Making Presentations with LaTeX: Package Beamer

Xavier Perséguers

June 25, 2004

Goal of this Project

- State of the art in making presentations with LaTeX

Goal of this Project

- State of the art in making presentations with LaTeX
- Getting quick and useful basis in presentation packages

Goal of this Project

- State of the art in making presentations with LaTeX
- Getting quick and useful basis in presentation packages
  - Documentation is often too “thin” or too “thick”

Goal of this Project

- State of the art in making presentations with LaTeX
- Getting quick and useful basis in presentation packages
  - Documentation is often too “thin” or too “thick”
  - Useful tricks dispatched among many documents

Goal of this Project

- State of the art in making presentations with LaTeX
- Getting quick and useful basis in presentation packages
  - Documentation is often too “thin” or too “thick”
  - Useful tricks dispatched among many documents
- Non-presentation related questions

Goal of this Project

- State of the art in making presentations with LaTeX
- Getting quick and useful basis in presentation packages
  - Documentation is often too “thin” or too “thick”
  - Useful tricks dispatched among many documents
- Non-presentation related questions
  - Thumbnails in PDFs

Goal of this Project

- State of the art in making presentations with LaTeX
- Getting quick and useful basis in presentation packages
  - Documentation is often too “thin” or too “thick”
  - Useful tricks dispatched among many documents
- Non-presentation related questions
  - Thumbnails in PDFs
  - Authorizations in PDFs

Goal of this Project

- State of the art in making presentations with LaTeX
- Getting quick and useful basis in presentation packages
  - Documentation is often too “thin” or too “thick”
  - Useful tricks dispatched among many documents
- Non-presentation related questions
  - Thumbnails in PDFs
  - Authorizations in PDFs
  - Using `pstricks` with `pdflatex`

Goal of this Project

- State of the art in making presentations with LaTeX
- Getting quick and useful basis in presentation packages
  - Documentation is often too “thin” or too “thick”
  - Useful tricks dispatched among many documents
- Non-presentation related questions
  - Thumbnails in PDFs
  - Authorizations in PDFs
  - Using `pstricks` with `pdflatex`
  - . . .

Goal of this Project

- State of the art in making presentations with LaTeX
- Getting quick and useful basis in presentation packages
  - Documentation is often too "thin" or too "thick"
  - Useful tricks dispatched among many documents
- Non-presentation related questions
  - Thumbnails in PDFs
  - Authorizations in PDFs
  - Using `pstricks` with `pdflatex`
  - ...

Goal of this Project

Why not using "standard" softwares such as MS PowerPoint, OO Impress or KPresenter?

Goal of this Project

Why not using "standard" softwares such as MS PowerPoint, OO Impress or KPresenter?

Pros

Goal of this Project

Why not using "standard" softwares such as MS PowerPoint, OO Impress or KPresenter?

Pros

- Easy to use, intuitive

Goal of this Project

Why not using "standard" softwares such as MS PowerPoint, OO Impress or KPresenter?

Pros

- Easy to use, intuitive
- Lots of themes, graphics, ...

Goal of this Project

Why not using "standard" softwares such as MS PowerPoint, OO Impress or KPresenter?

Pros

- Easy to use, intuitive
- Lots of themes, graphics, ...
- Templates

Goal of this Project

Why not using "standard" softwares such as MS PowerPoint, OO Impress or KPresenter?

Pros

- Easy to use, intuitive
- Lots of themes, graphics, ...
- Templates
- Great animations

Goal of this Project

Why not using "standard" softwares such as MS PowerPoint, OO Impress or KPresenter?

Pros

- Easy to use, intuitive
- Lots of themes, graphics, ...
- Templates
- Great animations

Goal of this Project

Why not using "standard" softwares such as MS PowerPoint, OO Impress or KPresenter?

Pros

- Easy to use, intuitive
- Lots of themes, graphics, ...
- Templates
- Great animations

Cons

Goal of this Project

Why not using "standard" softwares such as MS PowerPoint, OO Impress or KPresenter?

Pros

- Easy to use, intuitive
- Lots of themes, graphics, ...
- Templates
- Great animations

Cons

- No concept of hierarchy in the presentation

Goal of this Project

Why not using "standard" softwares such as MS PowerPoint, OO Impress or KPresenter?

Pros

- Easy to use, intuitive
- Lots of themes, graphics, ...
- Templates
- Great animations

Cons

- No concept of hierarchy in the presentation
- Poor display of maths

Goal of this Project

Why not using "standard" softwares such as MS PowerPoint, OO Impress or KPresenter?

Pros

- Easy to use, intuitive
- Lots of themes, graphics, ...
- Templates
- Great animations

Cons

- No concept of hierarchy in the presentation
- Poor display of maths
- Easy animations but a heavy process at last

Goal of this Project

Why not using "standard" softwares such as MS PowerPoint, OO Impress or KPresenter?

Pros

- Easy to use, intuitive
- Lots of themes, graphics, ...
- Templates
- Great animations

Cons

- No concept of hierarchy in the presentation
- Poor display of maths
- Easy animations but a heavy process at last

Goal of this Project

Why choosing LaTeX?

Goal of this Project

Why choosing LaTeX?

Pros

Goal of this Project

Why choosing LaTeX?

Pros

- Taking benefit of its high-quality typesetting

Goal of this Project

Why choosing LaTeX?

Pros

- Taking benefit of its high-quality typesetting
- Non-proprietary file format

Goal of this Project

Why choosing LaTeX?

Pros

- Taking benefit of its high-quality typesetting
- Non-proprietary file format
  - Text only, cannot be corrupted

Goal of this Project

Why choosing LaTeX?

Pros

- Taking benefit of its high-quality typesetting
- Non-proprietary file format
  - Text only, cannot be corrupted
- Kind of programming language

Goal of this Project

Why choosing LaTeX?

Pros

- Taking benefit of its high-quality typesetting
- Non-proprietary file format
  - Text only, cannot be corrupted
- Kind of programming language
  - Macro automating repeating tasks

Goal of this Project

Why choosing LaTeX?

Pros

- Taking benefit of its high-quality typesetting
- Non-proprietary file format
  - Text only, cannot be corrupted
- Kind of programming language
  - Macro automating repeating tasks
  - Packages extensible 'easily'

Goal of this Project

Why choosing LaTeX?

Pros

- Taking benefit of its high-quality typesetting
- Non-proprietary file format
  - Text only, cannot be corrupted
- Kind of programming language
  - Macro automating repeating tasks
  - Packages extensible 'easily'

Goal of this Project

Why choosing LaTeX?

Pros

- Taking benefit of its high-quality typesetting
- Non-proprietary file format
  - Text only, cannot be corrupted
- Kind of programming language
  - Macro automating repeating tasks
  - Packages extensible 'easily'

Cons

Goal of this Project

Why choosing LaTeX?

Pros

- Taking benefit of its high-quality typesetting
- Non-proprietary file format
  - Text only, cannot be corrupted
- Kind of programming language
  - Macro automating repeating tasks
  - Packages extensible 'easily'

Cons

- Not *wysiwyg*

Goal of this Project

Why choosing LaTeX?

Pros

- Taking benefit of its high-quality typesetting
- Non-proprietary file format
  - Text only, cannot be corrupted
- Kind of programming language
  - Macro automating repeating tasks
  - Packages extensible 'easily'

Cons

- Not *wysiwyg*
- That's all! (In fact, it's relatively hard to get skilled with it, but...)

Goal of this Project

Why choosing LaTeX?

Pros

- Taking benefit of its high-quality typesetting
- Non-proprietary file format
  - Text only, cannot be corrupted
- Kind of programming language
  - Macro automating repeating tasks
  - Packages extensible 'easily'

Cons

- Not *wysiwyg*
- That's all! (In fact, it's relatively hard to get skilled with it, but...)

Presentation Packages

Which one? Common answer: *Prosper*!

Presentation Packages

Which one? Common answer: *Prosper*!

There exist many other solutions:

Presentation Packages

Which one? Common answer: *Prosper*!

There exist many other solutions:

- Beamer . . . . . used for this presentation

Presentation Packages

Which one? Common answer: *Prosper*!

There exist many other solutions:

- Beamer ..... used for this presentation
- TeXPower ..... will be shown later

Presentation Packages

Which one? Common answer: *Prosper*!

There exist many other solutions:

- Beamer ..... used for this presentation
- TeXPower ..... will be shown later
- PPower4 ..... post-processor in Java – `\pause`

Presentation Packages

Which one? Common answer: *Prosper*!

There exist many other solutions:

- Beamer ..... used for this presentation
- TeXPower ..... will be shown later
- PPower4 ..... post-processor in Java – `\pause`
- HA-Prosper ..... adding table of contents, notes in Prosper

Presentation Packages

Which one? Common answer: *Prosper*!

There exist many other solutions:

- Beamer ..... used for this presentation
- TeXPower ..... will be shown later
- PPower4 ..... post-processor in Java – `\pause`
- HA-Prosper ..... adding table of contents, notes in Prosper
- ...

Presentation Packages

Which one? Common answer: *Prosper*!

There exist many other solutions:

- Beamer ..... used for this presentation
- TeXPower ..... will be shown later
- PPower4 ..... post-processor in Java – `\pause`
- HA-Prosper ..... adding table of contents, notes in Prosper
- ...

Presentation Packages

Which one? Common answer: *Prosper*!

There exist many other solutions:

- Beamer ..... used for this presentation
- TeXPower ..... will be shown later
- PPower4 ..... post-processor in Java – `\pause`
- HA-Prosper ..... adding table of contents, notes in Prosper
- ...

This project explains:

Presentation Packages

Which one? Common answer: *Prosper*!

There exist many other solutions:

- Beamer ..... used for this presentation
- TeXPower ..... will be shown later
- PPower4 ..... post-processor in Java – `\pause`
- HA-Prosper ..... adding table of contents, notes in Prosper
- ...

This project explains:

- Beamer

Presentation Packages

Which one? Common answer: *Prosper*!

There exist many other solutions:

- Beamer ..... used for this presentation
- TeXPower ..... will be shown later
- PPower4 ..... post-processor in Java – `\pause`
- HA-Prosper ..... adding table of contents, notes in Prosper
- ...

This project explains:

- Beamer
- Prosper

Presentation Packages

Which one? Common answer: *Prosper*!

There exist many other solutions:

- Beamer ..... used for this presentation
- TeXPower ..... will be shown later
- PPower4 ..... post-processor in Java – `\pause`
- HA-Prosper ..... adding table of contents, notes in Prosper
- ...

This project explains:

- Beamer
- Prosper
- TeXPower

Presentation Packages

Which one? Common answer: *Prosper*!

There exist many other solutions:

- Beamer ..... used for this presentation
- TeXPower ..... will be shown later
- PPower4 ..... post-processor in Java – `\pause`
- HA-Prosper ..... adding table of contents, notes in Prosper
- ...

This project explains:

- Beamer
- Prosper
- TeXPower

Beamer

Beamer offers lots of useful features:

Beamer

Beamer offers lots of useful features:

- Automatic table of contents

Beamer

Beamer offers lots of useful features:

- Automatic table of contents
- Incremental highlight

Beamer

Beamer offers lots of useful features:

- Automatic table of contents
- Incremental highlight
- Fade-in / Fade-out

Beamer

Beamer offers lots of useful features:

- Automatic table of contents
- Incremental highlight
- Fade-in / Fade-out
- Easy interaction

Beamer

Beamer offers lots of useful features:

- Automatic table of contents
- Incremental highlight
- Fade-in / Fade-out
- Easy interaction
  - Jump, Skip and return buttons

Beamer

Beamer offers lots of useful features:

- Automatic table of contents
- Incremental highlight
- Fade-in / Fade-out
- Easy interaction
  - Jump, Skip and return buttons
  - Zoom

Beamer

Beamer offers lots of useful features:

- Automatic table of contents
- Incremental highlight
- Fade-in / Fade-out
- Easy interaction
  - Jump, Skip and return buttons
  - Zoom

Beamer

Increment Highlight (source)

```
\begin{itemize}<+-| alert@+>
  \item Automatic table of contents
  \item Incremental highlight
  \item Fade-in / Fade-out
  \item Easy interaction
\end{itemize}
```

Beamer

Fade-in

Beamer

Fade-in

This text (and all other frame contents) is fading in as the first slide is shown. This even works with colored text!

Beamer

Fade-in

This text (and all other frame contents) is fading in as the first slide is shown. This even works with colored text!

Beamer

Fade-in

This text (and all other frame contents) is fading in as the first slide is shown. This even works with colored text!

Beamer

Fade-in

This text (and all other frame contents) is fading in as the first slide is shown. This even works with colored text!

Beamer

Fade-in

This text (and all other frame contents) is fading in as the first slide is shown. This even works with colored text!

Beamer

Fade-in

This text (and all other frame contents) is fading in as the first slide is shown. This even works with colored text!

Beamer

Fade-in

This text (and all other frame contents) is fading in as the first slide is shown. This even works with colored text!

Beamer

Fade-in

This text (and all other frame contents) is fading in as the first slide is shown. This even works with colored text!

Beamer

Fade-in

This text (and all other frame contents) is fading in as the first slide is shown. This even works with colored text!

Beamer

Fade-in

This text (and all other frame contents) is fading in as the first slide is shown. This even works with colored text!

Beamer

Fade-in

This text (and all other frame contents) is fading in as the first slide is shown. This even works with colored text!

Beamer

Fade-in

This text (and all other frame contents) is fading in as the first slide is shown. This even works with colored text!

Beamer

Fade-in

This text (and all other frame contents) is fading in as the first slide is shown. This even works with colored text!

Beamer

Fade-in

This text (and all other frame contents) is fading in as the first slide is shown. This even works with colored text!

Beamer

Fade-in

This text (and all other frame contents) is fading in as the first slide is shown. This even works with colored text!

Beamer

Fade-in

This text (and all other frame contents) is fading in as the first slide is shown. This even works with colored text!

Beamer

Fade-in

This text (and all other frame contents) is fading in as the first slide is shown. This even works with colored text!

Beamer

Fade-in

This text (and all other frame contents) is fading in as the first slide is shown. This even works with colored text!

Beamer

Fade-in

This text (and all other frame contents) is fading in as the first slide is shown. This even works with colored text!

Beamer

Fade-in (source)

```
\newcount\opaqueness
\frame{
\animate<1-19>
\animatevalue<1-20>{\opaqueness}{0}{100}

\begin{colormixin}{\the\opaqueness!averagebackgroundcolor}
  \frametitle{Beamer \hfill Fade-in}

  This text (and all other frame contents) is fading in
  as the first slide is shown. This even works with
  {\color{green!80!black}colored} \alert{text}!
\end{colormixin}
}
```

Beamer Interaction

Theorem

$$\Pr[\Psi \leq \psi] = \int_{-\infty}^{+\infty} B_{n+1-\psi,\psi}\big(F_W(x)\big) f_R(x) dx \tag{1}$$

$$\mathrm{E}[\Psi] = 1 + n\left(1 - \int_{-\infty}^{+\infty} f_R(x) F_W(x) \mathrm{d}x\right) \tag{2}$$

Skip proof

Beamer Interaction

Theorem

$$\Pr[\Psi \leq \psi] = \int_{-\infty}^{+\infty} B_{n+1-\psi,\psi}\big(F_W(x)\big) f_R(x) dx \tag{1}$$

$$\mathrm{E}[\Psi] = 1 + n\left(1 - \int_{-\infty}^{+\infty} f_R(x) F_W(x) \mathrm{d}x\right) \tag{2}$$

Proof.

As said. . .

Beamer

Interaction (source)

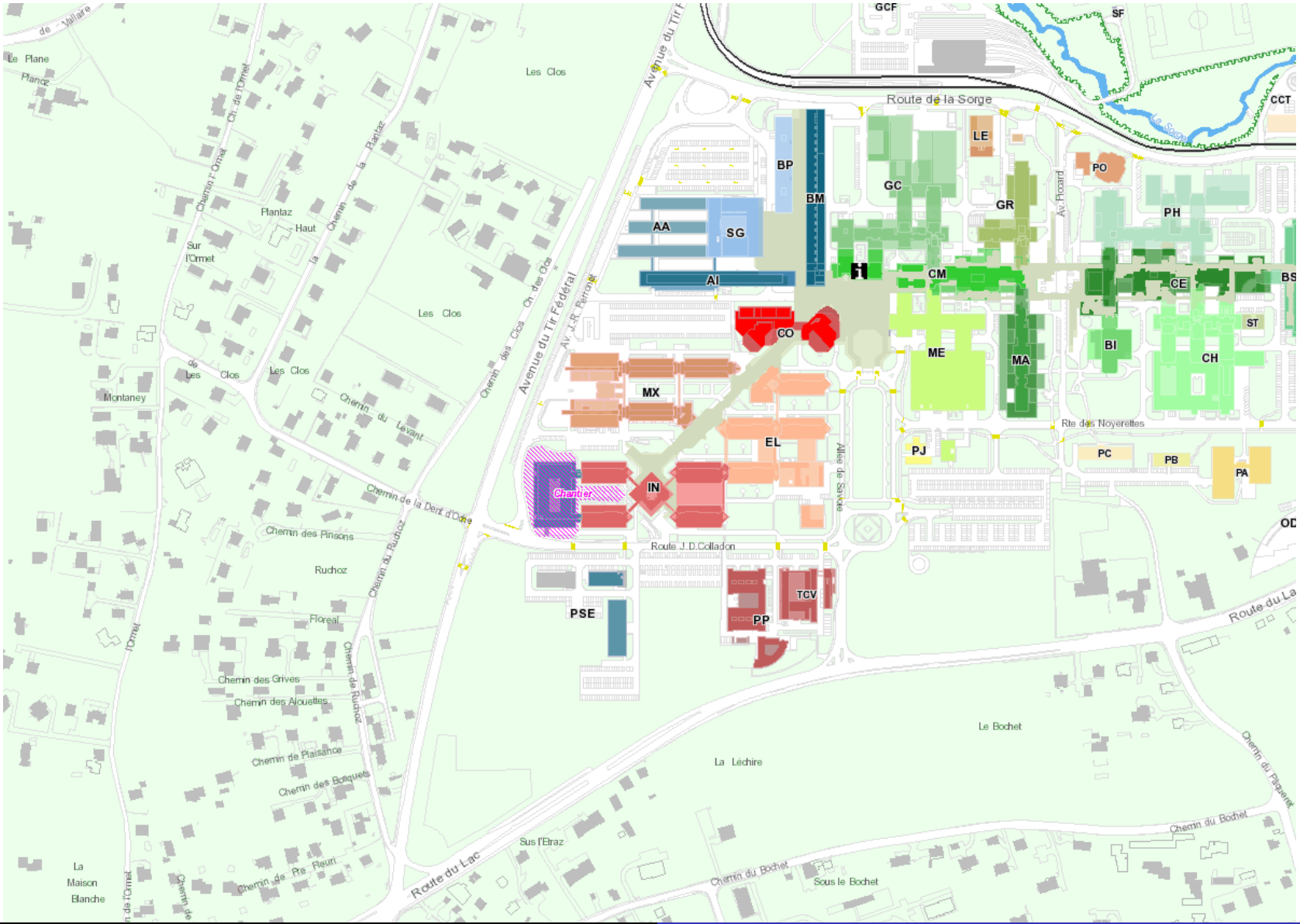
```
\frame{
\frametitle{Beamer \hfill Interaction}

\begin{theorem} ... \end{theorem}

\begin{overprint}
  \onslide<1>
    \hfill \hyperlinkframestartnext{%
beamerskipbutton{Skip proof}}
  \onslide<2>
    \begin{proof}
      ...
    \end{proof}
\end{overprint}
}
```

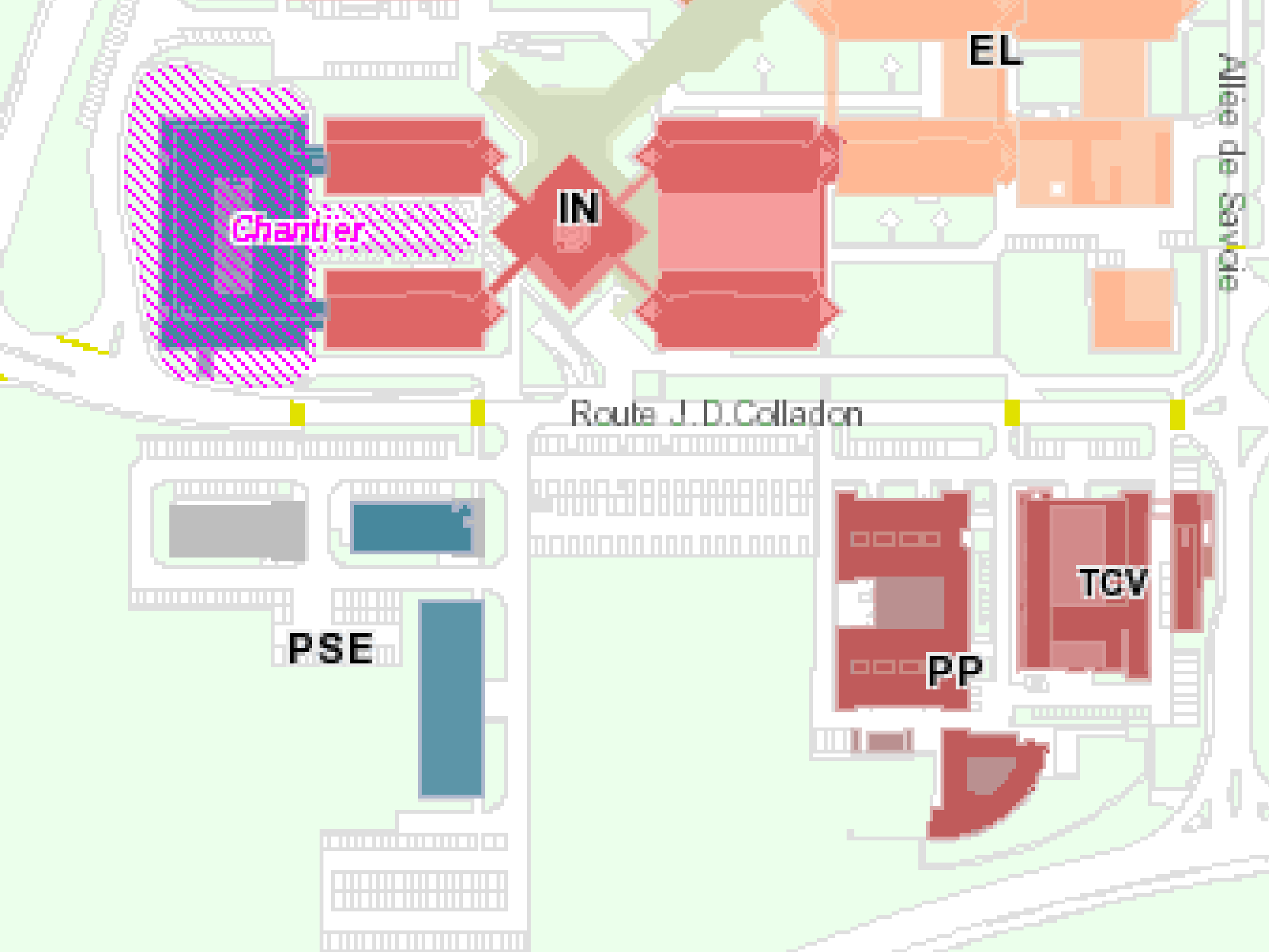
Beamer

Zoom


GCF
SF
CCT
Route de la Sorge
LE
PO
BP
BM
GC
GR
PH
AA
SG
AI
CM
CE
BS
CO
ST
ME
MA
BI
CH
MX
Rte des Noyerettes
EL
PJ
PC
PB
PA
IN
Chantier
Route J.D.Colladon
TCV
PP
PSE
Le Bochet
La Léchire
Route du Lac
Sus l'Etraz
Sous le Bochet
Chemin du Bochet
Chemin du Paquerat
Les Clos
Plantaz
Haut
Sur l'Ormet
Montaney
Ruchoz
Floreal
Chemin des Grives
Chemin des Alouettes
Chemin de Plaisance
Chemin des Bosquets
Chemin de Pre Fleuri
La Maison Blanche
Avenue du Tir Fédéral
Av. J.-R. Perrelet
Chemin des Clos
Chemin du Levant
Chemin de la Dent d'Oche
Chemin des Pinsons
Chemin du Ruchoz
Allée de Savoie
Av. Floccard


GCF
Route de la Sorge
LE
BP
BM
GC
GR
SG
CM


Les Clos
Les Clos
Chemin des Pinsons


EL
Chantier
IN
Route J.D.Colladon
PSE
TGV
PP

Beamer

Zoom (source)

```
\frame<1>[label=zooms]
\frametitle<1>{Beamer \hfill \hyperlink{zoomSrc}{Zoom}}

\framezoom<1><2>[border](5.5cm,0cm)(3cm,2cm)
\framezoom<1><3>[border](1cm,3cm)(2cm,1.5cm)
\framezoom<1><4>[border](4cm,3.5cm)(3cm,2cm)

\pgfimage[height=8cm]{plan_epfl}
}

\againframe<2->[plain]{zooms}
```

Beamer

Opinion

Opinion

Beamer

Opinion

- Easy to understand

Beamer

Opinion

Opinion

- Easy to understand
- Really powerfull

Beamer

Opinion

Opinion

- Easy to understand
- Really powerfull
- Nice templates

Beamer

Opinion

Opinion

- Easy to understand
- Really powerfull
- Nice templates
- The best for ‘common’ presentations

Beamer

Opinion

Opinion

- Easy to understand
- Really powerfull
- Nice templates
- The best for ‘common’ presentations