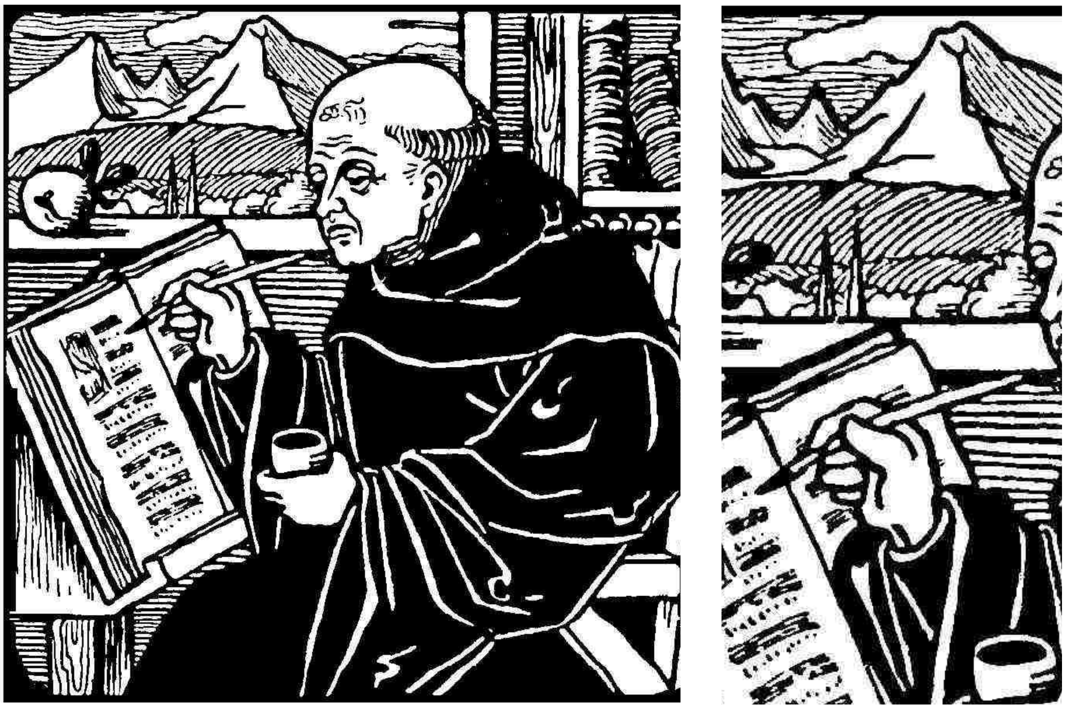
White Paper

A discussion on the word processing needs for the creation of professional reports.

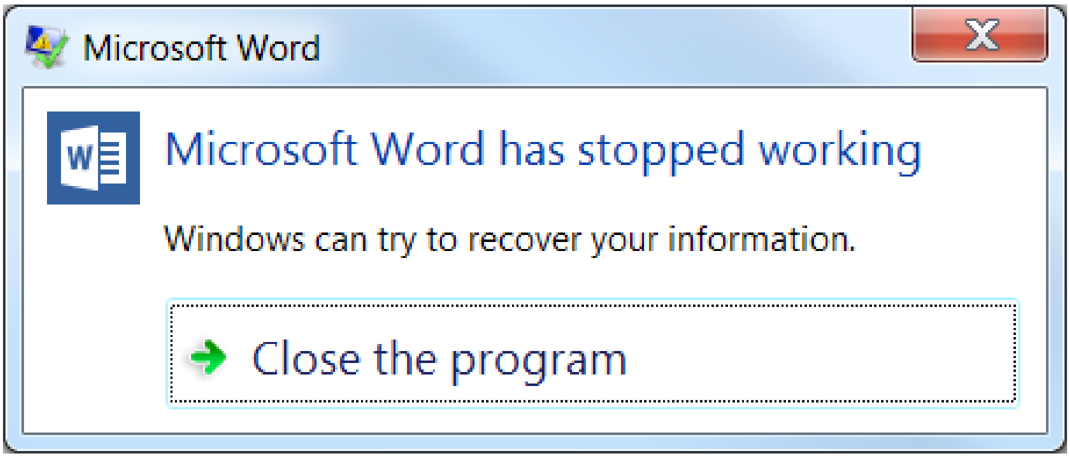
Word Processing for Professional Reports

As far as producing documents goes, society has come a long way from monks meticulously hand-writing the Bible. The printing press, type-writer, and ultimately the personal computer have progressively transferred the power of document creation from specialized artisans to the everyday individual; whether they be secretaries, students or senior executives.

Despite these incredible advances, the software tools that we use every day still create frustration and can waste a lot of our precious time. One cannot help wonder sometimes if it would be more efficient to enlist the services of a monk to hand-write professional reports.



Old School word processor and Letterpress



Microsoft Word has stopped working

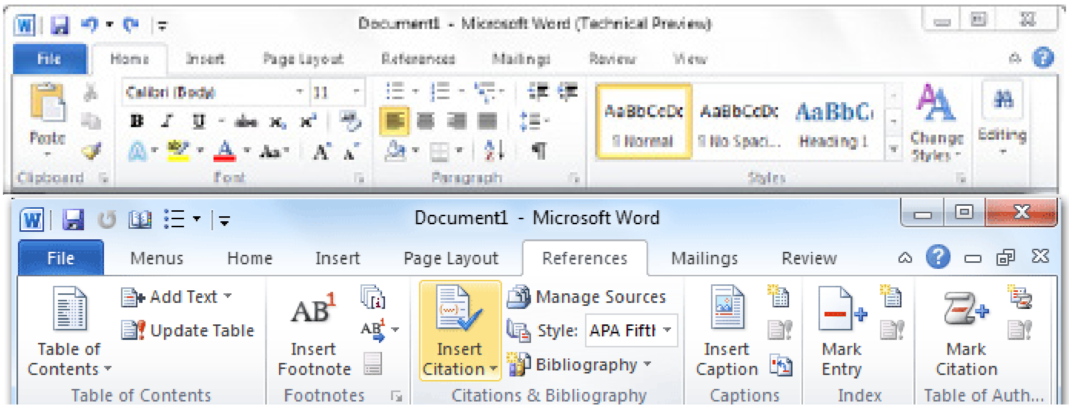
Windows can try to recover your information.

"Microsoft Word Has Stopped Working" Need I say more?

Word Processing for Professional Reports

A 2013 survey shows that the vast majority of Small to Medium Enterprises (SMEs) use Microsoft Office products, with approximately 13% using Google Docs. Most users are familiar with Word and it is the default word processing software for many organisations and government departments. Despite this wide-spread adoption, Word is riddled with problems, such as:

- Crashing - causing loss of content, and wasting time to re-author
- Instability with large documents or whilst using track changes
- Convoluted outline numbering
- Prompt to Save to Normal Template
- Clunky mail merge
- Differences across Windows and Mac, and no Linux support
- Stark design and busy user interface



Microsoft Word Busy user interface

Whilst the above problems may be acceptable for the production of simple documents and letters, they are not acceptable for complex reports written by professionals such as engineers, solicitors, etc. Such professionals are likely to demand a lot more from their word processing software to produce polished, complex, multi-section documents. Report writers will also expect to author their documents on different platforms, such as PC, Mac, Linux or via a web-based app. Perhaps more importantly, the cost of losing time or content is critical for professionals with higher salaries, and therefore whatever tool they use must be reliable.

Separating Style from Content

Word and Google Docs use a WYSISYG approach: What You See Is What You Get. So, the text that is seen on the editor corresponds to how it will look when printed. This approach is intuitive for most people and helps to fix many of the type-setting errors that these applications are prone to, such as orphan or widow text. The use of different font sizes for headings and sub-headings also helps the user to visually understand the hierarchical structure of the document.

There are, however, some drawbacks to this approach:

- The user often gets distracted by focusing on the formatting and layout, instead of the content
- It is difficult to retrospectively update the style of document. This occurs in business when a company plan or process is updated periodically over several years. If the company wishes to update the company style template to improve the visual style (for example), it is very difficult to apply the new style to the old plan/process.
- Similarly, companies often use numerous templates to cater for different business needs, for example: process templates; report templates; technical plans; business plans; and, audit templates. If the company wishes to update the visual style, then every single template must be updated in-turn

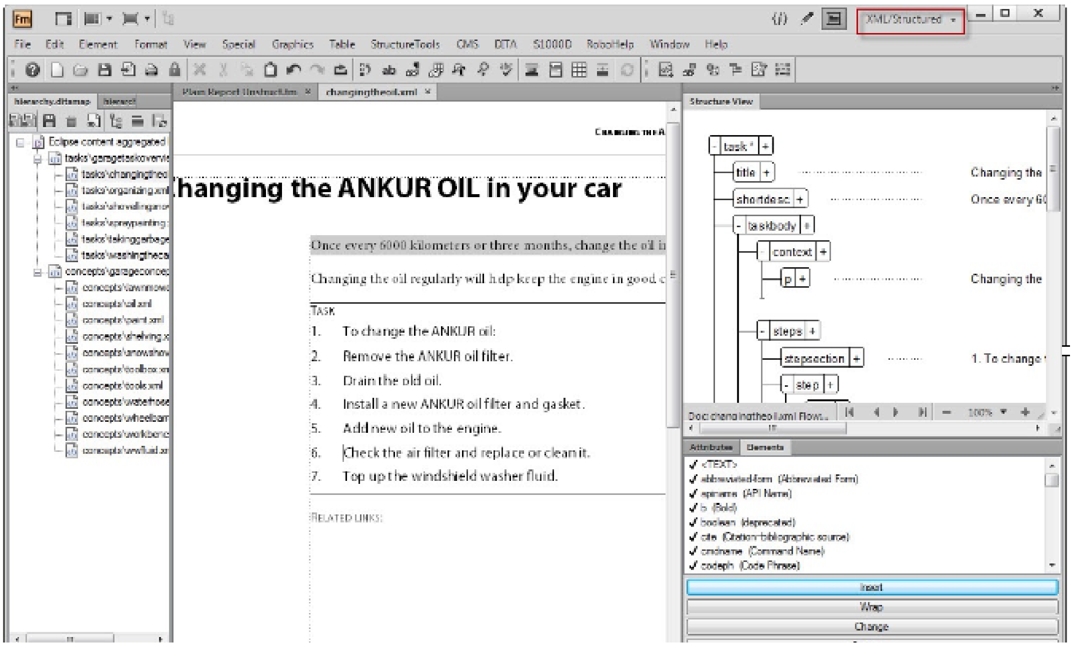
Applications such as LaTex and Framemaker take an approach where style is separated from content, which overcomes the problems associated with updating templates and keeps the author focused on the content. Unfortunately, the user often has to ‘compile’ a document to pdf format before they can see what it will look like on printed media. Furthermore, the editors used in these applications are uninviting text-based editors that provide very little visual information regarding the structure of the document.

Ideally, the user could have the best of both worlds with a content-focused editor that uses representative font sizing for headers and sub-headers. The user should also have the option to see to ‘rendered’ version of the document to provide confidence that the document will be presented to their audience in a visually appealing manner.

Capable Solutions are too Complicated

There are some solutions to the problems outline above, however these solutions have their own shortfalls. Software such as FrameMaker and ArborText, Author-it or EasyDITA, which save documents in XML format, have four fundamental problems:

- **They are expensive.** Cost is typically in the order of 10 times that of Word
- **They are complicated.** Most systems rely on a structured-authoring paradigm (such as DITA or DocBook), which enforces complex rules to comply with XML schemas. Either a high level of training is required or a dedicated technical writer is required to use such software. This adds expense and reduces organizational flexibility.
- **They are incompatible with Word**. Most systems enable a limited import from Word but cannot export to Word. For the majority who use Word, the bespoke XML files cannot be imported, thereby making collaboration difficult.
- **Each of these systems relies on a backend database** (either onsite or in the cloud). The requirement for a database has either a direct expense or an additional IT management overhead associated with it, not to mention increased complexity.



hanging the ANKUR OIL in your car

Once every 6000 kilometers or three months, change the oil i

Changing the oil regularly will help keep the engine in good c

TASK

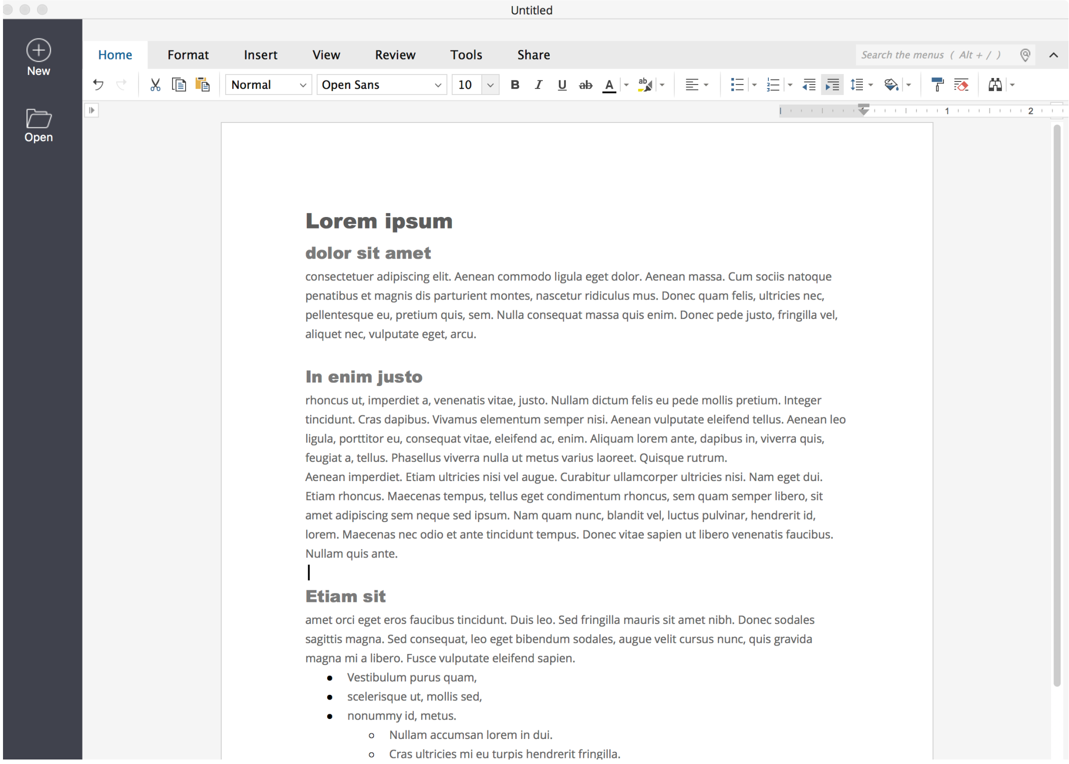
1. To change the ANKUR oil:
2. Remove the ANKUR oil filter.
3. Drain the old oil.
4. Install a new ANKUR oil filter and gasket.
5. Add new oil to the engine.
6. Check the air filter and replace or clean it.
7. Top up the windshield washer fluid.

RELATED LINKS:

Frame Maker: not exactly a 'beautiful' user interface design.

Simple solutions don’t provide enough capability

One problem that enterprise document production software has in common with Word is a busy and unattractive user interface. Recently a number of products with improved User Interfaces have entered the marketplace, and have provided users with the ability to create their documents with fewer distractions and greater simplicity. These applications are great if you are simply writing a letter, updating a blog, or writing an essay for high school, but they lack the functionality to create styles, multiple sections, and advanced heading structures that are required in technical, legal or management reports.



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Zoho Writer - An example of a cleaner UI, but with limited functionality

Technical Document Structure

When we first learn to write in school we start by writing a sentence or a paragraph of text. We eventually start writing essays where we might divide the document into sections such as: Introduction, Body, Conclusion. The next evolution might involve the use of several heading titles and some sub-headings, which will probably inspire us to include a simple Table of Contents at the start, and a list of references at the end. Most word-processing applications can handle this quite well. However, the next level of document structure can be increasingly complex, incorporating some or all of the following sections:

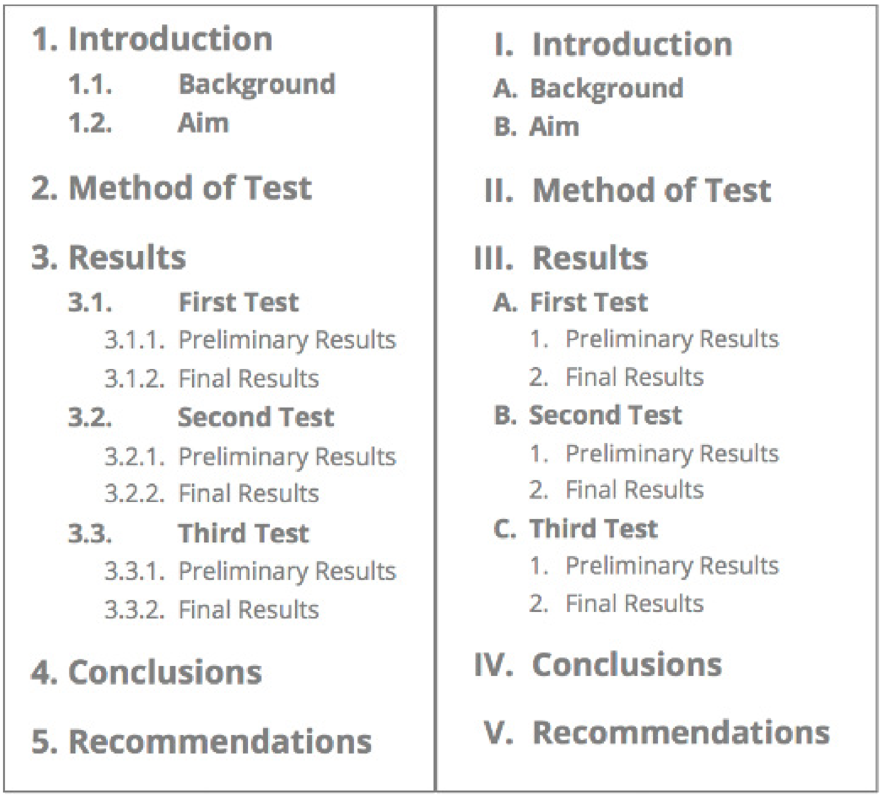
Technical Document Structure

- Front Matter: Title Page, Table of Contents, etc.
- Body Matter: Chapters or Sections
- End Matter: Index, Appendices, etc.

Each of the above sections may require customization of the following:

- Page size or orientation
- Header/Footer
- Page Numbering
- Margins
- Typefaces

Finally, one of the defining features of a technical document is the use of outline numbering, where the hierarchical relationship between topics is represented by a defined alphanumeric or numeric sequence. Two examples are shown below:



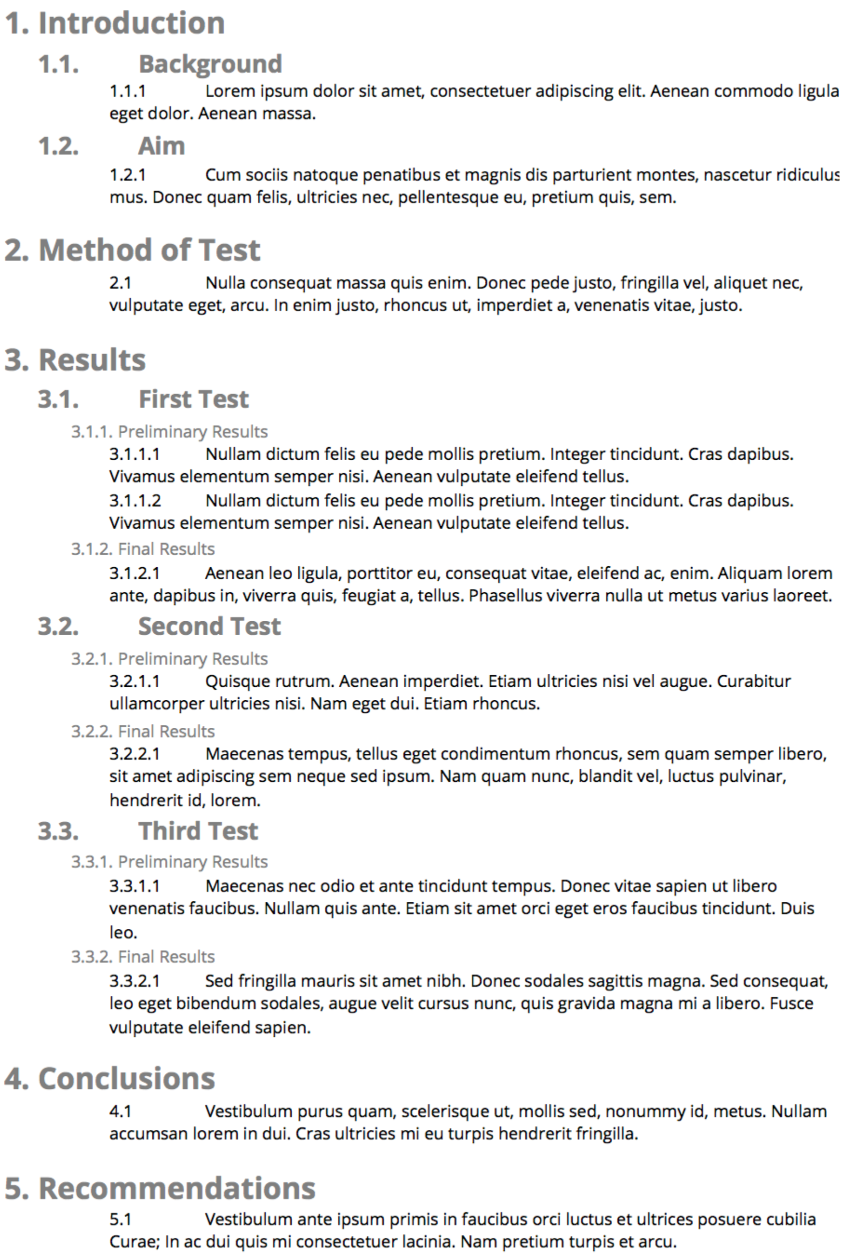
1. Introduction
    1.1. Background
    1.2. Aim
2. Method of Test
3. Results
    3.1. First Test
        3.1.1. Preliminary Results
        3.1.2. Final Results
    3.2. Second Test
        3.2.1. Preliminary Results
        3.2.2. Final Results
    3.3. Third Test
        3.3.1. Preliminary Results
        3.3.2. Final Results
4. Conclusions
5. Recommendations

I. Introduction
    A. Background
    B. Aim
II. Method of Test
III. Results
    A. First Test
        1. Preliminary Results
        2. Final Results
    B. Second Test
        1. Preliminary Results
        2. Final Results
    C. Third Test
        1. Preliminary Results
        2. Final Results
IV. Conclusions
V. Recommendations

Outline Numbering: Numeric (left) and Alphanumeric (right)

Most people who attempt to define custom outline numbering styles in Word find that it is a convoluted, frustrating and time-consuming experience. The frustration only increases in the case where the paragraphs also need to be numbered; this is often the case for legal documentation, or for reports where the author needs to cross-refer to specific paragraphs. The image over the page uses the above example to show how paragraphs may be represented with the paragraph numbering being subordinate to the heading numbering.

Technical Document Structure



1. Introduction

1.1. Background

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2. Method of Test

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3. Results

3.1. First Test

3.1.1. Preliminary Results

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3.2. Second Test

3.2.1. Preliminary Results

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3.3. Third Test

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4. Conclusions

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5. Recommendations

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Outline Numbering with Paragraph Numbering Subordinate to Heading Numbering

The Goldilocks Application

This document has discussed some of the problems that may be experienced whilst using Microsoft Word and similar applications for producing professional documents and reports. Word is renowned for crashing frequently, and has a busy, clunky and confusing user interface. The WYSIWYG approach has some benefits but also distracts the author and makes updating the style of existing documents cumbersome. Separating content from style resolves these problems but non-WYSIWYG applications are often characterized by a bland and uninformative editing environment.

Although there are some very capable applications that would be suitable for producing technical documentation, they are typically too expensive and complex for small to medium enterprises, and they generally have complicated and cumbersome user interfaces. These are not suited to the everyday professional or student who has the task of producing a document without dedicated training or support from a dedicated technical writer (or a monk).

On the other end of the spectrum, there are a number of cheap and simple word processors, however these applications do not have sufficient functionality to meet the needs of a multi-section document, nor do they have the ability to deal with complex outline numbering systems that are required in business, technical or legal documents.

What we need is a Goldilocks application, that is, an application that is just right for producing technical documents, not too complicated, but with sufficient capability to meet the needs of professionals who produce their own technical documents and reports.

The following is considered a desired feature-set for such an application:

- **Extremely simple and clean user interface:** simple and appealing interface to reduce distraction and maintain focus on content.
- **Reliable**: Low probability of halting/crashing, built-in tolerance to problems.
- **Style separated from content:** Easy updates of templates, and easy updating of documents with new style templates, whilst retaining the beneficial aspects of the WYSIWYG approach.
- **Easy outline numbering:** Different numbering styles across the entire document, such as legal, academic or custom. Used extensively in legal documentation, academic papers and engineering reports.
- **Support different formatting for Multiple Sections:** Permits sections with different layouts and styles, such as Title Page, Front Matter, Body, End Matter.