



## **Name of Your Project**

Choose a name that completely describes what your project is about

## **Date Report was Written**

This may be a draft date or final date, depending on the stage you're in. Identify the date as either "Draft" or "Final."

## **Your Name**

## **Names of Your Advisors**

## **Abstract**

The abstract is the page after the title page. It serves multiple purposes. First, it gives a quick, encapsulated look at what you have done and why you did it. It gives the reader a mind-set on what to expect in your report. Only those topics actually covered in the report should be mentioned in the abstract.

Second, the abstract lets the reader decide if your report gives information he or she is looking for. People searching for specific types of information often look no further than the abstract. Think of when you go to the library looking for a book. All you are shown in the card files or on-line search programs is information such as the title, author, publisher, and a brief description of what is in the book - the abstract. You use this information to decide whether the book will give you what you need.

An abstract should be able to stand alone. The abstract is often used to introduce a prospective reader to the document without actually showing the entire document. Again, think of the library search mentioned earlier: All you see is the small bit of information that you use to decide whether the book will meet your needs. You have to then go and find the book in the library. The abstract for your senior design project report must serve the same purpose. It does not substitute for an introduction section for your report.

A good abstract answers the following questions:

- What did I do?
- Why did I do it?
- What did I find out?
- Why does this information matter?

Abstracts can be as short as a paragraph or as long as a page. The purpose is to answer the questions listed above as thoroughly as possible in a quick and easy-to-read manner.

# Table of Contents

The Table of Contents (TOC) is your reader's quick-guide to finding information in your report. The TOC contains all headings used in the report and the page numbers for them. (This, of course, means that all pages in your report are numbered.) In addition to the obvious headings such as Introduction and Summary, all sub-headings are also included.

The following is the TOC for this template document:

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<b>The objective of your project .....</b>	<b>1</b>
<b>The need for your project.....</b>	<b>1</b>
<b>The scope of your project .....</b>	<b>1</b>
<b><i>Body .....</i></b>	<b><i>1</i></b>
<b>Your qualifications.....</b>	<b>2</b>
<b>The methods you used.....</b>	<b>2</b>
<b>The timetable you followed .....</b>	<b>2</b>
<b>Your results .....</b>	<b>2</b>
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# Introduction

## ***The subject and purpose of your project***

What you examined and why. Give some history of what led you to the topic. Talk about what work has been done by others in the past and how you built on that work.

## ***The objective of your project***

The goal of your project is to resolve an unanswered question. Give an exact definition and description of that question. Talk about the sequence of events that led to the question and how it can be recognized.

## ***The need for your project***

Based in the question you described, show that a strong need exists for the resolution provided by your project. Talk about the audience affected by the question and how your project improves things for them.

## ***The scope of your project***

What you cover in this report. Don't give detailed information here - that's what the body of the report is for. Just give a brief statement of what the reader can expect to be told.

# Body

The body is where you tell the reader all the good things you did in your project. It should include major headings and subheadings. Major headings show where a major topic begins, such as the Introduction. Subheadings point out and categorize chunks of information within that major topic. For example, let's title the body of your report "Details About My Project." That's the major heading. Within that major heading, you may have subheadings such as "My Qualifications," "Methods and Equipment Used," and "Results." Each subheading leads the reader to specific information about your project, making it easier to navigate through your report. As mentioned earlier, both major and subheadings are included in the table of contents.

The body of your report includes the following information:

## ***Your qualifications***

Tell why you are qualified to work on this project. Talk about any qualifications you may have that someone else may not have.

## ***The methods you used***

Discuss the methods you used to complete the project. Include information about the equipment you used, how you used it, and why you choose it. If you had a number of alternative methods for the project, tell a little about each one and why you choose the one you used. This is also the place to discuss problems encountered and how you overcame them. If you were not able to overcome a problem, tell why and how you were able to continue with the project. Include any changes of direction, unexpected turns of events, and surprises you encountered. Quite often, projects are begun with large scopes, but are honed down to a more manageable size as the project progresses. If your project followed this path, discuss it here. You can also discuss any other shortcomings or successes in your methods and why others may or may not want to use them.

## ***The timetable you followed***

Talk about the key dates you used as targets and whether you met them. If not, tell why.

## ***Your results***

State what results you expected when you planned and began the project. Tell if you met those expected results or ended up with something different. Discuss why you did or didn't get the expected results and what you would do differently if you could do the project again.

If there is more work to be done, that you were unable to complete, discuss that work here. This information is especially useful to students who may be looking for a project topic in the future.

## ***Engineering Constraints***

Describe how your project meets at least four of the following Engineering Constraints:

- Economic – How does your project help people do whatever they're doing for an acceptable amount of money?

- Manufacturability – How does your project make it easier to build your product?
- Social and Political – How does your project help people live better?
- Environmental – How does your project help improve the surroundings in which they live and work?
- Ethical – How does your project do things in a way that does not harm others?
- Sustainability – How does your project help whatever area to which it applies become stronger and last longer?
- Health and Safety – How does your project help make life healthier and safer?

Note: There may be other constraints that apply to your project that are not listed above. You may also want to list those, but you are required to list at least four of the constraints listed above.

## ***Engineering Standards***

List any engineering standards applicable to your project. These may be standards from any number of organizations, such as but not limited to:

- IEEE (Institute of Electrical and Electronics Engineers)
- SES (Standards Engineering Society)
- SAE (School of Audio Engineering)
- TIA (telecommunications Industry Association)
- ISO (International Standards Organization)

## ***Courses***

List the courses that helped you successfully complete your Senior Design Project.

## ***Conclusion***

This is where you reiterate your main points and tell your reader what you expect him or her to conclude from your work. Readers often interpret what they read in different ways. You've worked hard to prove your points. Don't leave it to chance that your reader will understand those points. Be explicit!

## Bibliography

No one expected you to know everything needed to complete your project when you began. You used many different sources to gather all the information. Cite those sources within your report and list them in the bibliography. As SUNY New Paltz engineering students you are required to use the IEEE method of citing as shown in the “IEEE Editorial Style Manual” found at the following website:

([http://www.ieee.org/portal/cms\\_docs\\_iportals/iportals/publications/authors/transjnl/stylemanual.pdf](http://www.ieee.org/portal/cms_docs_iportals/iportals/publications/authors/transjnl/stylemanual.pdf)).

Appendix A gives some examples the IEEE citation format.

## Appendix A: Examples of the IEEE Citation Format

You will gain most of the information used in your project in one of the following ways:

*Books* - information read in a hardcopy document such as a book.

*Periodicals* – information read in trade journals such as IEEE Transactions.

*Electronic* - information found on-line, such as through the Internet or e-mail.

*Word-of-mouth* - information gained in a conversation with someone else.

The following are examples of IEEE citation methods. See the website listed above for more detailed explanations and examples.

### **Books**

#### *Basic Format:*

- [1] Author, “Title of chapter in book,” in *Title of His Published Book*, xth ed. City of Publisher, Country, if not USA: Abbrev. Of Publisher, year, ch. *x*, sec. *x*, pp. xxx-xxx.

#### *Examples:*

##### *By One Author:*

- [1] L. Stein, “Random patterns,” in *Computers and You*, J. S. Brake, Ed. New York: Wiley, 1994, pp.55-70.

##### *By More than One Author:*

- [1] B. Klaus and P. Horn, *Robot Vision*. Cambridge, MA: MIT Press, 1986.

##### *Issued by an Organization:*

- [1] Westinghouse Electric Corporation (Staff of Technology and Science, Aerospace Div.), *Integrated Electronic Systems*. Englewood Cliffs, NJ: Prentice-Hall, 1970.



## **Periodicals**

### *Basic Format:*

- [1] Author, "Name of paper," *Abbrev. Title of Periodical*, vol. *x*, no. *x*, pp. *xxx-xxx*, Month, year.

### *Examples:*

- [1] J. U. Buncombe, "Infrared navigation – Part 1: Theory," *IEEE Trans. Aerosp. Electron. Syst.*, vol. AES-4, pp. 352-377, Sept. 1944.
- [2] R. U. Aslip, "Surface and leaky wave antennas," *IEEE Trans. Circuits Syst. I*, vol. 30, pp 545-546, Jan. 2000.

## **Electronic**

### *Internet:*

#### *Basic Format:*

- [1] Author, (year, month day). Title. *Magazine* [Type of medium]. paging if given. Available: [http://www.\(URL\)](http://www.(URL))

#### *Examples:*

- [1] A. Stuart, Ed. (1996, Dec. 3). Business in the wake of the Web. *Webmaster Mag.* [Online]. Available: <http://www.cio.com/cgi-bin/gate2?~>
- [2] L. Brigman, (1997, Feb.). The never-ending story. *WebMaster Mag.* [Online]. Available: [http://www.cio/WebMaster/020197\\_field\\_content.html](http://www.cio/WebMaster/020197_field_content.html)

### *E-mail:*

#### *Basic Format:*

- [1] Author. (year, month day). Title. *Magazine* [Type of medium]. Paging if given. Available e-mail: Message:

*Example:*

[1] A. Harriman. (1993, June 28). Compendium of genealogical software. *Humanist* [Online]. 2(41). Available e-mail: HUMANIST@NYVM Message: Get GENEALOGY REPORT

## **Word-of-Mouth**

*Basic Format:*

[1] Author. (Converstation on *year, month day*). Credentials.

*Example:*

[1] J. D. Brain, (Conversation on Oct. 23, 1996) Professor of Computer Science, SUNY New Paltz.