FM: Automation at your fingertips

Frank E. Blokland
Font production process:

*what to automate?*
Font production process: *what to automate?*

- Design stage
Font production process: what to automate?

- Design stage
- Editing stage
Font production process: what to automate?

- Design stage
- Editing stage
- Data management stage
Font production process: *what to automate?*

- Design stage
- Editing stage
- Data management stage
- Font generation stage
Font production process: 

*what to automate?*

- Design stage
- Editing stage
- Data management stage
- Font generation stage
- Format enhancement stage
The **IKARUS** file structure of **DTL FontMaster**

*A versatile system for batch production:*
The **IKARUS file structure of DTL FontMaster**

* A versatile system for batch production:

- Glyph database (BE/IK)
The **IKARUS** file structure of **DTL FontMaster**

*A versatile system for batch production:*

- Glyph database (**BE/IK**)
- **UFM** file (**font naming/metrics**)
The **IKARUS** file structure of **DTL FontMaster**

*A versatile system for batch production:*

- Glyph database (**BE/IK**)
- **UFM** file (font naming/metrics)
- **AFM/kern.fea** file (kerning information)
The Ikarus file structure of DTL FontMaster

A versatile system for batch production:

- Glyph database (BE/IK)
- UFM file (font naming/metrics)
- AFM/kern.fea file (kerning information)
- Character layout file
The **IKARUS** file structure of **DTL FontMaster**

*A versatile system for batch production:*

- Glyph database *(BE/IK)*
- **UFM** file (font naming/metrics)
- **AFM/kern.fea** file (kerning information)
- Character layout file
- OpenType layout features file
The **IKARUS file structure of DTL FontMaster**

*Bundling urw’s thirty+ years of experience...*
The *IKARUS* file structure of *DTL FontMaster*

*A versatile system for batch production*:
The _IKARUS_ file structure of _DTL FontMaster_

*A versatile system for batch production:*

- Platform independent
The **IKARUS** file structure of **DTL FontMaster**

**A versatile system for batch production:**

- Platform independent
- Easy to edit text files:
  - **UFM** file (font naming/metrics)
  - **AFM/kern.fea** file (kerning information)
  - Character layout file
  - OpenType layout features file
**Glyph database** (BE/IK)

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129 201 202 203
Dutch Type Library

Glyph database (BE/IK)

For the storage of glyphs:
Glyph database (BE/IK)

*For the storage of glyphs:*

- Only contour descriptions
Glyph database (BE/IK)

*For the storage of glyphs:*

- Only contour descriptions
- Ordering controlled with .cha files
Glyph database (BE/IK)

For the storage of glyphs:

- Only contour descriptions
- Ordering controlled with .cha files
- Easy to re-order
Glyph database (BE/IK)

For the storage of glyphs:

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- Ordering controlled with .cha files
- Easy to re-order
- Easy to edit & merge
- Batch handling via command files
Glyph database (BE/IK)

*For the storage of glyphs:*

- Only contour descriptions
- Ordering controlled with .cha files
- Easy to re-order
- Easy to edit & merge
- Batch handling via command files
- Platform independent
UFM file (font naming & metrics)

*For the storage of naming & metrics info:*
UFM file (font naming & metrics)

For the storage of naming & metrics info:

- Easy to edit text file
UFM file (font naming & metrics)

*For the storage of naming & metrics info:*

- Easy to edit text file
- Easy to duplicate for related fonts
 UF M file (font naming & metrics)  
*For the storage of naming & metrics info:*  
- Easy to edit text file  
- Easy to duplicate for related fonts  
- Connected with glyph data via file name
UFM file (font naming & metrics)

*For the storage of naming & metrics info:*

- Easy to edit text file
- Easy to duplicate for related fonts
- Connected with glyph data via file name
- Platform independent
UFM file (font naming & metrics)

Version 001.000
FamilyName DTL Antares TPRO
FontName DTLAntaresTPRO-Regular
FullName DTL Antares TPRO Regular
UniqueID 5083209
Weight Regular
IsFixedPitch false
Ascender 750
Descender -250
UnderlinePosition -133
UnderlineThickness 20
Bodysize 1000
CapHeight 715
FigureSize 725
XHeight 477
Dutch Type Library

FM: Automation at Your Fingertips

TTF/OTF (1) dialog for editing the UFM file
AFM file / kern.fea files

For the storage of kern data:
AFM file / kern.fea files

For the storage of kern data:

- Easy to edit text files
AFM file / kern.fea files

For the storage of kern data:

- Easy to edit text files
- Connected with glyph data via file name
AFM file / kern.fea files

For the storage of kern data:

- Easy to edit text files
- Connected with glyph data via file name
- Platform independent
Character layout file

For database organization & font encoding:
Character layout file

For database organization & font encoding:

- Easy to edit text file (Excel)
Character layout file

*For database organization & font encoding:*

- Easy to edit text file (Excel)
- Easy to generate or customize for other database structures
Character layout file

For database organization & font encoding:

- Easy to edit text file (Excel)
- Easy to generate or customize for other database structures
- Batch handling
## Character layout file

C character mapping file based on AGL_1.2;

<table>
<thead>
<tr>
<th>URWNum</th>
<th>UNINum</th>
<th>PSNum</th>
<th>PSName</th>
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## Character layout file

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</table>
OpenType layout features file

For generating \texttt{gsub} & \texttt{gpos} features:
OpenType layout features file

*For generating **gsub** & **gpos** features:*

- Easy to edit text file (Adobe syntax)
OpenType layout features file

For generating *gsub* & *gpos* features:

- Easy to edit text file (Adobe syntax)
- Supports everything that is available in Adobe’s OT SDK
OpenType layout features file

*For generating *gsub* & *gpos* features:

- Easy to edit text file (Adobe syntax)
- Supports everything that is available in Adobe’s *ot sdk*
- For OpenType *cff* & *ttf*
OpenType layout features file

For generating *gsub* & *gpos* features:

- Easy to edit text file (Adobe syntax)
- Supports everything that is available in Adobe’s OT SDK
- For OpenType cff & ttf
- Batch handling
OpenType layout features file

*Conditions for OT fonts with auto features:*
OpenType layout features file

*Conditions for OT fonts with auto features:*

- The glyphs must be present in the database
OpenType layout features file

Conditions for OT fonts with auto features:

- The glyphs must be present in the database
- The characters must be identically named in the Features and Character layout files
OpenType layout features file

*Conditions for OT fonts with auto features:*

- The glyphs must be present in the database
- The characters must be identically named in the Features and Character layout files
- The characters must be listed in the Character layout file. If not, features will be removed during font building
Font production process:

Advantages of automating (OT production):
Font production process:

*Advantages of automating (OT production):*

- Better overview & control
Font production process:

Advantages of automating (OT production):

- Better overview & control
- Easy maintenance & updating
Font production process:

Advantages of automating (OT production):

- Better overview & control
- Easy maintenance & updating
- Consistency throughout a font library
Font production process:

*Conditions for automating (at DTL):*
Font production process:

*Conditions for automating (at DTL):*

- Standard file naming structure
Font production process:

*Conditions for automating (at DTL):*

- Standard file naming structure
- Fixed directory structure
  (file distribution via AppleScripts)
Font production process:

*Conditions for automating (at DTL):*

- Standard file naming structure
- Fixed directory structure
  (file distribution via AppleScripts)
- Standard structured batch files
  (command, management, production)
  for easy duplicating & editing
File naming conventions at DTL
File naming conventions at DTL

- Eight character file names
File naming conventions at DTL

- Eight character file names
- Based on urw++’s model
File naming conventions at DTL

- Eight character file names
- Based on urw++’s model
- Used for glyph database, UFM & AFM files
File naming conventions at DTL

- Eight character file names
- Based on urw++’s model
- Used for glyph database, ufm & afm files
- Used for font file naming
- Used for archiving
File naming conventions at DTL

- Eight character file names
- Based on urw++’s model
- Used for glyph database, UFM & AFM files
- Used for font file naming
- Used for archiving
- Also unique TrueType & OpenType ID
File naming conventions at DTL

**DTL Argo West ps Type1 & TT Standard**

- Light: A057012T A057032T
- Regular: A057013T A057033T
- Medium: A057014T A057034T
- Bold: A057016T A057036T
- Black: A057019T A057039T
File naming conventions at DTL

**DTL Argo East PS Type1 & TT Special**

- **Light**
  - AE57C12T
  - AE57C32T

- **Regular**
  - AE57C13T
  - AE57C33T

- **Medium**
  - AE57C14T
  - AE57C34T

- **Bold**
  - AE57C16T
  - AE57C36T

- **Black**
  - AE57C19T
  - AE57C39T
File naming conventions at DTL

**DTL Argo Cyrillic OpenType Standard**

**Light**
- AC57X12T
- AC57X32T

**Regular**
- AC57X13T
- AC57X33T

**Medium**
- AC57X14T
- AC57X34T

**Bold**
- AC57X16T
- AC57X36T

**Black**
- AC57X19T
- AC57X39T
File naming conventions at DTL

**DTL Argo OpenType pro**

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<td>AP57X34T</td>
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</tbody>
</table>
Fixed directory structure at DTL
Hierarchy of font production files at DTL

A few examples:

1. Top/library level:
   1.1.1 All.cmd (all typefaces, all formats)
   1.1.2 CFF_All.cmd (all OpenType CFF fonts)
   1.1.3 PS1_All.cmd (all PS Type1 fonts)
   1.1.4 TT_All.cmd (all TrueType fonts)
Hierarchy of font production files at DTL

1.2 All, per font format and code page for both Mac OS and Windows:

   1.2.1 CFF_West_All.cmd (only TOT)
   1.2.2 CFF_East_All.cmd (only TOT)
   1.2.3 CFF_Cyrillic_All.cmd (only TOT)
   1.2.4 PS1_West_All.cmd
   1.2.5 PS1_East_All.cmd
Hierarchy of font production files at DTL

2. Typeface level:
   2.1.1 Antares_All.cmd
   2.1.2 Antares_CFF_All.cmd
   2.1.3 Antares_PS1_All.cmd
   2.1.4 Antares_TT_All.cmd

3. Format level (sub of Typeface level):
   et cetera
Standard structured batch files

CharacterLayoutFile
FontProduction:FontMaster:Support_Files:CharacterLayout files:OpenType:Pro:pro_otf.cha
CharacterLayoutCodePage PostScript-Number
BasicEmSquare 1000
BasicFormat BE Format
BasicFontDirectory
FontProduction:FontMaster:Aanmaak:Antares:Mac
OS:OpenType:Pro
SelectBasicFont all
ExportFontFormat OpenType (CFF)
ExportTargetDirectory
FontProduction:FontMaster:Aanmaak:Antares:Mac
OS:Result:OTF
ExportFontFormat OpenType (CFF)
FM: Automation at your fingertips

Frank E. Blokland