

starmath

A nice equations editor ...

OpenOffice.org File Edit View Insert Format Table Tools Window Help

these_anglade_p142 - OpenOffice.org Writer

Default Times New Roman 12

Juste pour voir :

$$(\rho_k^{(3)})^2 = \sum_{\alpha, \beta, \gamma=0}^2 \sum_{j \neq k} \rho^{a(3a)}(|r_{kj}|) S_{kj} r_{kj}^\alpha r_{kj}^\beta r_{kj}^\gamma)^2 - \frac{3}{5} \sum_{\alpha=0}^2 \sum_{j \neq k} \rho^{a(3b)}(|r_{kj}|) S_{kj} r_{kj}^\alpha)^2$$

$$= (\rho^{3a}(|r_{kj}|))^2 - (\rho^{3b}(|r_{kj}|))^2$$

$$\frac{\partial (\rho_k^{(3a)})^2}{\partial r_k^\epsilon} = \sum_{\alpha, \beta, \gamma=0}^2 [(\sum_{j \neq k} \rho^{a(3a)}(|r_{kj}|) S_{kj} r_{kj}^\alpha r_{kj}^\beta r_{kj}^\gamma)^2 \cdot 2.0x$$

$$\sum_{j \neq k} (\rho^{a(3a)}(|r_{kj}|) S_{kj} \frac{\partial r_{kj}^\alpha r_{kj}^\beta r_{kj}^\gamma}{\partial r_k^\epsilon} + \frac{\partial \rho^{a(3a)}(|r_{kj}|)}{\partial r_k^\epsilon} S_{kj} r_{kj}^\alpha r_{kj}^\beta r_{kj}^\gamma) + \frac{\partial S_{kj}}{\partial r_k^\epsilon} \rho^{a(3a)}(|r_{kj}|) r_{kj}^\alpha r_{kj}^\beta r_{kj}^\gamma]$$

$$= \sum_{j \neq k} [(\sum_{j \neq k} \rho^{a(3a)}(|r_{kj}|) S_{kj} r_{kj}^\alpha r_{kj}^\beta r_{kj}^\gamma)^2 \cdot 2.0x$$

$$\sum_{\alpha, \beta, \gamma=0}^2 (\rho^{a(3a)}(|r_{kj}|) S_{kj} \frac{\partial r_{kj}^\alpha r_{kj}^\beta r_{kj}^\gamma}{\partial r_k^\epsilon} + \frac{\partial \rho^{a(3a)}(|r_{kj}|)}{\partial r_k^\epsilon} S_{kj} r_{kj}^\alpha r_{kj}^\beta r_{kj}^\gamma) + \frac{\partial S_{kj}}{\partial r_k^\epsilon} \rho^{a(3a)}(|r_{kj}|) r_{kj}^\alpha r_{kj}^\beta r_{kj}^\gamma]$$

$$\frac{\partial (\rho_k^{(3b)})^2}{\partial r_k^\epsilon} = \sum_{j \neq k} [(\sum_{\alpha=0}^2 \frac{3}{5} \sum_{j \neq k} \rho^{a(3b)}(|r_{kj}|) S_{kj} r_{kj}^\alpha) \cdot 2.0x$$

$$(\frac{\partial \rho^{a(3b)}(|r_{kj}|)}{\partial r_k^\epsilon} S_{kj} r_k^\epsilon + \frac{\partial S_{kj}}{\partial r_k^\epsilon} \rho^{a(3b)}(|r_{kj}|) r_{kj}^\alpha + \frac{\partial r_{kj}^\alpha}{\partial r_k^\epsilon} \rho^{a(3b)}(|r_{kj}|) S_{kj})]$$

$$\frac{\partial (\rho_k^{(3)})^2}{\partial r_k^\epsilon} = \sum_{\alpha, \beta, \gamma=0}^2 (\rho^{(3a)(\alpha, \beta, \gamma)} \sum_{j \neq k} fFA33a_k^\epsilon[\alpha][\beta][\gamma](j)) - \sum_{\alpha=0}^2 (\rho_k^{(3b)(\alpha)} \sum_{j \neq k} fFA33b_k^\epsilon[\alpha](j))$$

Page 1 / 1 Default French (France) INSRT STD 130%

- Works finely in most cases

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- Easy to use it
- Nice syntax
- Only a few known issues (|--> e.g.)

Just a little problem ...

See :

http://eric.bachard.free.fr/Education/february2008/starmath/issue972/issue972_possible_cases.ods

-> difficult for the end user

The context

- Issue 972: created in 2001
 - this is the third attempt to fix it
(lack of resources, not lack of competences)
- > Application was proposed for Google Summer of Code 2008, but OpenOffice.org was not retained :-/

Me ...

- Just volunteer
- not a coder professional
- pedagogical purpose first: the essential is in the method and the documentation

Idea :

- Why not use Education resources to solve some simple issues like this one ?
- Want to do things once only

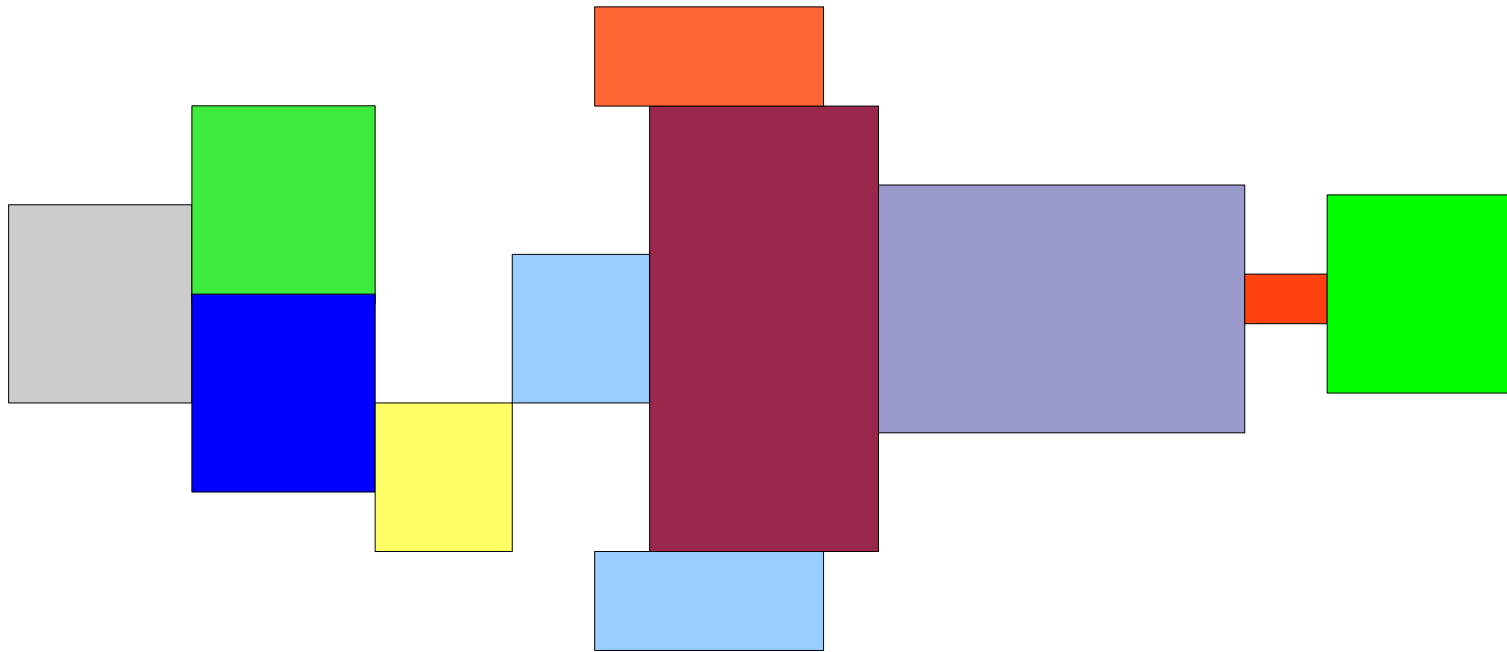
An answer: the Education Project Effort

Links :

http://wiki.services.openoffice.org/wiki/Education_Project#Education_Project_Effort

-> search for `Math_baseline_alignment`

What an Equation is....



For example :

$$\Phi_{\vec{E}} = \oiint \vec{E} \cdot (\vec{r}) \cdot \vec{n} dS = \frac{Q_{\text{int}}}{\epsilon_0}$$

The starmath tree

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- Content and logical

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- Dependencies (buildtime)

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- Content and logical
- Dependencies (buildtime)
- Existing documentation :

http://eric.bachard.free.fr/Education/Documentation/starmath/Doc_Math/html

The heart of starmaths

- `node.hxx / node.cxx`
- `parse.hxx / parse.cxx`
- `rect.hxx / rect.cxx`

Back to the problem

-
- What exactly happens ?
 - > afaik, there is a missing parameter, giving the "Baseline of the Baseline"
- Add the new parameter in the interface would need to modify .odf spec.
- There is another possibility, but needs more investigations
 - > Work In Progress

Scheduled

Analyze completely the issue

Link with writer (same issue mentionned by Caolan McNamara, with inserted images)

Propose a fix

Implement

-> summer 2008

Thanks to ...

- Novell for the welcome, and everything who made this conf a pleasure
- Thomas Lange and Mathias Bauer from Sun Microsystems for the help they provided me
- All attendees for the quality of the presentations

Note: the presentation and the associated documents can be downloaded at

<http://eric.bachard.free.fr/Education/GoOOoCon2008>