Simple slides with FoilTeX

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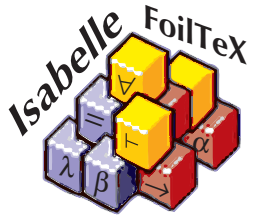

Abstract

Isabelle is a formal document preparation system. This example shows how to use it together with FoilTEX to produce slides in LATEX. See https://ctan.org/pkg/foiltex for further information.

Introduction

Some slide

Point 1: ABC

- something
- to say . . .

Point 2: XYZ

- more
- to say . . .

Another slide

Key definitions:

Informal bla bla.

definition $foo = True$ — side remark on $Document.foo$

definition $bar = False$ — side remark on $Document.bar$

lemma foo $\langle proof \rangle$

Application: Cantor's theorem

Informal notes

Cantor's Theorem states that there is no surjection from a set to its powerset. The proof works by diagonalization. E.g. see

- http://mathworld.wolfram.com/CantorDiagonalMethod.html
- https://en.wikipedia.org/wiki/Cantor's_diagonal_argument

Formal proof

theorem $Cantor$: $\nexists f :: 'a \Rightarrow 'a\ set.\ \forall A.\ \exists x.\ A = f\ x$
proof
  assume $\exists f :: 'a \Rightarrow 'a\ set.\ \forall A.\ \exists x.\ A = f\ x$
  then obtain $f :: 'a \Rightarrow 'a\ set$ **where** $*$: $\forall A.\ \exists x.\ A = f\ x$ **..**
  let $?D = \{x.\ x \notin f\ x\}$
  from $*$ **obtain** a **where** $?D = f\ a$ **by** $blast$
  moreover have $a \in ?D \longleftrightarrow a \notin f\ a$ **by** $blast$
  ultimately show $False$ **by** $blast$
qed

Conclusion

Lorem ipsum dolor

- Lorem ipsum dolor sit amet, consectetur adipiscing elit.
- Donec id ipsum sapien.
- Vivamus malesuada enim nibh, a tristique nisi sodales ac.
- Praesent ut sem consectetur, interdum tellus ac, sodales nulla.