

Topics of Discussed Papers

- Power model and energy consumption of smartphones
- Traffic redundancy elimination
- Mobile web browsing
- Mobile networking and multipath transport
- Mobile video streaming
- Wearable systems
- VLC and camera
- Cloud offloading and edge computing
- Acoustic sensing
- Localization systems
- Mobile VR/AR
- Autonomous driving
- Mobile deep learning

Big Achievements

- 35 research papers discussed
 - Selected from top conferences (MobiSys, MobiCom, ...)
- 22 paper summaries written
- 18 long presentations + 18 short presentations
- Project: hands-on experience on mobile systems / teamwork

Key Question Answered

- What is mobile computing?
 - Compute while moving
 - “human–computer interaction by which a computer is expected to be transported during normal usage.”
- What is the state-of-the-art of mobile computing research?
- Key Take-away messages
 - Mobile computing research is:
 - Broad and exciting
 - Driven by great ideas
 - Intra-disciplinary
 - Accessible

How to Write the Final Project Report

4/29/2018

Final Report - Format

- 2 Columns, 10pt font on 12pt leading in standard ACM paper format
- Letter-sized paper
- LaTeX and Word templates provided on Canvas
- LaTeX preferred over Word

ACM Word Template Baseline

10pt/12pt Font/Leading, 7.0"x9.25" Text, 0.33" Gutter

1st Author	2nd Author	3rd Author
1st author's affiliation	2nd author's affiliation	3rd author's affiliation
1st line of address	1st line of address	1st line of address
2nd line of address	2nd line of address	2nd line of address
Telephone number, incl. country code	Telephone number, incl. country code	Telephone number, incl. country code
1st author's email address	2nd E-mail	3rd E-mail

ABSTRACT

In this paper, we describe the formatting guidelines for ACM SIG Proceedings.

1. INTRODUCTION

The proceedings are the records of the conference. ACM hopes to give these conference by-products a single, high-quality appearance. To do this, we ask that authors follow some simple guidelines. In essence, we ask you to make your paper look exactly like this document. The easiest way to do this is simply to download a template from [2], and replace the content with your own material.

2. PAGE SIZE

All material on each page should fit within a rectangle of 18 x 23.5 cm (7" x 9.25"), centered on the page, beginning 1.9 cm (0.75") from the top of the page and ending with 2.54 cm (1") from the bottom. The right and left margins should be 1.9 cm (.75"). The text should be in two 8.45 cm (3.33") columns with a .83 cm (.33") gutter.

3. TYPESET TEXT

3.1 Normal or Body Text

Please use a 10-point Times Roman font, or other Roman font with serifs, as close as possible in appearance to Times Roman in which these guidelines have been set. The goal is to have a 10-point text on 12-point leading, as you see here. Please use sans-serif or non-proportional fonts only for special purposes, such as distinguishing source code text. If Times Roman is not available, try the font named Computer Modern Roman. On a Macintosh, use the font named Times. Right margins should be justified, not

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Conference '04, Month 1-2, 2004, City, State, Country.
Copyright 2004 ACM 1-58113-000-0/00/0004...\$5.00.

ragged.

3.2 Title and Authors

The title (Helvetica 18-point bold), authors' names (Helvetica 12-point) and affiliations (Helvetica 10-point) run across the full width of the page – one column wide. We also recommend phone number (Helvetica 10-point) and e-mail address (Helvetica 12-point). See the top of this page for three addresses. If only one address is needed, center all address text. For two addresses, use two centered tabs, and so on. For more than three authors, you may have to improvise.¹

3.3 First Page Copyright Notice

Please leave 3.81 cm (1.5") of blank text box at the bottom of the left column of the first page for the copyright notice.

3.4 Subsequent Pages

For pages other than the first page, start at the top of the



Figure 1. Insert caption to place caption below figure.

page, and continue in double-column format. The two columns on the last page should be as close to equal length as possible.

¹ If necessary, you may place some address information in a footnote, or in a named section at the end of your paper.

Common Examples for Format Violation

- Using a different template (e.g., one-column article)
 - Required: standard ACM format
- Incorrect font size
 - Required: 10pt font on 12pt leading
- Change the margins
 - Required: 9.25" by 3.33" for each column, with 0.33" space between columns
- You lose points if formats are violated

Page Limit

- Minimum # pages (excluding Reference and Individual Contribution sections) is **SIX**
- No upper limit for # pages
- You lose points if the main body of the paper is less than 6 pages or attempting to “inflate” the # pages

Paper Content

- Structure of a paper
 - Abstract
 - Introduction
 - Related work
 - Problem statement and Solution overview
 - Design / Methodology
 - Implementation
 - Evaluation / Findings
 - Discussion
 - Conclusion
 - Reference

Introduction

- Give the big picture and motivate the problem
 - What is the problem?
 - Why is this problem important? Why do people care?
- Briefly review the state-of-the-art
 - [System] At high-level, what are the existing approaches of addressing this problem? What are their limitations?
 - [Measurement] Any existing measurement studies of the same/similar problem? What are their high-level findings/limitations?
- Optionally, present some use cases / motivating examples
- Briefly describe the key idea your approach
 - What are the associated challenges?
- Briefly summarized the key results / findings
 - Mentioning some numbers will be helpful

Related Work

- Doesn't need to be long (1/3 to 1/2 page)
- Discuss some (e.g., 5~6) popular existing papers / approaches
- Comment on strengths / weaknesses
- Compare to your approach / findings

Problem Statement and Solution Overview

- Problem statement: need if the problem itself is complex
- Solution overview: need if the solution itself is complex
 - Using a architectural diagram / flowchart might be helpful
- May or may not need a separate section

Design / Methodology

- **Very important Section**
- [System] Describe each component of your system
 - How does the system work? Provide technical details.
 - Justify your design: why do you choose this design? Why doesn't a simpler design work?
 - Any key tradeoffs to balance?
- [Measurement] Describe your measurement methodologies
 - Need similar justifications for non-trivial methodologies

Implementation

- Describe any implementation details
- Usually at most 1 page.
- For measurement paper, also need it if your measurement testbed is difficult to build.

Evaluation / Findings

- **Very important Section**
- [System] Evaluate different aspects of your systems
 - Performance, accuracy, resource consumption, energy drain, usability, thermal, parameters' tradeoff, ...
- [Measurement] Describe your measurement findings
 - Need take-away message for each conducted measurement. Why do we care this measurement finding?
 - This usually takes most pages of a measurement paper

Abstract, Discussion, and Conclusion

Abstract

- Consolidate intro into one paragraph

Discussion

- Optional; briefly comment on any other issues not mentioned before, be short.

Conclusion

- A short paragraph
- Can use 1-2 sentences to discuss any future work

Reference

- Does not count into the required 6 pages

Paper Content

- Structure of a paper

- Abstract
- **Introduction**
- Related work
- Problem statement and Solution overview (optional)
- **Design / Methodology**
- Implementation
- **Evaluation / Findings**
- Discussion (optional)
- Conclusion
- Reference



**What a solid paper always
have (plus great ideas)**

**It's absolutely not necessary that
each part takes one section.**

**Tailor this structure to your project
Use existing papers as examples**

Individual Contribution

- Team project only
- Include an “Individual Contribution” section to describe the role of each team member
 - Who did what
 - Does not count into the required 6 pages

What to submit

- You need to submit everything by **11:59PM CDT on Monday 5/13**
 - Project report in PDF
 - Project report source (doc or latex source with images)
 - All raw data and intermediate results
 - Source code and binary code (with instructions of how to run your code)
- Instructions of uploading them posted on Canvas
- Project presentation slides due at **4pm on Monday 5/6.**

Recap

- Respect to the format requirements
- Carefully think about how to structure the report
 - [System] Design and evaluation are important
 - [Measurement] Findings and take-aways are important
- Submit everything before the 5/13 deadline