Global Linkage Over BroadbAnd Links

GLOBAL

European Commission Seventh Framework Project
(Research Infrastructures Activity – contract nr. 223120)

Final report on Knowledge Management and Dissemination – D3.5

30 November 2010

Document Control

Deliv. number: D3.5

Title: Final report on Knowledge Management and Dissemination

Workpackage: 3

Status: 1.0

Date: 30 November 2010

Author(s): Dietmar Lampert

E-mail: lampert@zsi.at

AMENDMENT HISTORY

Version	Date	Author/Editor	Description/Comments
0.1	Oct. 15, 2010	Dietmar Lampert	First draft
0.2	Oct. 25, 2010	Monica Cortes	Added annex + dissemination events + section 3.2 + some PI
0.3	Oct. 25, 2010	Dietmar Lampert	Consolidating input from all partners
0.4	Oct. 28, 2010	Dietmar Lampert	Adding more evaluation results to indicators
0.9	Oct. 29, 2010	Dietmar Lampert	Implementing comments from peer reviewers
0.95	Nov. 18, 2010	Monica Cortes	Updated performance indicators
0.98	Nov. 18, 2010	Juan Quemada	Sustainability part
0.99	Nov. 18, 2010	Dietmar Lampert	Overall summary + minor revisions
1.0	Nov. 30, 2010	Dietmar Lampert	Final version

Contributors

Name	Institution
Klaus Schuch, Dietmar Lampert, Margit Hofer, Barbara Kieslinger, Pamela Bartar, Carmen Siller	ZSI
Monica Cortes, Juan Quemada	UPM
Walter Munguia	CLARA
Margaret Ngwira, Tiwonge M. Banda	UbuntuNet
Borka Jerman-Blažič, Tanja Arh	JSI
Peter Kirstein, Piers O'Hanlon	UCL
Enrique Barra	ASSA

Legal Notices

The information in this document is subject to change without notice.
The Members of the GLOBAL Consortium make no warranty of any kind with regard to this document, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. The Members of the GLOBAL Consortium shall not be held liable for errors contained herein or direct, indirect, special, incidental or consequential damages in connection with the furnishing, performance, or use of this material.

TABLE OF CONTENT

1 INTRODUCTION **4**

2 GLOBAL'S DISSEMINATION ACTIVITIES **5**

3 WP3 – TASKS **8**

3.1 DEVELOPMENT OF PROJECT PROMOTION MATERIAL 8
3.2 VIRTUAL CORRIDOR AND CONTINUOUS DISSEMINATION CHANNELS 8
3.3 WEBSITE INTERFACES AND CONTENT 9

4 EVALUATION OF PERFORMANCE INDICATORS (PI) **10**

4.1 MONITORING OF DISSEMINATION ACTIVITIES 10
4.2 CONCLUSIONS 16

5 SUSTAINABILITY PLAN **17**

6 SUMMARY **20**

7 ANNEX: WEB STATISTICS M25-M30 ..... **21**

7.1 GENERAL WEB SITE STATISTICS (M30) 21
7.2 PAGES-URL (TOP 10) PER MONTH (M30) 21
7.3 VISITS DURATION PER MONTH (M30) 23
7.4 CONNECTED FROM M25-M30 25

1 Introduction

This document presents the *Final Report on Knowledge Management and Dissemination* and builds on the *Plan on Knowledge Management and Dissemination* line of deliverables (see D3.2.1, month 2; D3.2.2, month 6; D3.2.3, month 12; D3.2.4, month 18; and D3.2.5, month 24). Hence it describes the main goals of WP3 and what kind of activities those entailed.

The first part of this document gives an overview of dissemination activities. For each activity we provide the *title* of the event or occasion, *when* it took place, *who* was the target audience (incl. the approximate number where available), what *kind of activities* were undertaken, and by which *project partner(s)*.

The second part of this document gives an overview of the project achievements related to WP3.

The third part of this document covers the continuation of evaluation activities and provides an update of the performance indicators (PI) such that their development over time can be observed (M12, M18, M24, and M30).

The fourth and final part of this document will specifically address our sustainability plan, describing the steps necessary to implement it, and the expected outcome.

2 GLOBAL's Dissemination Activities

This section provides an overview of the dissemination activities undertaken by GLOBAL during the final period of the project, i.e. from May 2010 to Oct. 2010. It covers both ongoing activities and one-time events, such as conferences or fairs.
The format of the dissemination activities follows the structure that had been established in deliverable D3.2.2: *title event*, *date and location* (where applicable), *target audience* (incl. an estimation of the people reached), and the specific *dissemination activities*.

Regular Dissemination Activities
All regular dissemination activities were continuously followed up during the project duration, since they have been proven to be efficient in reaching the target groups.

- Website of GLOBAL partners:
- project partner sites:
  - CLARA: static web page + events page
  - JSI: static web page + news
  - UbuntuNet: static web page + news + frequent NUANCE[1] appearance
  - UCL: static web page
  - UPM: static web page + news
  - ZSI: static main web page + news
- Partner project sites:
  BELIEF-II: www.beliefproject.org
- Monthly dissemination meetings with BELIEF and GridTalk (2008/10 to 2009/12)
- Other web sites:
  www.ist-world.org
  http://egee-uf5.eu-egee.org
  http://isabel.morfeo-project.org
  http://morfeo-project.org/bienvenida

In addition to the listed established links, we have posted on following webpage several news about GLOBAL events and achievements:

- ZSI: Blog of *Technology and Knowledge* for specific dissemination activities and calls
- Balancing Act Africa, www.balancingact-africa.com

[1] Newsletter of UbuntuNet alliance: Networks, Collaboration, Education is a monthly e-bulletin covering news about research and education networking in Africa

One-time Events

Legend:

AM	Antonio Mendo (UPM)
AT	Antonio Tapiador del Dujo (UPM)
BJ	Borka Jerman Blažič
DL	Dietmar Lampert (ZSI)
DP	David Prieto (UPM)
EB	Enrique Barra (ASSA)
JQ	Juan Quemada (UPM)
MEN	Margaret E. Ngwira (UbuntuNet)
MH	Margit Hofer (ZSI)
PK	Peter Kirstein (UCL)
PO	Piers O'Hanlon (UCL)
TMB	Tiwonge M. Banda (UbuntuNet)
WM	Walter Munguia (CLARA)

event title	TF-Media mailing list
target audience	TERENA Task Force working group of experts in digital media production and videoconferencing
dissemination activities	Continuous active mailing promoting GLOBAL and Global Plaza (JQ)

event title	TNC2010 (31 May - 3 June 2010)
target audience	All TERENA attendees (~ 500) to the TNC2010 as well as the usual TERENA followers
dissemination activities	TERENA itself described and promoted the availability of the GLOBAL streaming and recordings through a mass-mailing. TERENA also promoted the GLOBAL Plaza event URL on their event website. (JQ)

event title	Global Plaza Workshop (13th of September 2010)
target audience	TF-Media task force members and additional interested people, around 38 people
dissemination activities	This was fully distributed event organized by UPM and GLOBAL through Global Plaza, that explained the Global Plaza capabilities and technical setup. This event was promoted through the tf-media mailing list, the Global Plaza site and GLOBAL dissemination mechanisms (JQ, EB)

event title	6DEPLOY IPv6 workshop, Bishkek, Kyrgyzstan, September 21-23, 2010
target audience	Government attendees at official opening of IPv6 laboratory; network administrators attending IPv6 Workshop
dissemination activities	Presentation to the attendees promoting ISABEL application in opening talk and Application Module

event title	ICT 2010, Brussels, September 27-29, 2010
target audience	Visitors of the ICT 2010 exhibition (
dissemination activities	Full three-day-programme (virtual event) featuring FP7 research projects and researchers in the technology-enhanced learning field, thereby making visible the Global Plaza platform

event title	YouTube video http://www.youtube.com/watch?v=X8cCjpeKeQg
target audience	General Public
dissemination activities	Video produced by CRC in Canada explaining the project they have developed in medical research area using some of the GLOBAL project software. The video can also be found in their site: http://www.canarie.ca

event title	Interview to JQ by a Spanish national Newspaper (4th October 2010)
target audience	General Public
dissemination activities	Interview explaining Isabel, GLOBAL and Global Plaza to the reporter. Article to be published.

event title	IADIS Multi Conference on Computer Science and Information Systems 2010, Freiburg, Germany, July 2010
target audience	Computer Science and Information Systems experts
dissemination activities	Article published as poster at the conference with title: "Resource's relationships in the Design of Collaborative Web Applications" (JQ, EB, AM, DP, AT)

The following streaming and recording of the different events have been published at the VCC:

IST-Africa 2010 REN Workshop
http://GlobalPlaza.org/spaces/ist-africa-2010-ren-workshop/events/building-research-and-education-network-infrastructure-in-africa?show_agenda=true

TNC 2010, Vilnius, Lithuania
http://www.GlobalPlaza.org/p#url=/spaces/terena/events/tnc-2010?show_agenda=true

e-IRG in Madrid, Spain
http://vcc.dit.upm.es/spaces/e-irg/events/open-e-irg-workshop

InfoDay for America, fully distributed event
http://www.Global Plaza.org/p#url=/spaces/global/events/global-infoday-for-america?show_agenda=true

Global Plaza Workshop, fully distributed event
http://www.Global Plaza.org/p#url=/spaces/tf-media/events/global-plaza-workshop-2

EGI, Amsterdam, the Netherlands
http://www.Global Plaza.org/p#url=/spaces/global/events/egi-technical-forum-2010-2

Online lecture from Venezuela, distributed, fully third party event
http://Global_Plaza.org/spaces/gruinco/events/charla-del-prof-carlos-arcila-a-alumnos-de-problemtica-de-la-cyt

ICT - ECTEL joint event, Brussels and Barcelona
http://www.Global Plaza.org/p#url=/spaces/ict-2010/events/ict-2010

W3C Workshop:The Multilingual Web, Madrid, Spain
http://www.w3.org/International/multilingualweb/madrid/program
http://www.Global Plaza.org/p#url=/spaces/w3c/events/the-multilingual-web-where-are-we

Jornadas Cátedras Telefónica
http://globalplaza.org/spaces/global/events/ii-jornadas-catedras-telefonica-en-upm

http://www.globalplaza.org/spaces/global/events/joint-global-and-6choice-event

Future events

event title	The Tenth International Conference on Networks - ICN 2011 (January 23-28, 2011 - St. Maarten, The Netherlands Antilles)
target audience	Academic, research, and industrial.
dissemination activities	Presentation of a paper: A study of the usability of Virtual Conference Centre and the associated social network (BJ)

3 WP3 – Tasks

3.1 Development of Project Promotion Material

The major part of the promotional material was been developed in the first project period. In the final project period, we could therefore concentrate on the generation of online dissemination opportunities and the organisation of live dissemination events.

3.2 Virtual Corridor and continuous dissemination channels

The Virtual corridor's chat service available through the VCC has proved to be very popular and demanded by interactive Flash gateway users and streaming followers. It is a very dynamic way to communicate between the speakers and (remote) attendees on one side and the non-obviously following attendees on the other side. Especially the Global Plaza Workshop demonstrated the eagerness to remain anonymous to the local attendees by most of the remote attendees. The chat service provided this communication link otherwise impossible.
The continuous exposure of the service to the users has put the service in stress situations that enabled us to detect some bugs and wrong configuration settings, such as a limitation to a maximum of 30 simultaneous chat users. This limit and other ones have been removed.
Additionally, many stability and reliability issues have been fixed making chat drops or disconnects seldom. Nevertheless, if the connection to the chat server is interrupted, a new very visible re-connect button is now available at the top of the chat session. In addition, the chat log will be maintained such that the text previously shown will also be shown after a re-connect.

3.3 Website interfaces and content

After a series of upgrades, the website design has remained stable. The content shown on the website is semi-dynamic, meaning that some parts of the project website (located at www.global-project.eu) remain static, e.g. the consortium information, while most content gets updated at regular intervals: *news* (from the GLOBAL space on the Global Plaza (aka VCC), *events*, *performance indicators*, *pictures* (only where available), and in the future also *user experiences*.

Furthermore, the link from the project website to the Global Plaza has been used 290 times in the last period of the project. The Global Plaza itself has managed to maintain an impressive number of unique visitors and visits (see figure below). It may be too early to call it a trend but it would seem that especially the former number has become stable, some fluctuation not withstanding.

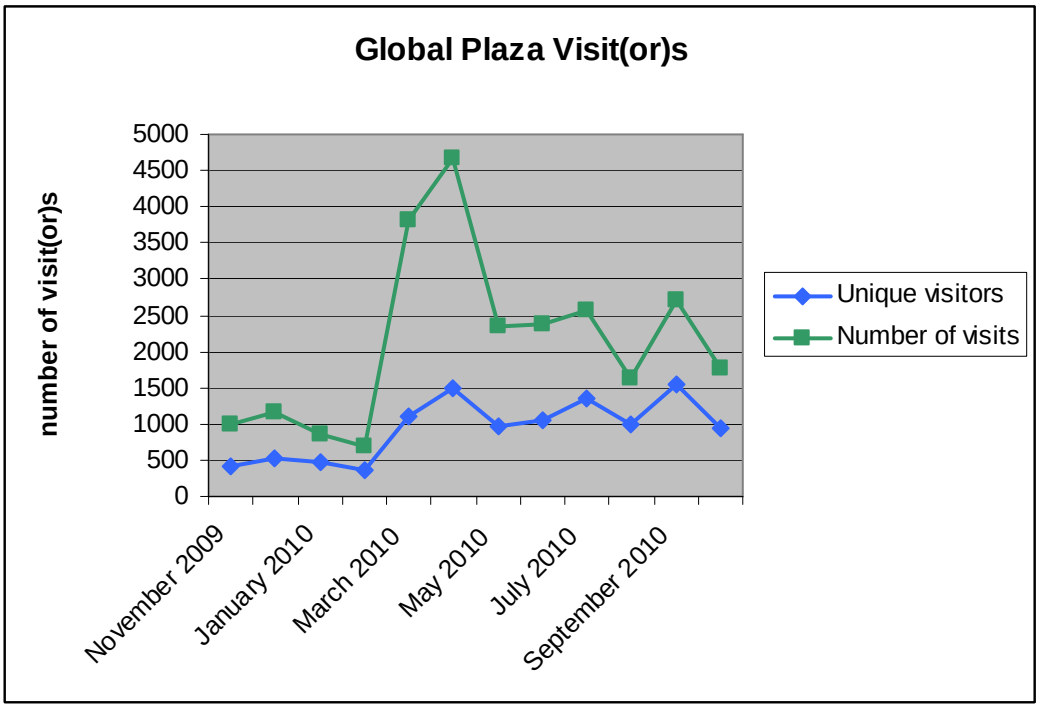

Figure 1: GLOBAL Plaza visit(or)s, development over time (2009/11 to 2010/10)

In accordance with the detailed evaluation plan, a second usability study has been conducted and already been presented at the second project review in June 2010. A mechanism for a more instantaneous gather of feedback has been implemented on the Global Plaza website, so that the evaluation process has become continuous.

4 Evaluation of Performance Indicators (PI)

The performance indicators pre-defined in an earlier version of this deliverable (M6) were split into criteria, each of which is aligned with an *evaluation question*, a *measure*, and *the method(s)* to be applied. The results of the first evaluation (M12), the second evaluation (M18), the third evaluation (M24), and the fourth and final evaluation (M30) are stated in the right-most columns.

4.1 Monitoring of Dissemination Activities

Monitoring dissemination activities is an essential part for the marketing of a project. Consequently, we follow our original developed structure for *assessing and monitoring* (D3.2.3).

To measure and verify the project's objectives, an initial set of performance indicators was determined and described in D3.2 (M6). A first statistics on the indicators has been done in D3.2 (M12), with follow-ups in M18 and M24. The present report states the latest evaluation results.

For the convenience of reader of this document, we outline again all performance indicators (PI) that are assessed either directly (like performance indicator nr. 5) or indirectly, i.e. where dissemination plays an important role in gathering data by applying the stated methods.

Not every PI could be measured. In some cases, the PI can only be estimated through proxy indicators.

Criteria	Performance Indicator (PI)	Metric/Measure	Achievements M12	Achievements M18	Achievements M24	Achievements M30
(1) Use	How many GLOBAL events were organised by partners?	> 7 events supported by the GLOBAL project	4 events supported so far (four more are already in planning)	9 events supported so far (one more in planning)	14 events sup¬ported so far (three more in planning)	23 events supported in total (and two additional events in November)
	How many events were self-organised by third parties?	>10% of events are self-organised	N/A targeted for VCC v2 (M24)	VCC v2 has just been released as planned (M18). The counter starts now and results are to be expected by M24.	5 events	6 events

	How many communities were established in the Virtual corridor?	> 5 communities have been established in the Virtual Corridor	N/A targeted for VCC v2 (M18)	69 communities were set up till month 18: From the public view, at least 3 are in permanent use, approx. 2 other communities were used intensively for a certain period, but the majority are test com-munities	134 communities were set up till month 24: From the public view, at least 11 are in perma¬nent use, approx. 4 other communities were used in¬tensively for a certain period; yet, the vast majority are test com¬munities (the plan is to either remove them (in case they are inactive) or give the space owners the choice to make something useful out of it, once the beta status is gone.	198 communities were set up until 25 October (M30). 31 of those are active permanently. Since the creation of spaces is not limited, their number can expected to be much higher than the number of actual communities, even when discounting the number of obvious test spaces.
(2) Functiona lity	Which and how many stake-holders evaluate the VCC as positive?	At least 75 % of the stakeholders evaluate the VCC as positive	100 % positive assessment of the Virtual Auditorium (based on qualitative method); evaluation of VCC as a whole (quantitative methods preferred) targeted for VCC v2 (M18)	since v2 of the VCC hast just been deployed, no large-scale survey could be conducted; however, a usability test with 29 external people indicates that user's assessment of the VCC is as high as ex-pected; a larger scale evaluation shall be con-ducted until M24	90 % of participants were appreciating the possibility of having joint distributed events in VCC; The average effectiveness and average efficiency of the five tasks over the 29 participants are 88.57 %. These result shows that the users' performance is highly acceptable.	100 % positive answers from those answering the question whether they appreciated the possibility of having joint distributed events with remote participants. 89 % would participate remotely again next time if they had the choice between travel and remote access from the office or home.

(3) User acceptance	What is the level of acceptance of stakeholders towards the VCC?	Perceived *usefulness* with a score of =/>3 out of 5 (very useful) by at least 75% of stakeholders	N/A targeted for VCC v2 (M18)	the same as (2) applies here; the usability test indicated that user acceptance is as high as expected	The average effectiveness and average efficiency of the five tasks over the 29 participants are 88.57 %. These result shows that the users' performance is highly acceptable.	92 % are interested in using the conferencing system in their work.
	Assess space in terms of three parameters	Perceived ease of use with an average score of =/> 3 out of 5 (very easy to use) by at least 75% of stakeholders	N/A targeted for VCC v2 (M18)	N/A A first evaluation was performed to improve the VCC v2 (see D1.2); further evaluations results will be presented in January 2010	The ISABEL conference system was easy to use: Somewhat disagree (10 %), Neutral (30 %), Somewhat agree (10 %), Agree (50 %).	The Global Plaza functionalities are easy to use: disagree (10 %), somewhat disagree (15 %), neutral (25 %), somewhat agree (40 %), agree (25 %).
(4) Interoperability	How many third-party systems does the VCC interoperate with?	Number of supported third party systems increases every project year	2 (SIP and Skype: full audio support, limited video support)	2	3 (Web gateway: full audio and video support, full control of the ISABEL conferencing system with any Flash enabled Web browser)	3 (SIP and Skype: full audio support, limited video support. Web gateway: full audio and video support, full control of the ISABEL conferencing system with any Flash enabled Web browser)
	What is the satisfaction of third-party systems users with the quality of interoperation?	At least 75 % of third-party systems users assess the quality as positive	N/A targeted for VCC v2 (M18)	N/A targeted for January 2010, in accordance with D4.2	Statistics gathered for the new Web Gateway: 89 % of users find it easy to use. 100 % are interested in using it in their work.	84 % of respondents fulfil this criterion, i.e. found the Web gateway useful.
(5) Dissemination actions	How many dissemination events were taken part?	> 2 major events per year, including several small events	In total 20 events of all types were performed during this year.	35 events of various types (see D3.2.4, section 2), three of which were major	84 events of various types, sizes, and importance. See deliverables D3.2.2, D3.2.3, D3.2.4, and D3.2.5	In total, 93 events of various types, sizes, and importance. See deliverables D3.2.2,

						D3.2.3, D3.2.4, and D3.2.5
	How many web users informed themselves on the GLOBAL website?	increasing use of website: >10% per year	GLOBAL web statistics	GLOBAL web statistics (cf. D3.2.4, annex)	GLOBAL web statistics (cf. D3.2.5, annex)	GLOBAL web statistics (cf. annex, p. 21)
	How many GLOBAL information packages were distributed?	> 700 info packages distributed to stakeholders at the end of the project	~ 120-200 so far (number cannot be narrowed down due to involvement of intermediary parties who distribute packages on our behalf)	~ 300 so far	~ 720	~ 750
	How many users from remote sites took part in the organised events?	> 50 remote sites were involved	21 so far: 13 (GÉANT2, 2008) 10 (TNC2008) 8 (BELIEF/6CHOICE, 2009)	180 remote sites so far[2] (too many sites to list here)	228 remote sites (207 remote sites in year 2 alone) (too many sites to list here)	286 (58 remote sites in the last 6 months) (too many sites to list here)
	Have collaborations with other e-Infrastructure projects successfully established?	regular communication with collaborating projects	with BELIEF-II and GridTalk	with BELIEF-II and GridTalk	with BELIEF-II and GridTalk	with EGEE
		Signing of agreements and MoU	with BELIEF-II	No additional MoU till M18	No additional MoU till M24	No additional MoU till M30

[2] for details see deliverable series D2.x

(6) Impacts	Has the support of GLOBAL by fostering the exchange of information made any impact on the stakeholders (e-Infrastructure policies as well as others)?	Increased participation of speakers from remote sites to events	this item will be evaluated in year 2 since the events would not deliver sufficient data for a reliable analysis	Data evaluated by M24	59 speakers from remote sites (21 of whom were located in 3rd countries) in year 2	65 speakers from remote sites (26 of whom were located in 3rd countries) till the end of the project
		Increased integration of audience from remote regions to events	this item will be evaluated in year 2 since the events would not deliver sufficient data for a reliable analysis	Data evaluated by M24	365 people in remote auditoria from 3rd countries	389 people in remote auditoria from 3rd countries
		Increased international cooperation	this item will be evaluated in year 2 since the events would not deliver sufficient data for reliable analysis	Data evaluated by M24	1016 people in remote auditoria (365 of whom were located in 3rd countries)	1248 people in remote auditoria (389 of whom were located in 3rd countries)
		Increased dissemination impact of other projects	this item will be evaluated in year 2 since the events would not deliver sufficient data for reliable analysis	Data evaluated by M24	No direct data available. Derived from all of the above PIs, the visibility gained by remote speakers as well as the remote auditoria, and the increased dissemination activities around virtual events can expected to be high.	No direct data available. Derived from all of the above PIs, the visibility gained by remote speakers as well as the remote auditoria, and the increased dissemination activities around virtual events can expected to be high.

Highlight: First Latin-American virtual classroom (utterly self-managed)

CLARA attended a university of Venezuela's teacher request that was looking for a virtual room system to deploy virtual classes. Global Plaza VCC was proposed with automation and self-management as main features.

Technical assistance was provided in the first session where the teacher learned how to create events, manage agendas and send invitations. In this way the teacher proceeded to perform all tasks necessary to schedule their classes and enrol all the students by himself.

In the first virtual session, technical assistance was provided to remote students, achieving an acceptable virtual session.
There have been three virtual sessions where the teacher and students could establish communication preferably through chat for quick reference and verbally when dealing with debates and / or presentations.

Space Info: gruinco
Course: Teoría de la Comunicación
University: Universidad de Los Andes
Country: Venezuela
Research Group "Comunicacion, Cultura y Sociedad" GRUINCO
Global Plaza Space: http://Global Plaza.org/spaces/gruinco

1. First session: 8 October, Event: http://Global Plaza.org/spaces/gruinco/events/charla-del-prof-carlos-arcila-a-alumnos-de-problemtica-de-la-cyt
2. Second session:1 October, Event: http://Global Plaza.org/spaces/gruinco/events/presentacion-de-proyectos-de-problemas-de-la-ciencia-y-la-tecnologia
3. Third session: 17 September, Event: http://Global Plaza.org/spaces/gruinco/events/charla-de-la-prof-ysabel-briceo-sobre-modelos-de-comunicacin-cientfica-y-tic

Figure 2: Screenshot of self-managed virtual class

4.2 Conclusions

The project has made an effort to evaluate all criteria defined for the past period. The performance indicators (PI) regarding criterion (1) *Use* show a very satisfying development and exceed our initial expectations. This is the result of our invested efforts especially in regard to improving the ratio of *number of spaces in permanent use* to *total number of spaces*.
Also criterion (2) *Functionality* has been assessed very positively and shows clearly the need for the services offered by the GLOBAL project. Having said that, continuous efforts beyond the project duration will have to be made to ensure that the system is easy to use.
The PIs regarding criterion (3) *User acceptance* show that a greatest portion of surveyed stakeholders perceive the system both useful and easy to use. The same applies to the users of 3rd party systems, as stated in criterion (4) *Interoperability*.
The evaluation results of the PIs in criterion (5) *Dissemination actions* are highly satisfying. The continuous and concerted efforts of all GLOBAL partners bear fruit. At the same time, the evaluation results underline and confirm the attractiveness and relevance of the means provided by the GLOBAL services.
Finally, criterion (6) *Impacts* confirms that the project's effect on the participating research organisations are well worth our efforts, especially regarding the involvement of 3rd countries. Almost a third of all remote participants come from outside the EU. Considering that they often have a hard time because of the lack of proper infrastructure, this number is very encouraging and also shows the high interest in the possibilities provided by the GLOBAL Plaza.

An entirely different means to assess the popularity of the GLOBAL sites is the analysis of web statistics. Being aware that they are widely disputed, we carefully selected some to serve as *soft* indicator and were equally careful in interpreting them.
The most relevant piece of data is the number of unique visitors (cf. p. 21). The results confirm our initial expectation that the virtual events act as a driver for the use of the VCC (Virtual Conference Centre). Unique visits peak before a virtual event and get back to "normal" during other times. This becomes apparent by cross-examining the number of unique visits and the VCC space views. A slow and steady increase of unique visits could be observed, which was expected to continue. September showed the highest number of all monthly visits of the last period. The number of unique visits seems currently to fluctuate around 1300.
Another interesting piece of data is the *top sites connected from*. It seems that more and more visitors to the site use search engines to find the Global Plaza. The regarding number (> 600 each in September and October) now far outweighs the number visits coming from the website of the organising party.
While most visits take less than 30 seconds, the *average visit* takes now nearly 10 minutes. We attribute this to the interest in the content offered by the site, especially the event recordings.

5 Sustainability Plan

GLOBAL has deployed the VCC (Virtual Conference Centre) that has been renamed to the Global Plaza. The VCC development involved integrating standard technologies into a Web-2.0 paradigm with usability and user-centric orientation as its main driving force. The VCC was finally published under the URL http://globalplaza.org. As the statistics show, Global Plaza has managed to maintain an impressive number of unique visitors and visits. Therefore, GLOBAL partners intend to continue promoting and maintaining the services offered.

In order to be able to sustain a service that we expect to continue growing in users and demanded events three main aspects have to be considered: technical, economical and organizational viability. UPM and ASSA possess all the technical know-how required to continue service at the same high standards as it has been done during the project.

Regarding the **economical viability**, an analysis of the resources needed for sustaining the service show two main areas: Human resources on one hand and computing and bandwidth resources on the other. Both are needed in order to support the Global Plaza's two main components:

a) The Web front-end: a socio-collaborative Web site implementing the user management, social network, collaborative spaces, event repositories, etc.

b) The Virtual conference manager: manager of virtualised resources that implements a scalable service for virtual event organisation supporting videoconferencing, streaming and recording in the cloud.

Human resources are needed in order to do community management, service operation, software and hardware maintenance, and user support.

Due to the user-centric focus of the project, good documentation has been generated and is easy to find. The VCC has a *help section* accessible from all the site pages. That includes general usage guides, screencasts generated by the GLOBAL team, and a Frequent Asked Questions (FAQ) page. Additionally, tooltips are shown if a user moves the mouse cursor over a help icon or a potentially unclear screen element. Each tooltip contains specific explanations to guide users and help them to better understand the system.

This user-oriented development and support is critical to achieving a self-sustainable application that requires very little user support efforts. Whenever there are more difficult issues or problems, the user may contact the VCC support team for help via e-mail. The user support efforts required are expected to be very small.

All partners through their plans to continue using and disseminating the Global Plaza services will participate in the community management. These plans are detailed below.

The automation and monitoring efforts done during the project also keep the service operation to a minimum, but can't be fully discarded as issues can arise. Additionally, backups need to be performed regularly.

Although no new functionality will be added to the code base, identified software problems will continue to be fixed.

The Global Plaza hardware consists in a set of physical servers that allows the creation of a cloud of virtualized servers on which the different services reside as requested. For example, a virtual recording server will only be started if so required; gateway servers will be build in the cloud if so requested. The hardware, on which the Global Plaza service is based, has been acquired through a UPM investment and deployed at UPM premises. It has been operational

during the last period of the project and will be kept operational by UPM and Agora Systems, to allow the existing community to continue to benefit from the use of the Global Plaza. General hardware maintenance needs to be performed in case of failing components or needed upgrades for which human resources need to be planned.

Taking all these human resources needs into account, the actual operational costs are of 20% of three to four persons, around 20-30 k€ per year.

The second main economical cost is the **computing and bandwidth resources** required for sustaining present service levels. The present VCC infrastructure assures up to 5 parallel virtual events all running in a cloud of virtualized servers on the hardware infrastructure. The VCC needs 3 main resources: computing, storage and bandwidth. UPM hosts a small cloud of up to 14 virtual servers with over 10 Terabytes of storage, which is connected to the outside world over a 1 Gbps link to RedIris. This link will be upgraded to a 10 Gbps early 2011.

The current infrastructure deployed by UPM is easily upgraded with storage capacity and new multicore CPUs (to 24, 32 and up to 48), allowing for the creation of additional virtual servers each consisting of 2 cores and 1 GByte. At current prices, an upgrade of extra 24 virtual servers will be around 8000 €. Extrapolating the number of event recordings done and stored during the project lifetime and considering the increment of recordings towards the end of the project, we expect the amount of required disk space to be sufficient for the next 2 years. By then we expect that disks upgrades will be very cost effective.

Assuring the sustainability of the present service level implies that these costs can be covered by UPMs and Agora Systems resources after the project. The means by which UPM and ASSA intend to do so are explained later on together with the rest of project partner initiatives.

Nevertheless in order to scale the service to a much larger community of users new technical, organizational and economic solutions would be needed. In this regard UPM and ASSA have prepared a study entitled “Videoconference capacity leasing on hybrid clouds”, which is appended as a separate document. The study reflects the infrastructure costs on the future event organizers in a way that service costs are covered. These service cost studies are based on current providers of IaaS (Infrastructure as a Service). One of these providers is Amazon EC2 (http://aws.amazon.com/ec2/). These providers announce the cost of using their services by separating the CPU and bandwidth usage costs. Using Amazon EC2, we obtain the following infrastructure costs expressed in US Dollars:

- Cost of a 1 hour virtual event = 1 US$ + 0.15 US$ * participants
- Cost of a 1 hour video storage per month = 0.35 US$
- Cost of a 1 hour video view = 0.025 US$

As illustration, the cost of performing a BELIEF event consisting of 3 event days and needed tests with 20 remote participants would entail:

- 60 hours computing time for event realization = 200 US$
- 1 year storage of the event recordings = 10 US$
- 600 views of 20 minutes = 7 US$

We expect these costs to be assumable by many communities.

Taking these studies into account we see two different business models as viable. The first would be to have Global Plaza as a Service. In this case Global Plaza would become a commercial service in which basic services would be offered for free. Additional premium services would be offered with two different charging schemes: *flat rate* for frequent users or a *pay per use* for occasional users. For this commercial business model to be viable we envision the necessity to incorporate venture capital or some commercial interested partner such as

Telefonica. The joint project could be created with a long term vision and obtain a large market share.

The second business model is based on turn-key projects. The technology used and the resulting code is highly customizable and can be adapted to special needs or environments. Examples of possible customizations would be new user communities' targeted, new services added, new functionalities to current services or opening the event participation to neew terminals or special settings. Therefore, **turn-key projects** specifically designed, build and deployed in a ready-to-use condition to specific interested stakeholders is envisioned as a viable business model. The resulting product could be later added to the basic services offered to all users, to the premium services or even kept private for that customer for a specific time.

The sustainability of the Global Plaza services will count with the support of all the project partners through the means and efforts described below.

GLOBAL partners will continue to use the Global Plaza services for internal and other project use such as Web-conferencing, event streaming and recording, "Web-inars" and remote training.

All partners will continue to disseminate and use the Global Plaza services internally in their organizations and with partners of other projects. Governmental and educational institutions will be approached to promote the Global Plaza services.

Additionally, the Global Plaza facilities are being used since October 2010 in several projects in which some GLOBAL partners participate, they include

1. *Cyberaula 2.0*. This is a UPM education innovation project for classroom lecture recording and streaming. Students can follow the lectures onsite, using the Global Plaza services or by viewing the recordings later on. Duration of the project: 2010-11, Budget 12 k€
2. *SAAN.* A Spanish National Research project of UPM for developing advanced cloud-computing solutions for videoconferencing services. Duration of the project: 2010-11, Budget: 35 k€.
3. *SIVIC*. A RedCLARA project granted to UPM, ASSA, and ESPOL in Ecuador, to enrich the Global Plaza with management facilities for standard videoconferencing systems and rooms. Duration of the project: 2010, Budget: 16 k€.
4. *SmartStream.* Joint project of Alcatel-Lucent, Telefonica, UPM, and other Spanish partners to produce virtualised gaming services with Q-http (QoS protocol) to improve the basic technology. Duration of the project: 2010-12, Budget: 250 k€.
5. *VaaS.* ASSA and UPM project that will develop a videoconferencing system demonstrator for running services on the cloud. Duration of the project: 2010-11, Budget: 70 k€.
6. *Teleeducation.* project of ASSA and UPM for implementing a targeted training recording and streaming system for ISDEFE. Duration of the project: 2010, Budget 70 k€.
7. *Other planned and/or requested projects.*

Existing UPM and Agora Systems resources, together with the listed projects and other partners' support provide enough resources to assure the sustainability of the Global Plaza services.

6 Summary

This report gives insight into the dissemination activities undertaken in and progress of the final period of the project (May 2010 – October 2010). It also provides an overview of the evaluation of those performance indicators defined in an earlier version of this deliverable (M6).

The ongoing dissemination activities are complemented by a number of dissemination activities that have been used to promote GLOBAL. These opportunities range from large dissemination endeavours (see below), to presentations to small groups of people, to giving talks at large-scale events.

The most noteworthy dissemination venture has been the exhibition booth at the ICT2010, where GLOBAL has offer a unique opportunity for all ICT2010 visitors interested in latest Technology-Enhanced Learning (TEL) topics to connect live to the main European conference in this interdisciplinary field of research, namely EC-TEL2010, and participate actively in remote discussions with researchers from the field. Making use of the GLOBAL virtual conferencing technologies, connections has been established with TEL experts all over the globe (from Canada to Europe to Australia) and visitors had the opportunity to emerge into e.g. mobile learning projects in Africa or Latin America. The stand has also offered information on both on GLOBAL projects and a broad range of TEL research projects (e.g. ROLE or IntelLEO) with a specific focus on issues such as social innovations in TEL, participatory design, inclusive learning society, or responsive open learning environments. Experts from selected project have been present for interviews or to showcase their endeavours.
This opportunity has gained both the project and the involved experts high visibility. Furthermore it has generated a lot of interest in terms of future project collaboration, of organisations keen on using the platform, or of software developers claiming an interest in the development of the open source software underlying the Global Plaza platform.

7 ANNEX: Web Statistics M25-M30

Due to an attack performed on the website during some days of May and June, the statistics package we use, awstats, does not show valid data. Fortunately, we do have a second statistics package enabled: Google Analytics. The statistics shown for the months of May and June are extracted Google Analytics, but it does not have the same data fields as awstats. Therefore, some of the fields are missing or have different groupings, for example *visit duration*.

7.1 *General Web Site Statistics* (M30)

	Unique visitors	Number of visits	Pages	Hits	Bandwidth (in GB)
may-10	958	2358	19441	-	-
june-10	1052	2365	14157	-	-
july-10	1362	2556	98184	362855	2.20
aug-10	982	1620	8295	89668	0.86
sep-10	1538	2718	183999	496787	4.01
oct-10	1258	2348	68516	290027	1.82
Total	**7150**	**13965**	**392592**	**1239337**	**8.89**

7.2 *Pages-URL (top 10) Per Month* (M30)

2010-May Pages-URL (top 10)				
Total: 19441 different pages-url	**Viewed**	**Average size**	**Entry**	**Exit**
/home/	1533		171	121
/	1272		634	360
/spaces/terena/events/tnc-2010	591		294	243
/spaces/ist-africa-2010-ren-workshop/events/build..	434		126	112
/spaces/usability	290		10	6
/spaces?space_id=all	207		6	8
/session/new	193		112	30
/search?advanced=true	169		7	6
/help	152		8	17
/spaces/ist-africa-2010-ren-workshop/events	152		31	13

2010-June Pages-URL (top 10)				
Total: 14157 different pages-url	**Viewed**	**Average size**	**Entry**	**Exit**
/	975		548	272
/home	927		123	73
/spaces/e-irg/events/opene-irg-workshop	643		311	266
/spaces/terena/events/tnc-2010	310		163	97
/spaces/global/events	279		9	8
/spaces/terenaevents/tns-2010?show_video=375	213		156	29
/spaces/global/events/preparation-meeting-for-global-infoday-latin-…	183		41	38
/spaces?space_id=all	167		4	8
/spaces/global/events/global-infoday-for-latin-america	161		51	41
/spaces/e-irg/events/open-e-irg-workshop?show_streaming=true	137		25	46

2010-July Pages-URL (top 10)				
Total: 2208 different pages-url	**Viewed**	**Average size**	**Entry**	**Exit**
/http-bind/	78973	0.44 KB	44	227

/spaces/global/events/global-infoday-for-america	2050	13.97 KB	373	293
/home	1154	7.18 KB	40	52
/	1110	7.53 KB	574	309
/search	559	8.27 KB	23	17
/spaces/eventos-en-raap/events/i-taller-de-videoconferencia-para...	437	10.15 KB	5	3
/signup	378	7.50 KB	8	3
/simpe_captcha/simple_captcha	377	2.41 KB	5	28
/spaces/global/events/global-infoday-for-latin-america	359	17.82 KB	72	48
/spaces/global/events/preparation-meeting-for-global-infoday-lat...	345	14.64 KB	38	23

2010-August Pages-URL (top 10)

Total: 1325 different pages-url	**Viewed**	**Average size**	**Entry**	**Exit**
/http-bind/	1504	0.41 KB	3	13
/	453	9.08 KB	316	239
/about/	259	11.48 KB	173	162
/home	236	7.32 KB	26	26
/signup	190	16.71KB	13	12
/search	175	14.69 KB	20	23
/login	143	17.58 KB	13	19
/spaces/global/events/global-infoday-for-america	124	31.80 KB	41	35
/spaces/egee/events/5th-egee-user-forum	122	52.63 KB	22	24
/session	115	15.50 KB	4	39

2010-September Pages-URL (top 10)

Total: 1419 different pages-url	**Viewed**	**Average size**	**Entry**	**Exit**
/http-bind/	165482	0.46 KB	33	364
/	1022	7.56 KB	549	358
/home	1019	7.58 KB	61	43
/spaces/tf-media/events/global-plaza-workshop-2	973	13.24 KB	225	142
/spaces/global/events/egi-technical-forum-2010-2	782	14.97 KB	274	19
/spaces/ict-2010/events/ict-2010	743	14.16 KB	79	23
/spaces/global/events/egi-technical-forum-2010-2/agenda	714	13.49 KB	8	86
/spaces/ict-2010/events/ict-2010/agenda	676	35.66 KB	3	42
/spaces/tf-media/events.atom	489	0.44 KB	39	40
/about/	398	9.27 KB	190	179

2010-October - Pages-URL (top 10)

Total: 2387 different pages-url	**Viewed**	**Average size**	**Entry**	**Exit**
/http-bind/	51466	0.52 KB	6	141
/	819	9.08 KB	510	313
/home	708	7.68 KB	42	18
/about/	579	9.77 KB	227	222
/spaces/tf-media/events.atom	578	0.27 KB	24	23
/search	478	14.60 KB	12	21
/signup	303	18.32 KB	21	15
/login	272	17.13 KB	12	29
/spaces/global/events/ii-jornadas-catedras-telefonica-en-upm	253	14.72 KB	105	80
/session	250	15.71 KB	8	85

7.3 *Visits Duration Per Month* (M30)

2010-May Visits duration		
Number of visits: 2358 - Average: 8m 45 s	**Number of visits**	**Percent**
0s-10s	989	41.9%
11-30s	150	6.36%
31-1mn	145	6,15%
1mn-3mn	257	10.9%
3mn-10mn	311	13.19%
10mn-30mn	288	12.21%
30mn+	218	9.25%

2010-June Visits duration		
Number of visits: 2365 - Average: 6m 53s	**Number of visits**	**Percent**
0s-10s	1127	47.65%
11s-30s	135	5.71%
31s-1mn	147	6.22%
1mn-3mn	276	11.67%
3mn-10mn	254	10.74%
10mn-30mn	274	11.59%
30mn+	152	6.43%

2010-July Visits duration		
Number of visits: 2556 - Average: 592 s	**Number of visits**	**Percent**
0s-30s	1513	59.1%
30s-2mn	202	7.9%
2mn-5mn	136	5.3%
5mn-15mn	199	7.7%
15mn-30mn	151	5.9%
30mn-1h	170	6.6%
1h+	185	7.2%

2010-August Visits duration		
Number of visits: 1620 - Average: 262 s	**Number of visits**	**Percent**
0s-30s	1234	76.1%
30s-2mn	102	6.2%
2mn-5mn	60	3.7%
5mn-15mn	91	5.6%
15mn-30mn	46	2.8%
30mn-1h	48	2.9%
1h+	39	2.4%

2010-September Visits duration		
Number of visits: 2718 - Average: 651 s	**Number of visits**	**Percent**
0s-30s	1555	57.2%
30s-2mn	261	9.6%
2mn-5mn	154	5.6%
5mn-15mn	183	6.7%
15mn-30mn	132	4.8%
30mn-1h	168	6.1%
1h+	265	9.7%

2010-October Visits duration		
Number of visits: 2348 - Average: 542 s	**Number of visits**	**Percent**
0s-30s	1512	64.3%
30s-2mn	184	7.8%
2mn-5mn	121	5.1%
5mn-15mn	120	5.1%
15mn-30mn	101	4.3%
30mn-1h	125	5.3%
1h+	185	7.8%

7.4 *Connected From* M25-M30

2010-May Connect to site from						
Origin			**Pages**	**Percent**	**Hits**	**Percent**
Direct address / Bookmarks / Link in email…			1676	71.08%	-	-
Links from an Internet Search Engine	**Visits**		265	11.24%	-	-
Google	220	-				
search	43	-				
bing	1	-				
Yahoo!	1	-				
Links from an external page (other web sites except search engines)	**Visits**		417	17.68%	-	-
- http://iba.dit.upm.es	62	-				
- http://ezweb.dit.upm.es	61	-				
- http://global-project.eu	53	-				
- http://survey60k.zsi.at	42	-				
- http://tnc2010.terena.org	21	-				
- http://us.mg2.mail.yahoo.com	16	-				
- http://egee-uf5-egee.org	12	-				
- http://uk.mg41.mail.yahoo.com	12	-				
- http://mail.google.com	11	-				
- http://agora-2000.com	10	-				
Others	-	-				

2010-June Connect to site from						
Origin			**Pages**	**Percent**	**Hits**	**Percent**
Direct address / Bookmarks / Link in email…			1507	63.72%	-	-
Links from an Internet Search Engine	**Visits**		214	9.05%	-	-
Google	208	-				
Yahoo!	3	-				
bing	2	-				
search	1	-				

Links from an external page (other web sites except search engines)	**Visits**		644	27.23%	-	-
- http://iba.dit.uupm.es	130					
- http://global-project.eu	61	-				
- http://survey60k.zsi.at	58					
- http://vuvuzela-time.co.uk	45	-				
- http://e-irg.eu	39	-				
- http://isabelenmac.blogspot.com	25	-				
- http://agora-2000	23	-				
- http://ubuntunet.net	21	-				
- http://twitter.com	17	-				
- http://tnc2010.terena.org	15	-				
Others	-	-				

2010-July Connect to site from						
Origin			**Pages**	**Percent**	**Hits**	**Percent**
Direct address / Bookmarks / Link in email…			4172	80.1 %	11384	55.2 %
Links from an Internet Search Engine			542	10.4 %	596	2.8 %
- Google	496	547				
Windows Live	117	118				
Unknown search engines	31	31				
- Yahoo!	10	10				
- MyWebSearch	1	1				
- ix quick	1	1				
- Yandex	1	1				
- Google (Images)	0	3				
Links from an external page (other web sites except search engines)			487	9.3 %	8608	41.8 %
http://correo.xoc.uam.mx/cgi-bin/openwebmail/openwebmail-read.pl	81	81				
http://www.global-project.eu	46	7055				
http://survey60k.zsi.at/index.php	38	85				
http://www.cni.org	24	24				
http://www.terena.org/activities/media/vc2/	20	20				
http://zcs.ups.edu.ec/zimbra/	19	19				
http://konferenca.e5.ijs.si	14	14				
http://www.renata.edu.co/index.php/convocatorias/1174-dia-de-informacion-virtual-global-event-to-present-call-9-fp7-infrastructures-2011-2.html	14	14				
http://www.redclara.net/index.php	9	20				

http://internetng.dit.upm.es	9	20
Others	211	1265

2010-August Connect to site from						
Origin			**Pages**	**Percent**	**Hits**	**Percent**
Direct address / Bookmarks / Link in email…			2698	77.7 %	5263	39.5 %
Links from an Internet Search Engine			557	16 %	650	4.8 %
Google	510	594				
Unknown search engines	13	13				
Windows Live	11	11				
Google (Images)	8	17				
Yahoo!	6	6				
MyWebSearch	5	5				
Yandex	2	2				
Scroogle	1	1				
Ask	1	1				
Links from an external page (other web sites except search engines)			195	13.10%	7985	78.80%
- http://www.global-project.eu	60	6714				
- http://www.redclara.net/index.php	20	20				
- http://theinvestblog.com	11	11				
- http://aimtrust.com/aim/r/60008	10	10				
- http://www.ubuntunet.net	8	8				
- http://casino.ru/online/rating	7	7				
- http://localhost:3000	6	6				
- http://konferenca.e5.ijs.si/index.php	6	6				
- http://rstation.wordpress.com/2009/10/20/station-0-3/	5	5				
- http://www.usacup.com/history/2006/11B2_games.html	4	4				
Others	58	1194				

2010-September Connect to site from						
Origin			**Pages**	**Percent**	**Hits**	**Percent**
Direct address / Bookmarks / Link in email…			4069	75.7 %	9647	45.5 %
Links from an Internet Search Engine			679	12.6 %	809	3.8 %
Google	630	750				
Windows Live	28	28				

Google (Images)	8	15				
Unknown search engines	4	7				
Yahoo!	3	3				
Yandex	3	3				
Ask	2	2				
ix quick	1	1				
Links from an external page (other web sites except search engines)			621	11.5%	10743	50.6%
- http://www.egi.eu/EGITF2010/	69	69				
- http://www.egi.eu/about/news/	66	66				
- http://www.egi.eu/EGITF2010	43	43				
- http://www.global-project.eu	42	8057				
- http://www.terena.org/activities/media/vc2/	42	42				
- http://www.agora-2000.com/products/isabel/	20	20				
- http://www.egi.eu/EGITF2010/index.html	17	17				
- http://it.mg40.mail.yahoo.com/dc/blank.html	16	16				
- http://egi.eu/about/news/	15	15				
- http://www.facebook.com/l.php	14	14				
Others	277	2384				

2010-October Connect to site from						
Origin			**Pages**	**Percent**	**Hits**	**Percent**
Direct address / Bookmarks / Link in email…			5375	83.1%	7019	34%
Links from an Internet Search Engine			668	10.3%	831	4%
Google	624	783				
Windows Live	19	19				
Yahoo!	8	8				
Google (Images)	7	11				
Unknown search engines	6	6				
Yandex	2	2				
Scroogle	1	1				
Ask	1	1				
Links from an external page (other web sites except search engines)			425	6.5%	12762	61.9%
http://internetng.dit.upm.es	40	44				
- http://www.global-project.eu	37	11068				
- http://moodle.upm.es/titulaciones/oficiales/course/view.php	22	22				
http://www.agora-2000.com/products/isabel	20	20				
http://www.carlosarcila.com/docencia/calendar/view.php	19	19				
http://www.ubuntunet.net/publications	18	18				

http://moodle.upm.es/titulaciones/oficiales/mod/resource/view.php	17	31
http://www.bing.com/search	12	12
http://www.myfilipinorecipes.com	12	12
http://www.whorush.com/search/	11	11
Others	217	1505