To Saindo - Sítio da Web de ajuda a universitários para encontrar carona.

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RESUMO

Este artigo têm como finalidade descrever um sítio na web com a finalidade de ajudar as pessoas a conseguirem caronas na Universidade Federal de São Carlos, campus Sorocaba. A intenção é descrever suas funcionalidades, design e usabilidade, além dos príncipios e necessidades de sua criação, conceitos de IHC aplicados, sistemas semelhantes e proposta desse novo sistema.

Categorias e Descritores do Assunto

H.6 [**Human Computer Interface**]: Miscellaneous; H.4 [**Information Systems Applications**]: Miscellaneous; D.2.8 [**Software Engineering**]: Metrics—*complexity measures, performance measures*

Termos Gerais

Theory

Palavra-Chave

ACM proceedings, HCI

1. INTRODUÇÃO

Ao ingressar na Universidade, o único sistema de transporte que a maioria dos alunos podem contar é com o transporte público. Em Sorocaba, onde situa-se um dos campi da Universidade Federal de São Carlos, o único meio de transporte público sao os ônibus que normalmente são demorados, devido a grande distância do centro da cidade à Universidade e em horários de pico estão superlotados, o quê causa desconforto e estresse aos usuários desse sistema.

Com o intuito de melhorar esta situação e percebendo que muitas pessoas que vão de carro à Universidade normalmente estão sozinhos ou no máximo em duas pessoas e que a política do campus Sorocaba é voltada a sustentabilidade, tivemos a idéia de nos aproveitar disso criando um sítio na internet ao qual podermos oferecer caronas ou pedir caronas para pessoas que se deslocam da cidade ao campus e vice-versa, o quê futuramente, podemos ainda extendê-lo para outros destinos diferentes ao da Universidade. A vantagem do sistema é que é feito tanto para ambientes *desktop* como para ambientes mobile, com o qual, com este último há a vantagem da computação ubíqua, ao qual podemos nos conectar de qualquer lugar e a qualquer momento, utilizando *tablets* e *smartphones* permitindo agilidade na visualização e inserção de caronas, além de corresponderem pela maior parte de computadores vendidos e ser um mercado em grande expansão. Por fim, a interface será projetada com a finalidade de ser a mais limpa possível e de grande usabilidade, onde citaremos mais adiante os fundamentos de aplicação em IHC, dos trabalhos e sistemas semelhantes e também das vantagens desse sistema em relação aos outros já existentes.

2. FUNDAMENTOS

Relativo aos fundamentos de interface humano computador o sítio da web será visto como uma mídia através da qual as pessoas se comunicam umas com as outras e interagem entre si. Com essa finalidade, o sítio deverá ter cor predominante verde, passando assim segurança ao usuários e dando um tom agradável ao olhos.

A meta do sítio é prover ao usuário um ambiente simples e fácil de usar, dando grande importância a usabilidade, acessibilidade e comunicabilidade do sistema, garantindo assim, o maior número possível de usuários em seus diferentes níveis de conhecimento e destreza com os aparelhos eletrônicos. Para atingir tais critérios de usabilidade é necessário seguir com alguns fatores importantes ditados por *Nielsen (1993)*:

- facilidade de aprendizado;
- facilidade de recordação;
- eficiência;
- segurança no uso e;
- satisfação do usuário.

2.1 Trabalhos Relacionados

We have already seen several typeface changes in this sample. You can indicate italicized words or phrases in your

text with the command `\textit`; emboldening with the command `\textbf` and typewriter-style (for instance, for computer code) with `\texttt`. But remember, you do not have to indicate typestyle changes when such changes are part of the *structural* elements of your article; for instance, the heading of this subsection will be in a sans serif[1] typeface, but that is handled by the document class file. Take care with the use of[2] the curly braces in typeface changes; they mark the beginning and end of the text that is to be in the different typeface.

You can use whatever symbols, accented characters, or non-English characters you need anywhere in your document; you can find a complete list of what is available in the LaTeX User's Guide[?].

2.2 Math Equations

You may want to display math equations in three distinct styles: inline, numbered or non-numbered display. Each of the three are discussed in the next sections.

2.2.1 Inline (In-text) Equations

A formula that appears in the running text is called an inline or in-text formula. It is produced by the **math** environment, which can be invoked with the usual `\begin. . .\end` construction or with the short form `$. . .$`. You can use any of the symbols and structures, from α to ω, available in LaTeX[?]; this section will simply show a few examples of in-text equations in context. Notice how this equation: $\lim_{n\to\infty} x = 0$, set here in in-line math style, looks slightly different when set in display style. (See next section).

2.2.2 Display Equations

A numbered display equation – one set off by vertical space from the text and centered horizontally – is produced by the **equation** environment. An unnumbered display equation is produced by the **displaymath** environment.

Again, in either environment, you can use any of the symbols and structures available in LaTeX; this section will just give a couple of examples of display equations in context. First, consider the equation, shown as an inline equation above:

$$\lim_{n \to \infty} x = 0 \tag{1}$$

Notice how it is formatted somewhat differently in the **displaymath** environment. Now, we'll enter an unnumbered equation:

$$\sum_{i=0}^{\infty} x + 1$$

and follow it with another numbered equation:

$$\sum_{i=0}^{\infty} x_i = \int_0^{\pi+2} f \tag{2}$$

just to demonstrate LaTeX's able handling of numbering.

2.3 Citations

Citations to articles [?, ?, ?, ?], conference proceedings [?] or books [?, ?] listed in the Bibliography section of

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[1] A third footnote, here. Let's make this a rather short one to see how it looks.
[2] A fourth, and last, footnote.

Table 1: Frequency of Special Characters

Non-English or Math	Frequency	Comments
Ø	1 in 1,000	For Swedish names
π	1 in 5	Common in math
\$	4 in 5	Used in business
Ψ_1^2	1 in 40,000	Unexplained usage

your article will occur throughout the text of your article. You should use BibTeX to automatically produce this bibliography; you simply need to insert one of several citation commands with a key of the item cited in the proper location in the `.tex` file [?]. The key is a short reference you invent to uniquely identify each work; in this sample document, the key is the first author's surname and a word from the title. This identifying key is included with each item in the `.bib` file for your article.

The details of the construction of the `.bib` file are beyond the scope of this sample document, but more information can be found in the *Author's Guide*, and exhaustive details in the LaTeX User's Guide[?].

This article shows only the plainest form of the citation command, using `\cite`. This is what is stipulated in the SIGS style specifications. No other citation format is endorsed or supported.

2.4 Tables

Because tables cannot be split across pages, the best placement for them is typically the top of the page nearest their initial cite. To ensure this proper "floating" placement of tables, use the environment **table** to enclose the table's contents and the table caption. The contents of the table itself must go in the **tabular** environment, to be aligned properly in rows and columns, with the desired horizontal and vertical rules. Again, detailed instructions on **tabular** material is found in the LaTeX User's Guide.

Immediately following this sentence is the point at which Table 1 is included in the input file; compare the placement of the table here with the table in the printed dvi output of this document.

To set a wider table, which takes up the whole width of the page's live area, use the environment **table*** to enclose the table's contents and the table caption. As with a single-column table, this wide table will "float" to a location deemed more desirable. Immediately following this sentence is the point at which Table 2 is included in the input file; again, it is instructive to compare the placement of the table here with the table in the printed dvi output of this document.

2.5 Figures

Like tables, figures cannot be split across pages; the best placement for them is typically the top or the bottom of the page nearest their initial cite. To ensure this proper "floating" placement of figures, use the environment **figure** to enclose the figure and its caption.

This sample document contains examples of **.eps** and **.ps** files to be displayable with LaTeX. More details on each of these is found in the *Author's Guide*.

As was the case with tables, you may want a figure that spans two columns. To do this, and still to ensure proper "floating" placement of tables, use the environment **figure*** to enclose the figure and its caption. and don't forget to end

Table 2: Some Typical Commands

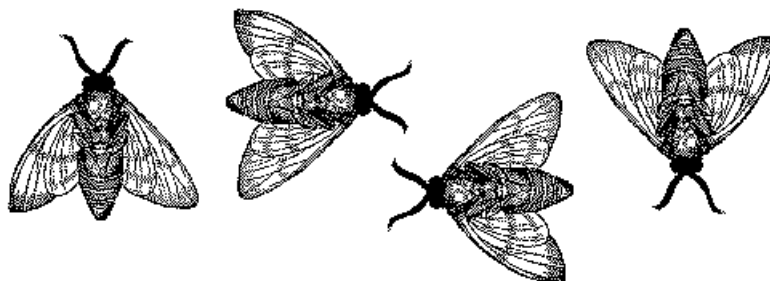| Command	A Number	Comments
`\alignauthor`	100	Author alignment
`\numberofauthors`	200	Author enumeration
`\table`	300	For tables
`\table*`	400	For wider tables

Figure 3: A sample black and white graphic (.eps format) that needs to span two columns of text.

Figure 1: A sample black and white graphic (.eps format).

Figure 2: A sample black and white graphic (.eps format) that has been resized with the `epsfig` command.

the environment with figure*, not figure!

Note that either **.ps** or **.eps** formats are used; use the `\epsfig` or `\psfig` commands as appropriate for the different file types.

2.6 Theorem-like Constructs

Other common constructs that may occur in your article are the forms for logical constructs like theorems, axioms, corollaries and proofs. There are two forms, one produced by
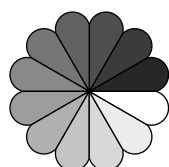

Figure 4: A sample black and white graphic (.ps format) that has been resized with the `psfig` command.

the command `\newtheorem` and the other by the command `\newdef`; perhaps the clearest and easiest way to distinguish them is to compare the two in the output of this sample document:

This uses the **theorem** environment, created by the `\newtheorem` command:

THEOREM 1. *Let f be continuous on $[a, b]$. If G is an antiderivative for f on $[a, b]$, then*

$$\int_a^b f(t)dt = G(b) - G(a).$$

The other uses the **definition** environment, created by the `\newdef` command:

Definition 1. If z is irrational, then by e^z we mean the unique number which has logarithm z:

$$\log e^z = z$$

Two lists of constructs that use one of these forms is given in the *Author's Guidelines*.

There is one other similar construct environment, which is already set up for you; i.e. you must *not* use a `\newdef` command to create it: the **proof** environment. Here is a example of its use:

PROOF. Suppose on the contrary there exists a real number L such that

$$\lim_{x \to \infty} \frac{f(x)}{g(x)} = L.$$

Then

$$l = \lim_{x \to c} f(x) = \lim_{x \to c} \left[gx \cdot \frac{f(x)}{g(x)} \right] = \lim_{x \to c} g(x) \cdot \lim_{x \to c} \frac{f(x)}{g(x)} = 0 \cdot L = 0,$$

which contradicts our assumption that $l \neq 0$. $\square$

Complete rules about using these environments and using the two different creation commands are in the *Author's Guide*; please consult it for more detailed instructions. If you need to use another construct, not listed therein, which you want to have the same formatting as the Theorem or the Definition[**?**] shown above, use the `\newtheorem` or the `\newdef` command, respectively, to create it.

A *Caveat* for the TEX Expert

Because you have just been given permission to use the `\newdef` command to create a new form, you might think you can use TEX's `\def` to create a new command: *Please refrain from doing this!* Remember that your LATEX source code is primarily intended to create camera-ready copy, but may be converted to other forms – e.g. HTML. If you inadvertently omit some or all of the `\def`s recompilation will be, to say the least, problematic.

3. TRABALHOS RELACIONADOS

This paragraph will end the body of this sample document. Remember that you might still have Acknowledgments or Appendices; brief samples of these follow. There is still the Bibliography to deal with; and we will make a disclaimer about that here: with the exception of the reference to the LATEX book, the citations in this paper are to articles which have nothing to do with the present subject and are used as examples only.

4. PROPOSTA

This section is optional; it is a location for you to acknowledge grants, funding, editing assistance and what have you. In the present case, for example, the authors would like to thank Gerald Murray of ACM for his help in codifying this *Author's Guide* and the **.cls** and **.tex** files that it describes.

APPENDIX
A. HEADINGS IN APPENDICES

The rules about hierarchical headings discussed above for the body of the article are different in the appendices. In the **appendix** environment, the command **section** is used to indicate the start of each Appendix, with alphabetic order designation (i.e. the first is A, the second B, etc.) and a title (if you include one). So, if you need hierarchical structure *within* an Appendix, start with **subsection** as the highest level. Here is an outline of the body of this document in Appendix-appropriate form:

A.1 Introduction

A.2 The Body of the Paper

A.2.1 *Type Changes and Special Characters*

A.2.2 *Math Equations*

Inline (In-text) Equations.

Display Equations.

A.2.3 *Citations*

A.2.4 *Tables*

A.2.5 *Figures*

A.2.6 *Theorem-like Constructs*

A Caveat for the TEX Expert

A.3 Conclusions

A.4 Acknowledgments

A.5 Additional Authors

This section is inserted by LATEX; you do not insert it. You just add the names and information in the `\additionalauthors` command at the start of the document.

A.6 References

Generated by bibtex from your .bib file. Run latex, then bibtex, then latex twice (to resolve references) to create the .bbl file. Insert that .bbl file into the .tex source file and comment out the command `\thebibliography`.

B. MORE HELP FOR THE HARDY

The sig-alternate.cls file itself is chock-full of succinct and helpful comments. If you consider yourself a moderately experienced to expert user of LATEX, you may find reading it useful but please remember not to change it.