# Staying without Power
# A Case Study of the Drupal Content Management System

By

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I run the knowledge that I learned from M.I.T the most wisdom school of the world.

It works

AMAZING!

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Love in M.I.T; Love in USA

爱在美国，爱在理工

感谢所有支持我的人们：我的家人，我的教授，我的团队！

虽然我离开心爱的麻省理工的时候，身无分文，窘迫不堪，但麻省理工让我充满了智慧。

我有毕业但穷困潦倒的无奈，但更有闯下一番天地的激情。

我要成为一个成功的企业家，我要成为一个推动中国民主的革命家。

我要回馈麻省理工，我要改变世界！

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## ABSTRACT

This main focus of this thesis is not to describe the inner workings of the Ecosystem or software; it is to help young entrepreneurs with limited resources to not just survive, but *thrive* in a competitive business environment.

**Thesis Supervisor:** Michael A. Cusumano

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# Introduction

This main focus of this thesis is not to describe the inner workings of the Ecosystem or software; it is to help young entrepreneurs with limited resources to not just survive, but *thrive* in a competitive business environment. The media's portrayal of the general sentiment among businessmen is that the knowledge gained from business school cannot help them in forming a start-up company.[1] In addition, public opinion is often doubtful of the value of business school.[2] Some people also feel that business strategy books cannot help them when they face harsh competition.[3]

In fact, many bestsellers often convey great truths. The trouble is that readers read the wrong books. A Penguin from the South Pole is reading a book which teaches a Polar Bear how to survive in the harsh environment of the North Pole. Indeed, both the North Pole and South Pole are cold and have extreme conditions for survival. Unfortunately, the survival skills of the Polar Bear cannot help the Penguin. Although both of them have to live in a harsh environment where food is scarce and bad weather is plenty, the Penguin is not as strong and big as the Polar Bear. Furthermore, the North Pole is actually frozen sea while the South Pole is continental. They may look alike on the surface but are totally different.

Thus, your business fails not because the strategy itself is wrong but because you use the strategy in the wrong context. It is not difficult to understand or utilize the various popular business strategies but hard to understand "Who am I?" and "Where am I?"

Most start-up founders take Bill Gates and Steve Jobs as their examples and want their own businesses to experience the same success as Microsoft and Apple. But they neglect the important truth that Bill Gates and Steve Jobs are Outliers. They had the unique combination of having the right skills, in the right place at the right time. Sohu's (The Chinese Yahoo) CEO Zhang, an MIT PhD, recommended that we read the New York Times Best Seller, "Outliers".[4] In essence, the book tells us that the heroes are outliers and they live in the right time and right place and have special backgrounds. Both Gates and Jobs were born in the United States, The Rome of the 21st century. Both of them stood at the dawn of the Information Technology revolution. Bill's high school is a private school which provided opportunities for him to explore computing and practice hours on a computer which was purchased

[1] http://www.forbes.com/sites/jjcolao/2012/01/12/eight-reasons-startup-incubators-are-better-than-business-school/2/ Eight Reasons Startup Incubators Are Better than Business school.
[2] This blog entry support business school education, but also presents an opposing view at the beginning of the blog entry http://strategyprofs.wordpress.com/2011/11/02/can-entrepreneurship-be-taught/
[3] I have heard this opinion shared by several of my several friends but I do not agree with it.
[4] Malcolm Gladwell, 2008 , Outliers , NY : Little, Brown and Company; 1 edition (November 18, 2008)

through fundraising efforts of the mothers of his school. That was a very unique environment for a high school student considering that only four universities in the United States had computers at that time.

Jobs did not come from a wealthy family, but he did have an adoptive father who was a mechanic and taught him how to make things and machines in the garage. They also happened to live in Silicon Valley. Gates's mother used her wealth to help her son to acquire the advanced programming skills at an early age that enabled him to later create the Windows operating system. Jobs's adoptive father taught him machine-making skills that led to the making of the Apple computer. They had strong support from their respective families to pursue their passion for computers at a time where information technology was on the rise. The triple factors of timing, place, and skills all made it possible for them to be who they are today.

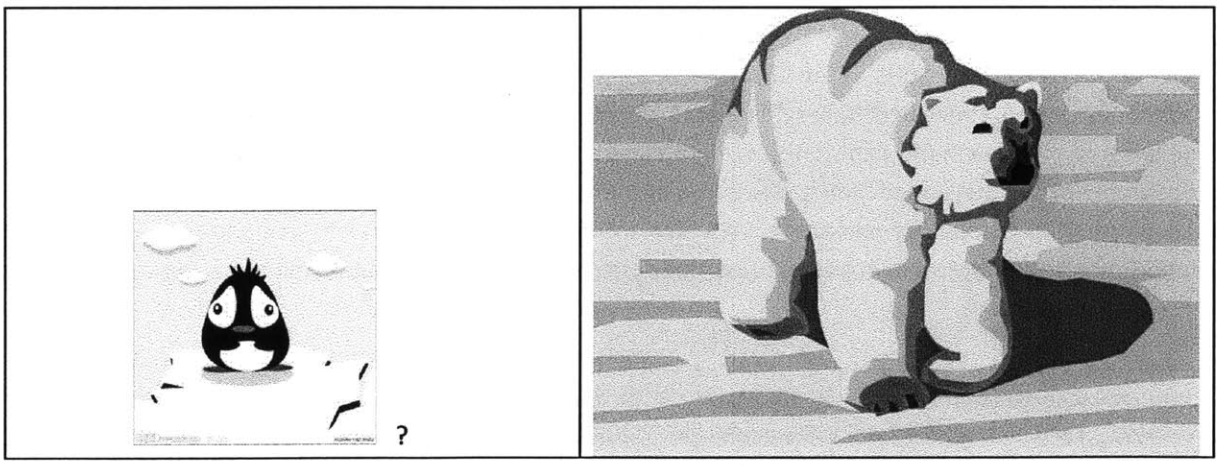
Bill Gates and Steve Jobs are what I would call Polar Bears: strong and powerful. Everyone wants to be a Polar Bear, especially the founders of start-up companies. These entrepreneurs are brave and the adrenaline rush from creating a start-up will hinder them from understanding or admitting that they are not Polar Bears but small, fat and slow-moving Penguins.

Thus, if you do not have the three factors of having been born in United States (right place), during the dawn of the IT revolution (right time) with an enriched background (such as wealth or family or school support), then you are not an outlier and nor a Polar Bear, but admittedly, only a small Penguin.

Then what?

Forget about the dream of founding a successful start-up, face reality and settle for being an ordinary salaried man?

Who AM I?




It is not my aim to dash the start-up hopes of dreamers. I am also a dreamer.

We have completed the important first step: Realize and admit we are Penguins if we do not have all of the three factors. Let us, then, forget Bill Gates and Steve Jobs, the Polar Bears, and close the Polar Bear Survivor Manual.

How then do Penguins survive in tough situations? It is simple. Hundreds and thousands of Penguins always stay together closely just as you always see on Discovery channel. When the weather is colder, Penguins stay more closely to save energy and enjoy safety in numbers.

Both Drupal and Joomla are Web CMS System. Web CMS means

CMS means Web Content Management System or A web content management system (web CMS) which is a bundled or stand-alone application used to create, manage, store, and deploy content on Web pages. Web content includes text and embedded graphics, photos, video, audio, and code (e.g., for applications) that renders other content or interacts with the user. A web CMS may also catalog or index content, select or assemble content at runtime, or deliver content to specific visitors in a personalized way, such as in different languages.[5]

Drupal ( /ˈdruːpəl/) is a free and open-source content management system (CMS) and content management framework (CMF) written in PHP and distributed under the GNU General Public License. It is used as a back-end system for at least 1.5% [6]of all websites worldwide ranging from personal blogs to

[5] http://en.wikipedia.org/wiki/Content_management_system Wikipedia CMS introduction
[6] W3Techs (2011-07-15),"Usage of content management systems for websites" , Retrieved 2011-07-15.

corporate, political, and government sites including whitehouse.gov and data.gov.uk. It is also used for knowledge management and business collaboration.[7]

Joomla is an another free and open source content management framework (CMF) for publishing content on the World Wide Web and intranets and a Model–View–Controller (MVC) Web application framework that can also be used independently.

Joomla is written in PHP, uses object-oriented programming (OOP) techniques (since version 1.6) and software design patterns, stores data in a MySQL or (since version 2.5) MS SQL database, and includes features such as page caching, RSS feeds, printable versions of pages, news flashes, blogs, polls, search, and support for language internationalization. As of March 2012, Joomla has been downloaded over 30 million times.[8]

Here we will talk about Drupal's architecture, Drupal's Modules and Drupal's Ecosystem. This thesis will help people to understand why Drupal can enable people and companies to succeed and how Drupal's Ecosystem works. We will take an in-depth look at the modules and what kinds of people and companies are using and supporting the Ecosystem.

Ultimately, this will help us to draw conclusions about how we can survive in a tough competitive business environment with limited resources and power. Hence, the thesis title of "Staying without Power". Besides the Drupal system, we will also study the Joomla system - a well-known module based open source CMS system, and one of Drupal's main competitors. Compared to the Drupal's totally free module system, the Joomla allows the module developers to charge license fees. Hence, there are lots of commercial modules and free modules that are accompanied with the Professional versions that actively run on this platform. Some people think that commercial license modules betray the ideals of open source. Moreover, some leaders of open source communities, including the founder of Drupal, think that the commercial module will block the development of Joomla. Is this true? This research will provide answers.

This research is mainly conducted by using the data available on the electronic web as it is difficult to conduct interviews with key personnel involved in Drupal and Joomla who are spread all over the world. From my research, I have distilled five essential principles. It is my hope these principles can help entrepreneurs to understand how successful open source projects work and make profit, and how to grow their own start-up companies or projects using good strategies modeled after the open source projects mentioned here. Through this, entrepreneurs can hope that their start-up companies, like the various successful open source projects, can stay without power while facing limited resources. To test the validity of these principles I have found, I decided to implement my own project and publicize details of implementing and expanding the project. This personal case study can be found in the appendix of the thesis.

[7] http://en.wikipedia.org/wiki/Drupal
[8] http://en.wikipedia.org/wiki/Joomla

## The principles I have gleaned from the research

1 Gather the penguins in rich countries (Section: Drupal People)

2 The passion of developers cannot last long without revenue and profit (Section: Drupal People). The Penguins must make profit in either in the low-end (Joomla Commercial Module) or high end (Drupal Enterprise level Customers) market. The profits will not be distributed evenly to whole communities if these communities forbid the presence of commercial modules and try to maintain the illusion that open source software is free.

3 The real Penguins are not the leaders of the community but the companies created by the leaders (Section: Drupal Companies)

4 Founders must try to realize the importance of backend or tool modules by themselves. The normal module developers are more sensitive to the fashion, new trends and current themes. (Section: Drupal Modules)

5 The commercial modules will not be in conflict with the non-commercial modules or corrupt the eco-system of open source communities. (Section: Joomla)

## The structure of this thesis

Part 0 is an introduction of Drupal. Section A focuses on the module based system of Drupal and the evolving history of the Drupal community. In Section B, we will explore the architecture of Drupal by introducing Drupal's important concepts and terms including Core, Themes, Nodes, Fields, Blocks and the Modules. The Drupal community and its members' financial pressure will be discussed in Section C, which is foundational to understand one of the principles in this research.

Part 1 focuses on the Modules. In Section A, I will explore which are the most popular modules that are installed over 100K websites. In Section B, the distribution of the modules which are used over 1k websites is highlighted. I will analyze them based on their functions including Back-end, 3rd& application, Decent, Front-end and UserAdmin. I will also introduce **Principle 4**: Founders must try to realize the importance of backend or tool modules by themselves. The normal module developers are more sensitive to the fashion, new trends and current themes.

Part 2 introduces "Principle 1 Gather the Penguins in Rich Countries"

A study on the profiles of the developers – Who supports the modules? My research shows that it is difficult to retain the low-income engineer in the community for long while requiring him to constantly contribute free codes to the project. This will be evident after taking an in-depth look at who are the real leaders in the communities and who supports the Drupal system and its modules. I will explore the background of the leaders and show how they are distributed based on their country of residence. One

can conclude from the data that the wealth of the country of residence is a great determiner of the distribution of leaders in the world.

Part 3 introduces "Principle 2: The Passion of developers cannot last long without revenue and profit "

The people from rich contries can continue to work on your open source project for a longer time than the people from low income countries. While free labor can help your project move ahead, it is not enough to help you achieve success. I will analyze the factors that motivate the leaders to continully contribute to the Drupal "without pay." This will be shown through my personal experience shown in the case study that without profit and return , no project can last long.

Part 4 introduces Principle 3: the real Penguins are not the leaders but the companies created by the leaders. I will provide an in-depth analysis of the the companies behind the leaders who continully contribute to the Drupal community.

Part 5 introuduces Principle 5: The commercial modules will not be in conflict with the non-commercial modules or corrupt the eco-system of Open source communities. The new player cannot have the same opportunities to win big contracts and achieve the level of reputation enjoyed by the founders of the system. The commercial modules enable these leaders to finance their lifestyles, personal research and study. Dries, the founder of Drupal criticized his competitor Joomla that the commercial modules of the Joomla community will hinder the future of Joomla. The study of Principle 5 will lead to an examination of whether Dries is right.

Conclusion: A conclusion for Parts 1 to 5.

Appendix: By analyzing an existing successful model, we can create a framework to help pioneers to make a decision when they have limited resource. But it is still too abstract. Furthermore, the data available online and other documentation may not always disclose all of the important factors and the details. This is one of the main reasons why I tried to run a project to make sure if I can stay without power. Although I could not finish the project in 3 months, lots of things I experienced give me more information and experience than this research of the Drupal ecosystem. The Appendix, based on the real experience, is different from the other parts which are based on publicly available data. The Drupal research mainly shows how to distribute the profit among the members or member organizations and keep the project growing. The case study shows how to survive before gaining profit. It is an early stage which everyone must go through.

## Research methods

**Part1 –Part5:**

I explore all salient factors relating to the online communities of Drupal and Joomla. After gathering the raw data concerning the Drupal and Joomla community, I input the data onto Microsoft Excel or draft the distribution graphs based on the data. The data is calculated painstakingly one by one and is based on the information of each module. I study the detailed information of each module to uncover what is

behind the development of the modules. It is time consuming but very valuable. It is more complex than we normal thought. There is a big profit alliance behind the modules.

**Appendix:**

I recorded my experience of implementing a project similar to forming a start-up company. I wrote down lots of thoughts and came up with conclusions from what I had learned from working on the project. I also interviewed Mike Li, my MIT friend who launched a solar company. I also organized our experiences and outlined our journeys through our projects.

# Part 1 : The Modules

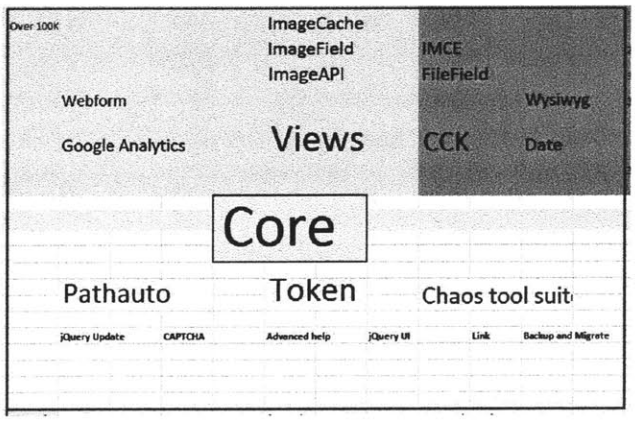
The modules have helped Drupal to grow quickly, now accumulating over ten thousand modules and over 17 thousand developers [9]– a truly spectacular result compared to Google who has only 9,508 engineers[10]. The difference is Drupal pays nothing to engineers while Google paid $2.8 billion,$2.8 billion, and $3.8 billion in 2008,2009 and 2010, respectively, which included stock-based compensation expense of $732 million, $725 million, and $861 million, respectively.[11] The cost difference between Drupal and Google for employee salary was 0 dollar versus 1 billion per year. Wikipedia[12] shows that at least 1.5% of all websites worldwide are using the Drupal as backend. Based on the scale of Drupal, we can see Drupal is staying without power.

To configure the Ecosystem of Drupal and understand how Drupal stays without power, let us take an in-depth look at the modules and developers and companies behind the modules.

Let us figure out **what kinds Modules are most popular** first. I selected ten thousand modules which have been installed over thousands of websites to show the site owner user's preference. Here are the definitions of 3 important terms used in this thesis:
**Developers** are those engineers who develop the modules.
**Site owners** are users who use the Drupal based website to supply service to end users.
**End Users** are the normal people who surf the websites.

## Section A : The most popular modules are installed over 100K websites.

Figure 1: A distribution map showing the most important modules




Copyright © 2012 by Zhang Qi [13]

[9] http://drupal.org/
[10] Google 2010 10K Page 7 Culture and Employees
[11] Google 2010 10K Page 6 Research Section
[12] http://en.wikipedia.org/wiki/Drupal
[13] The data on module usage is based on http://drupal.org/project/usage

The Gray Area is for third party service and application modules which combine the Drupal site with the third party sites or popular application.

The Pink Area is for the decent look of Drupal site. It includes the image, slider and menu theme.

The Blue Area is for the front-end tools. It includes tag, field content setting and so on.

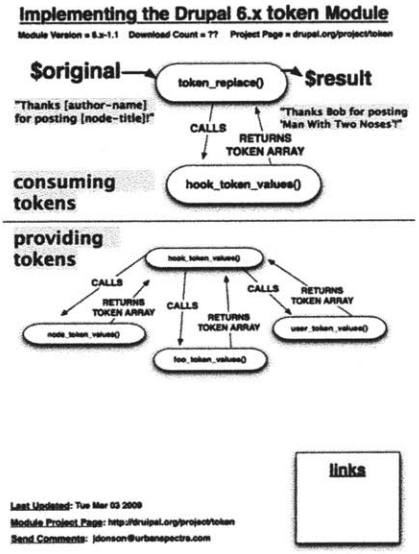
The White Area is for the back-end tools. It mainly services for the module programmers and developers.

In the graph the more popular the module is, the font size of its name is bigger.

The Core module is the biggest module whose reported installation is over 676K.

2nd Views is located in the pink area. The "views" Module provides a flexible method for Drupal site designers to control how lists and tables of content are presented. Traditionally Drupal has hard-coded most of this, particularly in how taxonomy and tracker lists are formatted. It is a smart query builder. You do not need to know the complicated SQL query and PHP language ability to build the query to form the table and list by the View Module. It is not only for the list and table. Using its smart query function you also can form the reports and summaries without knowledge of any programinmg language.

3rdToken is located in the white area. It leaves a blank space for the setting sentence and slogan. Drupal will automatically put the words after users execute the query.

| | |
|---|---|
| Figure 2:[14]<br>  <br> | 4th Pathauto automatically generated URL/path aliases for various kinds of content like nodes, taxonomy, terms , users and so on. Users do not need to specify the path alias by hand. Normally the Drupal site will default set the content a URL address like www.mit.com/node /001. For anything content related object is node, the default address always will bewww.mit.com/node/number. It is really difficult to remember this. The Pathauto module will help users to set the rule which will form decent URL addresses. You can set your rules by this module.<br>For example you can set the user account page to user and the number to user name then the link of user profile page will change to www.mit.com/user/username.<br><br>5th Content Construction Kit : The module helps users to build or edit nodes by adding fields based on the rule he sets. |

[14] http://drupal.org/node/397940

6th Chaos tool suite (ctools) It is a bunch of APIs and Tools to help developers develop their sites more easily. It concludes the following tools: plugins, Exportable, Ajax responder, Form Tools, Contexts, Modal Dialog, Content, Form Wizard and CSS tools. It is a backend module.

7th Administration menu : It is a menu module to help developer and new users to save time. You will find it is very easy to use. Besides the most basic functions, it helps user to quickly access to admin resource of Drupal site. Furthermore, it is independent to Themes.

8th ImageAPi : It is an API to service other Image modules.

9th Date : The module contains a flexible data/time type and a Date API that other modules can use.

10th Wysiwyg: It is a client-side editors to edit content.

11th FileField: It provides a universal file upload field for CCK.

12th IMCE: It is an image/file uploader and browser that supports personal directories and quota.

13th ImageCache: It is a part of core module now and responsible for the image processing.

14th Google Analytics: It is the third part service module for Google and responsible for the web statistics tracking system.

15th imageField: ImageField provides an image upload field for CCK.

16th Webform: It is a module to make surveys in Drupal.

17th Advanced help: The module helps developers to store the help file outside of the module.

18th Captcha : It is a spam-block module which will be embedded into the form of page. Users must correctly retype the words or numbers randomly created by Captcha module before they submit the form.

19th Link : The module can help users to add links to any content type and profiles.

20th Backup and Migrate: It is a tool module to back up your Drupal site's database and help you move it to another site.

21th JQuery UI : It is a Javascript Utilities. It is a modified Jquery UI effects library based module. It can help developers to improve their code effects.

The most popular 21 modules stay closely with the core module. Along with the core, they service for the other modules and the whole Drupal site. I call them Guard group which like body guard of Core module.

In the Guard group whose member has been installed in over 100k sites.

The function based distribution:

The Grey zone(third part and application tool) has 2 members

The pink zone(decent tool) has 5 members,

The Blue zone (front-end tool) has 5 members,

The White zone (back-end tool) has 9 members.

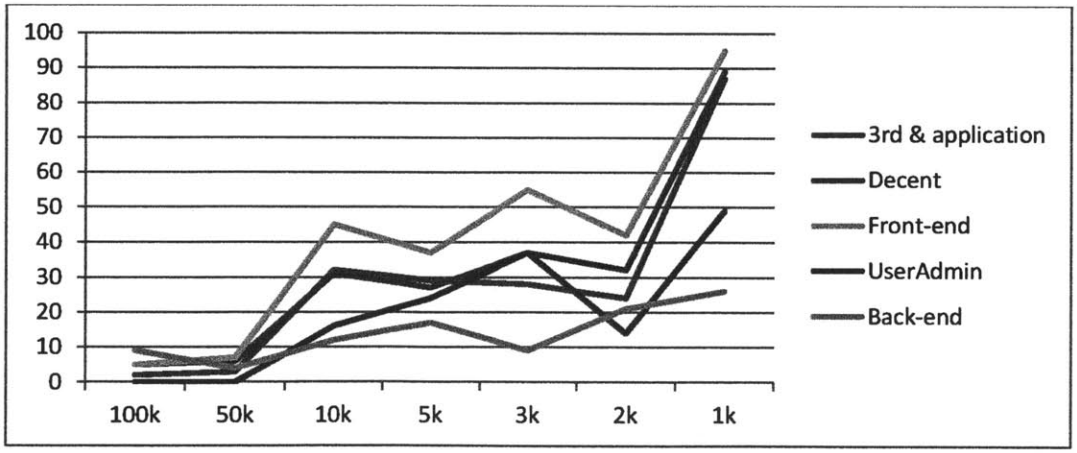
## Section B: The distribution of hot modules

After exploring the most important modules which work as the bodyguards of Core modules, let us take a look at the hot modules which are installed over 1k sites.

Figure 3[15]: The distribution of hot modules used over 1k sites.

| Zone | third part and application | decent tool | front-end tool | User admin, Author | back-end tool |
|---|---|---|---|---|---|
| Over 100k | 2 | 5 | 5 | 0 | 9 |
| Over 50k | 3 | 6 | 7 | 0 | 4 |
| Over 10k | 32 | 31 | 45 | 16 | 12 |
| Over 5k | 28 | 28 | 37 | 24 | 17 |
| Over 3k | 28 | 37 | 55 | 37 | 9 |
| Over 2k | 24 | 32 | 42 | 14 | 21 |
| Over 1k | 87 | 89 | 95 | 49 | 26 |
| SUM | 204 | 228 | 286 | 140 | 98 |

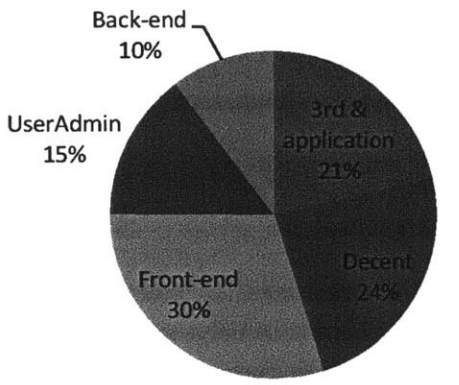
Figure 4




Copyright © 2012 by Zhang Qi[16]

[15] The module usage data is based on http://drupal.org/project/usage from which I counted and categorized the data.

Figure 5




We can get some important clues based on the data of 1000 modules which are installed over 1000 sites.

1 The back-end only occupies 10%. Most of the Module developers concentrate on the front-end (30%) Decent (24%) and 3rd application (21%).

2 Over half the Drupal-based websites are small size websites which do not need user admin and authority functions. From this we see that zero user admin and authority function modules are installed over 500k and 300k websites as shown in Figure 3 .

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To understand more about the modules we need to take an in-depth look at the Modules distribution.

Let us start from the 3rd parts application zone:

The definitions of the sub-Function group at 3rd parts application function zone:

Social refers to Social Network applications

3rd refers to the third part applications

Rating refers to the rating function applications

Spam refers to Spam defense applications

E-Commerce refers to E commercial applications

Community refers to online community applications

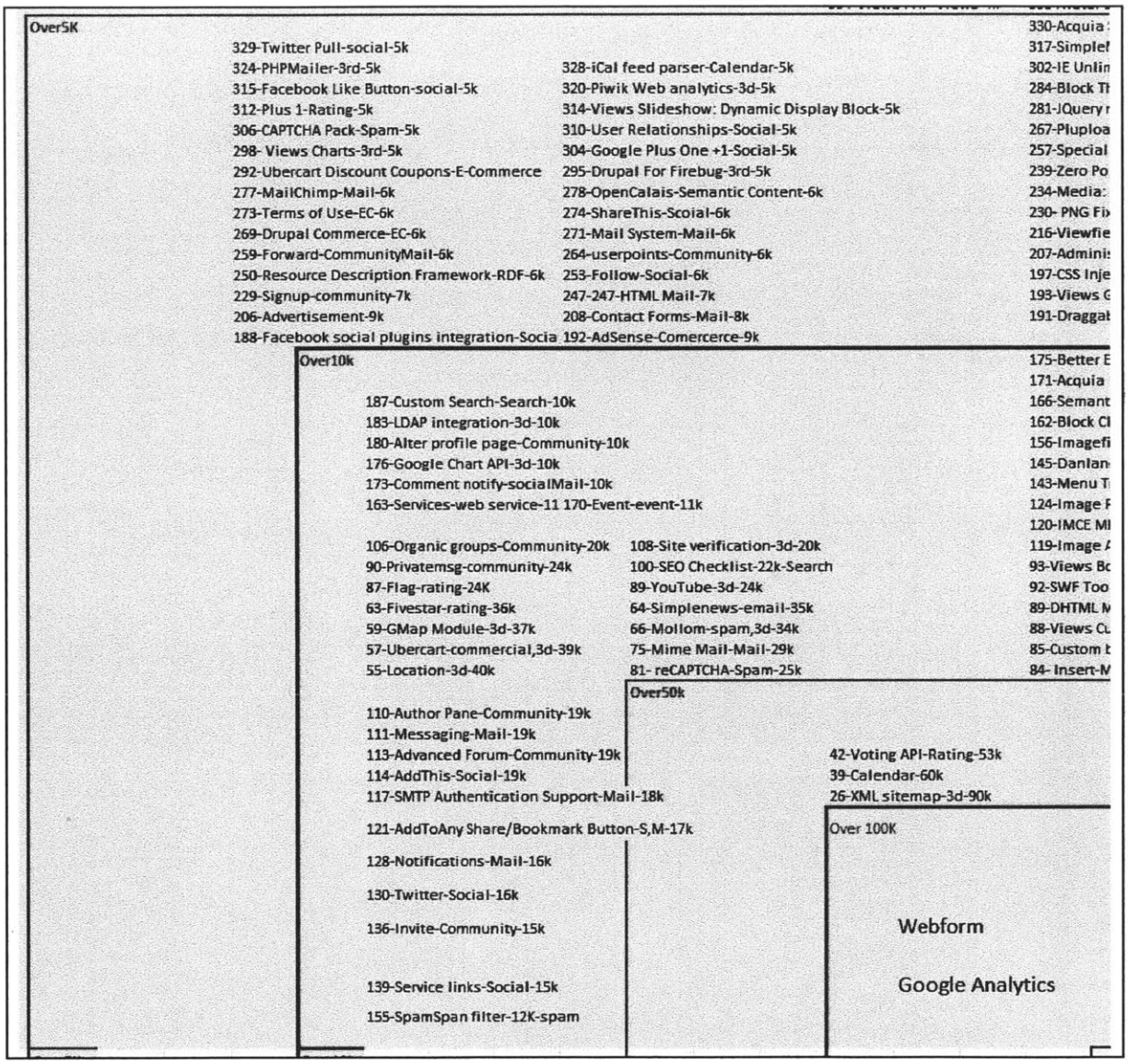
"329" indicates that the module is ranked as the 329th most installed module in over ten thousands modules.

Over 5k indicates that all the modules of the area are installed by over five thousand sites.

[16] The module usage data is based on http://drupal.org/project/usage

[17] The module usage data is based on http://drupal.org/project/usage

Figure 6[18] 3rd parts application function zone (Grey area):




Copyright © 2012 by Zhang Qi[19]

**To dissect the example convention seen above: 111-Messaging-Mail-19k, you will have the following:**

**111 is the rank in over ten thousand modules based on the number of sites which reported they have installed the module.**

**Messaging is the module name**

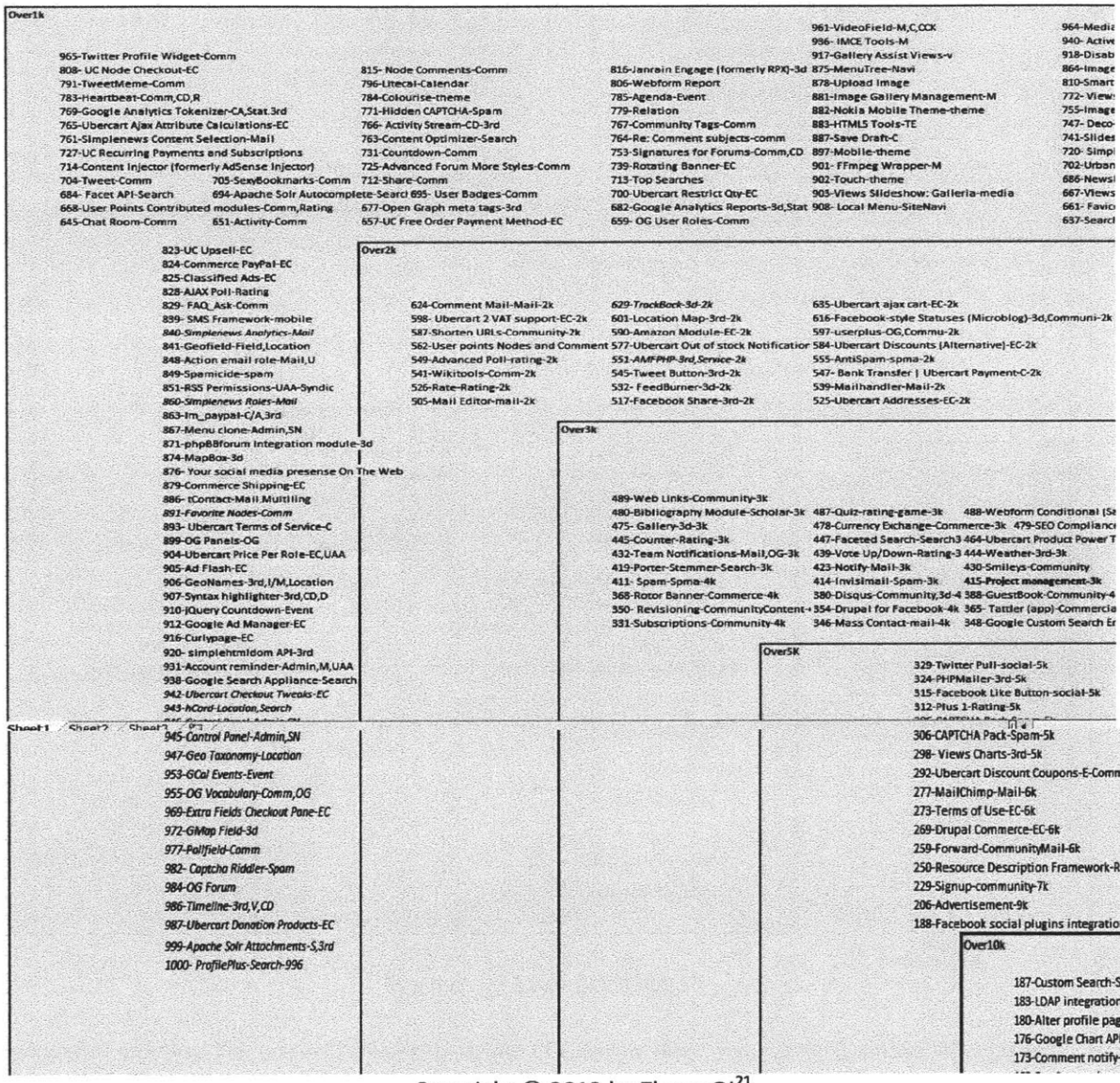
[18] The module usage data is based on http://drupal.org/project/usage

[19] The module usage data is based on http://drupal.org/project/usage

Mail is the specific function group which shows the Messaging mail module belongs to the Mail group.

19k is the number of websites which have installed the module.

Figure 7[20]

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[20] The module usage data is based on http://drupal.org/project/usage

[21] The module usage data is based on http://drupal.org/project/usage

Figure 8 Mainly specific function based statistics in pink zone (3rd part application)

| | Social Rating EventCommunity | 3r part | spam | Mail | commercial | Search | Calendar |
|---|---|---|---|---|---|---|---|
| over 100k | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| over 50k | 2 | 1 | 0 | 0 | 0 | 0 | 1 |
| over 10k | 11 | 4 | 3 | 5 | 1 | 1 | 1 |
| over 5k | 11 | 3 | 1 | 5 | 5 | 0 | 0 |
| over 3k | 9 | 4 | 2 | 3 | 4 | 3 | 0 |
| over 2k | 7 | 6 | 1 | 3 | 7 | 0 | 0 |
| over 1k | 29 | 14 | 3 | 5 | 17 | 8 | 1 |
| SUM | 70 | 33 | 10 | 21 | 34 | 12 | 3 |

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The Distribution shows the ranks of different groups.

No 1 the social, rating and event- 70 modules

No 2 E-commercial -34 modules

No 3 third-part modules - 33 modules

No 4 mail-21 modules

No 5 search-12 modules

No 6 spam-10 modules

It shows the Drupal modules help Drupal to stay ahead of current trends on the Internet. They follow the most popular spots of the Internet such as Facebook and Twitter, leading social networks. The E-commercial is ranked as No2 [23]shows that the developer senses the website owners' needs and actively helps them to make profit. They are also smart to use the third-party service and the Drupal community takes Spam defense seriously.

The sub-function area of Decent Module Zone (Pink) consists of:

Theme refers to the Theme function group

SiteNavi refers to the Site Navigation group

Media refers to the media function group

[22] The module usage data is based on http://drupal.org/project/usage
[23] Based on the data of Figure 8

ThemEn refers to the Theme enhancement group

View refers to the View function group.

The sub-function area of Front-end Module Zone (Blue) consists of:

File refers to the file function area

C refers to the content function area

Editor refers to the editor function area

CCK refers to the Content Construction Kit group

Tags refers to the Tag function group;

Mutilingual refers to the Multiple language function group

Figure 9 **The graph of Decent Module Zone and Front-end Module Zone (Over 5k)**

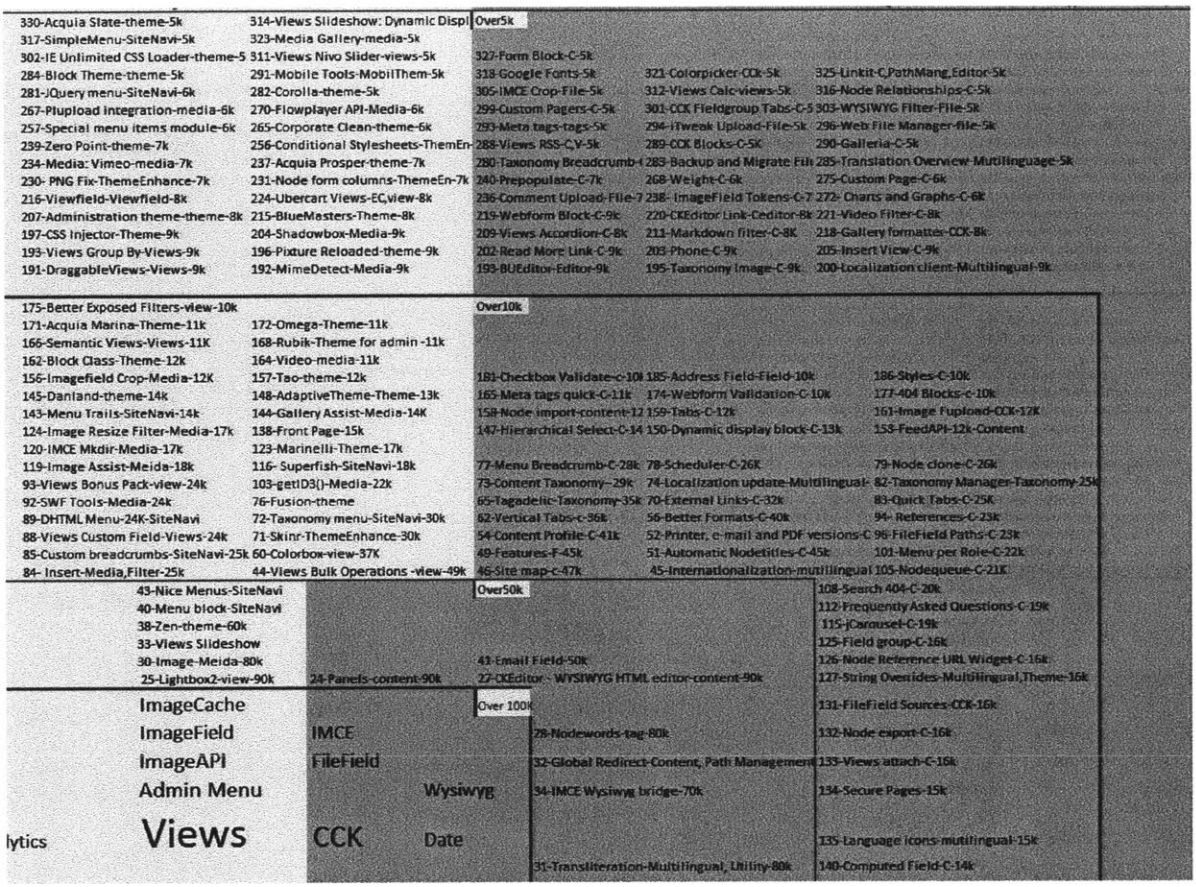


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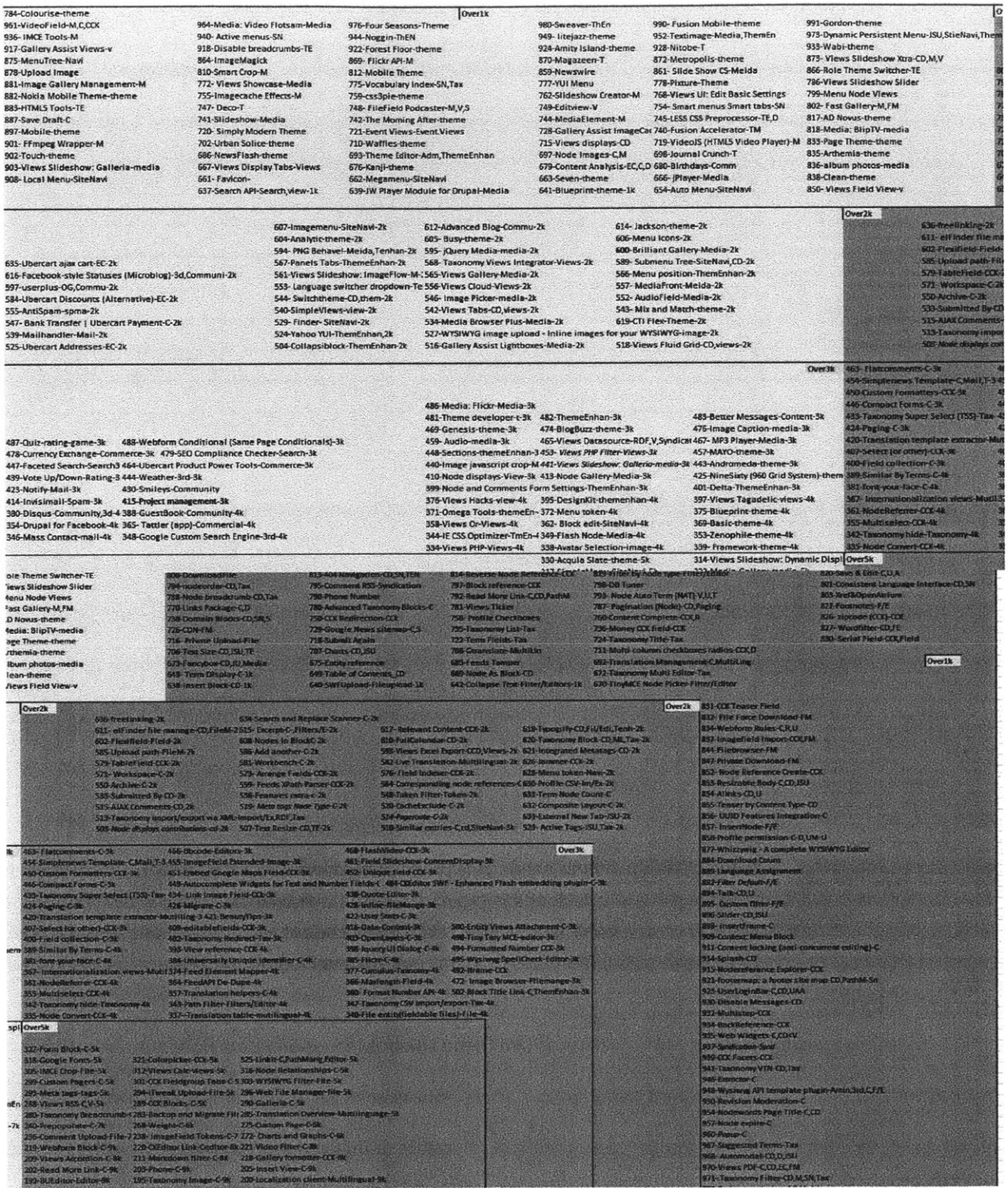
Figure 10 **The graph of Decent Module Zone (Pink area, Over 1 k) & Front-end Module Zone ( Blue Area,Over 1k)**

[24] The module usage data is based on http://drupal.org/project/usage




Copyright © 2012 by Zhang Qi[25]

[25] The module usage data is based on http://drupal.org/project/usage

Figure 11: A distribution graph showing the distribution of specific functions in the Pink Zone

| | Image | Menu | Theme | View | Media |
|---|---|---|---|---|---|
| over 100k | 3 | 1 | 0 | 0 | 0 |
| over 50k | 0 | 2 | 1 | 2 | 1 |
| over 10k | 0 | 5 | 9 | 8 | 9 |
| over 5k | 0 | 3 | 15 | 5 | 7 |
| over 3k | 1 | 2 | 17 | 7 | 8 |
| over 2k | 1 | 4 | 11 | 5 | 10 |
| over 1k | 3 | 11 | 42 | 10 | 22 |
| SUM | 8 | 28 | 95 | 37 | 57 |

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The distribution of specific functions in the Pink Zone

The distribution graph shows the ranks of different groups in the Pink Zone (Decent Area).

1 Theme module group: The Theme group (95) is even bigger than Social Group (70) of Grey Zone

2 Media Group (57) and Image Group (6) also play an important role in the Decent Area.

3 View Group (37) is almost the same weight with the 3rd part (33) and E-Commercial (34) of Grey Zone

4 Menu and site Navigation Group (28)

Figure 12: A distribution graph showing the specific functions in the Blue Zone [front-end zone]

| | CCK | content | Field | editor | Date | Front Tool | Tag | Mutililuange |
|---|---|---|---|---|---|---|---|---|
| over100k | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 |
| over50k | 0 | 1 | 1 | 2 | 0 | 2 | 0 | 1 |
| over10k | 1 | 22 | 2 | 0 | 0 | 2 | 2 | 4 |
| over5k | 2 | 19 | 0 | 4 | 0 | 6 | 2 | 2 |
| over3k | 15 | 20 | 2 | 5 | 0 | 5 | 6 | 3 |
| over2k | 7 | 22 | 2 | 0 | 0 | 8 | 1 | 1 |
| over1k | 16 | 58 | 0 | 4 | 0 | 16 | 5 | 5 |
| Sum | 42 | 142 | 8 | 16 | 1 | 40 | 16 | 16 |

The specific Function Distribution Graph in Blue Zone [front-end zone]- Copyright © 2012 by Zhang Qi[27]

[26] The module usage data is based on http://drupal.org/project/usage

[27] The module usage data is based on http://drupal.org/project/usage

1 content related module group (142) is the biggest specific function group by now [theme group (95) and Social Group (70)]

2 CCK [Content Construction Kit] (42) is ranked as number 2 in the blue zone

4 Editor Tag and Multi-langauge groups are all ranked as 4th with 16 modules

3 The front tool group which helps manage files and other functions is ranked as 3rd with the 40 mod

Apparently, Content (Content and CCK-184) is the hottest point of the module maps.

By now we conclude that the Content (184), theme (95) and social-community (70) are the top 3 hot areas.

The sub-function area of User Management & Authority Zone (Red) consists of:

User refers to User tools Group

Adm(A) refers to Administration group

ContentAC refers to Content Administration Control Group

UM refers to User Management Group

UserAccess refers to User Access administration Group

Security refers to Security administration Group

UAA refers to User Authority administration.

Figure 13 Red Zone: User Management & Authority Zone

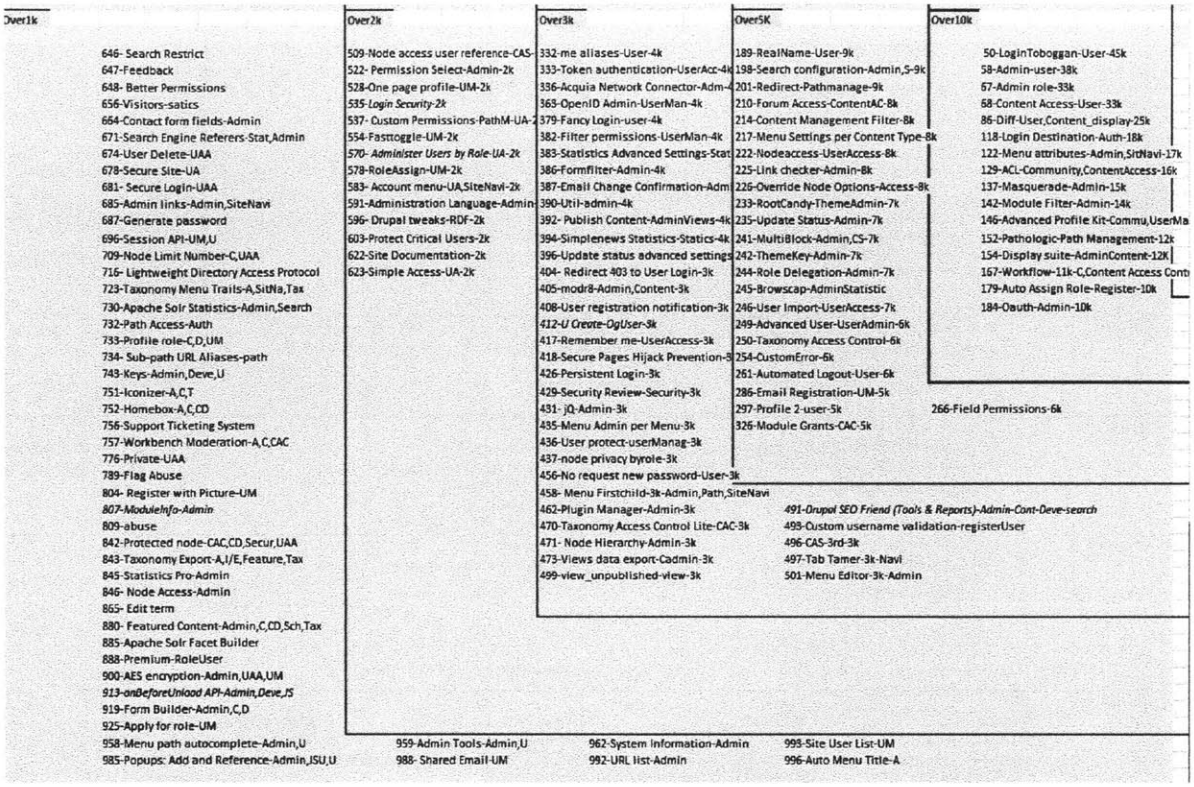


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Figure 14 White Zone Back-End Zone :

The sub-function area of End Zone (White Zone) consists of:

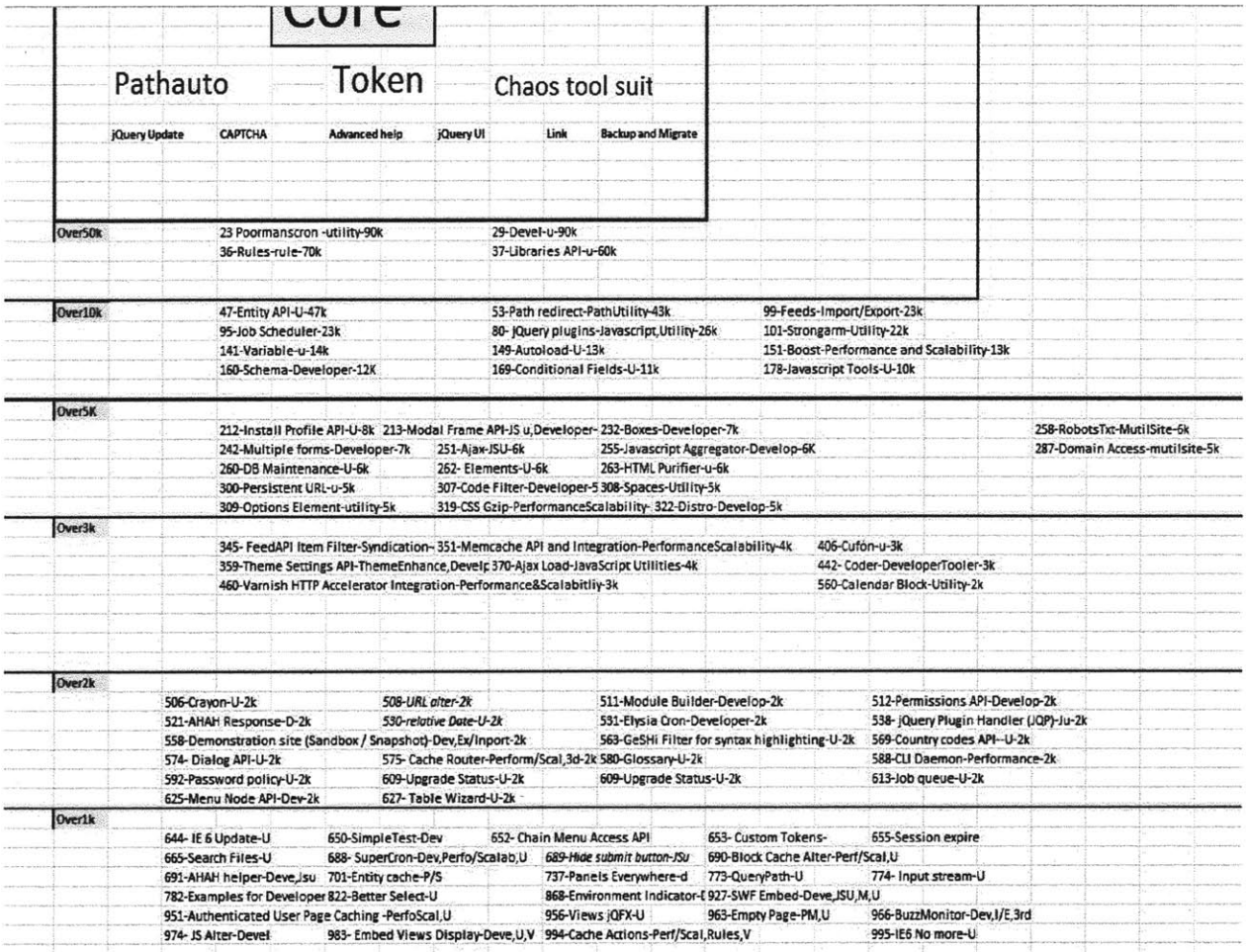
Utility refers to Utility Group

MutilSite refers to Multiple Site Group

Develop refers to development tools group

Rule refers to rule group

[28] The module usage data is based on http://drupal.org/project/usage




Copyright © 2012 by Zhang Qi[29]

[29] The module usage data is based on http://drupal.org/project/usage

# Part2:

## Principle 1 Gather the penguins in Rich Countries (Section: Drupal People)

**The Principle:**

The founders of start-ups have limited time and money to build a social network for engineers. Further, it is very hard to cut budgets because most of the founders have already tried many possible methods to help them cut costs. So compared to saving money, saving time is the better way to make your business last longer. You cannot do everything by yourself, you have no money to hire people and you have no money to buy code. Thus, the only way is to invite people to join your project and work for free such as Drupal, Joomla and other famous open source projects. But at the beginning stage, lots of newbies will join the community and you must spend much time and energy to attract them to stay in the community and constantly contribute code to the community. Therefore you must know what kinds of people have the potential to be fully committed to the project. My research shows that it is hard to keep the low income engineer to stay in the community for long and constantly contribute free code to the project. To understand it let us take a deep look who supports the Drupal system and its modules.

**The developers--- Who support the modules?**

In last chapter we have taken a look at the distribution of Drupal modules and got some clues. Now we need to find out who are the real leaders in the communities. In other words who are the Penguins?

The leaders of the communities play the most important role, so I researched the maintainers of the top 100 modules. Why Top 100 modules? The No 1 Module "Core" is installed by 560,000 Sites.[30] The No 100 Module "SEO checklist" is installed by 22,000 sites. The No 1000 Module "Profile Plus" is just installed by around 1,000 sites. So the Top 100 modules are most widely installed and basically form a universal and fully functioning end product. The maintainers of the Top 100 modules are the true leaders and controllers who set the trend of Drupal community.

The convention of graph map: 46-Rob Loach-Acquia-998-9. *46* is the rank based on the commits times.

The definition of Commits: As a module or theme maintainer or contributor, you may be making commits to a Drupal Git repository on a regular basis, both for your own code and changes contributed by others. The number of commits will provide history and credit.*

*Rob Loach* is the developer name. *Acquia* is the organization or company the developer is working for. *998* is the recorder of commits. He alone has submitted code to the Drupal Git repository 998 times by creating new modules designed by himself or updated old modules designed by others. *9* show the

[30] http://drupal.org/project/usage/

developer involves 9 modules of the top 100 modules or he maintains the 9 modules of the top 100 modules on the same time. If the name of author is red, then the author would be female.

Let us take a look from the **Top 10 leaders** first. When you take a look the Canada and America Area, you will find that No2 Earl Miles, No3 Moshe Weizman, No4 Karen Stevenson, No5 Derek Wright, No6 Nathan Haug and No9 Dave Reid are citizens of the United States and No 8 Angel Byron is a citizen of Canada. With the exception of No1 Dries Buytaert(Belgium) and No7 Daniel F.Kudwien(Germany) eight people of the Top 10 are form USA and Canada while the first founder No1 Dries is in Buytaert of EU.

How about **Top 10-20**? 4 people (No 12 John Albin Wilkins, No14 Arthur Foelsche, No16 Neil Drumm, No19 Brandon Bergren) are US citizens.

No11 Gábor Hojtsy (Hungary), No 13 Gerhard Killesreiter(Germany), No 15 Wolfgang Ziegler(Austria),No 17 Alexander Hass(German)and No 20 Stella Power(Ireland),the 5 people, are based in Europe.

Only No 18 Bruno Massa is in Brazil. So in the Top 20 leaders, 12 people are from North America, 7 people are from EU. No18 Bruno Massa, from Brazil is the only representative of South America.

**Even in Top 50** : 28 leaders are from North America(33 USA and 6 Canada) , 18 Leaders are from EU ,2 are from Australia and New Zealand. 1 is from Brazil and 1 is from South Africa.

**How about Top 100?** If you take an overview of the Leaders distribution Map you will find that all the 98 leaders of Top 100 all come from the North America and EU except for No 26 Adrian who represents South Africa which is the richest country in Africa and No18 Bruno Massa from Brazil.

The most important developers are based in USA. It is thus reasonable that the founder Dires launched his business in USA.

Figure 1: The Statistics: Number of leaders from each nation (Left Table: Green EU Counties)[31]

| | | | | | |
|---|---|---|---|---|---|
| America | 83 | Norway | 4 | China | 1 |
| Canada | 9 | Poland | 4 | india | 2 |
| | | Sweden | 6 | Israel | 1 |
| | | Netherlan | 5 | Syrian Ara | 1 |
| | | Serbia | 1 | | |
| cuba | 1 | Switzerlar | 5 | | |
| Brazil | 3 | Portugal | 1 | | |
| | | Hungry | 2 | | |
| | | Romania | 2 | | |
| | | Turkey | 1 | | |
| | | Spain | 3 | | |
| | | Ireland | 1 | | |
| | | Germany | 12 | | |
| | | Belgium | 5 | | |
| | | England | 10 | | |
| | | France | 5 | | |
| | | | 67 | | |
| | | | | | |
| | | | | | |
| | | | | Australia | 11 |
| | | Africa | 2 | New Zeal | 5 |

| | | |
|---|---|---|
| 1 | America | 83 |
| 2 | Germany | 12 |
| 3 | Australia | 11 |
| 4 | England | 10 |
| 5 | Canada | 9 |
| 6 | Sweden | 6 |
| 7 | Netherlands | 5 |
| 7 | Switzerland | 5 |
| 7 | Belgium | 5 |
| 7 | France | 5 |
| 7 | New Zealand | 5 |
| 12 | Norway | 4 |
| 12 | Poland | 4 |
| 14 | Spain | 3 |

[31] Further explorations of each project can be found at http://drupal.org/project/

| | | |
|---|---|---|
| 14 | Brazil | 3 |
| 16 | Hungry | 2 |
| 16 | Romania | 2 |
| 16 | Africa | 2 |
| 16 | India | 2 |
| 20 | Serbia | 1 |
| 20 | Portugal | 1 |
| 20 | Turkey | 1 |
| 20 | Ireland | 1 |
| 20 | Cuba | 1 |
| 20 | China | 1 |
| 20 | Israel | 1 |
| 27 | Syrian Arab Republic | 1 |

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So it is very clear that representatives from the USA and the EU Countries play an important role in the community. 83 leaders are in USA, 67 Leaders in EU, 16 people are from Australia and New Zealand and 9 leaders are in Canada. **I am doubtful if langauge is the barrier that prevents more representation from Aisan countries and African countries even though there are o**nly 2 leaders from India. Enginners and students from India are good at English and they have a high level of software engineering skills. Thus, the poor Asian represntation should not be related to the language and education level. I think it should be related to the economic situation of each country. In rural India and China many people subsist below the poverty line. They have little spare time to develop software without any monetary gain while engineers and students can make software just for fun in wealthier countries. If we explore the important projects of Drupal community, we can find that the most committed members are individuals. For example, the 27 committers for the Drupal core, Jhodgdon and Letharion are from the "Organization members of the Drupal Associaction," the others are individual members of the Drupal Association. There is no one from the core Drupal team who works at SUN, IBM or other large IT corporations that can bring in a significant sponsorship for open source projects. Drupal is also not officially supported by any existing corporation. Aquia only recruits the experienced developers who have done individual work on the drupal project. From this, we can conclude that only engineers and students from wealthier countries can create software just for fun.[32]

The longest-serving members Jeroen(10 years) ,Kjartan(5 years), Steven(4 years) and killes@www.drop.org(4 years), Gabor Hojtsy (5 years)and Dries(11 years) are individual members.

Further, the developers from wealthy countries have an easier time to make profit through the free opensource product while it is more difficult in low-income countries. On the internet board I saw the

[32] http://drupal.org/node/3060/committers

chat records between the Chinese Joomla developer and the students who want to learn Joomla. The developers make 30 sections of videos to teach people how to use and develop Joomla. Twenty sections of videos are free, but the remaining ten charges 30 dollars. Students,like angry birds, ask why do the Joomla developers want to charge a fee(though the fee is very low) since the Joomla is open source and free. The students criticize the developers for betraying the spirit of open source. But the developers say that their livelihoods are dependent on the revenue from these videos. In fact my question is why do students want to learn the free software? The ridiculous thing is that the students also want to use the free software to make some money if they can. The truth is that both Developers and students are poor .They have no spare time and money to do things for free.

We can also rank the list of countries by GDP (nominal) per capita.

Figure 2: countries by GDP (nominal) per capita[33]

| | Name | Number | GDP RANK | GDP |
|---|---|---|---|---|
| 1 | America | 83 | 15 | 48,147 |
| 2 | Germany | 12 | 19 | 44,558 |
| 3 | Australia | 11 | 5 | 66,984 |
| 4 | England | 10 | 22 | 39,604 |
| 5 | Canada | 9 | 10 | 51,147 |
| 6 | Sweden | 6 | 8 | 61,098 |
| 7 | Netherlands | 5 | 9 | 51,410 |
| 7 | Switzerland | 5 | 4 | 84,983 |
| 7 | Belgium | 5 | 16 | 48,110 |
| 7 | France | 5 | 20 | 44,401 |
| 7 | New Zealand | 5 | 23 | 38,227 |
| 12 | Norway | 4 | 3 | 96,591 |
| 12 | Poland | 4 | 50 | 13,967 |
| 14 | Spain | 3 | 26 | 33,298 |
| 14 | Brazil | 3 | 53 | 12,917 |
| 16 | Hungary | 2 | 45 | 14,808 |
| 16 | Romania | 2 | 66 | 8,666 |
| 16 | S. Africa | 2 | 71 | 8,342 |
| 16 | India | 2 | 135 | 1,527 |
| 20 | Serbia | 1 | 82 | 6,268 |
| 20 | Portugal | 1 | 34 | 22,699 |
| 20 | Turkey | 1 | 62 | 10,576 |
| 20 | Ireland | 1 | 14 | 48,517 |
| 20 | Cuba | 1 | 87 | 5,565 |

[33] The data of GDP (nominal) per capita is based on http://en.wikipedia.org/wiki/List_of_countries_by_GDP_(nominal)_per_capita

| | | | | |
|---|---|---|---|---|
| 20 | China | 1 | 90 | 5,184 |
| 20 | Israel | 1 | 27 | 32,298 |
| 27 | Syrian Arab Republic | 1 | N/A | N/A |

Using GDP, it still shows the low income countries are in the bottom. It is clear that it is easier to form open source communities in rich countries. Engineers or students from rich countries have the ability to choose to write code just for fun without a profit motive.

One may postulate that while the list shows rich countres leading at the top and low income countries at the bottom, the GDP rank is not as exactly same as the rank of statistics for leading developers. If we use the PCPI to compare the countries , you will find the two ranking systems are really similar.

Let us consider the list of countries by per capita personal income

Figure 3: Countries ranked by per capita personal income[34]

| | Name | Number | PCPI rank | PCPI(per capita personal income) |
|---|---|---|---|---|
| 1 | America | 83 | 1 | 23,776 |
| 2 | Germany | 12 | 3 | 17,069 |
| 3 | Australia | 11 | 10 | 13,296 |
| 4 | England | 10 | 4 | 16,710 |
| 5 | Canada | 9 | N/A | N/A |
| 6 | Sweden | 6 | 9 | 13,746 |
| 7 | Netherlands | 5 | 7 | 14,393 |
| 7 | Switzerland | 5 | 2 | 17,330 |
| 7 | Belgium | 5 | N/A | N/A |
| 7 | France | 5 | 6 | 14,490 |
| 7 | New Zealand | 5 | 11 | 12,283 |
| 12 | Norway | 4 | N/A | N/A |
| 12 | Poland | 4 | 25 | 4,525 |
| 14 | Spain | 3 | N/A | N/A |
| 14 | Brazil | 3 | 23 | 5,052 |
| 16 | Hungry | 2 | N/A | N/A |
| 16 | Romania | 2 | N/A | N/A |
| 16 | S –Africa | 2 | N/A | N/A |
| 16 | India | 2 | N/A | N/A |
| 20 | Serbia | 1 | N/A | N/A |
| 20 | Portugal | 1 | N/A | N/A |
| 20 | Turkey | 1 | N/A | N/A |
| 20 | Ireland | 1 | N/A | N/A |

[34] http://en.wikipedia.org/wiki/List_of_countries_by_per_capita_personal_income

| | | | | |
|---|---|---|---|---|
| 20 | Cuba | 1 | N/A | N/A |
| 20 | China | 1 | 28 | 3,029 |
| 20 | Israel | 1 | 17 | 11479 |
| 27 | Syrian Arab Republic | 1 | | |

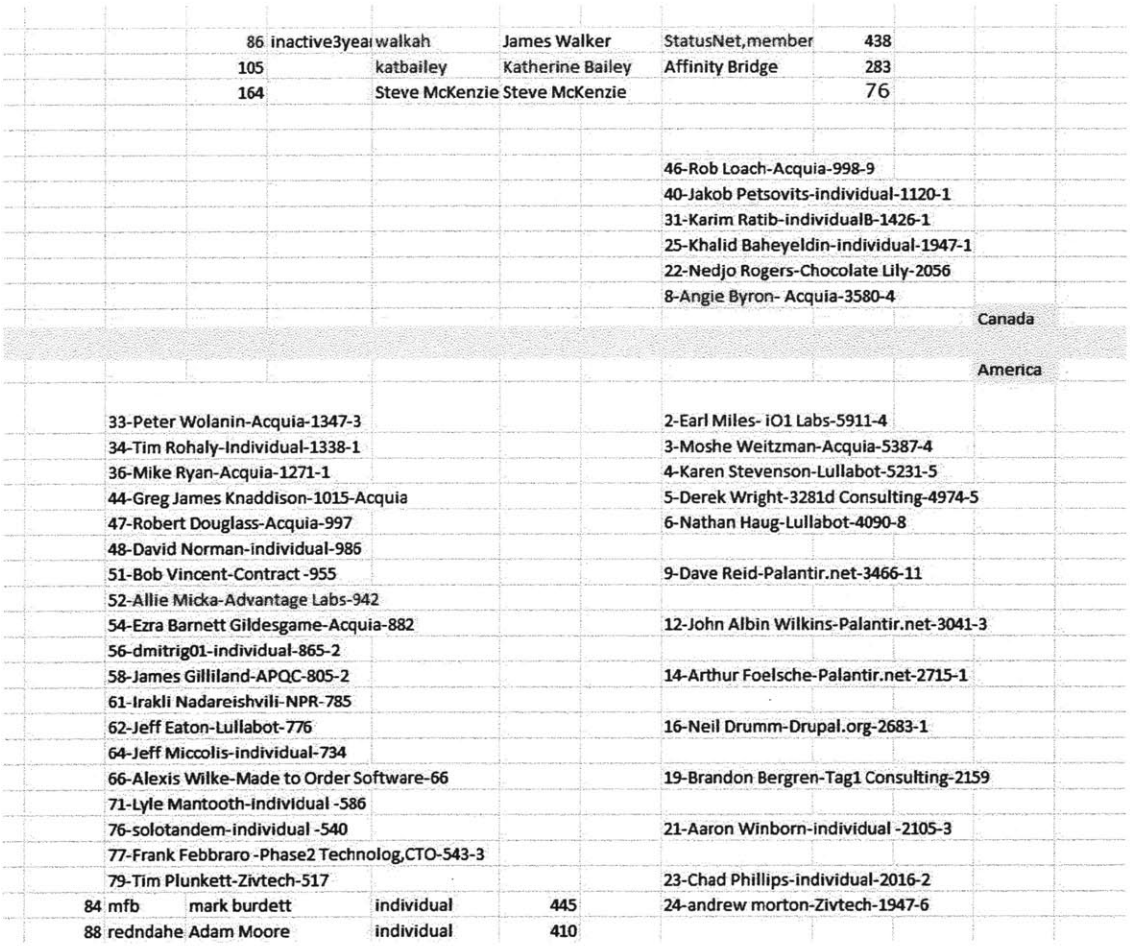
Though the list of countries by per capita personal income does not cover all the countries, it gives us some clues which can confirm my above conclusion that the richer a country is, the more people will develop software just for fun without a profit motive. All the top ten countries are over 10k in international dollars in PCPI while China is 3k. There is no data on India, but it should be lower than that of China.

The webpage http://en.wikipedia.org/wiki/List_of_countries_by_per_capita_personal_income (links show more detail) quotes, "This is a list of countries by annual total personal income per capita for various years between 2001 and 2009. Unless otherwise noted, this data was collected by the World Salaries Group based on household budget surveys and converted to international dollars using the International Monetary Fund's implied purchasing power parity rates for each country in 2005. Unless otherwise noted, the income excludes owner-imputed rent and includes non-monetary income of self-supplied goods and services.The US data was taken from the BEA ; noncash transfers and imputed rents were taken out."

While the above seems correct, I still have some doubt if the people from rich countries can write code without a profit motive and wonder how long their passion can last without pay.

**Let us take a closer look at next part: Principle 2 The Passion of developers cannot last long without profit.**

Figure 4: The distribution of the main developers across USA and Canada[35]



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 86 | inactive3yea | walkah | James Walker | StatusNet,member | 438 |
| | | 105 | | katbailey | Katherine Bailey | Affinity Bridge | 283 |
| | | 164 | | Steve McKenzie | Steve McKenzie | | 76 |
| | | | | | | 46-Rob Loach-Acquia-998-9 | |
| | | | | | | 40-Jakob Petsovits-individual-1120-1 | |
| | | | | | | 31-Karim Ratib-individualB-1426-1 | |
| | | | | | | 25-Khalid Baheyeldin-individual-1947-1 | |
| | | | | | | 22-Nedjo Rogers-Chocolate Lily-2056 | |
| | | | | | | 8-Angie Byron- Acquia-3580-4 | |
| | | | | | | | Canada |
| | | | | | | | America |
| | 33-Peter Wolanin-Acquia-1347-3 | | | | | 2-Earl Miles- iO1 Labs-5911-4 | |
| | 34-Tim Rohaly-Individual-1338-1 | | | | | 3-Moshe Weitzman-Acquia-5387-4 | |
| | 36-Mike Ryan-Acquia-1271-1 | | | | | 4-Karen Stevenson-Lullabot-5231-5 | |
| | 44-Greg James Knaddison-1015-Acquia | | | | | 5-Derek Wright-3281d Consulting-4974-5 | |
| | 47-Robert Douglass-Acquia-997 | | | | | 6-Nathan Haug-Lullabot-4090-8 | |
| | 48-David Norman-individual-986 | | | | | | |
| | 51-Bob Vincent-Contract -955 | | | | | 9-Dave Reid-Palantir.net-3466-11 | |
| | 52-Allie Micka-Advantage Labs-942 | | | | | | |
| | 54-Ezra Barnett Gildesgame-Acquia-882 | | | | | 12-John Albin Wilkins-Palantir.net-3041-3 | |
| | 56-dmitrig01-individual-865-2 | | | | | | |
| | 58-James Gilliland-APQC-805-2 | | | | | 14-Arthur Foelsche-Palantir.net-2715-1 | |
| | 61-Irakli Nadareishvili-NPR-785 | | | | | | |
| | 62-Jeff Eaton-Lullabot-776 | | | | | 16-Neil Drumm-Drupal.org-2683-1 | |
| | 64-Jeff Miccolis-individual-734 | | | | | | |
| | 66-Alexis Wilke-Made to Order Software-66 | | | | | 19-Brandon Bergren-Tag1 Consulting-2159 | |
| | 71-Lyle Mantooth-individual -586 | | | | | | |
| | 76-solotandem-individual -540 | | | | | 21-Aaron Winborn-individual -2105-3 | |
| | 77-Frank Febbraro -Phase2 Technolog,CTO-543-3 | | | | | | |
| | 79-Tim Plunkett-Zivtech-517 | | | | | 23-Chad Phillips-individual-2016-2 | |
| 84 | mfb | mark burdett | | individual | 445 | 24-andrew morton-Zivtech-1947-6 | |
| 88 | redndahe | Adam Moore | | individual | 410 | | |

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[35] For a more in-depth look at the profile of developers of each module, visit http://drupal.org/project/usage

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 90 | jjeff | Jeff Robbins | lullabot(Co-four | 403 | 27-Alex Barth-Development Seed-1819-2 | | | | |
| 92 | ankur | Ankur Rishi | ISL Consulting | 386 | | | | | |
| 94 | EclipseGc | Kris Vanderwater | Commerce Guys | 380 | 28-young hahn-individual-1816-3 | | | | |
| 95 | ronan | Ronan Dowling | Gorton Studios | 378 | 29-Sam Boyer-TransparaTech, Inc-1816-2 | | | | |
| 96 | Jacine | Jacine Luisi | Freelance,Gravi | 357 | | | | | |
| 97 | jrglasgow | James R Glasgow | individual | 340 | | | | | |
| 99 | effulgents | Alex Bronstein | ACQUIA | 316 | | | | | |
| 102 | mfer | Matt Farina | individual | 294 | | | | | |
| 106 | jerdavis | Jeremiah Davis | advantagelabs | 276 | | | | | |
| 107 | DamienM | Damien McKenna | Bluespark Labs | 270 | | | | | |
| 119 | moonray | Bala Bosch | Gravitek Labs | 266 | | | | | |
| 120 | ChrisKennedy | | Rock the Vote | 265 | | | | | |
| 121 | litwol | Oleg Terenchuk | individual busin | 265 | | | | | |
| 123 | tirdadc | Tirdad | Phase2 Technol | 256 | | | | | |
| 124 | indytechc | Neil Hastings | Treehouse Ager | 252 | | | | | |
| 126 | MGN | Michael Nichols | | 238 | | | | | |
| 129 | dragonwi | Alan Doucette | Individual | 222 | | | | | |
| 131 | ericduran | Eric J. Duran | Lullabot | 208 | | | | | |
| 134 | hefox | Fox | individual | 186 | | | | | |
| 135 | hyrcan | Patrick Settle | | 186 | | | | | |
| 138 | bleen18 | Alexander Ross | individual | 174 | | | | | |
| 140 | earnie | Earnie Boyd | individual | 168 | | | | | |
| 144 | Alex UA | Alex Urevick-Ackelsber | Zivtech | 135 | | | | | |
| 145 | jdwfly | Joe Wheaton | individual | 132 | | | | | |
| 147 | aquarium | Jason | TopNotchThem | 127 | | | | | |
| 148 | becw | Rebecca White | Palantir.net | 125 | | | | | |
| 149 | jcfiala | John C Fiala | individule | 124 | | | | | |
| 150 | esmerel | Lynette Miles | TopNotchThem | 115 | | | | | |
| 155 | kleinmp | | Zivtech | 99 | | | | | |
| 156 | Aaron Hav | Aaron | freelance Drupa | 97 | | | | | |
| 163 | dstol | David Stoline | individual mem | 76 | | | | | |
| 166 | sociotech | | GoingOn Netwo | 66 | | | | | |
| 168 | developer-x | | | 54 | | | | | |
| 170 | HorsePun | Steven N. Severinghaus | individual | 51 | | | | | |
| 175 | arlinsandbulte | | | 44 | 189 | Ben Finklea | United States | Volacci | 10 |
| 176 | tobby | Tobby Hagler | Phase2 Technol | 44 | 190 | fearlsgroove | | | 9 |
| 178 | vordude | Matt Kleve | Lullabot | 31 | 192 | technicolorenvy | Joseph Smith | individual | 6 |
| 182 | tekante | Chris Johnson | Phase2 | 21 | 195 | blinkreaction | | | 3 |
| 184 | sheena_d | Sheena Donnelly | TopNotchThem | 18 | 196 | artem.taranyuk | Artem Taranyuk | blinkreact | 2 |
| 186 | kthagen | Karl Hagen | individual | 14 | 197 | kking | Kevin King | Phase2 Te | 1 |

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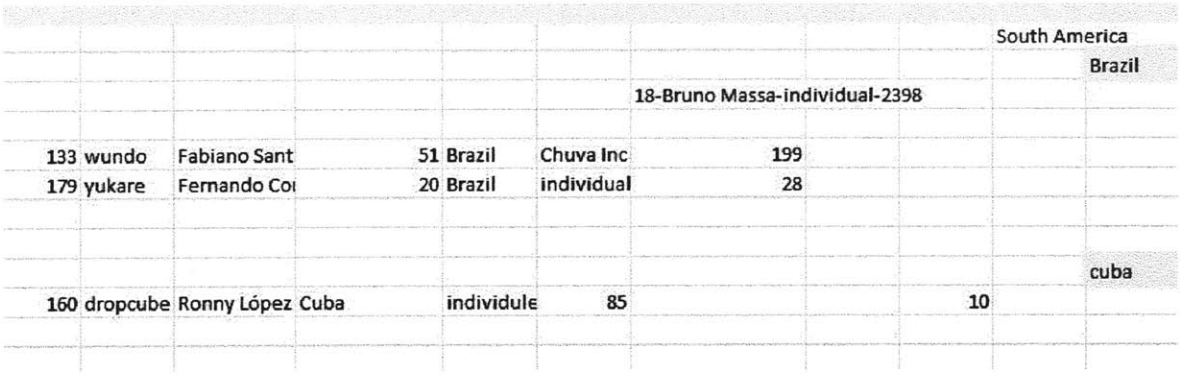
Figure 5: The distribution of main developers across South America[36]



| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | South America | |
| | | | | | | | | | | | Brazil |
| | | | | | | 18-Bruno Massa-individual-2398 | | | | | |
| 133 | wundo | Fabiano Sant | 51 | Brazil | Chuva Inc | 199 | | | | | |
| 179 | yukare | Fernando Cor | 20 | Brazil | individual | 28 | | | | | |
| | | | | | | | | | | | cuba |
| 160 | dropcube | Ronny López | Cuba | | individule | 85 | | | 10 | | |

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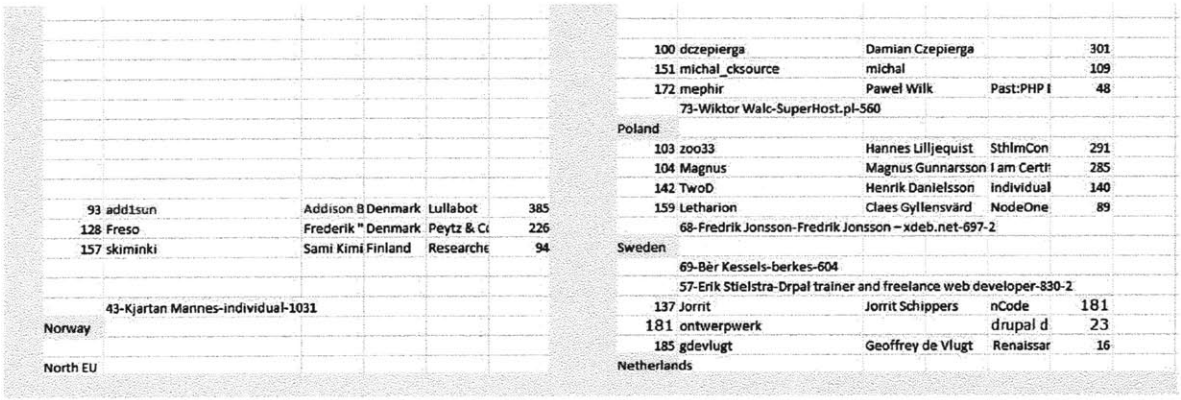
Figure 6: The distribution of main developers across the EU Area **(The name showing before the formal name is the nick name of developer.)**



| | | | | | |
|---|---|---|---|---|---|
| 93 | add1sun | Addison B | Denmark | Lullabot | 385 |
| 128 | Freso | Frederik " | Denmark | Peytz & C | 226 |
| 157 | skiminki | Sami Kimi | Finland | Researche | 94 |
| | 43-Kjartan Mannes-individual-1031 | | | | |
| Norway | | | | | |
| North EU | | | | | |

| | | | | |
|---|---|---|---|---|
| 100 | dczepierga | Damian Czepierga | | 301 |
| 151 | michal_cksource | michal | | 109 |
| 172 | mephir | Pawel Wilk | Past:PHP I | 48 |
| | 73-Wiktor Walc-SuperHost.pl-560 | | | |
| Poland | | | | |
| 103 | zoo33 | Hannes Lilljequist | SthlmCon | 291 |
| 104 | Magnus | Magnus Gunnarsson | I am Certi | 285 |
| 142 | TwoD | Henrik Danielsson | individual | 140 |
| 159 | Letharion | Claes Gyllensvärd | NodeOne | 89 |
| | 68-Fredrik Jonsson-Fredrik Jonsson – xdeb.net-697-2 | | | |
| Sweden | | | | |
| | 69-Bèr Kessels-berkes-604 | | | |
| | 57-Erik Stielstra-Drpal trainer and freelance web developer-830-2 | | | |
| 137 | Jorrit | Jorrit Schippers | nCode | 181 |
| 181 | ontwerpwerk | | drupal d | 23 |
| 185 | gdevlugt | Geoffrey de Vlugt | Renaissar | 16 |
| Netherlands | | | | |

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[36] For a more in-depth look at the profile of developers of each module, visit http://drupal.org/project/usage

| | | | | | |
|---|---|---|---|---|---|
| | 81 | Uwe Hermann | Uwe Hermann | individual | 483 |
| | 87 | webflo | Florian Weber | digitale in | 415 |
| | 125 | tstoeckler | Tobias Stöckler | | 240 |
| | 136 | cburschka | | individual | 182 |
| | 139 | ax | Axel Kollmorgen | individual | 171 |
| | 146 | Eric Schaefer | Eric Schaefer | Vice Presi | 130 |
| | 174 | ray007 | Raimund Bauer | individual | 45 |
| | 180 | Digidog | | MAROQQ | 23 |
| | 187 | eMPee584 | Marcel Partap | student | 13 |
| | | 13-Gerhard Killesreiter-Tag1 Consulting-2757-1 | | | |
| | | 10-Daniel Wehner-Individual,Student-3348 | | | |
| | | 7-Daniel F. Kudwien-unleashed mind -3648-9 | | | |
| Germany | | | | | |
| | 153 | Jeroen Bensch | Belgium | Krimson d | Jeroen 101 |
| | | 1-Dries Buytaert-Acquia-11246-1 | | | |
| | | 30-Steven Wittens-Individual-1556-1 | | | |
| | | 45-Wim Leers-Freelance Drupal Developer-1013 | | | |
| | | 68B-Stefaan Lippens-individual-648 | | | |
| Belgium | | | | | |
| | 82 | budda | Mike Carter | Ixis IT | 475 |
| | 89 | catch | Nathaniel Catchp | Tag1 Cons | 405 |
| | 132 | AjK | Andy Kirkham | Software/ | 207 |
| | 169 | jakeg | Jake Gordon | Web Deve | 54 |
| | 177 | ff1 | Ian Eldred | individual | 33 |
| | | 75-nicholasThompson-Turner Broadcasting Systems-543 | | | |
| | | 72-Stuart Greenfield -individual-561 | | | |
| | | 55-Richard Burford-Examiner.com-866 | | | |
| | | 53-Steven Jones-Computerminds-924 | | | |
| | | 32-joachim Noreiko-individual-1351-2 | | | |
| England | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 65-Bojan Živanović-Commerce Guys-728 | | | | | | |
| Serbia | | | | | | | | |
| | | 67-Sascha Grossenbacher-MD Systems-722-3 | | | | | | |
| | | 39-Hans Salvisberg-individual-1153 | | | | | | |
| | 98 | miro_dietiker | Miro Dietiker | MD Syster | 337 | | | |
| | 152 | rötzi | Julian | individual | 102 | | | |
| | 161 | floretan | Florian Loretan | Wunderkr | 81 | | | |
| Switzerland | | | | | | | | |
| | | 38-jcnventura-individual-1261-1 | | | | | | |
| Portugal | | | | | | | | |
| | | 11-Gábor Hojtsy- Acquia-3268-4 | | | | | | |
| | 130 | sgabe | Gabor Seljan | Hungary | freelance | 221 | | 146 |
| Hungry | | | | | | | | |
| | 127 | amateescu | Andrei Matec | 127 | amateesc | Andrei Ma | Romania | Tremend 232 |
| | 122 | Pasqualle | Bálint Csuthy | 122 | Pasqualle | Bálint Csu | Slovakia | Mogdesig 263 |
| Romania | Slovakia | | | | | | | |
| | | 50-ufku-individual-956 | | | | | | |
| Turkey | | | | | | | | |
| | | 59-Marc Ferran-individual-790 | | | | | | |
| | | 41-Jose Antonio Reyero-individual-1078 | | | | | | |
| | 143 | Manuel Garcia | Manuel Garci | Spain | Drupal fre | 137 | | |
| Spain | | | | | | | | |
| | | 20-Stella Power-Annertech-2159-2 | | | | | | |
| Ireland | | | | | | | | |

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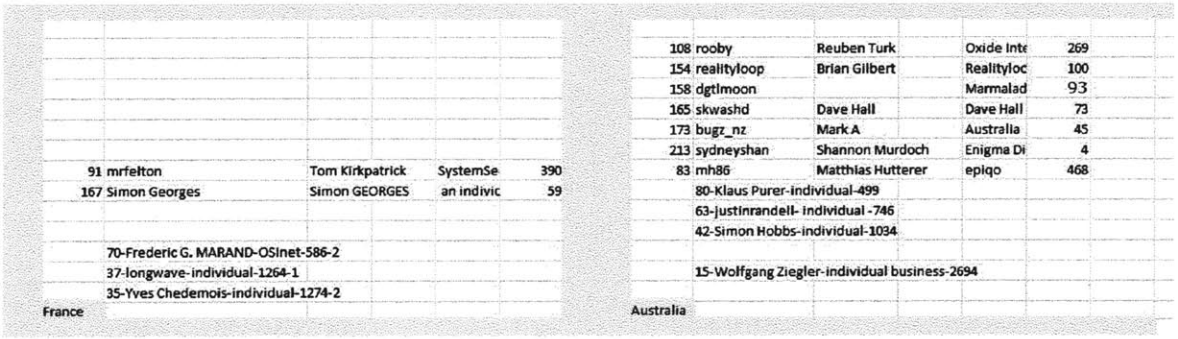

| | | | | | |
|---|---|---|---|---|---|
| | 91 | mrfelton | Tom Kirkpatrick | SystemSe | 390 |
| | 167 | Simon Georges | Simon GEORGES | an indivic | 59 |
| | | 70-Frederic G. MARAND-OSinet-586-2 | | | |
| | | 37-longwave-individual-1264-1 | | | |
| | | 35-Yves Chedemois-individual-1274-2 | | | |
| France | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | 108 | rooby | Reuben Turk | Oxide Inte | 269 |
| | 154 | realityloop | Brian Gilbert | Realityloc | 100 |
| | 158 | dgtlmoon | | Marmalad | 93 |
| | 165 | skwashd | Dave Hall | Dave Hall | 73 |
| | 173 | bugz_nz | Mark A | Australia | 45 |
| | 213 | sydneyshan | Shannon Murdoch | Enigma Di | 4 |
| | 83 | mh86 | Matthias Hutterer | epiqo | 468 |
| | | 80-Klaus Purer-individual-499 | | | |
| | | 63-justinrandell- individual -746 | | | |
| | | 42-Simon Hobbs-individual-1034 | | | |
| | | 15-Wolfgang Ziegler-individual business-2694 | | | |
| Australia | | | | | |

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Figure 7: The distribution of main developers across Asia & Africa [37]

| | | | | | |
|---|---|---|---|---|---|
| Africa | | | | | |
| South-Africa | | | | | |
| | 26-adrian- Development Seed-1922-26 | | | | |
| 188 | vernond | Vernon Denny | | | 12 |
| New Zealand | | | | | |
| | 49-Dan Morrison-Sparks Interactive- | | | | |
| 85 | Bevan | Bevan Rudge | | PreviousN | 440 |
| 101 | grobot | Chris Burgess | | Giant Rob | 296 |
| 141 | New Zeal | Kent Parker | | Freelance | 154 |
| 171 | hefox | Patrick Settle | Phase2 Technology | | 50 |
| India | | | | | |
| | 74-Jacob Singh-Acquia-549 | | | | |
| 193 | 528491 | Sudhir Porwal | | Individual | 5 |
| China | | | | | |
| 183 | edxxu | Jin Xu | | INsReady | 20 |
| Israel | | | | | |
| 191 | Afief | Afief Halumi | | | 6 |
| Syrian Arab Republic | | | | | |
| 162 | good_man | Khaled Alhourani | | individual | 78 |

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[37] For a more in-depth look at the profile of developers of each module, visit http://drupal.org/project/usage

# Part3 Principle 2: The Passion of developers cannot last long without revenue and profit

**The Principle:**

The people from rich countries can continue to work on your open source project for a longer time than the people from low income countries. While free labor can help your project move ahead, it is not enough to help you achieve success. Nobody wants to provide free labor forever and even people from USA and EU will eventually need a profit motive to continue working. Your project can not rely on the people who just work for fun after their boring daytime job especially with regard to the core development projects that need the high level skills. The senior engineers take the leading roles at lots of important projects of their companies. They only have limited time and engery to work for open source projects. The students have lots free time but most of them lack of enough skills to deal with the high request core or more important parts development.

My personal experience has also proved this . To save cost, I hired several senior developers to help me realize some projects. But the truth is hiring people as part-time help will deplete your time and money quickly in most cases. The excellent engineers are always overloaded in their full-time jobs that consume most of their energy during the work day. They just want to go to bed when they return to home. They are less efficient than average and projects tend to be completed late and of poor quality.

The thesis "Why Hackers Do What They Do" points out that in F/OSS projects, paid contributors are strongly motivated by work-related users' needs (55.7 percent) and value professional status (22.8 percent) more than volunteers. On the other hand, volunteers are more likely to participate because they are trying to improve their skills (45.8 percent) or need the software for non-work purposes (37%).[38]

**What is behind the leaders?**

Let us take a more deep look if the people of rich countries really work without requesting pay.

Exhibits1:Top10 Leader and their companies[39]

[38] Why Hackers Do What They Do. By Karim R.Lakhani and Robert G.Wolf

[39] Explore each project at http://drupal.org/project/

| Top 10 Leader and their companies | | Red Personal name is WOMAN | | Company | Commits |
|---|---|---|---|---|---|
| 1 | | Dries Buytaert | Belgium | Acquia | 11246 |
| 2 | merlinofchaos | Earl Miles | United States | iO1 Labs | 5911 |
| 3 | moshe weitzman | Moshe Weitzman | United States | Acquia | 5387 |
| 4 | KarenS | Karen Stevenson | United States | Lullabot | 5231 |
| 5 | dww | Derek Wright | United States | 3281d Consulting | 4974 |
| 6 | quicksketch | Nathan Haug | United States | Lullabot | 4090 |
| 7 | sun | Daniel F. Kudwien | Germany | unleashed mind | 3648 |
| 8 | webchick | Angie Byron | Canada | Acquia | 3580 |
| 9 | Dave Reid | Dave Reid | United States | Palantir.net | 3466 |
| 10 | dereine | Daniel Wehner | Germany | Individual,Student | 3348 |

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It is very clear that only one person is not a member of a commercial organization in the top 10 leaders. They are employees of 6 companies which are Acquia , I01Labs, Lullabot ,3281d Consulting, unleashed mind and Palantir.net. All the companies are Drupal-based companies and the leaders of Drupal communities are also the leaders or founders of their own Drupal companies. Daniel Wehner is the only one who does not own a company but he is a student who has enough time for his own projects and does not have time commitments to the family.

In the next step , we will take a look the Drupal Core module maintainers.

Figure 2: Drupal Core module maintainers [40]

| Drupal Core Committer | | Red Personal name is WOMAN | | | | |
|---|---|---|---|---|---|---|
| Status | Nick Name | Name | Core commits | Country | Company | All Commits |
| | Dires | Dries Buytaert | 10361 commits | Belgium | Acquia | 11246 commits |
| | catch | Nathaniel Catchp | 171 | United Kingdom | Tag1 Consulting | 405 commits |
| | webchick | Angie Byron | 2931 | Canada | Acquia | 3580 commits |
| | Gábor Hojtsy | Gábor Hojtsy | 1608 | Hungary | Acquia | 3268 commits |
| inactive 1 year | drumm | Neil Drumm | 764 | United States | Drupal Association,CivicSpace lead developer | 2683 commits |
| | quicksketch | Nathan Haug | 3 | United States | Lullabot | 4090 commits |
| | pillarsdotnet | Bob Vincent | 2 | United States | Contract Web Prograi | 955 commits |
| Not People | Git Migration | Relic of the Age of C | 38 | United States | | 22967 commits |
| inactive 3 years | killes | Gerhard Killesreiter | 506 | Germany | Drupal IT consultant, | 2757 commits |
| inactive 4 years | Steven | Steven Wittens | 1156 | Belgium | Individual | 1556 commits |
| inactive 5 years | Kjartan | Kjartan Mannes | 383 | Norway | Individual | 1031 commits |
| inactive10 years | Jeroen | Jeroen Bensch | 101 | Belgium | Krimson drupal Archi | 101commits |

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What do you find ?

[40] Explore each project at http://drupal.org/project/

The individuals are all in the inactive status. 6 active leaders consist of 3(Dries,Webchick and Gabor Hojtsy) members of Acquia , 1 (Catch) member of Tag1 Consulting , 1 (quicksketch) member of Lullabot and pillarsotnet, the contract web programer.

Neil Drumm was not active in the core for one year and he had his own Neil Drumm Consulting corporation which works for Drupal-related consulting and projects. The other 4 individuals have not been active for over 3 years. Killesreiter left the core team 3 years ago. Steven Wittens left the core team 4 years ago. Kjartan Mannes left the core team 5 years ago. Jeroen Bensch left the core team 10 years ago. Git Migration is a service to store and maintain the code and does not count as an individual person. Steven Wittens and Jeroen Bensch come from Belgium which is the homeland of the Drupal founder, Dires. Gerhard Killesreiter comes from Germany while Kjartan Mannes comes from Norway . The above people are all European and close to Dries. All of them did not create a commercial company like Acuqia , Tag1 consulting and Lullabot. **Jeroen Bensch, Kjartan Mannes** and **Steven** Wittens all joined the community **11 years ago which was the original starting point of Drupal**. Killesreiter and Drumm joined 5 years ago. Bensch is now a Drupal developer who is working at Krimson , a Drupal company of Belgium.

The 3 members of the original four man team who worked for the Drupal core over 11 years left the team. Only the founder, Dries, remains on the team. The two other men who work for the Drupal core for over 5 years all left already. Gabor Hojtsy(4 years), webchick(3 years) and Catch(4 weeks) are still on the team, but they are considered young in the core team. In essence, all senior leaders of the Core team with the exception of Dries have already left the community.

People will leave after their passion disappears and they find they cannot make money like others.

Only the leaders are making money with Drupal.

This proves the principle again that passion can not last forever without profit return.

Exhibits3: Top 10-30 Leaders and their companies[41]

[41] Explore each project at http://drupal.org/project/

| Top 10-30 Leader and their companies | | Red Personal name is WOMAN | | Company | Commits |
|---|---|---|---|---|---|
| 11 | Gábor Hojtsy | Gábor Hojtsy | Hungary | Acquia | 3268 |
| 12 | JohnAlbin | John Albin Wilkin | United States | Palantir.net | 3041 |
| 13 | killes | Gerhard Killesreit | Germany | Tag1 Consulting | 2757 |
| 14 | arthurf | Arthur Foelsche | United States | Palantir.net | 2715 |
| 15 | fago | Wolfgang Ziegler | Austria | individual business | 2694 |
| 16 | drumm | Neil Drumm | United States | Neil Consulting, Inc. | 2683 |
| 17 | hass | Alexander Has | Germany | individual business | 2530 |
| 18 | brmassa | Bruno Massa | Brazil | Tag1 Consulting | 2398 |
| 19 | bdragon | Brandon Bergren | United States | Tag1 Consulting | 2159 |
| 20 | stella | Stella Power | Ireland | Annertech | 2155 |
| 21 | aaron | Aaron Winborn | United States | individual is dying | 2105 |
| 22 | nedjo | Nedjo Rogers | Canada | Chocolate Lily | 2056 |
| 23 | hunmonk | Chad Phillips | United States | individual | 2016 |
| 24 | drewish | andrew morton | United States | Zivtech | 1947 |
| 25 | kbahey | Khalid Baheyeldi | Canada | http://2bits.com/, pe | 1947 |
| 26 | adrian | adrian | South Africa | Development Seed | 1922 |
| 27 | alex_b | Alex Barth | United States | Development Seed | 1819 |
| 28 | yhahn | young hahn | United States | Development Seed | 1816 |
| 29 | sdboyer | Sam Boyer | United States | TransparaTech, Inc | 1624 |
| 30 | Steven | Steven Wittens | Belgium | Individual | 1556 |

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In the Top 10-30 leaders only 3 people are individuals which include Steven Wittens who was introduced in the core group, Aaron Winborn (aaron) and Chad Phillips (hunmonk). Wittens has been inactive for a long time. It is regretful that Aaron Winborn is seriously ill and is dying in his young age. He is asking for donation in his personal page. The other 17 people are full-time Drupal business men.

It shows again that almost no one works as free labor for the Drupal community.

Instead, companies like Acquia , Palantire.net , Tag1 counstulitng and Developemnt Seed are powering the Dupal community.

Then let us take a look at the people who maintain more than three modules at the same time. To maintain over three modules is never an easy thing to do and costs plenty of time and energy. The red company name indicates that the developer is a top 30 leader.

We will find that 27 people from the list represent a business while only 1 person is an individual (Winborn, who is ill) in all 28 people.

6 are from Acquia ; 3 are from Lullabot ;

4 are from Development Seed ; 3 are from Palantir.net

The others come from unleashed mind, Zivtech, iO1 Labs, Annertech MD Systems or work for their own indivudal bussiness.

It shows again that no free labor is present in the core area which takes a lot of hard work.

Figure 4: People who maintain more than three modules at the same time[42]

| Cross over 3 Module Maintainer | | Red Company name of Top 30 Leader users | | | | |
|---|---|---|---|---|---|---|
| Commit Rank | Nick Name | Name | Country | Company | Commits | Modules |
| 9 | Dave Reid | Dave Reid | United States | Palantir.net | 3466 | 10 |
| 7 | sun | Daniel F. Kudwien | Germany | unleashed mind | 3648 | 9 |
| 46 | Rob Loach | Rob Loach | Canada | Acquia | 998 | 9 |
| 6 | quicksketch | Nathan Haug | United States | Lullabot | 4090 | 8 |
| 15 | fago | Wolfgang Ziegler | Austria | individual business | 2694 | 6 |
| 24 | drewish | andrew morton | United States | Zivtech | 1947 | 6 |
| 4 | KarenS | Karen Stevenson | United States | Lullabot | 5231 | 5 |
| 5 | dww | Derek Wright | United States | 3281d Consulting | 4974 | 5 |
| 26 | adrian | adrian | South Africa | Development Seed | 1922 | 5 |
| 3 | moshe weitzman | Moshe Weitzman | United States | Acquia | 5387 | 4 |
| 8 | webchick | Angie Byron | Canada | Acquia | 3580 | 4 |
| 10 | dereine | Daniel Wehner | Germany | Individual,Student | 3348 | 4 |
| 11 | Gábor Hojtsy | Gábor Hojtsy | Hungary | Acquia | 3268 | 4 |
| 77 | febbraro | Frank Febbraro | United States | Development Seed | 530 | 4 |
| 2 | merlinofchaos | Earl Miles | United States | iO1 Labs | 5911 | 3 |
| 12 | JohnAlbin | John Albin Wilkin | United States | Palantir.net | 3041 | 3 |
| 13 | killes | Gerhard Killesreit | Germany | Tag1 Consulting | 2757 | 3 |
| 14 | arthurf | Arthur Foelsche | United States | Palantir.net | 2715 | 3 |
| 17 | hass | Alexander Has | Germany | individual business | 2530 | 3 |
| 20 | stella | Stella Power | Ireland | Annertech | 2155 | 3 |
| 21 | aaron | Aaron Winborn | United States | individual | 2105 | 3 |
| 22 | nedjo | Nedjo Rogers | Canada | Chocolate Lily | 2056 | 3 |
| 28 | yhahn | young hahn | United States | Development Seed | 1816 | 3 |
| 33 | pwolanin | Peter Wolanin | United States | Acquia | 1347 | 3 |
| 62 | eaton | Jeff Eaton | United States | Lullabot | 776 | 3 |
| 64 | jmiccolis | Jeff Miccolis | United States | Development Seed | 734 | 3 |
| 67 | Berdir | Sascha Grossenba | Switzerland | | 722 | 3 |
| 74 | JacobSingh | Jacob Singh | India | Acquia | 549 | 3 |

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[42] Explore each project at http://drupal.org/project/

# Part 4 Principle 3 the real Penguins are not the leaders but the companies created by the leaders

**The Principle: At the beginning stage, attracting more talent to join the community is the most important thing for your project. But as your project is growing, the roles and responsibilities each person has to manage are also expanding and become more complex. Management itself cost lots of money and energy, so it is hard to manage people one by one. Furthermore, just as the previous principle has shown, members cannot continually contribute to the project as free labor. The person who fights alone will find it difficult to win contracts and grow his business. It is similar to guerrilla warfare which can keep you alive, but it fails to give you full control over a region which needs large-scale war campaigns. As the general, you must organize your people well like a formal army and not as a guerrilla team. Your responsibility is not to coordinate the countless partisans but to organize the bands of brothers.**

Group Showed Companies of Top 200 Member(Top 100 Module Maintainer),Red Company name shows Top30 Leaders

| Commit Rank | Nick Name | Name | Country | Company | Commits |
|---|---|---|---|---|---|
| 1 | | Dries Buytaert | Belgium | Acquia | 11246 |
| 3 | moshe weitzr | Moshe Weitzman | United States | Acquia | 5387 |
| 8 | webchick | Angie Byron | Canada | Acquia | 3580 |
| 11 | Gábor Hojtsy | Gábor Hojtsy | Hungary | Acquia | 3268 |
| 33 | pwolanin | Peter Wolanin | United States | Acquia | 1347 |
| 36 | mikeryan | Mike Ryan | United States | Acquia | 1271 |
| 44 | greggles | Greg James Knaddisc | United States | Acquia | 1015 |
| 46 | Rob Loach | Rob Loach | Canada | Acquia | 998 |
| 54 | ezra-g | Ezra Barnett Gildesgz | United States | Acquia | 882 |
| 74 | JacobSingh | Jacob Singh | India | Acquia | 549 |
| 99 | effulgentsia | Alex Bronstein | United States | Acquia | 316 |
| | | | | | |
| 4 | KarenS | Karen Stevenson | United States | Lullabot | 5231 |
| 6 | quicksketch | Nathan Haug | United States | Lullabot | 4090 |
| 62 | eaton | Jeff Eaton | United States | Lullabot | 776 |
| 93 | add1sun | Addison Berry | Denmark | Lullabot | 385 |
| 131 | ericduran | Eric J. Duran | United States | Lullabot | 208 |
| 178 | vordude | Matt Kleve | United States | Lullabot | 31 |
| 62 | eaton | Jeff Eaton | United States | Lullabot | 776 |
| 90 | jjeff | Jeff Robbins | United States | lullabot(Co-founder) | 403 |
| | | | | | |
| 13 | killes | Gerhard Killesreiter | Germany | Tag1 Consulting | 2757 |
| 19 | bdragon | Brandon Bergren | United States | Tag1 Consulting | 2159 |
| 89 | catch | Nathaniel Catchp | United Kingdom | Tag1 Consulting | 405 |
| 18 | brmassa | Bruno Massa | Brazil | Tag1 Consulting | 2398 |
| | | | | | |
| 9 | Dave Reid | Dave Reid | United States | Palantir.net | 3466 |
| 12 | JohnAlbin | John Albin Wilkins | United States | Palantir.net | 3041 |
| 14 | arthurf | Arthur Foelsche | United States | Palantir.net | 2715 |
| 148 | becw | Rebecca White | United States | Palantir.net | 125 |

Figure 1: Top 200 members of Drupal community and their companies[43]

[43] Explore each project at http://drupal.org/project/usage

| | | | | | |
|---|---|---|---|---|---|
| 201 | tekante | Chris Johnson | United States | Phase2 | 21 |
| 77 | febbraro | Frank Febbraro | United States | Phase2 Technolog,CTO | 530 |
| 123 | tirdadc | Tirdad | United States | Phase2 Technology | 256 |
| 171 | hefox | Patrick Settle | United States | Phase2 Technology | 50 |
| 176 | tobby | Tobby Hagler | United States | Phase2 Technology | 44 |
| 216 | kking | Kevin King | United States | Phase2 Technology | 1 |
| 135 | hyrcan | Patrick Settle | United States | Phase2 Technology | 186 |
| | | | | | |
| | | | | | |
| | | | | | |
| 24 | drewish | andrew morton | United States | Zivtech | 1947 |
| 79 | tim.plunkett | Tim Plunkett | United States | Zivtech | 517 |
| 144 | Alex UA | Alex Urevick-Ackelst | United States | Zivtech | 135 |
| 155 | kleinmp | | United States | Zivtech | 99 |
| | | | | | |
| | | | | | |
| 52 | Allie Micka | Allie Micka | United States | Advantage Labs, pajunas inte | 942 |
| 106 | jerdavis | Jeremiah Davis | United States | Advantage Labs | 276 |
| | | | | | |
| | | | | | |
| | | | | | |
| 65 | bojanz | Bojan Živanović | Serbia | Commerce Guys | 728 |
| 94 | EclipseGc | Kris Vanderwater | United States | Commerce Guys | 380 |
| | | | | | |
| 67 | Berdir | Sascha Grossenbache | Switzerland | [redacted] | 722 |
| 98 | miro_dietiker | Miro Dietiker | Switzerland | [redacted] | 337 |
| | | | | | |
| 26 | adrian | adrian | South Africa | Development Seed | 1922 |
| 27 | alex_b | Alex Barth | United States | Development Seed | 1819 |
| 28 | yhahn | young hahn | United States | Development Seed | 1816 |
| 64 | jmiccolis | Jeff Miccolis | United States | Development Seed | 734 |

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From the above data we find that the top leaders have already formed the bonds of brotherhood and are active as a group. This reflects how highly committed members tend to bond together.

The under are the lists which shows the structures of the bonds.

| | | |
|---|---|---|
| 1 | Acquia | 4 Top 30-leaders & 10 leaders are active in Top 100 modules |
| 2 | Lullabot | 2 Top 30- leaders & 8 leaders are active in Top 100 modules |
| 3 | Palantir.net | 3 Top 30-leaders & 4 leaders are active in Top 100 modules |
| 4 | Development Seed | 3 Top 30-leaders & 4 leaders are active in Top 100 modules |
| 5 | Tag1 Consulting | 3 Top 30-leaders & 4 leaders are active in Top 100 modules |
| 6 | Zivtech | 1 Top 30-leaders & 4 leaders are active in Top 100 modules |

7 Advantage Labs 1 Top 30-leaders & 2 leaders are active in Top 100 modules
8 Phase2 Technology 7 leaders are active in Top 100 modules
9 Commerce Guys 2 leaders are active in Top 100 modules
10 MD Systems 2 leaders are active in Top 100 modules

7 of the 10 companies have leaders who are in the Top 30 leaders of Drupal community. They form the core among the different bands of brothers. While phase2 Technology has no representation in the Top 30 leaders of Drupal community, they have 7 members who are active in the Top 100 modules and its CTO Febbraro is ranked as 77th in the community. Both Commerce Guys and MD Systems have 2 leaders who are in Top 100 leaders. This means 10 companies who have over 2 Top 200 leaders are active in the Top 100 most important modules. The 10 companies all together have 47 members of Top 200 leaders (25%). They have formed the groups and work together like bands.

The research on open source software also show that the leaders of open source systems contribute the most to these projects.

From an analysis of 25 million lines of open source code, constituting 3149 projects, the distribution of contributions is as follows: three-quarters of the nearly 13,000 contributors made only one contribution; only one in twenty-five had more than five contributions. Yet the top decile of contributors accounted for fully 72 percent of the code contributed to the open source projects, and the top 2 deciles for 81 percent. The distribution would be even more skewed if one accounts for those who simply reported errors.

For Apache, the "developers' mailing list" is considered as the key list of problems to be solved, while other lists play a less significant role. The top 15 developers contribute 83 percent to 91 percent of changes (problem reports by way of contrast offer a much less elitist pattern)[44].

Let us also take a look at the distribution among the Top 30 leaders.

Figure 2: The distribution of The Top 30 leaders[45]

| | Top 10 | Top10-30 | SUM |
|---|---|---|---|
| Acquia | 3 | 1 | 4 |
| iO1 Labs | 1 | 0 | 1 |
| Lullabot | 2 | 0 | 2 |
| 3281d Consulting | 1 | 0 | 1 |
| unleashed mind | 1 | 0 | 1 |

[44] Economic Perspectives on Open Source by Josh Lerner and Jean Tirole

[45] Explore each project at http://drupal.org/project/usage

| | | | |
|---|---|---|---|
| Palantir.net | 1 | 2 | 3 |
| Tag1 Consulting | 0 | 3 | 3 |
| Annertech | 0 | 1 | 1 |
| Chocolate Lily | 0 | 1 | 1 |
| Zivtech | 0 | 1 | 1 |
| http://2bits.com/ | 0 | 1 | 1 |
| Development Seed | 0 | 3 | 3 |
| TransparaTech, Inc | 0 | 1 | 1 |
| Neil Consulting | 0 | 1 | 1 |
| Individual Business | 0 | 2 | 2 |
| Individual | 0 | 4 | 4 |

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Acquia, Lullabot, Palantire.net, Tag1 Consulting and Development Seed each have over 2 Top 30 leaders. Altogether, they are represented by 15 people among the Top 30 Leaders.

The 9 companies: iO1 Labs,3821d Consulting, unlashed mind, Annertech, Chocolate Lily ,Zivtech,2bits,TransparaTech and Neil, each is led by one Top 30 leader.

This leaves 2 leaders who operate their individual Drupal business and the other 4 Drupal specialists work for others.

Based on the above data, we find that 24 leaders are in the formal bands of brothers (Drupal-branded companies). Only 6 leaders are not in a Drupal-branded company or work as salaried men. 80% of the top 30 leaders are active in a business organization. Few work alone.

Figure 3: Maintainers who cross over 3 Modules[46]

| Company | Member Number |
|---|---|
| Palantir.net | 3 |
| unleashed mind | 1 |
| Acquia | 6 |
| Lullabot | 3 |
| Zivtech | 1 |
| 3281d Consulting | 1 |
| Development Seed | 4 |
| iO1 Labs | 1 |
| Tag1 Consulting | 1 |
| Annertech | 1 |
| Chocolate Lily | 1 |
| MD Systems | 1 |
| Individual business | 2 |

[46] Explore each project at http://drupal.org/project/usage

| | |
|---|---|
| Individual | 1 |

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This shows that only 3 of the 28 persons listed work as individuals. Two of the three are individual businesses and Aaron Winnborn is the only individual not represented by a business and has health trouble. The other 25 persons all belong to companies. It is rare for one to work alone.

From the above lists we can find that the leading companies form the real Penguin Group.

Figure 4: The Real Penguin Group[47]

| | | |
|---|---|---|
| Acquia | Lullabot | Palantir.net |
| Development Seed | iO1 Labs | 3281d Consulting |
| Annertech | MD Systems | Zivtech |
| TransparaTech, Inc | Advantage Labs | Commerce Guys |
| Phase2 Technology | Tag1 Consulting | unleashed mind |

[47] Explore each project at http://drupal.org/project/usage

| | | |
|---|---|---|
| | | |
| http://2bits.com/ | | |

Based in Burlington, Massachusetts, Acquia was founded in 2007 and raised 7 million in its first round of fundraising. It has over 700 enterprise level customers and its hosting service handles over 2.5 billion HTTP requests per month. It has now already raised $38.5 million in four rounds of fundraising. The Enterprise level customer is the main target of Acuqia and its primary business. Its secondary business is a hosting service for small and middle level customers. From Acquia's blog and talks by its CTO it is apparent that the hosting service is aimed at building Acquia's reputation and attracting interest in its services and products while the Enterprise level customer is the more important focus of Acquia's business. He pointed out the Acuqia will have a better future than Joomla because Joomla has fewer Enterprise level customers and that the Drupal system has the advantage of being very flexible and easily extendable. [48]In my opinion, the flexibility of the Drupal system is based on the raw status of the core package which requires multiple steps before a finished product is achieved. One would be inclined to feel that Drupal's core package provides only the raw materials that require much more work than the Joomla system which may not be as flexible but does not require as many steps to achieve an end-product. To use an analogy, using Drupal is more like buying ingredients from the grocery store while using Joomla is more like buying take-out from a restaurant.

## The introductions of leading Drupal companies:

Lullabot [49]provides Drupal consultation and training services to customers. In contrast to the free training of Acuqia , Lullabot charges fees for its Drupal training and education programs. The training arm of Lullabot is part of its core business. Its online videos on podcast which train people to use the Drupal system are very successful. Building sites for enterprise level companies is also part of its core business. Lullabot's customers include the GRAMMYs, MTV UK, Sony Music, Lifetime Television, The George Lucas Educational Foundation, Leo Laporte's TWiT network, Ringo Starr (link from archive.org), and many others. Lullabot is located in Des Moines, Idaho.

[48] http://buytaert.net/joomla-vs-drupal-business-models-and-commercial-ecosystem
[49] http://drupal.org/services/lullabot

Palantir.net[50] is a Chicago-based firm which provides service for colleges, universities, museums, non-profit and professional organizations, design agencies and corporations all enterprise level customers. Palantir.net is an **Acquia Enterprise Select Partner**.

Development Seed [51]is a company which provides the integrated collaboration of the product and platform based on the Drupal system. Open Atrium is its product. The company is leading in the development of many important modules including Features, Context, Spaces, Aegir, Kit, Data, i18n, Boxes, Strongarm, Mail Handler, the Notifications and Messaging frameworks, and the SMS Framework. They also provide services for lots of large-scale organizations as technology consultants to help these organizations deal with the high demandedcommunication challenges. The organization include the World Bank, the United Nations, USAID, Human Rights Watch, the New America Foundation, and the National Democratic Institute . It locates at Washington, DC .

iO1 Labs[52] is a UK and EU-based Drupal consultancy. It supports the important View, Panels, Ctools modules and numerous other smaller projects. It was founded as a software development company in 2004.

3281d consulting supplies the full-package of solutions to users. It gives users an all-in-one install solution to cover most important modules. You do not need to search and explore the modules and install them one by one. It greatly lowers the barriers to getting a new Drupal site up and running. They have many years of experience developing and deploying issue tracking and project management systems, automated build and test infrastructures, and integrating them with numerous revision control systems.

Annertech[53] is an Ireland-based Drupal consultancy. It is found by Stella Power in 2008. Power is the maintainer of some important modules like Code Review and Lightbox2. Another important partner in the company is Alan Burke who is especially skilled with the Ubercart Realex Modules. He joined the company in 2010. They help small businesses and large enterprises to build Drupal-based websites.

MD Systems[54] is a Swiss Drupal-based company. Its business focus is limited to the geographical boundaries of Switzerland.

Zivtech[55] is also a company which focuses on Drupal-based technology solutions and Drupal-related training. It helps customers by providing services which include site architecture, building, theming, deployment, migrations, and updates. They also supply high-level module development services for

[50] http://drupal.org/node/186870
[51] http://drupal.org/node/61531
[52] http://drupal.org/node/1156692
[53] http://drupal.org/node/1170976
[54] http://www.md-systems.ch/
[55] http://drupal.org/node/286955

customers. Their training programs cover all levels from newbies to those in the professional level. Its base is located in Philadelphia, Pennsylvania.

TransparaTech, Inc[56] was founded by a Drupal specialist who is based mainly in San Diego and New York. The company was founded to meet the needs of **larger project owner and enterprise clients.**

Advantage Labs[57] focuses on providing technology solutions for Drupal-based sites and Drupal training. Their base is in Minneapolis, Minnesota.

Commerce Guys[58] focuses on e-commercial solutions for Drupal-based sites. Their bases are located in Jackson, Mississippi and Paris, France. There are 7628 live sites which use Commercial Guys' product Drupal commercials to power their Drupal site.

*Phase2 Technology*[59] *mainly provides technology for publishing, public policy and non-profit clients using* open source technology including Java and the Drupal social publishing platform. Its specialists are good at content management systems, open data integration, community applications, CRM, API integration and custom application development. The company is based in Alexandria, Virginia and **is an Enterprise Select Partner of Acquia.**

Tag1[60] Consulting focuses on scalability solutions for Drupal sites. Its members span 5 time zones. They also provide Drupal-related consulting and they contribute to the Drupal core and other modules. They also participate in the development of Presslfow, a high performance Drupal Distribution module.

Unleashed mind[61] is a German company.

2bits.com, Inc[62] is a privately owned Canadian federal corporation based in Waterloo, Ontario, Canada. The clients range from single person websites to Fortune 500 companies. Its clients come from all over the world including the Middle East and Asia.

Now Acquia is using the "Acquia Enterprise Select Partner" status to attract more companies to join its group. The Partner status is an alliance aimed to help other smaller, Drupal-based companies to accept more large projects which these individual companies cannot manage with their own resources. In truth, it is more like these smaller companies approach Acuqia to provide them with some technology and strategy support when their own resources are too limited for the larger projects that they accept. Of course, profits are shared between these small companies and Acquia. We can consider this as the second generation penguin group. It can be observed that just as power of Dries is growing with the other leaders, his company also is growing with the companies of those leaders.

As long as the benefits exceed the costs, the programmer is expected to contribute and firms make a rational decision to hire programmers to contribute to open source projects. [63]

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[56] http://transparatech.com/
[57] http://www.advantagelabs.com/
[58] http://commerceguys.com/
[59] http://www.phase2technology.com/
[60] http://tag1consulting.com/
[61] http://www.unleashedmind.com/
[62] http://2bits.com/

# Part 5

Principle 5: The commercial modules will not be in conflict with the non-commercial modules or corrupt the eco-system of open source communities

**Dries, the founder of Drupal criticized his competitor Joomla that the commercial modules of the Joomla community will hinder the future of Joomla.[64] While Dries is proud of his over ten thousand modules, my intuition tells me that the "free" modules hint at a form of socialism – a danger for Drupal. Is it true that the commercial modules will prevent the future growth of Joomla? This research will show that the commercial modules are not conflicting with the non-commercial modules or corrupt the eco-system of Open source communities. Further, the commercial modules are a great supplement to the community which only has non-commercial modules because they bring together two different types of developers who have different views and focus.**

## Section 5-1: Introduction for Joomla! Living by Free and Growing by License

Joomla is the other open source giant of CMS area.

Joomla Extension is anything that extends Joomla's functionality beyond the core. It operates on the same concept of modules, as does Drupal. Basically, they divided the extension to several types which are Components, Modules and plugins.

### Components*

Components are the most fundamental of Joomla extensions. Output created by a component is displayed in the main content area. Whenever "Joomla! "is invoked, a component is always called upon.

### Modules*

Modules are used to display small pieces of content, usually to the left, right, top or bottom of a rendered page. For example the menu modules are one of most popular modules.

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[63] Why Hackers Do What They Do by Karim R.Lakhani and Robert G.Wolf

[64] http://buytaert.net/joomla-vs-drupal-business-models-and-commercial-ecosystem

**Plugins***

Most plugins are event driven. Plugins can attach listener functions and classed to specific events on the "Joomla!" that can throw using the global event dispatcher, for example, content filtering based on an event.

Here, we find that all the different types of extensions of Joomla are uniformly called Modules in Drupal. This however, is not the key difference between Joomla and Drupal.

## Section 5-2 the Modules

It was only recently that many engineers and specialists have a strong impression that Joomla is stronger that Drupal at the theming, while Drupal is stronger at the Modules than Joomla. However, things have changed quickly since and now Joomla has 8764 extensions in its community while Drupal has 13852 modules indicated on their front page. Actually with research, Joomla's number of extensions is 7016 compared to Drupal's 8926 modules based on the Drupal CVS. Joomla is fast catching up with Drupal.

What is driving the growth of Joomla so quickly? Let us take a look the data of the top rated and most favored extensions.

Figure 1: Highest rated and most popular 134 Extensions[65]

| Most rated and Popular 134 Extensions | | |
|---|---|---|
| commercial | 25 | 18.66% |
| pro version | 12 | 8.96% |
| support | 3 | 2.24% |
| site builder | 3 | 2.24% |
| sell book | 1 | 0.75% |
| Donate | 32 | 23.88% |
| Free | 58 | 43.28% |
| | **134** | |

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I explored the 134 highest rated and most popular modules and their developers' websites.[66]

Basically the modules consist of 7 categories:

[65] http://extensions.joomla.org/
[66] http://extensions.joomla.org/

1 commercial modules. The developers sell the modules as business software and gain the profit

2 the free version accompanied with the professional version which is similar to the commercial modules.

The professional version modules always have more functions, no advertisements and more beautiful themes than the free version. You can try the free version first and upgrade to the Professional version when the need arises.

3 support license. For the average person and small website owner, it is difficult to install and configure the Joomla modules because most of them are businessmen and have little experience in dealing with web design. Therefore, some developers sell support services to help their clients install and configure their modules, but the module itself remains free.

4 Developers lease their modules as advertisements to showcase their strong engineering skills to customers and attract clients to hire them to build websites.

5 Developers sell books that teach site owners how to build and use their own Joomla websites.

6 Developers appeal to users to donate to their project on their websites and download pages.

7 Free with no requests for donations.

We can divide the 7 types into 3 groups based on their inclination for profit.

1 These are professional developers who rely on developing commercial modules as a career. They are made up of developers of commercial modules and Pro version modules, site builders and educators. 32.84% (44 of 134) of the modules belong to this group.

2 These developers are facing financial constraints and need users to support their projects. The developers who are appealing for donations make up this group. 23.88% (32 of 134) of the modules belong to this group.

3 These are experienced and senior engineers who y have jobs and spend their leisure time by making modules that are totally free. 43.28% (58 of 134) of the modules belong to this group.

It is clear that over half of the top developers will face financial constraints or have less incentive to contribute to Joomla if they do not receive any financial support from users. A senior module developer of Drupal community told me that he spent much time and energy to build modules and did not charge any fees for them. However, he now feels used by the commercial Drupal-based companies who are making huge profits from large contracts with

clients while most module developers get nothing. This is not a rare example among the committed module developers of Drupal.

Yes Drupal-based companies are growing quickly based on the reputation of Drupal modules while most of the module builders get nothing. It is clearly unfair.

We can imagine what will happen to Joomla if the 33% or 57% top contributors left Joomla or stop contributing to Joomla.

The free Joomla core and the variety of modules help to sustain Joomla, but the commercial modules and Pro version modules help Joomla expand quickly and attract more engineers to join the community.

Let us take an in-depth look at the modules.

## Section 5.3 The distribution of whole modules shows the end user orientation

The module developers help Joomla to stay on the cutting edge of website development and user-centered orientation

Figure 2: The statistics for each extension category[67]

| | | number | |
|---|---|---|---|
| 1 | **Social Web** | 922 | 13.14% |
| 2 | **Photos & Images** | 639 | 9.11% |
| 3 | **News Display** | 511 | 7.28% |
| 4 | **Site Management** | 406 | 5.79% |
| 5 | **Maps & Weather** | 360 | 5.13% |
| 6 | **Style & Design** | 310 | 4.42% |
| 7 | **Access & Security** | 307 | 4.38% |
| 8 | **Structure & Navigation** | 298 | 4.25% |
| 9 | **Multimedia** | 231 | 3.29% |
| 10 | **Ads & Affiliates** | 229 | 3.26% |
| 11 | **Contacts & Feedback** | 228 | 3.25% |

[67] http://extensions.joomla.org/

| | | | |
|---|---|---|---|
| 12 | **e-Commerce** | 214 | 3.05% |
| 13 | **Core Enhancements** | 186 | 2.65% |
| 14 | **Living** | 181 | 2.58% |
| 15 | **Communication** | 173 | 2.47% |
| 16 | **Directory & Documentation** | 169 | 2.41% |
| 17 | **Search & Indexing** | 164 | 2.34% |
| 18 | **Calendars & Events** | 145 | 2.07% |
| 19 | **Clients & Communities** | 141 | 2.01% |
| 20 | **Sports & Games** | 132 | 1.88% |
| 21 | **Editing** | 130 | 1.85% |
| 22 | **Administration** | 126 | 1.80% |
| 23 | **Financial** | 124 | 1.77% |
| 24 | **Languages** | 124 | 1.77% |
| 25 | **Content Sharing** | 120 | 1.71% |
| 26 | **Tools** | 98 | 1.40% |
| 27 | **Vertical Markets** | 96 | 1.37% |
| 28 | **News Production** | 86 | 1.23% |
| 29 | **Miscellaneous** | 63 | 0.90% |
| 30 | **Mobile** | 46 | 0.66% |
| 31 | **Migration & Conversion** | 33 | 0.47% |
| 32 | **Hosting & Servers** | 24 | 0.34% |

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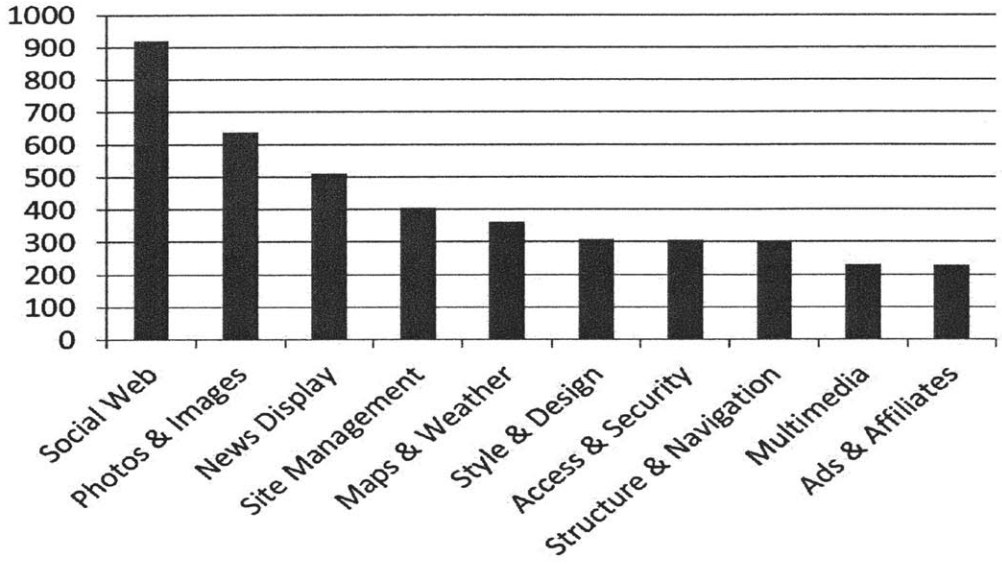
Figure 3: The statistics for each extension category[68]

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The Social Web category (922 modules) is ranked first. It shows that the direction of the development of **modules for Joomla** is very **sensitive to new movements and trends of the Internet**. These days, social networking sites like Facebook and Zynga are two of the most popular websites and demonstrate why this new area of web development is called web2.0.

Thus, it is clear to see that the module developers help Joomla stay on top of current trends of the Internet world.

Photos & Images (639 modules) is the second most in-demand group. Images can convey information directly and quickly to people. Images need no translation and have no language barriers and are perceived by the human brain effortlessly.

News Display (511 modules) is ranked third, right behind the category Photos & Images.

Site management (406 modules) is always important, so no people will doubt it is in the top 5.

With the exception of the Social Web group, it is hard to accept that the Maps & Weather category (360 modules) ranks among the top five. After some consideration, one comes to the conclusion that many people rely on the Internet to check the address of an event or community meeting and make their plans based on the given map directions.

Thus, we can deduce the **behavioral pattern of end-users** from the Top 5 module list.

[68] Collect and count Raw data from http://extensions.joomla.org/

End users get information from Photos&Images (Category 2) and News (Category 3) modules which are posted or shared by Social Web (Category 1) modules and head to their meeting destinations after checking information from Maps &Weather (Category 5).

Yes it is exactly what we do in every day. It shows again that the **module developers are sensitive to the needs of end users and help Joomla remain at the forefront of Internet trends.**

**Here, I will divide the modules to three different orientations. It will help us to understand why commercial modules will not be in conflict with non-commercial modules.**

The end users orientation refers to the modules that are developed for the end users who are surfing the website i.e. the customers of the site owner.

Site owner and administrator orientation refers to the modules that are developed for the site owners. The modules will help site owners to maintain operate the sites.

Profit Orientation refers to the modules that will help site owners run a for-profit business.

From the above criteria, we can categorize the module groups in the following manner:

End users orientation:

**1** Social Web (922), **2** Photos & Images (639), **3** News Display (511), **5** Maps & Weather (360),

**9** Multimedia (231)

Site owner and administrator orientation:

**4** Site Management (406), **6** Style & Design (310), **7** Access & Security (307), **8** Structure & Navigation (298)

Profit Orientation: **10** Ads & Affiliates (229)

User-centered orientation development shows great potential for growth and module developers have enabled Joomla to catch this wave.

## Section 5.4 The distribution of The active Modules - the site owners' attitude

The **triangular relationship** of **end users, module developers and site owners** is the key to help the Joomla community to grow. In the previous section, we conclude that module developers are trying to determine the needs of end users and stay abreast of the latest Internet trends. The data also shows that the developers have an end user centered orientation. But one key player that has yet to be discussed is the role of site owners.

So what is the site owners' attitude toward the modules that have been developed by the module developers? We can use the data activity to measure the attitude of site owners. The activity is measured by the number ratings and reviews of modules. If only a few site owners rate and review (normally less than 5 people to rate) the module, then no star will be indicated on the module page and connotes that the module is not popular and not widely accepted by site owners. Based on the data I collected, there are 2448 starred modules among 7016 modules. If we take a look at the same data from Drupal, we can find that only 182 site owners have installed 2500 of 8926 Drupal modules. We can count the modules which have been installed fewer than 180 times as unpopular modules. Using this data activity that is based on the ratings and reviews of site owners can be an important parameter to measure the site owners' attitudes toward the different modules.

Figure 4 :
The statistics for the ratio of active versus active and inactive modules in each extension category[69]

| Rank | Module Name | Active M | Active/(active+inactive) |
|---|---|---|---|
| 1 | Social Web | 259 | 28.09% |
| 2 | Photos & Images | 206 | 32.24% |
| 3 | News Display | 204 | 39.92% |
| 4 | Site Management | 153 | 37.68% |
| 7 | *Access & Security* | *143* | *46.58%* |
| 6 | **Style & Design** | 125 | 40.32% |
| 8 | **Structure & Navigation** | 121 | 40.60% |
| 11 | **Contacts & Feedback** | 98 | 42.98% |
| 13 | **Core Enhancements** | 87 | 46.77% |
| 16 | *Directory & Documentation* | *78* | *46.15%* |
| 12 | **e-Commerce** | 76 | 35.51% |
| 9 | **Multimedia** | 74 | 32.03% |
| 10 | **Ads & Affiliates** | 74 | 32.31% |
| 18 | **Calendars & Events** | 66 | 45.52% |

[69] Collect and count Raw data from http://extensions.joomla.org/

| | | | |
|---|---|---|---|
| 15 | **Communication** | 64 | 36.99% |
| 19 | **Clients & Communities** | 60 | 42.55% |
| 14 | **Living** | 59 | 32.60% |
| 5 | **Maps & Weather** | 52 | 14.44% |

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End users orientation:

**1** Social Web (259/922), **2** Photos & Images (206/639), **3** News Display (204/511) ,

**18** Maps & Weather (52/360) ↓5, 12 Multimedia (231) ↓9

- The ↓ green arrow shows the rank of the module group fall as compared to its rank at the whole distribution in section 5-3. The 5 show its rank at the whole distribution is 5.

Site owner and administrator orientation:

**4** Site Management (153/406), **5** Access & Security (143/307) ↑ 7, **6** Style & Design (125/310) , **7** Structure & Navigation (298) ↑ 8 , **8** Contacts & Feedback (98/228) ↑ 11

**9** Core Enhancements (87/186) ↑ 13, **10** Directory & Documentation (78/169) ↑ 16

* The ↑8 red arrow shows the rank of the module group rise compared to its rank at the whole distribution section 5-3. The 8 show its rank at the whole distribution is 8.

Profit Orientation: **13** Ads & Affiliates (74/229) ↓10, **11** e-Commerce (76/214) ↑ 12

The data shows that the site owners show strong interest in the modules which help them to configure and administrate their sites. **5** module groups of **site owner and administrator orientation received a higher rank**. Core Enhancements (87/186), Contacts & Feedback (98/228) and Directory & Documentation (78/169) are new groups in the Top 10.

Two **end users orientation module groups** are out of the top 10 but the top three remains unchanged.

In profit orientation group, Ads & Affiliates (74/229) fall from 10 to 13, but e-Commerce (76/214) is up from 12 to 11.

Here we conclude that site owners basically have the same attitude as module developers with regard to the end users orientation modules. That is why the top 3 modules remain in unchanged positions. However, it is a clear that many site owners do not care much for **18** Maps & Weather (52/360) ↓5.

Site owners also are concerned with the maintenance of their websites so 4 of the 5 top 10 Site owner and administrator orientation modules groups are still in Top 10 and 2 of the 4 modules group get more weight. The other 3 [8 Contacts & Feedback (98/228) ↑ 11, 9 Core Enhancements (87/186) ↑ 13, 10 Directory & Documentation (78/169) ↑ 16] are new in Top 10.

It shows again that the modules based system is sensitive to the end users' needs. Compared to the module developers, site owners have a rather similar instinct about what is needed by end users but the instinct is somewhat diluted than that of module developers.

## Section 5.5 The distribution of The commercial active Modules

In this section we will explore the commercial active modules -the wildly popular commercial modules.

Convention of the next table: **Activity** shows the rank of the group at Section 5.4 The distribution of The active Modules ----the site owners' attitude . **The commercial Active M** shows the rank of the group comparing with other groups by only counting commercial Active modules. **Commercial Active M Number** shows the number of commercial active modules in this group. **All active M** shows the number of all active modules of the group. The Ratio means Commercial Active M number/ All ActiveM

4↑ shows the group is ranked as No. 4 at the commercial Active module rank compared to the group rank as the whole number of Activity modules which include the Active commercial and non-commercial modules, its rank has increased by four positions.

The whole table shows the rank which is based on the number of Commercial Active Module Number.

What do we find in this table? We find that the E-commerce group has jumped from its rank from 11 to 4. Vertical Markets group also jumped its rank from 22 to 8. **The 2 groups have a strong focus on the commercial aspect which shows that the commercial module developers have a strong profit orientation.** The Communication group also jumped six ranks from 15 to 9. The communication group requires advanced programming skills. It shows that the commercial module developers are willing to take on the more challenging areas of web computing.

**The top 3 positions did not change much but profit orientation groups have more weight at the commercial active modules than the whole active modules.**

Figure 5:

The statistics for ratio of commercial active to all active modules in each extension category[70]

| Activity | Commercial Active M | Group name | Commercial Active M Number | All ActiveM | Ratio |
|---|---|---|---|---|---|
| 2 | 1 | **Photos & Images** | 54 | 206 | 26.21% |
| 1 | 2 | **Social Web** | 42 | 259 | 16.22% |
| 3 | 3 | **News Display** | 42 | 204 | 20.59% |
| **11** | 4↑ | e-Commerce | 39 | 76 | 51.32% |
| 7 | 5↑ | Structure & Navigation | 35 | 121 | 28.93% |
| 5 | 6 | Access & Security | 31 | 143 | 21.68% |
| 8 | 7 | *Contacts & Feedback* | 31 | 98 | 31.63% |
| **22** | 8↑ | Vertical Markets | 30 | 48 | 62.50% |
| 15 | 9↑ | **Communication** | 24 | 64 | 37.50% |
| 10 | 10 | *Directory & Documentation* | 24 | 78 | 30.77% |
| 14 | 11 | **Calendars & Events** | 21 | 66 | 31.82% |
| 12 | 12 | **Multimedia** | 19 | 74 | 25.68% |
| 13 | 13 | Ads & Affiliates | 19 | 74 | 25.68% |
| 4 | 14 | *Site Management* | 18 | 153 | 11.76% |
| 6 | 15 | *Style & Design* | 16 | 125 | 12.80% |
| **16** | **16** | **Clients & Communities** | 16 | 60 | 26.67% |
| **19** | **17** | **Content Sharing** | 16 | 51 | 31.37% |
| **18** | **18** | **Maps & Weather** | 15 | 52 | 28.85% |
| **23** | **19** | **News Production** | 15 | 48 | 31.25% |
| 9 | **20** | **Core Enhancements** | 12 | 87 | 13.79% |
| **24** | **21** | **Search & Indexing** | 11 | 41 | 26.83% |
| **27** | **22** | **Sports & Games** | 8 | 29 | 27.59% |
| **28** | **23** | **Financial** | 8 | 19 | 42.11% |

[70] Collect and count Raw data from http://extensions.joomla.org/

| | | | | | |
|---|---|---|---|---|---|
| 17 | 24 | **Living** | 7 | 59 | 11.86% |
| 26 | 25 | **Tools** | 4 | 31 | 12.90% |
| 29 | 26 | **Migration & Conversion** | 4 | 16 | 25.00% |
| 20 | 27 | **Editing** | 3 | 49 | 6.12% |
| 25 | 28 | **Administration** | 3 | 34 | 8.82% |
| 32 | 29 | **Miscellaneous** | 1 | 10 | 10.00% |
| 30 | 30 | **Mobile** | 1 | 13 | 7.69% |
| 31 | 31 | **Hosting & Servers** | 0 | 11 | 0.00% |
| 21 | 32 | **Languages** | 0 | 49 | 0.00% |

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The table below shows ranks based on "Commercial Active Modules /All Active Modules ratio."

It only shows the groups whose Commercial Active Modules /All Active Modules are bigger than the 25% List (18 of 32 groups are over 25%).

It shows that Vertical markets, E-commerce and Financial groups are the top 3 when we count the commercial active modules ratio to the all active modules.

It is also reflected that the commercial module developer focuses on the profit orientation area. The communication is ranked 4$^{th,}$ as reflected in the previous discussion of the last table regarding the challenging areas that demand highly skilled module developers

Figure 6: The statistics of the ratio of active commercial active to all active modules in each extension category[71]

| | **Module Group** | Commercial Active M | Non-Commercial Active M | C/All Active M |
|---|---|---|---|---|
| **1** | **Vertical Markets** | 30 | 18 | 62.50% |
| **2** | **e-Commerce** | 39 | 37 | 51.32% |
| **3** | **Financial** | 8 | 11 | 42.11% |
| **4** | **Communication** | 24 | 40 | 37.50% |
| **5** | **Calendars & Events** | 21 | 45 | 31.82% |

[71] Collect and count Raw data from http://extensions.joomla.org/

| | | | | |
|---|---|---|---|---|
| 6 | **Contacts & Feedback** | 31 | 67 | 31.63% |
| 7 | **Content Sharing** | 16 | 35 | 31.37% |
| 8 | **News Production** | 15 | 33 | 31.25% |
| 9 | **Directory & Documentation** | 24 | 54 | 30.77% |
| 10 | **Structure & Navigation** | 35 | 86 | 28.93% |
| 11 | **Maps & Weather** | 15 | 37 | 28.85% |
| 12 | **Sports & Games** | 8 | 21 | 27.59% |
| 13 | **Search & Indexing** | 11 | 30 | 26.83% |
| 14 | **Clients & Communities** | 16 | 44 | 26.67% |
| 15 | **Photos & Images** | 54 | 152 | 26.21% |
| 16 | **Multimedia** | 19 | 55 | 25.68% |
| 17 | **Ads & Affiliates** | 19 | 55 | 25.68% |
| 18 | **Migration & Conversion** | 4 | 12 | 25.00% |

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The above data shows that the commercial module developers also follow the trend of meeting end user needs. At the same time, compared to the non-commercial module developers they are focused on the areas which help site owners to make profit or business sites.

## Section 5.6 The distribution of The Popular commercial active Modules

**The modules which are marked as popular at the Joomla community are most accepted and rated modules among the whole modules.**

**Most Popular Commercial Modules / All Most Popular Modules indicate the leading category of commercial modules.**

Figure 7: The statistics of the ratio of commercial-popular to all popular modules in each extension category[72]

| | Commercial -popular | Non commercial -popular | all popular | C/All Popular |
|---|---|---|---|---|
| Style & Design | 2 | 1 | 3 | 66.67% |
| Vertical Markets | 3 | 3 | 6 | 50.00% |
| Calendars & Events | 4 | 6 | 10 | 40.00% |
| Access & Security | 3 | 8 | 11 | 27.27% |
| Contacts & Feedback | 6 | 16 | 22 | 27.27% |
| Core Enhancements | 1 | 3 | 4 | 25.00% |
| Social Web | 4 | 17 | 21 | 19.05% |
| e-Commerce | 1 | 5 | 6 | 16.67% |
| Directory & Documentation | 1 | 5 | 6 | 16.67% |
| Site Management | 1 | 5 | 6 | 16.67% |
| Communication | 1 | 6 | 7 | 14.29% |
| News Production | 1 | 7 | 8 | 12.50% |
| Structure & Navigation | 1 | 11 | 12 | 8.33% |
| Photos & Images | 4 | 54 | 58 | 6.90% |

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The popular module distribution data shows that the commercial module developers can get positions in the areas which require advanced skills, security-related aspects and business orientation. The business websites are always willing to pay money to make their sites user friendly (Style & Design, Calendars & Events, Contacts & Feedback), profitable (Vertical Markets), secure (Access & Security) and stable (Core Enhancements).

From "Commercial Active Modules /All Active Modules > 25% List " we know that 18 of 32 groups are over 25% and commercial module developers are focused on the highly skilled, security and business orientation aspects while non-commercial module developers do not have such a strong focus. Thus, commercial module developers do contribute high quality code and are an important supplement in the business area. Their significance and influence cannot be neglected while the non-commercial modules can still take position in each area. The Commercial Modules have not blocked the path of the development of Non-commercial modules.

The specific function rank of module group is in my edited Excel file and provides an in-depth loo

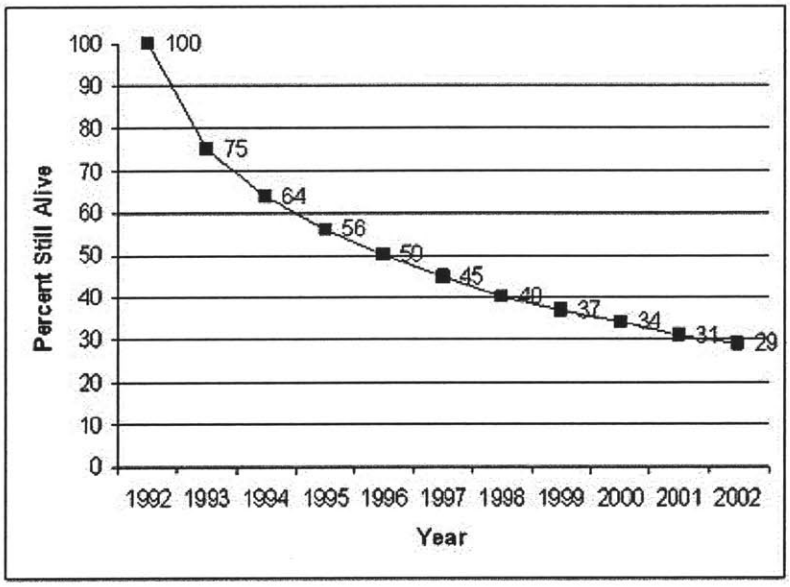
[72] Collect and count Raw data from http://extensions.joomla.org/

# Conclusion

1 Gather the penguins in Rich Countries

Almost half of all start-up companies cannot survive for more than 3 years.

Figure 1: The survival rate of start-ups [73]




There is a high incidence of mortality at the beginning of a company or even a human life. As a start-up you have very limited resources. The longer your money can last, the higher the possibility that your start-up will survive. Therefore, the best strategy to save money and manpower is to market your project as an open source project and invite more people who share the same interest as you and have the necessary skills to join. Some low-income countries have plenty of engineers that are not well-paid. It may seem attractive, but it is not advisable to use the above strategy unless you want to hire engineers from these countries as full time employees and pay them a slightly higher-than-local pay that does not put a huge financial burden on you.

Almost no one will work without pay when they are facing financial hardships. Hiring part-timers will deplete your time and money resources quickly in most cases. I speak from personal experience and found that the excellent engineers I hired were always overloaded in their full time job which consumed

[73] Page99, Illusions of Entrepreneurship: The Costly Myths that Entrepreneurs, Investors, and Policy Makers Live by Scott Shane. January 28, 2008

most of their energy in the working day. They just wanted to go to bed when they returned to home. They were less efficient and the quality of their work for my project tended to deteriorate.

Dries and Drupal are good examples for us. You can start your project anywhere in the world, but you need to attract the collaborators from the rich countries where there is high income and a good education system. After establishing your company and a network of powerful partners, you can move to a place where you can gather them and amass your resources. Dries moved from EU to United States and had a reunion with his old USA buddies in Boston[74] after he raised enough funds and became famous.

2 The passion of developers cannot last long without revenue and profit (Section: Drupal People). The Penguins must make profit in the low end (Joomla Commercial Module) or high end (Drupal Enterprise level Customers) market. The profit will not be distributed well to whole communities if the community forbids the commercialization of modules and try to maintain the illusion that open source software is free.

In my view Both Drupal and Joomla have become matured communities. The Drupal community has formed a powerful group of companies run by the active module committers. In this situation, the newbie is at a distinct disadvantage because his lack of skills and business experience renders him unable to compete with the first generation committers. The first generation module developers profit from building websites using the free modules which were developed by ten thousand developers. To the site builder, the cost is zero except his own devoted time and energies into building a Drupal-based website. In contrast, to most new developers, they have no such experience and knowledge to help them get such business opportunities. They cannot accumulate enough experience and resources to help them grow when the market is dominated by the first generation developers. To first generation developers, they can see a great future for themselves even though they have developed many modules free of charge. On the other hand, second or later generation module developers have hardly any opportunities for growth. Even if they do this just for fun, their incentive is low. The first generation module developers have monopolized the business opportunities of the new members. The profit-making business of Drupal is concentrated on the top tier of community. It is very dangerous for any community organization to be top heavy.

3 The real Penguins are not the leaders of the community but the companies created by the leaders (Section: Drupal Companies)

As a group, the penguins must help each other. The stronger the partnership is, the higher the survival rate. As the Drupal community keeps on growing, many leaders want to launch their own business separately or with a few select individual partners. But everybody knows that to keep the community growing is the best way to help their own business to grow. With Drupal's growing reputation attracting more and more "high end enterprise level clients", huge profits may be in store for these companies. For example, Acuqia mainly targets the enterprise level client and is very focused on the large scale system market which normally is dominated by IBM-like mammoth companies. To gain more market share,

[74] http://buytaert.net/moving-to-boston-for-two-years

Acuqia also shares the technology and knowledge to their partners which are named as Acuqia Enterprise select Partners. The action shows that the Acuqia wants to strengthen its group and attack the big companies' market share. They are pursuing the high end market which has higher profit margins.

4 Founders must try to realize the important backend or tool modules by themselves. The normal module developers are more sensitive to the fashionable new trends of the Internet and the theme side of Drupal. (Section: Drupal Modules)

Figure 2

The top 1000 modules distribution of Drupal & the active module distribution of Joomla (2000 modules)

| Joomla | number | Share | share | number | Drupal |
|---|---|---|---|---|---|
| 3rd | 710 | 36% | 21% | 204 | 3rd |
| Decent | 526 | 26% | 24% | 228 | Decent |
| Backend | 87 | 4% | 10% | 98 | Backend |
| Front end | 380 | 19% | 30% | 286 | Front end |
| Authority | 296 | 15% | 15% | 140 | Authority |

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It is apparent that the Backend group is smallest in both Joomla and Drupal. The Backend module development requires advanced programming skills and the developer must understand the whole system architecture well. This means that the developer must devote plenty of time and energy to develop the backend module in contrast to modules from other groups which are less challenging and time consuming to develop.

From the security perspective, taking control of the backend modules is a smart strategy.

It is also clear that Joomla has grown quickly and is succeeding in clearing the misconception that its third part application modules are weaker and of lesser value than the Drupal.

5 The commercial modules will not be in conflict with the non-commercial modules or corrupt the eco-system of Open source communities. (Section: Joomla)

The upper level community of Drupal works very well. They have become stronger and stay closer. The only thing that worries me is whether the leaders consider the plight of newbies. By now, these leaders do not need newbies if they mainly target the enterprise level customers. However, without new members joining the community, the community may not last for long. This is especially important when members of the Drupal community find the leaders to be making huge profits while most module developers work like slaves as related to me by one Drupal developer.

From the section on Joomla, we found that the commercial modules require advanced skills and complex design abilities. They are a great supplement for the non-commercial modules. Comparing Joomla, Drupal does not have that supplement power which renders it vulnerable to an uncertain future.

As the companies of the Drupal leaders become more successful, more unpaid individual developers will leave if they cannot get any monetary incentive in the community. To get around this, the community should allow the module developers to sell their commercial modules or Professional version modules. This will allow the developers to have a chance to make profits while leasing a free version of the professional which they would have fun making.

# Appendix: A case study of my experience

The personal case study is strongly related to the thesis. We already found that the developers of Drupal in its earlier stages were not sponsored by companies. Projects which rely on volunteers and have limited resources and have a higher chance to survive in a rich country. With the help of volunteers, the project can survive; but to get stronger and bigger, the leader must distribute the profits to penguins which are volunteers or the companies founded by volunteers. Therefore, I want to prove the principles I have proposed earlier in my case study to show that projects of such kind can survive with the help of volunteers who are rich and located in USA. I also want to show that helping the volunteers to receive tangible and intangible benefits from working on the project strengthens their commitment to the project. Furthermore, this case study will demonstrate that by merely conducting research on the data of Drupal or other projects is inadequate for a project to be implemented successfully. My experience has helped me to gain inside knowledge and fundamental principles of forming a start-up. The case is just in the middle of way. I will try to realize the project and to finish the appendix in the future.

Starting from ground zero

When I started to gather my penguins, I thought that the passion I had for my project was the best way to persuade others to join my team. Unfortunately, I found that this zeal could only attract those who have a similar passion for my field of interest. Most of the time, I met people who seemed to be more obedient followers than truly passionate pioneers. My only consolation was the knowledge that it is a rare fortune to have everyone in your team who are pioneers.

What about the role of charismatic and capable leadership in attracting project partners? Charismatic leadership is impactful especially in well-organized companies or large corporations. The leadership factor is always built on the basis of hierarchical power and is not particularly applicable when one is building a team from nothing.

If passion and leadership alone were not adequate pull factors to attract people to join my project team, what was the X factor that allowed me to attract the right people to build a successful team? I have found that by adhering to a formal dress code, I was able to give a good first impression as the leader of this project. One should not assume that the casual style of dressing which is so ubiquitous among the geeks in Silicon Valley can attract more people to one's team. Instead, dressing like a successful executive helps me to reflect a serious, business-driven attitude to potential team members. While sharp dressing only helps to create a favorable first impression, the theoretical knowledge and strategies I had acquired in school were waiting for the chance to be manifested in real life applications.

So what is the best way to start your project and implement your business plan?

In my mission to look for potential partners, I have spoken to many people who had expressed interest in my project and verbally consented to lend their support. Ultimately, none of them provided any tangible help. After trying various methods to get people on board with my project, I have found that my

friendships and having a multimedia publicity feature for my project were the most crucial pillars that enabled the foundations of my project to be laid.

Since my project is an internet media project, I first had to find a host to run the project. I met potential hosts and shared my ideas for implementing the project with them. I gave many impassioned speeches to convince them about the value of my project. Most host candidates showed interest in my project, but all expressed that they would only commit to it after they have seen more progress of the project.

I was always asked the following two questions:

1 How many people are in your team?

2 How is your project funded or sponsored?

From the nature of these questions, I perceived that they doubted my abilities to run the project successfully. I found that the time spent meeting potential partners was wasted as almost everyone I met asked the same two questions. I could tell that their commitment towards my project would not be high. Thus, I decided to put a halt to these social activities to meet potential partners and concentrated on creating a multimedia publicity feature to serve as a communicative platform for my project and my team to attract genuinely interested parties to my project. I wanted to use video and or a photography portfolio to showcase the project so as to attract more people to join my team.

## The friendship advantage

I had bought an expensive SLR digital camera which cost USD$1700, but I did not know how to operate it. I then remembered that Yuanwen, my classmate from SDM, was very knowledgeable about operating such devices. Yuanwen then referred me to his friend Mingwei who owns a state of the art audio-visual studio with professional equipment and facilities. Mingwei is a PhD in biology who just happens to be a great portrait photographer. After a call by Yuanwen to Mingwei, my team suddenly has grown to a 3-person team, consisting of two experienced photographers with unlimited access to professional camera and lighting equipment. Friendship was indeed helpful when one lacks funds.

My friend, Jeff (nick name), had graduated from MIT with a PhD in course 6. He knows the Chinese community in Boston very well and I thought he would be able to help me gather lots of people for my project. However, his active social lifestyle which included dating many women at the same time posed a threat to the reputation of my project. While I disagreed with his lifestyle on a personal level, I needed his help at this stage where I was just starting out and lacking in funds. At last, I decided to include him in the team and tasked him to gather more people to join the project. As the fourth member in my team, Jeff had proved to be a wild card. Since he was busy with his full-time job, his own start-up and his personal life, he had contributed little to the project in tangible aspects. However, he had always given me valuable information that enabled me to gather people for my project. Through his many party invitations, I got to know a few of my team's future members who played key roles in the project's success.

Then, my project began implementation stage. The fifth member of my team was Yingying, a beautiful professional TV host who was a regular on the Hunan Province TV Channel and had attended the New York Parsons New School for Design. I contacted her through her Facebook account and invited her to be our host for an event as part of our project and to have her model in photos taken at our studio to be used as promotional material for our project. She recognized at once that the studio facilities and equipment used by our team was of professional standard and she was happy to come on board as a team member.

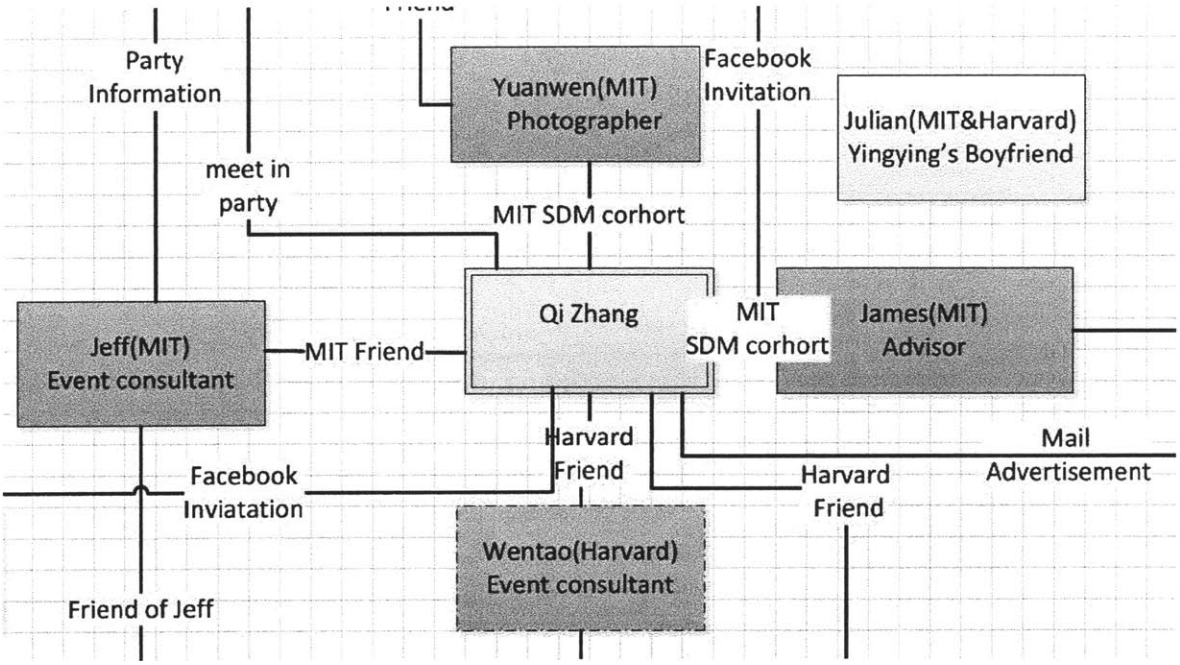
I found out from Yingying that her boyfriend graduated from Sloan with an MBA. He manages a fund worth millions of dollars and was looking for an IT system to help him operate the fund better. I introduced him to James, one of my friends from SDM who specializes in this field. Helping her boyfriend through the introduction of James helped to solidify the trust between Yingying and me which added to the general cohesion of the team.

As the team's wildcard, Jeff later proved useful when he gave me information about a Chinese cultural event at Boston University where we decided to meet. Actually I had no concrete plans for that event and I just wanted to hang out with Jeff and get some advice from him. However, at the event, I met a very attractive young lady, called Guoshuang. Putting aside my usual reserve when talking for the first time to women I am unacquainted with, I boldly introduced myself and my project to Guoshuang and invited her to be the promotion ambassador for my team. Surprisingly, she agreed to be the sixth member of my team within a few minutes of my meeting with her. I could hardly believe my luck at finding someone so beautiful and accomplished to be my promotion ambassador!

Jeff also introduced Zhenhua to me at a Harvard event. Zhenhua specializes in party planning and event organization and often serves as a stage director. While he did not accept my offer to join the team immediately, he said he would decide if he saw more progress from the project.

I also spread news of my project among the Chinese communities in several universities around the greater Boston area. From this publicity effort, Yuting of Umass and Xinxin of Brandeis contacted me. They show interest in my project but were not yet keen to commit to the team. They doubted my ability and asked the same two questions asked previously by the skeptics I first approached. It was time to provide something tangible that would earn their trust and belief in the project.

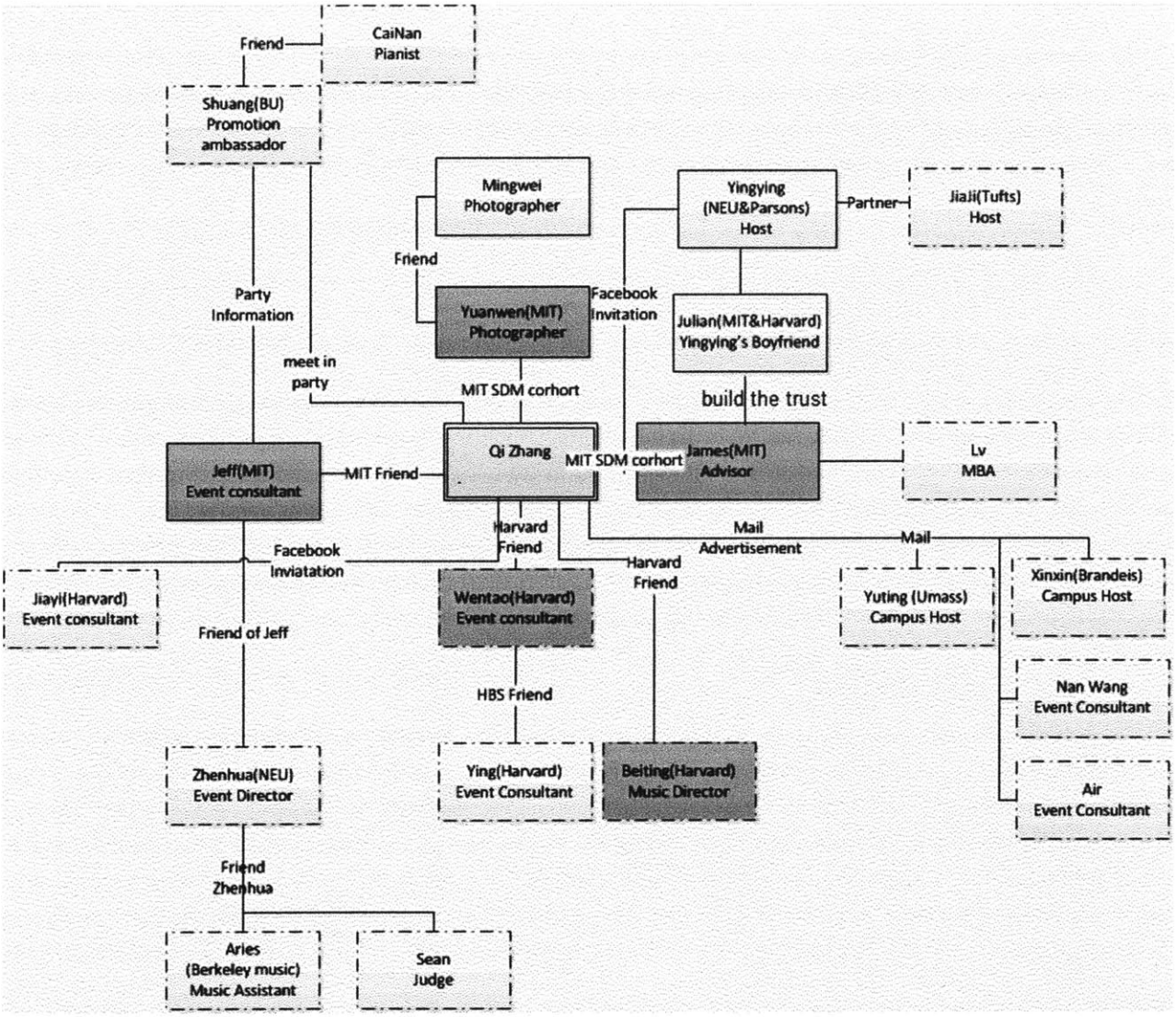
*Friends who helped me build the project from scratch*




## The MIT and SDM advantage

From an overview of my relationship map, you can find that all my friends are from MIT and Harvard. This would not have been possible if I was not admitted to MIT. MIT not only provided me with the necessary knowledge and strategies to help me formulate and implement my project but also the platform to network with others from some of the top universities in the world. SDM provided me with access to lots of resources and saved my overhead costs by sponsoring my project. Also, SDM Director Pat had helped me rent an event space in MIT. I am so grateful for all of this help without which the event would not have expanded to what was. It is indeed my great fortune to be here at MIT.

## The overview of relationships in my team




## The role of multimedia publicity for our team and our project

Just as I pointed out in the above, I knew that interested potential partners would remain as mere observers and would not commit to the project until they saw some tangible proof of our capabilities as the core team.

I decided to partner with Yuanwen and Mingwei and got them to take professional photos of Yingying as part of our promotional materials for the project.

I also took a High-Definition video to record the whole process of the photo shoot. We edited the photos and a video showcasing our team's vision for the project and the team members in action into one set

portfolio. This was the first piece of evidence that demonstrated our capabilities as the core team. From the quality of the photographs and the great studio facilities shown in the video, one would be easily impressed by the dedication, professionalism and capabilities of our team in this short publicity feature for our project.

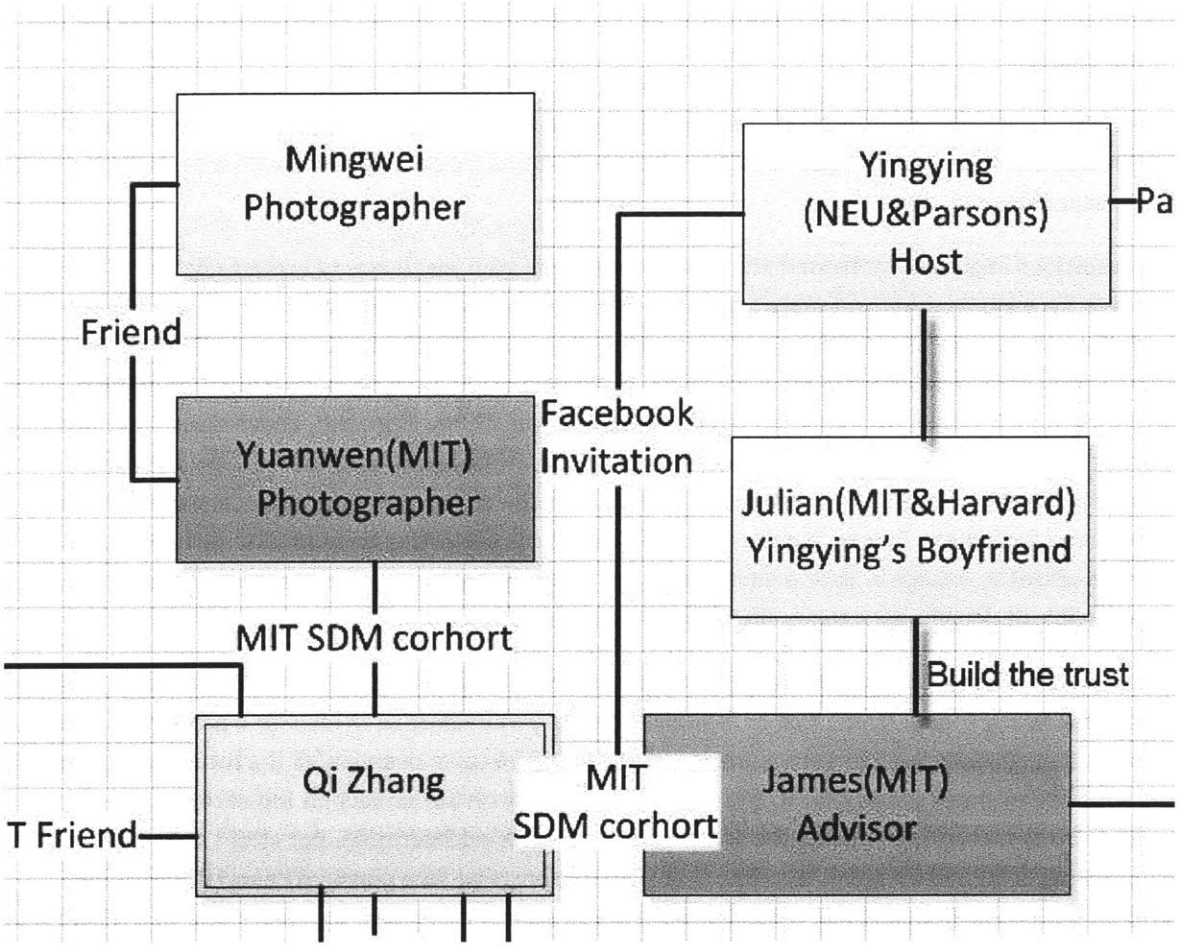
When people saw the videos and photos, no longer were the previous two questions asked again. The evidence of our strengths as a team and the resources we had made it clear we were a business team that would deliver results.

The auspicious beginning motivated me to take the second step which was to invite Guoshuang to the studio to for a photo shoot and video recording. Guoshuang is very confident in front of the camera and knew the exact image we needed in a promotions ambassador. Everything went smoothly. It was very easy to work with both Yingying and Guoshuang as they possess charming manners and an elegant deportment, befitting of their wealthy family backgrounds in China. From this, I have discovered that there are many advantages of working with team members who are already rich and are not hard-pressed for income. They do not demand to be paid, and can afford to choose projects based on their interest and inclination. People like Yingying and Guoshuang are willing to cooperate with me because they can afford to indulge in their own interests and focus on building their reputations through this project without demanding a salary since I had no money to pay them.

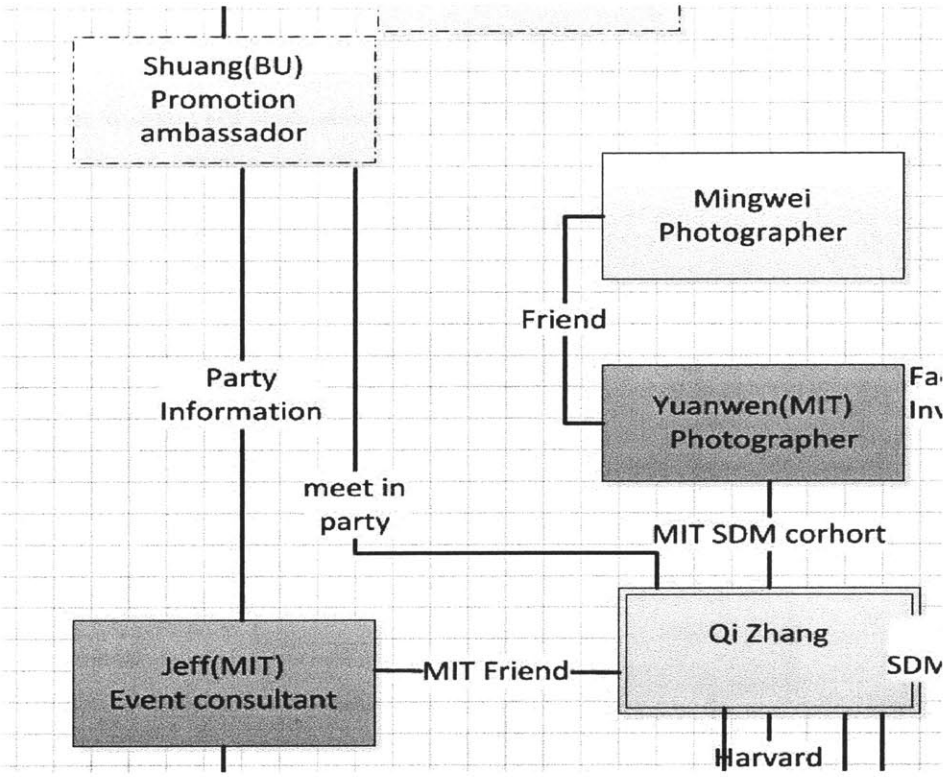
The converse is also true. Take for example my team's experience with Lu, an MBA student who was introduced by my friend, James Xiao of SDM2007. James was helping Lu to look for a proper job and knew that Lu was also keen to participate in a start-up. I gave Lu an overview of the future of our project and she showed much passion for it. She was willing to work on our project on top of other commitments such as her ongoing job search and a non-salaried internship. But after I assigned her a task, she never turned up again. It is clear that such persons who face personal financial constraints have little motivation to do something that does not provide a salary or a stepping stone to a US job visa. This is also true from my research on the Drupal model. People with low incomes will not devote their energies and time to a project which they cannot profit directly from although they may feel the project may be a worthwhile one.

So I decided try to find partners for my project who are not limited by financial obligations and constraints. Armed with the publicity feature which starred YingYing and Guoshuang, I headed online to spread the word of my project via the social network.

The first publicity feature: I partner with Yuanwen ,Mingwei and Yingying




The second publicity feature: I partner with Yuanwen, Mingwei and Guoshuang




## The social network influence

The social network is not just for friends. It is also a great tool to spread publicity for projects and businesses. It is much cheaper than traditional mainstream media. The only thing you need to do is to create really amazing content that captures the hearts and imaginations of people. This is an effective and low-cost form of publicity that is heavily content-driven.

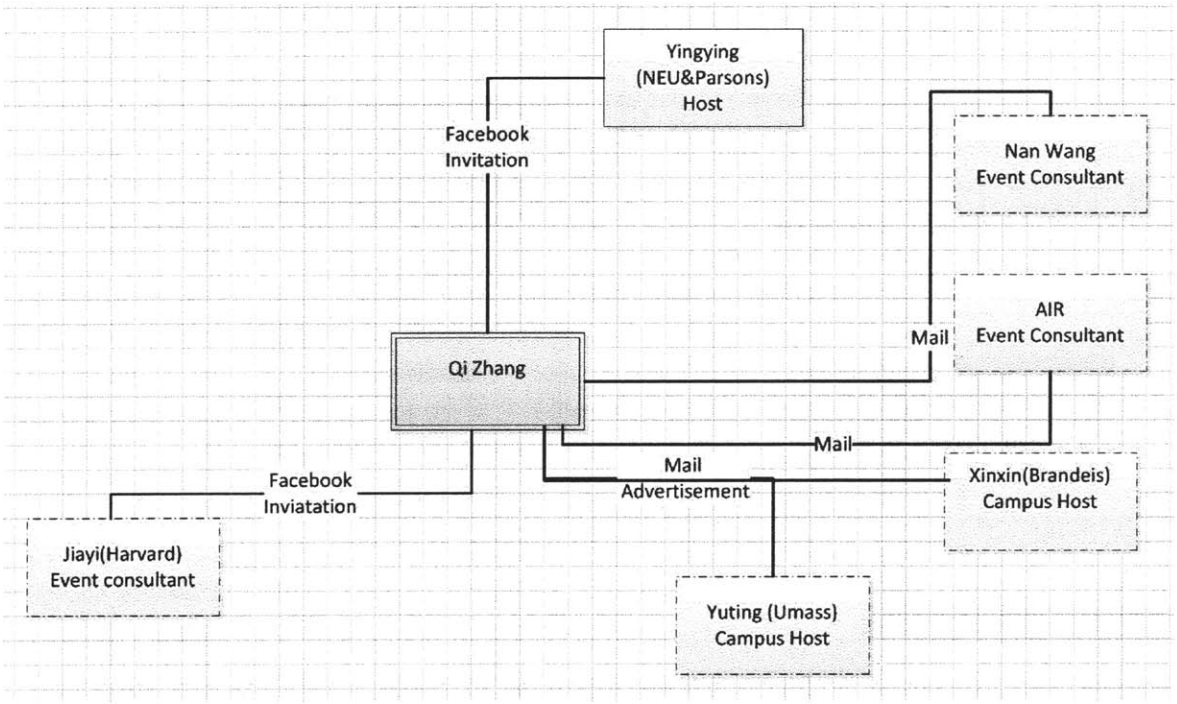
I tried using internet-based social networking to publicize my project by creating a Facebook group. Unfortunately for someone like me who rarely has time to spend on Facebook, I had only 60 friends in my Facebook account prior to launching my project online. I quickly added lots of friends of my friends in my Facebook account, and in just two months I increased my Facebook (Chinese account) friends from 60 to 490. I then quickly added all my friends to the Facebook group I had set up.

Thus, 390 members were added to my project's Facebook group at the beginning. However, the number of group members soon dropped to 380 in a short time. I became nervous and afraid that my project would not be well-received. Thankfully, the number of group members quickly became relatively stable at around 360 members. This assured me that people actually like the whole conceptualization of my project.

So what happened? I became a famous person within the Boston Chinese community in a short time after releasing just one picture and creating one Facebook group. Subsequently, many people I met for

the first time told me that they knew of me and my project. When I sent a promotion through a 700-member e-mailing list, I received only 50-70 visits on my page. This is in contrast to the 400 visits I received on my page after I released a picture on Facebook. Indeed, the evidence of the power of social media cannot be denied.

I collected some important members from both Facebook and the e-mailing list.




## The importance of keeping in contact with potential stakeholders

There are many people who like to remain on the sidelines and prefer to watch your progress before they decide if they would join your team. This is reasonable because many people are risk-adverse and will naturally be reluctant to join your team if they see that the project has little chance of success or that the team comprises of members that do not inspire confidence.

Thus, it is important to remain in contact with these people and provide them with continual updates of the progress of the project. In this way, they may be more and more convinced by the value of the project and would be motivated to join your team.

My friend Mike Li who is an MIT student launched a solar technology start-up. Mike is good at publicizing his start-up when he attends social engagements. He is well-connected with influential people and elite students. At the beginning of Mike's project, many people thought he had a good idea for a solar technology start-up but no one was willing to contribute tangibly to his project. However, Mike was unflagging in pursuing his course of action and worked alone while always giving continual

updates to others on the progress of his project. As the development of his start-up flourished, everyone he knew was still unwilling to make an active contribution to his project, but people started giving him advice and information that proved to be very useful. Such advice and information is also valuable and counts as a contribution that we can call **soft action or soft contribution**. Indeed, when a project is progressing well, more and more people tend to like to be involved in it through soft action.

This was exactly what I encountered. I contacted lots of people and most of them held a wait-and-see attitude towards my project. As I gave continual updates of the project's development, I received more involvement in the project from others through soft action. A virtuous cycle then occurs when people see that their advice was well-taken, they tend to want to contribute more to the project.

### The importance of regulating meetings

It is imperative that the team leader builds and maintains a good working relationship with each team member. One should not have the first big group meeting too early in the project's infancy. Trust needs to be first built and is the foundation of all working relationships. The first meeting should be limited to a few people who make up the core of the team. These are people with whom you have already established trust and are deeply passionate about the project. This meeting's agenda should not be focused on clearing doubts but on strengthening trust among all team members which empowers the team as a whole. While the team leader may often find himself working alone in the course of the project, he should always seek to facilitate a positive team spirit within this core group of members so that not one member feels that he is isolated in his work on the project.

The frequency and size of the meetings need to be kept under strict control. Too often, as a project develops, the frequency and length of meetings tend to increase and then get out of hand. One must remember that too many meetings may end up counter-productive, with little or nothing accomplished. Several small meetings with the right people involved are more beneficial than one large meeting that may be more convenient but less efficient.

Democracy is not an important factor at the beginning stages of a project. There will be many instances where members want to demonstrate their value to the team during meetings by raising issues and saying things that are unrelated to their knowledge or skill set. They like to give many suggestions but can contribute few if any details as they do not have a clear vision and understanding of the intricacies of the project. Only those who are deeply involved in the project and are familiar with the minutiae of the project should be given greater authority and autonomy to speak.

### The importance of utilizing an existing skill set of the team members

It is unreasonable to assign tasks to your team members that will demand a steep learning curve from them. To do so would be to court disaster for your project as the cost of the extra time team members take to master new skills results in a greater cost to your project in the form of extra delays.

This was my learning experience as I gave the two hosts in my team an assignment to work on the design process of a program. However, this was not part of their skill set, and they had no experience or inclination in this field. They were only competent in what they were trained in – being hosts and executing the program. The reality is that people have little motivation to learn something new and difficult when they are doing it without pay. If they are unwillingly forced into such a challenge, they might give up on the project and leave the team.

Thus, it became my strategy to utilize the existing skill set of each of my team members. This means that sometimes I needed to adapt my project to fit their skills. It is vital that the team leader recognizes the unique set of skills that reside within each member and seek to harness this resource for the benefit of the project.

### The importance of harnessing the natural talents of the team members

For a project leader to delegate project assignments, he must not only recognize the set of skills each team member possesses but should also utilize the intrinsic motivations that stems from his team members' natural talents and personal interests. In this way, members will be self-motivated to complete tasks without being ordered to do so. For example, the project provided a way for Yuanwen and Mingwei to showcase their exceptional photography skills when they were tasked to do the photo shoot. Guoshuang and Yingying also got the opportunity to be models in the photo shoot and video recordings which was something that both women have always been interested in. Such work allocation ensures that team members actually enjoy contributing to the project while helping to save time, money and energy spent on hiring professionals for what they actually like to do and were good at.

### The power of identity

My project is related to universities. Many of my team members have a strong school identity. In areas of my project that require action that is related to the different universities that my members are affiliated with, I found that they have a strong willingness to promote their school which helps the project to progress swiftly. For example, Brandeis University is rated as the fourth ugliest school in USA. Our team member, Xinxin, who is a sophomore of Brandeis was unhappy when her friends from Chicago taunted her school for its ugliness. Xinxin became quickly motivated to showcase the beauty of her school. She selected many buildings of architectural interest and beautiful views of Brandeis and planned the promotion introduction of her school carefully. Many team members from other universities were similar in this manner and this was a great force in propelling our project's development.

### The importance of unilateral decision-making

As mentioned above, as a project progresses from its infancy, more meetings tend to be held with increasing frequency. My friends and I who launch start-ups often face a similar problem during these meetings. The problem is that team members, especially MBA students, like to argue among themselves,

but few actually do anything constructive after the meeting. It is important to note that these arguments about whether option A is better than option B often have little significance to the outcome of the project. People also do not come prepared for these meetings. From personal experience, I have found that team members often turned up for meetings without reading the agenda notes for the meeting carefully. So it is wise not to schedule too many meetings at the beginning of the project as it may be counterproductive.

When meetings are held, it is important that ideas and contributions from hardworking and committed members are taken seriously. Their feedback is more valuable since they are speaking based on actual experiences of working on the project in contrast to contributions made from people that work on the periphery of the team. Ultimately, the founder who knows the entirety of the project better than anyone else must be firm in his decision-making after considering the various opinions and arguments raised during these meetings.

I have also found that my work experience and background in a fortune 500 company did not prove to be advantageous in this project. Working for a fortune 500 company is vastly different from working in a start-up or a project of this size. People who have work experience in a mega corporation tend to give many suggestions during meetings without thinking of their consequences because the resource-rich company would have the means and other manpower to execute their suggestions whether good or bad. In a small start-up setting like ours where resources are limited, superfluous suggestions have no place in these meetings since every suggestion taken seriously would end up being implemented by the entire team. The reality is that small start-ups have limited resources which present a challenging situation that not all MBA holders can appreciate.

After my friend Mike Li held lots of meetings in his course of forming his own start-up, he found that all the MBAs who have previously worked for famous financial companies or other large corporations were often argumentative during meetings for the sake of appearing committed and devoted to the projects involved. In actual fact, these MBAs did nothing for the company after the meetings. Only one MBA who worked as an engineer before attending Sloan contributed his energies to the company. From his experience, the worst thing about MBAs is that they always argue about trivial matters without fully understanding the context. Whether Mike ultimately chooses Person A's or Person B's way of doing things, most of the time, the end result will not make much difference to the company. Arguments always waste time and energy. In fact some members choose to attend meetings as a way to show their contribution to the company because attending meetings is most convenient and is of a lesser energy cost for them. They can also find out about how much progress the start-up has made during meetings and whether it has a chance to be lucrative.

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