

User Interface - Bug #4849

Swing font size on laptop with HiDPI is too big

08/11/2020 03:55 PM - Roger Borrello

Status:	New	Start date:	
Priority:	Normal	Due date:	
Assignee:		% Done:	0%
Category:		Estimated time:	0.00 hour
Target version:		case_num:	
billable:	No	version:	
vendor_id:	GCD		
Description			
Related to User Interface - Bug #4135: high dpi screens display in low dpi Review			

History

#1 - 08/11/2020 03:59 PM - Greg Shah

- Related to Bug #4135: high dpi screens display in low dpi added

#2 - 08/11/2020 03:59 PM - Greg Shah

The [#4135](#) is specific to the web client.

#3 - 08/11/2020 04:07 PM - Roger Borrello

- File *bigfont.mkv* added

This may be something only related to my hardware, but I am logging it anyway.

After recent NVIDIA driver update, my Swing client fonts are scaled way too big. See attached video. This is the `./uast/button/gui_event_mouse_test_static_frame_triggers_only_simple.p` testcase.

Below is my laptop configuration:

```
System:   Host: rfb Kernel: 5.4.0-42-generic x86_64 bits: 64 compiler: gcc v: 7.5.0
          Desktop: Cinnamon 4.4.8 wm: muffin dm: LightDM Distro: Linux Mint 19.3 Tricia
          base: Ubuntu 18.04 bionic
Machine:  Type: Laptop System: LENOVO product: 20MF000DUS v: ThinkPad X1 Extreme serial: <filter>
          Chassis: type: 10 serial: <filter>
          Mobo: LENOVO model: 20MF000DUS serial: <filter> UEFI: LENOVO v: N2EET46W (1.28 )
          date: 03/18/2020
Battery:  ID-1: BAT0 charge: 70.1 Wh condition: 71.6/80.4 Wh (89%) volts: 17.1/15.4
          model: Celpert 01AY969 serial: <filter> status: Unknown
          Device-1: hidpp_battery_0 model: Logitech MK700 serial: <filter> charge: 70%
          status: Discharging
          Device-2: hidpp_battery_1 model: Logitech Marathon Mouse/Performance Plus M705
          serial: <filter> charge: 10% status: Discharging
CPU:      Topology: 6-Core model: Intel Core i7-8850H bits: 64 type: MT MCP arch: Kaby Lake
          rev: A L2 cache: 9216 KiB
          flags: lm nx pae sse sse2 sse3 sse4_1 sse4_2 ssse3 vmx bogomips: 62399
          Speed: 800 MHz min/max: 800/4300 MHz Core speeds (MHz): 1: 800 2: 800 3: 800 4: 800
          5: 800 6: 800 7: 800 8: 800 9: 800 10: 800 11: 800 12: 800
Graphics: Device-1: NVIDIA GP107M [GeForce GTX 1050 Ti Mobile] driver: nvidia v: 440.100
          bus ID: 01:00.0 chip ID: 10de:1c8c
          Display: x11 server: X.Org 1.20.8 driver: nvidia
          resolution: 1920x1080~60Hz, 1920x1080~60Hz, 3840x2160~60Hz
          OpenGL: renderer: GeForce GTX 1050 Ti with Max-Q Design/PCIe/SSE2
          v: 4.6.0 NVIDIA 440.100 direct render: Yes
Audio:    Device-1: Intel Cannon Lake PCH cAVS vendor: Lenovo driver: snd_hda_intel v: kernel
          bus ID: 00:1f.3 chip ID: 8086:a348
```

```

Device-2: NVIDIA GP107GL High Definition Audio driver: snd_hda_intel v: kernel
bus ID: 01:00.1 chip ID: 10de:0fb9
Device-3: Logitech HD Pro Webcam C920 type: USB driver: snd-usb-audio, uvcvideo
bus ID: 1-1.2:17 chip ID: 046d:082d
Device-4: GN Netcom type: USB driver: jabra,snd-usb-audio,usbhid bus ID: 1-1.1:16
chip ID: 0b0e:1041
Sound Server: ALSA v: k5.4.0-42-generic
Network: Device-1: Intel Wireless-AC 9560 [Jefferson Peak] driver: iwlwifi v: kernel
bus ID: 00:14.3 chip ID: 8086:a370
IF: wlp0s20f3 state: down mac: <filter>
Device-2: Intel Ethernet I219-LM vendor: Lenovo driver: e1000e v: 3.2.6-k port: efa0
bus ID: 00:1f.6 chip ID: 8086:15bb
IF: enp0s31f6 state: up speed: 1000 Mbps duplex: full mac: <filter>
Drives: Local Storage: total: 953.87 GiB used: 353.54 GiB (37.1%)
ID-1: /dev/nvme0n1 vendor: Samsung model: MZVLB1T0HALR-000L7 size: 953.87 GiB
speed: 31.6 Gb/s lanes: 4 serial: <filter>
Partition: ID-1: / size: 914.76 GiB used: 352.54 GiB (38.5%) fs: ext4 dev: /dev/dm-1
ID-2: /boot size: 704.5 MiB used: 244.9 MiB (34.8%) fs: ext4 dev: /dev/nvme0n1p2
ID-3: swap-1 size: 976.0 MiB used: 781.4 MiB (80.1%) fs: swap dev: /dev/dm-2
Sensors: System Temperatures: cpu: 52.0 C mobo: 51.0 C gpu: nvidia temp: 52 C
Fan Speeds (RPM): cpu: 2187
Repos: No active apt repos in: /etc/apt/sources.list
No active apt repos in: /etc/apt/sources.list.d/additional-repositories.list
No active apt repos in: /etc/apt/sources.list.d/google-chrome.list
Active apt repos in: /etc/apt/sources.list.d/graphics-drivers-ppa-bionic.list
1: deb http://ppa.launchpad.net/graphics-drivers/ppa/ubuntu bionic main
Active apt repos in: /etc/apt/sources.list.d/official-package-repositories.list
1: deb http://packages.linuxmint.com tricia main upstream import backport
2: deb http://archive.ubuntu.com/ubuntu bionic main restricted universe multiverse
3: deb http://archive.ubuntu.com/ubuntu bionic-updates main restricted universe multiverse
4: deb http://archive.ubuntu.com/ubuntu bionic-backports main restricted universe multiverse
5: deb http://security.ubuntu.com/ubuntu/ bionic-security main restricted universe multiverse
6: deb http://archive.canonical.com/ubuntu/ bionic partner
Active apt repos in: /etc/apt/sources.list.d/official-source-repositories.list
1: deb-src http://packages.linuxmint.com tricia main upstream import backport
2: deb-src http://archive.ubuntu.com/ubuntu bionic main restricted universe multiverse
3: deb-src http://archive.ubuntu.com/ubuntu bionic-updates main restricted universe multiverse
4: deb-src http://archive.ubuntu.com/ubuntu bionic-backports main restricted universe multiverse
5: deb-src http://security.ubuntu.com/ubuntu/ bionic-security main restricted universe multiverse
6: deb-src http://archive.canonical.com/ubuntu/ bionic partner
Active apt repos in: /etc/apt/sources.list.d/pgdg.list
1: deb http://apt.postgresql.org/pub/repos/apt/ precise-pgdg main
Info: Processes: 390 Uptime: 19d 15h 58m Memory: 30.86 GiB used: 23.79 GiB (77.1%)
Init: systemd v: 237 runlevel: 5 Compilers: gcc: 7.5.0 alt: 7
Client: Unknown python3.6 client inxi: 3.0.32

```

#4 - 08/11/2020 04:10 PM - Roger Borrello

xrandr output:

Screen 0: minimum 8 x 8, current 5760 x 1080, maximum 32767 x 32767

DP-0 connected primary 1920x1080+1920+0 (normal left inverted right x axis y axis) 477mm x 268mm

1920x1080	60.00*+	59.94	50.00		
1680x1050	59.95				
1600x1200	60.00				
1600x900	60.00				
1440x900	59.89				
1440x576	50.00				
1400x1050	59.98				
1280x1024	75.02	60.02			
1280x960	60.00				
1280x800	59.81				
1280x720	60.00	59.94	50.00		
1024x768	75.03	70.07	60.00		
800x600	75.00	72.19	60.32	56.25	
720x576	50.00				
720x480	59.94				
640x480	75.00	72.81	59.94	59.93	

DP-1 connected 1920x1080+3840+0 (normal left inverted right x axis y axis) 477mm x 268mm

1920x1080	60.00*+	59.94	50.00		
1680x1050	59.95				
1600x1200	60.00				
1600x900	60.00				
1440x900	59.89				
1440x576	50.00				
1400x1050	59.98				
1280x1024	75.02	60.02			
1280x960	60.00				
1280x800	59.81				
1280x720	60.00	59.94	50.00		
1024x768	75.03	70.07	60.00		
800x600	75.00	72.19	60.32	56.25	
720x576	50.00				
720x480	59.94				
640x480	75.00	72.81	59.94	59.93	

HDMI-0 disconnected (normal left inverted right x axis y axis)

DP-2 connected 1920x1080+0+0 (normal left inverted right x axis y axis) 344mm x 193mm

3840x2160	60.00*+				
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#5 - 08/11/2020 04:16 PM - Roger Borrello

- File 20200811_NVIDIA-X-Server-Settings_1.png added

- File 20200811_NVIDIA-X-Server-Settings_3.png added

- File 20200811_NVIDIA-X-Server-Settings_2.png added

- File 20200811_NVIDIA-X-Server-Settings_0.png added

NVIDIA settings.

NVIDIA X Server Settings

X Server Information

- X Server Display Configuration
 - X Screen 0
 - X Server XVideo Settings
 - OpenGL Settings
 - Graphics Information
 - Antialiasing Settings
 - VDPAA Information
 - GPU 0 - (GeForce GTX 1050 Ti with Max
 - Thermal Settings
 - PowerMizer
 - DP-0 - (ViewSonic VA2246 Series)
 - DP-1 - (ViewSonic VA2246 Series)
 - DP-2 - (AU Optronics Corporation)
 - Application Profiles
 - nvidia-settings Configuration

System Information

Operating System: Linux-x86_64
NVIDIA Driver Version: 440.100

X Server Information

Display Name: rfb:0
Server Version Number: 11.0
Server Vendor String: The X.Org Foundation
Server Vendor Version: 1.20.8 (12008000)
NV-CONTROL Version: 1.29
Screens: 1

Help Quit

X Server Information

X Server Display Configuration

X Screen 0

X Server XVideo Settings

OpenGL Settings

Graphics Information

Antialiasing Settings

VDPAAU Information

GPU 0 - (GeForce GTX 1050 Ti with Max

Thermal Settings

PowerMizer

DP-0 - (ViewSonic VA2246 Series)

DP-1 - (ViewSonic VA2246 Series)

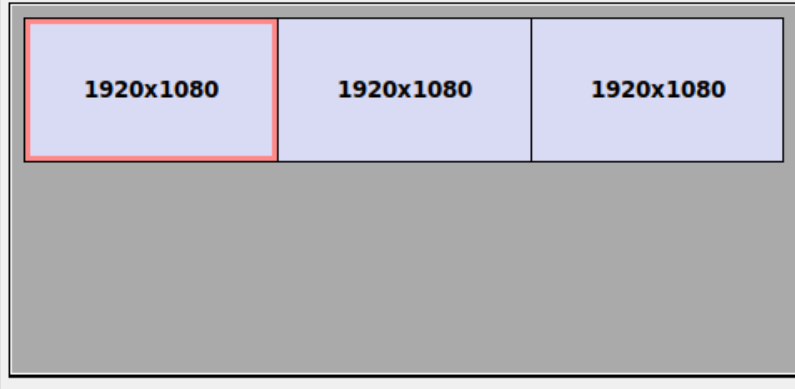
DP-2 - (AU Optronics Corporation)

Application Profiles

nvidia-settings Configuration



Layout



Selection: AU Optronics Corporation (DP-2)

Configuration: X screen 0

Resolution: 1920x1080 (scaled) Auto

Orientation: No Rotation No Reflection

Underscan: 0

Position: Absolute +0+0

Make this the primary display for the X screen

Apply Detect Displays Advanced... Reset

Save to X Configuration File

Help Quit

X Server Information

X Server Display Configuration

X Screen 0

X Server XVideo Settings

OpenGL Settings

Graphics Information

Antialiasing Settings

VDPAAU Information

GPU 0 - (GeForce GTX 1050 Ti with Max

Thermal Settings

PowerMizer

DP-0 - (ViewSonic VA2246 Series)

DP-1 - (ViewSonic VA2246 Series)

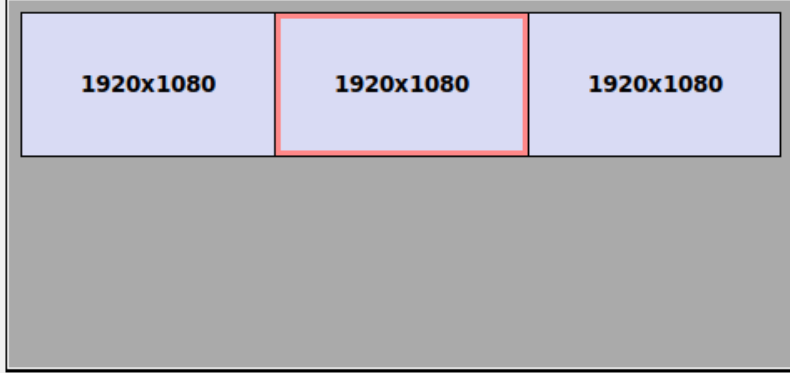
DP-2 - (AU Optronics Corporation)

Application Profiles

nvidia-settings Configuration



Layout



Selection: ViewSonic VA2246 Series (DP-0)

Configuration: X screen 0

Resolution: Auto Auto

Orientation: No Rotation No Reflection

Underscan: 0

Position: Absolute +1920+0

Make this the primary display for the X screen

Apply Detect Displays Advanced... Reset

Save to X Configuration File

Help Quit

X Server Information

X Server Display Configuration

X Screen 0

X Server XVideo Settings

OpenGL Settings

Graphics Information

Antialiasing Settings

VDPAU Information

GPU 0 - (GeForce GTX 1050 Ti with Max

Thermal Settings

PowerMizer

DP-0 - (ViewSonic VA2246 Series)

DP-1 - (ViewSonic VA2246 Series)

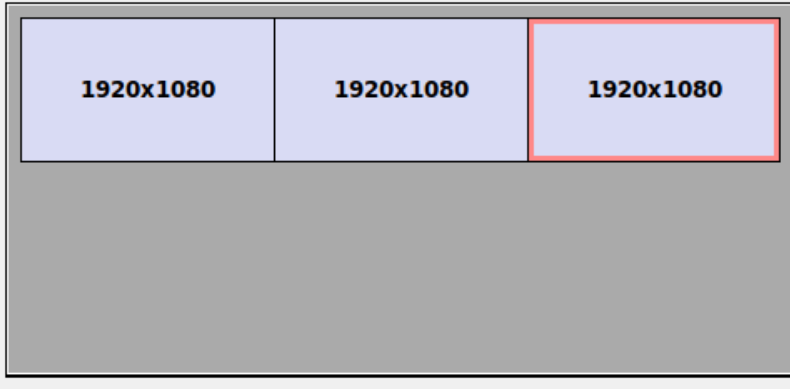
DP-2 - (AU Optronics Corporation)

Application Profiles

nvidia-settings Configuration



Layout



Selection: ViewSonic VA2246 Series (DP-1)

Configuration: X screen 0

Resolution: Auto Auto

Orientation: No Rotation No Reflection

Underscan: 0

Position: Absolute +3840+0

Make this the primary display for the X screen

Apply Detect Displays Advanced... Reset

Save to X Configuration File

Help Quit

#6 - 08/11/2020 04:16 PM - Roger Borrello

- Subject changed from *Font size on laptop with HiDPI is too big to Swing font size on laptop with HiDPI is too big*

#7 - 08/11/2020 04:19 PM - Roger Borrello

Font related message logged in server.log:

```
[08/11/2020 15:48:14 EDT] (com.goldencode.p2j.ui.FontTable:SEVERE) Could not load the legacy font metrics from
file font-metrics-ext.xml
[08/11/2020 15:48:14 EDT] (com.goldencode.p2j.ui.FontTable:SEVERE) Could not load the legacy text metrics from
file text-metrics.xml
[08/11/2020 15:48:14 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) No custom fonts are defined in the directo
ry.
[08/11/2020 15:48:14 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [open sans,9,false,false,false] has n
o legacy metrics.
[08/11/2020 15:48:14 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [open sans,9,false,false,false] has n
o legacy metrics.
[08/11/2020 15:48:14 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [open sans,8,false,false,false] has n
o legacy metrics.
[08/11/2020 15:48:14 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [liberation mono,8,false,false,false]
has no legacy metrics.
[08/11/2020 15:48:14 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [lato,8,false,false,false] has no leg
acy metrics.
[08/11/2020 15:48:14 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [liberation mono,8,false,false,false]
has no legacy metrics.
[08/11/2020 15:48:14 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [open sans,10,false,false,false] has
no legacy metrics.
[08/11/2020 15:48:14 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [liberation mono,8,false,false,false]
has no legacy metrics.
[08/11/2020 15:48:14 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [dejavu sans,10,true,false,false] has
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no legacy metrics.
[08/11/2020 15:48:14 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [open sans,7,false,false,false] has n
o legacy metrics.
[08/11/2020 15:48:29 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [open sans,9,false,false,false] has n
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[08/11/2020 15:48:29 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [open sans,7,false,false,false] has n
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```


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[08/11/2020 15:53:12 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [liberation sans,8,false,false,false] has no legacy metrics.
[08/11/2020 15:53:12 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [liberation mono,8,false,false,false] has no legacy metrics.
[08/11/2020 15:53:12 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [open sans,8,true,false,false] has no legacy metrics.
[08/11/2020 15:53:12 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [open sans,10,false,false,false] has no legacy metrics.
[08/11/2020 15:53:12 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [dejavu sans,10,true,false,false] has no legacy metrics.
[08/11/2020 15:53:12 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [open sans,7,false,false,false] has no legacy metrics.
[08/11/2020 16:03:26 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [open sans,9,false,false,false] has no legacy metrics.
[08/11/2020 16:03:26 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [open sans,9,false,false,false] has no legacy metrics.
[08/11/2020 16:03:26 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [open sans,8,false,false,false] has no legacy metrics.
[08/11/2020 16:03:26 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [liberation mono,8,false,false,false] has no legacy metrics.
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[08/11/2020 16:03:26 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [liberation mono,8,false,false,false] has no legacy metrics.
[08/11/2020 16:03:26 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [open sans,10,false,false,false] has no legacy metrics.
[08/11/2020 16:03:26 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [liberation mono,8,false,false,false] has no legacy metrics.
[08/11/2020 16:03:26 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [dejavu sans,10,true,false,false] has no legacy metrics.
[08/11/2020 16:03:26 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [liberation sans,8,false,false,false] has no legacy metrics.
[08/11/2020 16:03:26 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [liberation mono,8,false,false,false] has no legacy metrics.
[08/11/2020 16:03:26 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [open sans,8,true,false,false] has no legacy metrics.
[08/11/2020 16:03:26 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [open sans,10,false,false,false] has no legacy metrics.
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[08/11/2020 16:03:26 EDT] (com.goldencode.p2j.ui.FontTable:WARNING) Font [open sans,7,false,false,false] has no legacy metrics.

#8 - 08/12/2020 12:52 PM - Roger Borrello

I am looking through SwingGuiDriver, based upon the default-font being used, which is ms sans serif,8,false,false,false, alias of lato,8,false,false,false.

It is looking to see if either is installed in isFontInstalled(). They are not in the fontFamilies that was returned from awt:

```
[aakar, Abyssinica SIL, Ani, AnjaliOldLipi, Bitstream Charter, Century Schoolbook L, Chandas, Chilanka, Courier 10 Pitch, DejaVu Sans, DejaVu Sans Mono, DejaVu Serif, Dialog, DialogInput, Dingbats, Droid Sans Fallback, D yuthi, FreeMono, FreeSans, FreeSerif, Gargi, Garuda, Gubbi, Jamrul, KacstArt, KacstBook, KacstDecorative, Kacs tDigital, KacstFarsi, KacstLetter, KacstNaskh, KacstOffice, KacstOne, KacstPen, KacstPoster, KacstQurn, KacstS creen, KacstTitle, KacstTitleL, Kalapi, Kalimati, Karumbi, Keraleeyam, Khmer OS, Khmer OS System, Kinnari, Lak saman, Liberation Mono, Liberation Sans, Liberation Sans Narrow, Liberation Serif, Likhana, LKLUG, Lohit Assame se, Lohit Bengali, Lohit Devanagari, Lohit Gujarati, Lohit Gurmukhi, Lohit Kannada, Lohit Malayalam, Lohit Odi a, Lohit Tamil, Lohit Tamil Classical, Lohit Telugu, Loma, Manjari Bold, Manjari Regular, Manjari Thin, MathJax _AMS, MathJax_Caligraphic, MathJax_Fraktur, MathJax_Main, MathJax_Math, MathJax_SansSerif, MathJax_Script, Ma thJax_Size1, MathJax_Size2, MathJax_Size3, MathJax_Size4, MathJax_Typewriter, MathJax_Vector, MathJax_Vector-B old, MathJax_WinChrome, MathJax_WinIE6, Meera, Mitra Mono, Monospaced, mry_KacstQurn, Mukti Narrow, Nakula, Na vilu, Nimbus Mono L, Nimbus Roman No9 L, Nimbus Sans L, Norasi, Noto Color Emoji, Noto Mono, Noto Sans CJK HK, Noto Sans CJK JP, Noto Sans CJK KR, Noto Sans CJK SC, Noto Sans CJK TC, Noto Sans Mono CJK HK, Noto Sans Mono CJK JP, Noto Sans Mono CJK KR, Noto Sans Mono CJK SC, Noto Sans Mono CJK TC, Noto Serif CJK JP, Noto Serif CJ K KR, Noto Serif CJK SC, Noto Serif CJK TC, OpenSymbol, Padauk, Padauk Book, padmaa, padmaa-Bold.1.1, Pagul, P hetsarath OT, Pothana2000, Purisa, Rachana, RaghuMalayalam, Rekha, Saab, Sahadeva, Samanata, Samyak Devanagari , Samyak Gujarati, Samyak Malayalam, Samyak Tamil, SansSerif, Sarai, Sawasdee, Serif, Standard Symbols L, Suru ma, Tibetan Machine Uni, Tlwg Typist, Tlwg Typo, TlwgMono, TlwgTypewriter, Ubuntu, Ubuntu Condensed, Ubuntu Li ght, Ubuntu Mono, Umpush, Uroob, URW Bookman L, URW Chancery L, URW Gothic L, URW Palladio L, utkal, Vemana200 0, Waree]
```

So it creates a font with these details:

```
FontDetails
{
  key='lato,8,false,false,false',
  fontName='Lato',
  style=PLAIN,
  pointSize=8,
  legacyWidth=-1,
  legacyMaxWidth=-1,
  legacyHeight=-1,
  fixedSize=false,
  boldFontDefinition=false,
  fontAlias=null,
  swingAntiAliasing=true
}
```

awt derives a 2D font from the parent:

```
** TrueType Font: Family=Lato Name=Lato Regular style=0 fileName=/tmp/+~JF3649713377591502892.tmp
```

So SwingGuiDriver.createFont returns the created font:

```
FontDetails
{
  key='ms sans serif,8,false,false,false',
  fontName='Lato Regular',
  style=PLAIN,
  pointSize=8,
  legacyWidth=3,
  legacyMaxWidth=5,
  legacyHeight=8,
  fixedSize=false,
  boldFontDefinition=false,
}
```

```

fontAlias=
FontDetails
{
  key='lato,8,false,false,false',
  fontName='Lato',
  style=PLAIN,
  pointSize=8,
  legacyWidth=-1,
  legacyMaxWidth=-1,
  legacyHeight=-1,
  fixedSize=false,
  boldFontDefinition=false,
  fontAlias=null,
  swingAntiAliasing=true
},
swingAntiAliasing=true
}

```

FontManager.createFont then calls AbstractGuiDriver.scaleFont

Here the font.legacyHeight and font.legacyWidth are determined to be present, so SwingEmulatedWindow.getFontMetrics returns a FontMetricsHelper with a call getNativeFontMetrics, and then javax.swing.JComponent.getFontMetrics. This returns DEFAULT_FRC.

Using this FontMetricsHelper, it calculates an average width of a character set (0x20 to 0xff). The individual character width comes from the sun.font.FontDesignMetrics.getLaticCharWidth, since it is less than 0x100. It looks up the character in advCache, but this is set to all UNKNOWN_WIDTH, so on-the-fly it sets the advCache value for that character to handleCharWidth(ch).

handleCharWidth is using FileFontStrike.getCodePointAdvance to look up the width.

This uses getGlyphAdvance after mapping the character to the glyph with sun.font.TrueTypeGlyphMapper. At this point, we delve into the bowels of glyph calculation, utilizing TrueType standard, and the platform. It returns 2.0 for the "space". FontDesignMetric.charWidth returns rounded up to the next integer of that value ((int)0.5+w).

Eventually, 5.0 is calculated as the average width. The height is returned from the FontDesignMetrics.height, which is 10.

At this point, scaleFont is checking to see if 5 != legacyWidth, or 10 != legacyHeight. It doesn't, so SwingGuiDriver.deriveFont wants to scale the font to the screen resolution. This is probably where things go sideways, since depending upon what you look at, my screen resolution is uber small, so it might want to make things uber big. Let's see...

getScreenResolution is using java.awt.Toolkit.getDefaultToolkit to get sun.awt.X11.XToolkit. So sun.awt.X11.XToolkit.getScreenResolution() find the default display (139831266447200).

```

return (int) ((XlibWrapper.DisplayWidth(display, XlibWrapper.DefaultScreen(display)) * 25.4)
              / XlibWrapper.DisplayWidthMM(display, XlibWrapper.DefaultScreen(display)));

```

I can't debug into XlibWrapper, but the return value is 286

Something to know about my configuration. My primary screen is supposed to be an external monitor. But whenever I run Swing FWD applications, they pop on my laptop, which is not supposed to be my primary screen. This may be a bug in FWD, or more likely the awt toolkit not returning the correct display.

The FontHelper.deriveFont wants to use that value to determine what factor to use. (fd.pointSize * screenRes / 72.0). I am changing it from 286 to 72.

Lo-and-behold, the font is scaled properly!

So there could be a couple of things happening. It could be that the NVIDIA native are scaling thing for the HiDPI monitor, such that X11 is fooled, and believes everything is HiDPI. Or the Xtoolkit is not asking the correct driver. I imagine if we determined the correct default monitor to be an external monitor, it would behave properly.

#9 - 08/13/2020 07:35 PM - Roger Borrello

By switching my resolution using the X control panel, and making my laptop monitor actually have the 3840x2160 resolution, the fonts are not scaled up. However, it is so small, it *should* be scaled up. By moving the application to an external monitor with 1920x1080 resolution, I can see the application.

While this may be low priority, we are not supporting HiDPI displays very well. I believe the XToolkit calls are determining the actual hardware capabilities, but should be determining what resolution the display is set to. In my case, the driver was already scaling the fonts for me, so no additional scaling is necessary.

Files

bigfont.mkv	58.7 KB	08/11/2020	Roger Borrello
20200811_NVIDIA-X-Server-Settings_0.png	131 KB	08/11/2020	Roger Borrello
20200811_NVIDIA-X-Server-Settings_1.png	111 KB	08/11/2020	Roger Borrello
20200811_NVIDIA-X-Server-Settings_2.png	110 KB	08/11/2020	Roger Borrello
20200811_NVIDIA-X-Server-Settings_3.png	110 KB	08/11/2020	Roger Borrello