



Report Sections

(Abstract, Introduction, Conclusion)

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Previous Lecture

Hard Skills!!!

Give 5 different examples.



Recap: Good Writing

- **Completeness:** all information needed is provided.
- **Correctness:** relevant and precise information.
- **Credibility:** support your argument.
- **Clarity:** reader decides what is vague, confusing, ambiguous.
- **Conciseness:** get to the point.
- **Consideration:** anticipate the reader's reaction.



Types of Reports

- Technical
- Business
- Research
- Academic overview

Formats vary slightly.



Report Sections

Purpose	Section of Report
What did I do in a nutshell?	Abstract
What is the problem?	Introduction
How did I solve the problem?	Materials and Methods
What did I find out?	Results
What does it mean?	Discussion
What was done?	Conclusion
Who helped me out?	Acknowledgments (optional)
Whose work did I refer to?	References
Extra Information	Appendices (optional)



Abstract



What goes in?

In short, everything goes in
the Abstract.

Typical Content

- Present the topic and the need for the work.
- State the specific objectives of the project.
- Re-cap the approach taken, major decisions and results.
- Summarize the major conclusions and recommendations of your work.

Example:

This project describes a new inertial navigation system that will increase the mapping accuracy of oil wells by a factor of ten. (motivation) The new system uses three-axis navigation that protects sensors from high-spin rates. The system also processes its information by Kalman filtering (a statistical sampling technique) in an on-site computer. Test results show the three-dimensional location accuracy is within 0.1 meters for every 100 meters of well depth, an accuracy ten times greater than conventional systems.

Why Do It?

- Attract readers to read the entire article.
- Help readers to remember the key findings on a topic.
- Provide clear overview of the main text.
- Index articles for quick recovery and cross-referencing.

Rules

- All material presented in the Abstract must appear in the report body.
- Do not present any figures or tables.
- Do not cite references.

An Effective Abstract Should:


- Meet the count limit.
- Use an introduction/body/conclusion structure.
- Follow the chronology of the report.
- Adds no new information but simply summarizes the report.

Avoid:

- Blurred results. (“some”, “small”, “very”, “significant”).
- Future tense.
- Leaving out important data findings.

Criticize

This paper presents and assesses a framework for an engineering capstone design program. We explain how student preparation, project selection, and instructor mentorship are the three key elements that must be addressed before the capstone experience is ready for the students. Next, we describe a way to administer and execute the capstone design experience including design workshops and lead engineers. We describe the importance in assessing the capstone design experience and report recent assessment results of our framework. We comment specifically on what students thought were the most important aspects of their experience in engineering capstone design and provide quantitative insight into what parts of the framework are most important.





Introduction



Typical Content

1. Introduce the field/context

- ◆ What is the field/context in which you are writing?
- ◆ Why is the topic important or interesting?
- ◆ You can introduce the field by:
 - Claiming centrality.
 - moving from general to specific.

Typical Content Cont.

2. Summarize previous research/what is currently understood

- ◆ Who has written on this topic?
- ◆ What have they found or argued?
- ◆ What is the current understanding of the topic?

Typical Content Cont.

3. Define the problem

- ◆ Indicating a gap
- ◆ Raising a question
- ◆ Continuing a previously developed line of inquiry
- ◆ Counter-claiming (disagreeing with an existing/accepted approach)

Typical Content Cont.

4. Introduce the present work

- ◆ outlining purpose/setting objectives.
- ◆ announcing your methodology
- ◆ announcing principal findings (results)
- ◆ indicating the benefits of the current work.

5. It provides a 'road map' for the rest of the report.

Common Problems

- Too much detail, and hence too long.
- Repetition of words, phrases or ideas.
- Unclear problem definition.
- Poor organization.



Conclusion



Typical Content

- Re-introduce the project and the need for the work – though more briefly than in the intro.
- Re-iterate the purpose and specific objectives of your project.
- Re-cap the approach.
- Summarize the major findings and recommendations of your work.
- Make recommendations for future research.

Example

Two designs for the bridge to be constructed on the Calder Freeway across Salty Creek have been presented and discussed in this report. Design 1 is a super-T beam bridge and Design 2 is a simple composite I girder bridge. Both designs incorporate round piers on piled foundations, which are used because the soil conditions are unknown and possibly unstable. Design 2 has some advantages because it is made of steel and thus has longer spans and fewer piers.

However, Design 1 is clearly the better design. This design requires minimal formwork in the construction of its concrete deck, it is relatively easy to erect and it maintains stability during transportation and construction. In addition, it is cheaper to build and more durable.

Common Problems


- Too long.
- Too much detail.
- Failure to comment on larger, more significant issues.

Avoid:

- Beginning with an unnecessary, overused phrase such as "in conclusion," "in summary," or "in closing".
- Stating the theory and problem statement for the very first time in the conclusion.
- Introducing a new idea or subtopic in your conclusion.
- Making sentimental, emotional appeals.


Criticize

My essay has looked, therefore, at the problems caused by racial stereotyping, focusing on the lack of ethnic minorities working in the mass media. It has been seen that this bias causes a parallel bias in the interpretation of events. Indeed, the problem is even more acute in the United States. According to a survey conducted by the Pocock Institute (1998), only 7% of newspaper staff are black or hispanic, which is totally unrepresentative of the population as a whole.



Criticize

I have done my best to show in this essay that the mass media, and particularly television, strengthens the various stereotypes in society, although at times in very subtle, implicit ways. Several examples have been analyzed, although one or two of these were somewhat out of date. The essay also suggested ways of overcoming this problem, although it is not clear if it is the media which creates these stereotypes, or if it is merely reflecting the way society already sees itself. The media is of course a part of society as a whole. The question of positive discrimination was discussed and it was decided that in the long run this has a negative effect. Things will change, but only slowly.

A solid blue horizontal bar spanning the width of the slide.

Abstract vs. Conclusion

- The conclusion is an integral part of the project report (actually, the ending portion of the report) whereas the abstract is a description of the project that's taken out of the report so that readers can quickly peruse it and see if the full report will pertain to them in any way.



Exercise



Set 1

Label the Statement

- This paper describes the ICPF system, as well as a tool (AIE) we developed to help users annotate their sessions, and a study we performed to collect these annotated sessions. (Abstract)
- In the future, we may learn to ask questions based on hybrid information of varying degree of granularity (e.g., genre, subgenre, director, actor, user age). (Conclusion)
- For both materials, microwave heating was found to enhance the densification processes which occur during constant rate heating. (Abstract)

Set 2

Label the Statement

- However, Car B is recommended as it was found to be more economical in terms of both manufacturing and running costs. (Conclusion)
- The unknown mixture analyzed was found to contain aspartate and histidine. It was observed that hydrophobic amino acids were most mobile. (Abstract)
- The core of the method is an efficient decision-tree-based recommender algorithm, suitable for an adaptive bootstrap process. (Introduction)

Set 3

Label the Statement

- The organization of rest of the paper is as follows: our methodology is presented in Section 2, in Section 3 the Experimental Setup is described, Section 4 shows the Experimental Results, Section 5 has the concluding remarks. There is a list of references included at the end of this document. ([Introduction](#))
- This report introduced two environmentally-friendly designs for a car. ([Conclusion](#))
- Our process is composed of four steps: patternizing queries, predicting candidate operations, computing candidate recommendations and ranking these recommendations. ([Abstract](#))

Set 4

Label the Statement

- In this paper we review different approaches in recommender system based on users rating. ([Abstract](#))
- This lack of previous studies on the applicability of RS for Health Education was the main rationale of this paper, where we provided an overview of the two different fields: RS and CTHES, and discussed the promises of RS for health education. ([Conclusion](#))
- Data mining provides a number of algorithms to obtain profiles of users based on historical data, which are used to predict the preferences of new users. ([Introduction](#))

Assignment

Imagine 😊 and write an abstract

- A web browser that collects user preferences and recommends suitable pages.
- A mobile application that captures an image of an object and searches the internet for information on it.
- A web site for event planning that follows the details of all aspects of the event.
- An e-learning site where teachers can upload materials and students can upload assignments and take exams.

Individual, printed, hard-copy in next lecture.



Thank you

