

# FOSS & Education in Taiwan with Ezilla project

National Center of High-performance  
Computing

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**NAR**Labs



<http://goo.gl/ldVO>



**GNOME**

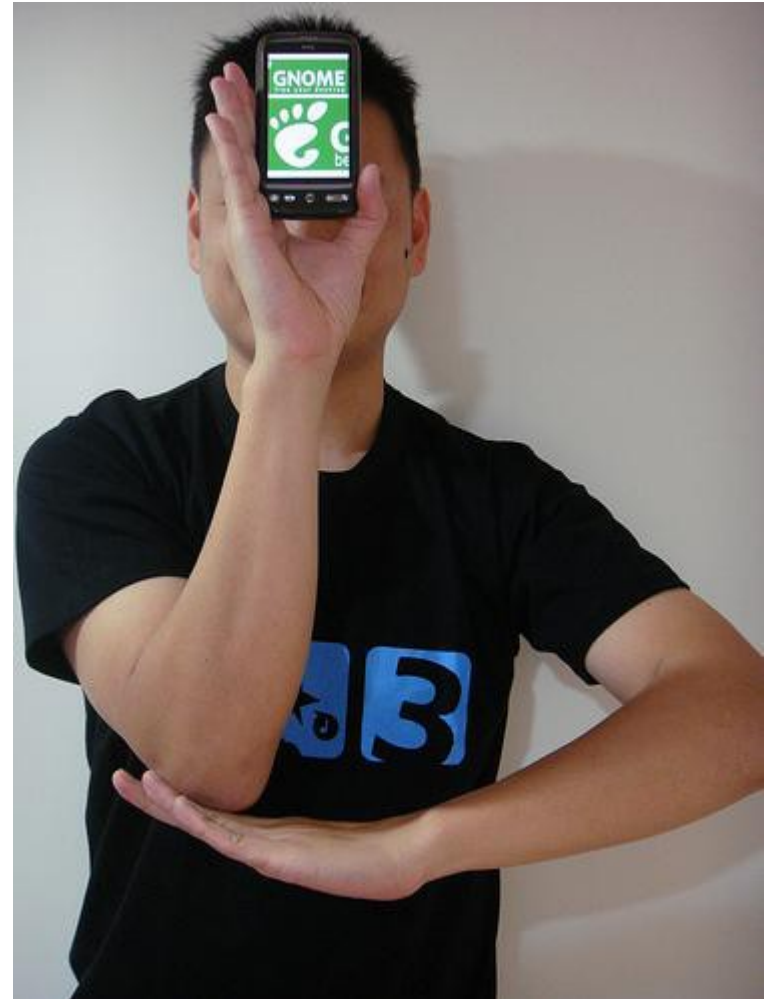


I am sponsored by the GNOME  
Foundation thanks to the friends  
of GNOME.

[www.gnome.org/friends](http://www.gnome.org/friends)

# Who is Max?

- Come from NCHC Taiwan.
- GNOME Foundation Member.
- GNOME.Asia Committee Member.

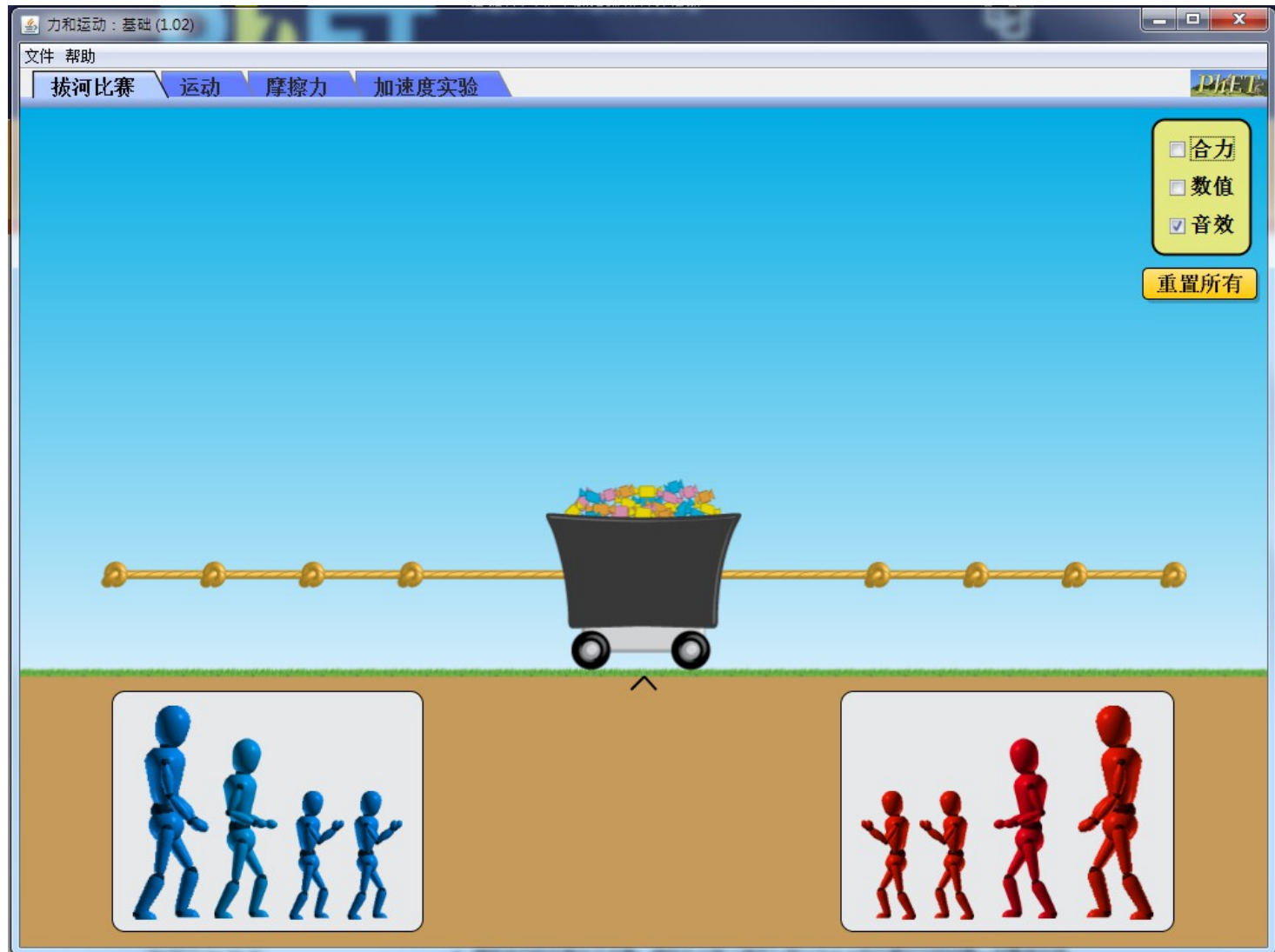


# Everything on the cloud

- When everything on the cloud
  - Education Cloud, Tech Cloud .....
- WebQuest
  - An inquiry-oriented lesson format in which most or all the information that learners work with comes from the web.
  - You need "install" some application (java / flash) in some website. (PhET <http://phet.colorado.edu/> )

# Everything on the cloud

PhET



# Everything on the cloud

- How could we make things easy and simple?
  - Not only the web, there are lots of application for education. ( [ezgo](#) )
  - Internationalization and localization ( [Tryneeds-Chinese](#) )
  - Do "we" central share and create education resource or "Vendor" central share education resource? ( [moodle.net](#) )
  - Mobile device and thin client use?( [RaspberryPi](#) )
  - Collaborative learning
    - Remote Areas
    - Digital divide

# Everything on the cloud

ezgo

辦公 >  
美工 >  
影音 >  
網路 >  
遊戲 >  
教育 >  
程式開發 >  
自由教材 >  
教師工具 >  
附屬應用程式 >  
ezgo 工具箱 >  
系統 >  
設定 >  
Wine >  
我的最愛 >  
最近使用的 >  
執行指令... >  
離開 >

幼教\_GCompris ●  
幼教\_GCompris Edit  
打字練習\_KTouch  
打字練習\_Klavaro  
馬鈴薯小子\_Ktuberling  
語言\_Anki  
語言\_Parley  
語言\_KLettres  
語言\_KWordQuiz  
語言\_Kanagram  
語言\_KHangMan  
電路圖\_fritzing ●  
物理\_Step  
地理\_Marble  
地理\_KGeography  
地球儀\_Google\_Earth  
天文\_KStars  
天文\_Stellarium ●  
天文\_Celestia\_gnome  
數學\_KBruch  
數學\_Kig  
數學\_Dr.Geo  
數學\_KmPlot  
數學\_GeoGebra ●  
數學\_wxMaxima  
數學\_KAlgebra  
數學\_Kayali  
資料結構分析\_Rocs  
化學\_Kalzium ●  
化學\_BKchem

化學\_Avogadro ●  
化學\_GchemPaint  
生化\_Pymol  
生化\_BALLView



還記得化學課時利用保麗龍和牙籤來製作原子模型嗎?

看到 Avogadro 你會發現時代改變了, 你有更棒的選擇, 而且你還可結合 (自由教材) 裡的 (化學構造資料庫) 享受科技帶來的學習體驗。



GCompris 不只是一個幼教軟體, 開啟此程式你會發現 GCompris 還包含了數學、益智等 8 大類超過 100 多個幼教程式。



fritzing 不只提供一個擬真的麵包板, 還會將此麵包板上所接的零件畫出線路圖及 PCB Layout



你有多久沒有抬頭仰望美麗的星空? Stellarium 可以帶領你穿越時空, 重現精彩天文的每一刻。



GeoGebra 是一套適合中學以上使用的動態數學教育軟體, 不但包含原本動態幾何尺規作圖、幾何轉換等功能, 還加入函數繪圖、代數運算和基本微積分功能。



還記得化學課本裡的元素週期表嗎? 開啟 Kalzium 你會發現元素週期表進化了, 不只有多種檢視方式, 還可以呈現物質狀態與其他應用功能。



# Everything on the cloud

[Moodle.net](https://moodle.net)



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Designed for\* ?

Educational level\* ?

科目\* ?

授權\* ?

語言\* ?

Sort by\* ?

Keywords ?

— Show less...

1 courses have been found.

## 计算机体系结构

本课程重点讲述现代大多数计算机都采用的比较成熟的结构、方法和技术等，重点介绍和分析经典的结构和设计思想；本课程强调采用量化的方法来学习和研究计算机系统结构，这种方法使我们能更具体、实际地分析和设计计算机系统结构；本课程强调以并行性开发为主线，讲述从系统结构和组成的不同层次来开发并行性的概念、结构、方法和技术。

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下載

# Everything on the cloud

## Raspberry Pi



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The Free Encyclopedia

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## Raspberry Pi



From Wikipedia, the free encyclopedia

*"RPI" redirects here. For other uses, see RPI.*

The **Raspberry Pi** is a credit-card-sized single-board computer developed in the UK by the Raspberry Pi Foundation with the intention of promoting the teaching of basic computer science in schools.<sup>[6][7][8][9][10]</sup>

The Raspberry Pi is manufactured in two board configurations through licensed manufacturing deals with Newark element14 (Premier Farnell), RS Components and Egoman. These companies sell the Raspberry Pi online.<sup>[11]</sup> Egoman produces a version for distribution solely in China and Taiwan, which can be distinguished from other Pis by their red coloring and lack of FCC/CE marks. The hardware is the same across all

### Raspberry Pi



Raspberry Pi computer Model-B Rev1

# Traditional Deployments Repeat...

## Pre-Installation

- Proper OS version
- Proper OS patches
- Application dependencies
- Config and kernel parameters
- Directories
- Hardware dependencies
- Services enabled

## Installation

- File system location
- Compile necessary modules
- Address prerequisites
- Permissions
- Create users and groups
- Application incompatibilities

## Post-Installation

- Updates
- App configuration
- Services setup
- Upgrades and patch management

# Benefits of Virtual Appliances

- Simplify demos and evaluations
- Applications do not need to be re-certified
- Reduce development and support costs
- Extend applications to the cloud

# Ezila is?

- An open source project in NCHC Taiwan.
- Easy to use interface.
- Get VM as fast as you think.
- One Click to build private easily.



# Real classroom v.s Virtual classroom

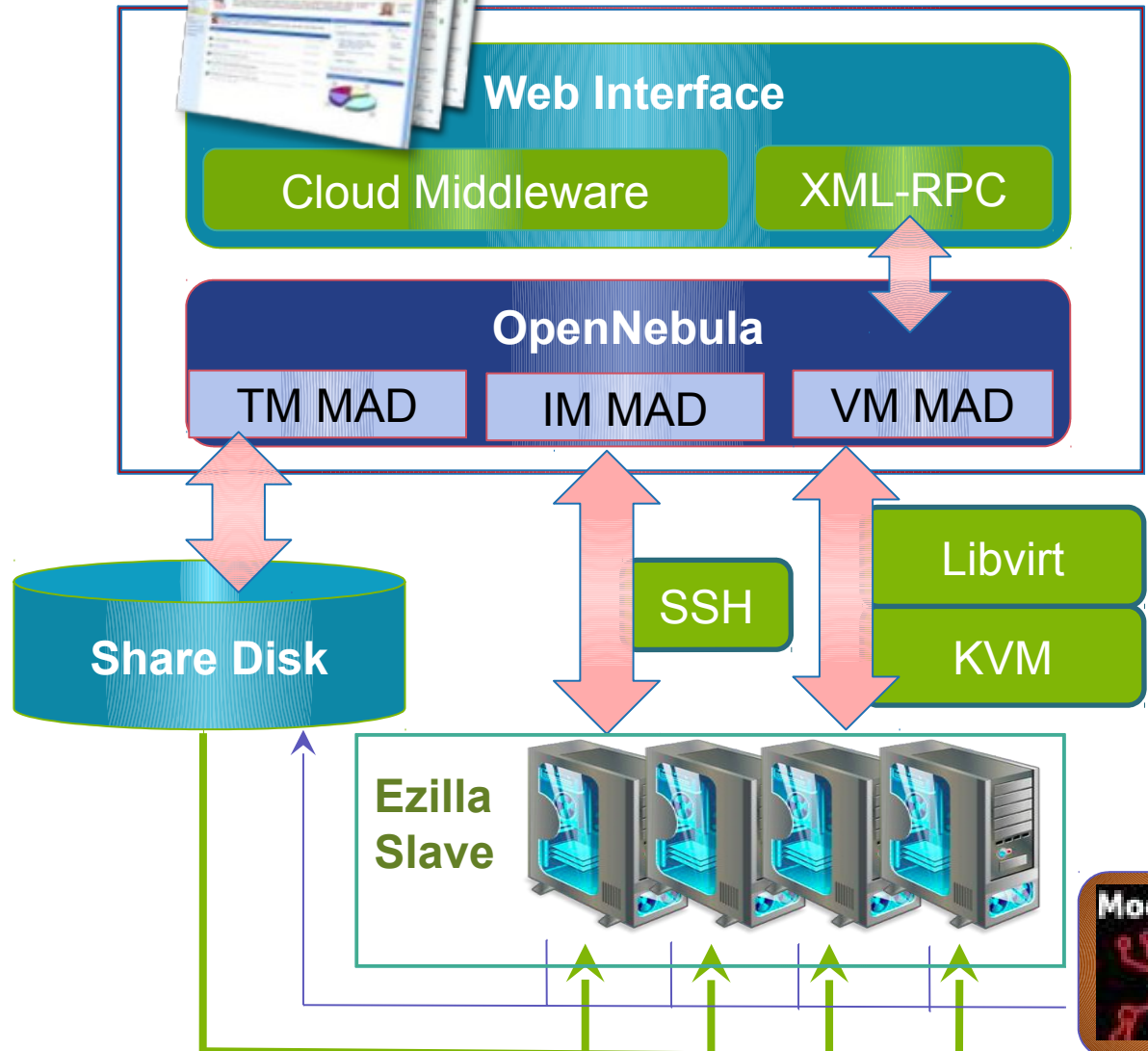
## Real classroom environment limited

- You have to learn computer in the computer classroom.
  - License issue.
  - It's hard to rebuild the same environment when students go back home.
  - For clustering lab. (Cause there only 1 OS in 1 PC)
- It's hard to manage OS / application for multiple PCs.



# Ezila infrastructure

Ezila Master





# Ezila provide

## System manager:

- One click install build private cloud.
- Easy to manage VMs.

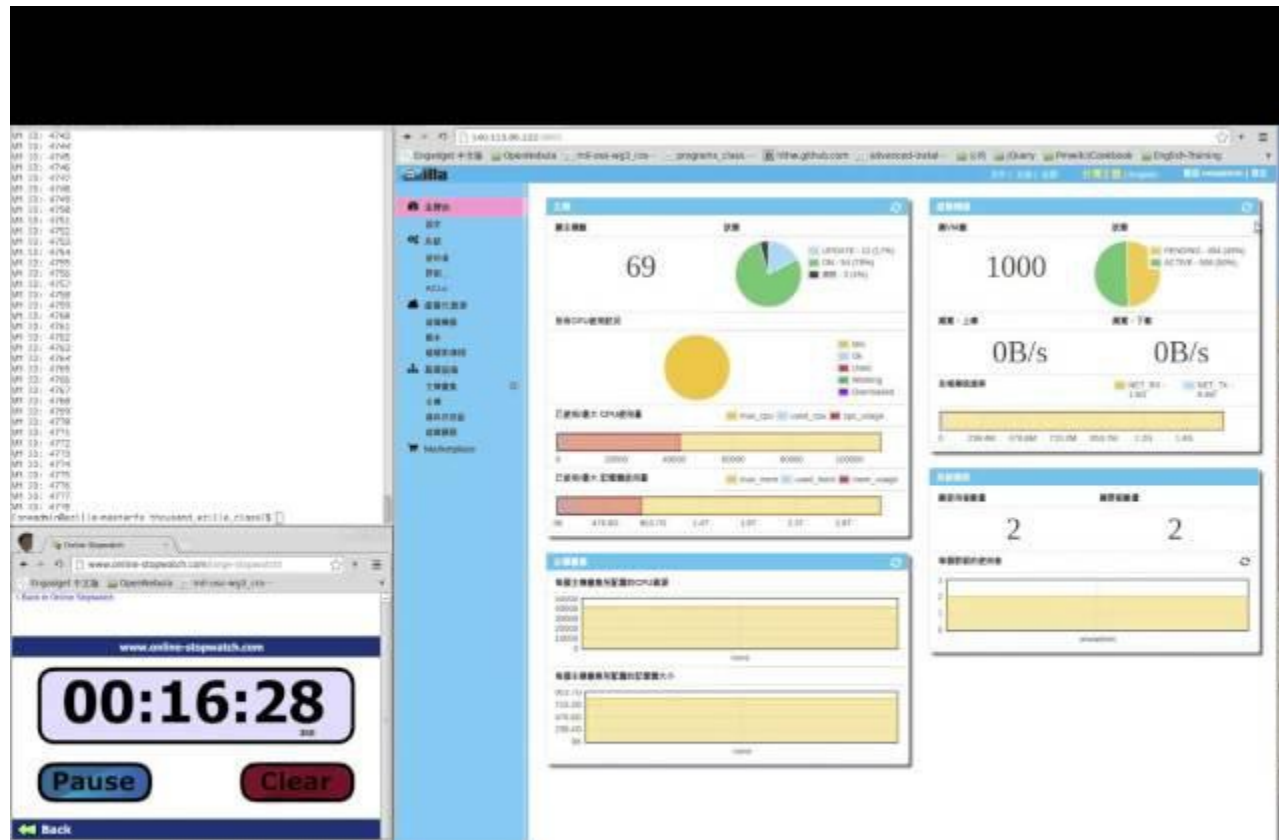
## Users:

- Fast and user-friendly virtual environment.
- Could access VM with the browser which support HTML 5 (Google chrome / firefox).
- Could use RDP and ssh to access VM.

**DEMO**

# Use Case - NCTU & NCHC

For 1000 VM environment.



# Use Case - Virtual Classroom

- Academia Sinica -Open Source Software Foundry Workshop
- For nagios system monitor workshop
- Hadoop workshop

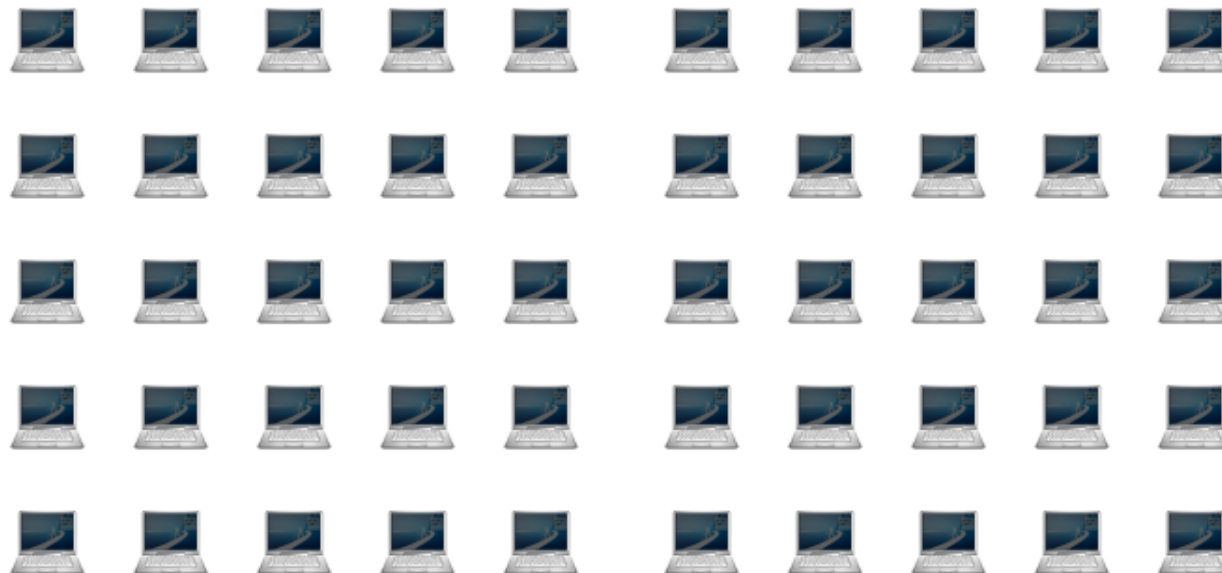


# Use Case - OSSACC

## ezgo with Ezilla

累積使用人次：14303  
目前使用人數： 0

挑一個空位點下去，你就可以輕鬆進入ezgo自由軟體的世界嘍！



# If you want to try Ezilla

## Download Ezilla

- <http://ezilla.info/index.php/EzillaTW/Download>

## Prepare PCs

- Support VT-X / AMD-V
- One public IP with network environment(Hub / Switch)

# Our official website

## NCHC

- <http://ezilla.nchc.org.tw/> (Pervasive Computing Lab)(Chinese)

Lab member: 潘怡倫、吳長興、游錫恩、陳惠珊、鄭國陽、陳繼銘、黃維誠

- <http://ezilla.info> (English)
- <http://ezilla.info/index.php/EzillaTW/HomePage> (Chinese)

## EasyCloud Service

- <http://easycloud.nchc.org.tw/> (Chinese)
- <http://easycloud.nchc.org.tw/en/> (English)

## Sourceforge

- <http://ezilla-nchc.sourceforge.net/>

# Try it?

<http://capri.nchc.org.tw/>

Email: user01 ~ user60

Password: gnomeasia



**Thank you!**