

# An Introduction to L<sup>A</sup>T<sub>E</sub>X- A document preparation system

## 1 Introduction

T<sub>E</sub>X is a typesetting computer program created by Donald Knuth (famous computer scientist). This is quite different from the WYSIWYG<sup>1</sup> approach that most modern word processors, such as Microsoft Word take.

### 1.1 Motivation

Knuth was hoping to reverse the *crappy* typographical quality that was prominent in digital printing. I suppose he was not the only one with that motivation. Somebody at **Apple** had a similar obsession - Can you guess who?

#### 1.1.1 Interesting facts

Donald Knuth on Pronunciation:

*"I do not get angry when people pronounce TEX in their favorite way . . . and in Germany many use a soft ch because the X follows the vowel e, not the harder ch that follows the vowel a. In Russia, tex is a very common word, pronounced tyekh. But I believe the most proper pronunciation is heard in Greece, where you have the harsher ch of ach and Loch."*

L<sup>A</sup>T<sub>E</sub>X is pronounced Lay-tech or Lah-tech. The version number of Tex is converging to  $\pi$  and is now at 3.141592653.

### 1.2 Why use this system?

The best thing to do when such a discussion starts is to disappear, since such discussions often get out of hand. Listed below are some points one could use.

1. Because I said so . . .
2. Writing mathematical formulae
3. Avoid *tinkering* with layout
4. Efficiently produce different classes of documents i.e.

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<sup>1</sup>What You See Is What You Get

- (a) Article
- (b) Thesis
- (c) Report
- (d) Book

5. Add on packages to customise just about everything

Here are some points which people could throw back at you

- I am rich . . .
- Finding commands
- Remembering commands
- Dealing with *compiling* issues.

Before moving on let's also talk about:

**MM** Margin manipulation

**FM** Font manipulation

**BOX** Keep it together man! : mbox, fbox

### 1.3 Pragmatism

Two extreme approaches:

#### First Approach

Let  $\text{\LaTeX}$  take care of *everything*. Simply upload the content from your mind onto the document.

#### Second Approach

Customise just about everything to do with design and layout. Right down to the font and margins specifications of the footnotes.

- 2 Equations**
- 3 Tables**
- 4 Graphics**
- 5 Referencing**
- 6 Presentation Slides**