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NEW APPROACH OF DOCUMENTATION THROUGH LaTeX

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Abstract:- *Documentation is an important aspect of data presentation in all fields. The data representation should be clear and understandable by the users. The process of execution, implementation, user manuals, and other information should be represented in the form of documentation. The available software such as word, notepad, and word press are having very limited features and does not provide the support for technical and mathematical representations [1]. So it became a necessity to have a documentation tool that can provide a rich set of tools, and methods for preparing effective documentation. This can be achieved with the help of LATEX. LATEX is an advanced documentation tool that allows developing effective documents. The aim objective of LATEX is WYSIWYG (What you see is what you get). LATEX introduces a simple platform for document creation . The users need not to restrict their information. The information may be a plain text and allow the user to edit the data based on the requirement. The LATEX supports to include text, audio, video and other data as the part of a document. The LATEX is more users friendly for creating documents, presentations and data storage for further usage.*

Keywords: simple document, user templates, Inline Functions, Mathematical Formulas, Supports GUI

INTRODUCTION:

Documentation with LaTeX is very plain and enjoyable. When compared to other documentation software such as Word, Notepad, and Word Press. The documentation process starts with a plain text file [2]. The extension of the file is .tex that contains a set of code which is related to LaTeX. It also includes the actual content (The content which we need to present). The LaTeX supports controlling the flow of data with the help of control statements. It is a Simple type of evaluated, with the help of formatting tools are applicable. The user data can be evaluation in the client system itself, that helps to avoid the load and evaluation of data on the execution [3]. LaTeX implements preprocessing mechanism for the text, before producing the final result. The LaTeX formats the data according to the user requirement. It converts the data into a pdf file and presents the data. The LaTeX supports different regional languages [4]. The main contribution is for the Arabic Language. The most versions of Latex support Arabic.

LaTex Literature Survey:

Leslie Lamport introduced a new way of documentation for his own purpose later he modified so that it can be used for household and commercial purpose. The primary version was implemented in 1983. The second version of LaTex was introduced with the macros feature in the year 1984. A macro is a set of built-in the code used for easy computations [5]. In 1985 the third version was released with simple equations and maximum support for mathematical formula representation [6]. In the year 1994 LaTex 2e was introduced with standard [7]. LaTex2 introduces more familiar functions, modules, tables, images, audio and video implementations etc…

STRUCTURE OF LaTeX:

The LaTeX file is a plain file and contains different sections

- Title section
- Document Section
- Header Section
- Environment section
- Tag section
- End section

User Define Data Template Preparation:

The most advanced feature of LaTeX is the author can create a template instead of permanent data. The data values may be changed according to the user's requirements. LaTeX programming lanauge sample code is shown below. The code contains the title and hello message as shown below.

\ document section {}
\title {Name of the Document}
\ date {}
\ author{}
\ begin{}
\ page numbering {}
Paragraph
\ section {}
\ sub section {}
\ end {document}

Mathematical Formulas presentation in LaTeX:
There are 2 methods of presenting mathematical formulas

1. **Inline Math Embedding Functions:**
   The normal text converted into the mathematical formula by surrounding the '$' symbol.
   Example: $ g(x)=y^2$
   The output is $g(x)=y^2$

2. **Equations:**
   The separate header files are created and utilized for equations.
   \documentclass {equation}
   \usepackage{amsmath}
   \begin{"equation"}
   (8+9)-4=13
   \end{"equation"}
3. **Notations**
   Integral Symbol: '^'
   Fractions: frac{u}{v}
   Square roots: Sqrt{x}
4. **Images:**
   figure{h1}
   Code to place a set of images
   \begin {figure}
   hics[]{college.jpg}
   \cpation{mycollege}
   \end{image }

The output looks like

Figure 1: Displaying an image

CONCLUSION

The document is a powerful weapon for data presentation. The documentation must support all the features of author requirements. LaTex improved the documentation process with many new features. LaTex contains a rich set of formula implementations and support to incorporate various types of images, Audio, Video presentation. The LaTex Documentation process allows the user to create the templates so that the format can be reusable.

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