Coq Proof Assistant: Propositions and Proofs

Mirco Kocher

Logic and Theory Group
Institute of Computer Science and Applied Mathematics
Universität Bern

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Emphasis is everything

The following word is emphasized is a way that's clearly visible on a beamer. In case you want a stronger emphasis, it's **possible too**.

Commands used for that are defined in preamble.tex, you can tweak the visual style from one place.

Columns and paragraphs

It makes sense to center-align text sometimes.

Arranging it in columns is also a possibility.

Note that column width can be custom.

Don't neglect commands for manual spacing:

smallskip,

medskip,

bigskip.

Verbatim and Coq environments

```
Sometimes you need verbatim text.
Note: that makes \frame [fragile].
```

Preamble defines two color-coded environments for Coq code and output, namely user and coq:

```
Theorem Fermat:
  forall x y z n : nat, x ^ n + y ^ n = z ^ n -> n <= 2.
Proof.
  intros.
```

```
1 subgoal
x : nat
y : nat
z : nat
n : nat
H : x ^ n + y ^ n = z ^ n
______________________________________(1/1)
n <= 2
```

Inference trees

You can use bussproofs to display inference rules and derivations:

$$\dfrac{\top_1 \qquad \dfrac{\top_2}{\bot \vee \top_2}\,(\vee_2)}{\top_1 \wedge (\bot \vee \top_2)}\,(\wedge)$$

Note: it works like a stack.

More info

For more details, see corresponding manuals and guides:

- LaTeX in general
  Wiki: `http://en.wikibooks.org/wiki/LaTeX`
- Document class used: `beamer`
  Tutorial: `http://www.math.umbc.edu/~rouben/beamer/`
- Verbatim environments: `fancyvrb`
  Manual:
  `http://mirror.hmc.edu/ctan/macros/latex/contrib/fancyvrb/fancyvrb.pdf`
  Tutorial:
  `http://code.haskell.org/SLPJ-collaborative-papers/styles/fancyvrb.pdf`
- Proof trees: `bussproofs`
  Guide:
  `http://www.logicmatters.net/resources/pdfs/latex/BussGuide2.pdf`