Convivial Perso-Arabic Script with Debian GNU/Linux

Part of ByStar User Environment

Document # PLPC-180003
January 7, 2011

Article and Presentation Available on-line at:
http://mohsen.1.banan.byname.net/PLPC/180003

Mohsen BANAN
E-mail: http://mohsen.1.banan.byname.net/ContactMe

Copyright © 2011 Mohsen BANAN

Permission is granted to make and distribute complete (not partial)
verbatim copies of this document provided that the copyright notice
and this permission notice are preserved on all copies.

Contents

List of Figures

Part I

Introduction

1 First, Let's Parse the Title

1.1 Convivial Perso-Arabic Script with Debian GNU/Linux

- Convivial: Not in the American/English sense of the word.
  In its Globish sense as introduced by Ivan Illich in "Tools For Conviviality".
  Expressing the correct relationship between "Tool User", "Tool" and "Tool Maker".
  In this context, in Geek lingo: emacs and TeX.
- Perso-Arabic Script: Text processing in:
  - The Persian family of languages: (Farsi, Dari, Urdu, Pashto/Afghanic, Sindhi, Kashmiri, Uighuric)
  - The Arabic family of languages: (Arabic, Maghribi, Jawi/Old-Malay)
- Debian GNU/Linux: A paricular rev./generation (Squeeze/6.0) providing a stable and consistent libre platform.

1.2 Part of ByStar User Environment

- What is the ByStar Federation of Autonomous Libre Services?
- What is the ByStar User Environment?

2 Scope And Purpose

2.1 Goal and Direction

- To create a healthy, strong and complete environment for producing documents in Arabic/Persian script
- Totally open and CopyLeft
- An asset for humanity
- In harmony with Debian GNU/Linux
- Multi-Lingual Editing Capabilities – Persian/Farsi, Arabic, Chinese, Hendi, Latin
- Given Debian and a local repository (persian.bybinary.org), provide everything.
- A pedagogical tool for language learning

2.2 Non Goals

- Ease of Use
- Purity of Persian or Arabic input system

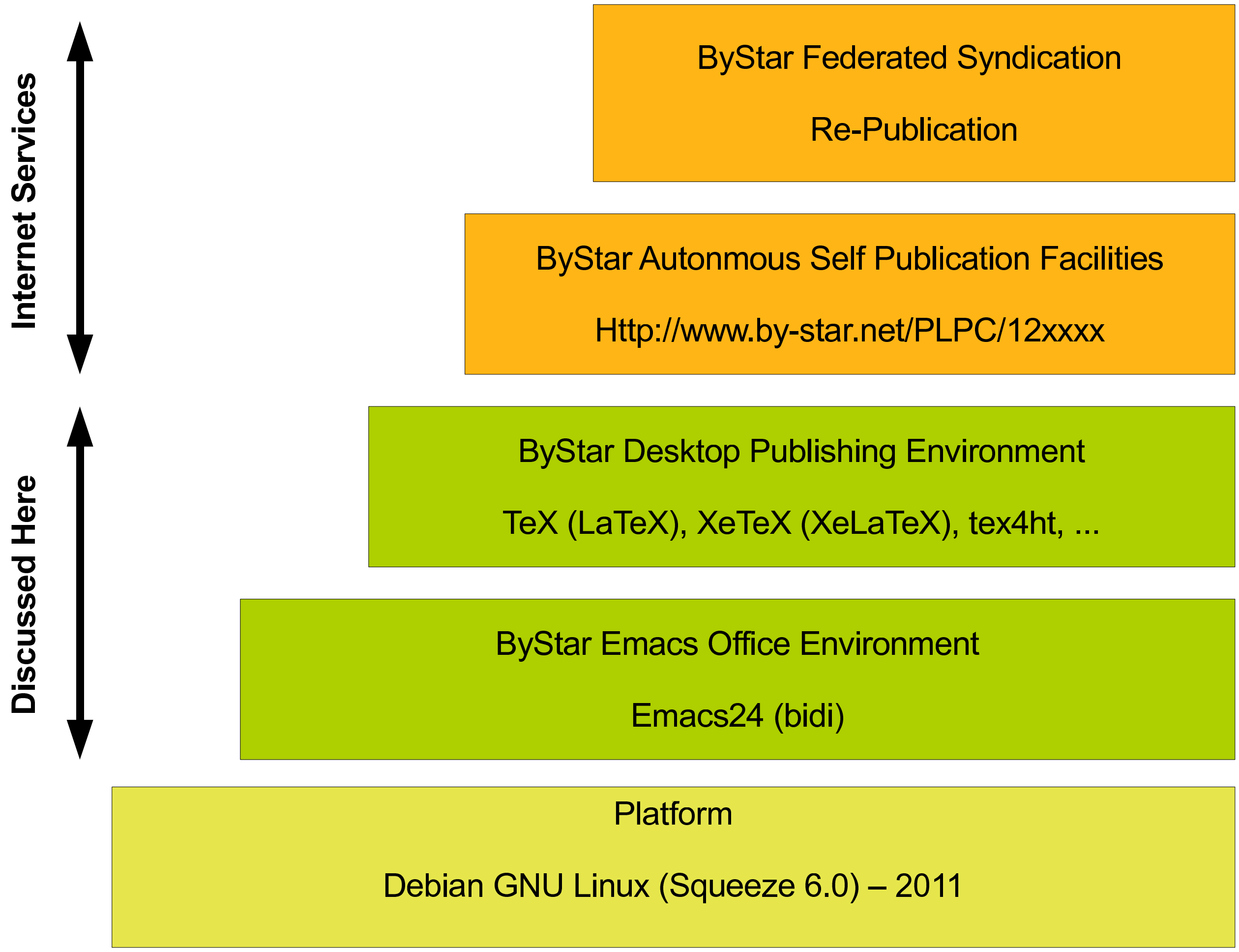

Figure 1: publicationLayers

3 Model

- Platform (Debian)
- User Environment (Emacs24 with bidi, ByStar EOE)
- Desktop Publishing (XeLaTeX, XePersian, tex4ht)
- Autonomous Self Publication Facilities (ByStar)
- Federated Syndication – Re-Publishing

Figure **??** shows these as layers.

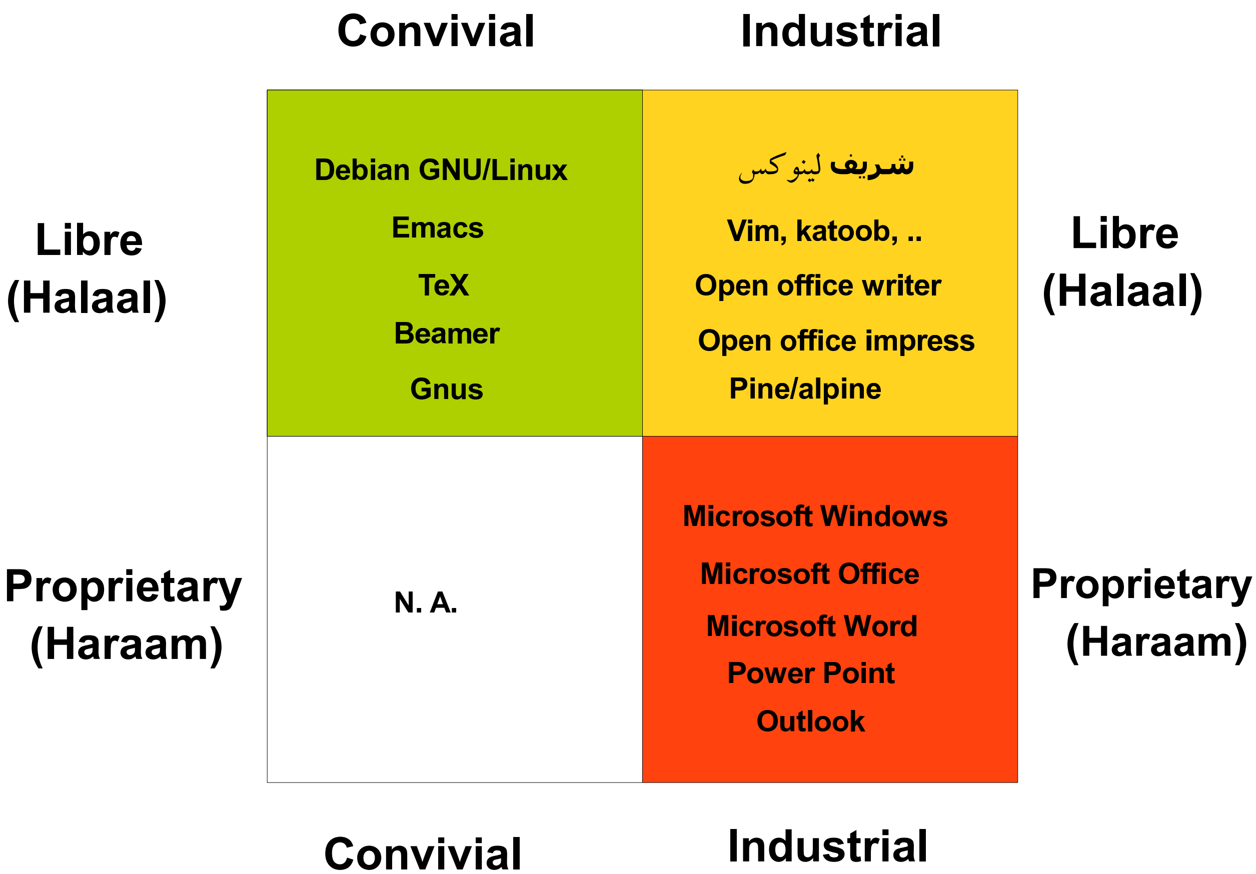

Figure 2: libreConvivialQuadrant

4 Philosophical and Moral Dimensions

4.1 Our Approach: The Convivial Quadrant

1. Microsoft Word, ... – Proprietary and Industrial.
2. Open Office Writer, ... – Libre but Industrial.
3. Emacs and XeTeX – Convivial.

4.2 Libre/Propitary and Convivial/Industrial Software

Figure **??** shows ...

4.3 Libre/Propitary and Convivial/Industrial Internet Services

Figure **??** shows ...

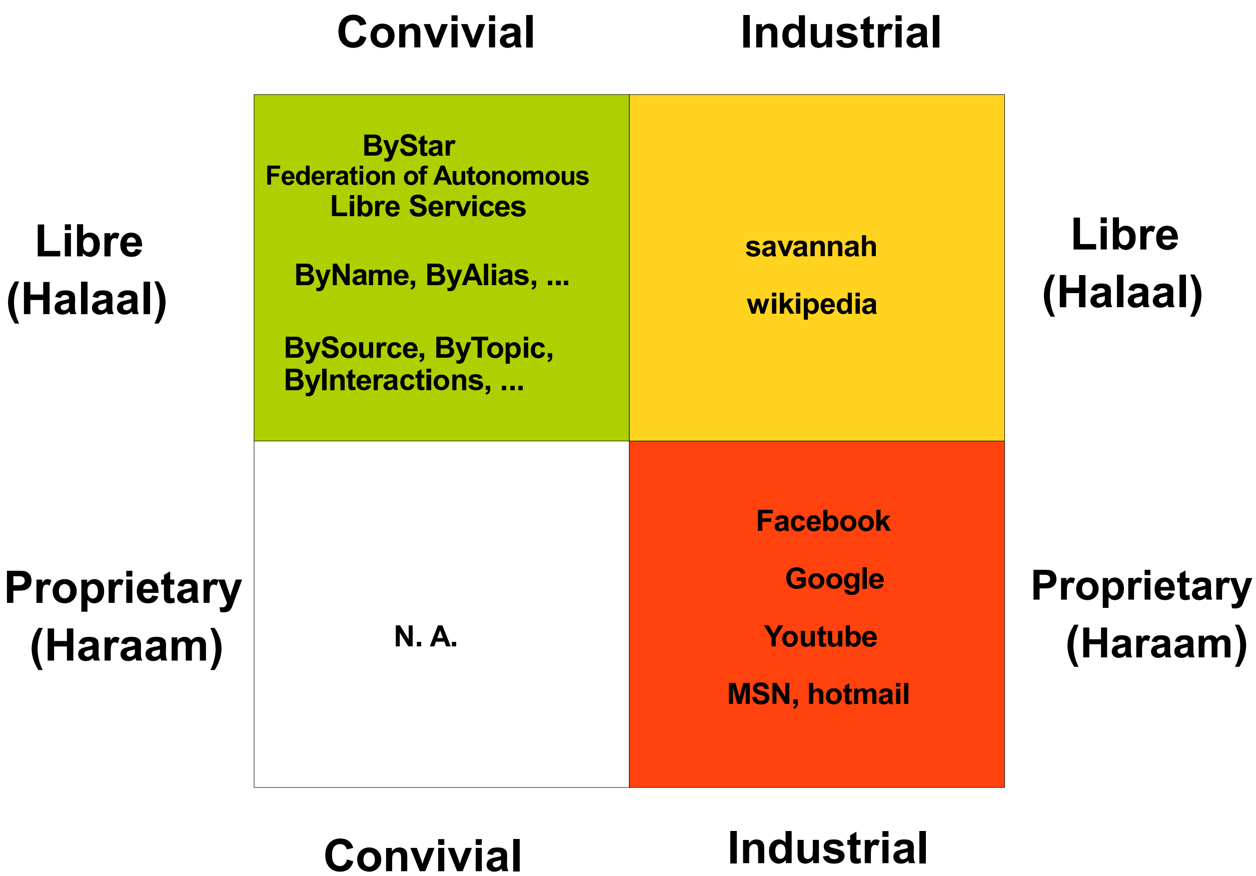

Figure 3: convivialServicesQuadrant

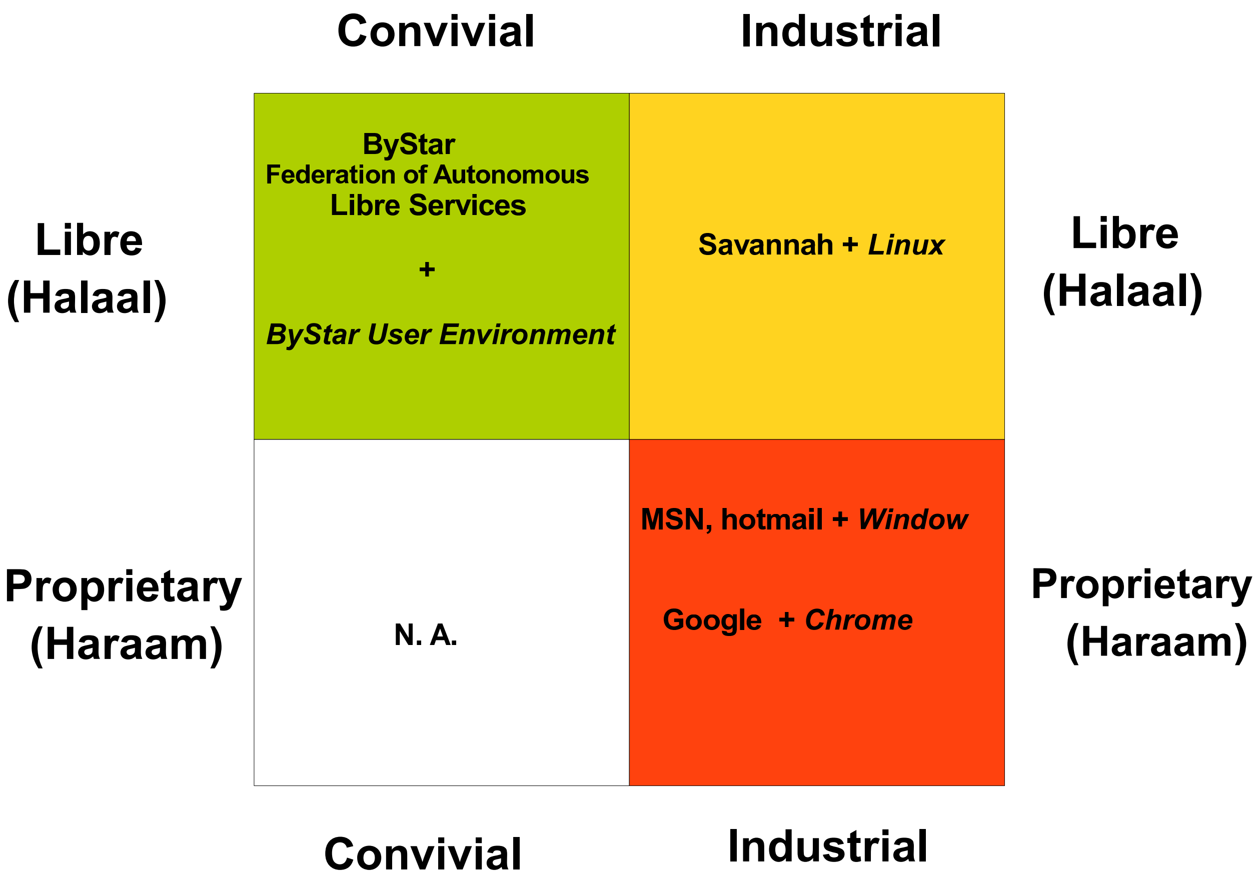

Figure 4: convivialSoftwareServicesQuadrant

4.4 Libre/Propitary and Convivial/Industrial Software-Service Continuum

Figure **??** shows ...

5 Distribution and Support

- Part of ByStar User Environment. Recommended.
- A La Carte. Here is the information. You are on your own.

Part II

Platform

6 Debian Gnu Linux

6.1 Debian Squeeze (6.0) and Ubuntu 11.04

- Debian Squeeze (6.0)
- Ubuntu 11.04

Nothing less will do beacuse bidi was missing in emacs and XePersian was not quite ready until 2010.

- ByStar User Environment

Part III

ByStar Emacs Perso-Arabic User Environment

7 What Is Emacs?

7.1 Emacs24 and bidi

- emacs-snapshot is not part of Squeeze, get it from ...
- Persian fonts
- Persian input methods
- Arabic input methods
- Persian spell checkers

8 What Is ByStar?

8.1 ByStar User Environment

- Point to relevant docs.

9 Perso-Arabic Emacs User Environment

9.1 Extra Fonts for Emacs

- Persian: XB Zar, ...

- Arabic: Lateef, ...

9.2 Emacs Input Methods

- Native Keybaords: Arabic M-: (set-input-method 'arabic) (set-input-method 'farsi)
- Transliteration: Persian M-: (set-input-method 'farsi-translit)
- Predictive Phonetic Input (PPI): e.g., pinglish

9.3 Persian Transliteration

Generated with M-: (describe-input-method 'farsi-translit)

```
Generated with  M-: (describe-input-method 'farsi-translit)
     +--------------------------------------------------------------+
     | ! | @ | # |   |   | | & |   | ( | ) | - | =+ | `|
     +--------------------------------------------------------------+
       |   | W || R | ł | Y | U | ŁI |O | P | [{ | ]} |
       +--------------------------------------------------------------+
        |   |   | D | F | G | h | J | K | L | : | '" | \| |
         +------------------------------------------------------------+
          |   |   | C | V | B | N | M | < | .> | / |
          +----------------------------------------------------+
    +------------------------------+
    |          space bar           |
    +------------------------------+

--- ---- --- ---- --- ---- --- ---- --- ----
ch    hh      kh       sh       zh
```

9.4 Multilingualization (M17n) of Spelling Dictionaries

ispell/aspect used with multiple dictionaries.

- Persian/Farsi aspell dictionaries
- Arabic aspell dictionaries

9.5 M17n of Thesaruses

dict protocol used with multiple thesaruses.

- Persian/Farsi thesaruses
- Arabic thesaruses

9.6 M17n of Dictionaries

dict protocol used with multiple dictionaries.

- Persian/Farsi dictionaries
- Arabic dictionaries
- eng-arabic + arabic-eng
- eng-farsi + farsi-eng

9.7 Bidi and Emacs Packages Problems

- Gnus – Bugs: Summary buffer messed up
- Supercite:
- When bidi is on, arithmetic segments should remain left to right.
- m17n library: lengthened characters at the end of a word.

Part IV
Desktop Publishing

10 Persian/Farsi XeLaTeX

10.1 XePersian

- XB Zar Fonts

11 Html Generation

11.1 tex4ht

- htxelatex is missing. Needs work.

Part V

ByStar Autonomous Self-Publication

12 ByStar Libre Content Publication Facilities

12.1 lcntProc.sh

- Point to relevant PLPC.

Part VI

Federated RePublication

13 Federated Syndication

13.1 ByTopic.org

- ByTopic.org.

Part VII

Some Examples

14 Persian

14.1 Persian and English

- Gharbzadegi
- This articleFa.tex and presentationFa.tex

14.2 Persian and English

- This articleEn.tex and presentationEn.tex

14.3 Arabic with some English in it

- TBD

Part VIII

Direction Statement and ToDO List

15 TODO List

15.1 Collaboration and Possible Next Steps

- Get a ByName.net acct
- Install Debian Squeeze on your computer
- Install ByStar User Environment with matching ByName.net on your computer.
- Use the ByStar Perso-Arabic Script
- Report Bugs and suggest improvements
- Assist in completing this manual – particularly the Arabic parts

15.2 ToDo List

- XeLaTeX for tex4ht
- Persian Dictionaries – None found at this time
- Persian Thesaurus – None found at this time
- Pinglish for emacs
- eng-persian dictionary
- persian-eng dictionary