Development of the Weblog System for Elementary School

A Dissertation

By

Murayama, Yoshiyuki

August 2009

Department of Information Engineering,

Graduate School of Science and Technology

Shinshu University

A DISSERTATION SUBMITTED
TO
THE GRADUATE SCHOOL OF SCIENCE AND TECHNOLOGY,
SHINSHU UNIVERSITY
ON
21 AUGUST 2009
IN
PARTICLE FULLFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF MASTER OF PHILOSOPHY
IN
INFORMATION ENGINEERING

BY

MURAYAMA, Yoshiyuki

Department of Information Engineering, Graduate School of Science and Technology,
Shinshu University, Wakasato, Nagano-city, Nagano 380-8553, JAPAN

linuxerjpn@gmail.com

Abstract

This thesis describes the new weblog system developed for elementary school.

The School Weblog System is developed for elementary school teachers, which cut the overall cost of updating website.

As affairs now stand, the situation of updating website rate is low at almost all of elementary schools in Neyagawa.

The reason of this situation are a lot of case, but one of the most dangerous background is too low teacher's skill.

It is true that teachers must acquainted with it, because they demanded by local community.

Therefore, an administrator is selected at each of schools. In addition, education committee in Neyagawa city teaches how to update the website at educational training center.

But, in the case of current method that to edit the HTML source code by commercial software(e.g. IBM Homepage Builder) and to upload its code taking by FTP, we find a lot of problem.

The problem is that this method requires teachers of high skill about network technology, and strikes them as confusing.

That's why weblog system is suitable for updating school websites. Using weblog system can show the solution of difficulty and complication of updating.

No high skill of network technology that is how to use html generator, HTTP and FTP, is required. And teachers can update very easily like writing a dialy.

However, a lot of weblog system are not free software, and almost all of the free software is not suitable for elementary school.

These system which are not suitable, is to require the commercial which is not necessary at all for elementary school, and not to have several functions. For example, weblog system for elementary school need to have annual event calendar and to have documents downloading service. No weblog system exists which manages integrative functions like that.

Therefore, the purpose of this research is development of new weblog system for elementary school as open source software.

Acknowledgment

It would not have been possible to complete this thesis without support and guidance from many people. I would like to acknowledge them on this occasion.

First of all, I would like to express my sincere gratitude to my supervisor associate professor MIYAO Hidetoshi, for giving me a wonderful opportunity for research of information technology. I have been always impressed by his idea, suggestions, and instinct for information technology.

I would like to thank principal KOBAYAKAWA Takashi at Wakoh elementary school and educational affairs MAEDA Shinichi at Mii elementary school, who are the trigger to research this project, gave me a chance to do it, and taught me the specifications. Their cooperation made this system.

My warmest appreciation goes to MATSUNAGA Hitoshi at Ishizu elementary school, who suggested me a lot of exact comments of usability on Web design.

I am deeply indebted in writing this thesis to nearby Dr. MORII Hideki at Department of Particle Physics in KYOTO University. I learned methods of the writing thesis, analysis tool, and mathematical theory. He always discusses this research and something not worth to me. I never forget to go on a drive with him per a year. He always talked to me in English, and obliged me to talk English. My a little English skill depends on him. I definitely believe he checks these acknowledgments, searching for his name. I apologize to you for my confession of above thing before you feel heat.

I deeply thank teacher's consultant KASAMA Koji and HOJO Sachiko at board of education in Neyagawa. They realized Server system can use this system in which effort is rewarded.

I am grateful for the help of principal SASAHARA Kazuhiro, assistant principal FUJIMOTO Masayuki at Mii elementary school, who lead me to develop this system and makes this school feels a free.

I address my special thanks to TANAKA Futoshi, MURASE Koh, SHIMODA Noriko at Mii elementary school. They use aggressively this system a lot of times and suggest the improvements of it.

I must thank the staff of Mii elementary school. Mr. SASAHARA Kazuhiro, Mr. FUJIMOTO Masayuki, Mr. MAEDA Shinichi, Mrs. ARAKI Naoko, Mr. FURUYA Noriyuki, Mrs. HIYAMA Taeko, Mr. IZUMI Katsuya, Mrs. KAMADA Rie, Mrs. KATAOKA Midori, Mrs. MATSUSITA Fumiko, Mrs. MIYAKE Zyunko, Mr. MORISITA Kazushige, Miss. MORITA Megumi, Mr. MURASE Koh, Mrs. NAITO Tamaki, Mrs. NAKATANI Yasuko, Mrs. OHTUKI Emi, Mrs. OKAMOTO Manami, Mr. SATO Akio, Mr. SAWANO Kiyoshi, Mrs. SHIMIZU Mayumi, Miss. SIMODA Noriko, Mr. TANAKA Futoshi, Mrs. UECHI Satomi, Miss. YAMADA Mai, Miss. YAMAJI Yuka, Miss. YASUDA Kazumi, Miss. YUTANI Hiroko, for their friendship,checking this system, and help.

I am deeply grateful to all the members of the SUGSI Groups in Shinshu University, Prof. OKAMOTO Masayuki, Prof. KAIJIRI Kenji, Prof. SHIDAMA Yasunari, Prof. HUWA Yasushi, Prof. YAMAMOTO Hiroaki, Dr. ASANO David, Dr. IZAWA Yuji, Dr. KAIYA Haruhiko, Dr. KAYAMA Mizue, Dr. KAWAMOTO Pauline Naomi, Dr. NIIMURA Masaaki, Dr. MARUYAMA Minoru, Dr. MIYAO Hidetoshi, Dr. WASAKI Katsumi, Dr. OKAZAKI Hiroyuki, Dr. KUNIMUNE Hisayoshi, Dr. YAMAZAKI Hiroshi.

It is also important to remember that all the members of the High Energy Physics Group in Kyoto University, Kyoto University of Education, and KEK, Honorary Prof. SASAO Noboru(Kyoto and Okayama Univ.), Prof. NOMURA Tadashi, Dr. KOBAYASHI Makoto, Dr. TAKASHIMA Ryuichi, Dr. MIZOUCHI Kentaro(current affair is Neutrino Group, Science Division, TRIUMF in Canada), Dr. KATO Issei(current

affair is Neutrino Group, Science Division, TRIUMF in Canada), Dr. HASEGAWA Masaya(now affair is KEK), Dr. SUMIDA Toshi(current affair is CERN-Japan Fellow in Switzerland), soon-to-be Dr. MORII Hideki. They teaches me that to research life is happy and vain. However, the vain is the most precious thing. If I were not met you, I would not have been a master course student.

Pres. SHIMIZU Yasutaka and Dr. MORIMOTO Yousuke at National Institute of Multimedia Education, Prof. KAGETO Makoto at Nihon Fukushi University advise me to master course. I really appreciate it. MASUI Masaaki at board of education in Neyagawa, and KUJIME Midori at Ikeda Kita high school encourage me, and check the English sentences at this acknowledgement. I'm deeply appreciate.

I have had cheerful days at Ishizu elementary school with MATSUMOTO, MATSUYAMA at Ishizu elementary school, and SHIMODA Takashi at Cyuo elementary school. We used to play badminton once a week at a gym in Ishizu elementary school, and I really enjoyed it. I wish all of us will keep in shape and maintain our weight.

At last but not the least, I would like to express my special appreciation to my parents and brother, especially to my parents MURAYAMA Kikuo and Chiyoko, for giving me a life and a little talent.

Finally, I would like to dedicate this thesis to my soon-to-be wife(I wish), Noriko. I must apologize for having made her waiting to go on dates, and I really appreciate that she has been warmly watching over me. I hope we will have a happy life from now on.

MURAYAMA, Yoshiyuki
Osaka, Japan
21 *August* 2009

Contents

Abstract **i**

Acknowledgment **iii**

1 Introduction **1**
- 1.1 Overview . . . 1
- 1.2 Weblog . . . 1
- 1.3 Web 2.0 . . . 3
- 1.4 Weblog System Services . . . 3
- 1.5 School Weblog System . . . 4

2 Database System **6**
- 2.1 Database on This System . . . 6
- 2.2 Database File System . . . 6

3 Network Specification **10**
- 3.1 Network Configuration . . . 10
- 3.2 Server Configuration . . . 12
- 3.3 Software Configuration . . . 13
- 3.4 Database . . . 14
- 3.5 The Comparison of Access Time on **XML** and **CSV** . . . 15

4 Capability and Features **16**
- 4.1 Top page . . . 16
- 4.2 Administrative Privileges Screen . . . 17
- 4.3 Diary . . . 18
  - 4.3.1 Specifications . . . 18
  - 4.3.2 Features . . . 19
- 4.4 Administrator Setting . . . 20
  - 4.4.1 Specifications . . . 20
  - 4.4.2 Features . . . 21
- 4.5 Category . . . 24
  - 4.5.1 specifications . . . 24
  - 4.5.2 Features . . . 24
- 4.6 Event Plan . . . 25
  - 4.6.1 Specifications . . . 25
  - 4.6.2 Features . . . 26
- 4.7 Link . . . 27
  - 4.7.1 Specifications . . . 27

4.8 Uploaded Documents . . . 29
4.8.1 Specifications . . . 29
4.8.2 Features . . . 29
4.9 Weather Forecast . . . 31
4.9.1 Specifications . . . 31
4.9.2 Features . . . 31
4.10 Detail Weather Forecast . . . 32
4.10.1 Specifications . . . 32
4.10.2 Features . . . 32
4.11 QR code . . . 32
4.11.1 Specifications . . . 32
4.11.2 Features . . . 33
4.12 Google Maps . . . 34
4.12.1 Specifications . . . 34
4.12.2 Features . . . 35
4.13 Access Analysis . . . 35
4.13.1 Specifications . . . 35
4.14 Password . . . 36
4.14.1 Specifications . . . 36
4.14.2 Features . . . 36
4.15 Furigana function . . . 37
4.15.1 Specifications . . . 37

5 Furigana function 38
5.1 Specifications . . . 38
5.2 Features . . . 41

6 Analysis 42
6.1 Transition of access number . . . 42
6.2 The number of articles . . . 43
6.3 Uploaded Document . . . 45

7 The Result of Questionnaires 46
7.1 The Questionnaires . . . 46

8 conclusion 48

A Comparison of the access time between XML and CSV 49
A.1 Comparison of the access time on a few records. . . . 49

B χ^2 test of goodness of fit. 52
B.1 Overview . . . 52
B.2 χ^2 Probability Function . . . 52
B.3 Fitting . . . 55

C Documents distributed for teachers 57
C.1 Overview . . . 57
C.2 The Documents Distributed . . . 57

Bibliography 71

Research Achivement **74**

List of Figures

1.1 Left figure shows the monthly process of new set up weblogs and right figure shows the process of the total domestic weblogs. the Total weblog sites increased rapidly from 2004 to 2005. [Original from IICP [2]] 2
1.2 Weblog Services ratio in Japan at 2008. We find FC2 and rakuten weblog system service are well used. [Original from MyVoice Communications Inc.[16]] 4

2.1 **XML** v.s. **CSV** access time ratio. It is disucussed Section 2.1. 9

3.1 The 80 port should be opened, if you want to build web server. 11
3.2 Except the 80 port is blocked by the function of the firewall of router 12
3.3 Apple MAC mini server. mobile phone is for preparing the scale. The scale is only about 16.5×16.5×5 [cm] 12
3.4 Software configuration. The base is Apache httpd server. And **PHP** output the result into **HTML CSS javascript**. 14

4.1 Top view of the school weblog system. It is mainly separated into 3 parts. 16
4.2 How to access Administrative Privileges Screen. Top page upper right has a link. 17
4.3 You can add the category attribute in each article. The right is title and writing message view. 19
4.4 This is uploading image screen. This system supported uploading less than 3 image file a article 20
4.5 This is how to delete uploaded images. There are delete checkbox instead of reference button. Therefore the method of delete images is check delete checkbox, and submit write diary button. 20
4.6 Diary count architecture makes The [*day*].xml write many articles. 20
4.7 The screen of category setting. To set the category makes each article categorized. 24
4.8 The screen of adding new category name. After submitting, it appears confirm dialog. 25
4.9 On adding category name, on reflecting. 25
4.10 Clicking the category name shown above, we can see filtered articles on the top page. 25
4.11 The screen of school plan. It can both a day and a year updating. 26
4.12 School Plan Screen. It can update a year and a day. 26
4.13 The sample file. We can easy to create taking by Spread Sheet Application such as Microsoft Excel®or OpenOffice. 27
4.14 This plan system is supported **Ajax** service. 28
4.15 The link setting screen. 28
4.16 The Example of adding the link. On checking the radio button, we can input new link information. 28
4.17 After adding the new link, it immediately reflected. 28
4.18 It is displayed the linked sites. Therefore users is easy to recognize it. 29
4.19 Uploaded documents is categorized by large classification setting. This sample shows large classification that is event, school athletic meet, and research associate. 29
4.20 The uploaded documents is categorized by large classification. 30

4.21 Select the uploading documents to the large classification. 30
4.22 After selecting the uploading documents, it needs to decide the link name. 30
4.23 The uploaded documents is checked on the top page, and downloaded itself. 31
4.24 The uploaded documents is able to be edited on the Internet browser. 31
4.25 This function is took by weather forecast plug-in of livedoor Co., Ltd.. 32
4.26 This function is took by Weather Hacks of livedoor Co., Ltd.. This setting screen is based on **Ajax** 33
4.27 Weather advisory and warning. 33
4.28 The image is for mobile phone. 34
4.29 To create QR code needs to register base URL. 34
4.30 QR code is shown in the top page. 34
4.31 This function is able to register the school location. 35
4.32 It can register any where on the world. 35
4.33 The registered place is shown as the marker. And it can confirm right menu. 36
4.34 The sample of Google Analytics. However Google Analytics changes its specification. Therefore it challenges for the future. 37
4.35 The screen of password setting. After setting, everyone who do not know its password cannot access to the administrative screen. 37

5.1 The network diagram of this system. There are organized 3 parts. VPN in Neyagawa city, VPN in mii Elementary School, and Home Server. Neyagawa city and Mii Elementary School is connected as VPN. When Using Furigana Web **API**, web server hooks the result of Furigana articles. 39
5.2 Furigana function sequence diagram. 40
5.3 Furigana setting box. When click the grade, data is stored as a cookie. 41

6.1 Top screen which is opened on the `http://www.city.neyagawa.osaka.jp/school/e/mii/` . 42
6.2 The access number of this site. The straight line is fitted with least square approach on access number, since fitted with quadratic function has no value. the parameter of x^2 is negligible. It is clear that the access number increase about 12 count a day. 43
6.3 Update rate of categories. The category, School lunch is pretty much update. The update rate is much larger than last year. 44
6.4 Update rate of articles. There was 2 articles at last year, However, This year is 124 only 4 month. It is 60 times larger than last year. 45

A.1 The access time comparison on **XML** v.s. **CSV**. It had been measured at 40,000 times. The measured data has been took in 3.5. **CSV** is 7 times higher performance than **XML** in spite of a few its records. 50
A.2 The comparison of the access time on **XML** and **CSV**. The more record number, The much more access time. 51
A.3 The comparison of the access time ratio on **XML** and **CSV**. The more record number, The much more access time. 51

B.1 χ^2 distribution on $\nu = 1, 2, 5, 48$. The more ν is increasing, The shape is closing a normal distribution. 56

C.1 How to network trouble 1,2/4. 58
C.2 How to network table 3,4/4. 59
C.3 How to launch linux server 1,2/2. 60
C.4 How to backup server. 1,2 / 3 61

C.5 How to backup server. 3 / 3, and The responsibility of this system 1 / 1. 62
C.6 How to backup server. 1,2/6. 63
C.7 How to backup server. 3,4/6. 64
C.8 How to backup server. 5,6/6. 65
C.9 How to upload. 1,2/4. 66
C.10 How to upload. 3,4/4. 67
C.11 How to upload documents. 1,2 / 4 68
C.12 How to upload documents. 3,4 / 4 69
C.13 The questionnaires print which is distributed to teachers 70

List of Tables

1.1 Problems using weblog system service for elementary school. All of weblog service shown here are not suitable for elementary school by these reasons. 5

2.1 The file formats and database function, which have been used in this system. [[*name*]] means multiple data. 9

3.1 IP Address Class }When you build home server and maintain, Usually there are not over 254 machines. Therefore it is enough to build on Class C 11
3.2 Server Specification. It is used Darwin kernel. Therefore we can use UNIX resources. 13
3.3 Software Specification. 13

4.1 Function list on administrator 17

5.1 Japanese language morphological analysis libraries. This system takes on Mecab. Mecab is most suitable for weblog system because of its high speed analysis. 38

6.1 The number of articles. It has been increased since kick off except July. It is considered that every teachers were busy for give a grade, and a few business day. 44

7.1 The result of questionnaires. The comments is described in the paragraph. 47

Chapter 1

Introduction

1.1 Overview

As affairs now stand, the situation of updating website rate is low at almost all of elementary schools in Neyagawa city.

The reason of this are a lot of cases, but one of the most dangerous background is too low teacher's skill. It is true that teachers must acquainted with this skill, because they are demanded by local community. But, in the case of current method that to edit the **HTML** [1] by commercial software and to upload its code taking by **FTP**. There are a lot of problems.

The problems are that this method requires teachers of high skill about network technology, and strikes them as confusing.

That's why weblog system is suitable for updating school websites. Using weblog system can show the solution of difficulty and complication of updating.

However, a lot of weblog system are not free software, and almost all of the free software are not suitable for elementary school. These system which are not suitable, require some commercials which is not necessary at all for elementary school, and not to have several functions. For example, weblog system for elementary school needs to have annual event calendar and to have documents downloading service. No weblog system have there service.

Therefore, the main goal of this research project is to develop and evaluate practices and tools for the design and construction of weblog system specialized in elementary school.

1.2 Weblog

The word comes from another word, "Weblog", which refers to log of web. Therefore weblog is like personal diary website. But we notice some differences between diary and weblog. In general, the diary which you wrote is treated as secret.

However weblog is opened. And some weblog system can choose private or public mode. In addition, weblog is growing its scale. Institute for Information and Communications Policy (IICP) said that the total domestic weblogs which is opened on the Internet is 16.9 million at July, 2008[2]. And the total amount of data are about 42TB.

And the scale of blogger is about 27 million[3]. Thus, weblog is burgeon rapidly.

So, a lot of paper were published[4][5][6][7][8][9][10][11][12]. Takeda and Ohmukai said current and foresight weblog system[4][5][6].

Yamashita approached psychologically. Yamashita said why people write on a weblog. And she also researched the difference of writeing mind with name between Japanese and United States[7]. Maki and Hukami researched collaborative development of software platform with weblog[8]. Shiraishi suggested and

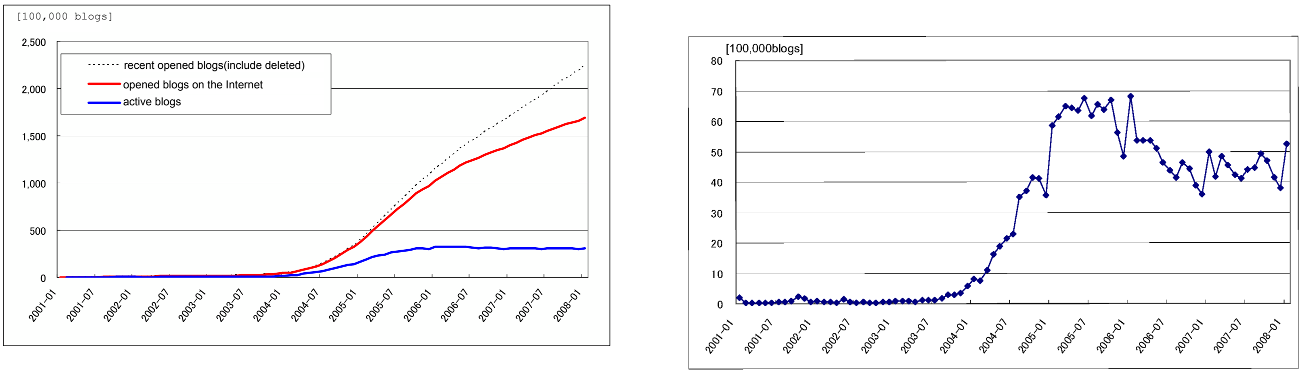


Figure 1.1: Left figure shows the monthly process of new set up weblogs and right figure shows the process of the total domestic weblogs. the Total weblog sites increased rapidly from 2004 to 2005. [Original from IICP [2]]

evaluated a weblog system for growth diagnosis of children[9]. Numa said a new approache of workshop with weblog[10]. Etoh and Miyashi developed and evaluated on e-learning weblog system[11].

Nakano took a survey of how teachers and parents think weblog for kindergarten[12]. Her reseached kindergarten took by cocolog weblog system service. Nakano said weblog system can show parents especially the father who cannot join events to children in a kindergarten. And she reasoned it is easy to frequent update for its usability. But, it is difficult to upload images. Moreover, weblog system is expected not transmission of information from kindergarten, but exchange of information.

She concluded it is very usefull to use weblog system service for kindergarten. but, we have to consider not negligible parents who cannot use network service. Because it is preventable risk. The risk is digital divide. So, she said we have to publish paper based news.

Her research is surely applicable on elementary school. But, she cannot said the functions on her paper.

By the way, it is said that the source which made weblog to be famous is multiple acts of terror in United States. After 9-11, ordinary citizens discussed and exchanged messages using weblog systems; This was freed from the constraints of factitive mass media.

Furthermore, to start weblog is relatively simplicity. Therefore a lot of people who have not insisted ever, wrote their idea on the Internet with original source and scheme. Now, we can see a lot of weblog sites; the sites are thus curbstone journalism and personal diary and so on. On the contrary, the larger the total of weblog sites, the larger we find unusefulness weblog sites.

Therefore, it has been required which site is beneficial or not. Google Inc. approaches the matter from following method. The method is that a lot of people or computers link to beneficial sites. Another way of saying, worth while sites are linked to a lot of people or computers.

Google Inc. shows this idea as PageRank. A goodly amount of websites is ranked by this PageRank system. Google Inc. thinks important site is high level of PageRank. If your website is linked by other sites, the PageRank of your site is up. Moreover, if you want to up your PageRank, you should try to be linked by other sites of upper PageRank websites. Because Google Inc. the sites which is linked by upper PageRank websites, is important sites too.

That is to say, Information evaluates itself of the value individually, and shakeout itself. The philosophy of this system is from Web 2.0.

1.3 Web 2.0

Web 2.0 has become famous in mid-2005[13]. The word "Web 2.0" is coined in 1999[14]. It is characterized as facilitating communication, information sharing, interoperability, use-centered design and collaboration on the World Wide Web. It has led to the development and evolution of web-based communities, hosted services, and web applications. For example, social-networking, video-sharing, wikis, weblogs and mashups.

In 2004, John Batelle and Tim O'Reilly outlined their definition of the "Web as Platform", where software applications are built upon the Web as opposed to upon the desktop.

Umeda said its importance and suggest Web 2.0 as revolution[15]. He argued about cheap revolution. And he thinks it is true that even if you have high quality of software and hardware for writing, creating music, creating movie, and so on, you cannot be a professional artist. However, it is true high quality of software and hardware enhance your capabilities, too. He said Web 2.0 simpilify the above.

For example, Google Inc. released Google Maps API[1]. This can show us maps and satellite images in allmost all of the world include a few The Moon and Mars. Moreover it opened its API code. So, everyone who want to use it, can control this system taking by API at no cost. if we start our own website.

However, Web 2.0 is not new version of the Internet or new technology, but in reality refers to a second generation of web development.

That is, Web 2.0 thinks everyone on the Internet can't be bad. Web 2.0 thinks everyone not passive recipient of services, but active express actor and to participate.

To implement these systems, it is necessary to open the services which are easy to use for developer. Therefore many Web 2.0 sites provide **APIs**, and often feature a rich, user-friendly interface based on **Ajax** . In addition, it based on similar client-side interactivity frameworks, or full client server application frameworks.

Ajax stands for Asynchronous Javascript And Xml. **Ajax** is built-in classes of **javascript** to communicate on HTTP[2].It uses asynchronous communication by XMLHttpRequest, and it partially rewrites web page by **DHTML** [3] without updating as in response to connection results. Therefore, school weblog system has **Ajax** service.

1.4 Weblog System Services

There are myriad weblogs system in the world. The most easiest weblog system for setting up is to use Weblog system service like hatena-diary, cocolog, mixi diary and so on. MyVoice Communications, Inc surveyed well-known blog system service[16]. The result is shown in Fig. 1.2. we find FC2 and rakuten weblog system service are well used in Japan. A few elementary schools uses this service[17][18].

However, some of them has advertisings on the sites which is not necessary at all. And these are not designed for collaborative activity. Furthermore, All of these weblog system services have not documents uploading system and annual event calendar system. These weblog system service have some problems, as shown in Table 1.1.

Therefore, It is difficult to use these weblog service systems for elementary school.

And, There is other way of building weblog site. The way is to install existing weblog software like Movable Type, WordPress and BlognPlus.

These systems can build anything functions what you want, because of its editable source code. Accordingly, it is one solution for school weblog. However, it can only use under special environments.

For example, to use Movable Type demands ¥96,000. A lof of elementary schools will not able to pay

---

[1] Application Program Interface

[2] HyperText Transfer Protocol

[3] Dynamic HyperText Markup Language. DHTML is a technology based on **HTML** , **javascript**, and **CSS**. It allows static **HTML** sites dynamic taking by **javascript** and **CSS**.

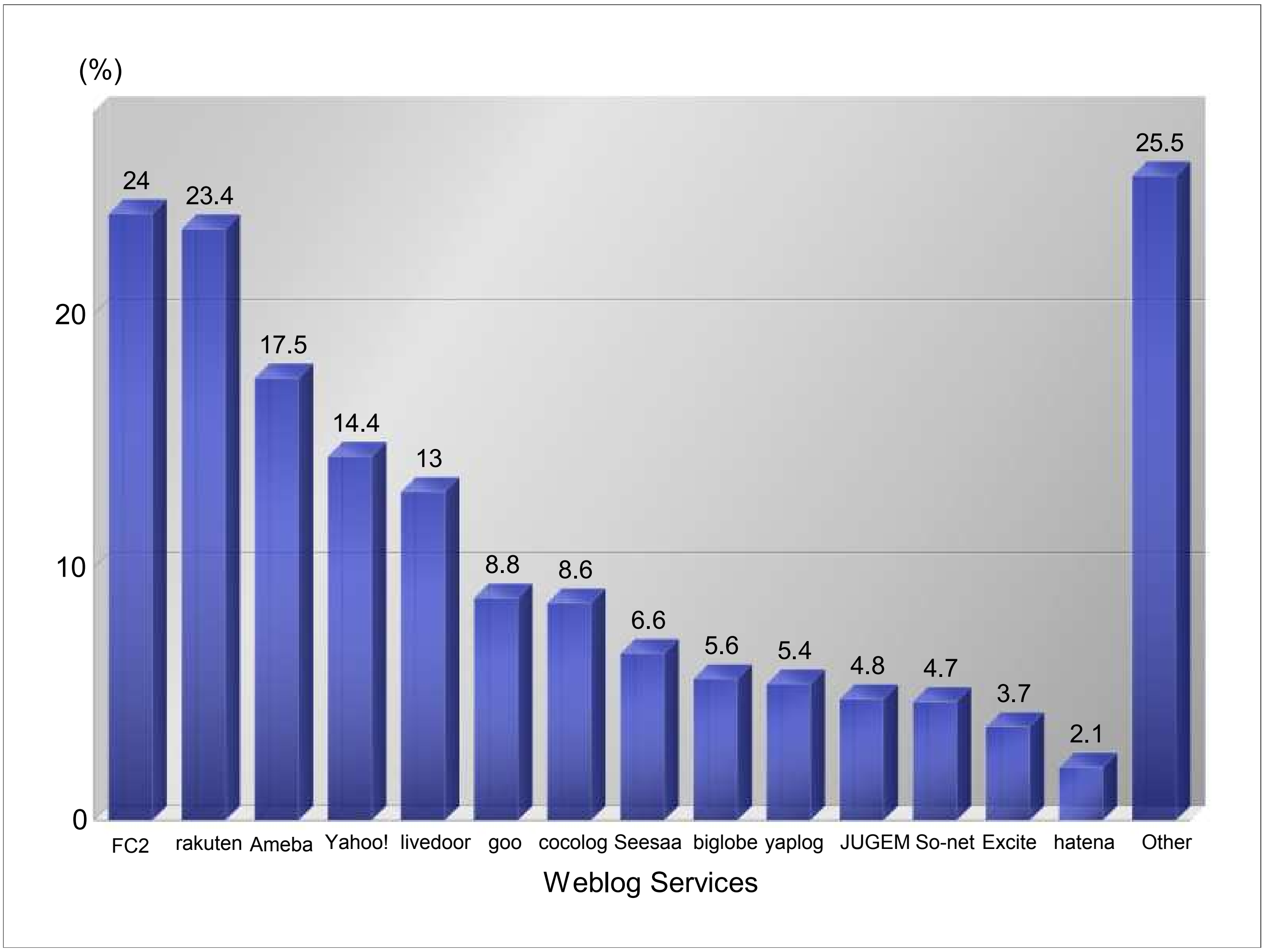


Figure 1.2: Weblog Services ratio in Japan at 2008. We find FC2 and rakuten weblog system service are well used. [Original from MyVoice Communications Inc.[16]]

such a high cost. And, WordPress requires all teachers of **RDBMS**[4]. To use **RDBMS** means that, always at least one teacher can control **MySQL** or **PostgreSQL** each elementary school. A lot of them will not able to setup systems for too high skill. It is just not realistic.

In contrast, BlognPlus can choose using **RDBMS** or not. So, quite a number of teachers can use it easily. Unfortunately, BlognPlus cannot implement file upload system.

As in these cases, There are no weblog systems for elementary school.

1.5 School Weblog System

The purpose of school weblog system development is to provide huge benefits to teachers who must update their school websites. It is not to edit the **HTML** source code by commercial software(e.g. IBM Homepage Builder) and to upload its code taking by **FTP**, but only to use web browser like Microsoft Internet Explorer,

---

[4] Relational DataBase Management System

Table 1.1: Problems using weblog system service for elementary school. All of weblog service shown here are not suitable for elementary school by these reasons.

Service	the most dangerous problem
FC2	with advertisement
rakuten	with advertisement
Ameba	with advertisement
Yahoo!	with advertisement
livedoor	with advertisement
goo	with advertisement
cocolog	with advertisement
Seesaa	with advertisement(If you don't update over 60 days.)
biglobe	with advertisement
yaplog!	with advertisement
so-net	with advertisement(mobile site)
excite	with advertisement(RSS field)
hatena	cannot upload documents and annual plan.
Blogger	cannot upload documents and annual plan.

Mozilla FireFox, Google Chrome, and Apple Safari.

The development of this system is written in **PHP**[19][20]. The resources of **PHP** are abounding. Therefore, one of the large features is that this system development can suggest solutions in a short period with using **PHP** resources.

And, this system is written in **PHP** for all web pages, so it is easy to change its specific comparatively.

Furthermore, Surely using **RDBMS** like **MySQL** and **PostgreSQL** rises its productivity. Because, **RDBMS** makes you not to develop on database access. And, **PHP**5 has original database system.

However, if it occured a incident that DB is broken by unknown reasons, the readability of users who are not developer is dramatically-low. Because to recognize **RDBMS** is quite more difficult than not use it. Therefore, it is risk factor.

Considering the benefits and the risks, this system has its database on **XML**[5], **CSV**[6], and **ini**[7]. And, This system is developed as Open Source Software.

---

[5] Extensible Markup Language

[6] Comma Separated Values

[7] initialization file

Chapter 2

Database System

2.1 Database on This System

This system has been developed for the teachers who are difficult to update website because of their low technical skills. Therefore, it needs to install this system on simple method as possible as we can.

When we build on client server system, we must consider the mothod how to storage the data by its scale.

For example, it is enough to storage the data in the program, when you build on a small system. But, if it is need to build on relatively moderate scale system, we must separate data from program for data independence.

That is to say, it is disired to hold only accessing data on each module connections.

To manage the data, it is the best thing to adopt **RDBMS** such as **MySQL**and **PostgreSQL**. And linkaging **RDBMS** and this system, it can build secured and high speed database.

However, it is requested users on some technical skill to use. Moreover, if the incident is occured on this system, to recover the data is very difficult for a lot of users. For example, every users must study **SQL**. To consider average technical skill of teachers as of now, it is not realistic idea.

As described above, it is need to build the **CRUD**[1] System instead of using **RDBMS** which is fundamentally adopted.

Because of managing the database in this system, it is free to design the data architecture. Therefore, in this system, it is designed and operationed three file formats. The formats are **ini**[22], **CSV**[23], **XML**[21][24][26] that are easy to use in **PHP**. Because **PHP**has a lot of libraries to control there.

These file formats has each attribute. And, it is necessary to conparing "what is most appropriately" as the situation demands.

Therefore, it is discussed these file formats in the next section.

2.2 Database File System

In this section, we describe three file formats of data as we disucussed in the Section 2.1.

These three file formats are based on ASCII[2] file system. it is simple to edit by text editor such as Vi, Emacs, Notepad and so on.

Next, it described advantages and disadvantages on these file formate. This system is build on **CRUD** of each file formats.

The most distinction is file access speed. If the number of records is low, it is negligible. However, if it is the large volume of records, to consider the file format is abundant need.

---

[1] CRUD means a Create, Read, Update, Delete functions. It is fundamental functions of database system.

[2] it is not Binrary file for machine, but for human.

ini

Schema

This file format is a de facto standard for configuration files. This files are simple text files with a basic structure. They are commonly associated with almost all of the operating systems. The name “ini” comes from the filename extension usually used, “.ini”, that stands for “initialization”. Sometimes, files using the ini file format will use a differenct extension, such as “.cfg”, “.conf”, or “.txt”.

And, this file format is one-to-one correspondence. That is to say, one line indicates one record. In General, the basic element contained in an ini file is the parameter. Every parameter has a name and a value, delimited by an equals sign. The name appears to the left of the equals sign.

For exanple, it is constructed on $[variables]$=$[data]$.

Advantages

It is suitable for storaging one-to-one correspondence. It is simple to design, because **PHP** has standart function to control it.

Disadvantages

Surely, it is suitable for storaging one-to-ont correspondence. Also, it is not suitable for this situation. If the number of data are unknown, it is difficult to use this file format. In addition, it is also difficult to understand the connection between data correslates.

It is difficult to automatic creating the data on program because its one-to-one correspondence character.

CSV

Schema

Comma separated values file is used for the digital storage of data structured in a table of lists form, where each associated item in a group is in association with others also separated by the commas of its set. Each line in the **CSV** file corresponds to a row in the table. With in a line, fields are separated by commas, each field belonging to one table column. Because it is a common and simple file format, **CSV** files are often used for moving tabular data between two different computer programs, for example between a database program and a spreadsheep program.

CSV is one implementation of a delimited text file, which uses a comma to separate values. For example, **CSV** is such as $[data]$,$[data]$,$[data]$, $\cdots$.

It is described more information and example in the Section 3.5.

Advantages

It can manage per group, because it can storage multiple data in a line. It is simple to design, because **PHP** has standart function to parse and control it. Microsoft®Office Excel can access. Therefore it is simple to start.

Disadvantages

It is impossible to give the meaning to the data. When the data accssed by multiple websites, it can do nothing to change its specifications. Such as adding the element of data, it occured. Because, it is need to rewrite all programs which access **CSV** file.

XML

Schema

XML is a general-purpose specification for creating custom markup languages. The term extensible is used to indicate that a markup-language designer has significant freedom in the choice of markup elements.

The characters which make up an **XML** document are divided into markup and content. Markup and content may be distinguished by the application of simple syntactic rules. All strings which constitute markup begin either with the character < and end with the next >, which is called “Tag”. Moreover, it has child tags. Therefore it have no concept on the record.

For example, **XML** is below:

```
<?xml version="1.0" encoding='UTF-8'?>
<item>
   <color>
      <red>
         <fruit>
            apple
         </fruit>
         <fruit>
            strawberry
         </fruit>
      </red>
      <green>
          <fruit>water melon</fruit>
      </green>
   </color>
</item>
```

It is described more information and example in the Section 3.5.

Advantages

XML has tag system. Therefore, it can give the meaning to the data. Moreover, it is able to make the data in group, because it can have child tags. Therefore it can change its specifications. Such as adding the element of data.

Disadvantages

It is tend to inevitably become a large file for its tag system. It has a cost to access time on accessing the data. It is difficult to access **XML** on **PHP** until version 4.

Thus, **ini** is available as the fundamental setting on the system.

In contrast, **CSV** and **XML** are available as the frequently accessed data such as daily diary.

In General, it is more preferable to adapt **CSV** which is rapid process on data than **XML**, because the access on the diary is frequence.

Meanwhile, this system has prospects of change its specifications by some reasons. The reason is that to updating or to be desired new functions by teachers and parents.

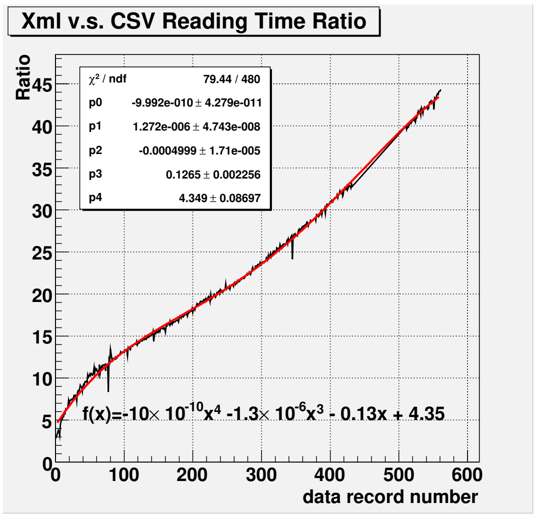


Figure 2.1: **XML** v.s. **CSV** access time ratio. It is disucussed Section 2.1.

To consider two tradeoff, **XML** is used in many programs accessing data, such as diary data. **CSV** is used in small scale data. And, data access time ratio on **XML** v.s. **CSV** has been measured. More information is in the Section 3.4. The file formats and database function, which have been used in this system are described in Table 2.1.

Table 2.1: The file formats and database function, which have been used in this system. [[*name*]] means multiple data.

file name	function	format
setup.ini	whole setting.	**ini**
setupmail	mail address encrypted by DES	-
log.dat	log	**CSV**
articlecount.dat	article number	-
category.dat	category information	**CSV**
counter.dat	total access number	-
countertoday.dat	today's count	**CSV**
diary.dat	category.dat for articlecount.dat	**CSV**
documentcategory.dat	the category for upload documents management	**CSV**
googlemapkey.dat	registration code for Google Maps	-
googlemaplocation.dat	information of the degrees of latitude and longitude on this school	**CSV**
link.dat	link information	**CSV**
rss.xml	RSS(RDF Site Summary) information	**XML**
weather.dat	today's prefectual weather information	-
[[*year*]].xml	school event information per year	**XML**
googlemappoints.xml	map information	**XML**
number.dat	upload documents counter	-
listupdate.dat	last uploaded document information	**CSV**
list.dat	upload documents information for number.dat	**CSV**
[[*day*]].xml	diary imformation	**XML**

Chapter 3

Network Specification

3.1 Network Configuration

School Weblog system is exist on the Internet or Intranet. In General, this system is to be opened on the Internet. Therefore, this system is easy to update any time and any where using the Internet. Recently, mobile phone are able to access on the Internet, it can also access and update this system.

By contrast, because, it had been to use only static web page in Neyagawa city until 2008, we cannot build such a client server systems.

However, it is found that web server build on client server system in Neyagawa city. Therefore this system has been opened on the Internet, and home server has also been opened for development.

It is recognized as a major challenge for opening home server. The reason is why it costs for maintenance and electricity expense. It is required low cost of administrator.

Therefore, it has been used to build on Apple Mac mini Server[27]. Mac mini is micropower machine. The maximum electric power consumption of Mac mini is only about 75W. Usually, it indicates only about 35W.

Next, it is described how to build web server. First of all, we have to know is, there are used "IP address[1]" on the Internet for specify the machine.

IP address uses 32 bit addresses, which limits the address space to 4,294,967,296(2^{32}) possible unique addresses[28]. However, 2^{32}(IPv4) is not enough in the world. Therefore, it distinguish Intranet from Internet. WAN means Internet world, and LAN means Intranet world[29].

In the WAN, it is strictly ruled by unique IP address. Therefore, it is to use global IP address.

In contrast, in the LAN, it is not ruled to decide IP address. However, IP address is usually decided on some rules. A famous rule is from Class A to Class E. It is decided the number of machines on the LAN. But, Class D is to use for multicast, and Class E is to use for test.

Table 3.1 indicates, IP Address Class definition. Because there are a few machines which not over 254 at my home, it is enough to build on Class C.

It is described how to open home server on the Internet. Usually the router allocate to private IP address for preparing the situation of multiple machines.

Now, this server machine for development is not allocated the global IP address, but private IP address. If this goes on, it cannot open server. Therefore, it need to set IP masquerade on the router which is mounted between LAN and WAN.

IP masquerade allocates port number every machines(usually private IP address) for more than one computer can access at the same time on one global IP address. And it works **NAT**[2].

---

[1] Internet Protocol Address

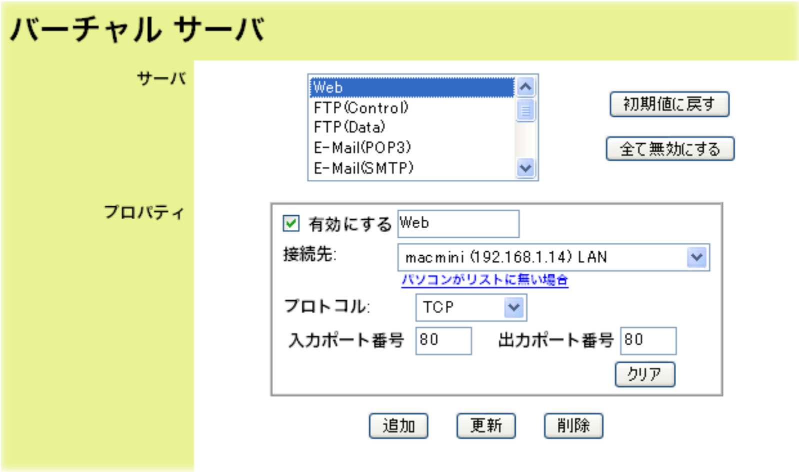
[2] Network Address Translation

Table 3.1: IP Address Class }When you build home server and maintain, Usually there are not over 254 machines. Therefore it is enough to build on Class C

Class	The range of private IP address	The number of Networks	The number of Hosts
Class A	10.0.0.0 10.255.255.255	255	16,777,214
Class B	172.16.0.0 172.31.255.255	65,536	65,534
Class C	192.168.0.0 192.168.255.255	16,777,216	254

But, If you use more than one machines on one global IP address, external use who access your computer cannot distinguish what is the server or not. Therefore, it needs to create **NAT** table and to assign what is the server port. Now, this case is concerned with web server, the router should be opened at 80 port.

Fig. 3.1 as shown here is router set up sample.



バーチャル サーバ

サーバ: Web

プロパティ

☑ 有効にする Web

接続先: macmini (192.168.1.14) LAN

プロトコル: TCP

入力ポート番号 80 出力ポート番号 80

Figure 3.1: The 80 port should be opened, if you want to build web server.

Moreover, after opening the port, it need to set. Now, ISP[3] has assigned global IP address dynamically. That is, each time, you connect to the Internet, or after a certain period of time, the global IP address is changed. DDNS is updating DNS records and hostname at each time you connect.

It is distant idea, because to specify the server takes IP address. Therefore it is used DDNS[4].

In particular, if it is checked to change the IP address, DDNS changes DNS record to new IP address on the host name. Fig. 3.2 as shown here is constructed network on this study for development.

---

[3] Internet service provider

[4] Dynamic Domain Name Systems Service

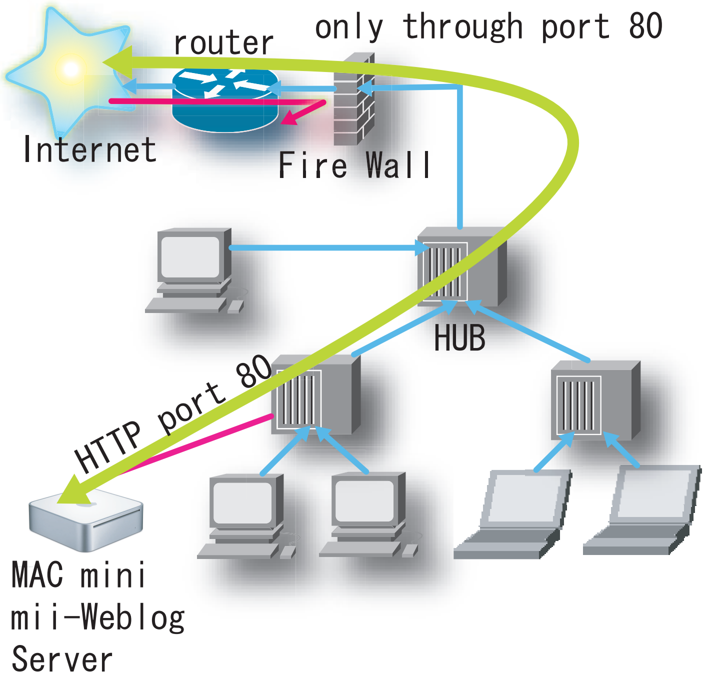


Figure 3.2: Except the 80 port is blocked by the function of the firewall of router

3.2 Server Configuration

The server is Apple Mac mini because it is high performance in spite of its low wattage. Fig. 3.3 shown is its appearance. Mobile phone is on the Mac mini for comparing its scale. And it is described the specification in the Table 3.2.

Figure 3.3: Apple MAC mini server. mobile phone is for preparing the scale. The scale is only about 16.5×16.5×5 [cm]

Table 3.2: Server Specification. It is used Darwin kernel. Therefore we can use UNIX resources.

Category	Specification
computer	Apple Mac mini
CPU	Power PC G4 1.42GHz
secondary cache	512KB
RAM	512MB DDR SDRAM PC3200
OS	MAC OS X(10.4 Tiger)
httpd	Apache1.3.33
PHP	v5.1.2

3.3 Software Configuration

The software specification is shown in the Table 3.3, but it is written only concern with this study.

Table 3.3: Software Specification.

Category	Value
PHP version	5.1.2(more than 4.1)
upload_max_filesize	100M
GD library	2.1.10
mbstring.http_output	pass
mbstring.internal_encoding	EUC-JP
mbstring.language	Japanese

Now, This school weblog system for development is work on http://ymlabo.ddo.jp/~ymlab/blog/

This system is took by **PHP**script language. Software configuration on this system is shown in the Fig. 3.4.

That is, this system accesses by **PHP**, and the result put into **HTML** . After this communication, it merges the **HTML** , **javascript**, and **CSS**. Finally, it send the data to server program.

Sample code is shown below. **PHP**is worked only from <?php, to > code. This program is add from 1 to 100, and output the result.

It is same as

$$\sum_{i=1}^{100} i = 5050.$$

```
<html>
 y<head>
 y y <title>
 y y y  Exsample
 y y </title>
 y</head>
 y<body>
 y y <h1>
 y y y  sumup from 1 to 100
 y y </h1>
```

```
 y y <p>
<?php
 y$sum = 0;
 y for ( $i = 1; $i <= 100; $i++ ) {
 y y $sum += $i;
 y}
 y print "Result:".$sum."\n";
?>
 y</p>
 y</body>
</html>
```

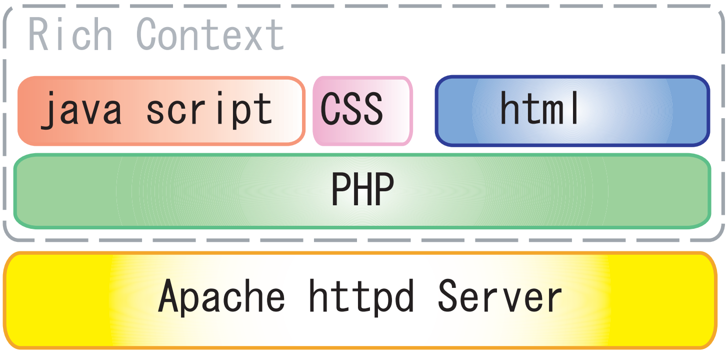


Figure 3.4: Software configuration. The base is Apache httpd server. And **PHP** output the result into **HTML CSS javascript**.

3.4 Database

This system controls originally by **ini**, **CSV** and **XML** without using **RDBMS** such as **MySQL** or **PostgreSQL**.

The data which is needed is shown here.

```
setup information category list
diary update Google Maps key
links QR code
article id total access number
RSS today's prefectural weather
current location update documents category
school event today's access number
stylesheet javascript
page header page footer
diary info update document list
free area recently update documents
```

It is unreal that to integrate this data. And it is necessary to access more fast.

PHP5 supports easy access to directly parse on **XML**. However, **PHP**4 has been unsupported. Therefore, This system takes a library[30] on **PHP**. This library can transform data from **XML** to **PHP** array. And it can also transform data from **PHP** array to **XML**.

3.5 The Comparison of Access Time on XML and CSV

XML data sample is shown below. **XML** can give the name on each tags. Therefore **XML** can add the meaning to every elements

```
<?xml version = "1.0" ?>
<description>This is Students-Point Information.</description>
<student>
 y<familyname>Osaka</familyname>
 y<firstname>Taro</firstname>
 y<major>particle-physics</major>
 y<points>
 y y <linear_algebra>100</linear_algebra>
 y y <theory_of_relativity>95</theory_of_relativity>
 y y <mechanics>75</machanics>
 y</points>
</student>
<student>
 y<familyname>Neyagawa</familyname>
 y<firstname>Hanako</firstname>
 y<major>plasma-physics</major>
 y<points>
 y y <linear_algebra>95</linear_algebra>
 y y <solid_state_physics>60</solid_state_physics>
 y</points>
</student>
```

This sample is points information on examination of student. Now, two student is registered. the name of student are Osaka Taro and Neyagawa Hanako. Taro is majored in elementary particle physics, and Hanako majored in plasma physics.

And, Taro has got course credits;The course is linear algebras(100 pt), relativity(95 pt), mechanics(75 pt). Hanako has got it; The course is linear algebras(95 pt), solid state physics(60 pt).

The data shown below is **CSV** data.

```
#This is Students-Point Information.
#familyname,firstname,major,linear_algebra,theory_of_relativity,machanics,solid_state_physics
Osaka,Taro,particle-physics,100,95,75,0
Neyagawa,Hanako,plasma-physics,95,0,0,60
```

It is commonly-noted that line head is started by “#”, which means the line is to be ignored in **CSV** formatted file.

Therefore this sample is used “#” as comments. Of course, this process is to be built by system.

To compare **XML** file and **CSV** file, **CSV** file is more small size than **XML** overwhelmingly.

Small data means small access time, that is, it can build high performance web sites.

Chapter 4

Capability and Features

4.1 Top page

This system is client server system, it needs CRUD with web browser. Almost all of operating system have equipped web browser. And there are variety of browser types and versions. That makes it increasingly difficult to develop system. To solve this problem, it need to integrate browser specification. W3C announces and recommends the standardization. However, it has been ignored yet(especially Microsoft Internet Explorer®). Therefore it needs to build on the server. The top page is shown in the Fig. 4.1.

TeX記法に対応 編集

2006年11月10日 1 count
TeX記法に対応した。

TeX記法とは、mimeTeXを使って、TeXの記法をサポートするもの。

ルールは、[ここに数式のTeX:tex]でOK。ただし、texは小文字
例えば、こんな数式を日記に書くことができる。

$$\left(\int_0^\infty \frac{\sin x}{\sqrt{x}} dx\right)^2 = \sum_{k=0}^\infty \frac{(2k)!}{2^{2k}(k!)^2}\frac{1}{2k+1} = \prod_{k=1}^\infty \frac{4k^2}{4k^2-1} = \frac{\pi}{2}$$

ちなみに、mimeTeXというのは、TeXのブラウザ版と思えばよいだろう。
TeXは、論文書くのに最適化されたものである。

それをブラウザとかインターネットでも簡単に使いたい。という主張で、
mimeTexは生まれた。
あ、ちなみにTeXは、大学ではみんな「テフ」と読んでいた。社会人になり、他の大学出身(少なくとも、佐賀大学、東京都立大学、京都大学、芝浦工業大学、電気通信大学、大阪府立大学、東京理科大学、なんとか専門学校)でも皆テフって言ってた。本当はテッハとか、テックスとからしい。

やはり、このmimeTeXよりも普通の方が圧倒的に美しいけれども、ネットの書き込みで数式が使えたら便利だと思い、機能を実装。

日記を書くときに、
[\frac{1}{2}: tex] コロンは半角で！
とするだけで、
$\frac{1}{2}$
と出力される。

<< 2006年11月 >>

日	月	火	水	木	金	土
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

学校外へのリンクです。

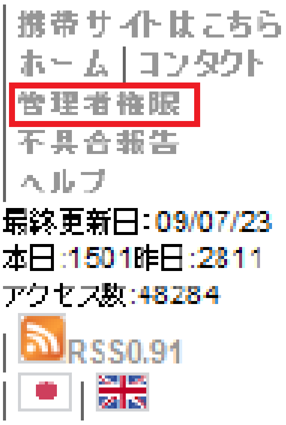
学校Weblogシステム
〒572-0013
寝屋川市三井ヶ丘3-7-3
TEL:072-835-9297
FAX:072-832-2901

Figure 4.1: Top view of the school weblog system. It is mainly separated into 3 parts.

When it is separated into 3 category such as “left”, “center”, “right”. The left part is displayed, which is category or weather forecast information functions. The center part is displayed, which is main sentences such as diary, school event, and uploaded documents. The right part is displayed, which is complementary function such as search system, calendar information, and the location of the school.

4.2 Administrative Privileges Screen

The link to the administrative privileges screen is situated in the right upper part of the top screen. Fig. 4.2 shown here is the link. If we click this link, we can go to administrative privileges.



最終更新日:09/07/23
本日:1501昨日:2811
アクセス数:48284

Figure 4.2: How to access Administrative Privileges Screen. Top page upper right has a link.

The function list of the administrator can access is shown in the Table 4.1. This site is fundamentally blocked by password system.

Table 4.1: Function list on administrator

diary	We can write the diary. This diary can use mathematical expression or movie
setting	We can set up initial setting.
category	We can set category to each article.
plan	We can set up school event on the Calendar.
link	We can set up links.
upload documents	We can upload documents.
weather forecast	We can show prefectural forecast information on the top page.
detail weather forecast	We can show area forecast information on the top page.
QR	We can create QR code for mobile site access.
Google Maps	We can show our school location, and can show marker what you want.
access analysis	We can access analysis taking by Google Analytics.
password	We can build password system taking by .htaccess and **PHP** session.

4.3 Diary

This site is most main page. It is able to be written daily diary. And, it includes rich context taking by **HTML** . It also includes YouTube movies.

4.3.1 Specifications

This system is designed for multi articles in one day. The data of diary is managed by **XML**. You can see it below.

In particular, When it was written articles, the system create [*year-month*] directory and [*filename*].xml file. Example is shown here. However, it is edited simplicity from original source code. <diarynum> means the number of articles in this day. The example is only one article.

```
<?xml version="1.0" ?>
<diary>
    <year>2009</year>
    <month>06</month>
    <day>10</day>
    <diarynum>3</diarynum>
    <article>
        <no>122</no>
        <diarycount>3</diarycount>
        <title> ˝„qz˝ w7 w¶6 ‘ ‘h      </title>
        <category>JYQFDIIZ</category>
        <contents>  ˝„fl fl «  t    q  oVoz
 cM  q‘lT q’o  OtsloV ‘h{

  \z Q     :KUlh  qTz
  \z  : lhqC tR  U QoV ‘h{

  hz google  U  b  google map street view   loz
  ot˝ w⁄   ‘ ‘h{
 fi\w ‘lo  flqTzfi˙ ‹ txMT   w fl
 q* pMhq¥M b{
        </contents>
        <images>
            <isoneline>on</isoneline>
            <image>
                <imagealt></imagealt>
                <imageurl>2009-06/img/1031.jpg</imageurl>
            </image>
            <image>
                <imagealt></imagealt>
                <imageurl>2009-06/img/1032.jpg</imageurl>
            </image>
            <image>
                <imagealt></imagealt>
                <imageurl>2009-06/img/1033.jpg</imageurl>
            </image>
        </images>
```

```
        <comments>
            <commentnum>46</commentnum>
            <comment>
                <username>dummy</username>
                <contents>dummycontents</contents>
                <timestamp>time();</timestamp>
            </comment>
            <comment>
                <username>     </username>
                <contents>   x ˝„w¯6pz    :p::Uw|  ‘h{\w− pU  y  h
 Mpb{ </contents>
                <timestamp>1244610500</timestamp>
            </comment>
            <comment>
                <username>      j </username>
                <contents>   :U   :ts   ‘h{     </contents>
                <timestamp>1244610515</timestamp>
            </comment>
        </comments>
    </article>
</diary>
```

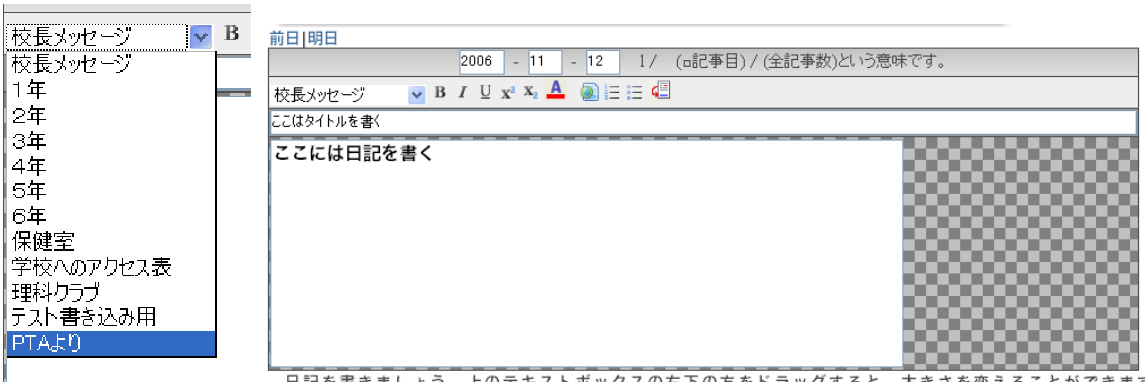
If you want more than one article in today, The system adds <article> </article> into <diary> </diary> on **XML**.

And, it is also adding rich context. It is correspondence to **HTML** ,TEX, and Youtube forms. For example, **HTML** form is directly input **HTML** such as “This is a pen”. TEX form is original Tags such as Hatena[31].

4.3.2 Features

This diary has a category attribute on each articles. The name of the category is able to create category setting function, which is given later.

For example, if you resisted “1st grader”, “2nd grader”, and so on, you can search refinement. The screen is shown in the Fig. 4.3.



2006 - 11 - 12 1/ (n記事目) / (全記事数)という意味です。

校長メッセージ

ここはタイトルを書く

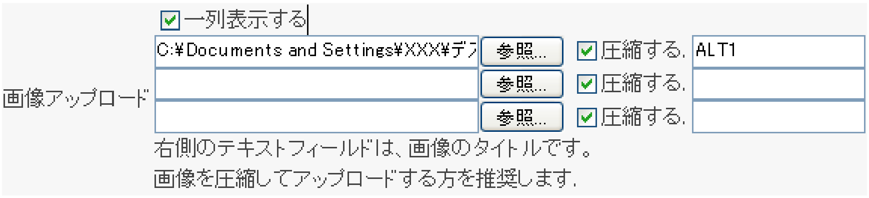
ここには日記を書く

Figure 4.3: You can add the category attribute in each article. The right is title and writing message view.

This system supported uploading less than 3 image file a article such as Fig. 4.4. The uploaded images are stored in the database.

If you upload with compress checkbox, system compress automatically. The max size of width is 640px. Moreover, this system create another file which is compressed 160px, whether it was checked or not. Because, it needs to consider mobile phone. Mobile phone requests low resolution of that image for packet costs.

The uploaded image is output such as in the Fig. 4.5. The images is zoomed out. There are delete checkbox instead of reference button. The method of delete images is check delete checkbox, and submit write diary button.



☑一列表示する

画像アップロード

C:¥Documents and Settings¥XXX¥デ 参照... ☑圧縮する。 ALT1

参照... ☑圧縮する。

参照... ☑圧縮する。

右側のテキストフィールドは、画像のタイトルです。
画像を圧縮してアップロードする方を推奨します。

Figure 4.4: This is uploading image screen. This system supported uploading less than 3 image file a article

☑一列表示する

画像アップロード

☐削除する ALT1

参照... ☑圧縮する。

参照... ☑圧縮する。

右側のテキストフィールドは、画像のタイトルです。
画像を圧縮してアップロードする方を推奨します。

Figure 4.5: This is how to delete uploaded images. There are delete checkbox instead of reference button. Therefore the method of delete images is check delete checkbox, and submit write diary button.

This system support multi articles a day. We call the order, “diary count”. Clicking right arrow button, you can create next article which diary count is incremented by one. Fig. 4.6 is the sample. By the way, the word 1/ 2 shown in the Fig. 4.6 means [*diarycount*] / [total diary count in a day]

2006 - 11 - 12 1 / 1

Figure 4.6: Diary count architecture makes The [*day*].xml write many articles.

4.4 Administrator Setting

4.4.1 Specifications

The data on this page is set .ini file which is parsed by **PHP**. Any one is allowed to see data because it is opened. However, the email address has two contradicting demands. The school email address is to be opened on the Internet. However, If opening the email address, spammer attacks this email address with delight.

The most spam mail is collect the e-mail address on the Internet automatically. Therefore, opened e-email address is to set up encrypted.

This system registers the e-mail address with encryption by **DES**. and put the encrypted e-mail address on th browser.

DES is reversible cipher, it is it can decoding. In this case, if it takes artifact cipher, user also cannot know the e-mail address. Therefore, this system takes thus thing. spam crawler is blocked by its encrypted word, and browser can encrypt the e-mail address. Users are not conscious of cipher.

Surely, it is exposed that spammer discovered with a way to penetrate the key code. Therefore, you have to maintain permissions in an appropriate.

For example, e-mail address of Mii elementary school in Neyagawa is registered as shown below.

```
69-+>398U2</0dI7+36>9a+g7/U-97I
+21
```

4.4.2 Features

The initial data which is registered by administrator is that.

1. **The title of this system**

   Setting this system title. It is equals to set the <title> tags.

2. **The title image.**

   Setting the Image in the top page. If you set nothing, previous information is stored.

3. **Add the link on the title image.**

   We can choose add the link to the top page or not on uploaded title image.

4. **Link target**

   Setting the target attribute on <a href>. Default is “_blank”.

5. **Comment input policy**

   Setting a comment input policy. We can choose 1 of 4 setting mode.

   1. Everyone can write the comment.
   2. Everyone can write the comment, However it needs password which is opened on the screen to prevent spammer from writing.
   3. Everyone cannot write the comment, It needs password.
   4. No one can write the comment.

6. **The number of items a page.**

   Setting the limit of items a page. Default is 10.

7. **The format of date**

   Setting the parameter of the date. It follows **PHP** rules. %Y means year, %m means month, and %d means day. Default is %Y-%m-%d.

8. **Marquee attribute**

   Setting the word that can see on the top page with marquee. For example, today’s school information.

9. **Street address**

   Setting the street address. Nothing is allowed.

10. **Zip code**

    Setting the zip code. Nothing is allowed.

11. **Dial number**

    Setting the dial number. Nothing is allowed.

12. **Fax number**

    Setting the fax number. Nothing is allowed.

13. **E-mail address**

    Setting the e-mail address. Nothing is allowed. the e-mail address is encrypted, taking by **DES**.

14. **URL**

    Setting the URL of this site. For example, your website is “http://hogehoge.com/babu/pabu/blog/”. In this case, you write “http://hogehoge.com/babu/pabu/blog/index.php”.

15. **Abstract**

    Setting the abstract message, which is used in **RSS**.

16. **Languages**

    Setting the language, which is used in **RSS**. Default is “ja”.

17. **Google Analytics number**

    Google Analytics is the most strong access analysis function. In nature, it should include **javascript** code.

18. **Furigana API URL**

    If you want to set your articles with Furigana, set the Furigana **API**. Now, it cannot upload this program in Neyagawa city by taking binary programs. Therefore it is linked to development machine. Default is “http://ymlabo.ddo.jp/ ymlab/webservice/mecab/mecabfurigana.php”.

19. **The number of history information of uploaded documents a page**

    Setting the max number of history information of uploaded documents a page. It is printed on the right part of the page.

20. **The number of new article information**

    Setting the max number of new article information.

21. **Plan**

    Setting whether the event calendar information is output or not.

22. **Documents**

    Setting whether the uploaded document information is output or not.

23. **Link**

    Setting whether the link information is output or not.

24. **Location**

    Setting whether the location information is output or not.

25. **School map**

    Setting whether the map of the school is output or not. It is strongly recommended that it is set after setting Google Maps setting.

26. **Weather information**

    Setting whether the weather forecast information is output or not. It is strongly recommended that it is set after setting weather forecast setting.

27. **Area weather information**

    Setting whether the area weather forecast information is output or not. It is strongly recommended that it is set after setting area weather forecast information. The are weather forecast information is not only to set prefectural, but to set more detail area.

28. **New article information**

    Setting whether the new article information is output or not.

29. **QR code**

    Setting whether the qr code is output or not.

30. **Calendar**

    Setting whether the calendar information is output or not.

31. **Menu**

    Setting whether the menu information is output or not. The menu is fundamentally to be checked. However The menu is not support this system. Therefore, you should design.

32. **Google site search**

    Setting whether the Google search information is output or not.

33. **The number of items a page in the mobile sites**

    Setting the number of article items a page in the mobile site. Default is 10.

34. **Comments**

    Setting whether the comments is output or not.

35. **The Past article filter**

    Setting whether the past article filter is output or not. If it is chosen be to output, you should choose Ext library mode or Accordion.js mode.

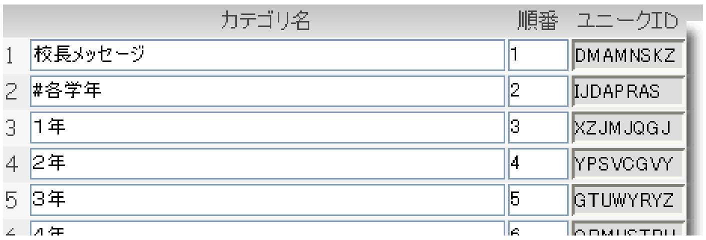
36. **Furigana filter**

    Setting whether the Furigana filter is output or not. Furigana filter is work on development server. Therefore, if the development server was down, it would not use this service.

4.5 Category

4.5.1 specifications

To set the category, it can have the category information each daily diary. And, after writing, you can see filtered articles such as principal message, 1st grader, 2nd grader, etc. The screen of setting category is shown in the Fig. 4.7.



	カテゴリ名	順番	ユニークID
1	校長メッセージ	1	DMAMNSKZ
2	#各学年	2	IJDAPRAS
3	1年	3	XZJMJQGJ
4	2年	4	YPSVCGVY
5	3年	5	GTUWYRYZ

Figure 4.7: The screen of category setting. To set the category makes each article categorized.

The category which is registered is for filtering. It is able to be categorized in each article. The category name is to be expected in Japanese language. A lot of Japanese character code make an already difficult situation even more difficult. Moreover, There are a lot of indistinguishable Chinese character such as “ ” and “ ”. Therefore, the system creates unique ID table. Each category name has each unique ID. Unique ID are almost never overlapped.

In particular, when adding the new category name, this system randomly-generated unique ID which is based on 8 word alphabets in uppercase. In theory, the system can be expressed in 26^8 different ways[1]. However, user can ignore it.

The database list table is shown here. It is based on **CSV**. The separate word is “<>”. Therefore, if the category named include “<>” word, the system transform < and > to < and >.

Moreover, if the word, “#” in head of line, is used for categorizing category name. Therefore categorizing category word can not appear on writing diary screen. The number between category name and unique ID is display order. Category name is shown in number order.

```
principal message<>1<>DMAMNSKZ
#grades<>2<>IJDAPRAS
1st grader<>3<>XZJMJQGJ
2nd grader<>4<>YPSVCGVY
#teacher's office<>5<>JHGAEHRS
school-provided lunch<>6<>JHWEHERT
```

4.5.2 Features

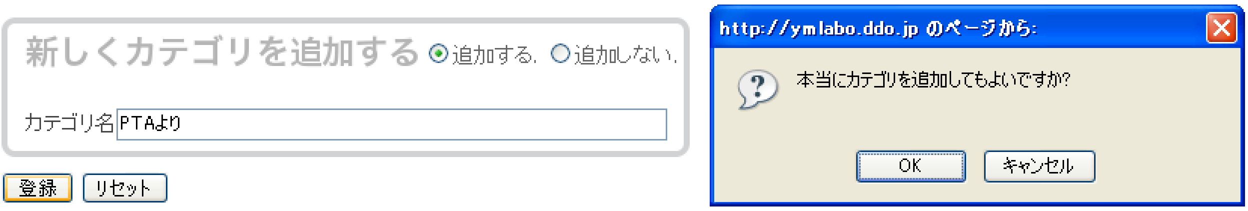
First of all, it needs to add new category name. Selecting the radio button named adding new category name, it appears the textbox to add new category name. And, you input it. The sample shown in the Fig. 4.8 is “by PTA”. After that, it appears confirm dialog, and click OK to successful.

If we succeed adding category name, we can confirm the result. Fig. 4.9 shows its sample. The center numerical number (14) means the order. Right part is unique ID, we discuss above.

The added category name can be confirmed on the top page. Fig. 4.10 shows it. If it clicked the category name, we can see filtered articles by category name.

---

[1] 208,827,064,576



新しくカテゴリを追加する ◉追加する。○追加しない。

カテゴリ名 PTAより

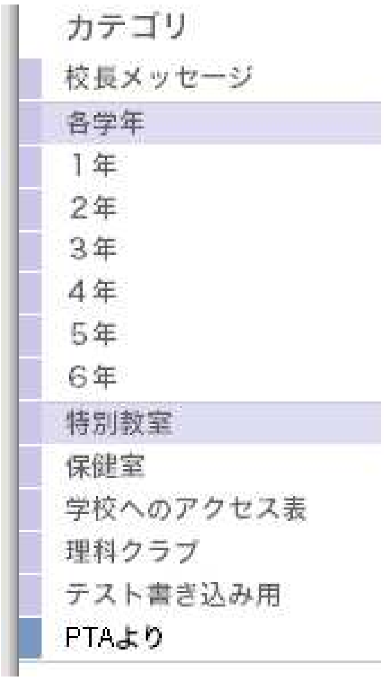
http://ymlabo.ddo.jp のページから:

本当にカテゴリを追加してもよいですか?

Figure 4.8: The screen of adding new category name. After submitting, it appears confirm dialog.

14 PTAより 14 COQLUVSW

Figure 4.9: On adding category name, on reflecting.



カテゴリ
校長メッセージ
各学年
1年
2年
3年
4年
5年
6年
特別教室
保健室
学校へのアクセス表
理科クラブ
テスト書き込み用
PTAより

Figure 4.10: Clicking the category name shown above, we can see filtered articles on the top page.

4.6 Event Plan

4.6.1 Specifications

To set the plan, it can output the school event plan in annual or monthly calendar. It has been designed that the message can update a year which taking uploading file or a day. Event Plan updates taking by **XML**. The detail is shown here.

```
<?xml version="1.0" ?>
<doc>
    <article>
        <month>5</month>
        <day>1</day>
        <contents>Visit children at their homes</contents>
    </article>
```

月間行事予定

2006年 11月

		内容
1日	水	障担連
2日	木	Eタイム・委員会
3日	金	文化の日・市民文化祭セレモニー
4日	土	（鉢かづきフェスタ）
5日	日	
6日	月	学年会
7日	火	体重測定（低）・初任者研
8日	水	体重測定（中）・河北研
9日	木	Eタイム・体重測定（高）・クラブ・校長会・初任者研
10日	金	あいさつ運動
11日	土	市PTA音楽祭
12日	日	

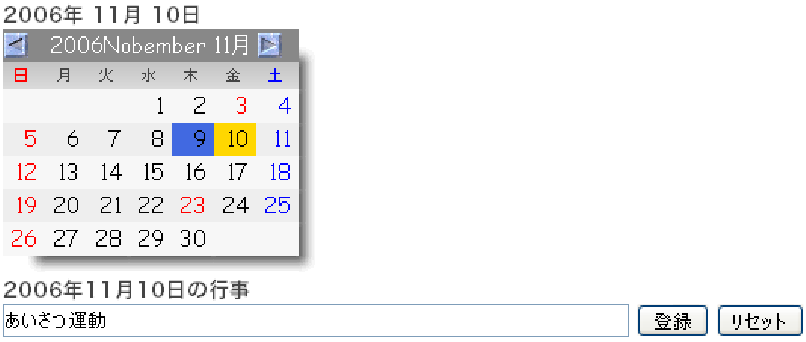
Figure 4.11: The screen of school plan. It can both a day and a year updating.

```
    <article>
        <month>6</month>
        <day>1</day>
        <contents>dental checkup at 4th,5th,6th grader,
committee conference,beginning teachers' training,cleaning the pool
</contents>
    </article>
</doc>
```

This **XML** file above means the school plan at May 1st, and June 1st. The day is based on between <article> and </article>. It is no use to sort by days. System sorts it.

4.6.2 Features

Fig. 4.12 shows setting screen. The box filled with blue is today. It cannot change. The box filled with yellow is selected day. If you want to assign, input data on the textbox, and click submit button.



2006年 11月 10日

2006Nobember 11月

日	月	火	水	木	金	土
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

2006年11月10日の行事

あいさつ運動

Figure 4.12: School Plan Screen. It can update a year and a day.

It can update a year. Fig. 4.13 is the sample data. The sequence is shown below. First of all, downloading the sample file, which is based on Microsoft Excel® file.

The sample file is opened on the Internet. The **URI** is “http://ymlabo.ddo.jp/˜ymlab/blog/admin/sample.zip”. But, it needs to transform Excel file to **CSV**. It is very easy way to use Excel.

After uploading **CSV**, the system re-transforms to the **XML** and stored.

平成18年度 年間行事予定 5/31 寝屋川市立三井小学校

4 月 April
5 月 May
6 月 June
7 月 July
8 月 August
9 月 September
10 月 October
11 月 November
12 月 December
1 月 January
2 月 February
3 月 March

Figure 4.13: The sample file. We can easy to create taking by Spread Sheet Application such as Microsoft Excel®or OpenOffice.

Moreover, it can use with **Ajax** service. It needs no screen transition.

4.7 Link

4.7.1 Specifications

Link function is also based on **CSV** such as category setting in the Section 4.5. To set up the links, it can show the hyper links which is external web sites. The detail is shown in the Fig. 4.15. The links has been registered is shown above. The right part of the name is link name. And the box which is in the under, is to add new link.

Next, it is described how to add the new link. When it is added the new link, click the radio button whose name is “add”. On checking the radio button, we can find the new textbox. After input the URL and alt attribute, click register makes it success. The example is shown in the Fig. 4.16.

After submitting, it reflect immediately on the Fig. 4.15 such as Fig. 4.17.

Finally, the information which is registered, is reflected on the top page. If you over the link by mouse cursor, it shows linked **URL** screen, which is external sites, is displayed. Therefore users is easy to recognize it is external.

2009年 8月

	内容	
1日 土		確定
2日 日		確定
3日 月	水泳教室(高・低)	確定 ✓
4日 火	水泳教室(高)	確定
5日 水	水泳教室(高)	確定 ✓
6日 木		確定
7日 金		確定
8日 土	子ども教室	確定
9日 日		確定
10日 月		確定
11日 火		確定
12日 水		確定
13日 木		確定
14日 金		確定
15日 土		確定
16日 日		確定
17日 月		確定
18日 火		確定
19日 水	中央大会練習	確定
20日 木	中央大会練習	確定
21日 金	中央大会	確定
22日 土		確定
23日 日		確定
24日 月		確定
25日 火		確定

Figure 4.14: This plan system is supported **Ajax** service.

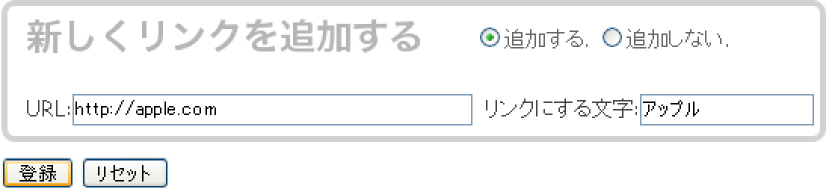
	URL	リンクにする文字
1	http://localhost/	ローカルホスト
2	http://www.yahoo.co.jp/	ヤフー
3	http://localhost/public/blog/admin/link.php	表1
4	http://hatena.g.hatena.ne.jp/hatenatech/20060508/11	vim技術勉強会
5	http://www.city.neyagawa.osaka.jp/school/e/mii/	寝屋川市立三表能予定井小学校
6	http://www.apple.com	アップル

新しくリンクを追加する ○追加する. ●追加しない.

URL:

リンクにする文字:

Figure 4.15: The link setting screen.



新しくリンクを追加する ●追加する. ○追加しない.

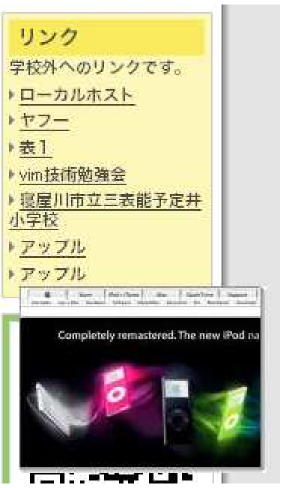
URL: http://apple.com

リンクにする文字: アップル

Figure 4.16: The Example of adding the link. On checking the radio button, we can input new link information.

7	http://apple.com	アップル

Figure 4.17: After adding the new link, it immediately reflected.



リンク

学校外へのリンクです。

- ローカルホスト
- ヤフー
- 表1
- vim技術勉強会
- 寝屋川市立三表能予定井小学校
- アップル
- アップル

Figure 4.18: It is displayed the linked sites. Therefore users is easy to recognize it.

4.8 Uploaded Documents

4.8.1 Specifications

To set up uploaded documents, it can distribute the files. And, it also has a categories mode. The function makes it categorizes uploaded documents such as letter by the school, or letter by the class.

Uploaded documents has its database which indicates the file path. Moreover, it is need to have function which categorizes itself. Thus, this function is complication. To categorize the uploaded documents is named as large classification function.

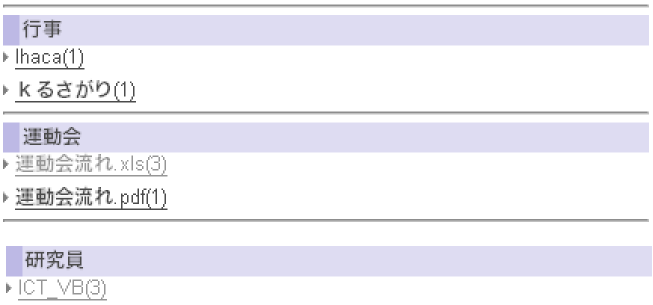
Large classification function is also build on the **CSV** file format such as Section 4.5.

Moreover, it decides the file path by managing the unique ID on the large classification function. And, it also manages the file name as unique ID. That is, primary key is set by the ID of large classification item. And it is created the database system which merges the key and upload file location.

4.8.2 Features

There is 3 setting items in the uploaded documents. They are large classification setting, uploading documents, documents view, update, and delete.

On setting the large classification, it can view each class as shown in the Fig. 4.19. () means the number of downloaded.



行事

- lhaca(1)
- k るさがり(1)

運動会

- 運動会流れ.xls(3)
- 運動会流れ.pdf(1)

研究員

- ICT_VB(3)

Figure 4.19: Uploaded documents is categorized by large classification setting. This sample shows large classification that is event, school athletic meet, and research associate.

To add new large classification, you should appear the textbox by checking "add" radio button. After that, input the name of new large classification, and submit.

On submitting it, the confirmation dialog is displayed. We can confirm in the Fig. 4.20.

If you want to change the name of large classification, we can directly access on the textbox such as Fig. 4.20. Equally, to delete is submitting with the textbox empty.

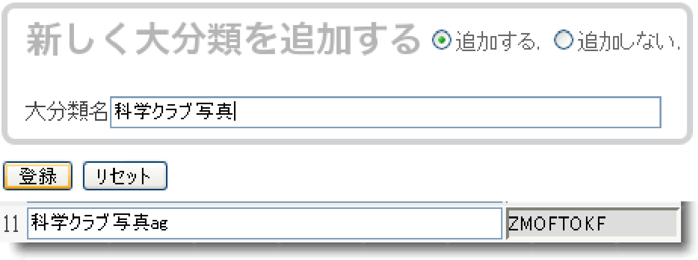

新しく大分類を追加する ● 追加する. ○ 追加しない.
大分類名 科学クラブ写真
11 科学クラブ写真ag ZMOFTOKF

Figure 4.20: The uploaded documents is categorized by large classification.

Next, it is discuss how to upload the documents. it needs it had been registered more than one large classifications. The combo box can be chosen after registered.

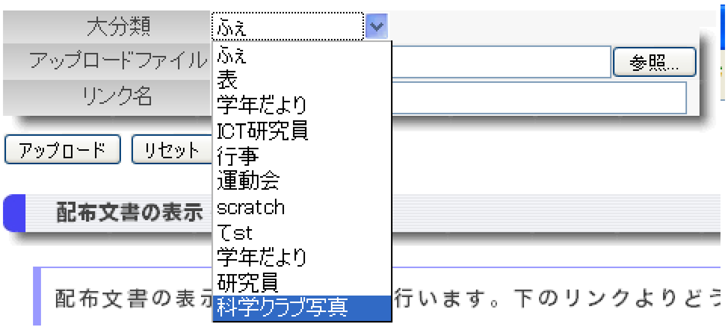

大分類 ふえ

Figure 4.21: Select the uploading documents to the large classification.

The uploading documents is selected after clicking browsing button. The last, it is decided the name of documents. However, in internal process, it is work on the unique ID too. After submitting, upload process is launched as shown in the Fig. 4.22.

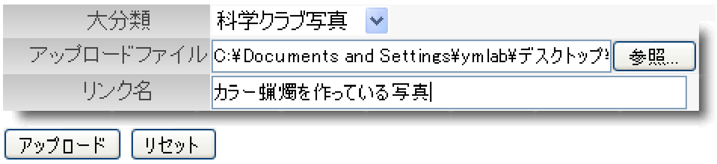

大分類 科学クラブ写真
アップロードファイル C:¥Documents and Settings¥ymlab¥デスクトップ¥
リンク名 カラー蝋燭を作っている写真

Figure 4.22: After selecting the uploading documents, it needs to decide the link name.

On succeeding uploading, the result is shown in the screen. After uploading process, we can confirm on the top page. And if you want to check what documents have been uploaded, you can see on clicking the uploaded documents list link such as Fig. 4.23.

Additionally, uploaded documents is able to be rename itself and to be deleted. You can do it on the edit screen such as Fig. 4.24.

The method of rename is changing its name on the text box. And this system can multiple deleting. All the checkbox which is checked is deleted after submitting.

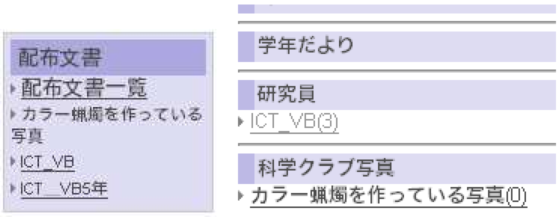


Figure 4.23: The uploaded documents is checked on the top page, and downloaded itself.

カテゴリ名	ユニークID	番号	リンク名	拡張子	D.L数	削除
ふぇ	TQMJQQBO	10012	vi_powered	.gif	17	☐
ふぇ	TQMJQQBO	10016	くりさがり	.ppt	19	☐
ふぇ	TQMJQQBO	10026	kulaumid	.mid	2	☐
ふぇ	TQMJQQBO	10028	background	.gif	13	☐
学年だより	EHBYGZRE	10014	winter.jpg	.jpg	5	☐
ICT研究員	VYDXOIGO	10015	アンパンマン	.ppt	7	☐
ICT研究員	VYDXOIGO	10020	くりさがりのある引き算	.ppt	6	☐
行事	CZLVOFGW	10017	lhaca	.exe	1	☐
行事	CZLVOFGW	10021	kるさがり	.ppt	1	☐
運動会	COZHJJAP	10018	運動会流れ.xls	.xls	3	☐
運動会	COZHJJAP	10019	運動会流れ.pdf	.pdf	1	☐
scratch	VUCAUWVY	10024	op55No1クーラウ	.mid	2	☐
研究員	OLZDZXQR	10031	ICT_VB	.zip	3	☐
科学クラブ写真	ZMOFTOKF	10032	カラー蝋燭を作ってい	.jpg	1	☐

Figure 4.24: The uploaded documents is able to be edited on the Internet browser.

4.9 Weather Forecast

4.9.1 Specifications

Weather setting makes this system to display the today's weather forecasting in prefectural. This function takes weather forecast plug-in. This plugin is provided by livedoor Co., Ltd.[32].

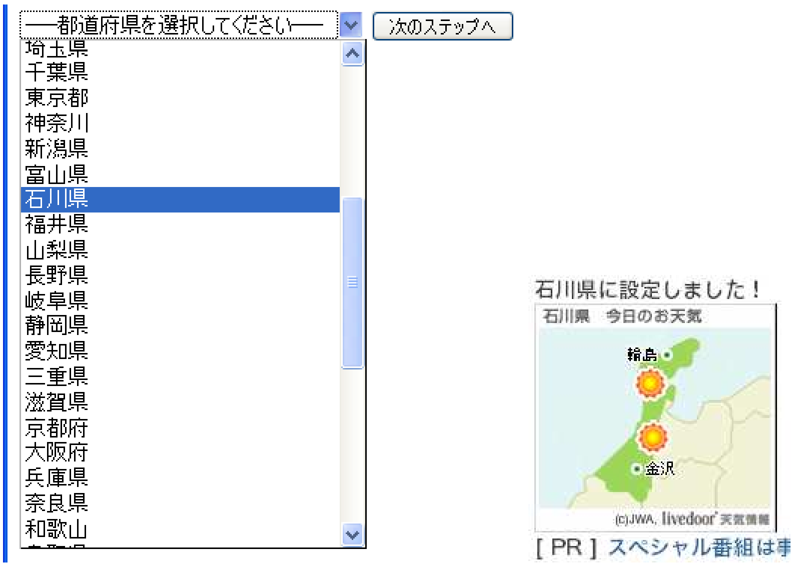
This plug-in is used by taking **javascript**. Therefore this system is stored the prefectural information, and **PHP** merges its prefectural id and template. After merging, **PHP** output **javascript** automatically.

This function has no cost.

4.9.2 Features

The method of setting is much easy. After reading the sentence of weather forecast service, and setting its prefecture, it is displayed on the top page.

The sample is shown in the Fig. 4.25. All we need to do is choose the prefecture from the combobox. Hokkaido has 4 areas because of its too large size.



石川県に設定しました！

Figure 4.25: This function is took by weather forecast plug-in of livedoor Co., Ltd..

4.10 Detail Weather Forecast

4.10.1 Specifications

Detail weather forecast setting makes this system to display a week weather forecast. This function takes weather forecast information web services. This **API** is provided by livedoor Co., Ltd as Weather Hacks[33].

This web service provides the **XML** code. Therefore this system is stored the area information. **PHP** get the **XML** and analysis it. after that, **PHP** create a **DHTML** and output on the top page.

This function has no cost too.

4.10.2 Features

The method of setting is much easy. After reading the sentence of detail weather forecast service, and setting its area. This screen is based on **Ajax** . Therefore, you have no use to update its site. when it has been displayed on the top page.

The sample is shown in the Fig. 4.26. All we need to do is choose the area from the list. There are many areas a prefecture.

This service also display weather advisories and warnings. Fig. 4.27 shows the images, which is displayed when it has occurred.

4.11 QR code

4.11.1 Specifications

It is conjectured that a great number of parents brows this site by mobile phone. Therefore, this system is designed for computers and mobile phones. However, Mobile site is far distinct from PC site. The reason is why mobile phone demands low packet as possible. For example, The image is not see on the mobile phone. And, we also consider its web design. To consider the situation, this system is designed separated management.

To use this function, mobile phone user needs no input the URL. This system creates a QR code. Therefore, only shooting a photograph, they can move this site.

長野県 - 長野の天気
-

一言
[長野県の天気概況] 台風第9号は、八丈島の東北東の海上を東に進んでおり、関東甲信地方から、次第に遠ざかっています。
長野県内では、晴れや曇りとなっており、南部では雨の降って…

12(水) 30 / 23
13(木) 31 / 22
14(金) 33 / 23
15(土) 28 / 22
16(日) 27 / 19
17(月) 28 / 18
18(火) 30 / 18

Figure 4.26: This function is took by Weather Hacks of livedoor Co., Ltd.. This setting screen is based on **Ajax** .

Figure 4.27: Weather advisory and warning.

The top page of mobile sites is defined as index.php[2]. The site uses QR code create library[34].

However, This library just support **PHP**. To create image on **PHP** needs a Graphic library. Therefore, in this case, it has been used no GD library[35].

4.11.2 Features

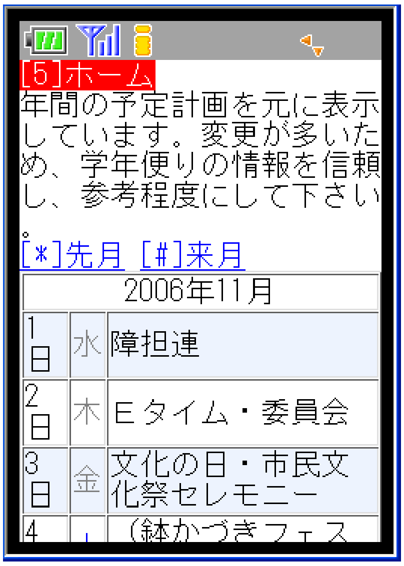
It needs to register the URL of this site information such as Fig. 4.29 in a administrative privileges screen for launching this function.

It is recommended that it input not only domain name, but file name because server unrecognizing. Incidentally, To add index.php as server default index is that to add the word into the DirectoryIndex of httpd.conf. And restart Apache makes it success.

After that, On submitting the button, this system create QR code automatically. It shows at a top page as shown in Fig. 4.30.

---

[2] PC site is index.php



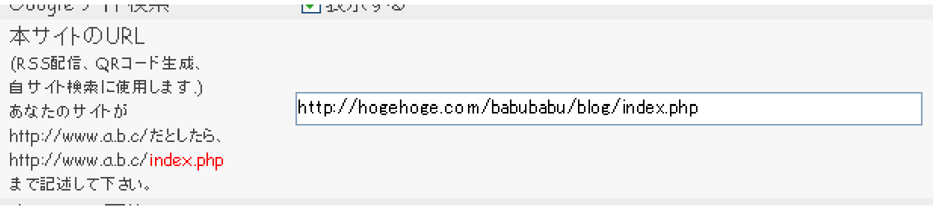
[5]ホーム

年間の予定計画を元に表示しています。変更が多いため、学年便りの情報を信頼し、参考程度にして下さい。

[*]先月 [#]来月

2006年11月		
1日	水	障担連
2日	木	Eタイム・委員会
3日	金	文化の日・市民文化祭セレモニー
4		（鉢かづきフェス

Figure 4.28: The image is for mobile phone.



本サイトのURL
(RSS配信、QRコード生成、
自サイト検索に使用します。)
あなたのサイトが
http://www.a.b.c/だとしたら、
http://www.a.b.c/index.php
まで記述して下さい。

http://hogehoge.com/babubabu/blog/index.php

Figure 4.29: To create QR code needs to register base URL.

Figure 4.30: QR code is shown in the top page.

4.12 Google Maps

4.12.1 Specifications

This system add the marker on the Google Maps[36]. If clicking the marker, you can see more detail sentence. This function can also put images.

Google Maps uses on the **API**, which is provided by Google Inc.[3]. User can use it free taking **javascript**. Google Maps is made for **Ajax** technology.

To use Google Maps is free, but it demands free registration code. The name of the code is Google Maps Key. Google Maps Key is distributed for each URL.

Google Maps Key is distributed on http://www.google.com/apis/maps/signup.html.

---

[3] Hereinafter called as Google.

4.12.2 Features

This function has two types. The one is school location setting service.

経度 135.6433868408203 度

緯度 34.772357717160965 度

Figure 4.31: This function is able to register the school location.

Moreover, This system is able to register what you want to check on the map. Fig. 4.32 shows a sample.

Google mapsをさらに使いこなす

Google Mapsは、使いこなすともっと多

いろんな場所を登録しよう

Figure 4.32: It can register any where on the world.

The method of registration is to move mouse over the red cross shape on what you want. And, input the title, contents, and uploading image path. However, the image path is not elective.

After registering, it shows a red balloon. When it is clicked, it shows a call-out, which is written that you wrote such as Fig. 4.33.

4.13 Access Analysis

4.13.1 Specifications

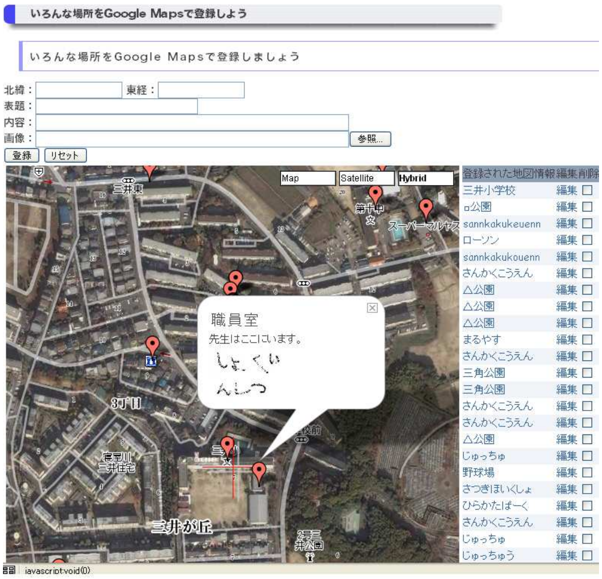
This system provide access information. This takes Google Analytics[37]. However, The version is changed. Therefore, it challenges for the future of updating its system. Fig. 4.34 as shown here is the sample.

To use this function is to get the free account. The URL is .

Next, it sets up with Google Analytics sever on the google account. To set up is by .

The tracking code which is written by **javascript**. The citation is shown below.

```
<script src="http://www.google-analytics.com/urchin.js" type="text/javascript">
</script>
<script type="text/javascript">
_uacct = "UA-780831-1";
urchinTracker();
</script>
```



職員室

先生はここにいます。

しょくいんしつ

登録された地図情報	編集	削除
三井小学校	編集	☐
ロ公園	編集	☐
sannkakukeuenn	編集	☐
ローソン	編集	☐
sannkakukouenn	編集	☐
さんかくこうえん	編集	☐
△公園	編集	☐
△公園	編集	☐
△公園	編集	☐
まるやす	編集	☐
さんかくこうえん	編集	☐
三角公園	編集	☐
三角公園	編集	☐
さんかくこうえん	編集	☐
さんかくこうえん	編集	☐
△公園	編集	☐
じゅっちゅ	編集	☐
野球場	編集	☐
さつきほいくしょ	編集	☐
ひらかたぱーく	編集	☐
さんかくこうえん	編集	☐
じゅっちゅ	編集	☐
じゅっちゅう	編集	☐

Figure 4.33: The registered place is shown as the marker. And it can confirm right menu.

This tracking code is not changed except _uacct. Therefore, This system is stored the _uacct on the administrative privileges. And it creates the **javascript** code automatically.

Moreover, this system has easy access analysis mode. It output the log file per 1MB. The information which can get is the date, referrer, IP address, and host name.

However, The router in Neyagawa prevents the system from the information by its VPN. Therefore, in Neyagwa, it can only to use easy access analysis mode.

4.14 Password

4.14.1 Specifications

To set the password, Spammer cannot access administrative screen. The entity of the password is used on .htaccess function in Apache web server. That is, the method of the password system is creating .htaccess and .htpasswd file. This system supports basic authentication. Therefore, it is processed on the **DES**.

The encrypted password from “abcABC123” is shown here.

```
Xf1awIWMOSnlE
```

However, in Neyagawa, it cannot support .htaccess service. Therefore, it also support **PHP** session system.

4.14.2 Features

The method of register the password is confirmation of id and password is corresponds to registered one. Therefore, it needs to register the id and password. There is a sample screen in the Fig. 4.35.

The strings which is allowed on the password is alphabet and numerical word. And this system allows no pass word mode for testing.

And it also supports all delete mode.

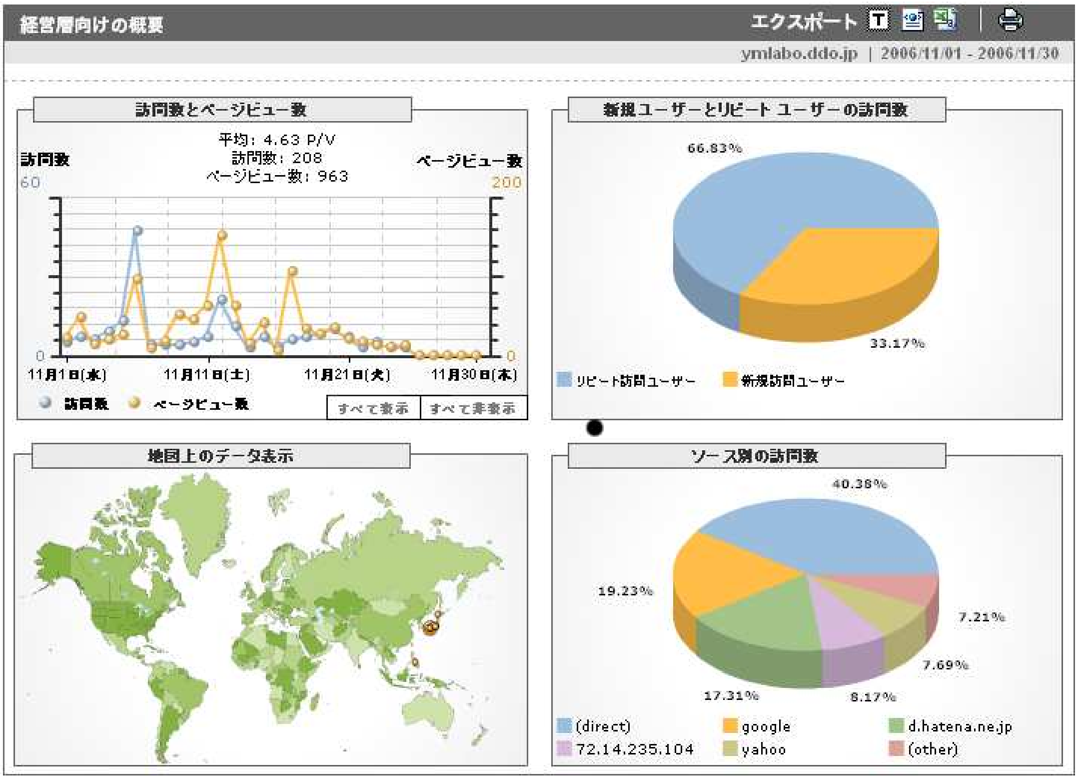
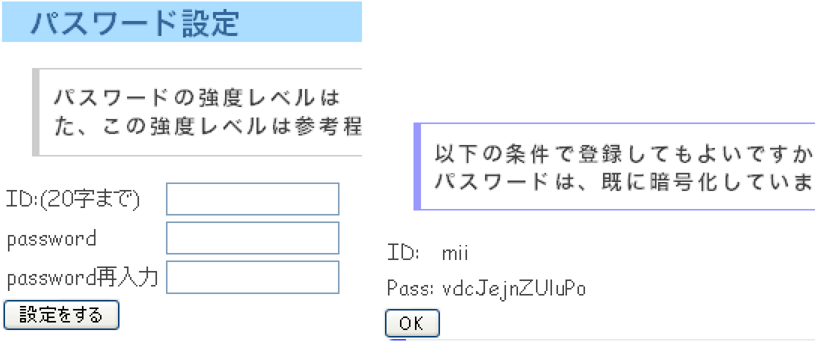


Figure 4.34: The sample of Google Analytics. However Google Analytics changes its specification. Therefore it challenges for the future.



パスワード設定

パスワードの強度レベルは
た、この強度レベルは参考程

ID:(20字まで)

password

password再入力

以下の条件で登録してもよいですか
パスワードは、既に暗号化していま

ID: mii

Pass: vdcJejnZUluPo

Figure 4.35: The screen of password setting. After setting, everyone who do not know its password cannot access to the administrative screen.

4.15 Furigana function

This function is added after release on the Web. Therefore, it is described as Section 5.1.

4.15.1 Specifications

Chapter 5

Furigana function

5.1 Specifications

This system has furigana function. Furigana is a Japanese reading aid, consisting of smaller kana printed next to a Chinese character to indicate its pronunciation[38]. Using Furigana helps someone read more easily. However, In general, a lot of Japanese who have already studied Chinese character are illegible when using Furigana. Therefore, It designs this system to suit the needs and abilities of users. That is, users can choose Furigana mode or not taking by cookie.

Elementary school students study Chinese character. The number of Chinese character is 1006 words in the elementary. Therefore, it is patency that 6th grader knows more Chinese character than 1st grader. Therefore, this system can be chosen the grade. When you choose 3rd grade, The articles has furiganas only the Chinese word which is to be studied on 3rd grade.

To set Furigana function, it needs to build character parse system. However, there are Japanese language morphological analysis libraries on the Internet. The libraries shows on the Table 5.1.

Table 5.1: Japanese language morphological analysis libraries. This system takes on Mecab. Mecab is most suitable for weblog system because of its high speed analysis.

	Mecab	ChaSen	JUMAN	KAKASI
analytical model	bi-gram Markov model	flexible length Markov model	bi-gram Markov model	longest match
cost estimation	learning from corpus	learning from corpus	manpower	no concept
learning model	CRF[1]	HMM(create model)	-	-
dictionary algorithm	Double Array	Double Array	Patricia tree	Hash?
search solution algorithm	Viterbi	Viterbi	Viterbi	indecisive?
juncture table	2D table	automaton	2D table?	nothing?
word class hierarchy	unrestraint multi-hierarchy	unrestraint multi-hierarchy	two stages fixed	nothing?
unknown word process	word category(changeable the definition)	word category(no change)	word category(no change)	-
analysis with consistent	enabled	enabled(version 2.4.0)	disabled	disabled
N-Best	enabled	disabled	disabled	disabled

This system takes Mecab library[39]. The reason is that Mecab is more fast than ChaSen and KAKASHI.

Mecab is binary software, however, it has the script binding function. it supports perl, ruby, python, java, and C#, not **PHP**. Inconveniently, the web server in Neyagawa is not supported install binary file.

Therefore, it uses on Mecab web **API** system. Mecab web **API** is build on development server. The Network diagram is shown in the Fig. 5.1, and the UML sequence diagram is in Fig. 5.2.

In Fig. 5.2, at first, the actor require web server to display Furigana. The system check the Cookie. The Cookie had been set when user decided the grade. And next, System get the articles and send this article to the Web **API**.

Web **API** send this message to its system after formatting article. Receiving the message, system launch Mecab to analyze. Mecab parses article and return rubies. Web **API** return the result.

After that, web server commands to the display, and we can see the result.

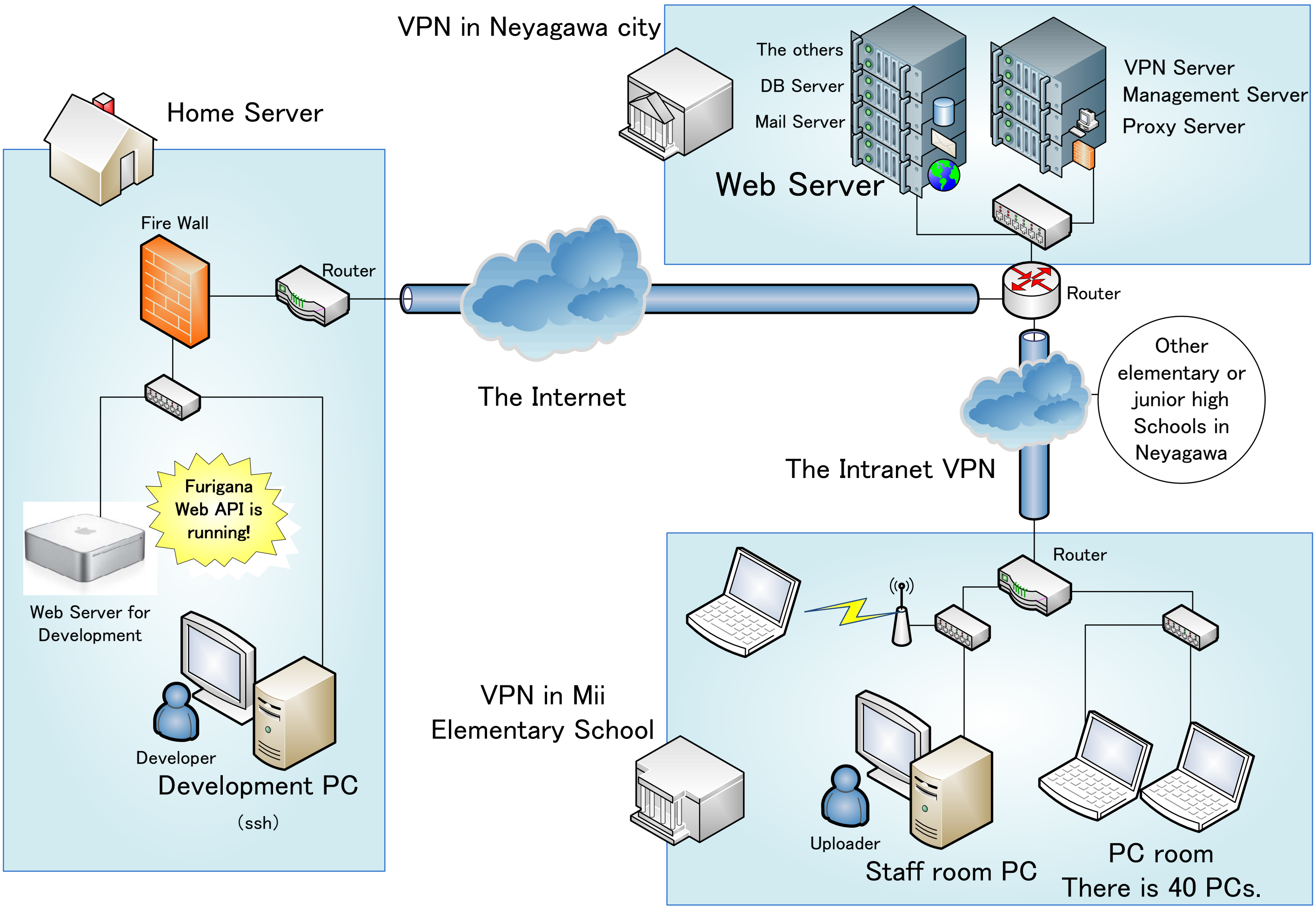


Figure 5.1: The network diagram of this system. There are organized 3 parts. VPN in Neyagawa city, VPN in mii Elementary School, and Home Server. Neyagawa city and Mii Elementary School is connected as VPN. When Using Furigana Web **API**, web server hooks the result of Furigana articles.

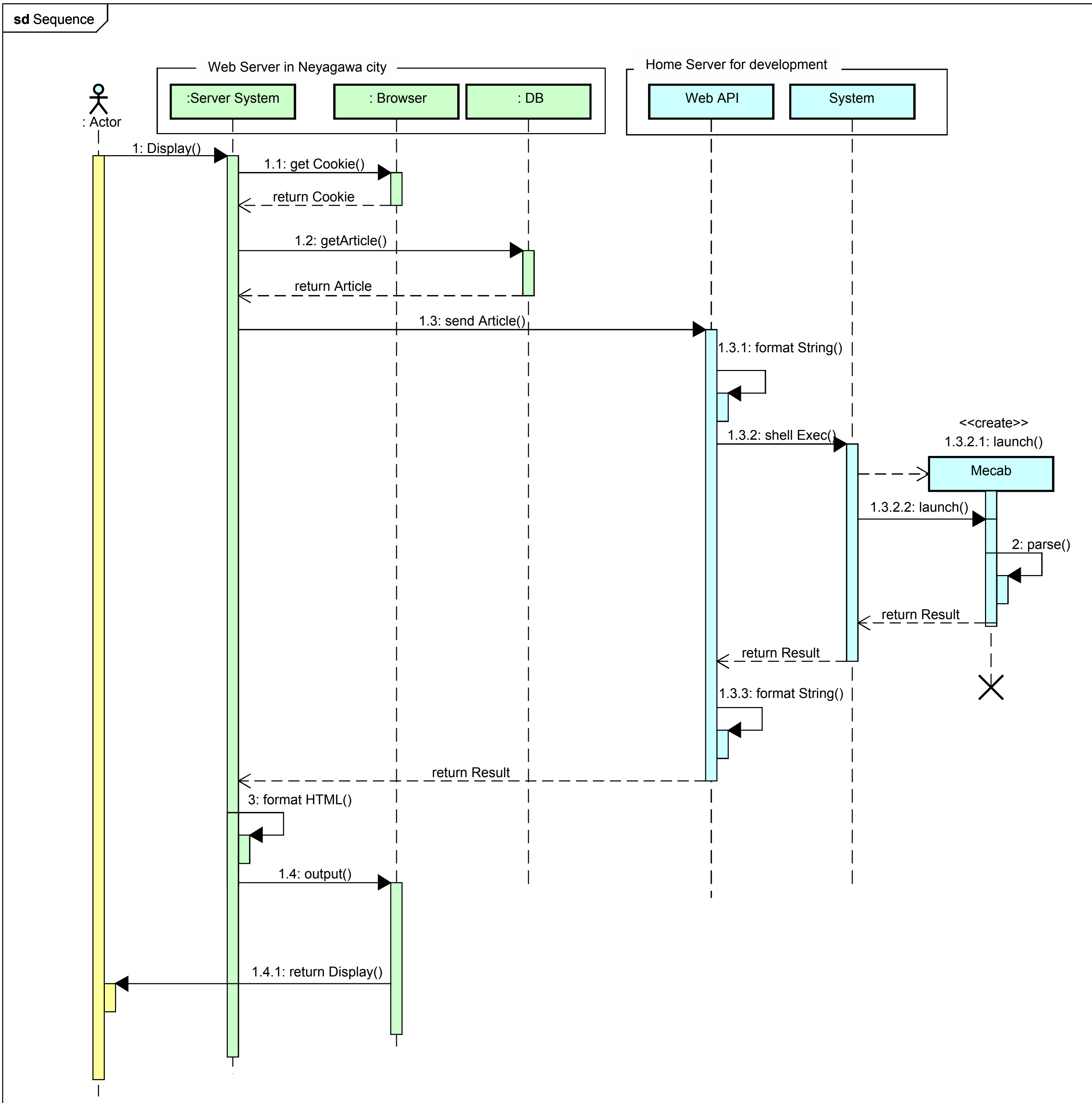
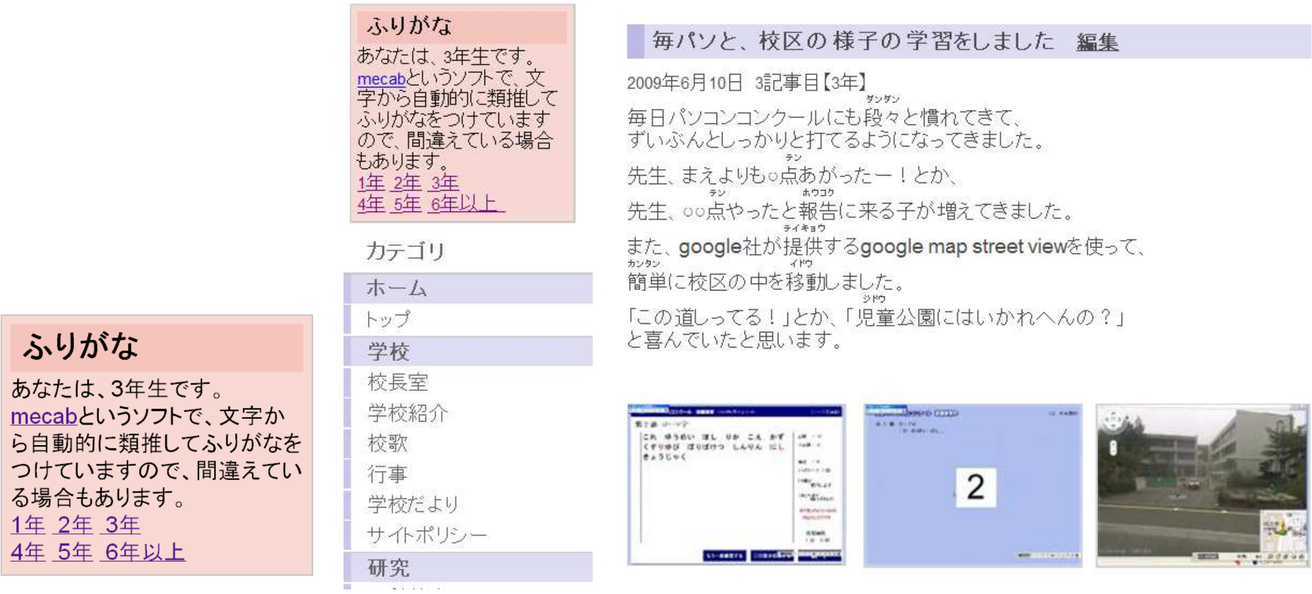


Figure 5.2: Furigana function sequence diagram.

5.2 Features

The method of setting is much easy. Users check what you want such as in left part of Fig. 5.3. After setting, it provides furigana readings of the chinese characters only which has not been studied yet.



ふりがな

あなたは、3年生です。
mecabというソフトで、文字から自動的に類推してふりがなをつけていますので、間違えている場合もあります。
1年 2年 3年
4年 5年 6年以上

ふりがな

あなたは、3年生です。
mecabというソフトで、文字から自動的に類推してふりがなをつけていますので、間違えている場合もあります。
1年 2年 3年
4年 5年 6年以上

毎パソと、校区の様子の学習をしました 編集

2009年6月10日 3記事目【3年】

毎日パソコンコンクールにも段々（ダンダン）と慣れてきて、
ずいぶんとしっかりと打てるようになってきました。

先生、まえよりも○点（テン）あがったー！とか、

先生、○○点（テン）やったと報告（ホウコク）に来る子が増えてきました。

また、google社が提供（テイキョウ）するgoogle map street viewを使って、

簡単（カンタン）に校区の中を移動（イドウ）しました。

「この道しってる！」とか、「児童（ジドウ）公園にはいかれへんの？」
と喜んでいたと思います。

Figure 5.3: Furigana setting box. When click the grade, data is stored as a cookie.

Chapter 6

Analysis

6.1 Transition of access number

In this section, it is described on Operation. The sites is shown in Fig. 6.1.

本校は、国立教育政策研究所の学力の把握に関する指定校で、理科の評価研究に取り組んでいます。

ふりがな

あなたは、年生です。
mecabというソフトで、文字から自動的に類推してふりがなをつけていますので、間違えている場合もあります。
1年 2年 3年
4年 5年 6年以上

授業参観ありがとうございました！

2009年4月24日 2記事目【3年】
本日はご多忙の中授業参観、懇談会にお越しいただき、誠にありがとうございました。
3年1組は、国語の時間でお名前作文を、3年2組は、算数の時間で時刻と時間を行いました。
1組も2組も、子どもたちは緊張しながらも一生懸命発表をしていて、よかったと思います。
また、懇談会でも、多数のご出席を賜りありがとうございました。
新しく決まったPTAの役員さんをはじめといたしまして、今後もよろしくお願い致します。

コメント

さと親
2009/4/24 PM11:27:38
お疲れ様です。3年になって、初めての参観、とっても楽しかったです。1年間よろしくお願いしま～す(^^) PCはバグなしですよ～(^^v 明日にでも携帯で試してみますねぇ～(^^)

村山
2009/4/25 PM12:04:36
授業参観ありがとうございました。こちらこそ一年間よろしくお願いいたしますね。自作ですので、いろいろなところにバグがないか、実験中です。ありがとうございました！［すいません、コメントの機能は通常は、パスワードを要求する仕様にしていたのですが、パソコンの授業中に感想を子どもに書き込みをさせるために、パスワードの要求を解除していました・・］また、近いうちにパスワードをつけると思います。すいません・・。

Figure 6.1: Top screen which is opened on the `http://www.city.neyagawa.osaka.jp/school/e/mii/`

This system is opened from April 5th, in 2009. Now, the sum of the access number is over 50,000. Fig. 6.2 shows a line plot of the transition.

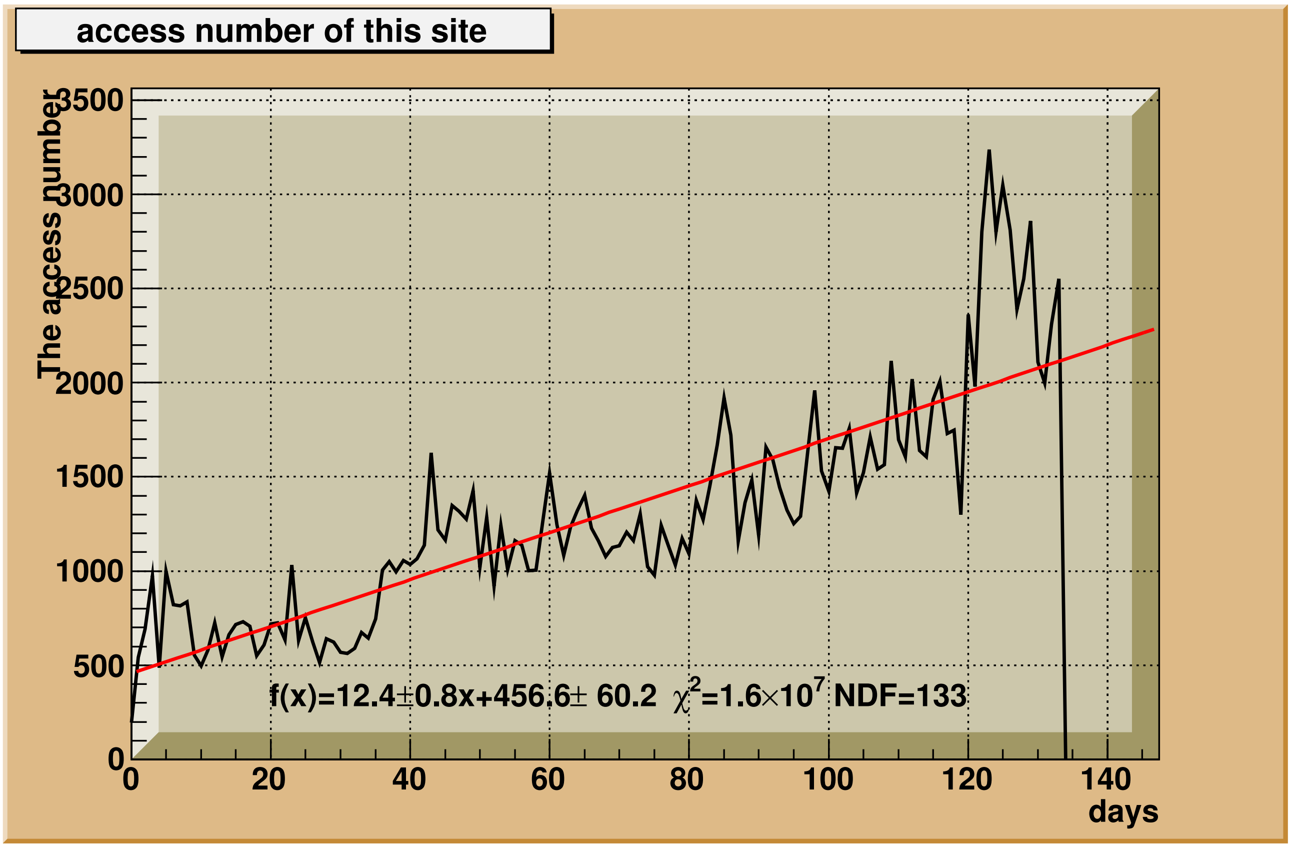


Figure 6.2: The access number of this site. The straight line is fitted with least square approach on access number, since fitted with quadratic function has no value. the parameter of x^2 is negligible. It is clear that the access number increase about 12 count a day.

The straight line is fitted with least square approach on access number. This function is expressed as $f(x) = 12.4 \pm 0.8x + 456.6 \pm 60.2$, where $\chi^2 = 1.6 \times 10^7$ on $NDF = 133$. The reason fitted on linear function is its value of fitted quadratic function. When it fitted with quadratic function, the value is $f(x) = 0.05 \pm 0.02x^2 + 4.8 \pm 3x + 627$, where $\chi^2 = 1.6 \times 10^7$ on $NDF = 132$. The parameter of x^2 is negligible. It is clear that the access number increases about 12 count a day.

6.2 The number of articles

In this Section, It is described the number of articles shown in Table 6.1. The number of articles have been increased since kick-start except July. It is considered every teachers were busy for give a grade, and a few business day. and Fig. 6.3 shows a rate of categories. The category, School lunch is pretty much update. The update rate is much larger than last year.

Moreover, the achievements of this is the number of articles is much more than last year one shown as in Fig. 6.4. There was 2 articles at last year, However, This year is 124 articles only 4 month. It is 60 times larger than last year.

Table 6.1: The number of articles. It has been increased since kick off except July. It is considered that every teachers were busy for give a grade, and a few business day.

Category Name	April	May	June	July	Total
Top	1	0	0	1	2
Principal Message	1	0	0	0	1
1st Grader	0	2	1	0	3
2nd Grader	0	0	0	0	0
3rd Grader	6	5	13	2	26
4th Grader	0	3	1	1	5
5th Grader	0	3	1	0	4
6th Grader	0	1	2	0	3
Class for handicapped	2	4	5	3	14
School lunch	8	16	19	13	56
English	0	0	0	1	1
Official work	0	2	0	0	2
The Others	5	0	1	1	6
Total	23	36	43	22	124

2009/08/18 円グラフ サンプル - jsライブラリ…

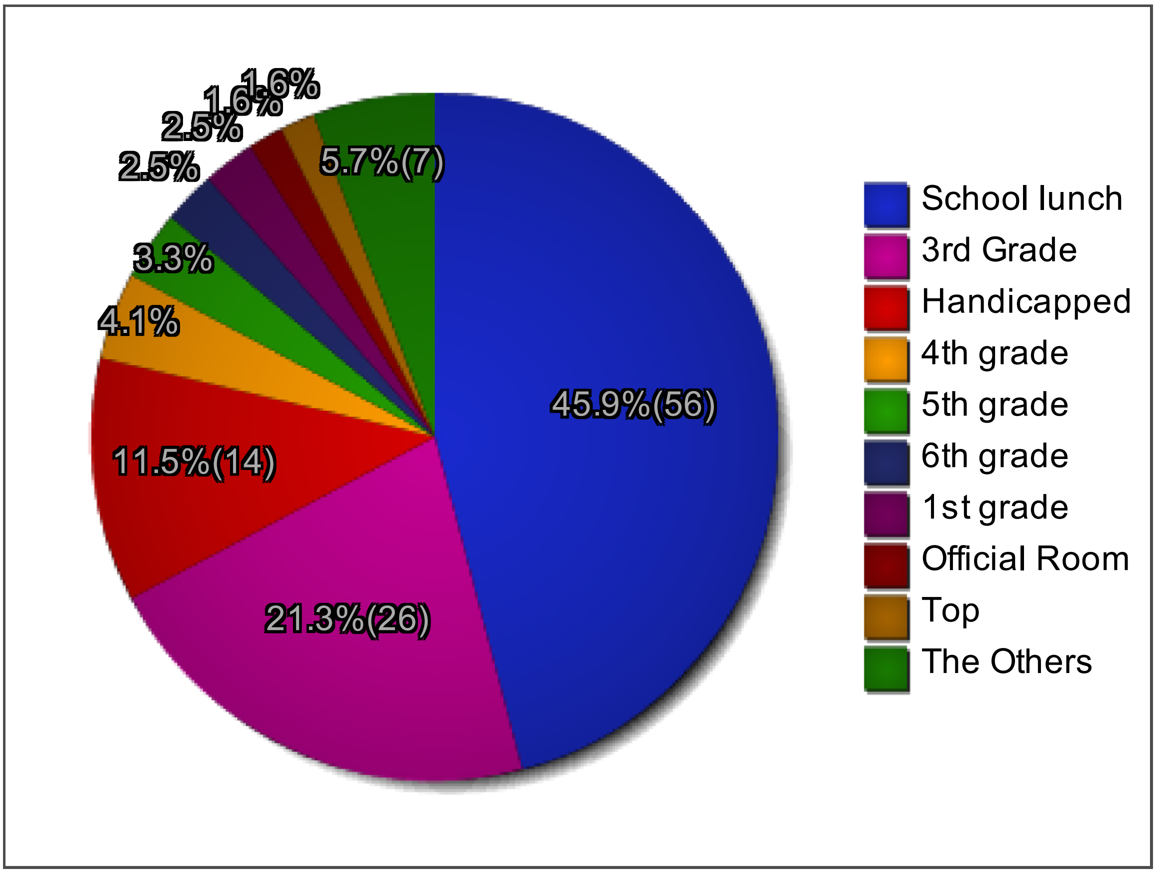


Figure 6.3: Update rate of categories. The category, School lunch is pretty much update. The update rate is much larger than last year.

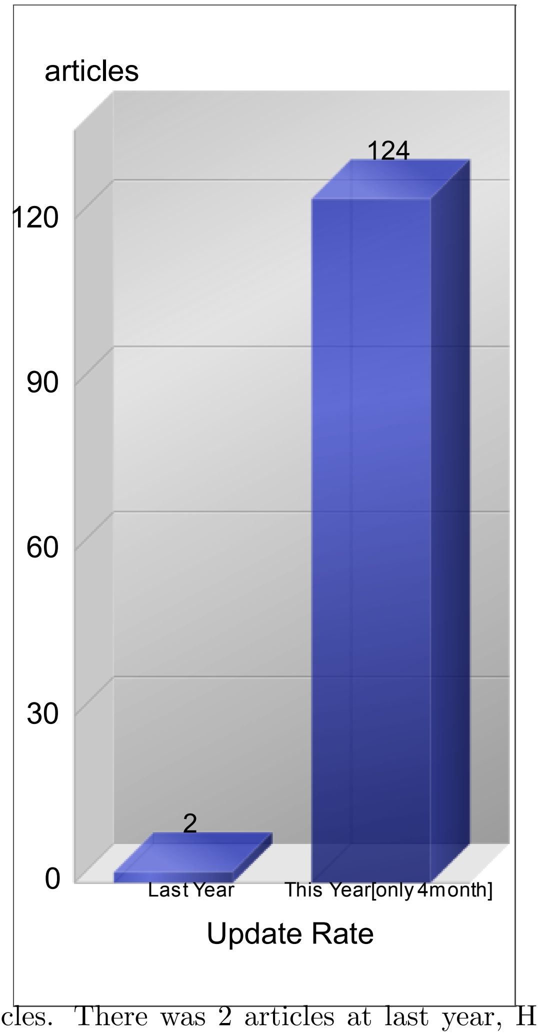


Figure 6.4: Update rate of articles. There was 2 articles at last year, However, This year is 124 only 4 month. It is 60 times larger than last year.

6.3 Uploaded Document

This service is one of the most used functions in this system. Mii elemetary school forced class teachers to update grade paper a month.

Chapter 7

The Result of Questionnaires

7.1 The Questionnaires

In this Chapter, it is described of the result on a questionnaires. The questions are described below. And the print is shown in the Fig. C.13.

1. Do you know the Mii elementary school sites. Yes or No.
2. Please check the functions what you know.
3. Have you ever updated this sites. Yes or No.
4. Please check, how long time you update.
5. Please check, when you update.
6. Please check or answer, the problems on updating.
7. Please check or answer, the benefits of weblog.
8. If you have any comments, please let me know.

The result is shown in Table 7.1. The others comments are shown below.

- If the teacher in charge help everyone anytime, every can use. I hope this sites grows more.
- I wish it can resize the images automatically.
- I is more best that the top page is fixed.
- The page which 5th grader is not displayed.
- If I study more, it can. I'm apologize to you.
- I want to study how to control more.
- when uploading the documents, it needs to transform PDF. I want uploading machines has transform function. Please install.

Since the universe is very low, it can not statistical analysis. Therefore, it describes not quantitative but qualitative evaluation.

To consider the result, 15 members update articles, and almost all of the teachers know this site. And it is realized that over 10 teachers update the sites within 10 minutes. However, 4 teachers update the sites over 10 minutes. It needs them to skill up their skill taking by training.

Table 7.1: The result of questionnaires. The comments is described in the paragraph.

Questionnaires	Yes	No	Total
Do you know the Mii elementary school sites. Yes or No.	23	1	24
Please check the functions what you know.[update diary]	19	0	19
[administrative privileges]	12	0	12
[categories]	15	0	15
[plan]	10	0	10
[link]	5	0	5
[distributed documents]	14	0	14
[weather]	4	0	4
[QR]	6	0	6
[access analysis]	8	0	8
[google maps]	8	0	8
[password]	6	0	6
[furigana]	2	0	2
[last articles]	7	0	7
Have you ever updated this sites. Yes or No.	15	9	24
Please check, how long time you update.[1-5 min.]	3	0	3
[6-10] min.	8	0	8
[11-20] min.	2	0	2
[20-30] min.	1	0	1
[30-]	1	0	1
Please check, when you update.[during office hours]	6	0	6
[out of office hours]	7	0	7
[both]	2	0	2
Please check or answer, the problems on updating[cannot shoot on class]	4	0	4
[cannot have updating time]	7	0	7
[forget updating]	7	0	7
[difficult to control]	6	0	6
Please check or answer, the benefits of weblog.[can announce parents and public]	21	0	0
[intelligence sharing among teachers]	13	0	0
[easy to update than using html]	9	0	0
If you have any comments, please let me know.	-	-	-

Chapter 8

conclusion

It succeeded to develop on school weblog system for elementary school. Now current, it has been opened as `http://www.city.neyagawa.osaka.jp/school/e/mii/`.

To use this system, teachers can update articles on PC browser or mobile phone with no specialized knowledge, such as **HTML** or **FTP**. Therefore, previously, only a teacher update websites, however, almost all of the teachers who can do typing update it.

Moreover, this is new approach system, which has documents uploading, event plan functions. And, these functions are used commonly. This system has Web 2.0 technology. To take in **Ajax** or open source software libraries makes this system having school map , weather forecast information, Furigana functions.

In addition, the update rate is sixtyfold increased only 4 month than last year. The access number increase dramatically.

Thus, ICT learning of teachers is not only how to use application softwares. To use ICT technology makes teachers repetitious tasks decreased. Because, The space time also makes teacheres work for tools for preparing teaching materials. Therefore, it is indirectly considered for children and students.

Finally, to take questionnaires indicates the achievements and problems. it is required more useful usability. For example, It has to create WYSWYG text box on writing artciles in the future.

Appendix A

Comparison of the access time between XML and CSV

When building the data, to consider its high-speed performance, stability, and flexibility, it is general case to take **RDBMS** such as **MySQL** or **PostgreSQL** regardless of the client server systems.

However, To adopt such a **RDBMS** requires the teacher to have the knowledge about **SQL**, when incident has occurred.

Under normal conditions, it is recommended that all teacher have its skill. however it is difficult. Therefore this system is designed as management database into the system.

The database of this system is based on 3 file formats. The formats are **XML**, **CSV**, and **ini**.

To consider their file format attribute, **ini** is used for initial data setting. **XML** is used for complicate or is expected to change its specifications. And the other is used for **CSV**. Table 2.1 shows a detail.

However, it is expected that **XML** file format is more considerable time than **CSV** for its structure. This section has been described that the comparison the access time between **XML** and **CSV**, using on **PHP**.

A.1 Comparison of the access time on a few records.

To compare the access time of **XML** and **CSV**, it needs a multitude of data on each file formats. After correcting the data, it can analyze. First of all, The procedure is to output the histograms on each file formats and to search the histogram peak. And, Fitting the peak by Gaussian distribution. If the number of degrees of freedom of reduced chi square[1] is nearly equals to 1, it is belief that the fitted a function of Gaussian distribution is able to approximate the histograms[45][48][47].

In this experiment, The access time (2 records) had been measured on 40,000 times. The result is shown in the Fig. A.1. The average of **XML** access time is about 7.7[ms], and **CSV**is 1.0[ms].

CSV is 7 times higher performance than **XML** in spite of a few its records. And unexpected peak had been found. it is considered the operating system tasks.

The record of measured data is only 2 records, it is negligible. However, The more its records, The larger its difference in an exponential manner, because the access time is depends on the number of the data.

With that, it had been measured the access time on each records. the elements of the records is created by pseudo random number. And logged the ratio of the access time with **XML** and **CSV**. The result is shown in the Fig. A.2, Fig. A.3. In addition, the $f(x)$ in the figures is fitting result by cubic function.

And, This measurement is the computer which is opened on the web. It is deleted because of the x-axis from 400 to 500 occurred noise.

---

[1] chi^2/ndf

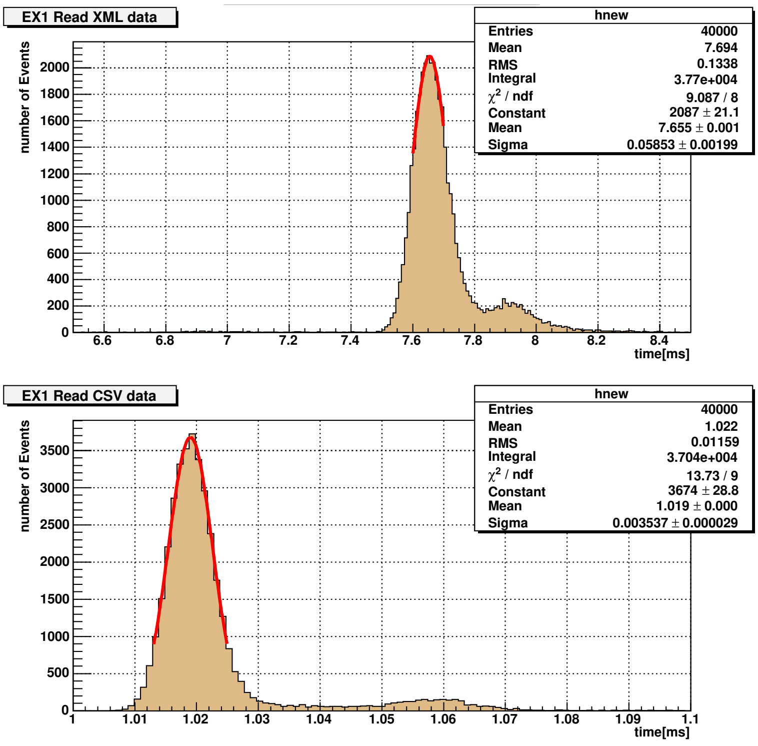


Figure A.1: The access time comparison on **XML** v.s. **CSV**. It had been measured at 40,000 times. The measured data has been took in 3.5. **CSV** is 7 times higher performance than **XML** in spite of a few its records.

In the Fig. A.2, it is considered that the more records, the much more access time. And, to know its augmentation factor, it is fitted by cubic function. To compare the high order number which is sensitive affected, **XML** is $2.3 \times 10^{-3} \pm 1.8 \times 10^{-6}$. And **CSV** is $1.7 \times 10^{-6} \pm 1.8 \times 10^{-6}$.

It is strongly difference from **XML** and **CSV**. Moreover, it is found that the ratio v.s. data record number is consistently on the increase.

Thus, in this system, it has to design **XML** data lowly. Therefore, the diary data is designed per a day for too large file size. To prevent from duplication, the data is in the $[year]$-$[month]$ directories.

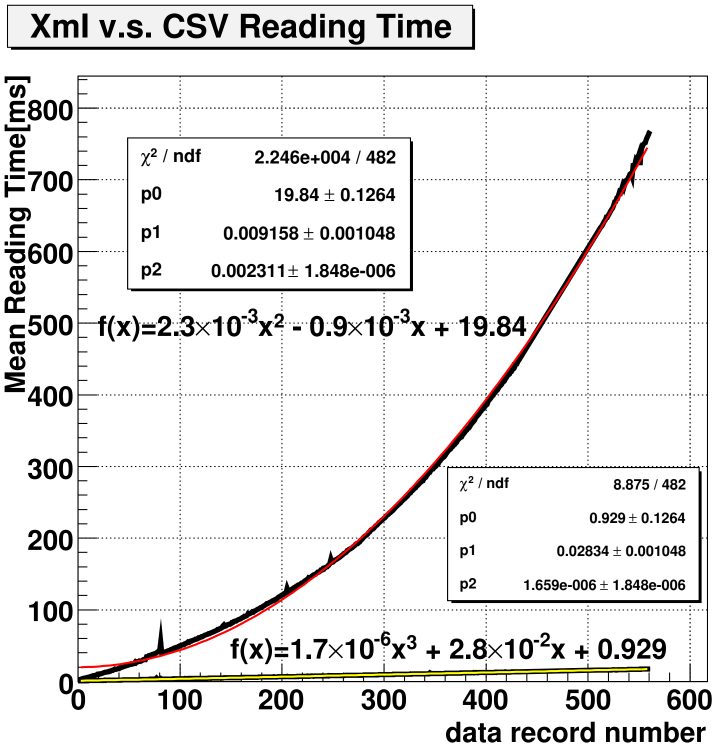


Figure A.2: The comparison of the access time on **XML** and **CSV**. The more record number, The much more access time.

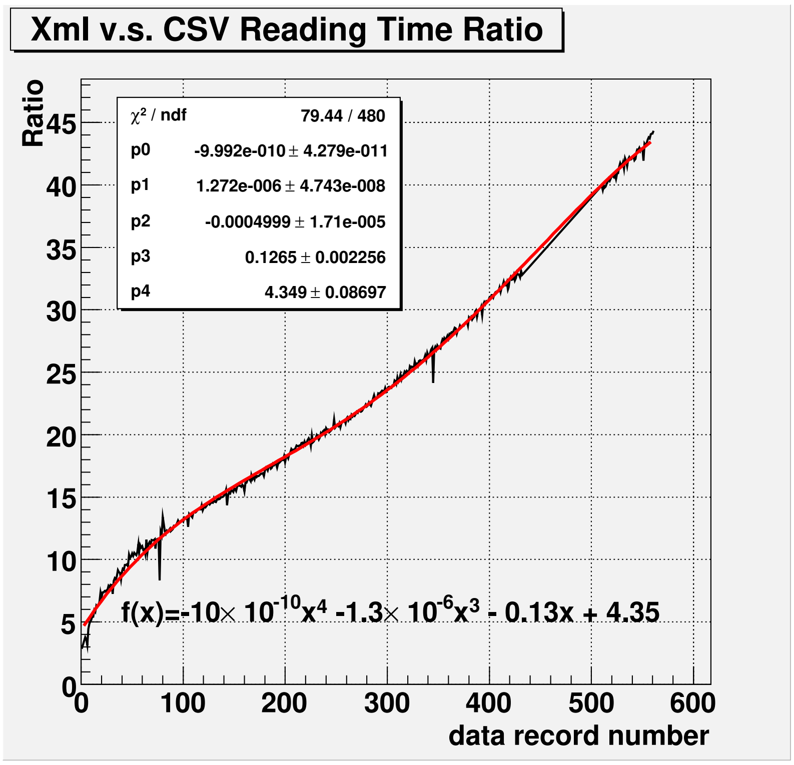


Figure A.3: The comparison of the access time ratio on **XML** and **CSV**. The more record number, The much more access time.

Appendix B

χ^2 test of goodness of fit.

B.1 Overview

In this appendix, we derive the χ^2 test of goodness of fit by treating confirmation of the fitness. χ^2 can check the fitness of histogram peak as mean. In particular, let us assume, for simplicity, it fits around histogram peak that we guess, by normal distribution function. And, it is checked by χ^2 test. χ^2 test outputs the number degree freedom of reduced χ^2 as a result[1]. The more close to 1 the χ^2/ndf, The upper its reliability.

In this research, it is compared **XML** file format with **CSV** one. In particular, it requires χ^2 probability function, when it output by the mean access time on **XML** and **CSV**. After that, we discuss the χ^2/ndf.

B.2 χ^2 Probability Function

Let us assume, for simplicity, The random variable(X) is followed by standard normal distribution ($N(0,1)$). The standard normal distribution is the one of the normal distribution, where the mean equals to 0, and the variance equals to 1. And it follows to

$$N(0,1) = \phi(x) = \frac{1}{\sqrt{2\pi}} e^{-\frac{x^2}{2}}. \tag{B.1}$$

In this condition, it requires distribution density function($T_1(z)$), which is followed by $Z = X^2$.

The distribution function($F(z)$) of random variable(z) is defined as

$$F(z) \equiv P(X^2 < z). \tag{B.2}$$

To consider $X^2 < z$, we can find

$$-\sqrt{z} < X < \sqrt{z}. \tag{B.3}$$

Therefore, $F(z)$ is expressed by

$$F(z) = \int_{-\sqrt{z}}^{\sqrt{z}} \phi(x) dx. \tag{B.4}$$

By (B.1), $F(z)$ can transform

$$F(z) = 2\int_{0}^{\sqrt{z}} \phi(x) dx, \tag{B.5}$$

because $\phi(x)$ is an even function.

The distribution density function $T_1(z)$ can be required as to differentiate.

---

[1] χ^2/ndf

$$
\begin{aligned}
T_1(z) &= \frac{dF(z)}{dz}, \\
&= \frac{d}{dz}\left(2\int_0^{\sqrt{z}} \phi(x)dx\right), \\
&= 2\phi(\sqrt{z})\frac{d}{dz}\sqrt{z}, \\
&= 2\left(\frac{1}{\sqrt{2\pi}}e^{-\frac{z}{2}}\right)\cdot\frac{1}{2}z^{-\frac{1}{2}}, \\
&= \frac{1}{\sqrt{2\pi}}z^{-\frac{1}{2}}e^{-\frac{z}{2}}.
\end{aligned}
\tag{B.6}
$$

Therefore, to consider the boundary condition of (B.6) and (B.3) by z, $T_1(z)$ expresses by

$$
T_1(z) = \begin{cases} \frac{1}{\sqrt{2\pi}}z^{-\frac{1}{2}}e^{-\frac{z}{2}} & (z > 0) \\ 0 & (z \leq 0). \end{cases}
\tag{B.7}
$$

Next, we require $T_2(z)$, which is followed by $Z = X_1^2 + X_2^2$. $T_2(z)$ can require taking a convolution integral, where $T_1(y) = 0$ when $y \leq 0$. Therefore the codomain is limited. And $T_2(z)$ is expressed by

$$
T_2(z) = \begin{cases} \int_0^z T_1(z-y)T_1(y)dy & (z > 0) \\ 0 & (z \leq 0). \end{cases}
\tag{B.8}
$$

And, taking (B.7), the above equation is shown as

$$
\begin{aligned}
T_2(z) &= \int_0^z \frac{1}{\sqrt{2\pi}}(z-y)^{-\frac{1}{2}}e^{-\frac{(z-y)}{2}}\cdot\frac{1}{\sqrt{2\pi}}y^{-\frac{1}{2}}e^{-\frac{y}{2}}dy, \\
&= \frac{1}{2\pi}e^{-\frac{z}{2}}\int_0^z (z-y)^{-\frac{1}{2}}y^{-\frac{1}{2}}dy, \\
&= \frac{1}{2\pi}e^{-\frac{z}{2}}z\int_0^1 \sqrt{\frac{zy-y^2}{z^2}}\frac{dy}{z}, \\
&= \frac{1}{2\pi}e^{-\frac{z}{2}}z\int_0^1 \sqrt{\frac{y}{z}-\left(\frac{y}{z}\right)^2}\frac{dy}{z}.
\end{aligned}
\tag{B.9}
$$

Let us assume, $t = \frac{y}{z}$, it also transform $dy = zdt$. Therefore, substituting the expression into the equation, we obtain the following.

$$
T_2(z) = \frac{1}{2\pi}e^{-\frac{z}{2}}z\int_0^1 \sqrt{t(1-t)}dt
\tag{B.10}
$$

where the integration of right side is able to transform its equation taking by beta function. The Beta function is shown in the following,

$$
B(z,w) = B(w,z) \equiv \int_0^1 t^{z-1}(1-t)^{w-1}dt
\tag{B.11}
$$

Therefore, let us define $z = 1/2, w = 1/2$,

$$T_2(z) = \frac{1}{2\pi} e^{-\frac{z}{2}} z B\left(\frac{1}{2}, \frac{1}{2}\right). \tag{B.12}$$

Furthermore, The beta function is connected by gamma function. Gamma function is defined as shown following.

$$\Gamma(z) \equiv \int_0^\infty t^{z-1} e^{-t} dt, \tag{B.13}$$

$$B(z,w) = \frac{\Gamma(z)\Gamma(w)}{\Gamma(z+w)}. \tag{B.14}$$

And it applies above function to $T_2(z)$. We can get

$$T_2(z) = \frac{1}{2\pi} e^{-\frac{z}{2}} z \frac{\Gamma\left(\frac{1}{2}\right)\Gamma\left(\frac{1}{2}\right)}{\Gamma(1)}. \tag{B.15}$$

After that, taking $n! = \Gamma(n+1)$ and reflection formula

$$\Gamma(1-z) = \frac{\pi}{\Gamma(z)\sin(\pi z)} = \frac{\pi z}{\Gamma(1+z)\sin(\pi z)}, \tag{B.16}$$

can be modified to

$$\begin{aligned} \Gamma\left(1-\frac{1}{2}\right) &= \frac{\pi}{\Gamma\left(\frac{1}{2}\right)\sin\left(\frac{1}{2}\pi\right)}, \\ \Gamma\left(\frac{1}{2}\right) &= \sqrt{\pi}. \end{aligned} \tag{B.17}$$

And, it applies to (B.15), we can get

$$\begin{aligned} T_2(z) &= \frac{1}{2\pi} e^{-\frac{z}{2}} z \frac{\sqrt{\pi}\sqrt{\pi}}{1}, \\ &= \frac{1}{2} z e^{-\frac{z}{2}}. \end{aligned} \tag{B.18}$$

That is, let us assume, The nu number of variables $X_1, X_2, \cdots, X_\nu$ is independence number each other, and it followed as $N(0,1)$. The distribution $T_\nu(z)$ of $Z = X_1^2 + X_2^2 + \cdots + X_\nu^2$ is expressed by

$$T_\nu(z) = \begin{cases} \dfrac{1}{2^{\frac{\nu}{2}}\Gamma\left(\frac{\nu}{2}\right)} z^{\frac{(\nu-2)}{2}} e^{-\frac{z}{2}} & (z > 0) \\ 0 & (z \leq 0). \end{cases} \tag{B.19}$$

This can explain recursively taking a convolution integral such as

$$\int_0^z T_{n-1}(z-y) T_1(y) dy. \tag{B.20}$$

This distribution following as (B.19) is called by χ^2 distribution on ν-degree-of-freedom. And it is necessary function on χ^2 test.

We summarize the χ^2 distribution results in Fig. B.1, in which $\nu = 1, 2, 5, 48$.

Thus, The more nu increases, the more rounded the perk with decreasing its local maximal value.

Therefore, χ^2 test can be required initially,

$$\chi^2 = \sum_i \frac{N_i - n_i}{n_i}, \tag{B.21}$$

where N_i is observed frequency, and n_i is expected frequency.

And, it compares χ^2 to statistical significance (α). When $\chi^2 > T_\nu$, this null hypothesis cannot be confided.

B.3 Fitting

In this section, we present the fitting on the χ^2. Let us assume, each y_i has measurement error that follows by random normal distribution on an $y(x)$, where y_i is the plot given by the measurement, and $y(x)$ is idealized model. Furthermore, each σ around the normal distribution is identifiable on all measurement point, where σ is standard deviation.

In this case, the probability of the data can be expressed the product of probability on an each plots. The probability is

$$P = \prod_{i=1}^{N} \left\{ \exp\left[-\frac{1}{2}\left(\frac{y_i - y(x_i)}{\sigma}\right)^2 \right] \Delta y \right\}. \tag{B.22}$$

Additionally, it can add the multiplication part after logarithmic processing on the P. After that, P adds the minus unit, P is expressed as

$$-\ln P^2 = \left[\sum_{i=1}^{N} \frac{\left[y_i - y(x_i)^2\right]}{\sigma^2} \right] - N \ln \Delta y. \tag{B.23}$$

Next, (B.23) is rewritten σ_i instead of σ, when (x_i,y_i) has each σ_i. Therefore, the maximum likelihood estimator of model parameters can be required the least number of as following the

$$\chi^2 \equiv \sum_{i=1}^{N} \left(\frac{y_i - y(x_i; a_1 \cdots a_M)}{\sigma_i} \right)^2. \tag{B.24}$$

The more fit the measurement error and normal distribution, The more χ^2 closes the value which is normalizing by variance 1 to the sum of N^2.

The probability distribution of the least χ^2 can be derived analytically, we discussed on the Section B.2 about the $(N - M), \chi^2$ distribution

Thus, calculated probability gives quantitatively the level of the fitting its model. When the probability is low, The possibility is low of the deviance, which is a negligible accident. In this case, we have to doubt of 3 reasons. The reasons is wrong model, fabricated intentionally the σ, or distant the measurement from normal distribution.

Surely, χ^2 is not reliability check tool, but the probability of the error normality. However, in most instance, The error is not following by normality, χ^2 becomes resized in size.

As a result, the typical χ^2 which is following that the measurement error is following by normal distribution, is equals to ν. That is, The more ν is increasing, χ^2 is closing asymptotically to the normal distribution ($N(\nu, 2\nu)$), where standard deviation equals to $\sqrt{2\nu}$. There is strong evidence that the Fig. B.1.

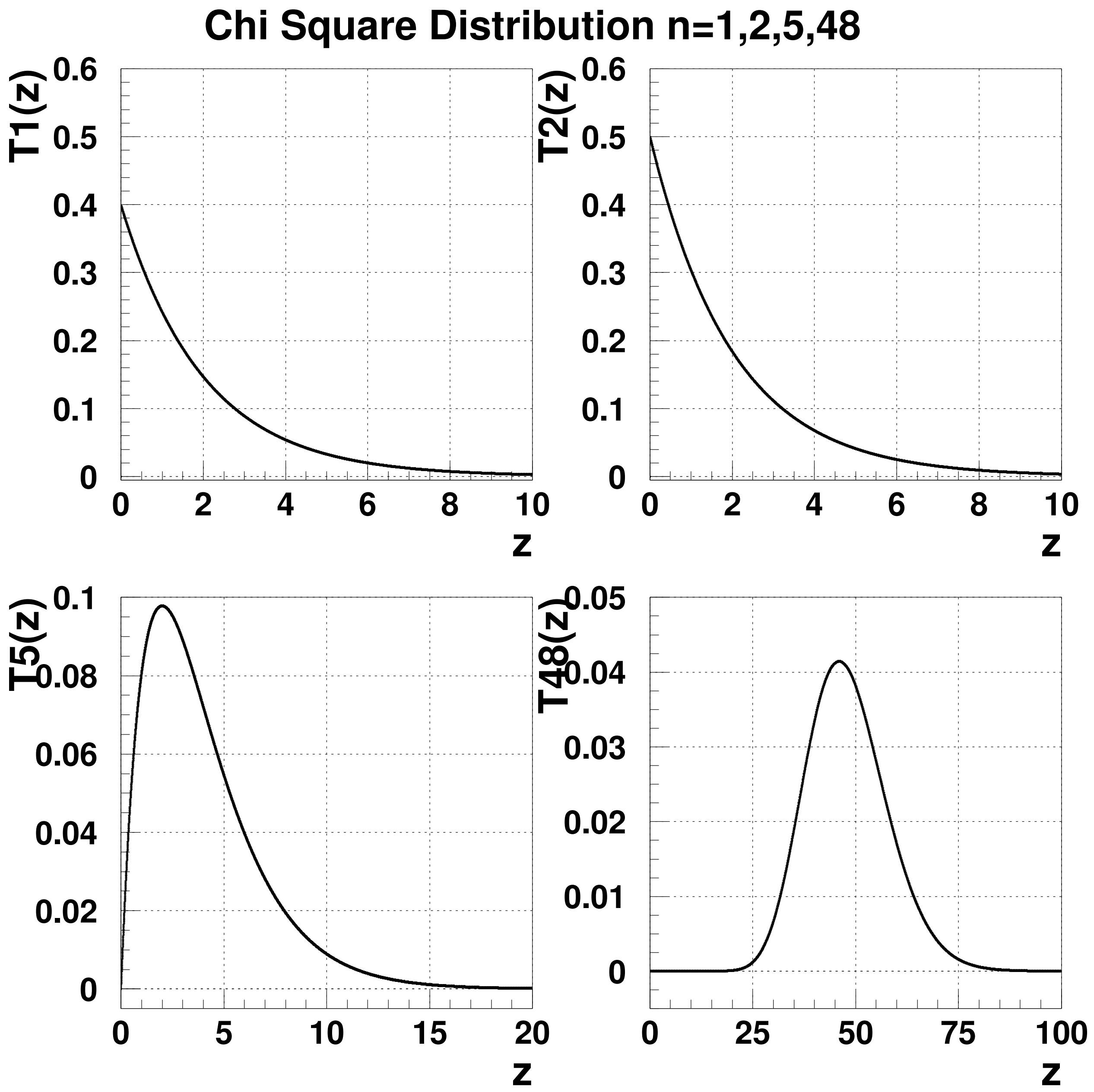


Figure B.1: χ^2 distribution on $\nu = 1, 2, 5, 48$. The more ν is increasing, The shape is closing a normal distribution.

Appendix C

Documents distributed for teachers

C.1 Overview

In this Chapter, it is described documents distributed for teachers. In General, many young teachers has been studied at college or university. However, people in theirs 40s and senior teachers more than 50 years old are not. And moreover, they backlash to use computer for work. A few teachers are proud of not using the computer. Therefore, it needs to open an awareness campaign. The documentation of these are documents distributed to brainwash them to think computer is good tool. The most important thing for them is successful experience.

C.2 The Documents Distributed

Now, it is shown the documents distributed.

ネットワークトラブルの対処方法

1.　はじめに

ネットワークのトラブルの多くは、実際に目に見える形で発生します。例えば三井小学校の場合では、

- サーバ機に接続できない。
- プリンタが印刷できない。
- マイネットワークにfドライブが表示されない。

等です。

これらは、インシデント発生から、解決に至るまでのプロセスを説明します。

2.　インシデント発生から原因を特定する

まず、はじめに、インシデントが発生すると、すぐに直そうとするのではなく、原因を特定することから、考えましょう。

闇雲に直そうとする行為は生産的ではありません。もし、他の原因であれば、また一からやりなおしになります。修復するまで、総当り法で行っていては、考えられる原因が10あったとすると、最悪9回ためさなければなりません。原因を切り分け2分割できたとすれば4回ですみます。さらに原因を切り分けると2回ですみます。原因の切り分けは修復行為よりも時間はあまりかかりません。

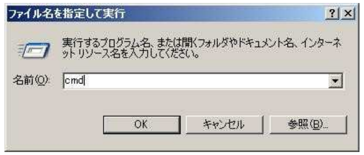
また、自分のものは復旧したけれども、他のものに影響することがないようにすることが肝要です。

3.　自分の周りから、順番に調査しましょう。

1．まず、自分の周りから調査しましょう。ネットワークトラブルの多くの原因は、低レベル層での問題が多いです。（低レベル層とは、つまらない・くだらないという意味ではありません。）ネットワークは、インターネット・イントラネットにかかわらず、TCP と、IP というプロトコル（概念）で構築されています。自分の計算機が、ネットワーク空間に正常に接続できているかを確認します。

使っている計算機の OS が Microsoft Windows である場合、

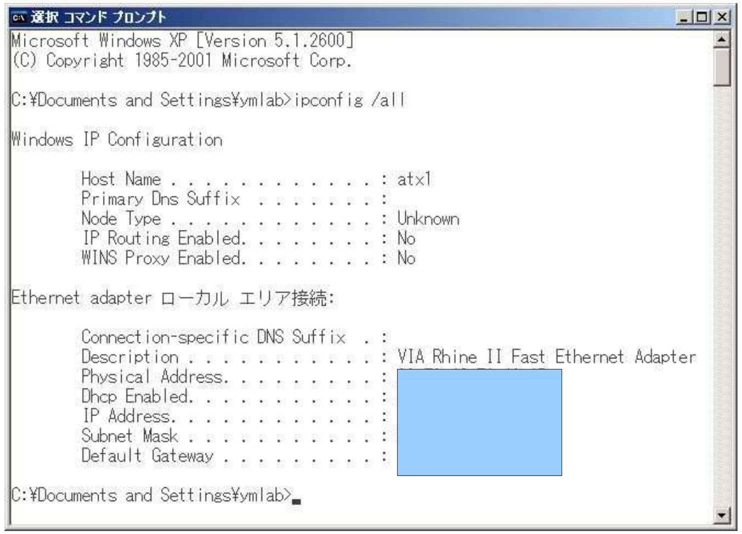
1．[スタートボタン]−[ファイル名を指定して実行]−[cmd]と入力してエンターキーを押下することで、コマンドプロンプトを起動します。コマンドプロンプトとは、Windows の前の OS である MS-DOS に近い機能を持ちます。


ファイル名を指定して実行

実行するプログラム名、または開くフォルダやドキュメント名、インターネット リソース名を入力してください。

名前(O): cmd

2．コマンドプロンプトが開いたら、**<u>ipconfig□/all</u>** と入力して、エンターキーを押下します。ここで□とは、スペースキーであり、本当に□を入力してはいけません。エンターキーを押下すると、自分の計算機のネットワーク情報が得られます。多分、黒地に白文字だと思うのですが、インクがもったいないので、反転させています。


選択 コマンド プロンプト

```
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:¥Documents and Settings¥ymlab>ipconfig /all

Windows IP Configuration

        Host Name . . . . . . . . . . . . : atx1
        Primary Dns Suffix  . . . . . . . :
        Node Type . . . . . . . . . . . . : Unknown
        IP Routing Enabled. . . . . . . . : No
        WINS Proxy Enabled. . . . . . . . : No

Ethernet adapter ローカル エリア接続:

        Connection-specific DNS Suffix  . :
        Description . . . . . . . . . . . : VIA Rhine II Fast Ethernet Adapter
        Physical Address. . . . . . . . . : [redacted]
        Dhcp Enabled. . . . . . . . . . . :
        IP Address. . . . . . . . . . . . :
        Subnet Mask . . . . . . . . . . . :
        Default Gateway . . . . . . . . . :

C:¥Documents and Settings¥ymlab>
```

3．四角で囲ったところを確認してください。IP Address と書いてあるところが、**<u>192.168.1.</u>** で始まっていない場合は、問題は自分のマシンがある可能性があります。

IP アドレスが 192.168.1. で始まっていない場合の考えられる原因

1. 自分の計算機が、三井小学校イントラネット空間に対応していなかった。
   →自分の計算機のネットワークの設定をする。
2. 自分の計算機が、なんらかの原因で、ネットワークに接続できない状態になっている。
   →自分の計算機のネットワークの設定をする。
3. ネットワーク回線が途中で断線している。
   →自分の計算機が接続している HUB を基点に、調査し、原因を特定する必要がある。

4．IP Address が 192.168.1. となっているのに、接続できない場合は、さらに調査します。さらに、コマンドプロンプト上から、**<u>ping□</u>**[redacted]です。ping とは、自分のマシンから、少量のパケットをサーバへ送り応答を試みます。おそらく応答がなく、タイムアウトするでしょうが。ping は、潜水艦の探信音(pinger)に由来します。[redacted]はサーバ機の IP アドレスです。

Figure C.1: How to network trouble 1,2/4.

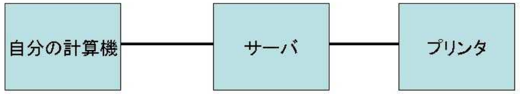
4.　プリンタが印刷できない

プリンタが印刷できない場合は、ネットワーク以外にも原因を考えなければなりません。職員室のプリンタは、ネットワークプリンタで構成されています。ネットワークプリンタに対応することにより、複数の計算機から一つのプリンタに印刷できます。

プリンタの LAN ケーブルが、HUB のケーブルに刺さっていると思います。その HUB のポートランプが点灯しているか確認しましょう。点灯していないならば、適切にさしましょう。または、プリンタを再起動してみるのもよいでしょう。

それでもだめな場合、サーバ機のプリントジョブを見てみましょう。

よくあるトラブルがこれです。三井小学校での印刷の仕組みは、下図のように、

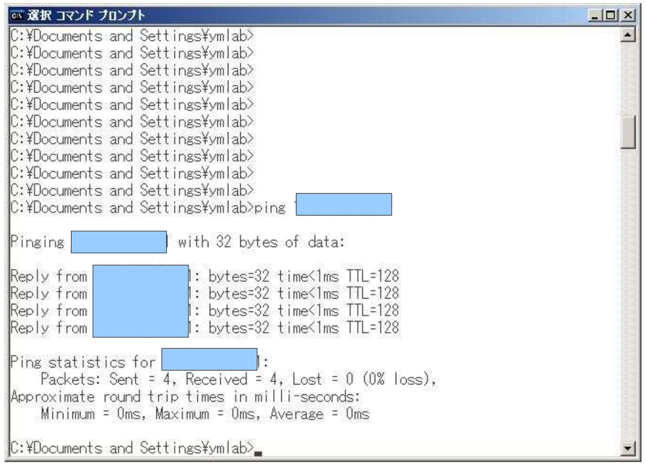


自分の計算機から、サーバ、サーバからプリンタへとメッセージ（キューと呼びます。スタックの反意語）が流れていきます。この時、プリンタの電源が入っていなかった場合、サーバでメッセージの行き場がなくなることにより、プリンタエラーが発生します。そこで、プリンタの状態を一時停止にしてしまうのです。（メッセージはサーバに蓄えられます。[プリンタに蓄えられる場合もある。]）例え電源を後からいれても、一時停止のままです。そこで、[待機中]に復帰させる必要があります。

デスクトップにある、右のアイコンをダブルクリックすると、下の画面が起動します。

プリンタ	状態	終了	残り
NEC Color MultiWriter 9500C	待機中	45	0
PRT1(PM-3300C)	待機中	0	0
PRT2(PM-3300C)	待機中	0	0
PRT3(PM-3300C)	待機中	0	0
PRT4(PM-3300C)	待機中	0	0

状態が、待機中ではなく、一時停止となっている該当するプリンタを一回クリックして、反転表示させたあと、右クリックすると、一時停止のチェックをはずすために、一時停止をクリックしてください。



```
C:¥Documents and Settings¥ymlab>
C:¥Documents and Settings¥ymlab>
C:¥Documents and Settings¥ymlab>
C:¥Documents and Settings¥ymlab>
C:¥Documents and Settings¥ymlab>
C:¥Documents and Settings¥ymlab>
C:¥Documents and Settings¥ymlab>
C:¥Documents and Settings¥ymlab>
C:¥Documents and Settings¥ymlab>
C:¥Documents and Settings¥ymlab>
C:¥Documents and Settings¥ymlab>ping [redacted]

Pinging [redacted] with 32 bytes of data:

Reply from [redacted]: bytes=32 time<1ms TTL=128
Reply from : bytes=32 time<1ms TTL=128
Reply from : bytes=32 time<1ms TTL=128
Reply from : bytes=32 time<1ms TTL=128

Ping statistics for [redacted]:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:¥Documents and Settings¥ymlab>_
```

5. サーバ機に接続できないことがわかったら、どこでネットワークが遮断されているかを特定します。

自分の島の他の先生と自分が ping が通るか。隣の島はどうか。と、どんどん調査範囲を広げていきます。HUB のポートランプを確認するのもよいでしょう。ネットワーク構成は現在は下のようになっています。

これでも解決しない場合は事態は深刻です。サーバ機の再起動など、何らかの対処をする必要があります。

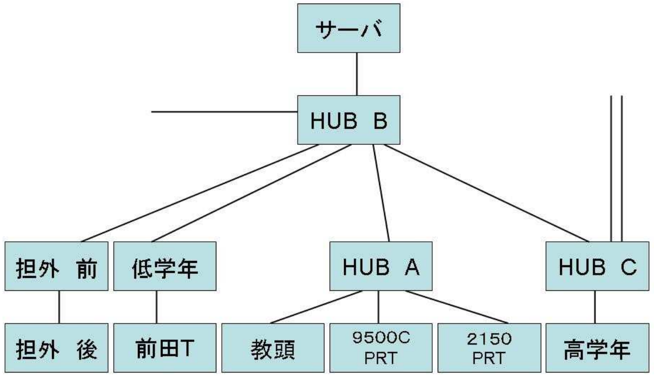


Figure C.2: How to network table 3,4/4.

Linux ファイルサーバの再起動の方法

Linux でファイルサーバを構築すると、Windows のそれと比較して、劇的なコスト削減に貢献します。しかし、Linux 固有の操作方法を覚える必要があります。再起動する機会は、よほどのことが無い限り、Windows と違い、数年に一回程度と思います。

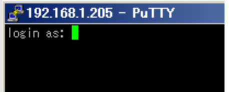
・電源の終了の仕方

1. Puttyjp.exe を起動する。

2. ホスト名に[redacted]
と入力して、[開く]をする。

ホスト名 (または IP アドレス)(N): [redacted]
ポート: 22
○ Raw ○ Telnet ○ Rlogin ● SSH
終了時のウィンドウクローズ(W): ○ 常にする ○ しない ● クリーンな終了時のみ

3. Login as:と聞いてくるので、●●●●と入力。
パスワードも●●●●と入力。
すると、ログインできる。



```
login as: ▮
```

4. この●●●●ユーザには、管理者権限がないので、スーパーユーザーになる。そのまま **su –**と入力する。

```
login as:●●●●
mii@[redacted]password:
Last login: Mon Dec 18 15:32:37 2006 from
192.168.1.10
[mii@localhost mii]$ su -
Password:
[root@localhost root]#
```

5. パスワードが聞かれるので、●●●●と入力。

6. スーパーユーザーである、root となっていることを確認する。
[root@localhost root]#となっているはず。

ここまでの手順は、同じ。

７．電源を終了するとき。
電源を終了するときは、shutdown を命令する。
[root@localhost root]#**shutdown –h now**
とする。-h は、halt の略。now は、今すぐに実行することを示している。5 分後に電源を切るときは、shutdown –h 5 とする。

８．再起動するとき。
再起動するときは、電源を切るときと同じく、shutdown 命令を送る。
[root@localhost root]#**shutdown –r now**
ここで、-r は、reboot を意味する。reboot とは再起動を意味する。同じく 10 分後などは、shutdown –r 10 とすればよい。

９．再起動するとき、マシンの筐体があいていたら、エラーが出るので、かまわず F1 キーで継続すればよい。このとき、これまでつながれていた putty は、シャットダウン命令によって、通信が破棄されるため、再起動が完了した後、再度上記１～６までの手順を実行する。

１０．ファイル共有サーバは、再起動時には立ち上がっていないため、手動で再起動する必要がある。
まず、**ls** して、root のホームディレクトリにあるファイルを見る。

```
[root@localhost root]# ls
Desktop/    backup.sh* sambaadduser@  smbd@
a@          rpm/       smb.conf@      upgrade-log
anaconda-ks.cfg  sambaDirectory@  smb.conf~
[root@localhost root]#
```

ここで、smbd@というのが、ファイルサーバを起動するためのシンボリックリンクというものである。
読みは、[サンバデーモン]
これを実行するために、./smbd と入力して、起動する。
[root@localhost root]# **./smbd**

きちんと実行したかを確かめるために、現在立ち上がっているプロセスのうち、smbd があるかを見る。
[root@localhost root]# **ps –aux | grep smbd**
ps –aux は、立ち上がっているプロセス全体を見る命令
|は出力結果を、次の命令の入力にする命令。
grep は、入力をフィルタリングする命令。この場合、smbd の文字が入っている行を表示する。

```
[root@localhost root]# ps -aux |grep smbd
root 2537 0.0 0.4 3820 1168 ? S 14:44 0:00 ./smbd
root 2560 0.0 0.7 4180 1824 ? S 15:14 0:00 ./smbd
root 2976 0.0 0.2 4636 688 pts/1 S 15:53 0:00 grep smbd
```

grep smbd 以外の ./smbd を発見できれば OK。

後は、Windows から、[スタート]-[ファイル名を指定して実行]-[\\XXX]と入力して OK すると共有フォルダが開かれる。
Windows と違い、一度に 10 人以上がアクセスできる。

―――備忘録―――
Samba の設定ファイルは root のホームディレクトリの smb.conf としてシンボリックリンクをおいた。
ユーザ認証をするのであれば、
Map to guest = Bad User を消す。
Guest ok = yes を no に。
Security = share を、消す。
よく忘れがちなのが、read only= no を追加すること。

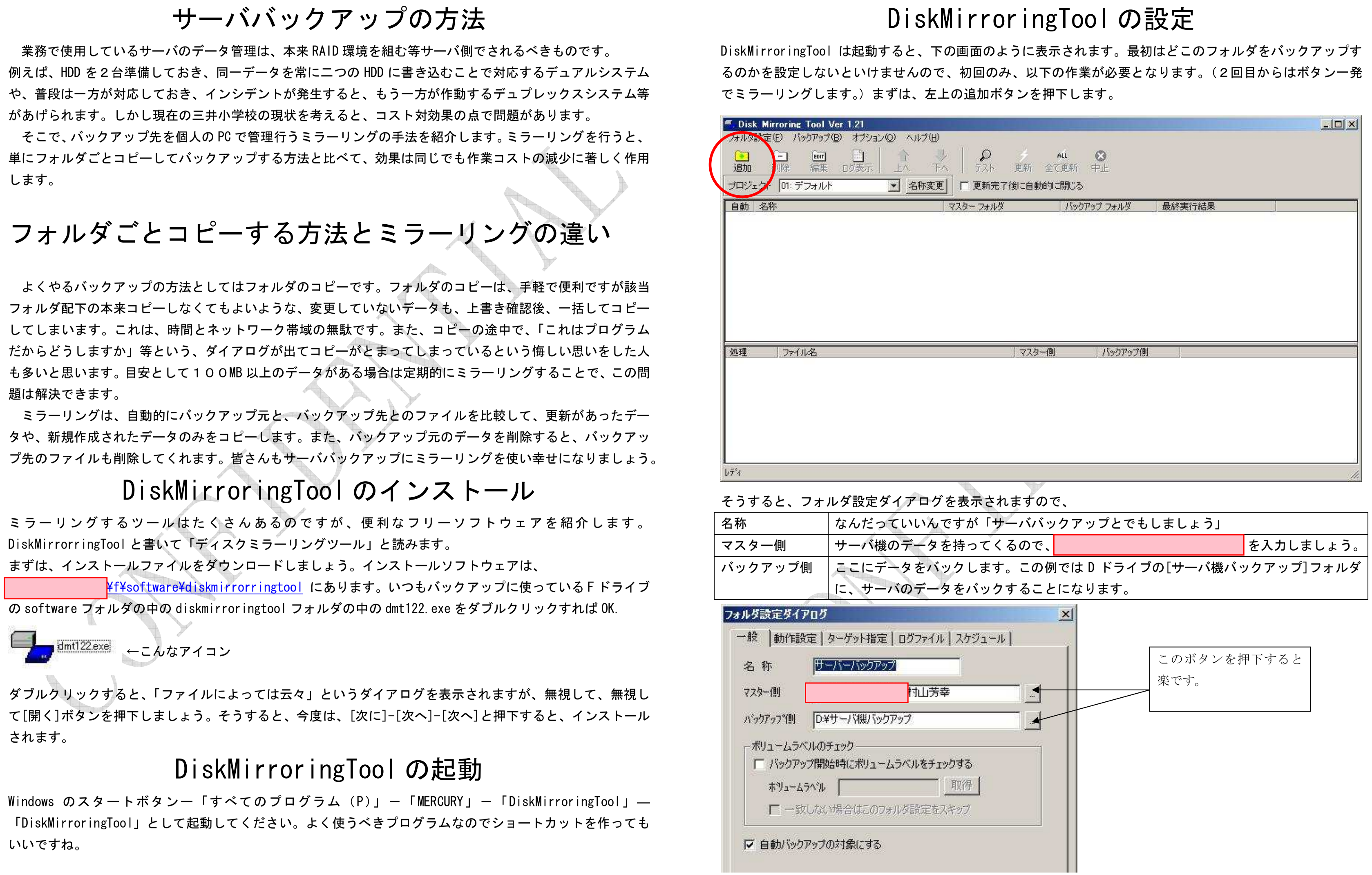
GUI 操作。
VNC Server を使う。
ymlab でログインして、vncserver を実行すると、

```
[ymlab@localhost home]$ vncserver

New 'localhost.localdomain:1 (ymlab)' desktop is localhost.localdomain:1
```

といわれるので、VNC Client で、192.168.1.XXX:1 で OK.vncpasswd で、設定する。今のところ●●●●で OK.

Figure C.3: How to launch linux server 1,2/2.



サーババックアップの方法

業務で使用しているサーバのデータ管理は、本来 RAID 環境を組む等サーバ側でされるべきものです。例えば、HDD を２台準備しておき、同一データを常に二つの HDD に書き込むことで対応するデュアルシステムや、普段は一方が対応しておき、インシデントが発生すると、もう一方が作動するデュプレックスシステム等があげられます。しかし現在の三井小学校の現状を考えると、コスト対効果の点で問題があります。

そこで、バックアップ先を個人の PC で管理行うミラーリングの手法を紹介します。ミラーリングを行うと、単にフォルダごとコピーしてバックアップする方法と比べて、効果は同じでも作業コストの減少に著しく作用します。

フォルダごとコピーする方法とミラーリングの違い

よくやるバックアップの方法としてはフォルダのコピーです。フォルダのコピーは、手軽で便利ですが該当フォルダ配下の本来コピーしなくてもよいような、変更していないデータも、上書き確認後、一括してコピーしてしまいます。これは、時間とネットワーク帯域の無駄です。また、コピーの途中で、「これはプログラムだからどうしますか」等という、ダイアログが出てコピーがとまってしまっているという悔しい思いをした人も多いと思います。目安として１００MB 以上のデータがある場合は定期的にミラーリングすることで、この問題は解決できます。

ミラーリングは、自動的にバックアップ元と、バックアップ先とのファイルを比較して、更新があったデータや、新規作成されたデータのみをコピーします。また、バックアップ元のデータを削除すると、バックアップ先のファイルも削除してくれます。皆さんもサーババックアップにミラーリングを使い幸せになりましょう。

DiskMirroringTool のインストール

ミラーリングするツールはたくさんあるのですが、便利なフリーソフトウェアを紹介します。DiskMirrorringTool と書いて「ディスクミラーリングツール」と読みます。

まずは、インストールファイルをダウンロードしましょう。インストールソフトウェアは、[redacted]¥f¥software¥diskmirrorringtool にあります。いつもバックアップに使っているＦドライブの software フォルダの中の diskmirroringtool フォルダの中の dmt122.exe をダブルクリックすれば OK.

dmt122.exe ←こんなアイコン

ダブルクリックすると、「ファイルによっては云々」というダイアログを表示されますが、無視して、無視して[開く]ボタンを押下しましょう。そうすると、今度は、[次に]-[次へ]-[次へ]と押下すると、インストールされます。

DiskMirroringTool の起動

Windows のスタートボタン－「すべてのプログラム（P）」－「MERCURY」－「DiskMirroringTool」－「DiskMirroringTool」として起動してください。よく使うべきプログラムなのでショートカットを作ってもいいですね。

DiskMirroringTool の設定

DiskMirrorringTool は起動すると、下の画面のように表示されます。最初はどこのフォルダをバックアップするのかを設定しないといけませんので、初回のみ、以下の作業が必要となります。（２回目からはボタン一発でミラーリングします。）まずは、左上の追加ボタンを押下します。

Disk Mirroring Tool Ver 1.21

プロジェクト: 01: デフォルト

☐ 更新完了後に自動的に閉じる

そうすると、フォルダ設定ダイアログを表示されますので、

名称	なんだっていいんですが「サーババックアップとでもしましょう」
マスター側	サーバ機のデータを持ってくるので、[redacted] を入力しましょう。
バックアップ側	ここにデータをバックします。この例では D ドライブの[サーバ機バックアップ]フォルダに、サーバのデータをバックすることになります。

フォルダ設定ダイアログ

名 称: サーバーバックアップ

マスター側: [redacted]村山芳幸

バックアップ側: D:¥サーバ機バックアップ

ボリュームラベルのチェック

☐ バックアップ開始時にボリュームラベルをチェックする

ボリュームラベル:

☐ 一致しない場合はこのフォルダ設定をスキップ

☑ 自動バックアップの対象にする

このボタンを押下すると楽です。

Figure C.4: How to backup server. 1,2 / 3

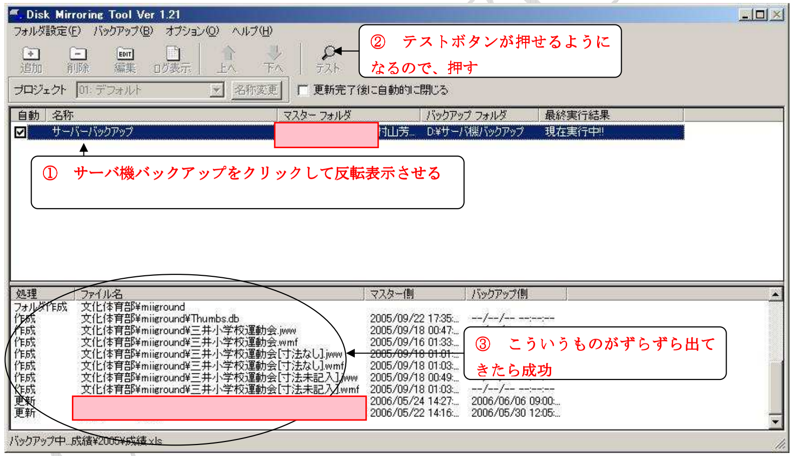
設定が終わったら OK ボタンを押下しましょう。
これで設定は終了です。そしたら、確認ダイアログが出てきます。

作者より

新しいフォルダ設定(サーバーバックアップ)を作成しました。

設定内容の確認の為に、1回目は実際のファイル操作を行わない[テスト]モードで実行してみる事をお薦めします。

これは、作者の言うとおりで、マスター側とバックアップ側を逆にすると、サーバデータ全消去という事態になりますので、確認の意味でテストしましょうということです。一応全消去してもいいように、夏休みまでは、６月１９日までのデータを村山が保存しています。その間に DiskMirroringTool の設定を完了してください。それ以降の対応はできません。OK ボタンを押下した後、サーバ機バックアップをクリックして反転表示させ、テストボタンを押下してください。実際はテストなので何にもしていませんが、下の画面にずらずら出てきていたら成功です。



☐ 更新完了後に自動的に閉じる

```
自動  名称              マスター フォルダ  バックアップ フォルダ      最終実行結果
☑    サーバーバックアップ  [redacted]村山芳...  D:¥サーバ機バックアップ  現在実行中!!

処理        ファイル名                                          マスター側           バックアップ側
フォルダ作成  文化体育部¥miiground
作成        文化体育部¥miiground¥Thumbs.db                       2005/09/22 17:35...  --/--/-- --:--:--
作成        文化体育部¥miiground¥三井小学校運動会.jww              2005/09/18 00:47...
作成        文化体育部¥miiground¥三井小学校運動会.wmf              2005/09/16 01:33...
作成        文化体育部¥miiground¥三井小学校運動会[寸法なし].jww     2005/09/18 01:01...
作成        文化体育部¥miiground¥三井小学校運動会[寸法なし].wmf     2005/09/18 01:03...
作成        文化体育部¥miiground¥三井小学校運動会[寸法未記入].jww   2005/09/18 00:49...
作成        文化体育部¥miiground¥三井小学校運動会[寸法未記入].wmf   2005/09/18 01:03...  --/--/-- --:--:--
更新        [redacted]                                          2006/05/24 14:27...  2006/06/06 09:00...
更新                                                            2006/05/22 14:16...  2006/05/30 12:05...
バックアップ中...成績¥2005¥成績.xls
```

① サーバ機バックアップをクリックして反転表示させる

② テストボタンが押せるようになるので、押す

③ こういうものがずらずら出てきたら成功

テストが終わったら終了　と出てくるので、実際にテストボタンの隣の更新ボタンを押下して更新します。２回目からは、この更新ボタンを押下するだけで自動的に更新します。一番最初は全部コピーするので時間がかかりますが、２回目以降はフォルダコピーするよりも、飛躍的に作業時間が向上します。

サーバのデータのバックアップの設定は難しいかも知れませんが、やった方がよいし、やるべきです。普段の自分のデータは自分で守るという心がけが肝要です。わからないところがあれば質問をしてください。時間が空いている限り対応します。質問をする場合は、「これこれこういうことをしようとして、こうしたら、(結果こうなった。/こうならない)」と質問していただければやりやすいです。

学校のＷｅｂサイトの更新の担当責任者

Web サイトの更新で、それぞれのカテゴリの担当者を決めたいと思います。担当の先生のみ更新をするのではなく、担当の先生でない方が更新されてもかまいません[どんどん更新して下さった方がよいです。]。なお、カテゴリは自由に追加できますので、今後のカテゴリは増減する可能性があります。なお、現在書き込みのパスワード認証が、サーバ側の設定で、できないような仕様になっているため、教育委員会に設定をお願いしています。設定が不可能な場合は、システムの中規模な改変が必要となります。とりあえず、返事がくるまでは、トップからのリンクを削除することで対応します。更新をする時は、管理者のサイトにダイレクトにアクセスして下さい。A パソコンのデスクトップにショートカットを貼っておきます

カテゴリ	担当者
校長室	
学校紹介	
校歌	
行事	
サイトポリシー	
研究	
１年	
２年	
３年	
４年	
５年	
６年	
特別支援学級	
給食	
英語	
学校だより	

パソコンサイト

携帯サイトへの QR コード

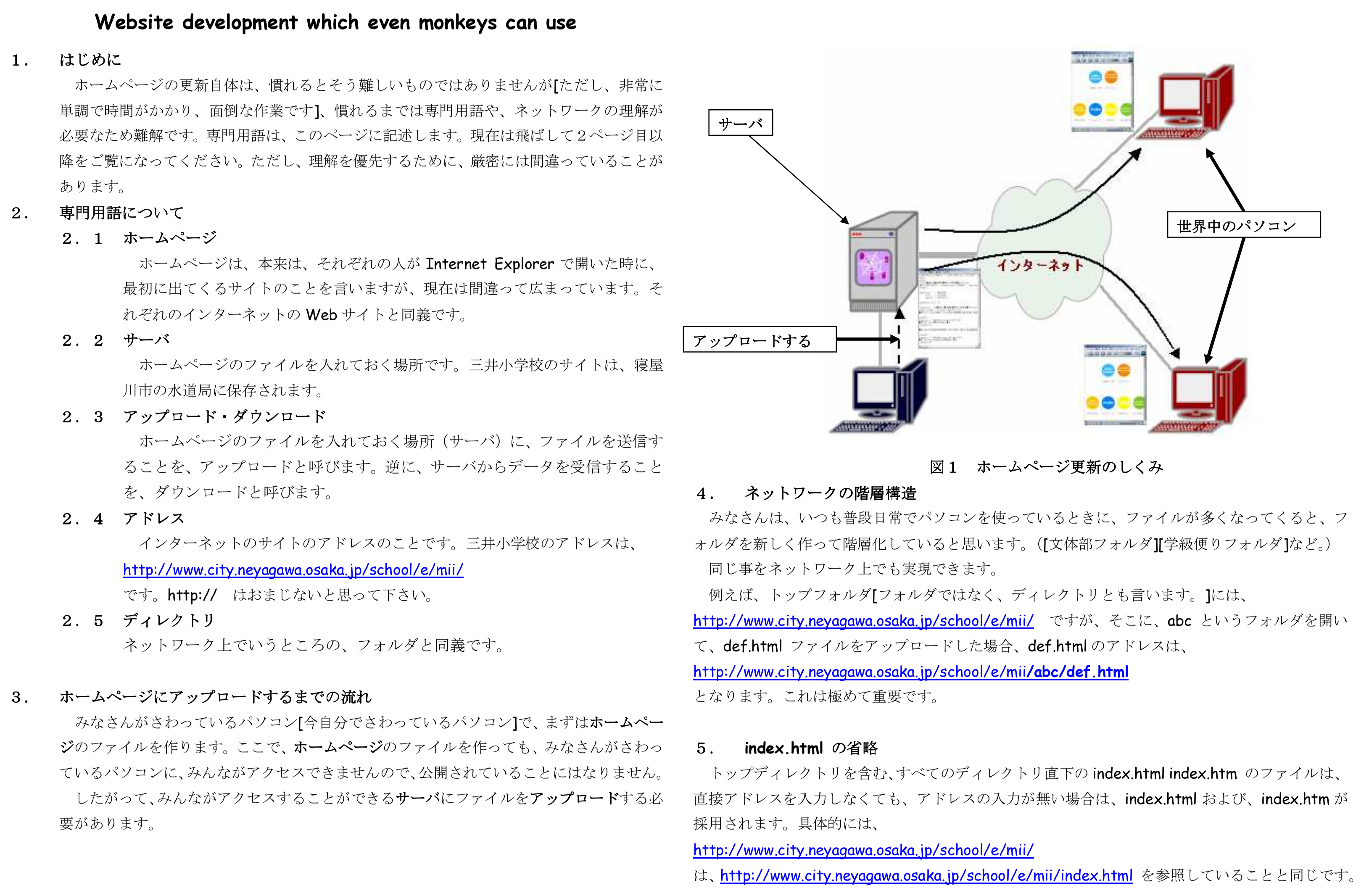
http://www.city.neyagawa.osaka.jp/school/e/mii/
パソコンの管理者権限

http://www.city.neyagawa.osaka.jp/school/e/mii/admin/
携帯

http://www.city.neyagawa.osaka.jp/school/e/mii/index-i.php
携帯管理者

http://www.city.neyagawa.osaka.jp/school/e/mii/admin/index-i.php

Figure C.5: How to backup server. 3 / 3, and The responsibility of this system 1 / 1.



Website development which even monkeys can use

１．　はじめに

ホームページの更新自体は、慣れるとそう難しいものではありませんが[ただし、非常に単調で時間がかかり、面倒な作業です]、慣れるまでは専門用語や、ネットワークの理解が必要なため難解です。専門用語は、このページに記述します。現在は飛ばして２ページ目以降をご覧になってください。ただし、理解を優先するために、厳密には間違っていることがあります。

２．　専門用語について

２．１　ホームページ

ホームページは、本来は、それぞれの人が Internet Explorer で開いた時に、最初に出てくるサイトのことを言いますが、現在は間違って広まっています。それぞれのインターネットの Web サイトと同義です。

２．２　サーバ

ホームページのファイルを入れておく場所です。三井小学校のサイトは、寝屋川市の水道局に保存されます。

２．３　アップロード・ダウンロード

ホームページのファイルを入れておく場所（サーバ）に、ファイルを送信することを、アップロードと呼びます。逆に、サーバからデータを受信することを、ダウンロードと呼びます。

２．４　アドレス

インターネットのサイトのアドレスのことです。三井小学校のアドレスは、
http://www.city.neyagawa.osaka.jp/school/e/mii/
です。http://　はおまじないと思って下さい。

２．５　ディレクトリ

ネットワーク上でいうところの、フォルダと同義です。

３．　ホームページにアップロードするまでの流れ

みなさんがさわっているパソコン[今自分でさわっているパソコン]で、まずは**ホームページ**のファイルを作ります。ここで、**ホームページ**のファイルを作っても、みなさんがさわっているパソコンに、みんながアクセスできませんので、公開されていることにはなりません。

したがって、みんながアクセスすることができる**サーバ**にファイルを**アップロード**する必要があります。

図１　ホームページ更新のしくみ

４．　ネットワークの階層構造

みなさんは、いつも普段日常でパソコンを使っているときに、ファイルが多くなってくると、フォルダを新しく作って階層化していると思います。([文体部フォルダ][学級便りフォルダ]など。)

同じ事をネットワーク上でも実現できます。

例えば、トップフォルダ[フォルダではなく、ディレクトリとも言います。]には、
http://www.city.neyagawa.osaka.jp/school/e/mii/　ですが、そこに、abc というフォルダを開いて、def.html ファイルをアップロードした場合、def.html のアドレスは、
http://www.city.neyagawa.osaka.jp/school/e/mii/**abc/def.html**
となります。これは極めて重要です。

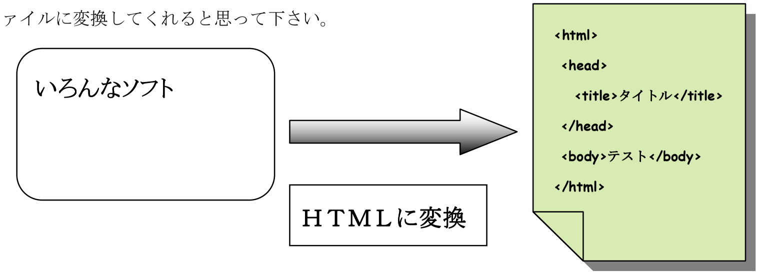
５．　index.html の省略

トップディレクトリを含む、すべてのディレクトリ直下の index.html index.htm のファイルは、直接アドレスを入力しなくても、アドレスの入力が無い場合は、index.html および、index.htm が採用されます。具体的には、
http://www.city.neyagawa.osaka.jp/school/e/mii/
は、http://www.city.neyagawa.osaka.jp/school/e/mii/index.html を参照していることと同じです。

Figure C.6: How to backup server. 1,2/6.

６． ホームページのファイルの作り方

ホームページのファイルを作る方法は、数多くあります。基本的にホームページのファイルはＨＴＭＬ[エイチティーエムエル]というマークアップ言語で記述されています。これよりいくつかホームページファイルを作る方法を紹介しますが、これらは自動的にＨＴＭＬファイルに変換してくれると思って下さい。



```
<html>
 <head>
   <title>タイトル</title>
 </head>
 <body>テスト</body>
</html>
```

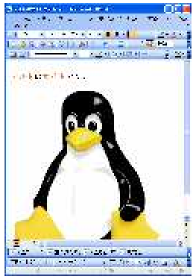
ここでは、ホームページの作り方として３つの方法を紹介します。
各自の興味に合わせて選んで下さい。

１． Ｗｏｒｄ[超簡単でも、すべての人に正常に表示される可能性が極めて低い]
２． ホームページビルダー[普通。でも、すべての人に正常に表示される可能性が低い]
３． タグ打ち [ちょっと難しい。でもすべての人に完全に正常に表示されるようになる]

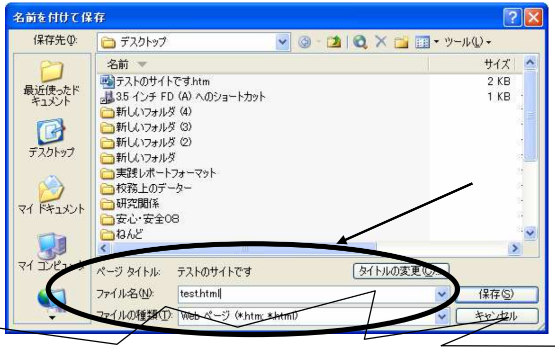
７． Microsoft Word を使ったホームページのファイルの生成方法

(ア)Microsoft Word をダブルクリックして起動します。

(イ)Microsoft Word で、ファイルを作成します。基本的にいつもどおりでオッケイです。



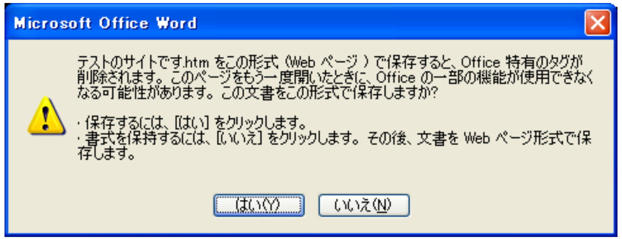
(ウ)ファイルを保存するときに、[ファイル(F)-名前を付けて保存(A)とマウス押下すると、ファイル保存のコモンダイアログが表示されます。]このとき、ファイル名を記述し、ファイルの種類は、Web ページ(*.htm,*.html)を指定します。



ページ タイトル: テストのサイトです
ファイル名(N): test.html
ファイルの種類(T): Web ページ (*.htm; *.html)

注意：ファイル名に日本語（全角含むアルファベット）は絶対に使用しないで下さい。必ず半角でお願いいたします。

(エ)たいていの場合、下のようなダイアログが表示されて怒られます。これは Word ではできるが、ホームページにはできないものがある。という警告です。もとの Word を修正するか、はい(Y)ボタンを押下しましょう。



テストのサイトです.htm をこの形式 (Web ページ) で保存すると、Office 特有のタグが削除されます。このページをもう一度開いたときに、Office の一部の機能が使用できなくなる可能性があります。この文書をこの形式で保存しますか?

・保存するには、[はい] をクリックします。
・書式を保持するには、[いいえ] をクリックします。その後、文書を Web ページ形式で保存します。

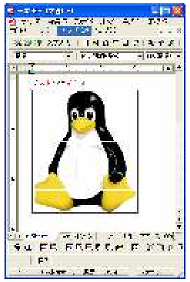
(オ)このとき、保存した場所には、指定したファイルが html として生成されています。画像ファイルがある場合は、[ファイル名.files]というフォルダが表示されています。

Figure C.7: How to backup server. 3,4/6.

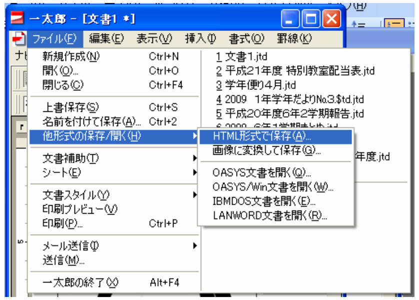
8．　**一太郎を使ったホームページのファイルの生成方法**

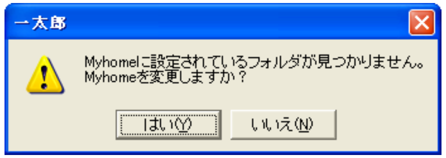
(ア) 一太郎をダブルクリックして起動します。

(イ) 一太郎で、ファイルを作成します。基本的にいつもどおりでオッケイです。



(ウ) ファイルを保存するときに、[ファイル(F)-他形式の保存/開く(H)-HTML形式で保存(A)とマウス押下すると、ファイル保存のコモンダイアログが表示されます。]このとき、MyHome に設定されているフォルダが見つからないと警告がでることがありますが、そのときはいいえ(N)を選択してください。すると、ファイル保存のコモンダイアログが表示されます。保存のルールは Word と同様です。半角でお願いします。



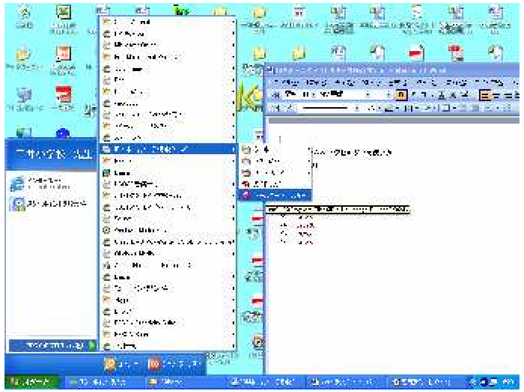


Myhomeに設定されているフォルダが見つかりません。
Myhomeを変更しますか？

すると、ファイルが生成されます。画像ファイルは、命名したファイル名_figX となります。X には連番の数字が入ります。なお。一太郎の場合 GIF 形式の画像の場合不具合が発生することがあります。

9．　**ホームページビルダーを使ったファイルの生成方法**

(ア) ホームページビルダーを起動します。Windows のスタートキーを押下した後、[すべてのプログラム]-[IBM ホームページ・ビルダーV9]-[ホームページ・ビルダー]とマウスを動かしていって上の絵の状態で、マウスを左クリックをすると、ホームページビルダーが起動します



(イ) そうすると、右の画面が表示されるので、そのまま、OK ボタンを押下してください。(真ん中の[かんたん]と書いてあるところが、青色で反転表示されていることを確認してください。自分の水準によって、スタンダード、エディターズにしてもかまいませんが、今回ではかんたんモードで説明を行います。)

(ウ) あとは、Word や一太郎と同じように、作っていって下さい。近いうちに参考書を用意しますので、参考にしてください。

Figure C.8: How to backup server. 5,6/6.

Website Update which even monkeys can use

1．　はじめに

ホームページの更新は、元来、市販ソフトウェアを用いて HTML を編集し、それを FTP でアップロードするという非常に難解で、面倒で単調で時間がかかる、非生産的な作業でした。しかも、寝屋川市の場合は地域イントラネットに守られているため、当然ながら、職員室のパソコンでしかその作業をすることができませんでした。

そこで、その難解で面倒で単調で時間がかかるホームページの更新を、非常に簡単にするためのシステムを作りました。これはすべてブラウザ上で可能なため、家でも更新できますし、その気になれば携帯電話のインターネットからでも更新することが可能です。

概要について、詳しく書くことは紙面の都合上難しいので、詳細は村山の教育論文を A パソコンの側に側においておきますので、ここではどんなことができるのか。日々の更新はどうすればよいのかのみを記述します。なお、教育論文はインターネットに公開しています。

http://caitest.yh.land.to/ronbun/2007_information_education_report.pdf

2．　どんなことができるのか。

学校 Weblog システムの１０の特長

1．スピーディーな更新

従来の FTP によるファイルのアップロードと比較して、圧倒的でスピーディーな更新を約束します。miiWeblog では、普通の Weblog 同様ブラウザのみで更新できます。

2．学校用に特化

miiWeblog は学校、特に小学校用に特化しています。学校に必要そうな、１年、２年などのカテゴリ分類、行事予定表示、学校だよりといった配布文書、学校所在地などの情報が管理できます。これらの操作も煩雑さはなく、使う道具はブラウザだけです

3．特別な才能はなくても OK。

miiWeblog は、最低限のスキルで最大限の効果が実現できます。Weblog で伝えたい内容が、驚くほど簡単に作成できます。miiWeblog を最初に組み込む際も、設定が困難な DBMS を使わずに、できるだけ簡単にしました。

4．先端のテクノロジ

miiWeblog は、現在の IT/Web 業界で先端の技術である、Ajax(Asynchronous JavaScript + XML)技術を積極的に用いています。Ajax のそれぞれ単体は新しい技術ではありませんが、それらを融合させた技術が 2005 年 2 月 18 日に Jesse James Garrett の記事によって書き込まれました。

5．高性能ツールを実装

各企業が公開している API を積極的に採用し、高性能なツールを無料で簡単に導入できます。こちら側の設定は Google アカウントなどの情報を記入するだけで、Google Maps、Google アクセス解析が利用できます。また今日のお天気を表示する、ライブドアお天気情報プラグインも実装。利用方法も簡単です。より詳細な週間天気予報機能も加わりました。

6．携帯にも対応

あなたが書いた記事を携帯で読むことができます。携帯サイトも URI を打ち込む必要はなく、ボタン一つで作成。後は、携帯から QR コードを写真撮影するだけです。

7．あなた専用の地図

Google MapsAPI を利用して、地図にマーカーを貼り付けられます。マーカーされた場所をクリックすると、画像を付けた情報を表示できます。本来なら特別の技術を必要としますが、ボタン一つでマーカーを付けられます。

8．オープンソース

miiWeblog はオープンソースソフトウェアです。あなたが Web ディベロッパーなら、ソースコードを編集して、あなただけの Weblog システムの開発ができます。

9．セキュリティ対策

miiWeblog システムでは、管理者権限のアクセス用に、定評のある.htaccess を用いています。またメールアドレスも、ちょっとだけ暗号化していますので、ロボットに収集されにくいです。

Figure C.9: How to upload. 1,2/4.

10. さあ始めよう

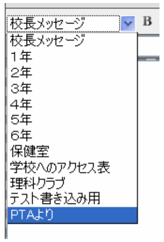
さあ、はじめましょう。

3． 更新はどうすればできるのか。

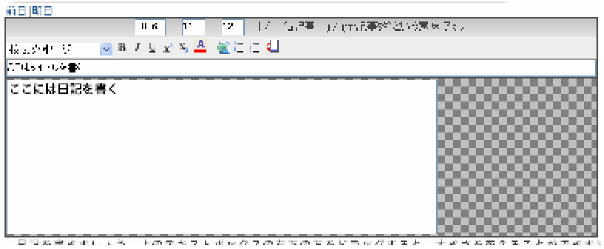
Weblogシステムの最もメインな活動の場所です。日々の記録をここで書き込むことができます。html構文を知っていれば、許可されたタグを使ってリッチコンテキストを日記に含めることができます。さらに、特別の記法を覚えると、動画など、様々なデータを日記に含めることができます。

日記の主な構成

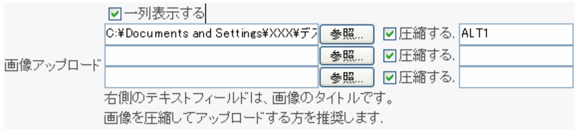
日記を書くには、トップページから管理者権限ボタンをクリックすると、行くことができます。他のタブをクリックする必要はありません。日記は、日記という名前ながらも、一日に複数個の記事を作成することができます。一日のうち、複数ある記事を、ダイアリーカウントという単位で管理しています。つまり、ある日に3つの記事を書き込んだ場合、ダイアリーカウントは1,2,3の3種類あることになります。日記を書き込む場合、その記事はどこのカテゴリーに属するかを決めましょう。カテゴリーは、カテゴリーのヘルプをご覧ください。



実際はこんな感じです。



タイトルと日記を書く場所です。次は画像ファイルをアップロードしたい場所です。画像ファイルも一つの記事に3つまでアップロードできます。一列表示する。のチェックを入れると、2つや3つの画像がある場合、一行に縮小して表示します。（実際の中身は関係ありません）。実際の画像を見る人の負担ことを考えて縮小してアップロードしたい場合は、圧縮するというチェックボックスをOnにして下さい。アップロードする際、圧縮してからデータベースに保存します。ALT1と書いてあるところは、画像の説明文です。画像を見た人が、その画像にマウスを合わせたときに表示するメッセージの中身です。



☑一列表示する

画像アップロード

C:¥Documents and Settings¥XXX¥デ	参照...	☑圧縮する.	ALT1
	参照...	☑圧縮する.	
	参照...	☑圧縮する.	

右側のテキストフィールドは、画像のタイトルです。
画像を圧縮してアップロードする方を推奨します。

一度アップロードしたら、画像が表示され、削除するというチェックボックスが表示されて、いつでも削除できます。

☑一列表示する

画像アップロード

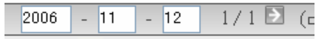
☐削除する ALT1

	参照...	☑圧縮する.	
	参照...	☑圧縮する.	

右側のテキストフィールドは、画像のタイトルです。
画像を圧縮してアップロードする方を推奨します。

この内容を登録する

さらに、一度記事を書くと、次のダイアリーカウントを選択することが出来るようになります。



右矢印アイコンを押下すると、2番目のダイアリーカウントになりました。右側の1という数字は、現在既にデータベースに登録されている記事の数です。

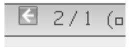


Figure C.10: How to upload. 3,4/4.

学校 Weblog システムを用いた学年だよりのアップロードの方法

学年だよりなどの配布文書は、学校 Weblog システムを用いると、ホームページビルダーを使った場合と比べると、驚くほど簡単にアップロードをすることができます。ただし、アップロードする時は、一太郎や、ワードなどで作った文書ファイルは、見れない人が多いため[特に一太郎]、一般的にはＰＤＦというファイル形式に変換する必要があります。

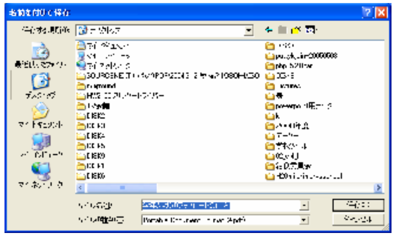
下にアップロードの仕方を記述しますので、参考にしてください。

① Word や一太郎、Open Office で学年だよりを作ります。これは普段通りです。

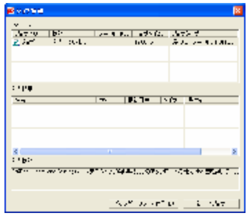
② 作ったファイルを、Ｂパソコンに入れます。[将来的には、Ａパソコンでできるようにする予定です。]

③ ファイルの上で右クリックをして、[JUST PDF[作成]]---[デフォルト]をクリックします。デフォルトとは標準という意味です。

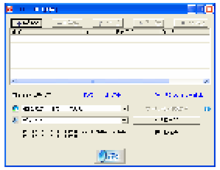
④ コモンダイアログボックスが開きますので、任意の場所に保存をしましょう。
[大抵はデスクトップを選択すると思います。]



⑤ ジョブ情報ダイアログボックスが表示され、変換作業が開始されます。結構時間がかかるので、待ちましょう。なお、ジョブとは仕事という意味です。終わると、変換情報のラベルに完了しましたとでますので、閉じるボタンを押下しましょう。



⑥ 連続して、ＰＤＦに変換する必要がある場合は、続けてできますが、この画面では×ボタンを押下して、終了をしましょう。



⑦ 無事に成功しました。

⑧ ここから、学校Ｗｅｂlog システムを用いて、データをアップロードします。次に配布文書の機能を紹介します。アップロードは[配布文書をアップロードしよう]の項目をご覧下さい。

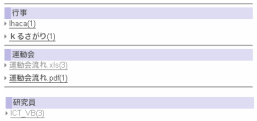
設定

まず、管理者画面から入った後、上部にあるメニューから weather タブをクリックします。真ん中にあると思います。

この配布文書の設定には、3つ項目があります。その3つとは、大分類設定、配布文書アップロード、そして、配布文書の表示・更新・削除です。

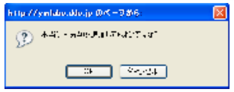
大分類設定

大分類設定を登録すると、アップロードする配布文書を下図のように、分類分けして表示することができます。()の中の数字はダウンロードされた数を表示しています。



新しく大分類を追加するには、追加するというラジオボタンにチェックして、テキストボックスを表示させます。その後、追加したい大分類名を入力して、最後に登録ボタンをクリックしましょう。

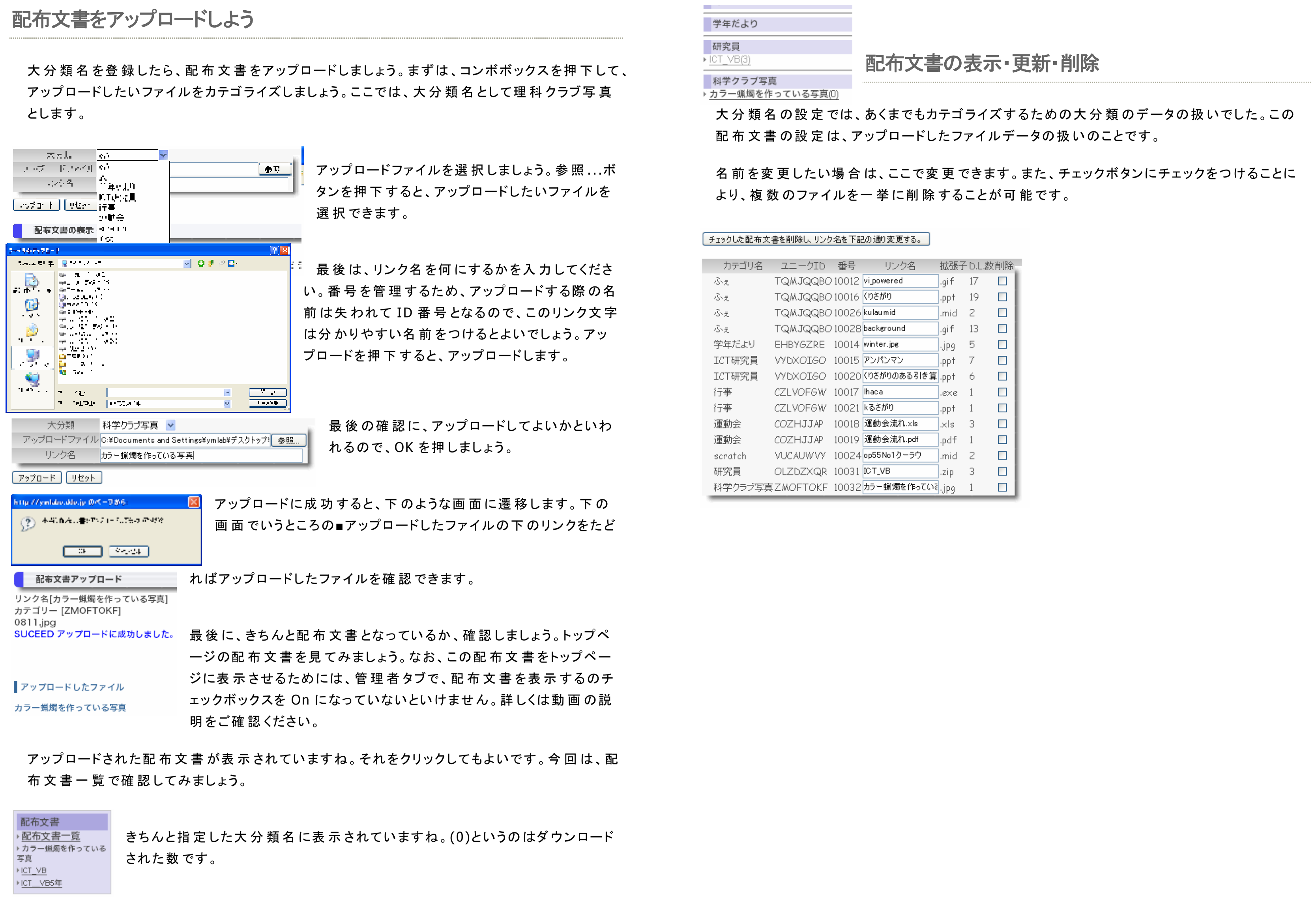
大分類名を追加してよいか確認してくるので、OK を押下しましょう。



追加されたことが確認できます。

ちなみに、大分類名を変更しようと思ったら、ここで直接変更できます。変更後、追加したときにクリックした登録ボタンをクリックすれば OK です。また、消去したいときには、大分類名を空白にして登録しましょう。

Figure C.11: How to upload documents. 1,2 / 4



配布文書をアップロードしよう

大分類名を登録したら、配布文書をアップロードしましょう。まずは、コンボボックスを押下して、アップロードしたいファイルをカテゴライズしましょう。ここでは、大分類名として理科クラブ写真とします。

アップロードファイルを選択しましょう。参照…ボタンを押下すると、アップロードしたいファイルを選択できます。

最後は、リンク名を何にするかを入力してください。番号を管理するため、アップロードする際の名前は失われて ID 番号となるので、このリンク文字は分かりやすい名前をつけるとよいでしょう。アップロードを押下すると、アップロードします。

大分類　科学クラブ写真
アップロードファイル　C:¥Documents and Settings¥ymlab¥デスクトップ¥
リンク名　カラー蝋燭を作っている写真

最後の確認に、アップロードしてよいかといわれるので、OK を押しましょう。

アップロードに成功すると、下のような画面に遷移します。下の画面でいうところの■アップロードしたファイルの下のリンクをたどればアップロードしたファイルを確認できます。

配布文書アップロード

リンク名[カラー蝋燭を作っている写真]
カテゴリー [ZMOFTOKF]
0811.jpg
SUCEED アップロードに成功しました。

最後に、きちんと配布文書となっているか、確認しましょう。トップページの配布文書を見てみましょう。なお、この配布文書をトップページに表示させるためには、管理者タブで、配布文書を表示するのチェックボックスを On になっていないといけません。詳しくは動画の説明をご確認ください。

アップロードされた配布文書が表示されていますね。それをクリックしてもよいです。今回は、配布文書一覧で確認してみましょう。

きちんと指定した大分類名に表示されていますね。(0)というのはダウンロードされた数です。

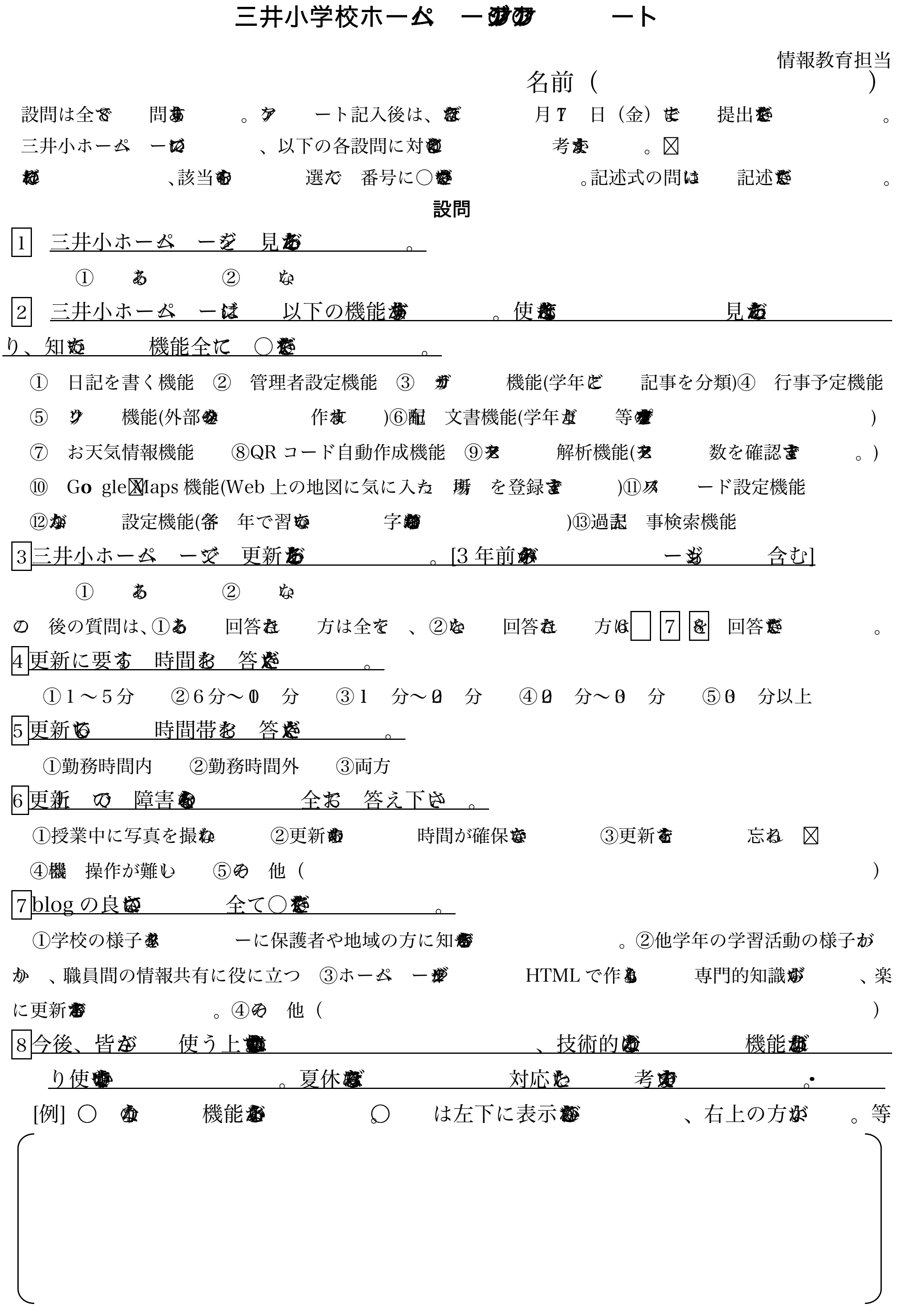
配布文書の表示・更新・削除

大分類名の設定では、あくまでもカテゴライズするための大分類のデータの扱いでした。この配布文書の設定は、アップロードしたファイルデータの扱いのことです。

名前を変更したい場合は、ここで変更できます。また、チェックボタンにチェックをつけることにより、複数のファイルを一挙に削除することが可能です。

カテゴリ名	ユニークID	番号	リンク名	拡張子	D.L.数	削除
ふぇ	TQMJQQBO	10012	vi_powered	.gif	17	□
ふぇ	TQMJQQBO	10016	くりさがり	.ppt	19	□
ふぇ	TQMJQQBO	10026	kulaumid	.mid	2	□
ふぇ	TQMJQQBO	10028	background	.gif	13	□
学年だより	EHBYGZRE	10014	winter.jpg	.jpg	5	□
ICT研究員	VYDXOIGO	10015	アンパンマン	.ppt	7	□
ICT研究員	VYDXOIGO	10020	くりさがりのある引き算	.ppt	6	□
行事	CZLVOFGW	10017	lhaca	.exe	1	□
行事	CZLVOFGW	10021	kるさがり	.ppt	1	□
運動会	COZHJJAP	10018	運動会流れ.xls	.xls	3	□
運動会	COZHJJAP	10019	運動会流れ.pdf	.pdf	1	□
scratch	VUCAUWVY	10024	op55No1クーラウ	.mid	2	□
研究員	OLZDZXQR	10031	ICT_VB	.zip	3	□
科学クラブ写真	ZMOFTOKF	10032	カラー蝋燭を作ってい	.jpg	1	□

Figure C.12: How to upload documents. 3,4 / 4



三井小学校ホーム　ージア　ート

情報教育担当

名前（　　　　　　　　　　）

設問は全て　問あ　。ア　ート記入後は、な　月 7 日（金）ま　提出を　。
三井小ホーム　ーの　、以下の各設問に対し　考え　。☒
お　、該当す　選び　番号に○を　。記述式の問は　記述を　。

設問

1 三井小ホーム　ーを　見ま　。

① あ　② な

2 三井小ホーム　ーは　以下の機能があ　。使　　見たり、知っ　機能全てに　○を　。

① 日記を書く機能　② 管理者設定機能　③ カ　機能(学年ご　記事を分類)④ 行事予定機能
⑤ リ　機能(外部の　作成　)⑥配　文書機能(学年だ　等の　)
⑦ お天気情報機能　⑧QR コード自動作成機能　⑨ア　解析機能(ア　数を確認で　。)
⑩ Go gle☒Maps 機能(Web 上の地図に気に入った 場所 を登録で　)⑪パ　ード設定機能
⑫お　設定機能(各　年で習わ　字を　)⑬過去記　事検索機能

3 三井小ホーム　ーを　更新し　。[3 年前か　ーも　含む]

① あ　② な

の　後の質問は、①あ　回答さ　方は全て　、②な　回答さ　方は□ 7 8 回答を　。

4 更新に要す　時間を　答え　。

①1～5分　②6分～10　分　③1　分～20　分　④20　分～30　分　⑤30　分以上

5 更新し　時間帯を　答え　。

①勤務時間内　②勤務時間外　③両方

6 更新　の　障害を　全て　答え下さ　。

①授業中に写真を撮れ　②更新の　時間が確保で　③更新す　忘れ　☒
④機　操作が難しい　⑤そ　他（　　　　　　　）

7 blog の良い　全て○を　。

①学校の様子を　ーに保護者や地域の方に知ら　。②他学年の学習活動の様子がわか　、職員間の情報共有に役に立つ　③ホーム　ーを　HTML で作る　専門的知識が　、楽に更新で　。④そ　他（　　　　　　　）

8 今後、皆が　使う上で　、技術的な　機能があ　り使い　。夏休み　対応し　考え　。・

[例] ○　の　機能があ　○　は左下に表示さ　、右上の方が　。等

（　　　　　　　　　　）

Figure C.13: The questionnaires print which is distributed to teachers

References

[1] HTML 4.01 Specification, http://www.w3.org/TR/1999/PR-html40-19990824/

[2] ¿ † C Ł S f Z t ¢ IICP £ – * Z , “ Ø ‹ w 6 t b – * Z w A L ”, http://www.soumu.go.jp/iicp/chousakenkyu/data/research/survey/telecom/2008/2008-1-02-2.pdf, (2008)

[3] ¿ † C Ł S f Z t ¢ IICP £ – * Z , “ Ø ‹ ~ (# (w & A ﬁ L w * – ”, http://www.soumu.go.jp/iicp/chousakenkyu/data/research/survey/telecom/2009/2009-I-04.pdf, (2009)

[4] > , “Weblog w q 0 q 2 1 - • ´ ¿ « Web S | „ ǂ ¿ ˜ ° ' ‹ w , k q ‘ o-”, C r g ¶ q ¶ q ‰ Vol.45 No.6 p586-593, (2004)

[5] G † K , “Web2.0 w q 0 q 2 1 ”, C r g ¶ q ¶ q ‰ Vol.47 No11 501, (2006)

[6] > G † K , Weblog w q 0 q 2 1 , Journal of Information Processing Society of Japan 45(6) pp.586-593 20040615, (2004)

[7] < Z , ¢ £ Ø ‹ w œ g ¶ , » ¶ q SIG-SWO-A401-03, (2004)

[8]] , Weblog ; M h „ ˜ ¢ £ C ¿ ˜ w C , C r g ¶ q Z C . „ ˜ ¢ £ » ¶ Z q C IPSJ SIG Notes 2006(35) pp.17-23 20060323, (2006)

[9] (‟ 1 , ﬁ r C a Ø ‹ ﬂ ǂ ´ w q A , C r g ¶ q Z C . C ǂ ´ q q ¥ Z C IPSJ SIG Notes 2007(85) pp.13-20 20070823, (2007)

[10] ‟ ˚ p , ¶ [q ^ t S Z . g w h w d ” t , n X Weblog ǂ ´ , C r g ¶ q , (2007)

[11] { Ł ” ~ • , e ˙ ‹ ; Q h Blog w C q A , ? Æ 2 ¶ q Ł „ – ⁄ ´ G q, (2006)

[12] ⁄ œ i G q –) , . w Weblog t 0 b – ¢ q » w w – * (H 2 Z t / d o), T G ¶ Z D A 52, 113-116, (2006)

[13] Tim O Reilly, “*W*hat Is Web 2.0”, http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/whatis-web-20.html (2005)

[14] Wikipedia, “*W*eb 2.0”, http:/en.wikipedia.org/wiki/Web_2.0, (2009)

[15] > 1 , “ ¢ £ = – p w G ! = x \ T ”, j X { , (2006)

[16] MyVoice Communications incorporated, “ Ø ‹ ﬂ w ¿ ˜ – * A L ”, http://www.myvoice.co.jp/biz/surveys/11801/index.htmlbiz/surveys/11801/index.html, (2008)

[17] t j ¢ q ¶ ˝ , “ t j ¢ q ¶ ˝ Ø ‹ ”, http://shiura06.seesaa.net/, (2009)

[18] ¢ ¢q ¶˝ , “ ¢ ¢q ¶˝T wS d ”, http://d.hatena.ne.jp/saiwai0/, (2009)

[19] PHP:Hypertext Preprocessor, http://jp.php.net/

[20] PHP: , http://jp.php.net/manual/ja/introduction.php

[21] Extensible Markup Language (XML) 1.0(Fourth Edition), http://www.w3.org/TR/REC-xml/

[22] Wikipedia, “INI file”, http://en.wikipedia.org/wiki/.ini (2009)

[23] Wikipedia, “Comma-separated values”, http://en.wikipedia.org/wiki/.csv (2009)

[24] Wikipedia, “XML”, http://en.wikipedia.org/wiki/XML (2009)

[25] { , R , “XML ˆ » t0b Mø dt w –q ”, G¶ M =¶ C G Ł2 , (2001)

[26] W3C, “Extensible Markup Language(XML) 1.0(Fifth Edition)”, http://www.w3.org/TR/REC-xml/ (2008)

[27] ¿ -Mac mini, http://www.apple.com/jp/macmini/

[28] Wikipedia, “IP address”, http://en.wikipedia.org/wiki/IP_Address (2009)

[29] > 8 , “ ´« ˙§ ⁄ · ˙ y ¿˜° «!gZ < ”, U[, (2001)

[30] Keith Brian Devens, “Keith Devens .com - PHP XML Library, version 1.2b”, http://keithdevens.com/software/phpxml (2004)

[31] Hatena Inc., “ ` ø‹ otxa OzbYpV ø‹ (blog) - xos… ”, http://d.hatena.ne.jp/ (2009)

[32] q ¯ , “ S1> ‹ - Weather Hacks - livedoor 1> C ”, http://weather.livedoor.com/weather_hacks/plugin.html, (2009)

[33] q ¯ , “ S1> Web – ˇ 7 - Weather Hacks - livedoor 1> C ”, http://weather.livedoor.com/weather_hacks/webservice.html, (2009)

[34] Y.Swetake, “ &' fl ¯« for PHP4 ver. 0.50beta”, http://www.swetake.com/qr/php/qr_php.html (2004)

[35] Thomas Boutell, “gd Library”, http://www.libgd.org/Main_Page (2007)

[36] Google, “Google Maps API”, http://code.google.com/intl/ja/apis/maps/ (2009)

[37] Google, “Google Analytics”, http://www.google.co.jp/intl/ja_ALL/analytics/ (2009)

[38] Wikipedia, “Furigana”, http://en.wikipedia.org/wiki/Furigana (2009)

[39] »{ S , “ yMeCab: Yet Another Part-of-Speech and Morphological Analyzer”, http://mecab.sourceforge.net/ (2009)

[40] William H. Press, “*NUMERICAL RECIPES in C*”, U[(1993)

[41] u qb , “ ‹p~w– ”, {3 , (1989)

[42] U , “ ~‟ ¶˝″ ˜ ¿˜ ;Mh ¿˜° «0 H` o g‡ ´ w CZ ”, ł0 ¢›› »q , (2006)

[43] Jeffrey E.F.Friedl, “ ˜ YFflq ”, O’Reilly Japan, (2003)

[44] U , “Dynamic HTML ;Mhœgq¯ǂ ÆŁ »wa^ ”, N››G¶ ¥ gJ›› Z q Vol.4 p30-, (2002)

[45] William H. Press, “*NUMERICAL RECIPES in C*”, U[(1993)

[46] U , “~‶ ¶˝″ ˜ ¿˜ ;Mh ¿˜° «0 H` o gǂ ´ w CZ ”, ł0 ¢›› »q , (2006)

[47] U , “Web – ˜¸ w\ Qt˝ ƒ†‘h¶˝ Weblog ǂ ´ w CZ ”, ł0 ¢›› »q, (2006)

[48] u qb , “‹p~w– ”, {3 , (1989)

Research Achivement

papers/publication

[1] U , ? % , i – ŁR , “Dynamin HTML ; Mhœgq¯ǂ ÆŁ »wM^ ”, N››G¶g ¶q˝ﬁ ¥ gJ››ﬂZ q H 4 ł p.30-,(2002)
[2] U , “KOPIO(BNL-E926) wh w ¢o ; Mh Nitrogen Scintillation wZ ”, N››G¶› ›¶ ,(2003)
[3] V % , U , ǂ k , (I | , ﬁ¶ , “i-Appli ; Mh . Cǂ ´ ˘ ”, N››G¶¶\ JZ Ø·£«˜ , (2003)
[4] Hideki Morii, Noboru Sasao, Toshi Sumida, Tadashi Nomura, Makoto Kobayashi, Ryuichi Takasima, Yoshiyuki Murayama, “Quenching Effects in Nitrogen Gas Scintillation”, ELSEVIER A526 (2004) p399-408, Nuclear Instruments & Methods in Physics Research, (2004)
[5] ` , (U), “ – ⁄ E ¿˜w, ‘X T gJG g ”, p8-11,30-31, T U Z[, (2004)
[6] U ,“ ¶ \qw, ‘^ ﬂ O¶6 Łƒ‘o wgJ¶6w « Ł‘o ”, RGÆ Sł0 ¢›› «wZ , ł0 ¢›› »q , (2005)
[7] U ,“ w ˘ w « J¶† ⁄¨ Z Cƒ ˝w ˚ Ł‘o , RGÆ Sł0 ¢›› «wZ , ł0 ¢›› »q , (2005)
[8] U ,“ ~‟ ¶˝pw ˘ w ˚ J¶† ⁄¨ Z Cƒ ˝w ˚ Ł‘o , RGª Sł0 ¢›› «wZ , ł0 ¢›› »q ,(2006)
[9] U ,“ ~‟ ¶˝” ˜ ¿˜ ; Mh ¿˜˚ «0 H` o gǂ ´ w CZ ”, RGª Sł0 ¢›› «wZ , ł0 ¢›› »q ,(2006)
[10] Z+` , ·?e1 , Ł ¨ , Ł c , , >¸ , {‟$E , U , 0p , ”[, >^ , N´ , “ J¶†ﬁ ››ǂ ´ C Ø‹ ﬂ W˜ ¶˝ qØ¶6; ·››ǂ ´ C 2006 SC { , q SO ˆ ›› C• » , (2006)
[11] Z+` , ·?e1 , Ł ¨ , Ł c , , >¸ , {‟$E , U , 0p , ”[, >^ , N´ , “ J¶† W˜ $›› C=* Ø‹ ¶˝ qØ¶6; ·››ǂ ´ Cqfw ´$ 2007 SC { ”, q SO ˆ ›› C• » , (2007)
[12] U ,“Web – ˜¸ w\ Q†˝ ƒ†‘h¶˝ Weblog ǂ ´ w CZ ”, RG@ Sł 0 ¢›› «wZ , ł0 ¢›› »q , (2007)
[13] U ,“4 w C››w ˚ ”, RG Sł0 ¢›› «wZ , ł0 ¢›› »q , (2008)

presentations

[14] U , “KOPIO(BNL-E926) wh w ¢o ; Mh Nitrogen Scintillation wZ , N››G¶› ›¶ Cﬂ ,(2003)
[15] ‟2% , k J , œ Y , ”H , æ>T” , b| , U , c , i– , “KOPIO gwh w⁄Q ˘ « UZ+w C (2)”, œg¶q_BGq , (2003)
[16] U , “ ?>p T mZ O ”, ł0 ¢gJ››Z qZ $, (2005)

[17] U, “sT q yt ~″p ` O ”, ł0 ¢ ›› «Z qZ $, (2005)
[18] U, “Let’s be friends”, J¶† ⁄¨ Z Cƒ ˝ ¶ Z CflqZ $, (2005)
[19] U , fl Æ˙› ǂª q C˘; t˙Zh r w›R -9 _Ł`h ICT ˘ ;$ w˘ = -, ICT Z »Z DA No.78 40-43, ł0 ¢›› »q , (2006)
[20] U , ›Jw⁄p\Tb ¶ w C›› , ICT Z »Z DA No.79, ł0 ¢›› »q , (2007)
[21] U, “Let’s introduce my family”, ″ǂ˛ ˘ ~ ‹Z C¶˝ ˜ ł0 ¢ ⁄¶ ˝ ›› ¶ Z CflqZ $, (2007)
[22] U, “ wwKhh Th ”, GU˛OzgJZ qZ $, (2007)
[23] ia , U, C››w ˚ , ICT Z »Z DA No.80, ł0 ¢›› »q , (2008)

activities

[24] O Crg¶q (2003/10-)
[25] ł0 ¢ gJ››Z q (2004/4-)(2009/4- ˙ gJrp »)
[26] ››ǂ ´ C¶q (2005/2-)
[27] ł0 ¢ ›› «Z q (2005/4-)
[28] ł0 ¢ ICT ››Z » (2005/4-2008/3)
[29] J¶† W˜ $›› C=* Ø‹ q SO ˆ ›› C• » ¶˝ qØ¶6; ·››ǂ ´ Cqfw ´$ » (2006/4-2008/3)
[30] J¶† W˜ ICT ˘;`hƒ wfiLt b —*t $ wfiLwU´ q SO ˆ ›› C• » » (2006/10-2007/3)
[31] N G¶ ‰ ˆ ›P lh$ w qf (2007/4-2007/12)