Recent Development Directions for makeinfo

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Texinfo and the GNU project

- Texinfo is the "official" documentation format for the GNU project
- Syntax similar with TEX, with structural markup, for technical manuals
- competition:

Docbook	benefits of XML, but lots of markup
LATEX	presentation markup
Asciidoc	less structured

- two converters:

  texi2dvi, texi2pdf plain TEX to convert to dvi, ps, pdf

  makeinfo, texi2html, texi2any converts to Info, HTML, Docbook, Texinfo XML

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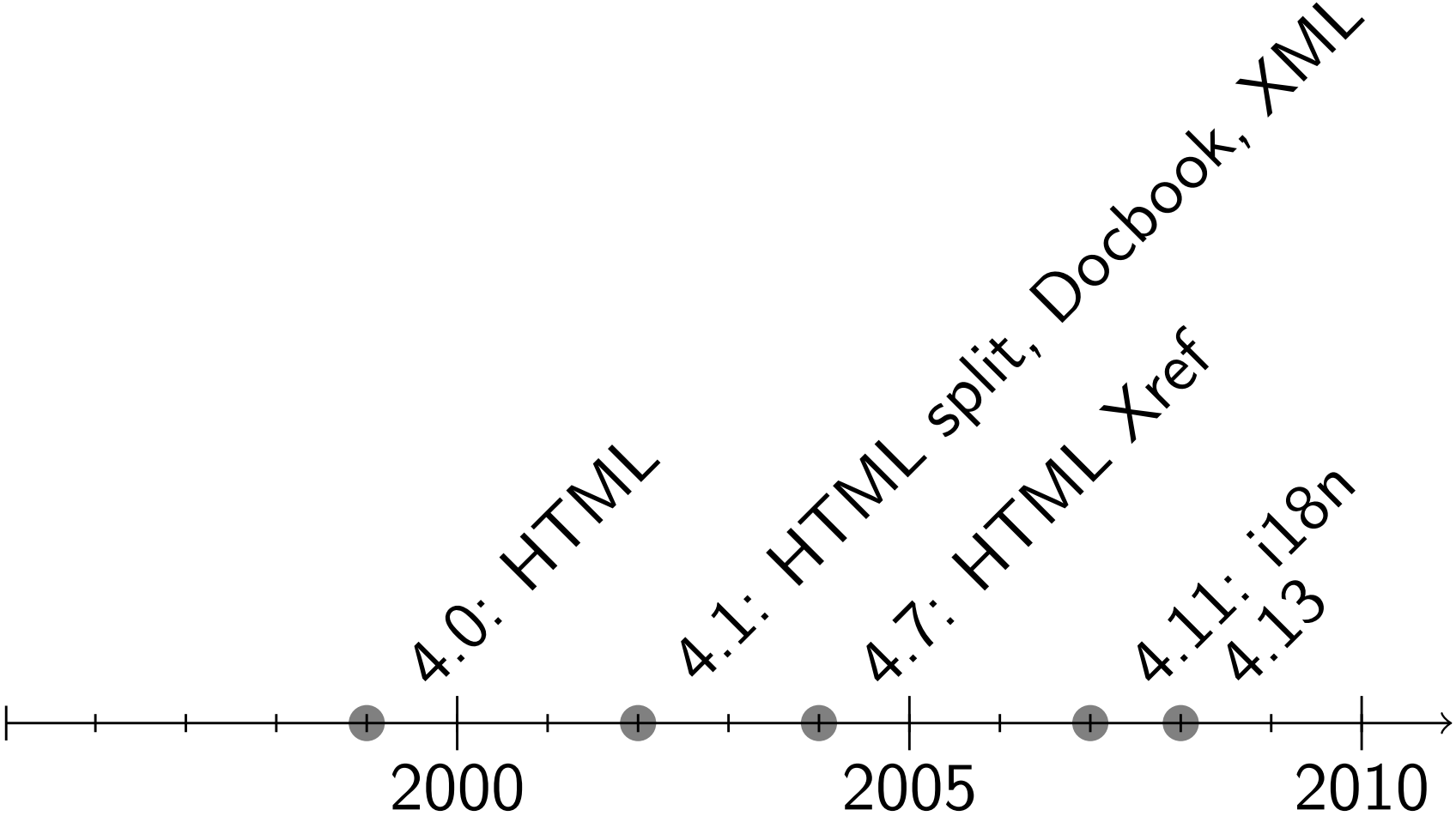
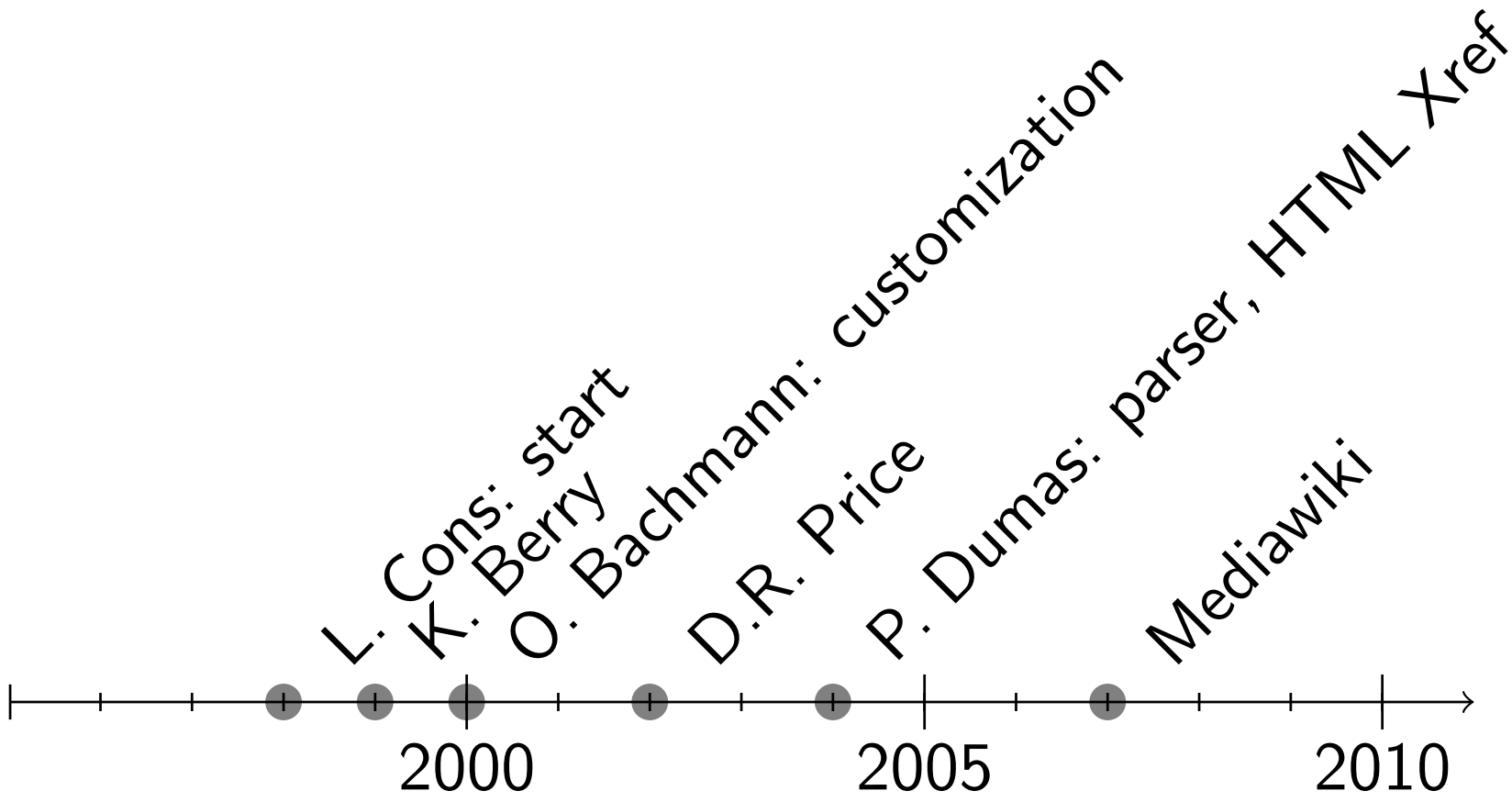
“Recent” makeinfo development until 2008



In parallel with texi2html



texi2html in texinfo

- lilypond manual switches to texi2html
- July 2008 decision to switch to texi2html in texinfo if made compatible with makeinfo
- September 2008 last texinfo release with C makeinfo installed
- June 2010 last stand alone texi2html release, in texinfo source tree
- November 2010 possibility of a first release with texi2html as makeinfo

Selling points: customization (design)
Problematic points: speed and design.

The new Texinfo Parser development

- September to November 2010 a Texinfo Parser is developped
- November 2010 decision to use the Parser in next release!
- March 2011 enhanced Info backend done
- August 2011 HTML backend done

Selling points: correctness, customization and design.
Problematic point: speed.

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The Parser and backends

- The Parser parses the Texinfo code into a tree
- Additional information is gathered on the tree, like sectioning and nodes trees
- Backends convert the tree to an output format

- Perl modules and a command (makeinfo/texi2any)
- First level of customization through "customization variables". Example USE_ACCESSKEY
- Convert::HTML fully customizable with hashes and functions

The Texinfo tree

Common keys for tree element

- cmdname — the @-command name if corresponding to a command
- type — element type, in general not present with cmdname
- text — a text fragment
- args — array of arguments in @-command brace, or line, or menu entry
- contents — array, all purpose container, holding paragraph content, argument content, block command content
- parent — the parent element
- extra — placeholder for any other information

Other keys with line numbers, and directions for sectioning commands and nodes.

Example of tree

```
@quotation
Text @@ @code{c}
@end quotation
```

```
{'cmdname' => 'quotation',
 'contents' => [
   {'type' => 'empty_line_after_command'}
    'text' => '
'},
   {'type' => 'paragraph',
    'contents' => [
      {'text' => 'Text␣'},
      {'cmdname' => '@'},
      {'text' => '␣'},
      { 'cmdname' => 'code',
        'args' => [
         {'type' => 'brace_command_arg'
          'contents' => [ {'text' => 'c'} ] } ] },
      {'text' => '
'}]}]}
```

HTML customization

Functions references called for elements. Defined in customization files.

```
$commands_conversion{'quotation'} = \&my_quotation;

sub my_quotation($$$$$)
{
  my $converter = shift; # opaque object
  my $cmdname = shift;   # the @-command cmdname
  my $command = shift;   # the tree object
  my $args = shift;      # formated arguments array
  my $content = shift;   # formatted content

  my $result = '';
  if ($command->{'extra'}
      and $command->{'extra'}->{'authors'}) {
    $result = 'With author';
  }
  $result .= 'pre ' if ($converter->in_preformatted());
  $result .= $args->[0]->{'normal'} if ($args->[0]);
  return $result .$content;
}
```

The future

- a release as soon as possible (docbook, Texinfo XML)

- @node and @menu automatic generation
- re-enable math formatting through latex2html/tex4ht
- maybe revive Mediawiki, roff outputs
- finish LaTeX backend
- epub, odp?

- use m4 to preprocess the Texinfo
- more simple math commands, and math environments