SEM-NAR: MOBILE DATA ANALYTICS
Seminar overview

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OUTLINE

1. Objectives of the seminar
2. Course content
3. Appendix
1. Objectives of the seminar
   ▶ Requirements
   ▶ Content of the report

2. Course content

3. Appendix
OBJECTIVES OF THE SEMINAR

Generic

- To read, review, write and present a technical report

Specific to Mobile data analytics

- Confidence to work in network systems for the analysis of mobile data
REQUIREMENTS OF THE SEMINAR

• Write a short report (7-8 pages max)
  ▶ page count does not include references, title page, table of contents and blank pages

• Make an oral presentation (20 minutes)

• Actively participate in the seminar
  ▶ Presence is mandatory unless specified otherwise. Use the time allocated for the seminar to ask questions and write the outline of your presentation and report
CONTENT OF THE REPORT

Aims:

• Highlight the importance of the topic
• Find the main approaches in the literature
• Disseminate an idea/argument
• Discuss possible future directions

Requirements

• Scientific style, good written English
• Written in \LaTeX
• Based on only journal, conference and workshop articles
• Understandable presentation of the subject in your own words
Outline

1. Objectives of the seminar

2. Course content
   - Introduction to mobile data analytics
   - Searching for references
   - How to read a paper
   - Next week assignments
   - Logistics

3. Appendix
Introduction to Mobile Data Analytics

- What is mobile data analytics?
- What benefits come from mobile data analytics?
- What are the main challenges of mobile data analytics?
INTRODUCTION TO MOBILE DATA ANALYTICS

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SEARCHING FOR REFERENCES
Computing bibliographies

- Bibliography is a collection of the most important bibliographical facts of articles
- One of the oldest and best-known computing bibliographies is *ACM Guide to Computing Literature* (portal.acm.org)
- Another example of computing bibliographies is Michael Ley’s *Digital Bibliography & Library Project* (DBLP)
SEARCHING FOR REFERENCES
Digital libraries (1/2)

- Collections of digital versions of articles published by a certain publisher
- Most important digital libraries in computer science are:
  - The ACM Digital Library
    (http://portal.acm.org/dl.cfm)
  - IEEE Xplore (http://ieee.org/ieeexplore)
  - SpringerLink (www.springerlink.com)
  - Elsevier (http://www.sciencedirect.com/)
SEARCHING FOR REFERENCES
Digital libraries (2/2)

- University of Helsinki has a license for these digital libraries
- List of available digital libraries and bibliographies can be found via the Nelli portal (www.nelliportaali.fi)
- Use of the libraries and bibliographies is possible in the network of the University only
- Use HY-VPN for these restricted services (ask help from the IT Services, helpdesk@helsinki.fi)
- If VPN not possible, Authenticating Proxy available (ask help from the IT Services)
SEARCHING FOR REFERENCES

Search engines

- There are several search engines specialised in scientific information retrieval
- Examples of such engines are
  - Google Scholar (scholar.google.com)
  - SiteSeer.IST Scientific Literature Digital Library (citeseer.ist.psu.edu)
  - Elsevier’s Scirus for scientific information only (www.scirus.com)
- Other relevant databases and search engines can be found in Wikipedia’s article Academic databases and search engines
SEARCHING FOR REFERENCES
Other sources of material

- Citation indexes
- **Following reference chains**
- Web pages of:
  - individual researchers
  - research groups
  - departments
  - universities
- Scientific libraries
  - Books, journals, technical reports, theses, ...
SEARCHING FOR REFERENCES
Related to mobile data analytics

Keywords:

- Networking-related
  - Edge analytics, edge computing, edge cloud, cyber-foraging, fog computing, mobile cloud computing
- Analytics-related
  - Crowdsourcing, crowdsensing, mobile sensing, pattern recognition
15 minutes to read and discuss “How to read a paper”
Next week assignments

• You would need to compile and manipulate the files which will be the base of your report
• You would need to search for relevant references and add start adding them to your document’s reference file (.bib)
• You will need to get familiar with \LaTeX{} commands (e.g., section, subsection, paragraph) and \LaTeX{} environment (e.g., figures, tables, lists, etc.). Check the source code of the reference report on how to write \LaTeX{} documents.
Next week assignments

- Perform 1st pass on the papers you have found
- Select interesting papers in references
- Read abstract, introduction, and conclusion of interesting papers
- Discuss shortlisted topics
Logistics

- Office hours:
  - on demand for period 1 & preferably before/after class
  - TBD for period 2
- Please send an email
  - To: julien.mineraud@cs.helsinki.fi
  - Subject: Seminar on mobile data analytics
- Wiki page: https://wiki.helsinki.fi/display/MobileDataAnalytics/Home+of+Mobile+Data+Analytics
- Plagiarism detection tool will be used on the reports
1 Objectives of the seminar

2 Course content

3 Appendix
   ▶ Introduction to LaTeX
   ▶ Compiling a LaTeX document
   ▶ Editing a LaTeX documents
   ▶ Your first LaTeX document
   ▶ LaTeX useful information
What is \LaTeX? 

- \LaTeX{} is a language and a compiler to generate documents
- \LaTeX{} is WYSIWYM, i.e., *What You See Is What You Mean*
  - In opposition to WYSIWYG, i.e., *What You See Is What You Get* (e.g., LibreOffice, MS Word)
- It requires an initial learning phase longer than for other editors
  - But it reduces editing time in the future
\LaTeX documents need to be compiled to produce PostScript files (*.ps) or PDF (*.pdf)

Compiling tools for Linux

- latex
- latexmk (e.g., simplify the use of latex compiler)
- rubber
- make (with according Makefile)
\LaTeX\ editors are available to facilitate the edition of \LaTeX\ files

**Editors**

- Kile (Linux)
- TexMaker (cross-platform)
- Emacs + AucTex plugin (cross-platform)
- Vim + VIM-LaTeX
- many others
Simple example

\documentclass{minimal}
\begin{document}

We can write some text and add some maths:

$$ n! = \prod_{1 \leq i \leq n} i = 1 \times 2 \times 3 \times \ldots \times (n-1) \times n $$

\end{document}

Result

We can write some text and add some maths:

$$ n! = \prod_{1 \leq i \leq n} i = 1 \times 2 \times 3 \times \ldots \times (n-1) \times n $$
Documentation

- The not so short Introduction to LATEX2e
- LaTeX from Wikibooks

2. [https://en.wikibooks.org/wiki/LaTeX](https://en.wikibooks.org/wiki/LaTeX)