

SIXTH FRAMEWORK PROGRAMME
PRIORITY 2
INFORMATION SOCIETY TECHNOLOGIES



**SIXTH FRAMEWORK
PROGRAMME**

FLOSSWORLD

**Free/Libre and Open Source Software: Worldwide
Impact Study**



Track 2 Study Report – India
(Referred to as D27b in the work packages description in the proposal)

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Contents

1	Executive Summary	5
2	Introduction	7
2.1	Details of the considered region	7
2.2	Summary of results	9
2.3	Problems and constraints found	11
2.4	Details of methodology	12
2.5	Contributions	12
3	Results	13
3.1	General information	13
3.2	Forges information	14
3.3	SCM information	14
3.3.1	Sarovar forge	14
3.4	Source code information	15
3.4.1	Sarovar forge	15
3.5	Mailing list information	18
3.5.1	Sarovar forge	18
3.6	Authorship information	19
3.7	SourceForge	19
4	Appendixes	21
4.1	General information	21
4.2	Data from repositories	31
4.3	COCOMO model applied to software releases	37

List of Tables

2.1	Languages used in the Indian states	8
2.2	Languages used by the Indian Union Territories	8
2.3	Registered users and projects in Indian forges, including SourceForge	9
2.4	Information sources that could be studied in Indian forges (April 2007).	9
3.1	Data provided by Indian partners	13
3.2	Indian LUGs data	13
3.3	Indian forges	14
3.4	Sarovar committers and commits	14
3.5	Relation Committers-Commits	15
3.6	Project vs Number of committers and number of commits	15
3.7	Basic COCOMO model applied (using SLOCCount) to the largest Sarovar forge software releases	16
3.8	Programming Languages used in Sarovar forge	17
3.9	General mailing lists summary of results	18
3.10	Top 10 of mailing lists (Data, 20th February 2007)	18
3.11	Top 10 of mailing list posters (Data, 20th February 2007)	18
3.12	Number of messages and senders in mailing lists for several projects	18
3.13	Type of authorship in Sarovar	19
3.14	General data from SourceForge	19
3.15	The most active Indian committers detected in SourceForge	20
4.1	Communities detected by partners	21
4.2	Indian LUGs	21
4.2	Indian LUGs	22
4.2	Indian LUGs	23
4.2	Indian LUGs	24
4.2	Indian LUGs	25
4.2	Indian LUGs	26
4.2	Indian LUGs	27
4.3	Projects collected by partners	27
4.3	Projects collected by partners	28
4.3	Projects collected by partners	29
4.3	Projects collected by partners	30
4.4	Media collected by partners	30
4.5	Platforms collected by partners	30
4.6	Developers collected by partners (by domain of Email address)	30
4.6	Developers collected by partners (by domain of Email address)	31
4.7	SCM results in Sarovar forge	31
4.7	SCM results in Sarovar forge	32

4.7	SCM results in Sarovar forge	33
4.8	SCM SourceForge results	33
4.8	SCM SourceForge results	34
4.8	SCM SourceForge results	35
4.8	SCM SourceForge results	36
4.8	SCM SourceForge results	37
4.9	Basic COCOMO model applied to Sarovar software distributions	37
4.9	Basic COCOMO model applied to Sarovar software distributions	38

List of Figures

2.1	Map of India	8
2.2	SCM repositories, mailing lists and software releases found in forges	10
2.3	Committers per project, for some selected projects	11
2.4	Commits per project, for some selected projects	11
3.1	General information obtained from surveys (comparison among countries)	14
3.2	Distribution of commits per project in Sarovar forge	15
3.3	Lines of code in the Sarovar forge	16
3.4	Programming Languages used in Sarovar forge	17
3.5	Authorship data (in software releases).	19
3.6	Commits in SourceForge	20

Chapter 1

Executive Summary

This report shows the main results of the analysis performed, in the context of the FLOSSWorld project, of some quantitative aspects of libre (free, open source) software in India. The sources of the analysis have been an exhaustive data retrieval of several facts related to libre software in that country (such as a list of Linux user groups, magazines focused on libre software, etc.) and a detailed, quantitative data mining of several sites hosting libre software development (forges).

Precisely, in Sarovar forge, where there are around 450 projects. About 160 of them have analysable Source Code Management systems. The data shows that these projects have an average of two developers per project and that there is a total of 63 developers that have actually ever submitted code to the Source Code Management systems. Four of these projects have an important traffic of messages in their mailing lists. In fact project *Devnag*¹ shows 36 different posters in its archives who sum up to more than 600 messages in total.

Some other general data can be obtained crossing numbers. For instance, around 2% of registered people in Sarovar make commits. All in all, in Sourceforge, around three percent of registered users submit code to the Source Code Management systems.

While SourceForge is a global forge which hosts projects of all the world, Sarovar is the local Indian forge with the most registered users. This forge is not as big as SourceForge but it has 461 registered users and 3237 projects, while SourceForge has around 1383 users and 22113 projects that have been identified as Indian. But as stated before, just a small part of the total number of users really submit code to the Source Code Management systems (in this case CVS). Precisely, 63 committers in Sarovar and 138 Indian committers in SourceForge.

Precise numbers about the CVS activity show that although SourceForge has more than 3 times more registered projects than Sarovar, the truth is that Sarovar's developers have made more than the double of commits than SourceForge's Indian developers. Around 72,355 in Sarovar and 28,749 in Sourceforge. This is because the number of projects that use the Source Code Management tools in each forge is very similar.

The *C* programming language is the widest spread programming language in the software development in Sarovar. In fact, it represents around the 40% of the total source code lines. And that is a good number of *C* code since there is a total of 72,037 code lines in Sarovar.

Regarding mailing lists, about 18 have been found in Sarovar and they are used for the users to have a good communication channel. This mailing lists have around 100 posters in them and also 925 messages in total. But this is not the only way to communicate in Sarovar, since the use of forums is quite popular too.

Regarding to Linux User Groups (LUGs) and communities, around two hundred and thirty of them have been found (data provided by partners). The widest spread language among them is English and their favourite platform is Yahoo groups.

¹<http://devnag.sarovar.org/>

Also, some companies have been found participating in libre software projects. A classification of the authorship of the commits in the forges, show that there are fifty five different Indian authors (from partners data) and they are divided in six main groups. Forty two have been classified as Individual authors, three of them work in team or groups (as Free Software Foundation), four of them work in an University and three of them come from enterprises.

Chapter 2

Introduction

Within the context of the FLOSSWorld project, this report is devoted to the quantitative study of libre (free, open source) software development in India. The information presented here is based on public data found in the repositories of libre software projects hosted in the analysed area, in SourceForge (the largest hosting site for libre software projects) and in a survey completed with the help of the partners in FLOSSWorld.

The data found in repositories (usually identified by the local partners in the project) has been downloaded, stored in a database, and later carefully mined and analysed (using a semi-automatic process that has been complemented by human validation). Most of the data used was obtained from source code, source code management systems and mailing list archives. In addition to repositories in the region, SourceForge has also been analysed, as the largest hosting site, worldwide, for libre software projects. The details of the methodology used are specified in a separate document, also produced by the FLOSSWorld project, the “Methodology report”.

This document shows the main results produced by this methodology. Before that, this chapter discusses some details about the methodology itself.

2.1 Details of the considered region

Geographic area.

India’s official name is Republic of India and its capital is New Dehli. India is located in the south of Asia. Its population is estimated in 1,103,371,000 people and its estimated GDP is \$3.942 trillion. So, this is one of the largest countries in the world.

Languages. India has twenty three official languages, but the most widely used are Hindi and English.

Table 2.1 and table 2.2 show languages currently used¹ in India.

¹Data based on http://en.wikipedia.org/wiki/List_of_national_languages_of_India

State	Official Language	State	Official Language
Andhra Pradesh	Telugu, Urdu	Arunachal Pradesh	English, Hindi
Assam	Assamese, Bengali, Bodo, Karbi	Bihar	Hindi, Urdu
Chhattisgarh	Hindi, Chhattisgarhi	Goa	Konkani
Gujarat	Gujarati, Hindi, Urdu	Haryana	Hindi, Punjabi
Himachal Pradesh	Hindi, Pahari	Jammu and Kashmir	Kashmiri, Urdu, Dogri
Jharkhand	Hindi	Karnataka	Kannada
Kerala	Malayalam	Madhya Pradesh	Hindi
Maharashtra	Marathi, Konkani	Manipur	Meitei
Meghalaya	Khasi, Garo, English	Mizoram	Mizo, English
Nagaland	English	Orissa	Oriya
Punjab	Punjabi	Rajasthan	Rajasthani
Sikkim	Nepali	Tamil Nadu	Tamil
Tripura	Bengali, Kokborok	Uttarakhand	Hindi, Garhwali, Kumaoni
Uttar Pradesh	Hindi, Urdu	West Bengal	Bengali

Table 2.1: Languages used in the Indian states

U. Territory	Official Language	U. Territory	Official Language
Andaman and Nicobar Islands	English, Hindi	Chandigarh	Punjabi, Hindi
Dadra and Nagar Haveli	Marathi, Gujarati	Daman and Diu	Gujarati, English
Lakshadweep	Malayalam	Puducherry	Tamil, Malayalam, Telugu, English and French

Table 2.2: Languages used by the Indian Union Territories

Map. Figure 2.1 shows a map of India².



Figure 2.1: Map of India

²Official map of India as obtained in <http://india.gov.in/>

Time zone. The Indian time zone³ is IST (UTC +5:30) and it is very relevant for this study; India has a unique time zone for the country, and other regions with the same UTC have a very low density of population. This is why developers detected in this time zone can be identified as Indian with nearly 100% probability.

Internet top level domain. Indian TLD⁴ (Internet Top Level Domain which is *.in*) is an important indicator for information gathering. When recovering information from email addresses, if a developer or user has an Indian TLD, we can reasonably assume that she is from India.

[Both the description of the geographic area and the map of India were obtained in the Wikipedia⁵]

2.2 Summary of results

The Indian FLOSSWorld partners have identified one forge (Sarovar) which should be considered as a local Indian forge. This forge has been spidered in order to identify the projects it contains. Table 2.3 shows registered users and projects in Indian forges (Data 16th April 2007). SourceForge has been included for completeness (Data June 2006). project in

Forge	Registered Users	Registered Projects
Sourceforge	22113	1383
Sarovar	3237	461

Table 2.3: Registered users and projects in Indian forges, including SourceForge

It is important to point out that not all registered users are active developers in the forges. Many of them could register and never join a development project, for instance. Projects, as well, may not make use of all development-related tools offered by the forges (and therefore, some kinds of data sources, may offer no data at all). This fact is clearly revealed in the summary table 2.4. Table table 2.4 shows the number of SCM (CVS/SVN) repositories, committers, commits, mailing lists, messages, posters, software releases and size of the software.

Forge	SCM Sites	Committers	Commits	MailingLists	Messages	Posters	Releases	SLOC
Sarovar	153/167	64	72,355	18	925	102	70/91	74,037
SourceForge	130	138	28,749	ND	ND	ND	ND	ND

Table 2.4: Information sources that could be studied in Indian forges (April 2007).

The next section describes the set of difficulties arisen during the data retrieval process. These difficulties are the main cause of the *ND* (No-Data) value that appears in some cells of table 2.4.

In the results shown in table 2.4 the field *SCM repositories* (Source Code Management repositories) presents the number of non empty repositories and the number of total repositories found (including both empty and non empty repositories⁶). Field *Releases* shows the number of software releases which could be analysed and the number of total software releases found. For SourceForge the result presented is the number of non empty SCM repositories.

³Methodology report - Chapter Methodology - Section Global forge's analysis

⁴Methodology report - Chapter Methodology - Section Global forge's analysis

⁵<http://en.wikipedia.org/wiki/India>

⁶Empty repository: There is a valid SCM account for this project but no commit has ever been made

Figure 2.2 shows the number of SCM repositories, mailing lists and software releases identified and analysed. Also, figure 2.3 and figure 2.4 show the number of detected committers and commits respectively.

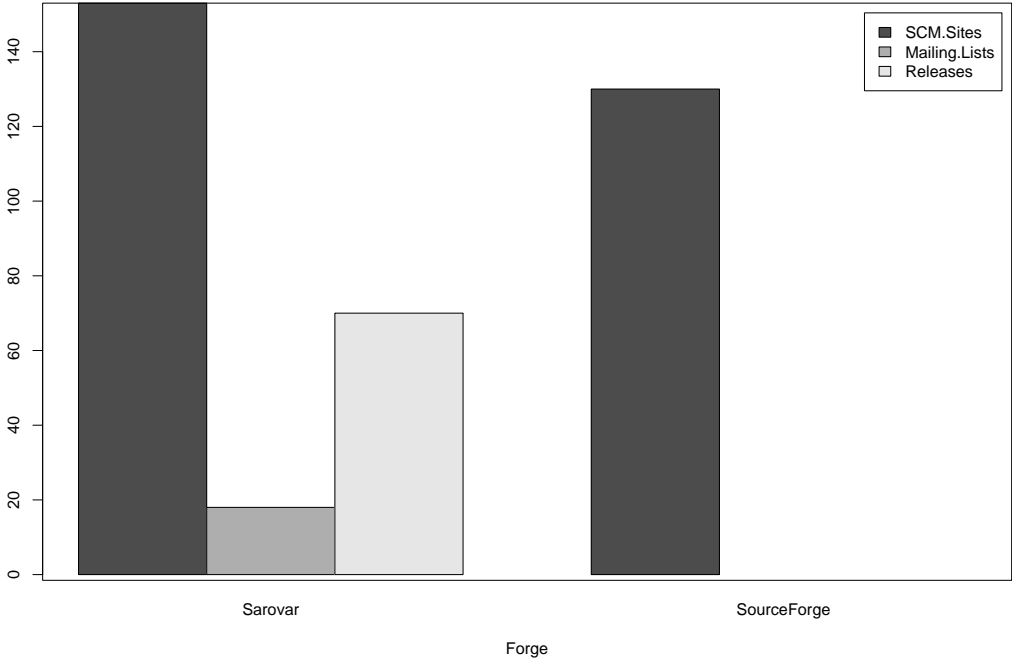


Figure 2.2: SCM repositories, mailing lists and software releases found in forges

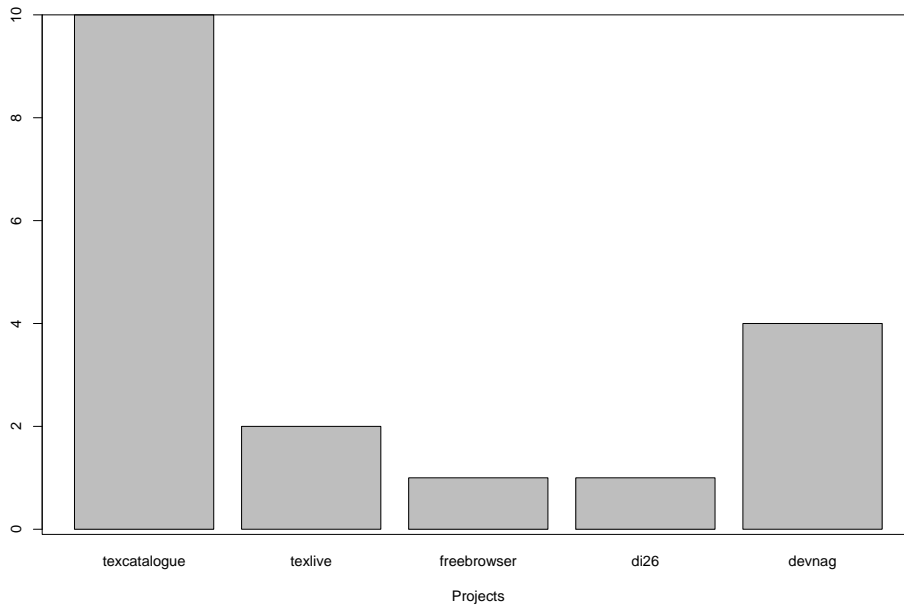


Figure 2.3: Committers per project, for some selected projects

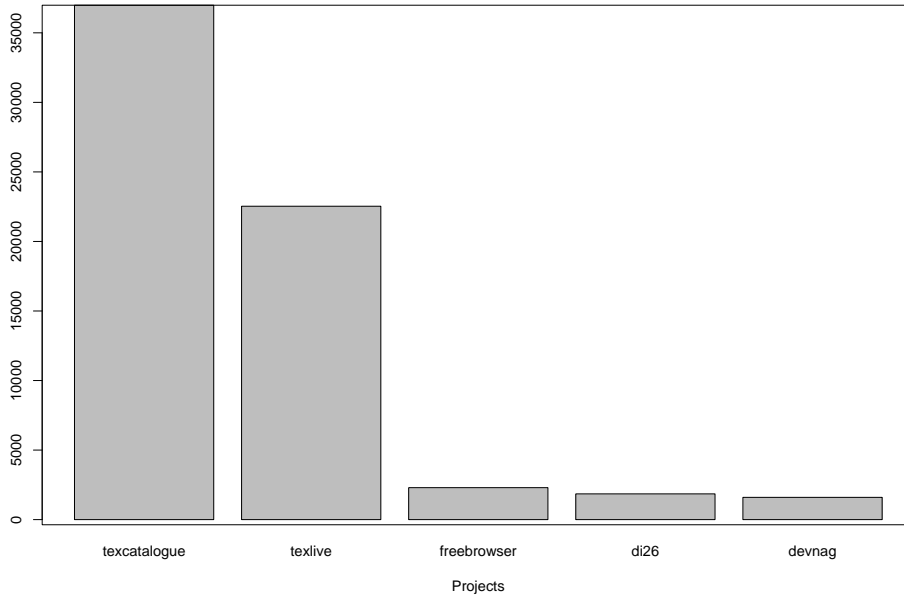


Figure 2.4: Commits per project, for some selected projects

2.3 Problems and constraints found

The process of data retrieval presented two main problems:

1. Links to version control systems: Indian partners provided some useful links. But sometimes it was not enough to find repositories⁷ links, thus we spent some time looking for specific links we needed. At the end we were able to find some extra information in forges using our spider tool.
2. Empty software repositories: Some projects which do have a CVS or SVN repository, do not store any source code in them. In this cases, some manual research and tests helped to clarify that repositories were actually empty.

2.4 Details of methodology

This section presents a brief description of the different tools used in the data retrieval process. The team obtained data from two different data sources. The Sarovar forge and the SourceForge forge. This is why data from several sources is available. The analysis was carried out on January of 2007. The study involved different tools in order to automate the gathering of the data.

1. MailingListStats⁸: MailingListStats was run on Sarovar's Mailing Lists. Some problems appeared during the process, since there were quite a few mailing lists but some of them were empty. Also, some of the posters in the mailing lists had only written three messages or less in their whole history.
2. Pyternity⁹: It was run on Sarovar's releases (not on SCM sites).
3. SLOCCount¹⁰: It was run on Sarovar's releases (not on SCM sites).
4. Spider¹¹: It was run on Sarovar and it detected a list of URLs which referenced to Mailing List's URLs and repositories URLs.

2.5 Contributions

This report has been drafted by the GSyC/LibreSoft team of the Universidad Rey Juan Carlos (Madrid, Spain, coordinated by Jesus M. Gonzalez-Barahona). The URJC team performed the data retrieval, mining and analysis, and produced its final version. In addition to the general collaboration by all partners, an Indian FLOSSWorld partner has contributed specifically (CDAC¹²) by providing information about libre software developing sites, feedback about the drafts of the report, much other useful information, and generic help with issues specific to their region . The coordinator of FLOSSWorld (UNU-MERIT) has also provided specific assistance and feedback during all the stages of preparation of this report.

⁷CVS or SVN

⁸Methodology report - Chapter Tools - Section Mailing List Stats

⁹Methodology report - Chapter Tools - Section Pyternity

¹⁰Methodology report - Chapter Tools - Section SLOCCount

¹¹Methodology report - Chapter Tools - Section Forge Spider

¹²<http://www.cdac.in/>

Chapter 3

Results

3.1 General information

Indian partners collaborated with us in providing different sources of useful data for the report¹. For more information access section 4.1 where this data is detached. There is a summary in table 3.1.

Communities	Developers	Lugs	Media	Platforms	Projects
4	171	233	2	2	79

Table 3.1: Data provided by Indian partners

Where *Communities* means groups of users interested in libre software, *LUGs* are Official Linux User Groups (with a physical address), *Media* are any kind of journal magazines related to Linux and *Platforms* are web sites which provide any kind of support to the libre software world, such as forges. Also, in figure 3.1 there is a comparison of the information obtained from all the countries studied in FLOSSWorld.

In India there are around 233 different LUGs which mostly use English to spread its knowledge to the community. Most of this groups use yahoogroups to support the LUG.

Table 3.2 shows the relationship between LUGs and their mediatic expansion:

National	Regional	Local	Unknown
10	29	62	190

Table 3.2: Indian LUGs data

The Indian magazine *Linux for you* with a approximate length of 116 pages, has a monthly frequency and it is distributed in Singapore an Malaysia too. Like most of the LUGs, this media is edited in English too and usually comes with some extras like CDs of software or distributions. It is even possible get its profile in pdf format form its web².

¹Methodology report - Chapter Data Sources - Section Primary Data Sources

²<http://www.linuxforu.com>

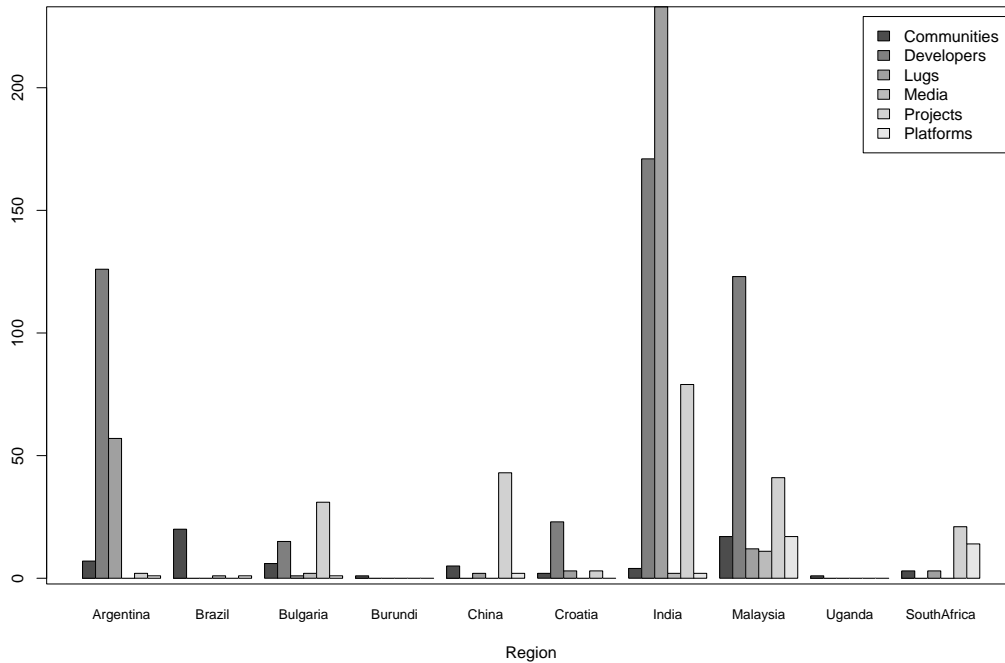


Figure 3.1: General information obtained from surveys (comparison among countries)

3.2 Forges information

The team has worked in one forge. Table 3.3 gives a small summary of the data corresponding to the Sarovar forge under study.

Region	Forge URL	Forge Name
India	http://sarovar.org	Sarovar

Table 3.3: Indian forges

3.3 SCM information

3.3.1 Sarovar forge

167 projects have been found, but only 153 of them have a software repository. There are 63 active developers who have made a commit and in total we can account up to 72,355 commits (see table 3.4).

Forge	No. of Committers	No. of Commits
Sarovar	63	72,355

Table 3.4: Sarovar committers and commits

Table 3.5 shows the five most active developers in the Sarovar forge.

Project	Committers	Commits
textcatalogue	graham	29201
textlive	Karl	22523
textcatalogue	Robin	6443
freebrowser	zbe	2298
di26	beta3	1851

Table 3.5: Relation Committers-Commits

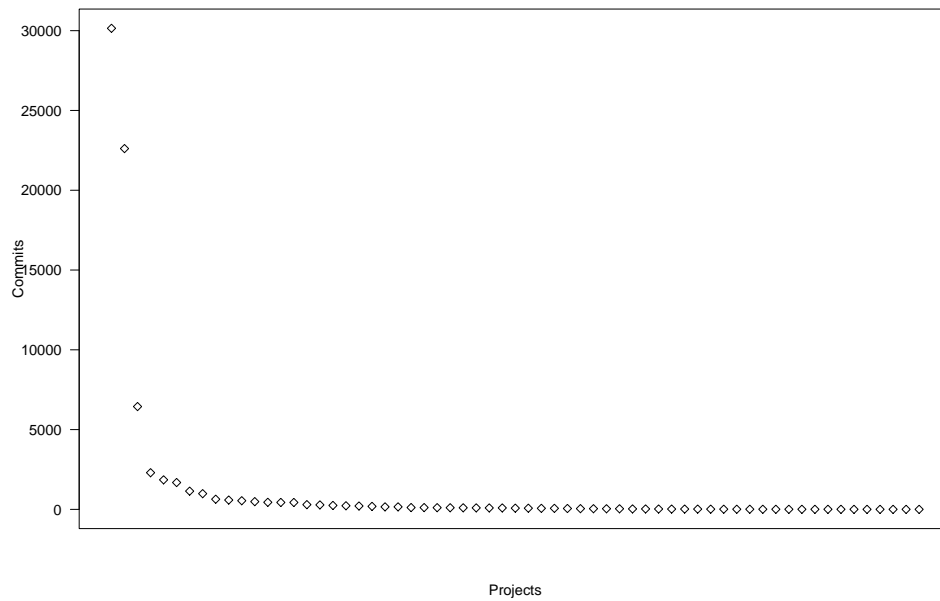


Figure 3.2: Distribution of commits per project in Sarovar forge

Project Name	Number of Committers	Number of Commits
textcatalogue	10	36985
textlive	2	22532
freebrowser	1	2298
di26	1	1851
devnag	4	1600

Table 3.6: Project vs Number of committers and number of commits

3.4 Source code information

3.4.1 Sarovar forge

The following data has been obtained using the spider tool and SLOCCCount in an automated process. In sarovar forge there are 51 projects from which SLOCCcount has gathered relevant data. this data has been retrieved from the latest releases of each project. Other data obtained using SLOCCCount is the average of developers per project and the effort of each one per year.

Project Name	Line Number	Effort	Schedule	Avg. Num. Developers	Cost of Develop
pdftex	121,169	30.80 (369.63)	1.97 (23.64)	15.63	\$ 4.161.048
metapost	36,92	8.84 (106.13)	1.23 (14.71)	7.21	\$ 1.194.721
usesctp	26,551	6.26 (75.08)	1.08 (12.90)	5.82	\$ 845.136
leela	21,400	4.99 (59.86)	0.99 (11.84)	5.06	\$ 673.870
yis	21,176	4.93 (59.20)	0.98 (11.79)	5.02	\$ 666.466

Table 3.7: Basic COCOMO model applied (using SLOCCount) to the largest Sarovar forge software releases

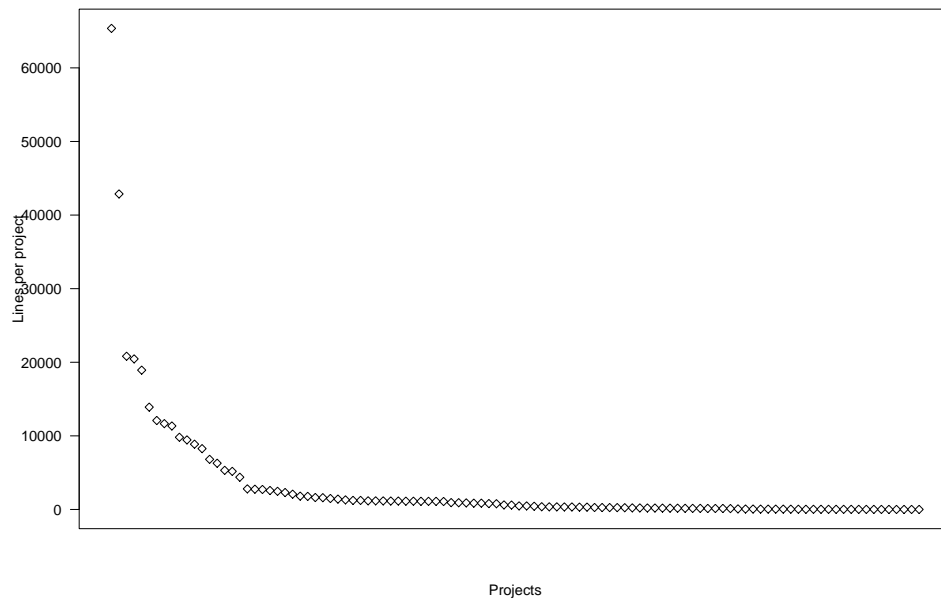


Figure 3.3: Lines of code in the Sarovar forge

Also, the table 3.8 and figure 3.4 show information regarding to percentage of use of different programming languages in each forge. Among the 17 different languages used to develop software in the Sarovar forge, ANSI C is by far the most popular.

Programming Language	N. of Detected Lines	Percentage
C	137849	40.4197
C ++	87104	25.5403
Sh	44843	13.1487
Python	25515	7.4814
PHP	18531	5.4336
Perl	8343	2.4463
Lisp	4190	1.2285
Tcl	3533	1.0359
Java	3509	1.0288
Yacc	2466	0.7230
Pascal	1716	0.5031
Ruby	1306	0.3829
Asm	1085	0.3181
Lex	642	0.1882
Awk	235	0.0689
Sed	172	0.0504
C #	5	0.0014
Total	341044	100.0

Table 3.8: Programming Languages used in Sarovar forge

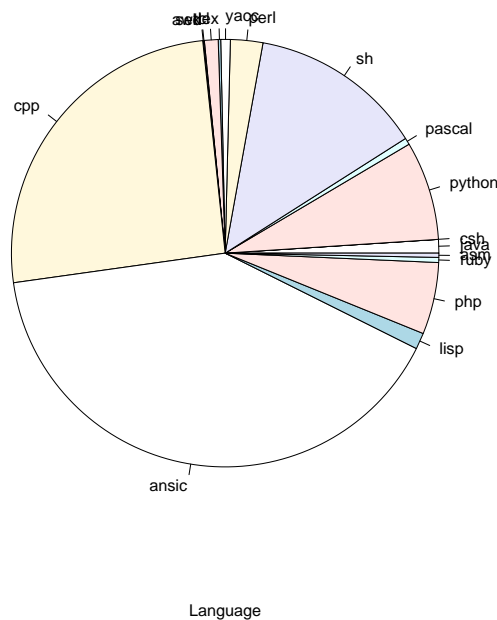


Figure 3.4: Programming Languages used in Sarovar forge

3.5 Mailing list information

3.5.1 Sarovar forge

There is a total of 18 mailing lists in the Sarovar forge. Most of this mailing lists refer to empty mailing lists. Mailing lists which have not been created (but there is a link in the project's page) and their numerous commits mailing lists.

Local Forge	N. Mailing Lists	N. Posters	N. Messages
Sarovar	18	102	925

Table 3.9: General mailing lists summary of results

Project	Mailing List	Posters	Messages
devnag	devnag-general	36	520
oriya	oriya-group	31	228
ijammer	ijammer-devel	5	34
sig9works	sig9works-chat	5	16
pistas	pistas-public	4	7
osiris	osiris-devel	4	84
javadb	javadb-users	4	16
malayalam	malayalam-users	3	2
prox	prox-devel	2	7
viettug	viettug-users	1	1

Table 3.10: Top 10 of mailing lists (Data, 20th February 2007)

Poster Alias	Messages Posted
wagner@cesnet.cz	150
gora_mohanty@yahoo.co.in	124
apandey@u.washington.edu	104
i@kevincarmody.com	89
jimmy_b@SoftHome.net	53
john.smith@oriental.cam.ac.uk	47
ucgadkw@ucl.ac.uk	30
aslam_ps@softhome.net	29
d.wujastyk@ucl.ac.uk	25
zdenek.wagner@gmail.com	24

Table 3.11: Top 10 of mailing list posters (Data, 20th February 2007)

Project	Total Messages	Total Users
devnag	648	31
plus	612	89
oriya	229	33
ijammer	34	5
javadb	16	3

Table 3.12: Number of messages and senders in mailing lists for several projects

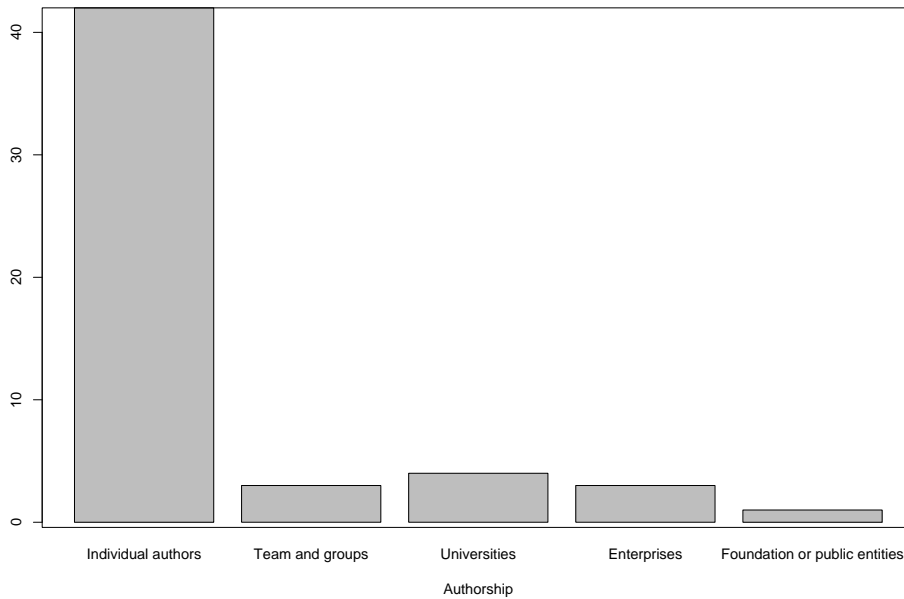


Figure 3.5: Authorship data (in software releases).

3.6 Authorship information

There are different types of authors in each project. Some of them work for companies that are interested in participating in the project. The results in this section have been obtained from software releases (not from SCM repositories), by analysing copyright attributions in source files.

Type	Number of Developers
Individual authors	42
Team-Groups	3
Universities	4
Enterprises	3
Foundation or public entities	1

Table 3.13: Type of authorship in Sarovar

3.7 SourceForge

Using the methodology explained in the Methodology report, several developers have been identified as Indian in the SourceForge analysis. The next data represents their actuation in SourceForge with numbers.

Country	No. of Committers	No. of Commits
India	138	28,749

Table 3.14: General data from SourceForge

Table 3.15 shows committers with the highest number of commits:

Project Name	Committer	No. of Commits
lizard	soam	7398
ram	jaju	1457
quipus	avati	1269
mzkqladmin	cnb	953
twapi	apnadkarni	921

Table 3.15: The most active Indian committers detected in SourceForge

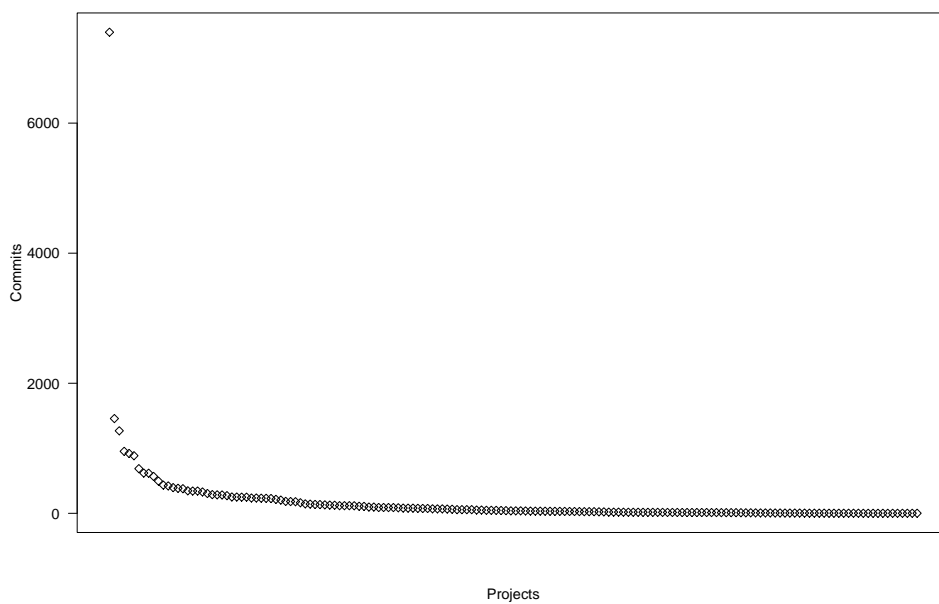


Figure 3.6: Commits in SourceForge

Chapter 4

Appendixes

4.1 General information

The following is a list of tables showing a relation of information provided by our partners.

Communities

Table 4.1: Communities detected by partners

Name	Size	URL	Description
indlinux	huge > 1000	http://indlinux.org	Indian languages issues, Indic standards issues, Indian language support on linux, GNOME and KDE localization to Indian languages
Indix	n/a	http://rohini.ncst.ernet.in/indix	
tamilinux	very large < 1000	http://www.tamizhlinux.org/	A group involved in the development of Tamil on Linux/Unix. Members are self-interested enthusiasts who contribute in their free time. Anyone is free to join this group and contribute to Tamil on Linu
ossrc	small < 15	http://www.ossrc.org.in	

LUGs

Table 4.2: Indian LUGs

LUG Name	URL
ILUG-Indore	http://groups.yahoo.com/group/ilug-indore/

Continued on next page

Table 4.2: Indian LUGs

LUG Name	URL
Kanpur LUGK (ILUG-D)	http://groups.yahoo.com/group/lugk/
Linux_Chandigarh	http://www.linux-delhi.org
SunnyLUG	http://in.groups.yahoo.com/group/linux.chandigarh/
linux-lucknow	
Bhopal-Linux User Group.	
rklug	
linux_gurus	
ilug_raipur	
GLUG	http://glug-nith.org/
pdylug	
vtplinux	http://groups.yahoo.com/group/vtplinux/
ChennaiLUG	http://www.chennaiLUG.org/
ILUG Cochin	http://www.ilug-cochin.org/
ilug-cbe	http://groups.yahoo.com/group/ilug-cbe/
cbe-linux	
KEC Linux User Group	http://groups.google.com/group/klug
ilug-belgaum	
ilug-mangalore	http://groups.yahoo.com/group/ilug-mangalore/
ilughyd	http://groups.yahoo.com/group/ilughyd/
khammamglug	http://groups.yahoo.com/group/khammamglug/
All the khammam people who have trouble with GNU/Linux can contact here!	
ilug-tvm	http://groups.yahoo.com/group/ilug-tvm/
GLUG-T	
alug_linux	http://groups.yahoo.com/group/alug_linux/
aplug	http://groups.yahoo.com/group/aplug/
linuxhubli	http://groups.yahoo.com/group/linuxhubli/
GLUGOT	http://cepserver.tce.edu/glugot/index.php?title=Home
tamillinux	http://groups.yahoo.com/group/tamillinux/
Free Software User Group - Kochi	
Free Software User Group - CUSAT	
Free Software User Group - Kozhikode	http://www.geocities.com/fsug_calicut/
FSUG-Bangalore	http://bangalore.gnu.org.in/
Free Software Users Group and sonalug	
rvcelug	http://groups.yahoo.com/group/rvcelug/
nagpur-linux	http://groups.yahoo.com/group/nagpur-linux/
ilug_sm	http://groups.yahoo.com/group/ilug_sm/

Continued on next page

Table 4.2: Indian LUGs

LUG Name	URL
ILUG-BOM	http://www.glug-bom.org/Data/ObjectType/I/ILUG-BOM/viewObjectType
ilug-goa	http://iluggoa.iosn.net/
linuxgoahelp	http://groups.yahoo.com/group/linuxgoahelp/
linux-Ahmedabad-users	http://groups.yahoo.com/group/linux-ahmedabad-users/
iLug_DAIICT	
gnunify	http://groups.yahoo.com/group/gnunify/
plug	
uvpce_lug	http://groups.yahoo.com/group/uvpce_lug/
Group or ULUG in the UVPCE College	http://www.uvpce.ac.in
ILUG-Cal	
ilug-bwn	http://www.ilug-bwn.org/
csslug	http://groups.yahoo.com/group/csslug/
linux-bihar	http://www.linux-bihar.org/
nelug-discussion	
ngfoss	http://groups.yahoo.com/group/ngfoss/
linuxjunkies	
Nixal	
assam-glug	
linux	http://groups.yahoo.com/group/linux/
Linux_Council_of_India	http://groups.yahoo.com/group/Linux_Council_of_India/
This council ha	
fsf	http://fsf.org.in/
Linux India network	http://www.linux-india.org/
Linux-India-General	http://https://lists.sourceforge.net/lists/listinfo/linux-india-general/
linux-India-help	http://https://lists.sourceforge.net/lists/listinfo/linux-india-help
linux -india-programmers	http://lists.sourceforge.net/lists/listinfo/linux-india-programmers
bsd-india	http://www.bsd-india.org
linuxinindia	http://www.freelists.org/archives/linuxinindia/
indlinux	http://indlinux.org/
Indian Linux User Group-Vizag	
Linux Sendmail user Group	http://www.geocities.com/arind.in/techie.html
Linux User Group Ahmedabad	
Linux_Concept_group	
inux-Users-Club-India	http://groups-beta.google.com/group/Linux-Users-Club-India
NUGLUG	http://groups.yahoo.com/group/NUGLUG/
newbielinux	http://autos.groups.yahoo.com/group/eguys_bvm
Mizo Linux Users Group	http://groups.yahoo.com/group/mizolinuxusergroup
AMLUG	
ilug-ajmer	http://groups.yahoo.com/group/ilug-ajmer/

Continued on next page

Table 4.2: Indian LUGs

LUG Name	URL
akl_lug	
AllahabadLUG	
Ambala Linux Group	http://eig.4t.com
Linux Frontier	
kinglinux	http://groups.yahoo.com/group/kinglinux
MITlinux	
IEET_BADDI HIMACHAL LINUX USER GROUP	
anil_haryana	http://groups.yahoo.com/group/anil_haryana
hashdot	http://www.hashdot.com
penguinhome	http://http:www.penguinhome.org
Linux For All	http://www.snrama.cjb.net
linuxrocks	http://groups.google.co.in/group/linuxrocks
Linux_For_All	http://groups.yahoo.com/group/Linux-for-all/
bellary-lug	
MKICS	
linuxATSSCCS	
ilug-bbsr	
Gnu Linux users group of Bom- bay	http://www.ilug-bom.org.in
fsug-calicut	http://groups.yahoo.com/group/fsug-calicut/
Mask The Team	http://mask.r8.org
Punjab Linux User Group	
Linux Device Drivers	
chennai-linux-ug	
futureopen	
Indian Linux Users Group - Chennai	
tuxplanetgroup	http://groups.yahoo.com/group/tuxplanetgroup/
LINUX at itmission.org	http://www.itmission.org
Karunya Linux Club	
linuxatezvidya	
linwin2k	
PSG-GNULinuxClub	
hindusthan-LUG	
gslinux	http://groups.yahoo.com/group/gslinux/
DGLUG	
Uttaranchal Lug	
linuxtks	
CHIP INFONET LINUX	
delhi-lug	http://groups.msn.com/delhi-lug
NetworkNUTSLinux	http://www.networknuts.net
dgplug	http://in.geocities.com/dgplug
LUG NIT Durgapur	
Lug-Aiem	http://groups.google.com/group/lug-aiem

Continued on next page

Table 4.2: Indian LUGs

LUG Name	URL
linux.city	http://groups.yahoo.com/group/erode-linuxcity
InfoLUG.KASC	http://www.kasc.ac.in
Linux for India	http://groups.yahoo.com/group/linuxforindia
KASCLUG	http://groups.yahoo.com/group/metturlinux/
punlinux	http://www.geocities.com/punlinux
DevNet	http://www.devnet.cs.bbsbec.org
ILUGatDA-IICT	http://groups.yahoo.com/group/iLug_DAIICT
Linux India	http://s2.phpbbforfree.com/forums/index.php?mforum
Ghaziabad Lug	http://www.groups.yahoo.com/group/gzlug
kietlinux	http://www.kiet.edu/~kietlinux
jeet_linuxgroup	
Guntur-GLUG	
gwalior_lug	
Linux Programmers	http://groups.yahoo.com/group/lprogs
linuxATNIT hamirpur	http://www.nitham.ac.in
Haridwar linux user group	http://groups.yahoo.com/group/haridwar/
GLUG-Howrah	http://www.glug-howrah.org
Howrah Red Hat Linux Group	http://redhat.linuxjunkies.org
Floss-Hyderabad	http://groups.google.com/group/FLOSS-Hyderabad
miposlug	http://groups.yahoo.com/group/miposlug
ilug-hyd	http://ilug-hyd.org.in
UOHYDLUG	http://groups.yahoo.com/group/uohydlug/
IIIT Hyderabad GNU/Linux User Group	http://students.iiit.ac.in/mailman/listinfo/lug
RedhatTechies	http://groups.yahoo.com/group/RedhatTechies/
citfsug	http://groups.yahoo.com/group/citfsug/
Complete Open Source Solutions	http://www.cossindia.org/forum
aict	http://www.linuxforu.org
IIIT LUG	http://students.iiit.net/tech/lug/
MJCET GNU Linux Users Group	http://groups.yahoo.com/group/mjglug
linhyd	http://groups.yahoo.com/group/linhyd
GLOUCE	http://www.glouce.org
twincling	http://groups.yahoo.com/group/twincling/
Linux Manipur	http://groups.yahoo.com/group/linux-manipur/
linux.iips	http://groups.yahoo.com/group/linux.iips
sonixsltd LINUX UG JAIPUR	http://groups.yahoo.com/group/sonixsltd/
lugj	http://groups.yahoo.com/group/lugj/
Linux Users Group Jammu	http://groups.google.co.in/group/lugjammu
Linux user group Jamshedpur	http://www.lug-jsr.org
Knrlug	http://www.geocities.com/knrlug/
KannurLUG	http://www.kannurlug.uni.cc
Kannur Linux	http://groups.yahoo.com/group/kannurlinux/
Lugind	http://groups.yahoo.com/group/lugind/

Continued on next page

Table 4.2: Indian LUGs

LUG Name	URL
Open Software Solutions Industrial Coop Society	http://www.ossics.com
IGLUG South Maharashtra	http://www.groups.yahoo.com/groups/ilug_sm
JULUG	http://groups.yahoo.com/group/julug
linux.kota	http://groups.yahoo.com/group/linux_kota/
HLUG	http://www.linux-haryana.org
Linux Lucknow	http://vivekkhare.org
Lko. Lug. SapanBajpai	
Lucknow Linux Users Group	
Linux4Ludhiana	http://groups.google.com/group/Linux4Ludhiana
Linux-Madurai	http://groups.yahoo.com/group/linux-madurai/
MICE	http://www.micegroup.net
Madurai Linux Users Group	http://www.madurailug.org
GLUG-Madurai	http://www.glug-madurai.org
GNU Linux UserGroup of TCE	http://www.glugot.tk
SLYNUX	http://www.slynux.co.nr
ilugmandi	http://ilugmandi.tripod.com
MHOW LUG	http://www.mhowlinux.org
addict-linux	http://www.geocities.com/linux_dominates
Lnx	http://www.geocities.com/rvbugged
North Mumbai GNU/Linux User Group	http://groups.yahoo.com/group/Mumbai_GNU/Linux/
DAWGLINUX	http://groups.yahoo.com/group/dawglinux/
FEDORA_linux_mumbai	http://groups.yahoo.com/group/fedora_mumbai/
FutureOS_Linux	http://groups.yahoo.com/group/FutureOS_Linux/
Linux Vadapav	http://groups.yahoo.com/group/linuxvadapav
mylug	http://groups.yahoo.com/group/mylug/
Open Source Technologies Group	http://ostg.blogspot.com
LUG-Nagercoil	http://in.groups.yahoo.com/group/lug-nagercoil
linuxatstrategic	http://www.linuxatstrategic.com
ilug-ngp	http://groups.yahoo.com/group/ilug-ngp
Linux-Ngp	http://groups.yahoo.com/group/linx-ngp
nashlug	http://groups.yahoo.com/group/nashlug
New Bombay Linux User Group	http://groups.yahoo.com/group/nblug
LUGNM	http://lugnm.org/
fundu aagris	http://groups.yahoo.com/group/fundu_aagris
Navi Mumbai LUG	http://www.lugnm.org
mslinux	http://groups.yahoo.com/group/mslinux/
Hamdard LUG	http://groups-beta.google.com/group/HamdardLUG
ILOVELINUX	http://www.groups.yahoo.com/group/linuxlovers
LinuxAsia	http://www.linuxasia.in
JMILUG	http://www.jmilug.tk
Nitte	http://groups.yahoo.com/group/nittelinux/
LUGatJIIT-Noida	http://www.lug-jiit.tk

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Table 4.2: Indian LUGs

LUG Name	URL
lug_noida	http://groups.yahoo.com/group/lug_noida/
Palakkad Linux Users Group PLug	http://groups.google.co.in/group/palakkadlug
Panipatlug	http://groups.yahoo.com/group/panipatlug
linuxnetwork	http://groups.yahoo.com/group/linuxnetwork
Linux System Administrator	http://groups.yahoo.com/group/linux-sys-admin/
OSS_GBPEC	http://groups.yahoo.com/group/oss-gbpec
Lug PMNA	http://www.educationobserver.com/lug
lugsatpollachi	http://groups.yahoo.com/group/lugsatpollachi/
pondicherry linux users group	http://groups.sify.com/plug
Cyberkabila Linux Users Group	
ilug-pune	
linux_pune	
bluecaplinux	
linuxpeople	
CSLUG	
BLUG	
E-A-S-Y	
Rajkot Linux Users Group	http://groups.yahoo.com/group/raj-lug/
indialinuxuser	http://www.umiyaji.com
Atmiya Linux Group	http://www.atmiya.ac.in
RAJ-LUG	http://groups.yahoo.com/groups/raj-lug
YCS Group	http://www.ycsindia.com
LinuxatGVP -Vizag	http://groups.yahoo.com/group/linux-gvp
Vijayawada Free Software User Group	http://www.vfsug.tk
V_PLUGIN	http://www.groups.yahoo.com/group/v-plugin
sit-csit	http://www.geocities.com/sitcsit
the LINUX group	http://groups.yahoo.com/group/truelinux
Ilug-Vidarbha	http://groups.yahoo.com/group/ilug-vidarbha/
The Buster Group	http://www.groups.yahoo.com/group/buster_group
itbhu-lug	http://groups.yahoo.com/group/itbhu-lug

Projects

Table 4.3: Projects collected by partners

Project name	URL
. FOSS EDU IN	http://sarovar.org/projects/foss-edu-in/
. kXblog - XML based blog engine	http://sarovar.org/projects/kxblog/
. Young Research Minds	http://sarovar.org/projects/yrif/

Continued on next page

Table 4.3: Projects collected by partners

Project name	URL
Acharya	http://acharya.iitm.ac.in/perl_enhance.html
ACML and Libraries -	http://sarovar.org/projects/acml/
Advanced On-The-Fly-Encryption System	http://sarovar.org/projects/otfe/
ANet	http://anet.sourceforge.net/
Anjuta	http://anjuta.sourceforge.net/
bakar - iips mca study companion	http://sarovar.org/projects/bakar/
BhuDrishti	http://sarovar.org/projects/bhudrishti/
Bugster	http://sourceforge.net/projects/bugster/
bzip2 translator	http://www.gnu-india.org/pipermail/gnu-india/20010307/000113.html
Citybus	http://www.sharma-home.net/people/arun/projects/citybus/citybus.html
Computational Methods in Chemical Engg	http://sarovar.org/projects/processsystems/
Cost Effective SMS Messaging Server	http://sarovar.org/projects/dudasms/
cryptoloop	http://sarovar.org/projects/cryptoloop/
dhvani - TTS system for indian languages	http://sourceforge.net/projects/dhvani/
Dual DHCP DNS Server	http://sarovar.org/projects/dual-dhcp-dns/
English to Hindi Unicode converter	http://sarovar.org/projects/en2hindi/
Enhanced Transmission Control Using SCTP	http://sarovar.org/projects/usesctp/
FILE TRANSMISSION OPTIMIZATION	http://sarovar.org/projects/ftoptimize/
Genie	http://www.sharma-home.net/people/arun/projects/genie/index.html
gFourCC - Linux FourCC Changer	http://sarovar.org/projects/gfourcc/
gitch pitch - word games	http://sarovar.org/projects/gipi/
Gnome Desktop Background Artist	http://sarovar.org/projects/gwall/
GNU Songanizer	http://https://savannah.gnu.org/projects/songanizer/
GNU Tamil OCR	http://gtamilocr.sourceforge.net/
GRADE	http://sarovar.org/projects/grade/
Gtkboard	http://sourceforge.net/projects/gtkboard/
GYM-J	http://sarovar.org/projects/gym/
HTML Template java	http://html-tmpl-java.sourceforge.net/
httptype	http://sourceforge.net/projects/httptype/
Hybrid Operating System -	http://sarovar.org/projects/osiris/
Hyper C	http://sarovar.org/projects/karthikkselvan/
i386 Porimozhiyaakki - Tamil Assembler	http://sarovar.org/projects/yrif-pomo/
IJammer	http://sarovar.org/projects/ijammer/

Continued on next page

Table 4.3: Projects collected by partners

Project name	URL
Indix	http://rohini.ncst.ernet.in/indix/e_introduction.html
ISearch	http://sarovar.org/projects/isearch/
Java Input Method	http://sarovar.org/projects/javaime/
Java Tools for Indian Languages	http://sarovar.org/projects/codeconverters/
Java Unicode Editor with ISCII support	http://sarovar.org/projects/javaeditor/
JavaDBF	http://sarovar.org/projects/javadbff/
jPA	http://sarovar.org/projects/jpa/
JSuDoKu	http://sarovar.org/projects/jsudoku/
Kannada Localisation Initiative	http://kannada.sampada.net/
karuna	http://sarovar.org/projects/karuna/
KLOC	http://sarovar.org/projects/kloc/
Kollektive Linux	http://kollektive.8k.com/
KPopup	http://sarovar.org/projects/kpopup/
KTalk	http://sarovar.org/projects/ktalk/
libnapai cpu info	http://sarovar.org/projects/libnapai/
LICOM	http://sarovar.org/projects/licom/
Linux India	http://sarovar.org/projects/linux-india/
Linux Parichay	http://sarovar.org/projects/linuxparichay/
Malayalam for LaTeX2e	http://malayalam.sarovar.org/malayalam.html
MayaVi	http://mayavi.sourceforge.net/
Mibble Browser	http://sarovar.org/projects/mibblebrowser/
oriya	http://sarovar.org/projects/oriya/
Pacman in OpenGL	http://sarovar.org/projects/pakman/
PDFTeX – FAQ	http://sarovar.org/projects/pdftexfaq/
real time data acquisition	http://sarovar.org/projects/rtda/
Scheme Module for Apache	http://sarovar.org/projects/mod-scheme/
sig9works	http://sarovar.org/projects/sig9works/
Simple Online Examination tool	http://sarovar.org/projects/learn-do-online/
SNAPEXT2	http://sarovar.org/projects/snapext2/
Student Information System	http://sarovar.org/projects/sis/
Sudoku Solver with GUI	http://sarovar.org/projects/sudoku/
Suruma Malayalam Fonts	p_surehttp://sarovar.org/projects/suruma/
Swathantra Malayalam Fonts	http://sarovar.org/projects/smf/
Tamilix	http://sarovar.org/projects/tamilix/
Telugu Localization of GNU Linux	http://sarovar.org/projects/telugu/
Thanima Web based Malayalam Editor	http://sarovar.org/projects/thanima/
TiMePASS	http://sarovar.org/projects/timepass/
Tuxedo Chess Engine	http://sarovar.org/projects/tuxedo/
Udis86 Disassembler For x86 and x86-64	http://sarovar.org/projects/udis86/
Vapour Liquid Equilibrium	http://sarovar.org/projects/vle/
Ved	http://sourceforge.net/projects/ved/

Continued on next page

Table 4.3: Projects collected by partners

Project name	URL
Waba	http://waba.sourceforge.net/
Y-Chat	http://sarovar.org/projects/ychat/

Media

Table 4.4: Media collected by partners

Name	URL
LinuxForYou	http://www.linuxforu.com/index.php
LinuxJournal	http://www.linuxjournal.com/

Platforms/Forges

Table 4.5: Platforms collected by partners

TitleColumn1	TitleColumn
ossrc	http://www.ossrc.org.in
sarovar	http://sarovar.org

Developers

Table 4.6: Developers collected by partners (by domain of Email address)

Forge	No. of developers
users.sarovar.org	98
users.sourceforge.net	17
yahoo.com	9
wipro.com	4
gmail.com	6
Continued on next page	

Table 4.6: Developers collected by partners (by domain of Email address)

Forge	No. of developers
novell.com	4
in.ibm.com	2
technetra.com	2
ncst.ernet.in	2
sun.com	1
gnome.org	1
others	31

4.2 Data from repositories

The following is a list of tables showing data from the repository mining with CVSAly, for each forge analysed in the study.

Sarovar forge

Table 4.7: SCM results in Sarovar forge

Project name	Committer	No. of com-mits
texcatalogue	graham	29201
texlive	karl	22523
texcatalogue	robin	6443
freebrowser	zbe	2298
di26	beta3	1851
devnag	icebearsoft	1143
texcatalogue	schoepf	985
survivor	graham	646
eplain	oleg	637
osiris	jimmy	543
libmpost	taco	443
gfpolynom	jwillkomm	434
sig9works	vivek	433
wajig	graham	302
texcatalogue	jhefferon	281
rattu	ddiinnxx	256
yoda	archis	247
talcum	ulmi	228
keytrans	keytrans	212
debuguide	docelic	206
devnag	wujastyk	187

Continued on next page

Table 4.7: SCM results in Sarovar forge

Project name	Committer	No. of com- mits
ptf	docelic	180
mem	jbezos	159
devnag	abraham	157
osiris	aslam	150
trece	aslam	147
gipi	ddiinnxx	137
malayalam	alex	115
devnag	apandey	113
easyblog	anderson916	108
jukenux	szaszg	104
soulcli	aasen	95
bhudrishti	siddhartha	91
cvspermissions	vivekv	76
telugu	sunilmohan	74
eplain	karl	72
bakar	ddiinnxx	69
kloc	ddiinnxx	68
belenix	moinakg	65
yриф	sudarsun	64
debtoo	docelic	63
javadbf	anil	58
sig9works	qhitch	55
kalakaar	ddiinnxx	55
ijammer	joe	52
texcatalogue	frank	46
kxblog	k4ml	43
emknoppix	raj	40
prox	joe	39
vle	syvaitya	38
deviant	docelic	37
cachecharger	sudarsun	29
thanima	manilal	29
elbert	ivop	27
gwall	avlamba	23
grade	baijum81	20
splitindex	mjk	20
telugu	singamayya	18
tds	karl	16
texcatalogue	norbusan	14
texcatalogue	jschrod	11
texlive	rahtz	9
vtx	vardhan	9
svdlibcpp	sudarsun	8

Continued on next page

Table 4.7: SCM results in Sarovar forge

Project name	Committer	No. of com-mits
survivor	damien	7
texdbi	anil	7
trecs	krishi	6
pxio	dsuch	5
sig9works	jaimy	5
telugu	bujji	4
sig9works	sherin_cleetus	4
plus	praveen_a	4
texcatalogue	amaxwell	2
trecs	khanna	2
texcatalogue	zierke	1
acml	abraham	1
texcatalogue	uid20154	1
ychat	pushkar_par	1
emknoppix	anil	1
bibcheck	cvr	1
arce	hsrai	1

SourceForge

Table 4.8: SCM SourceForge results

Project name	Committer	Commits
lizard	soam	7398
ram	jaju	1457
quipus	avati	1269
mzkqladmin	cnb	953
twapi	apnadkarni	921
crf	sunita	886
reqman	gayatriavasthi	687
massid3lib	xeonfusion	619
glibs	sharmad	617
imli	vkishnakumar	568
oktopous	phonetik	496
asip	vijaygp	434
freedomink	cnb	422
cockatoo	shivramk	396
kdocker	cs19713	385
rtlinux89712	mahout	379
wolfpackoggshar	seekerbiswas	347

Continued on next page

Table 4.8: SCM SourceForge results

Project name	Committer	Commits
gnomemsg	nikhil	343
gnomemsg	nikhil	343
kripper	anirban_c8	329
dame	kdmurthy	305
autoficon	madanraj	288
nstl	dhruvmatani	285
linc	mrnk	283
oregex	mystifier	272
dpatookit	dpa-toolkit	252
kannada	adsharma	251
pericos	javapandit	249
pericos	javapandit	249
audiolink	amitshah	236
avsap	lawgon	236
oper17	oper17	233
textmine	konchady	231
oasserver	ghodechhap	228
checkmail	indrajitr	215
ldtp	nagappan	204
buillessentials	buillessentials	184
systeminfo	muthukumark	181
phpcrystal	shansukumar	179
voidex	harshatcse	163
ibmonitor	arc_of_ascent	146
umf	amitdev	142
ezvu	sguruprasanna	137
dpatookit	priyananda	135
proap	r_kmoorthy	131
asip	vijay_248	127
hasnain	code8k	125
antxmltasks	dnene	118
openengineer	hariprasadgov	118
antxmltasks	dnene	118
fvwmrcredit	ymanma	117
indlinux	karunakar	109
tdml	nmbt0	107
ezbasic	vivekjishtu	97
zfs	azaidi	97
tidylib	jaju	90
askme	upadhyay	90
grabyahoogroup	mithun	89
printmirror	vipinaravind	89
qmms	vkhaitan	86
netsucker	kshankha	81

Continued on next page

Table 4.8: SCM SourceForge results

Project name	Committer	Commits
kamadhenu	rsramanujam	80
crf	imansuri	80
cockatoo	atmaram	77
visualbonds	wounded_tiger	75
libox	ymanma	75
phpftpadmin	cnb	70
linc	ashish_kulz	69
pycraft	kaustubh	69
dfdedit	soumava	66
shellamp	kpadegaonkar	63
danaxu	xantor	57
aibots	ayanc	57
massid3lib	offroad	57
indlinux	dsjoshi	57
vsnipet	kmdhar	51
reqman	binnyavasthi	51
imv	hyporg	47
qfd	mitul	47
sharptella	adarsh_r_bhat	46
ldaputils	shanu	44
pdiag	ptr	42
evolve	meyarivan	39
evolve	meyarivan	39
openengineer	ajl	39
kaustubhhere	kaustubh	37
rkfs	rajark	35
guc	cs19713	34
vbrob	kmdhar	34
linamp	pearlshine_2005	33
alfs	rahul_katariya	32
neoconsole	arijitde	31
atree	soam	31
oktopous	rp_hathiwala	30
oktopous	tboehrer	29
pywiew	abpillai	28
filegmt	rajark	27
warboard	anirban_c8	26
inertia	sandeepshetty	26
vpktdrv	kmdhar	26
nightscreamer	arunarunaran	24
xgrind	pankajmt	23
rmimessagequeue	jazie	19
nstl	apurva_m	19
amvnpn	aitf	19

Continued on next page

Table 4.8: SCM SourceForge results

Project name	Committer	Commits
gsim51	seemanta	18
vfsdb	harikm	17
vpuzzle	kmdhar	17
svgaengine	ajjahagirdar	17
mmdoc	mohan_knb	16
qnomad	vkhaitan	16
damascas	soumya42	16
qnomad	vkhaitan	16
mayahttpd	funmaya	15
rssyn	bluesmoon	14
kodepaster	dorto	14
linvb	aurelius	14
kollektive	mahout	13
kodepaster	iqbaltabrez	13
qvs	foodfill	13
paperman	vinaypai	13
hotclient	djmajumdar	13
emacszilla	csandeep	13
buflib	foodfill	12
cisc	pranavpeshwe	12
fudf	prabindh	11
bugster	chyrag	11
freedomink	precision	11
blogathon	sandipb	11
srishti	sandipb	10
unihorn	vamirisetty	9
kripper	c_anindya	9
optimizedstack	jayush	8
kosh	anandm	7
pjam	nitin_matrix	7
checkmail	uid123017	7
kosh	ksriram	6
crf	kaushalmittal	6
rc4crypt	mukul	5
webappgenerator	alakesh	5
avsap	ghidoghido	5
reqman	yanivihtsava	5
indlinux	meyarivan	4
opencomputing	kmganesh	3
objfs	tahervohra	3
sharptella	srichand	3
crf	amitjaiswal	3
pericos	pkj101	2
kosh	viveksrikumar	2

Continued on next page

Table 4.8: SCM SourceForge results

Project name	Committer	Commits
robotsim	ajl	2
gripped	shyamg	2
banks	arnabdorg	2
tamilmozilla	akkumar	2
pericos	pkj101	2
visualbonds	yarema	1
papad	mrnk	1
rakshak	funmayank	1
clde	niraj17	1
environ	balachandar	1
pericos	vineetjain	1
kosh	tarivs	1
bricspe	abhaga	1
kollektive	chyrag	1
pericos	vineetjain	1
nazar	mystifier	1
dtogenerator	mdennis_2000	1

4.3 COCOMO model applied to software releases

The following is a table showing data obtained after applying basic COCOMO model to projects found in the forges.

Table 4.9: Basic COCOMO model applied to Sarovar software distributions

Project name	SLOC	EPM(EPY)	Est. Years	Est Dev.	Est. Cost
pdftex	121.169	30.80 (369.63)	1.97 (23.64)	15.63	\$ 4,161,048
metapost	36.92	8.84 (106.13)	1.23 (14.71)	7.21	\$ 1,194,721
usesctp	26.551	6.26 (75.08)	1.08 (12.90)	5.82	\$ 845,136
leela	21.4	4.99 (59.86)	0.99 (11.84)	5.06	\$ 673,870
yis	21.176	4.93 (59.20)	0.98 (11.79)	5.02	\$ 666,466
bibtool	19.479	4.52 (54.23)	0.95 (11.40)	4.76	\$ 610,501
gtkhack	12.13	2.75 (32.98)	0.79 (9.44)	3.49	\$ 371,275
karuna	9.453	2.12 (25.38)	0.71 (8.54)	2.97	\$ 285,752
mod-scheme	8.498	1.89 (22.70)	0.68 (8.19)	2.77	\$ 255,520
sis	6.813	1.50 (18.00)	0.62 (7.50)	2.4	\$ 202,603
gfpolynom	5.319	1.16 (13.88)	0.57 (6.79)	2.04	\$ 156,230
osdeve	5.179	1.12 (13.49)	0.56 (6.72)	2.01	\$ 151,915
udis86	4.923	1.07 (12.80)	0.55 (6.59)	1.94	\$ 144,040

Continued on next page

Table 4.9: Basic COCOMO model applied to Sarovar software distributions

Project name	SLOC	EPM(EPY)	Est. Years	Est Dev.	Est. Cost
quark	2.96	0.63 (7.50)	0.45 (5.38)	1.4	\$ 84.430
talcum	2.8	0.59 (7.08)	0.44 (5.26)	1.35	\$ 79.645
dual-dhcp-dns	2.755	0.58 (6.96)	0.44 (5.22)	1.33	\$ 78.301
pcrcommander	2.577	0.54 (6.48)	0.42 (5.09)	1.27	\$ 72.998
kpopup	2.468	0.52 (6.20)	0.42 (5.00)	1.24	\$ 69.760
tpad	2.308	0.48 (5.78)	0.41 (4.87)	1.19	\$ 65.019
wajig	2.278	0.47 (5.70)	0.40 (4.84)	1.18	\$ 64.132
metakyanh	1.781	0.37 (4.40)	0.37 (4.39)	1	\$ 49.527
ganit-kosh	1.656	0.34 (4.08)	0.36 (4.26)	0.96	\$ 45.883
jsudoku	1.491	0.30 (3.65)	0.34 (4.09)	0.89	\$ 41.095
gipi	1.331	0.27 (3.24)	0.33 (3.91)	0.83	\$ 36.478
ruby-ircd	1.306	0.26 (3.18)	0.32 (3.88)	0.82	\$ 35.759
dossim	1.262	0.26 (3.06)	0.32 (3.83)	0.8	\$ 34.495
kloc	1.174	0.24 (2.84)	0.31 (3.72)	0.76	\$ 31.974
kalakaar	1.176	0.24 (2.85)	0.31 (3.72)	0.76	\$ 32.031
comskys	1.149	0.23 (2.78)	0.31 (3.69)	0.75	\$ 31.259
opengogear	1.15	0.23 (2.78)	0.31 (3.69)	0.75	\$ 31.288
cachecharger	1.111	0.22 (2.68)	0.30 (3.64)	0.74	\$ 30.175
rattu	1.11	0.22 (2.68)	0.30 (3.63)	0.74	\$ 30.146
elite	1.106	0.22 (2.67)	0.30 (3.63)	0.73	\$ 30.032
gfourcc	1.083	0.22 (2.61)	0.30 (3.60)	0.72	\$ 29.377
telugu	803	0.16 (1.91)	0.27 (3.19)	0.6	\$ 21.458
javadb	620	0.12 (1.45)	0.24 (2.88)	0.5	\$ 16.355
winecd	603	0.12 (1.41)	0.24 (2.85)	0.5	\$ 15.885
ijammer	488	0.09 (1.13)	0.22 (2.62)	0.43	\$ 12.720
arce	484	0.09 (1.12)	0.22 (2.61)	0.43	\$ 12.610
belenix	468	0.09 (1.08)	0.21 (2.58)	0.42	\$ 12.173
mactaip	376	0.07 (0.86)	0.20 (2.36)	0.36	\$ 9.674
cvpermissions	363	0.07 (0.83)	0.19 (2.33)	0.36	\$ 9.323
texdbi	270	0.05 (0.61)	0.17 (2.07)	0.29	\$ 6.832
grub4dos	266	0.05 (0.60)	0.17 (2.06)	0.29	\$ 6.726
yoda	257	0.05 (0.58)	0.17 (2.03)	0.28	\$ 6.487
traymoon	221	0.04 (0.49)	0.16 (1.91)	0.26	\$ 5.537
prox	211	0.04 (0.47)	0.16 (1.87)	0.25	\$ 5.274
sig9works	202	0.04 (0.45)	0.15 (1.84)	0.24	\$ 5.038
ths7xx	140	0.03 (0.30)	0.13 (1.59)	0.19	\$ 3.428
luitlinux	50	0.01 (0.10)	0.09 (1.06)	0.1	\$ 1.163
malayalam	51	0.01 (0.11)	0.09 (1.06)	0.1	\$ 1.187
jar2jad	47	0.01 (0.10)	0.09 (1.03)	0.09	\$ 1.090
pstricks	27	0.00 (0.05)	0.07 (0.83)	0.07	\$ 609
bakar	23	0.00 (0.05)	0.06 (0.77)	0.06	\$ 515
tamil	19	0.00 (0.04)	0.06 (0.72)	0.05	\$ 421
pdftricks	13	0.00 (0.03)	0.05 (0.62)	0.04	\$ 283

