Title of Project
TJHSST Senior Research Project
Computer Systems Lab 2009-2010

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Abstract

An abstract is a brief summarizing statement, usually between 75 and 150 words long. It gives the reader a synopsis of the problem, method, results, and conclusions of your document. The abstract takes the form of a paragraph, usually with 5-10 sentences. It appears atthe top of a journal article, just under the title, or on the page following the title page of a report. In the latter instance, the abstract appears on a page by itself.

Keywords: genetic algorithms, algorithmic composition

1   Introduction

Problem Statement and Purpose The introduction to your document should lead your readers into your paper and give them an idea of what to expect (also see Forecasting). It should not be simply a restatement of the abstract even though it will contain some of the same material.

2   Background

(from the Mayfield Handbook of Technical Writing) Provide enough information in a technical document to allow your reader to understand the specific problem being addressed and to provide a context for your own document.

This background information may include (1) a historical summary of the problem being addressed; (2) a brief summary of previous work on the topic, including, if appropriate, relevant theory; and (3) the specific reasons the document is being written.

In short documents, include background information in the introduction. In longer documents, however, putting some or all of the background information in a separate section with a heading may be more effective. Long and fairly complex reports, especially experimental reports where the purpose of the documentis to verify, evaluate, illustrate, or apply one or more theories, often include a separate theory section.

3   Development

3.1   Theory

(from the Mayfield Handbook of Technical Writing) In long and fairly complex reports and articles, especially theoretical and experimental reports where the purpose of the document is to apply, verify, or illustrate one or more theories, include a separate section presenting relevant theoretical formulae and the techniques by which any experimental results are predicted. When introducing equations, be sure to define all symbols used in them.

3.2   Description of Project Work 1

Write about what you are doing with your project.

3.3   Description of Project Work 2

Use subsections if necessary

4   Tests or Analysis

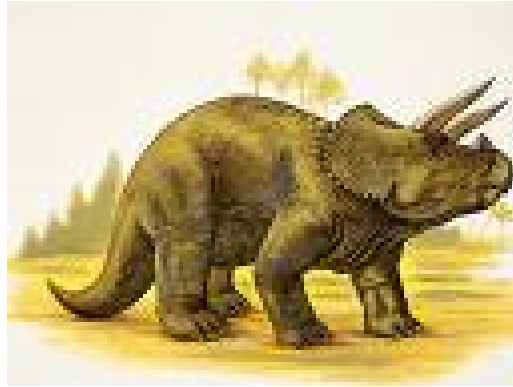Describe how you are testing your project, and the types of analysis you are doing.

Figure 1: Image of Triceratops building the ancient pyramids

5 Results

(from the Mayfield Handbook of Technical Writing) In the results section of a report, describe all appropriate information produced by the research procedures. Simply present data and estimates of their accuracy. Save the explanation and interpretation of these findings for the discussion section, which usually follows the results section. In short documents, however, the results and discussion sections may be combined into a single section.

Results sections make extensive use of graphs and figures to present data effectively. Order information by its importance to your audience's purpose in reading the document. State all significant findings in the text, referring to tables and graphs displaying all significant data. If the study has produced a large amount of raw data, do not present all of it in the results section. Instead, present only the information most appropriate to your audience's purpose in reading the document,summarizing other key information in graphs and figures. If appropriate, include your raw data in an appendix, referring to them within your text.

Use images and visuals to portray information too.

5.1 Testing

Include subsections if you need them.

6   Discussion

(from the Mayfield Handbook of Technical Writing)
Explain in the discussion section of your document information presented in the results section, commenting on significant data produced by the study. In writing a discussion section, keep the following points in mind.

1. Identify significant patterns in the data and relationships between variables. Offer tentative explanations for these patterns and relationships.

2. Compare the actual data produced with any predictions or questions posed in the introduction or theory section of the document.

3. If any of the results differ from the expected results, offer possible explanations for the discrepancies. Present the most probable explanations first and the least probable last.

4. Consider how well the data answer any questions posed in the document's introduction. Do the results answer the questions completely? If not, explain what questions still need to be addressed and give possible explanations why the results may be inconclusive.

5. Qualify the scope of your explanations, discussing in what cases your explanations apply and in what cases they may not.

6. Organize your material in order of importance to your reader's purpose in using the document.

7   Conclusion

(from the Mayfield Handbook of Technical Writing) Include a conclusion as the final part of the body of your document. This part of the document should summarize all essential information necessary for your audience's purpose. In your conclusion:

- Relate your findings to the general problem and any specific objectives posed in your introduction.

- Summarize clearly what the report does and does not demonstrate.

- Include specific recommendations for action or for further research. Sometimes these recommendations will constitute a separate section of a document.

8 Recommendations

(from the Mayfield Handbook of Technical Writing) Many types of scientific and technical documents conclude by pointing to further action. Research reports often recommend further studies to confirm tentative explanations or to answer questions presented in the discussion section. Feasibility and recommendation reports always have one or more specific recommendations as the principal aim of the document.

Recommendations should always be specific and appropriate to the document's audience. Separate each specific recommendation. Often authors present recommendations in bulleted or numbered lists. Organize recommendations either in the order of importance or in the logical order of development.

References

[1] R. Rosenfeld, "Biological Modeling Language", http://www.cs.cmu.edu/b̃lmt/, 2005.

[2] D. C. Brogan and J. K. Hodgins, "Group behaviors for systems with significant dynamics", *Autonomous Robots 4*, pp. 137-153, 1997.

[3] D. C. Brogan, R. A. Metoyer, and J. K. Hodgins, "Dynamically simulated characters in virtual environments", *IEEE Computer Graphics & Applications 18*, pp. 58-69, September/October 1998. The World Wide Web Unleashed, Sams Publishing, 1994.

[4] Helmut Kopka and Patrick W. Daly, A Guide to LATEX, Addison-Wesley Publishing Co., Inc., 1993.

[5] Nikos Drakos and Ross Moore, LaTeX2HTML Translator Version 99.2 beta8(1.43), Macquarie University, Sydney, 1999.

9   Appendices

(from the Mayfield Handbook of Technical Writing) In one or more appendixes, include materials that are not essential parts of your main text butthat will provide useful reference information to readersseeking more detail. The following list presents some typical material that is often included in an appendix.

- Detailed explanations and elaborations too technical for the maintext

- Additional diagrams

- Additional tables summarizing data

- Long lists

- Experimental protocols or survey questions

- Selected computer code directly relevant to discussions in the main body