WEB FONTS

DELIVER THE FONT TOGETHER WITH THE WEB CONTENT

TELECOM ParisTech

A FONT FAMILY

- A set of **glyphs**
  - Graphical objects to be rendered or printed
- Glyphs visually represent the **characters** from a character set
  - Complex glyph-character relationship
- Glyphs in a font have a given **style**
  - Glyphs are drawn in a similar way
  - e.g. Times New Roman

CHARACTER – GLYPH RELATIONSHIP

- Influenced by the language context
  - Ex: « A »=Capital latin letter A
    =Capital greek letter ALPHA

- Influenced by the writing mode
  - Ex: opening parenthesis « (» (french)
    opening parenthesis «) » (arabic)

- Contextual characters & Glyph substitution
  - depending on the position in the word
    - Ex: arabic writing (initial, middle, end, isolated)

  - Depending on the previous characters
    - Ligatures
    - Glyph « œ » = character « o » + character « e »
    - Glyph « à » = glyph « a » + glyph « ` »

WHAT IS A FONT ?

- A **font** is a subset of a font family
  - With a given style (bold, italic, ...)
  - With some parameters (size, weight, ...).

- Summary
  - Helvetica is a font-family
  - Helvetica Italic is a font
  - Helvetica Bold is a font

- Bitmap vs vectorial fonts

WEB FONT FORMATS

- Open Type (aka Open Font Format – OFF)
- Compressed formats/packages
  - WOFF: Web Open Font Format
    - Standard
    - ZIP and metadata
  - EOT: Embedded OpenType
    - Microsoft Format
- SVG

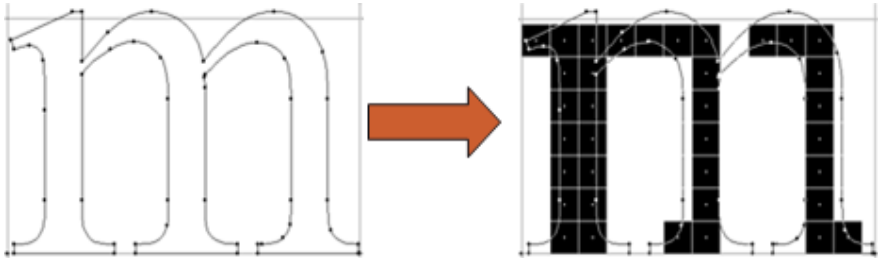
OPENTYPE

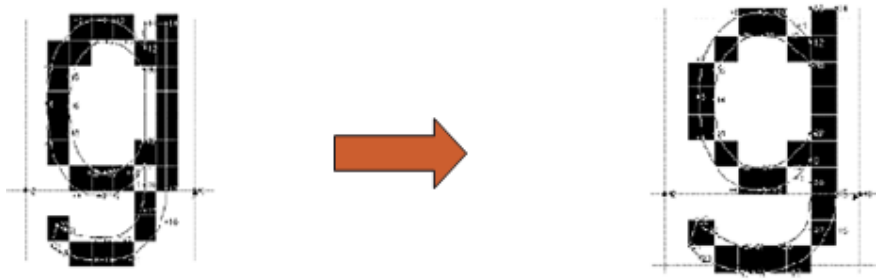
- Unification of different font formats developped by Apple, Microsoft, Adobe
  - TrueType & Type1

- Basics
  - Binary file format compatible with multiple plateforms (Unix, Win, Mac): .ttf, .ttc, .ott
  - Using Unicode Character Set
  - Vector or Bitmap Glyphs
  - Supports advanced typographic features (ligature, substitution)

- File structure
  - List of tables
  - CMAP: glyph - character mapping
  - GLYF: Vector drawing for glyphs
  - CFF: PostScript representation of glyphs
  - GSUB: Glyph substitution information
  - GPOS: Glyph relative positioning

FONT HINTING





SVG FONTS

- SVG allows defining its own fonts
  - `<font>`, `<glyph>`, ...
  - `font-face-uri`, ...
  - Not very well supported
  - Deprecated in SVG 2
- SVG in OpenType
  - Work/Standard In progress
  - Animated/Colored glyphs
  - http://www.adobe.com/devnet-apps/type/svgopentype.html

FONTS IN CSS

- Font Properties
  - `font-family`,`font-style`, `font-variant`, `font-size`, `font-weight`
  - Using embedded fonts

```
@font-face {
    font-family: 'LearningCurveProRegular';
    src: url('LearningCurveProRegular.eot') format('eot'),
         url('LearningCurveProRegular.woff') format('woff'),
         url('LearningCurveProRegular.ttf') format('truetype'),
         url('LearningCurveProRegular.svg') format('svg');
}
h1 {
    font-family: 'LearningCurveProRegular';
}
```

  - Using fallback fonts (serif, sans-serif, monospace)

```
h1 {
    font-family: 'LearningCurveProRegular', Arial, serif;
}
```

SOME FONT RESOURCES/TOOLS

- Free fonts
  - Open Font Library
  - Google Fonts
  - ...
- Font software
  - Font Squirrel
  - Font Face Generator
  - Convert font
  - Microsoft Typography
  - ...