MARCH 2004 ISSUE NO. 3

Middle East

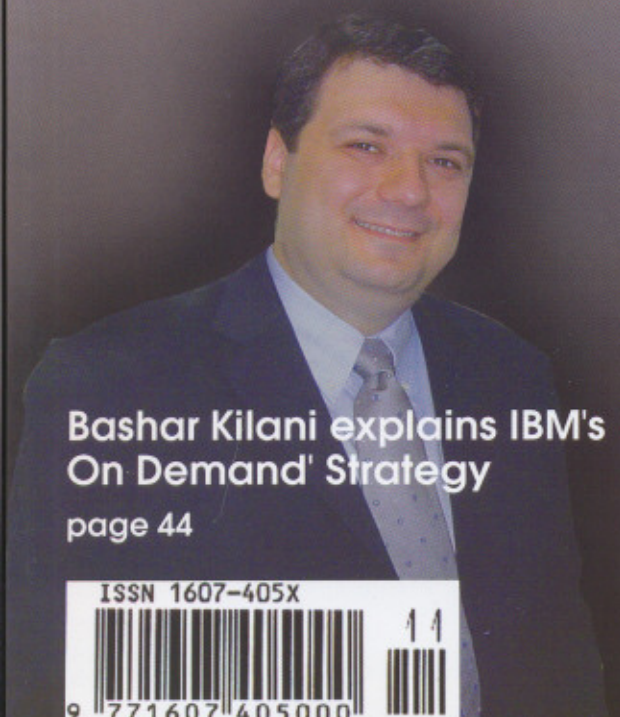
IT republic

www.it-republic.net

Information Technology Magazine

All Eyes On Arabeyes

We present a unique feature on the Arabeyes movement and it's project to fully support the Arabic language on the Unix/Linux Platform.
page 34



SUN's new $1.5 million Regional Headquaters at Dubai Internet City
page 6

The Samsung ML- 1710 Laser in Review
page 58

Bashar Kilani explains IBM's On Demand' Strategy
page 44

ISSN 1607-405X

9 771607 405000 11

UAE 15 Dhs, Bahrain 1.5 BD, Kuwait 1.5 KD, Oman 1.5 OR, Saudia Arabia 15 SR, Lebanon 7000 LL.

All Eyes On Arabeyes

Arabeyes, a project dedicated to fully supporting the Arabic Language on the Unix/Linux platform. They aim to centralize all efforts and put them on one standard, bringing together computer professionals and enthusiasts from around the world. We present a unique feature on Arabeyes, Its aim, projects, and current developments in the world of arabization .

In the beginning of this year, Arabeyes has taken a major step forward. Arabeyes is no longer a one man project sitting on a home pc. It is now put into a super sexy full-fledged rack mountable 1u server (an IBM x305) courtesy of a few volunteers along with a Vancouver based ISP. This will now help them fulfill their aims put up in their manifesto and take them to a whole new level. So what is their aim anyway? A look at their manifesto lets us know about that.

The Cause:

Arabeyes aims to fully arabize the Unix/Linux Platform. Also, they do seem to be genuinely concerned about the lack of standardization in the world of Arabic computing. The fact is pretty evident once you look at the 5 or seven different types of Arabic keyboards, they say. Demanding standards, creating and implementing them are all items that fit under Arabeyes' umbrella and charter. They also encourage the putting forth of suggestions and solutions pertaining to communal needs via open discussion of facts and the effects. It also aims to centralize the many scattered Arabization efforts. This includes hosting and tracking all available Linux/Unix Arabic software. Arabeyes also aims to develop its own tools and utilities which are necessary to provide for a basic computer interface (at both the console and GUI levels).
Another aim on the manifesto is to inform the up and coming student generation of Arabeyes (and the Open source movement) in order for them to acquire the various necessary tools as well as to give them a forum to learn, teach and participate. On the flip side, they also hope to raise awareness about Arabization issues in the Opensource community. Finally, Arabeyes seeks to garner the respect of their peers (other Open Source projects) and their communities.
Sounds geekishly cool, eh? But how do they hope to achieve their goals?

The Arabeyes approach

Recognizing previous attempts to arabise the Unix environment, Arabeyes plans to learn from past mishaps and proceed with better planning, avoiding past mistakes and surpassing past successes. Unix systems have great potential in the fields of stability, scalability, and speedy development cycles. According to Arabeyes, a quick look at the history of the Linux operating system would show that in one decade it was able to present itself as a serious system, developed by computer enthusiasts and professionals alike, over the Internet. The Free Software Foundation (launched in 1984) provides a complete Unix-like operating system which is free. The concept of free software is a new one to the Arab world (in fact, the compliance with international copyright laws is relatively new worldwide). Free Software will

allow for accelerated development (which has not been possible with in-house closed-source projects), and a transparency which will give incentive to excel and compete productively. Of course, free software could mean major cost cuts for institutions, providing for a good foundation to more secure systems - as the dependence on A CVS (Concurrent Versioning System) repository, accessible from anywhere in the world, is what is at the core of the Development strategy. The repository performs the following functions: *An easy way of maintaining code and other miscellaneous project items. Adding and improving upon existing work concurrently. Ensuring a long lifespan for the project, regardless of commitment of the original developers. Plus, as with every group, there is also a mailing list present if one is willing to discuss related issues. The main areas that Arabeyes hopes to tackle include:*

- Libraries

GTK/Pango and Qt provide varying Arabic support. Currently Qt3 seems to be promising.

- Console/Interface

The console level, Akka provides Arabic support to input/output in Arabic. This allows for use under the lynx browser (text-based web browser), and other minimal console usages.

- Mail/Chat/Spell/other Applications

Basic applications will have to be addressed to round a person's daily needs.

- Desktop (GUI)

The desktop environment is envisioned as the most challenging and least "must-have" chain in the link. Gnome/KDE/etc arabization will be addressed as a by-product of all the underlying work that needs to happen to augment the list above.

All donations and financial sponsorships go in the favour of the projects, instead of individuals. Participation in the Arabeyes project is purely on a voluntary Basis. Monetary exchanges are made available to donors upon request.

Arabeyes Goals:

As stated in their manifesto, following are the goals for the Arabeyes project:

Long Term Goals

1. Increase the number of competent Arab programmers/developers. This will increase the availability and enlarge the pool of employment candidates in the future.
2. Generate corporate interest in the use and development of Arabeyes and Unix.
3. Motivate programmers-to-be to develop native Arabic software
   - o Target younger generations (schools/universities)
   - o Professionals
4. Retain knowledge base: Knowledge will remain within the Arabeyes project, and accumulate as more (and different) people contribute, regardless of how long they remain committed to the project's development.
5. Spread free software awareness in the Arab world

A Re-introduce concepts of volunteerism and sharing within a different context (computers)

B Campaign for use and development of free software

6. Arabic Linux/Unix distributions money making opportunities - in distribution, product support, and sales of technical books.

Short Term Goals

1. Provide a usable Arabic Unix interface for basic computing needs
2. Become a central hub for Arabization efforts
3. Raise awareness,
   - o about this project
   - o about the need of external support
4. Recruit developers, designers, etc. 5. Find sponsorship in the form of moral, technical, and/or financial support.

Project: Debian **Aim: to be an umbrella project for all Debian/GNU Linux Arabic translation sub-projects**	
Project: Katoob **Aim: to provide an Arabic text editor that is gtk based.**	
Project: KDE **Aim: to translate all required terms/strings to facilitate Arabic usage within the KDE environment.**	
Project: QT **Aim: to translate QT library strings and related applications to Arabic**	

Looking at the clarity of their goals, one is pretty much convinced of the determination and motivation of the people behind this project. Their successful projects, too, bear clear proof of that. The Multitude of successes this group has had is pretty commendable.

The People behind Arabeyes:-

Having 22 permanent contributors, the Arabeyes project has the following members in its 'Core staff',All of these people have a deep passion for both Opensource and Arabic and are Hoping to see very soon a total Arabic support and valuable Arabic applications running

1. License

Arabic Linux HOW TO'

A starting point for anyone looking into adding Arabic support (from Alef to Yeh) to their Linux/Unix environment

2. Introduction

Arabic support has been non-existent in Linux until recently. What this means for you as the user is that enabling Arabic is not straight-forward or out of the box. What it also means is that this document may at some point be outdated as things are changing at a very fast rate. It is the intentions of the author to keep this HOWTO up-to-date at all times, but this does not guarantee it.

It is advised that you follow this document from the beginning till the end. This is mainly because it is organized as building blocks. This is particularly true to the Section 5.1.

2.1. Acknowledgement

One must give credit to those who have made this document possible. Many thanks go to Nadim Shaikli for the wealth of information he has posted throughout the months. Thanks also go to Isam Bayazidi for his Gnome and KDE instructions, as well as Mohammed Sameer for his reading Arabic filenames information.
There are also countless people who have contributed indirectly to this HOWTO by posts they have made on the various mailing-lists who are too numerous to list here.

2.2. Translations

Mohammed Sameer has volunteered to translate this document to Arabic (if no one else sticks their neck out).

2.3. Feedback

The sources for this document vary from different mailing-lists, personal experiences and feedback from others on what needs to be addressed.

If you have any questions or suggestion, please do make them known on the 'doc' mailing list here: http://lists.arabeyes.org/mailman/listinfo/doc

4. Configure Console for Arabic

The console is the land where GUI is non-existent. Fortunately, we can have Arabic under the Linux console with the use of some utilities.

4.1. Setup Akka

http://www.arabeyes.org/project.php?proj=akka Akka intercepts all input and output to and from the terminal to give the user the ability to read Arabic text. This means that any application that can support the Arabic character set (or UTF-8) can and should be able to work under Akka.
Akka has several dependencies that must be first satisfied:
fribidi => 0.10 (http://fribidi.sourceforge.net)
glib (ftp://ftp.gtk.org/pub/gtk)
loadkeys
orbit
(http://www.labs.redhat.com/orbit/)
SWIG (http://www.swig.org/)
Assuming that you have all the above installed in your system, and you have downloaded the latest akka version. If you have a Debian system you can download the Debian package from the Akka homepage. Otherwise, you can start compiling: $ ./configure[1]
$ make # cp keymaps/us-latin1.map /etc/console-tools/
# cp keymaps/arabic.kmap /usr/share/keymaps/
# mkdir /usr/share/fonts/akka &&
mkdir /usr/share/fonts/akka/glyph
cp fonts/* /usr/share/fonts/akka/
cp glyph/*
/usr/share/fonts/akka/glyph/
cp conf/akka-conf.pl /usr/bin/
cp src/Akka.pm /usr/lib/perl5/
cp src/akka /usr/bin

Now you can simply run the akka daemon first, followed by the perl driver. The perl script is what tells the daemon what mode you want your terminal to be in (Latin, Arabic, shaped, squared, etc.)
akka &
akka-conf.pl
There are three keyboard sequences you need to know, to make the best out of Akka.
Shift-F10 - Insert mode (ltr,rtl -- cursor doesn't move)
Shift-F11 - Switch Lnguage (e.g. Arabic/English)
Shift-F12 - Mirror Screen (ltr,rtl)

5. Configure X Windows for Arabic

XFree86 is an X Window implementa tion that is freely available and is one of the most popular. XFree86 is written under the assumption that only Latin-based languages will use it. This means that adapting the application to the new world of internationalization is additionally cumbersome and complex. It would be nice if we could scrap it all together and start from scratch, but we will work with what we have for now ;)

5.1. Install Fonts

mhttp://www.arabeyes.org/project.php?proj=khotot Unfortunately, XFree86 does not come with full Arabic fonts. In fact, the XFree86 repository does include a complete Arabic font but it is truncated during the installation for memory optimization reasons. This is only true to bitmap fonts. XFree86 does not have any complete Arabic TrueType fonts. To find out what fonts you have installed in your system,

6. Print in Arabic Printing Arabic documents can be a tricky thing. To print plain text documents you can use

textbdf2ps.pl. Currently, the latest test version of the script includes the Arabic patch. It can be downloaded here:
http://oldrus-ispell.sourceforge.net/txtbdf2ps.html

```
$ txtbdf2ps.pl -UTF-8 \
        -bidi \
        -TH/PATH/PATH/10x21.bdf \
        -text=arabic_file > output.ps [1]
$ lpr output.ps
```

You can also use TrueType fonts, by replacing the '-bdf' option with '-font' followed by the path to the TrueType font.

```
$ txtbdf2ps.pl -UTF-8 \
        -bidi \
        -font=/PATH/PATH/PATH/font.ttf \
        -text=arabic_file > output.ps
$ lpr output.ps
```

7. Configure Applications for Arabic
7.1. Setup Editors

7.1.1. Install VIM

http://www.arabeyes.org/project.php?proj=vim

VIM supports Arabic as of version 6.2 out of the box. However, if you want to run an older version (for your own reasons), then there is the patch which has been submitted to VIM's author that is incoporated into 6.2 release. Although the VIM Arabic patch does not yet support bidirectionality, using it under mlterm will provide such support.
Download VIM-6.1 source
Go to: ttp://vim.sourceforge.net/download.php and cick on the 'unix' section, download the following files:
vim-6.1.tar.bz2
vim-6.1-lang.tar.gz
8. Configure Desktop Environments for Arabic
8.1. Setup FVWM
http://www.fvwm.org/

Recently (Dec. 18, 2002), a patch was added to the FVWM CVS repository, allowing for full Arabic support. This means that FVWM supports both bidi and Arabic shaping. Since this is yet to be in a release, you will have to download the source code from cvs and compile it yourself.
8.1.1. Download From CVS
In order to login to cvs and download the source code, you need to do the following:

```
$ cvs -
d:pserver:anonymous@cvs.fvwm.org:/home/cvs/fvwm login
(Enter Password: guest)
$ cvs -
d:pserver:anonymous@cvs.fvwm.org:/home/cvs/fvwm co fvwm
```

8.1.2. Compile and Install FVWM
This will download the source code to a subdirectory fvwm/.

```
$ cd fvwm
$ utils/configure_dev.sh
$ ./configure
$ make && make install
```

Now you have your new FVWM installed. Run it and make sure everything is working. This can be done by including it in your ~/.xinitrc. For example:
exec fvwm

Then you can run xinit

```
$ xinit &
```

8.1.3. Configure FVWM
Now that we have FVWM running we need to configure it to do what we want. In order for FVWM to handle Arabic text, you will need to tell it what fonts to use. This can be done by modifying your ~/.fvwm/.fvwm2rc to include the following:

```
Style * Font -misc-fixed-medium-r-normal--20-200-75-75-c-100-arabeyes-1/iso10646-1
Style * IconFont -misc-fixed-medium-r-normal--20-200-75-75-c-100-arabeyes-1/iso10646-1
```

8.2. Setup Gnome
http://www.arabeyes.org/project.php?proj=gnome-i18n

8.2.1. Localize Interface

To be completed.

8.2.2. Set Arabic Keyboard Layout
Gnome 2.0.2 and later will give you the proper keybaord based on your locale settings. See Section 3.2 for more information.

8.3. Setup KDE
http://www.arabeyes.org/project.php?proj=kde-i18n

8.3.1. Localize Interface
http://i18n.kde.org/teams/index.php?action=info&team=ar

Download the latest Arabic translation from the above link and then:

```
$ tar jxvf kde-i18n-ar.tar.bz2
$ cd kde-i18n-ar
$ ./configure[1]
$ make install
```

KDE's default fonts are not full Unicode fonts. In other words, they do not include Arabic.

Now that we have the actual Arabic interface translations installed, we need to make sure that the default KDE font is set to a Unicode font or one that at least is a full Arabic font.

If you are using one of the MS fonts Arial (arialuni.ttf) and Courier New (cour.ttf) are both full Unicode fonts you can use. all sites use the one font you have selected (and may not look very pretty on every page). Others have reportedly changed fontnames and aliases to fool the Browser into thinking certain fonts do exist in the system.

Notes
[1] You can add a '--prefix' option to tell it to install it relative to where your other KDE files are