Vyasa — A simple, multilingual, cross-platform text editor

http://vyasa.berlios.de/

Baishampayan Ghose[*], Aatif Haider[†], *et al.*[‡]

T.E. Computer Science & Engineering

D.Y. PATIL COLLEGE OF ENGINEERING & TECHNOLOGY,

KOLHAPUR, MAHARASHTRA

April 7, 2006

Contents

[*] b.ghose@gnu.org

[†] aatif.haider@gmail.com

[‡] Chetan Singh Dhunna, Shailesh Desai, Sarita K.

List of Figures

1 Introduction

The **Software Requirements Specifications** (SRS) of *Vyasa* — a simple, multilingual and cross-platform text editor are laid out in this document. It is expected to be useful for installation, configuration, documentation purposes by end-users and developers.

1.1 Purpose

This SRS documents the requirement specifications of the version 1.0 of *Vyasa*. The requirements for installing and using *Vyasa* are explained in detail here. Also the various parts of the code are explained here for the future developer.

1.2 Scope of the Project

Vyasa is intended to be a very simple and easy to use text-editor. It has excellent multilingual display capabilities which will enable the end-user to use it for typing text in various languages. It supports state-of-the-art Indic Language support via the Pango rendering library. *Vyasa* is written in the Python programming language which is also an excellent Object Oriented programming language and is incredibly easy to use and extend. *Vyasa* uses the GTk+ GUI toolkit for the User Interface which is also a Free & Open Source cross-platform GUI toolkit. *Vyasa* can be a very good tool for people who want to use a light-weight and feature rich text-editor for creating multilingual documents. It can also be useful for students who want to learn Python programming.

1.3 Definitions, Acronyms, Abbreviations & References

1. Python – Python is an object-oriented, interpreted programming language with dynamic semantics [http://www.python.org/]

2. GTk+ – GTk+ is a cross platform GUI toolkit [http://www.gtk.org/]

3. *Vyasa* – *Vyasa* is a simple, multilingual text editor [http://vyasa.berlios.de/]

4. Pango – Pango is a text rendering library for GTk+

1.4 Overview of the Document

This document provides the users, developers of *Vyasa* a bird's eye view of the software in general and information about installing, configuring and enhancing *Vyasa* in particular.

The mechanics of installing *Vyasa* are provided in detail as well as the requirements for using it.

2 Overall Description

2.1 Product Perspective

Vyasa is a simple and lightweight text-editor written in Python & GTk+. One of the main aims of *Vyasa* is to provide the user with an easy and effective way to input multilingual text. In future it will also support automatic syntax highlighting and indenting for programming languages. *Vyasa* is also cross-platform as in it can be run on any platfrom that supports Python & GTk+ libraries.

2.2 Product Functions

1. Create and open plain text documents

2. Create plain text documents with Unicode text in different languages

3. Use as an editor for programming

4. Use as a viewer / pager for text files

2.3 User Characteristics

1. *Vyasa* Users — End-users can use *Vyasa* by directly executing the file "run" as `./run` from the console or by double-clicking on the "run" file.

2. *Vyasa* Developers — The code for *Vyasa* is located in the `vyasa.py` file. Most of the code is very straight-forward and self-descriptive. The use-interface definitions are located in the `vyasa.glade` file. The latest source code can be downloaded from the *Vyasa Subversion* repository located at `http://svn.berlios.de/wsvn/vyasa`.

3. *Vyasa* Documenters — The code and this SRS will be pretty useful for documenters for documenting *Vyasa*.

2.4 General Constraints

The implementation constraints of *Vyasa* are limited to the performance of the Python interpreter itself. But since Python is itself written in very hightly optimised C, the performance issues won't be obvious in any of the modern day computers.

The API of the GTk+ library may change in the newer versions. In that case we can easily update *Vyasa* to suit the changes made in the GTk+ library itself.

2.5 Assumptions & Dependencies

It's assumed that the system where *Vyasa* will be run will already have Python and the GTk+ toolkit pre-installed. *Vyasa* has been tested to work fine on the following two harwares configurations —

1. Intel Pentium 4 Mobile 1.8 GHz.
   768 MiB of RAM
   Ubuntu Linux 6.06 "Dapper Drake" Development version.

2. AMD Athlon 64FX 2.4 GHz.
   2 GiB RAM
   Debian GNU/Linux 3.1 "Sarge".

Vyasa has no memory limitations and it can work just fine on systems with 64 MiB RAM.

3 Specific Requirements

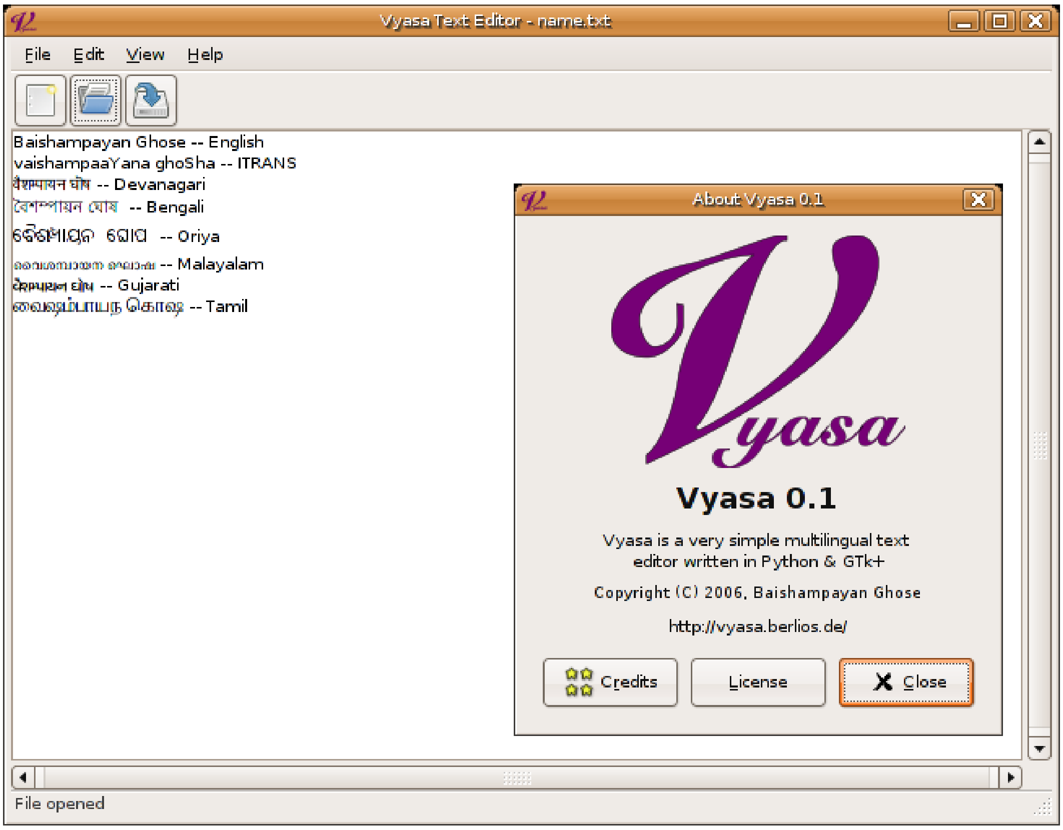
Vyasa will need the Python interpreter and the GTk+ GUI toolkit for its execution. Apart from that it has no other requirements.

3.1 External Interface Requirements

Not applicable.

3.1.1 User Interfaces

The GTk+ GUI toolkit is needed for the user interface.



Baishampayan Ghose -- English
vaishampaaYana ghoSha -- ITRANS
वैशम्पायन घोष -- Devanagari
বৈশম্পায়ন ঘোষ -- Bengali
ବୈଶମ୍ପାୟନ ଘୋଷ -- Oriya
വൈശമ്പായന ഘോഷ -- Malayalam
વૈશમ્પાયન ઘોષ -- Gujarati
வைஶம்பாயந கொஷ -- Tamil

Vyasa 0.1

Vyasa is a very simple multilingual text editor written in Python & GTk+

Copyright (C) 2006, Baishampayan Ghose

http://vyasa.berlios.de/

Figure 1: *Vyasa* in action

3.1.2 Hardware Interfaces

Not Applicable.

3.1.3 Software Interfaces

The Python interpreter and standard libraries with the GTk+ toolkit serve the purpose of providing the interface. *Vyasa* needs Python v 2.4.3 or later and GTk+ library 2.8.x or later.

3.1.4 Communication Interfaces

Not applicable.

3.2 Functional Requirements

Vyasa as such has no specific functional requirements.

3.3 Performance Requirements

The performance of *Vyasa* is totally dependent on that of the Python interpreter and the GTk+ GUI toolkit. *Vyasa* on its own, has no such requirements.

3.4 Design Constraints

Vyasa being a very simple application has no design constraints as such. Its design flaws if any, are directly inherited from either the GTk+ toolkit or Python itself. The chances of any of the above happening are very less as both of them are enterprise grade applications.

3.5 Attributes

3.5.1 Software Quality

Vyasa is developed using the *Bazaar*-style development model. The development of the project is totally open to the public and thus everybody will be able to inspect the code and find bugs if any. So in a way we can say that a certain level of Software Quality is assured in *Vyasa*.

3.5.2 Business Rules

Vyasa is released under the *GNU General Public License* v2. Everybody is thus free to copy, share, modify & redistribute the software provided that the derivative works are also released under GNU GPLv2. Business rules are not applicable otherwise.

3.5.3 Data Migration

The data created in *Vyasa* can be very easily migrated to work with different editors and platforms.

3.6 Other Requirements

Not applicable.