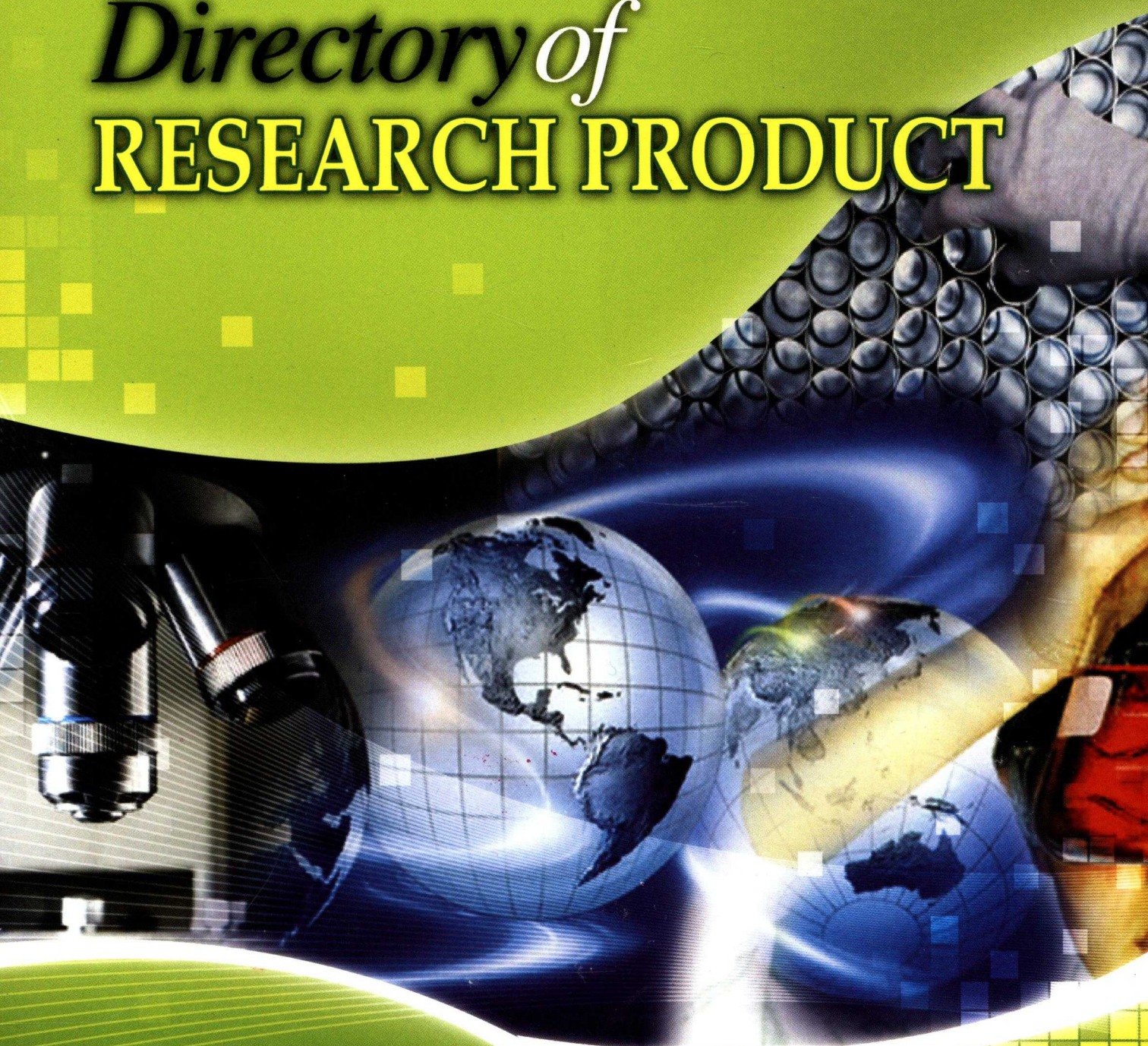




**SIIF** Seoul  
**2008** International  
 Invention Fair 2008



*Directory of*  
**RESEARCH PRODUCT**



11 - 15 Dec 2008 • Seoul, Korea



# *Directory of* **RESEARCH PRODUCT**



اَللّٰهُمَّ صَلِّ وَسَلِّمْ وَارْحَمْ عَلٰى اَسَاتِيْذِنَا

UNIVERSITI  
TEKNOLOGI MARA  
MALAYSIA

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## CONTENT

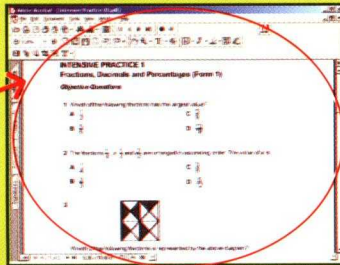
No.	Title	Page
01	A COMPUTER-ADAPTIVE MULTIPLE-CHOICE ASSESSMENT FOR LEARNING	01
02	FUN IQRA' – EDUCATIONAL TOOL IN BASIC QUR'AN LEARNING METHOD FOR PRESCHOOLERS)	02
03	CLIS - COMPUTER LAB INFORMATION SYSTEM	03
04	e-VILLAGE	04
05	SIC-GRID	05
06	DirecTouch - Directors' Information System	06
07	CHEMFLORE : A POTENTIAL NOVEL PROAPOPTOTIC ANTICANCER AGENT	07
08	RAINS	08
09	CURCUMIN SELF NANO-DISPERSIBLE SYSTEM FORMULATION	09
10	SYSTEM AUTOMATED ROUTE TRACKING (ARTS) TO SAVE THE RAIN FOREST	10
11	NOVEL PALM TOCOTRIENOL NANOPHASE GEL FOR FOOD BEVERAGE AND NUTRACEUTICAL APPLICATIONS	11
12	BIOCOMPOSITE TILE - UTILIZATION OF MALAYSIAN COCONUT COIR	12
13	eMiNs PERDANA-UiTM	13



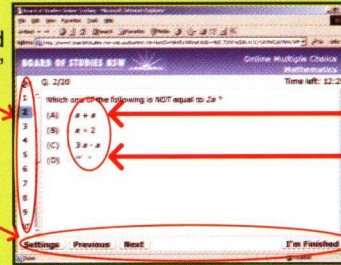
# A COMPUTER-ADAPTIVE MULTIPLE-CHOICE ASSESSMENT FOR LEARNING

## EXISTING SOFTWARE

1. Mere replications of paper and pencil tests to computer format.



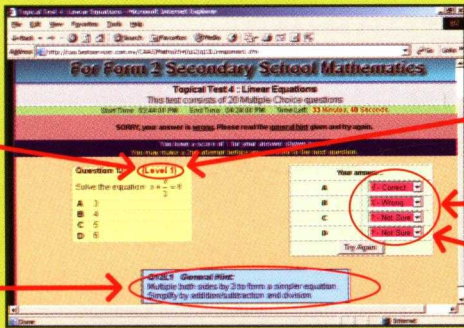
2. Not tailored to students' ability  
 3. No timely feedback



4. Guessing  
 5. Does not credit partial knowledge

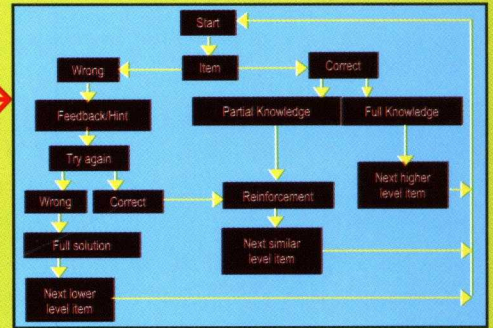
## SOLUTIONS

1. Computer-adaptive multiple-choice assessment



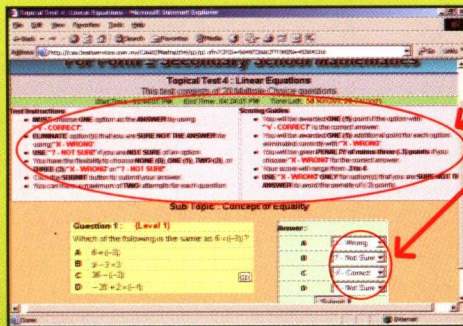
2. Give timely feedback

3. Item selection to meet students' ability  
 4. Discourage guessing  
 5. Credit partial knowledge



## NOVELTY

1. Adaptive in nature  
 2. Timely feedback for continuous learning



3. NR-ET scoring to discourage guessing and credit partial knowledge  
 4. Review student's knowledge state

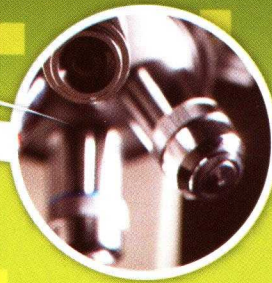
Question No.	Questions	3rd Attempt (Level)	Knowledge	2nd Attempt (Level)	Knowledge
1	Full knowledge	Full knowledge	Full knowledge	Full knowledge	Full knowledge
2	Full knowledge	Full knowledge	Full knowledge	Full knowledge	Full knowledge
3	Full knowledge	Full knowledge	Full knowledge	Full knowledge	Full knowledge
4	Full knowledge	Full knowledge	Full knowledge	Full knowledge	Full knowledge
5	Full knowledge	Full knowledge	Full knowledge	Full knowledge	Full knowledge
6	Full knowledge	Full knowledge	Full knowledge	Full knowledge	Full knowledge
7	Full knowledge	Full knowledge	Full knowledge	Full knowledge	Full knowledge
8	Full knowledge	Full knowledge	Full knowledge	Full knowledge	Full knowledge
9	Full knowledge	Full knowledge	Full knowledge	Full knowledge	Full knowledge
10	Full knowledge	Full knowledge	Full knowledge	Full knowledge	Full knowledge
11	Partial Misconception	Full knowledge	Full knowledge	Full knowledge	Full knowledge
12	Full knowledge	Full knowledge	Full knowledge	Full knowledge	Full knowledge
13	Partial Misconception	Full knowledge	Full knowledge	Full knowledge	Full knowledge
14	Partial Misconception	Full knowledge	Full knowledge	Full knowledge	Full knowledge
15	Full knowledge	Full knowledge	Full knowledge	Full knowledge	Full knowledge
16	Partial Misconception	Full knowledge	Full knowledge	Full knowledge	Full knowledge
17	Full knowledge	Full knowledge	Full knowledge	Full knowledge	Full knowledge
18	Full knowledge	Full knowledge	Full knowledge	Full knowledge	Full knowledge
19	Full knowledge	Full knowledge	Full knowledge	Full knowledge	Full knowledge
20	Full knowledge	Full knowledge	Full knowledge	Full knowledge	Full knowledge

## COMMERCIAL POTENTIAL

1. e-tuition  
 2. Subscription by schools



Feedback: Ranking

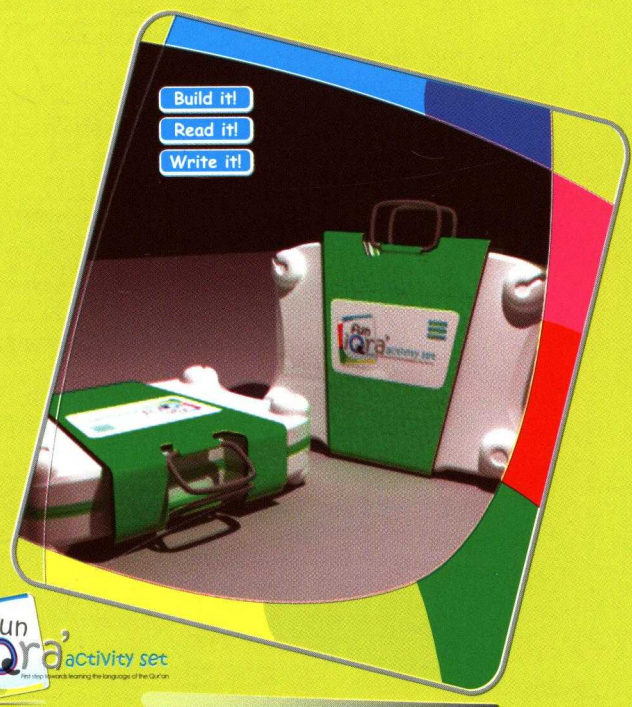


# FUN IQRA' – EDUCATIONAL TOOL IN BASIC QUR'AN LEARNING METHOD FOR PRESCHOOLERS

## ABSTRACT

**Fun IQRA'** is an educational tool in helping preschoolers aged 3 to 5 to **identify, read, spell** and **write** the singular Arabic alphabets with fluency. The IQRA' method was chosen because it is one of the fastest methods in learning the basic of Qur'an used in Malaysia since 1995 and until now it is used in the j-QAF programme under the Malaysian Ministry of Education for students in primary schools.

Three easy and effective concepts were applied in this product which are '**Build It, Read It, and Write It**'. The '**Match and Spell**' concept teaches children to identify every singular Arabic alphabets using colour matching. While the '**Magnetic, Stencil Alphabet with Drawing Board**' concept teaches children to learn to write every singular Arabic alphabet learnt.



## NOVELTY

- Enables preschoolers from 3 to 5 years of age to effectively identify, read and spell singular Arabic alphabet in the basic Qur'an learning by integrating both IQRA' and 'Learning Through Play' methods.
- Enhance understanding of basic Qur'an learning through playing.
- Make basic Qur'an learning through IQRA' more stimulating and fun.
- Offer teachers, parents and preschoolers a new dimension and perspective in the usage of an educational tool in learning the basic Qur'an.

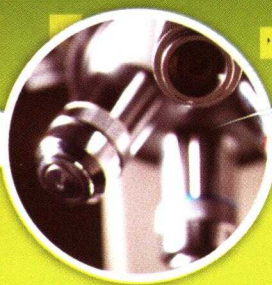
## USEFULNESS

- To become a pioneer in Malaysia in using an educational tool in basic Qur'an teaching and learning.
- To offer an alternative teaching tool for teachers and a learning tool for students.
- To establish a standard method of IQRA' in Malaysia which can help improve the effectiveness in teaching basic Qur'an in all preschool centers.
- To overcome the problem of Qur'an illiteracy among primary and secondary school students.

## COMMERCIAL POTENTIAL

- Potential to become the first and primary teaching and learning tool in Malaysia in the basic Qur'an learning through play method and also potential to be commercialized for other countries.





# CLIS COMPUTER LAB INFORMATION SYSTEM

## ABSTRACT

Every 10<sup>th</sup> day of the month, The IT Lab has to provide a statistical report regarding the usage of PC in Tun Abdul Razak Library (PTAR) to the top management for performance measurement of respective departments.

However, the preparation of the statistic report in the IT Lab is often delayed before the implementation of **CLIS – Computer Lab Information Systems**. This is because the user need to manually enter data in a log book.

Among the problems faced in the manual user registration are:

- Difficult in reading some of the hand writing in the log book
- Unable to identify status of the users
- Lengthy time to generate the statistic report
- Difficulty in allocating PC's to the users
- Excessive wear and tear of manual registration log book
- Difficulties in controlling registration (check in & check out)

**CLIS** utilizes electronic registration system to ensure that the registration record can be stored in an electronic database for the purpose of generating on-line statistic record wick is accessible at all times, fast and accurate.

**CLIS** is an online IT lab management system that works systematically through online access available all over UiTM Malaysia Library and UiTM Branch Campuses Library.

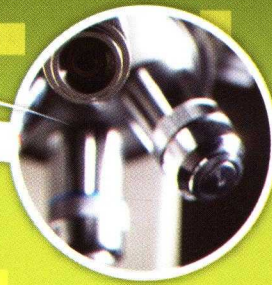
Significant achievements by the library are:

- CLIS has an impact on the library in managing PTAR IT Centre in UiTM that have a large enrollment of students.
- This system increases staff productivity and efficiency.
- CLIS also decreases the time required pertaining to the registration, and is more accessible to the users, faster and more accurate.
- CLIS system has been implemented successfully at 8 IT Centres of UiTM Malaysia and 11 UiTM Branch Campuses.

## BENEFITS OF CLIS

- To ensure efficient acquisition of PC usage report in IT Centres
- To ensure a standard method in obtaining statistics
- Assisting management personnel in improving work efficiency
- Systematic and safe data storage
- Overall monitoring of PUiTM Library Statistics

CLIS		
ADVANTAGES	BEFORE	AFTER
REGISTRATION	1 MINUTES	5 SECOND
STATISTICS	10 DAY	32 MINUTES



## e-VILLAGE

### OBJECTIVES

- To design a framework for e-Village.
- To design a model for e-Village portal.
- To develop a model system for e-Village.
- To provide ICT training to villagers.
- To design ICT center for the village.

### MARKET POTENTIAL

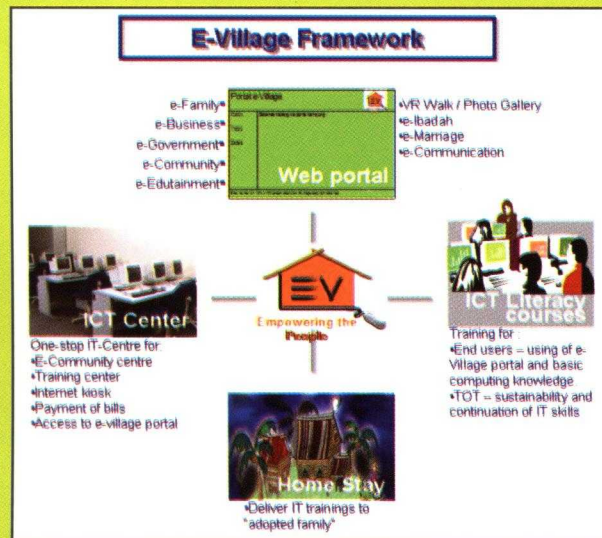
- Revenue from consultancies.
- The established framework can be commercialized to other community related projects or businesses.

### INVENTION FEATURES

- Patent of e-Village and e-Kampung.
- Framework of e-Village.

### GOALS

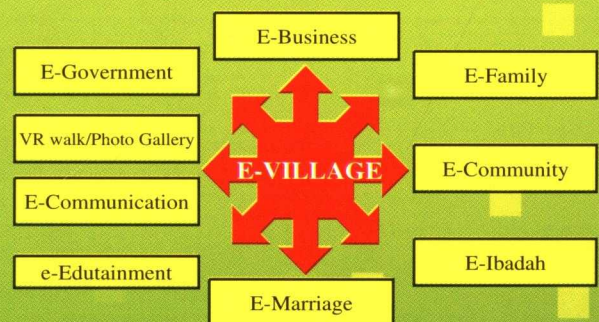
- To pioneer the village by being the model e-village.
- To enrich their livelihood through the adoption of ICT.
- To narrow the digital divide among the rural especially the bumiputera.
- To empower the community to disseminate their indigenous knowledge.
- To prepare the community to embrace e-government and online cooperate services.
- To enable the free flow of information and knowledge to improve decision making and participation of rural family, worship, communication, business, government institutions, etc for social and economic growth.
- To support the dissemination and exchange of research among faculty, students, other researchers and the interested public.



### USEFULNESS AND NOVELTY

- Provide framework for ICT development in rural area.
- Inline with government vision of converging from society to e-society.
- Getting rural area connected to the world through ICT.
- Villagers will be exposed to ICT as the project will raise awareness.
- The training session will offer diverse ICT knowledge to villagers.
- Through ICT, the economical and social activity will be more efficient.
- The project will benefit the community, particularly small businesses to enhance the success and outreach potential of its online businesses.

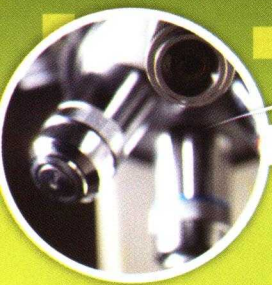
### MODEL FOR e-VILLAGE PORTAL



### AWARDS

1. Silver – Inventions, Innovations and Designs 2007 (IID2007), Shah Alam, Malaysia
2. Silver – Malaysia Technology Expo 2008 (MTE2008), Malaysia.





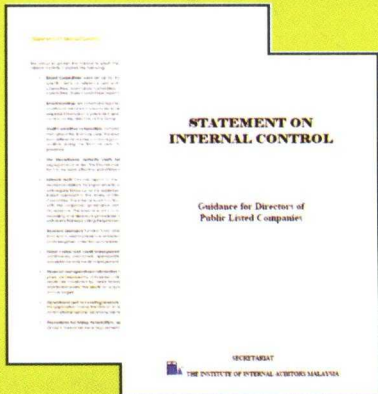
# SIC-GRID

	1998	1999	2000	2001	2002	2003	2004	2005
<b>Policy &amp; Regulations</b>		Long-term strategic planning (LSP) and Corporate Governance (CG) Code	Amendments to the Companies Act 1965 regarding corporate governance (CG)	Major revision of the CG Code	CG Code (Long-term Strategic Planning) and CG Code (Corporate Governance)	CG Code (Long-term Strategic Planning) and CG Code (Corporate Governance)	CG Code (Long-term Strategic Planning) and CG Code (Corporate Governance)	CG Code (Long-term Strategic Planning) and CG Code (Corporate Governance)
<b>Best Practices</b>		Malaysian Code of Corporate Governance (MCCG)	MACTIA and the Institute of Internal Auditors (IIA) Malaysia	Guidelines on Internal Control (IC) for Public Listed Companies (PLCs)	Guidelines on Internal Control (IC) for Public Listed Companies (PLCs)	Guidelines on Internal Control (IC) for Public Listed Companies (PLCs)	Guidelines on Internal Control (IC) for Public Listed Companies (PLCs)	Guidelines on Internal Control (IC) for Public Listed Companies (PLCs)
<b>Institutional reforms</b>	Malaysian Institute of Corporate Accountants (MICA)	Malaysian Institute of Corporate Accountants (MICA)	Malaysian Institute of Corporate Accountants (MICA)	Malaysian Institute of Corporate Accountants (MICA)	Malaysian Institute of Corporate Accountants (MICA)	Malaysian Institute of Corporate Accountants (MICA)	Malaysian Institute of Corporate Accountants (MICA)	Malaysian Institute of Corporate Accountants (MICA)

Governance Master Plan

The development of  
 A self-assessment mechanism  
 to evaluate the credibility of  
 the Statement of  
 Internal Control for a better  
 Corporate Malaysia

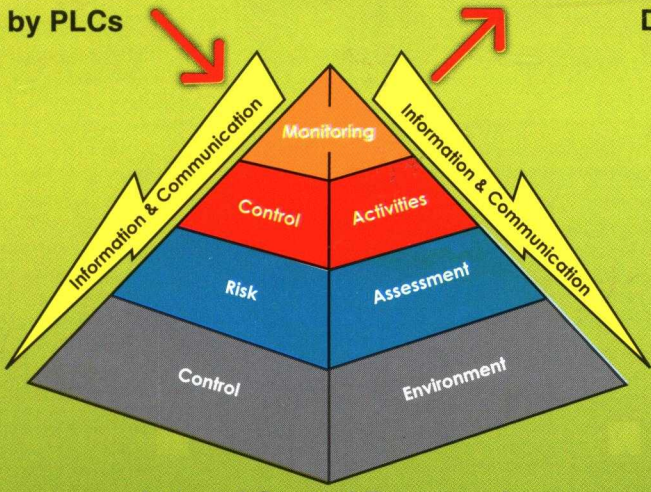
Our Contribution



Issuance of SIC by PLCs



Dialogue with PLCs



Internal Control Framework







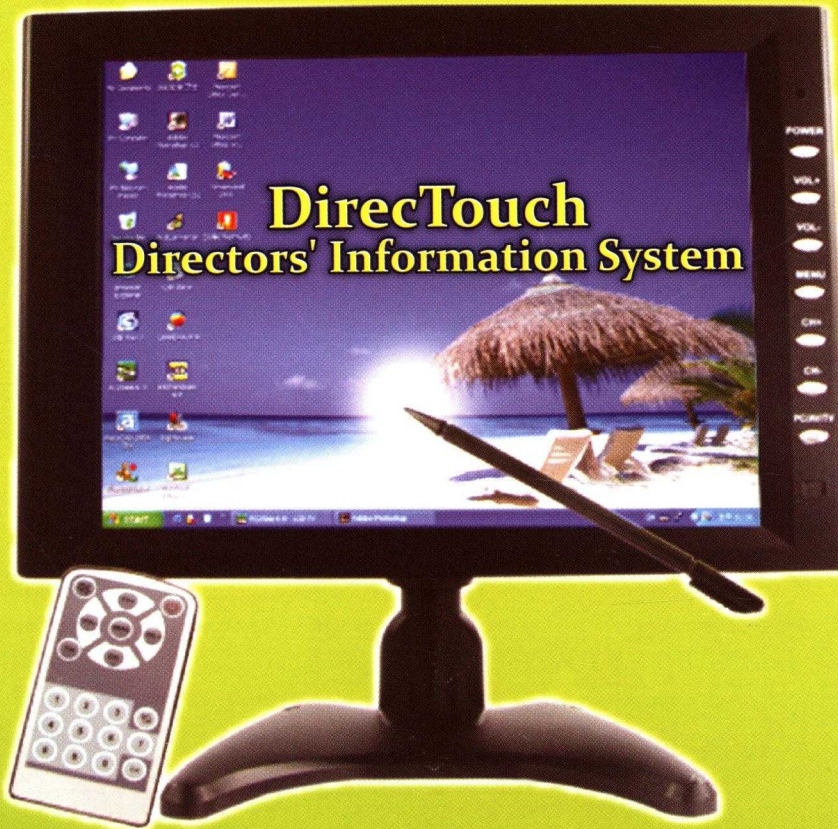
## DiracTouch Directors' Information System

### FUNCTION

The DiracTouch assists the companies' Board of Directors on exercising effective oversight of the strategic process and to ensure accountability. DiracTouch could be refined to suit each company from different industries and sectors within Malaysia and other countries.

### NOVELTY

The DiracTouch provides a balanced and holistic guide to the board on BOTH the strategic and compliance processes.



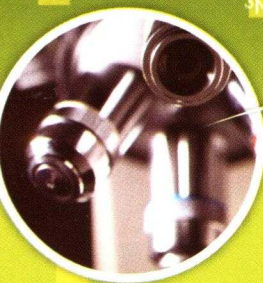
### COMMERCIALIZATION POTENTIAL

The DiracTouch could be used by industries, Malaysian Government Linked Companies (GLCs) and companies in other countries.

### USEFULNESS

The DiracTouch provides board with holistic overview on the company's strategic position, options, implementation, risk and Corporate Governance compliance which enable the board to perform their task more efficiently and effectively.





# CHEMFLORE: A POTENTIAL NOVEL PROAPOPTOTIC ANTICANCER AGENT

## ABSTRACT

**Chemflore** has *novel* bioactive metabolites that induce apoptosis against breast and colon cancers. It is *useful* and can be *applied* for combination therapy. It is *health beneficial*, enhancing cancer patients' quality of life. It has *commercial potential*, having produced locally and economically.

## PRODUCT DESCRIPTION

Novel bioactive metabolites isolated from local fungi

Promising anticancer effects against breast and colon cancers

Induce cancer cell deaths through apoptosis



**Health:**  
Alternative for resistant cancer

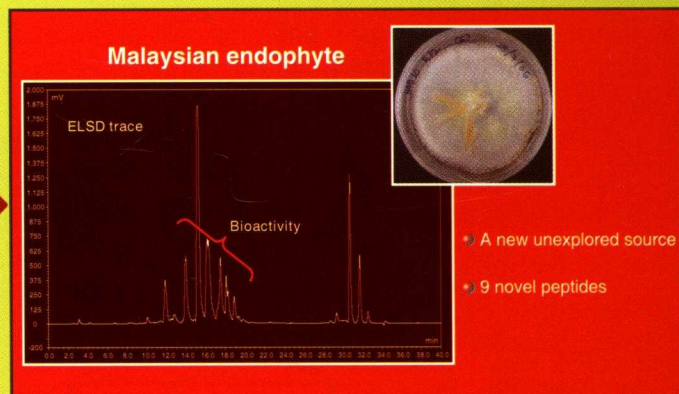
**Economic:**  
Readily/ Rapidly mass produced

**Health:**  
Good candidate for combination therapy

**Health:**  
Improved QoL

**Commercial:**  
Cancer patients worldwide

**Commercial:**  
Template for further semi-synthesis

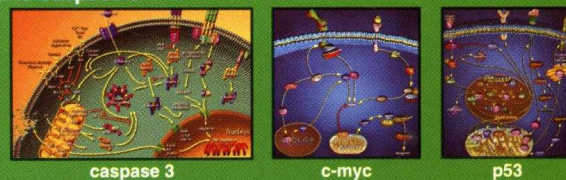


## Comparison of potency between Chemflore with other products

Anticancer Agents	IC <sub>50</sub> (µg/ml)	Cell Lines
Chemflore	0.049	MCF7 (human breast carcinoma)
Paclitaxel	0.036	
Tamoxifen	2.83	
Chemflore	0.056	HCT116 (human colorectal cancer)
Cis-platin	0.21	
5-Fluorouracil	0.56	

Chemflore induces cancer cell death through apoptosis (programmed cell death)

Chemflore elevates the level of expression for p53, c-myc and caspase 3



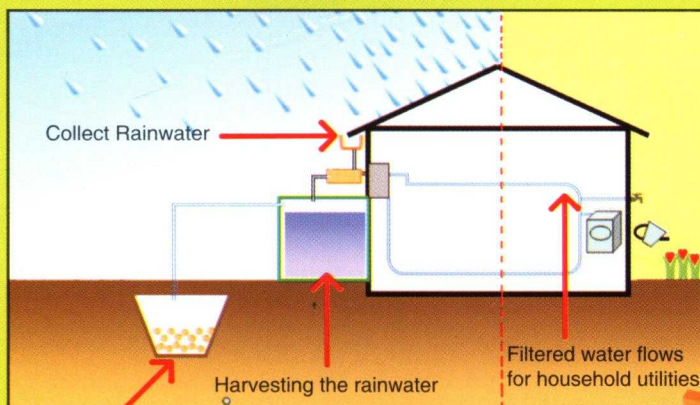
(vs control)

MCF7			
Chemflore	↑ 7.5	↑ 8.4	↑ 6.1
Tamoxifen	↑ 3.1	↑ 3.1	↑ 2.6
HCT116			
Chemflore	↑ 2.0	↑ 4.9	↑ 4.0
Cis-platin	↑ 1.4	↑ 4.9	↑ 3.4

# RAINS

## RESEARCH SUMMARY

RAINS is a prototype of comprehensive application that helps novice (homeowner) and expert (researcher, engineer, architect, vendor) users to gain information and understanding on the rain harvesting and its related issues. This tool consists of simulations on collected rain water; its utilizations; tank and recharged system design; and a fuzzy-based decision support. Its major contribution is in encouraging the rain harvesting installation system at home in systematic ways. It differs from other applications in terms of the comprehensiveness where most applications do not consider the recharge system, decisions support and it uses is also not only limited to the expert users.



Toilet Flush      Washing      Gardening



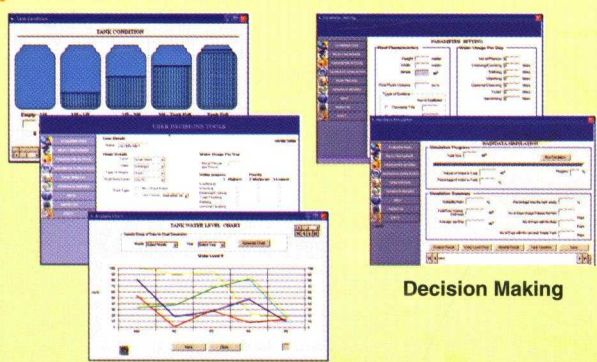
Bathing      General Cleaning



- Rain Data
- Tank components
- Tank model & specifications



## TOOLS SCREEN SHOTS



Simulation and Calculation

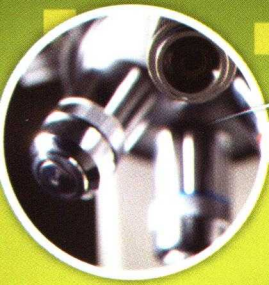
Decision Making

## BENEFITS

- Tool for experts and novice users.
- Cost effective options in choosing the harvesting equipment for home use.

## COMMERCIALIZATION POTENTIALS

- Wide range of potential users (novice users like homeowners, or experts users like engineers/researchers)
- Rain harvesting system is a cost-saving solution for the users especially those who involve in agriculture and manufacturing.



# CURCUMIN SELF NANO-DISPERSIBLE SYSTEM FORMULATION



## INTRODUCTION

Curcumin is the major yellow pigment extracted from turmeric, a commonly used spice in India and Southeast Asia that has broad anticarcinogenic and cancer chemopreventive potential.



## PROBLEM

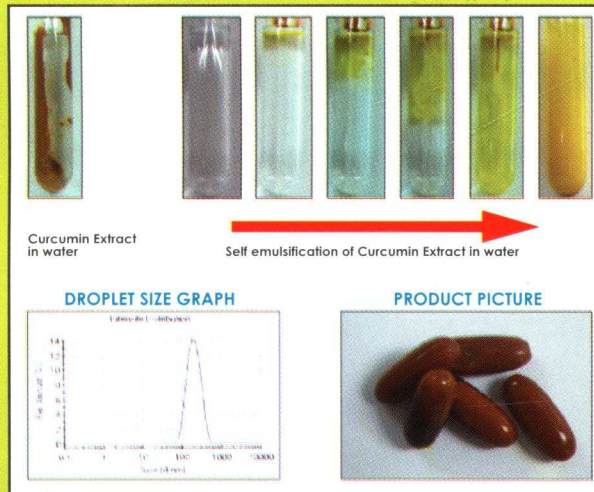
The major obstacle for clinical development of Curcumin is its low oral bioavailability. The currently used formulations of Curcumin produce negligible levels in the blood and therefore are not useful in humans. A formulation of Curcumin that increases its bioavailability is needed for the commercial success of Curcumin as an agent for the treatment of multiple diseases.

## OBJECTIVE

The present invention Self nano-dispersible curcumin extract in aqueous phase was formulated to improve the oral bioavailability of curcumin in gastrointestinal tract.

## INVENTION FEATURES

Insoluble water-oil curcumin extract is incorporated into self-nanoemulsifying system (SNES) as a very fine dispersion mixture containing suitable components and then filled in soft gelatin capsules.



## NOVELTY

The present invention is unique since allows curcumin extract to be formulated as a dosage form and facilitate the absorption of curcumin in gastrointestinal system. Physical characterizations have shown that the mixture had very good self-dispersibility and uniform droplets size (below 200 nm). This invention has shown **very fast self-emulsification** that make the curcumin and oleoresins to be dispersed in nanosize range into the aqueous phase. These formulations enhance the absorption of curcumin, and improve its stability. The problem of limited bioavailability is thus solved.

## USEFULNESS

- Natural product.
- Formulation produces higher blood levels of Curcumin than other reported formulations.
- Long history of use and great safety profile.
- Lower cost of development due previous preclinical work and FDA issued INDs for multiple clinical trials.

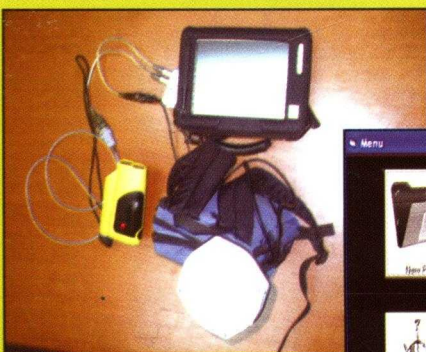
## MARKET POTENTIAL

This formulation has a good prospect for the herbal industry since it would lead to a product with better absorption profile and stability. The development of valuable nano self-emulsifying systems containing curcumin is necessary due to the beneficial role of this compound in the management of varied diseases (antioxidant, anti-inflammatory, hypocholesterolemic, antibacterial, wound healing, antispasmodic, anticoagulant, antitumoral and hepatoprotective). As thus, this formulation can help to enhance the therapeutic efficacy of this compound, by enhancing the rate and/or the extent of drug solubilization into aqueous intestinal fluids.



# SYSTEM AUTOMATED ROUTE TRACKING (ARTS) TO SAVE THE RAIN FOREST

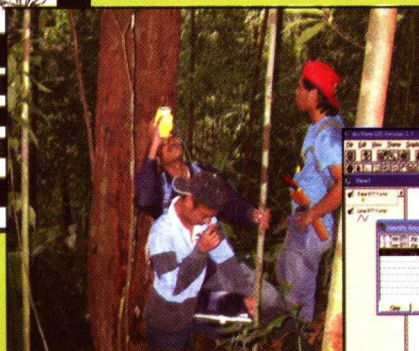
ARTS (Automated Route Tracking System) as a Global Positioning System (GPS)-based data collection system can be a very handy tool to solve your data collection needs. Online Global Positioning System (GPS) dataset are captured during the data collection phase and automatically transformed to the local coordinate system. Accuracy estimates of the acquired datasets are critically assessed both quantitatively and qualitatively to comply with the mapping industry.



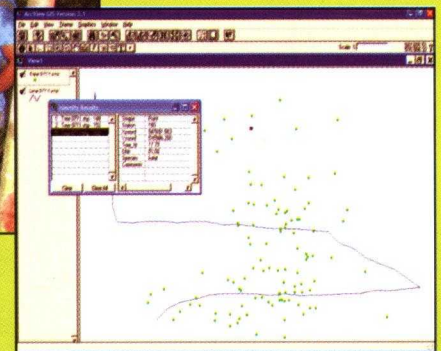
**System Configuration**



**ART**



**Data Acquisition**



**Automated Database**

System will be highly valuable to a diversity of applications such as, forestry, map updating, route design and nevertheless towards remotely sensed applications. The system will automatically track the position of the user and datasets gathered are process on-line and transform for further manipulation or analysis in standard Geographical Information System (GIS) packages.

## **NOBLE ADVANTAGES**

Time, Cost and Automated System





## NOVEL PALM TOCOTRIENOL NANOPHASE GEL FOR FOOD BEVERAGE AND NUTRACEUTICAL APPLICATIONS



### PROBLEM

Tocotrienols are an important class of molecules being minor plant constituents, however, they are especially abundant in palm oil, which can provide a significant source of vitamin E-like activity. Its use as a functional food is being explored thoroughly by academia and industry.

They present properties such as: neuroprotective, hypocholesteremic, anti-oxidant, anti-cancer, anti-proliferative, apoptotic and anti-inflammatory. However, less research on tocotrienol (<1%) has been observed than for other forms of vitamin E. This seems to be related with its lower bioavailability compared with alpha-tocopherol when administered orally. Because of this, proposed health benefits may not be replicable in humans.

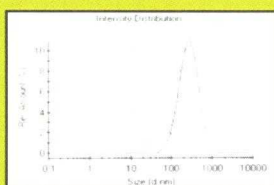
### OBJECTIVE

Tocotrienol Nanophase Gel was formed by a D-phase emulsification procedure. This innovative product undergoes spontaneous emulsification in the presence of aqueous media. The resulting nanoemulsion is very fluid with excellent stability. Physical characterization has shown that Nanophase Gel can self-emulsify under minimum energy and produce nanoemulsion in nanosize range.

### NOVELTY AND USEFULLNESS

The present invention is a novel Tocotrienol nanophase gel that can easily self-emulsify in water to form nanoemulsions. This makes the normally fat-soluble ingredient stable for formulation in water-based beverages, food products or nutraceuticals.

Also, since a spontaneous step is involved, no heat or strong agitation are required, allowing the incorporation of tocotrienols that are susceptible to degradation at high temperatures.



Simple preparation of Nanoemulsion from Tocotrienol Nanophase Gel

### MARKET POTENTIAL

This Nanophase Gel has a good prospect for the Food beverages, Nutraceuticals and Cosmetics industry since:

- Higher bioavailability makes the ingredient better at offering its health properties.
- The tocotrienol becomes suitable for the incorporation in functional foods.
- Saving of energy during production step.
- Improvement in the uniformity of tocotrienol content in the product.
- The product will be welcomed by food and supplement makers to which this form of vitamin E is currently less known.
- Improvement on the tocotrienol absorption may result in bioactive blood concentrations.



## BIOCOMPOSITE TILE - UTILIZATION OF MALAYSIAN COCONUT COIR

### INNOVATION

1. Utilization of agricultural fibers such as coconut husks which produce coirs.
2. Utilization of Malaysian coconut coir as an alternative to ceramic materials.
3. Utilization of coconut coirs in combination with readily available fiberglass.

### ADVANTAGES

1. The raw materials such as coconut husks and fiberglass are easily obtained.
2. The properties of the biocomposite tile are much better than ceramic tile.
3. The biocomposite tiles are more environmentally friendly products.

### POTENTIAL APPLICATIONS

1. The alternative material which hopes to replace ceramic material in usage.
2. The biocomposite tiles are potential materials for walls and flooring usage.
3. The lighter weight biocomposite tiles are suitable for top layer of furniture.



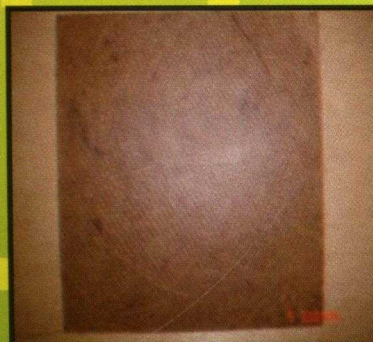
FIBERGLASS



COCONUT COIR



COMBINATION



COMPOSITE TILE



FLOOR MATERIALS



WALL MATERIALS



Networking Initiative through Mimos Bhd  
(agency under the Ministry of Science and Technology and Innovation, MALAYSIA)

# eMiNs PERDANA-UiTM

## MARKET GAP

Gap in providing information about sector ratios and ratios for Malaysian industries.  
No such database 'homegrown' in the country.

## SOLUTION

ePERDANA-UiTM MINS

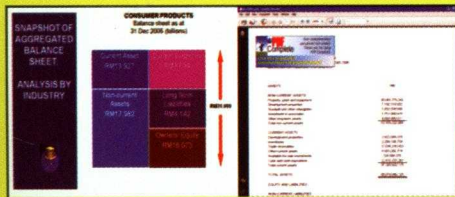
An electronic directory for financial database in Malaysia with aggregated financial statements and sector averages.

## PRODUCTS

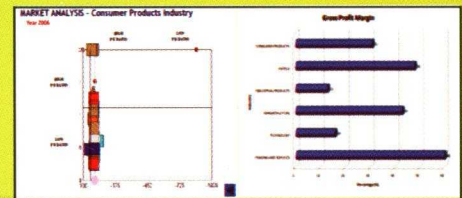
Hardcopy publications, CDs, webpage and electronic product.

## NOVELTY

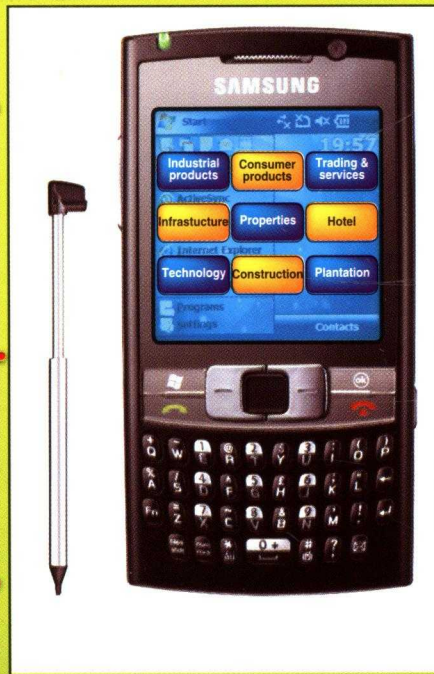
Multidimensional Analysis:  
Sector vs Sector  
Sector vs Company



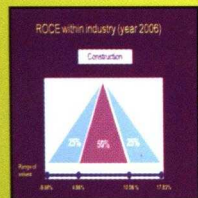
Aggregated Financial Statements



Main Directory



Products  
(CD, Handy Mobile Application and Portal)



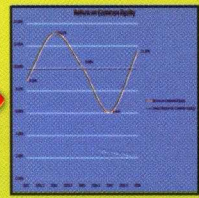
Chart



Ratio Table



Trend Analysis



Graph

## USEFULNESS AND COMMERCIALIZATION POTENTIAL

Benchmarking purposes to compare status in the sector;  
Supply investors, companies and investment firms with independent data that they need for indicators and confidence in investments, financial intelligence and risk evaluation.





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