

# New Dynamic Interaction Game-based Learning Tool for Chinese Medicine



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## Outline

- I. Introduction
- II. Development and Achievements of HKBU CM Digitization Projects
- III. Strength and Weakness of using Static Databases for Teaching and Learning
- IV. Special Features of CM Game-based Exercise
- V. Conclusions

# Summary

- The idea of **game-based learning** is very common in most teaching community nowadays, yet the use of games to facilitate learning and teaching is still a new attempt in an historic discipline like *Chinese Medicine (CM)*.
- This presentation will share our experience on the design and implementation of the new online **Chinese Medicine Game-based Exercise** by the *School of Chinese Medicine, and Library, Hong Kong Baptist University*.

# I. Introduction

## 1. What is Chinese Medicine (CM)

- Chinese Medicine (CM) is a health care and medical practices developed in China.
- CM have a history of over 2,200 years and has been recognized as one of the **world's oldest medical systems**.
- In recent years, different disciplines have conducted studies and research to analyze and **explain CM practices and knowledge through modern scientific theories**.

## 2. Hong Kong Baptist University (HKBU)

- a. Established in 1956
- b. Offers undergraduate, taught postgraduate and research postgraduate programmes leading to Masters or Ph.D. degrees
- c. HKBU is in the top 100 universities in Asia, according to the new published university ranking reports:
  - ◆ *Times Higher Education Asia University Rankings 2015: 45th*
  - ◆ *QS University Rankings Asia 2015: 51th*

## 3. School of Chinese Medicine (SCM), HKBU

a. Established in 1999

➤ is the **first government funded** institution that providing **undergraduate, master and doctoral** degree programs in CM and pharmacy in Hong Kong.

*Question: Any ranking reports for SCM?*

*Answer: No, I can only show Facts and Figures of SCM*

## 3b. SCM – Facts and Figures

### ➤ Students

| Undergraduates  | Students |
|---|----------|
| ● Bachelor of Chinese Medicine and Bachelor of Science (Hons) in Biomedical Science | 198      |
| ● Bachelor of Pharmacy (Hons) in Chinese Medicine                                   | 72       |
| Taught Postgraduate   |          |
| ● Master of Chinese Medicine  | 116      |
| ● Master of Pharmaceutical Sciences in Chinese Medicine                             | 42       |
| Research Postgraduate   |          |
| ● Master of Philosophy (MPhil)  | 6        |
| ● Doctor of Philosophy (PhD)  | 37       |
| Total   | 471      |

## 3b. SCM – Facts and Figures

### ➤ Teaching and Research Faculty

| Academic and Teaching Staff               |     |
|---|-----|
| ● Professor                               | 5   |
| ● Associate / Assistant Professor         | 10  |
| ● Lecturer                                | 44  |
| Research Staff                            |     |
| ● Research Associate Professor            | 14  |
| ● Post-doctoral Research Fellow           | 12  |
| ● Visit Scholar                           | 13  |
| ● Research Associate / Research Assistant | 29  |
| Total                                     | 127 |

## 3b. SCM – Facts and Figures

### ➤ Chinese Medicine Library

| Collections            | <u>vols</u> |
|------------------------|-------------|
| Book and Bound Journal | 37,191      |
| Serials Title          | 394         |
| AV Materials           | 3,862       |

## 3c. SCM – Mission and Vision

- In addition to providing CM quality higher education teaching programmes, one of SCM mission is “striving to promote the *modernization* and *internationalization* of Chinese medicine in teaching, research, clinical service and technology”

[http://scm.hkbu.edu.hk/en/about\\_us/dean\\_s\\_message/index.html](http://scm.hkbu.edu.hk/en/about_us/dean_s_message/index.html)

- Modernization and internationalization are the basis of our CM Digitization Projects

## II. Development and Achievements of HKBU CM Digitization Projects

### 1. SCM Digitization Project – Mission

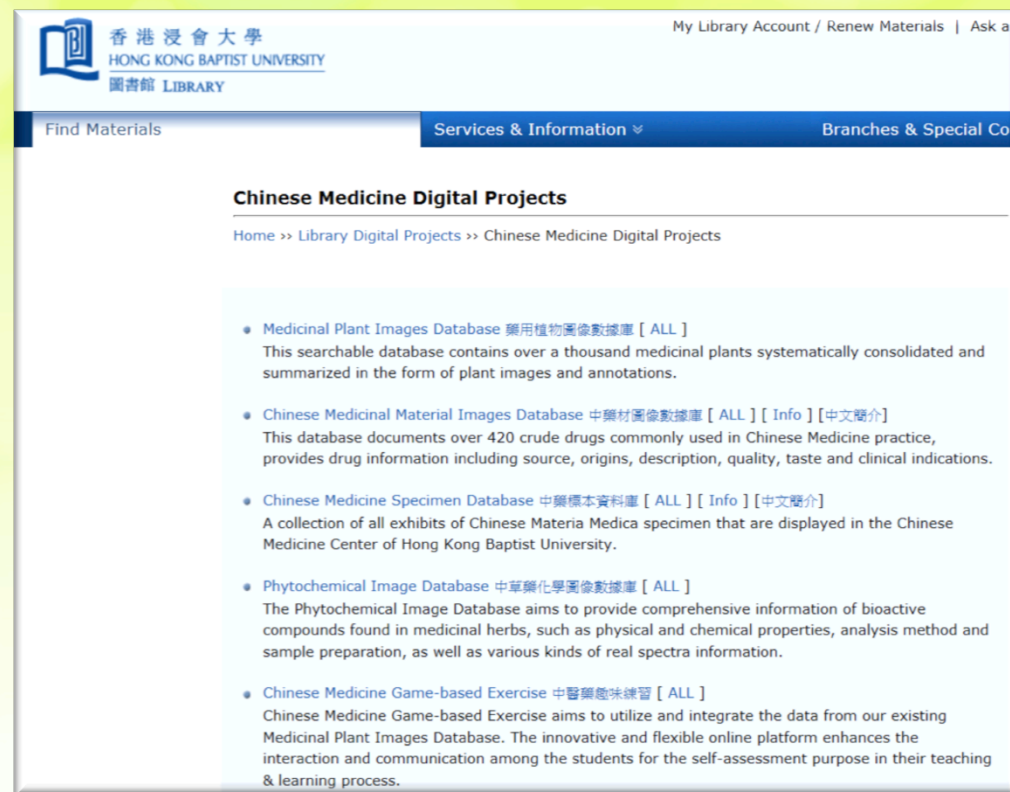
- In viewing of the limited numbers of **open access** and **Chinese-English bilingual** CM databases on the web, **SCM** has collaborated with the **Library** to implement the Chinese Medicine Digital Project since 2006.

### 1. SCM Digitization Project – Mission

- The aims of developing these CM databases and digitization projects are:
  - i. to **enhance teaching, learning, and research** activities in SCM;
  - ii. to provide convenient **e-learning tools** for CM learners, practitioners, and researchers **around the world** to pursue **self-study** and **life-long education**;
  - iii. to advocate the free **open access** to digitized CM research information;
  - iv. to advance the **popularization** and **internationalization** of CM study and research **through new computer technology**.

### 2. CM Databases

- Since 2006, SCM and Library has collaborated to design and implement 4 image databases



[http://library.hkbu.edu.hk/electronic/libdbs/cml\\_dbs.html](http://library.hkbu.edu.hk/electronic/libdbs/cml_dbs.html)

### 2a. CM Specimen Database



### HKBU Chinese Medicine Specimen Center

- “the only specialized and professional exhibition center showing a treasure of precious and rare Chinese medicine in Hong Kong”

### 2b. Medicinal Plant Images Database (MPID)

藥用植物是中醫藥文化的主要物質基礎，其歷史源遠流長，種類繁多。為了推進藥用植物的普及和信息共享，香港浸會大學中醫藥學院和圖書館共同合作創建了此藥用植物圖像數據庫。數據庫以植物圖片附加文字說明形式，用中英文雙語對千餘種藥用植物進行了系統的歸類和介紹，並提供便捷的檢索平臺幫助中醫藥愛好者對不同類別的藥用植物獲得直觀和系統的認知。

Medicinal plants, as an important material basis of Chinese Medicine culture, have a long standing history and variety. The Database was established by the collaborative effort between the School of Chinese Medicine and the University Library with the aim of promoting popularization and resource sharing in Chinese medicine. More than one thousand medicinal plants were systematically consolidated and summarized in the form of plant images and detailed descriptions in a bilingual environment. The database will provide all interested learners with perceptual and systematic knowledge of various medicinal plants through a user friendly and powerful searching platform.

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ASAC

Contains **1159 medicinal plants** and provides

- With high-quality plant photos taken by Prof Chen HuBiao of SCM
- Identify the plant family genus, use and effect of special plants for the treatment of particular diseases

*Saussurea medusa* Maxim.



藥用植物圖像數據庫  
Medicinal Plant Images Database

© Hong Kong Baptist University

**Latin Name** *Saussurea medusa* Maxim.  
**English Name** Medusa Windhairdaisy, Medusa Saussurea  
**Family & Genus** Asteraceae, *Saussurea*

**Latin Name** *Saussurea medusa* Maxim.

**English Name** Medusa Windhairdaisy, Medusa Saussurea

**Family & Genus** Asteraceae, *Saussurea*

**Description** Perennial herb, 8-15cm high. Rhizome slender, rosette originates from neck, with brown remnant petiole. Stem covered with arachnoid tomentum, erect. Leaves crowded, basal leaves ovate rhombic or oval shape, upper edge with 8-12 coarse teeth; leaf apex obovate; upper leaves ovoid lanceolate; the leaves on the top linear-lanceolate or linear, margin denticulate or laciniate. Capitulum numerous, sessile, dense to become globose at the stem ends; involucre 10-15cm long, cylindric; outer layer of involucral bracts purple, linear oblong, with white or brown tomentum; inner layer oblanceolate; corolla purple, ca. 12mm long. Achenes, 8-9mm long, linear fusiform; pappus white, inner layer plumose. Flowering: July to August, fruiting: August to September.

In Chinese 水母雪蓮花

**Distribution** Growing on gravel slopes or rock patch of mountains at altitude 4,100-4,800m. Distributed in Gansu, Qinghai, Sichuan, Yunnan, Tibet and etc. The medicinal materials are mainly produced in Qinghai, Gansu, Sichuan, Yunnan, Tibet and etc.

**Part Used** Medical part: whole plant with roots. Chinese name: Xuelianhua.

**Harvest & Processing** Excavated the whole plant in June-July per year when flowering, removed earth and air-dried.

**Chemistry** Aboveground parts contain chrysoeriol-7-O-b-D-glucoside, apigenin-7-O-b-D-glucoside and saussurea polysaccharide, etc.

**Pharmacology** Anti-inflammatory, pain-killing, pregnancy interrupting and uterus-exciting.

**Properties & Actions** Sweet, little bitter, warm. Warming kidney and invigorating yang, regulating menstruation and relieving hemorrhage.

**Indications & Usage** Impotence, relative weakness in the loins and knees, leukorrhea, irregular menstrual periods, rheumatic arthralgia, hemorrhage caused by trauma. Oral administration: decocting, 6-12g; or made as medicinal liquor. External application: appropriate amount, smashed for applying.

**Examples**

1. Snow blindness, toothache: medusa windhairdaisy 6-12g. Eat freshly, or decoct in water and swallow.
2. Traumatic hemorrhage: an appropriate amount of medusa windhairdaisy. Apply to the affected lesions.
3. Asthenia and dizziness, tinnitus and blurred vision: whole herb of medusa windhairdaisy 9-15g, decoct and swallow 2-3 times a day.

# 2c. Chinese Medicinal Material Images Database

方潤華基金贊助  
Sponsored by Fong's Family Foundation

中醫藥學院  
School of Chinese Medicine

中藥材圖像數據庫  
Chinese Medicinal Material Images Database

中藥材圖像數據庫收集常用中藥材 420 餘種，以高清晰數碼圖像展示藥材的外觀特徵，並以文字記載藥材的來源、主產地、性狀特徵、品質特性、性味功效等綜合信息，同時以圖解形式對每種中藥材的性狀鑒別及部份品種的顯微鑒別進行了詳盡說明和比較。數據庫提供了藥材名、拉丁名、英文名、原植（動）物名、性味功效等多種檢索方式，查詢便捷，使用方便。本數據庫是學習中藥鑒定學、中藥學的良好教學平臺，亦是普及中藥知識的學習園地。

The Chinese Medicinal Material Images Database documents over 420 crude drugs commonly used in Chinese Medicine practice. The database provides drug information, including source, origins, description, quality, taste and clinical indications. Annotated high quality photographs are used to illustrate and identify the key properties and selected microstructures of the drugs. The search function enables the convenient retrieval of records. This online database was developed as a teaching and learning platform for the subjects of Chinese Materia Medica and Authentication of Chinese Materia Medica, and to promote the popularization of Chinese Medicine knowledge.

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Contains 420 crude drugs commonly used in CM practice, and provides

- High-quality annotated photos to illustrate and identify key properties and microstructures of the drugs
- detail drug information, including source, origins, descriptions, quality, taste, and clinical indications

## 2d. Phytochemical Image Database

方潤華基金贊助  
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School of 中醫藥學院  
Chinese Medicine

中草藥化學圖像數據庫  
Phytochemical Image Database

中草藥化學圖像數據庫以常用中草藥中的活性成分為對象，除了提供常見的各種物理化學參數，更有特色的是推薦了有關化合物的定性/定量分析和製備方法，並附有免費的核磁共振 (NMR) 等原始光譜圖，供有關領域的科研和教學人員參考。本數據庫與為人熟知的藥用植物圖像數據庫和中藥材圖像數據庫相輔相成，旨在提供一種研究和學習中草藥化學與中草藥質量控制的新途徑。

The Phytochemical Image Database aims to provide comprehensive information of bioactive compounds found in medicinal herbs. It includes not only general information like descriptive and numerical data on chemical, physical and biological properties, and literature references, but also useful methods of qualitative/ quantitative analysis and sample preparation; as well as the unique part: real spectra of NMR/ MS/ IR. It arose as a sister database of our well-known Medicinal Plant Images Database and Chinese Medicinal Material Images Database, with mission to offer a new approach for studying and learning Phytochemistry and Quality Control of Chinese medicines by providing easy-to-access and free phytochemical information.

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ALA  
AWARD

Contains 200 bioactive phytochemicals, and provides

- information, methods of sample preparation and quality analysis
- UV / IR / MS / NMR spectra images



**Phytochemical** = chemical compound found in plants which have health benefits in humans



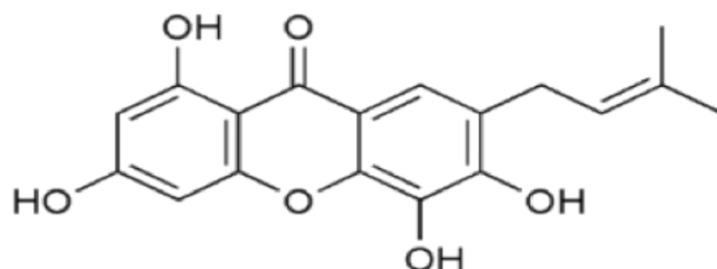
ENG | 繁體 | 簡體

SCM | Library | Main Page

Advanced search

Keyword search

[Previous Record](#) | [Back to Browse Page](#) | [Next Record](#)



|                  |   |
|------------------|---|
| Name             | 1,3,5,6-Tetrahydroxy-7-(3-methylbut-2-enyl)xanthone |
| Appearance       |   |
| CAS No.          | 1080533-32-9  |
| Formulae         | C <sub>18</sub> H <sub>16</sub> O <sub>6</sub>      |
| Molecular Weight | 328.316   |

|                   |  |  |  |
|-------------------|--|--|--|
| Natural Resources | <i>Garcinia xiphioides</i> Y. H. Li <sup>[1]</sup> |  |  |
| Identification    |  |  |  |

### 3. SCM Digitization Projects -- Achievements

- I believe that we have done a good promotion work on the *modernization* and *internationalization* of Chinese medicine in teaching, research, clinical service and technology

*Question: Any evidence?*





















*Answer: Yes, we hope the following three indicators can serve as proof*

### 3a. High Usage from all around the World

- MPID Website Traffic Statistics since 1 Jan 2012  
(log by Google Analytics, [http://lib-linux2.hkbu.edu.hk/ga/MPID\\_index.php](http://lib-linux2.hkbu.edu.hk/ga/MPID_index.php))
  - ◆ 2,221,622 pageview (i.e. 1,766 pageview per day)
- This usage is the highest among all in-house databases developed by HKBU Library
- More importantly, the users are not restricted to HKBU students, nor limited in Hong Kong, indeed the majority are coming from over 200 countries/regions all around the world

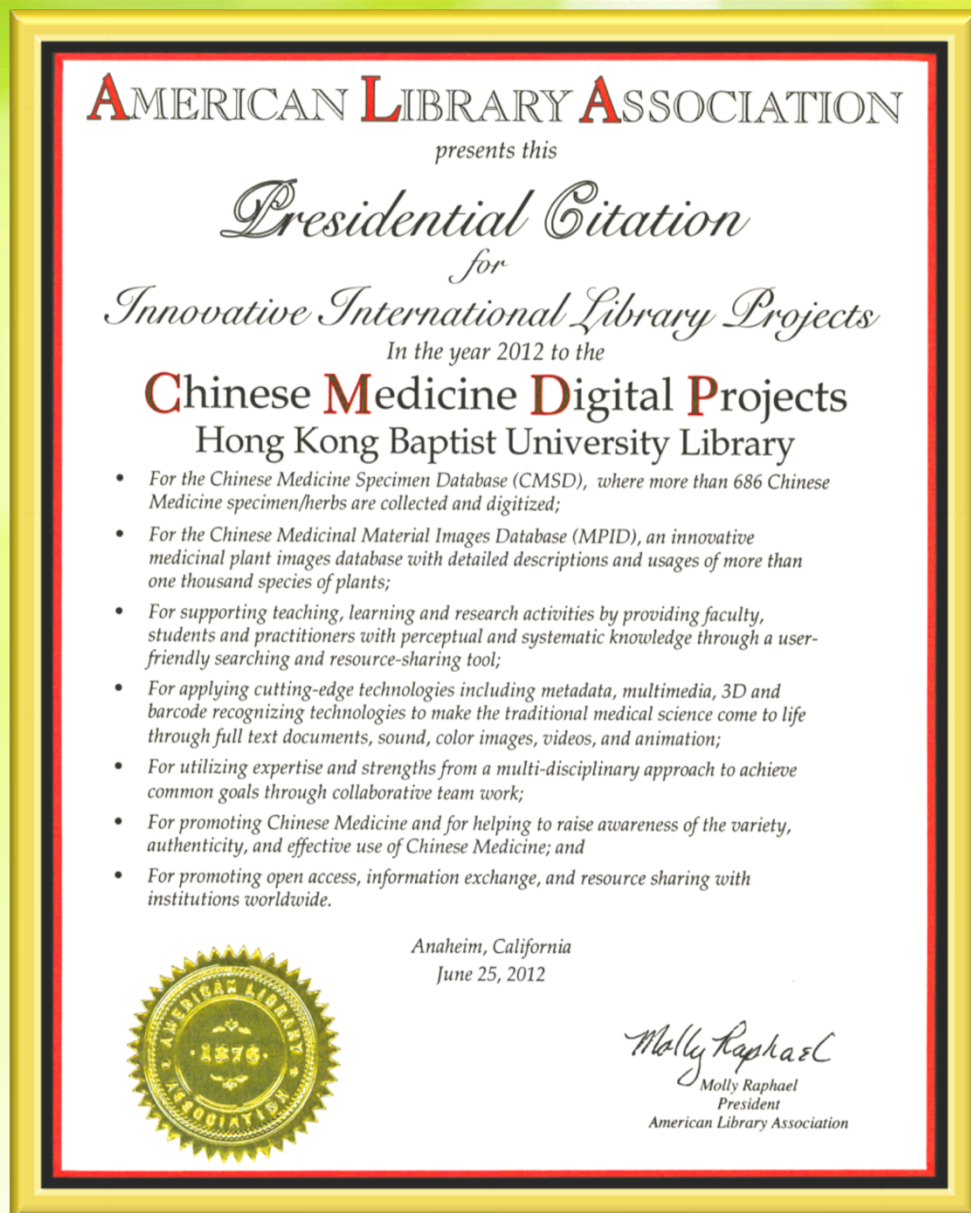
### 3a. High Usage from all around the World

#### ➤ Top 10 country/region

| Country  | Sessions | % Sessions  |
|--|----------|---|
| 1.  Hong Kong     | 142,250  |  29.56%  |
| 2.  Taiwan        | 129,305  |  26.87%  |
| 3.  China         | 106,520  |  22.13%  |
| 4.  United States | 31,902   |  6.63%   |
| 5.  Canada        | 9,311    |  1.93%   |
| 6.  Malaysia    | 9,057    |  1.88% |
| 7.  Australia   | 5,738    |  1.19% |
| 8.  Singapore   | 5,143    |  1.07% |
| 9.  Germany     | 4,144    |  0.86% |
| 10.  Macau      | 3,809    |  0.79% |

### *3b. ALA Presidential Citations for Innovative International Library Projects Award*

- We are very pleased to receive this internationally renowned award from the [American Library Association](#) in 2012
  - ALA is a non-profit organization based in the United States that promotes library services, library education and librarianship internationally
  - is the oldest and largest library association in the world
  - Founded in 1876, with more than 62,000 members



The ALA press release states:  
“While the (Chinese Medicine) databases were designed to improve teaching methods and effective use of these plants and herbs, *making this information available for free via the Internet has historic and limitless benefits for medical providers and researchers across the globe*”

### *3c. HKBU Non-teaching Staff Team Award*

- This Award is presented under the Reward and Recognition Scheme for Non-teaching Staff for the first time in 2013
- is recognizing the endeavors of non-teaching colleagues who have made significant contributions in support of achieving the University's strategic goals



“The Panel believes that in the Chinese Medicine Digital Project, the team fostered strong collaboration between academic and non-teaching staff. Making the best use of existing resources, the team made an impact on the teaching, learning and research of Chinese Medicine both within the University and throughout the world”

-- HKBU eNews, 27 May 2013

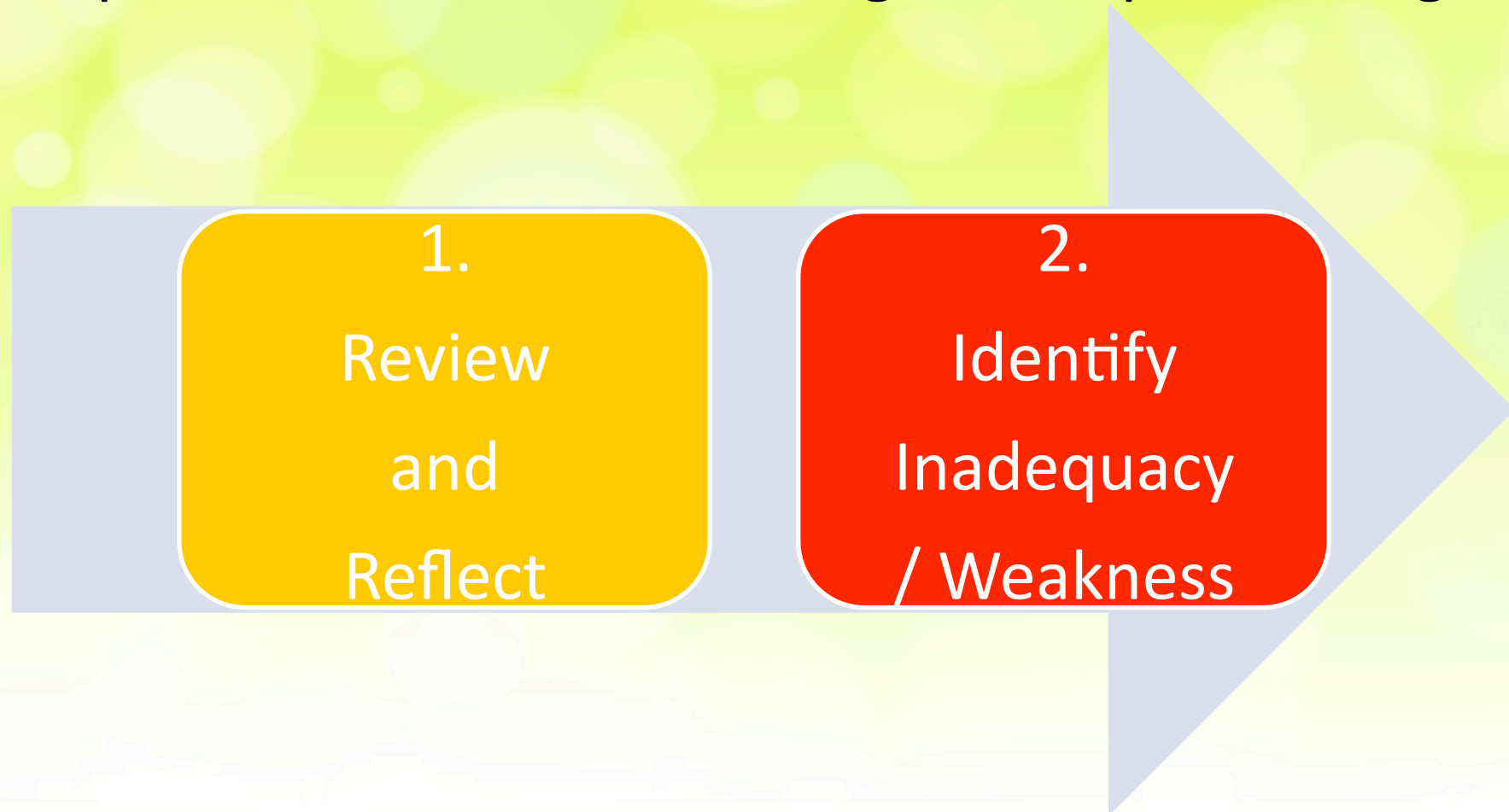
# III. Strength and Weakness of using Static Databases for Teaching and Learning

## 1. Good Work $\neq$ Perfect Work

- The Awards mentioned here are only used to prove that we have done ***a good promotion work in the past years*** on the modernization and internationalization of Chinese medicine in teaching, research, clinical service and technology
- We believe educators will generally agree that **good work** are never equal to **perfect work**
- Our challenge is: ***how to enhance our work to become more perfect***
  - Provide better and newer services
  - **Endless Work**

## 2. Enhancement Strategies

- For enhancement, inadequacy identification is more important than concentrating on the past strength



## 3. Weakness of SCM Digitization Project

*Traditional static databases lack of*

### i. Personalization

- user personal linking are not provided
  - personal linking is vital to increase students' sense of ownership in the education process

### ii. User Interaction

- databases can only provide one-directional service, user preference are not allowed

## 3. Weakness of SCM Digitization Project

*Traditional static databases lack of*

### iii. Self-assessment / Self-evaluation

- databases are closed systems, learning initiative and motivation are neglected

### iv. Learning from Errors

- users are limited to the passive viewing of content, dynamic user input are prohibited → unable to help users to check and detect their mistakes

## 3. Weakness of SCM Digitization Project

*Traditional static databases lack of*

### v. Peer Group Review and Experience Sharing

- multi-user interaction and participation as well as social networking needs are not entertained

### vi. Classroom Evaluation and Measurement

- databases fail to provide an immediate and easy tool to measure and discover students' knowledge level
  - vital factor for teachers to adjust teaching methods and strategies

## 3. Weakness of SCM Digitization Project

*Traditional static databases lack of*

### vii. Making Learning with Fun

- Education should not be boring, rather be challenging and full of fun

## 4. Transformation

- Known weakness/problems are broken down into small sub-problems
- Suggest effective methods to resolve sub-problems individually
- Finally, we come to our new product:

1.


Review  
and  
Reflect

2.

Identify  
Inadequacy  
/ Weakness

3.

Divide and  
Conquer  
Algorithm



# Chinese Medicine Game-based Exercise

Chinese Medicine Game-based Exercise aims to utilize and integrate the data from our existing Medicinal Plant Images Database. The innovative and flexible online platform enhances the interaction and communication among the students for the self-assessment purpose in their teaching & learning process.

- [http://lib-nt2.hkbu.edu.hk/cmgame/user.asp?realtime\\_lang=eng](http://lib-nt2.hkbu.edu.hk/cmgame/user.asp?realtime_lang=eng)

# IV. Special Features of CM Game-based Exercise

### 1. Computer-generated Questions

- All the questions of the CM Game-based Exercise are taken from [Medicinal Plant Images Database](#)
- A computer program is designed to convert the database fields into different types of questions automatically
- A total of **17,364** questions are generated
- These questions cover all important aspects of medicinal plants, e.g. how to identify the plant's Latin name, English name, Family & Genus, use and effect of special plants for the treatment of particular diseases

# 1. Computer-generated Questions

## ➤ Examples of questions on plant photos

- Given a plant photo, to identify the plant name
- Given the plant name, to identify the plant photo

3

What is the plant name of the following picture ?



A: [Poiret Barberry](#) ✓

B: [Chinese Incarvilla](#)

C: [Septemlobate Kalopanax](#)

D: [Lavender Sorrel](#)

1

Which one of the following is Catnip?

A:



B:



C:



D:



## 2. Self-motivated Learners

- Based on their preference, study needs and learning objectives, users are *flexible* to select **different question types** and **levels** for testing their understanding and revisions.

### Chinese Medicine Game-based Exercise

Logout User Profile 繁

☒ **User Defined**  
 (Please click this radio button to select the following question types)

☐ **Random**


▶ Question Types(You can only select a maximum of 5 question type !)

|                                       |  |   |   |
|---------------------------------------|--|---|---|
| <input type="checkbox"/> Latin Name   | <input type="checkbox"/> Picture         | <input type="checkbox"/> Chinese Family Name  | <input type="checkbox"/> Family Name (Latin)    |
| <input type="checkbox"/> Distribution | <input type="checkbox"/> Medicinal Parts | <input type="checkbox"/> Harvest & Processing | <input type="checkbox"/> Properties & Actions   |
| <input type="checkbox"/> Chemistry    | <input type="checkbox"/> Pharmacology    | <input type="checkbox"/> Plant Name (Chinese) | <input type="checkbox"/> Chinese Medicinal Name |

▶ Number of questions in each type:

Levels:

▶ Total No. of Questions Type



### 3. Automatic Marking and Reporting

- All the answered questions will be **marked automatically**
- **Direct links to MPID** will be provided to verify the answer and facilitate further information checking

2

What is the latin name of [India Yellowcress](#) ?

A: *Ficus variolosa* Lindl. ex Benth. ❌

B: *Scrophularia ningpoensis* Hemsl.

C: *Cucurbita moschata* (Lam.) Poiret

D: *Rorippa indica* (L.) Hiern

Correct Answer !

*Rorippa indica* (L.) Hiern



**Latin Name** *Rorippa indica* (L.) Hiern  
**English Name** India Yellowcress, Indian Rorippa, India Fieldcress  
**Family & Genus** Brassicaceae, *Rorippa*  
**Description** Annual or biennial herb. Plant rather robust, 20-50cm high, glabrous hairs. Stems simple or branched, erect and obliquely ascending. Leaf multivariate, basal leaves and lower stem leaves with long stalks; Leaf length 4-10cm, width 1.5-2cm, apical lobe larger, margin with

## 4. Personal Account

- Users are free to register, and create their own personal accounts → *increase ownerships and sense of belonging*

中医药趣味练习

注销 用户

用户设定

用户编号: 25  
用户名称: test11  
昵称: 213123  
电邮: yoli@hkbu.edu.hk  
Language/語言: 简体

☐ 更改密码  
旧密码:   
新密码:   
确认新密码:

个人图片 (少于 5MB)  
  
Browse...  
递交 返回主页

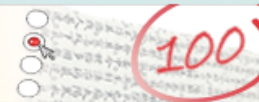
# 5. Personal Exercise Grade Result Analysis Report

- Exercise Grade Report are saved on Personal Account for user
  - ◆ *to monitor progress*
  - ◆ *to compare his attempted grade on a specific topic with other users*

## Personal Exercise Grade Result Analysis

Personal Paper ID: 995  
Total No. of Questions: 5  
Question Types: Picture  
Levels: Basic  
No. of Try: 1

Grade in percentage (Correct Answers / Total no. of Questions): 0% (0/5)



### Question Type Grade Analysis Table

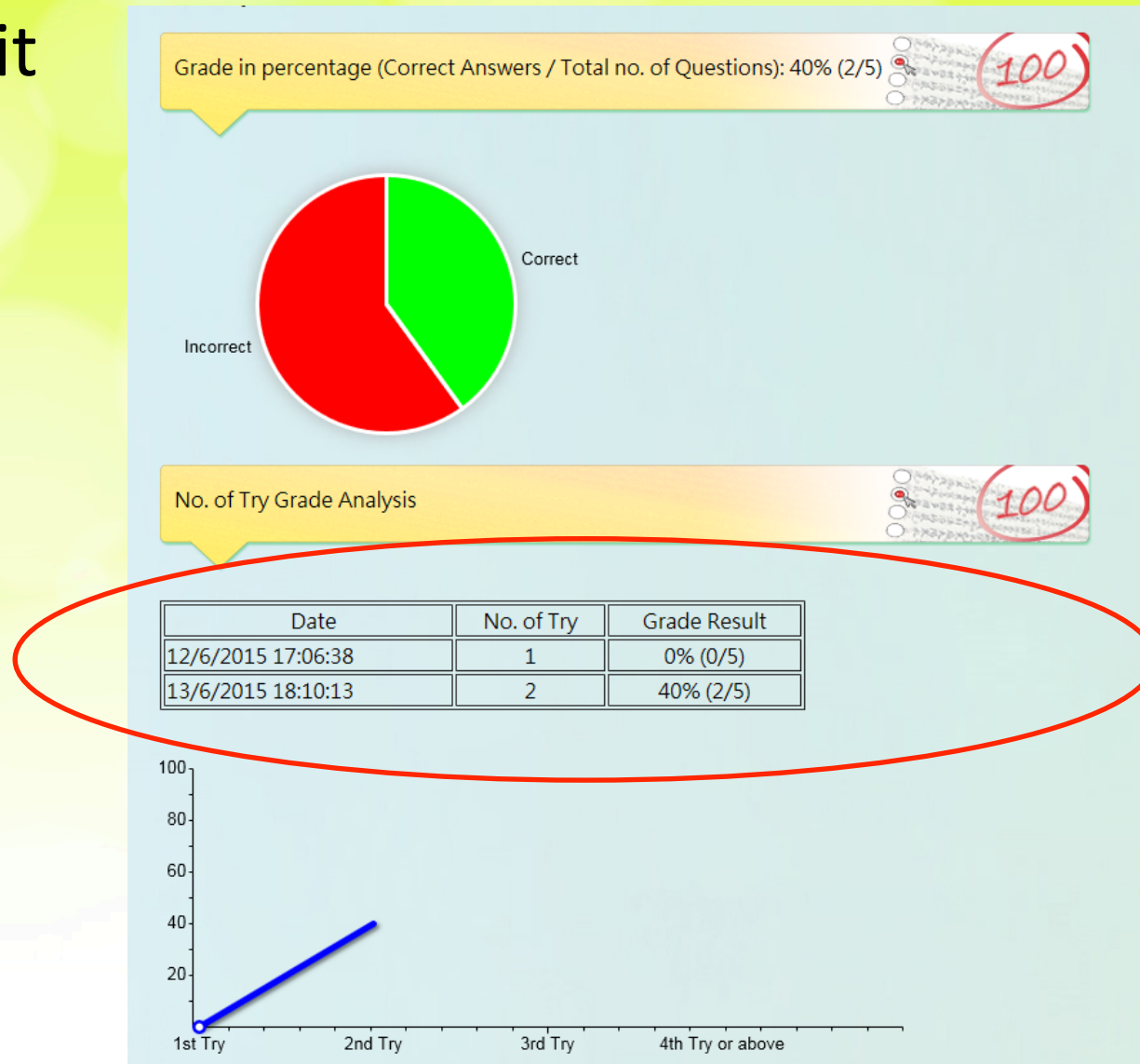


from 13 5 2015 to 13 6 2015 Question Types: Picture Levels: Basic Submit Reset

| No. of Try     | 1st Try       | 2nd Try     | 3rd Try    | 4th Try or above |
|----------------|---------------|-------------|------------|------------------|
| My Record      | 0% (0/10)     | --          | --         | --               |
| All Candidates | 72% (469/650) | 88% (22/25) | 100% (5/5) | --               |

## 6. Game Replay

- If a user does not satisfy with the Grade of an Exercise, he can retake it



### 7. Public Exercises

- Experience sharing and peer group discussions are always the effective ways to
  - ◆ get motivated to study
  - ◆ enhance learning performance
- Users are free to *share* their Personal Exercises with classmates and friends as a challenge / for comparison
  - ◆ “Can you get a 100 mark on this Paper?”
  - ◆ “Why did I fail?” → if he find his classmates get a lower mark, he will



Share and Invite by 3 clicks!

Personal Paper ID: 734  
Total No. of Questions: 5  
Question Types: Picture  
Levels: Basic  
No. of Try: 1

1

Share

Back to Main Page

Share Paper to Public

Nickname: 現代李時珍

Create Date Time: 2015/05/26 16:45  
Personal Paper ID: 734  
Total No. of Questions: 5  
Question Types: Picture  
Levels: Basic


2

Set password


☐ Share with password , please enter password:  
☒ Share without password

## Invite Your Friends to Join!


Subject: Invitation for participating Chinese Medicine public examination  
Question Types: Picture -Public Paper ID(37)




Facebook Share 0




WhatsApp for iOS



Permanent URL



Email



QR Code

3

Five sharing methods

### 8. Instant Classroom e-Measurement

- In a classroom, lecturer can easily create a Public Exercise as a quick quiz to
  - ◆ *test student understanding of the concepts*
  - ◆ *monitor study level*
- Provide vital factor for teachers to adjust teaching methods and strategies

# 9. Learning (Playing) without Walls / Mobile Waves

- A site designed with the new **Responsive Web Design**
- Allow easy browsing and navigation with a minimum of resizing, panning, and scrolling
  - ◆ across a wide range of devices (from desktop computer monitors, tablets, to mobile phones)
- E-learners can play the **Game** from anywhere at anytime
- Lecture can set a **Game** for students from anywhere at anytime
  - ◆ No Boundaries, No Restrictions



# V. Conclusions

### 1. New Solutions to Old Problems

- New features of CM Game-based Exercise can help to overcome the weakness of Traditional Static Databases that existing in the CM Digitization Project

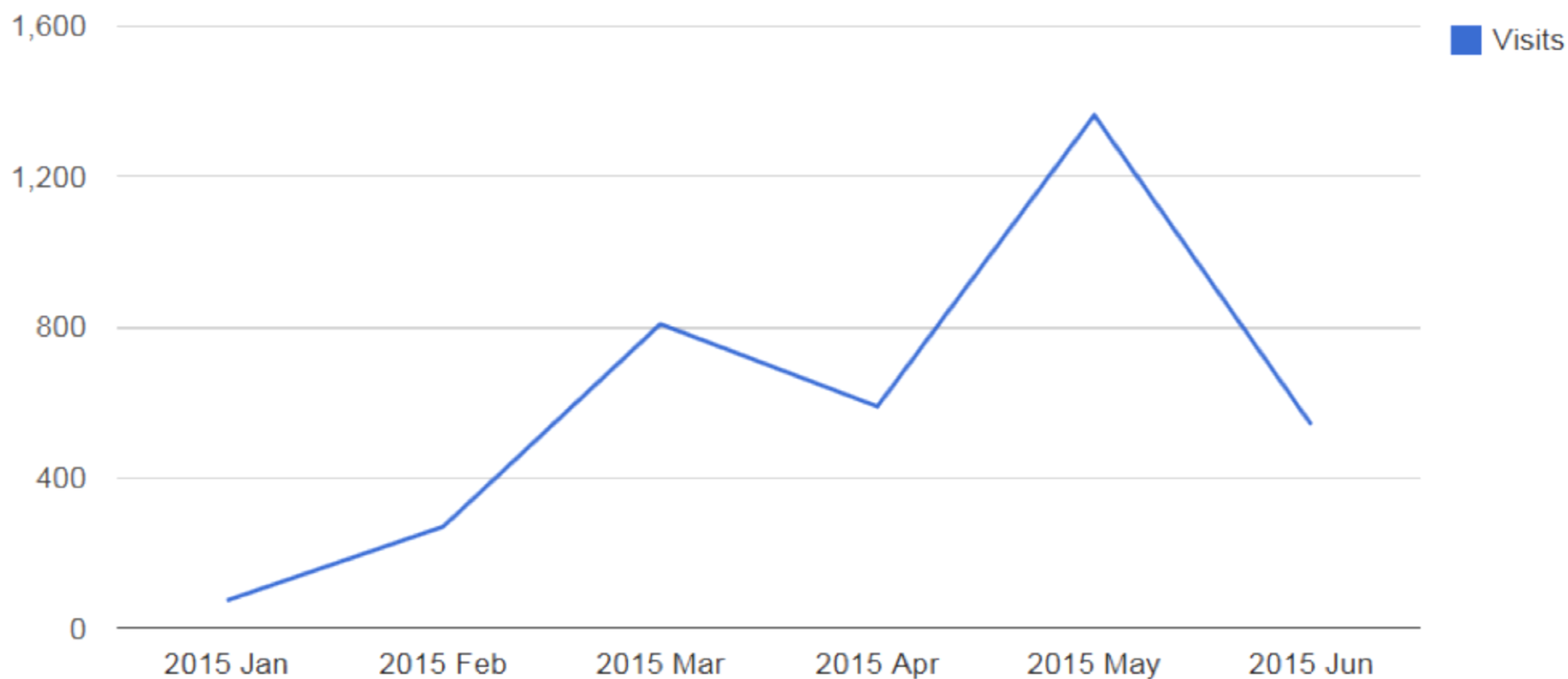
| Weakness of Traditional Static Databases    | New Features by CM Game-base Exercise                              |
|---|--|
| 1. Personalization                          | Personal Account<br>Personal Exercise Grade Result Analysis Report |
| 2. User Interaction                         | Self-motivated Learners<br>Public Exercise                         |
| 3. Self-assessment / Self-evaluation        | Computer-generated Questions<br>Automatic Marking and Reporting    |
| 4. Learning from Errors                     | Computer-generated Questions<br>Game Replay                        |
| 5. Peer Group Review and Experience Sharing | Public Exercise  |
| 6. Classroom Evaluation and Measurement     | Instant Classroom e-Measurement                                    |
| 7. Making Learning with Fun                 | Learning (Playing) without Walls / Mobile Waves                    |

## 2. Usage Statistic




















- The CM Game-based Exercise is open to public on *Jan 2015*
- Total Usage is increasing steadily
- One interesting phenomenon is that it attracts more players from *U.S.* than *Hong Kong* since 1 Apr 2015
  - ◆ *Americans like playing games than Chinese ?*



Total Visits by Months (2015-01-01 – today)



| Month   | Visits | Visitors | Pageviews |
|---------|--------|----------|-----------|
| 2015-06 | 539    | 467      | 1,733     |
| 2015-05 | 1,362  | 1,248    | 3,711     |
| 2015-04 | 588    | 478      | 2,756     |
| 2015-03 | 807    | 657      | 4,770     |
| 2015-02 | 269    | 174      | 3,028     |

| Country |  | Sessions | % Sessions  |
|---------|--|----------|---|
| 1.      |  United States    | 770      |  33.62%  |
| 2.      |  Hong Kong        | 722      |  31.53%  |
| 3.      |  China            | 195      |  8.52%   |
| 4.      | (not set)  | 163      |  7.12%   |
| 5.      |  Germany          | 55       |  2.40%   |
| 6.      |  Taiwan           | 44       |  1.92%   |
| 7.      |  Japan          | 41       |  1.79% |
| 8.      |  United Kingdom | 39       |  1.70% |
| 9.      |  Russia         | 31       |  1.35% |
| 10.     |  Canada         | 18       |  0.79% |

**Thank You !**  
**Q & A**