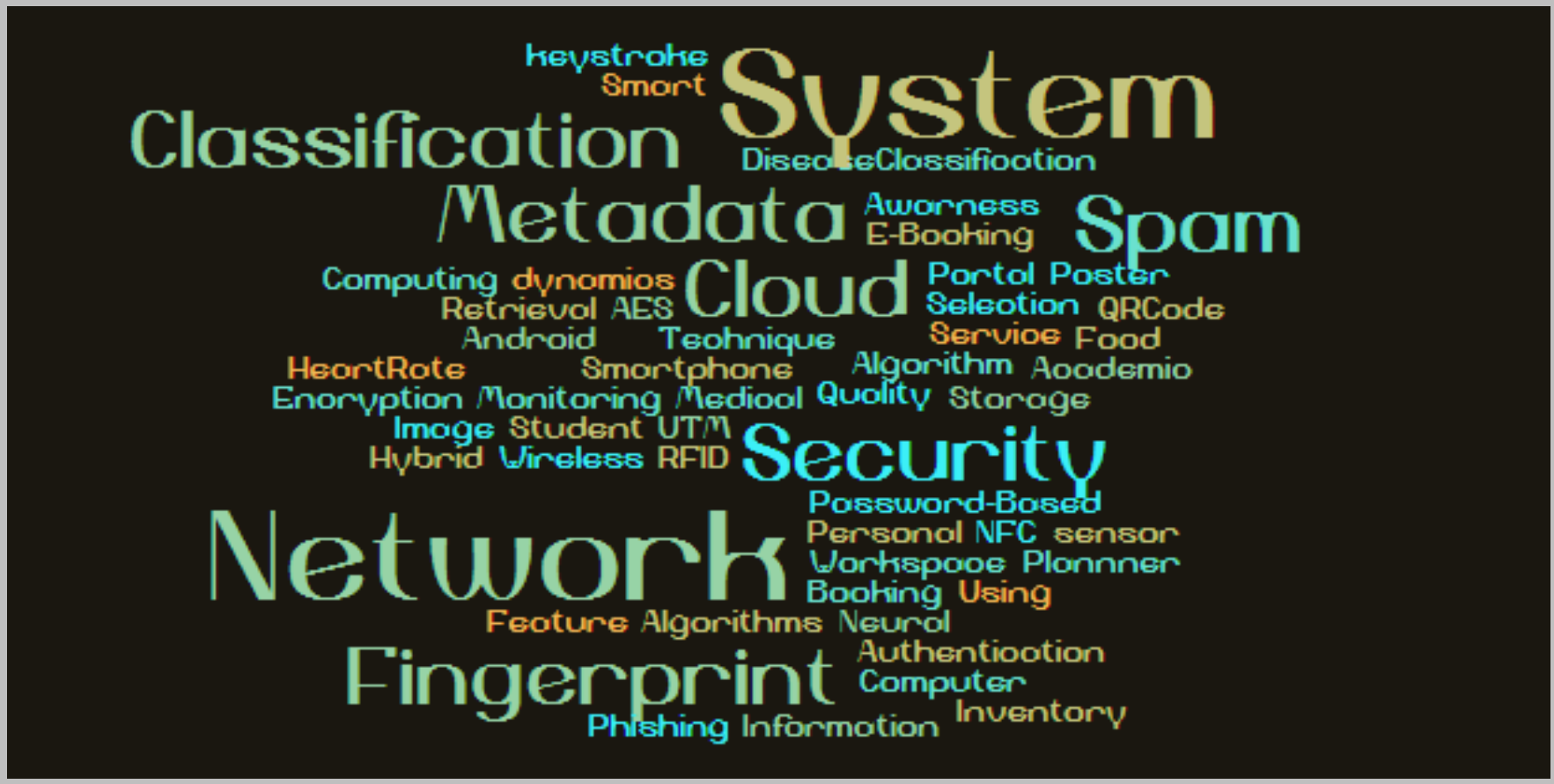
FINAL YEAR PROJECT (PSM)



AN OVERVIEW

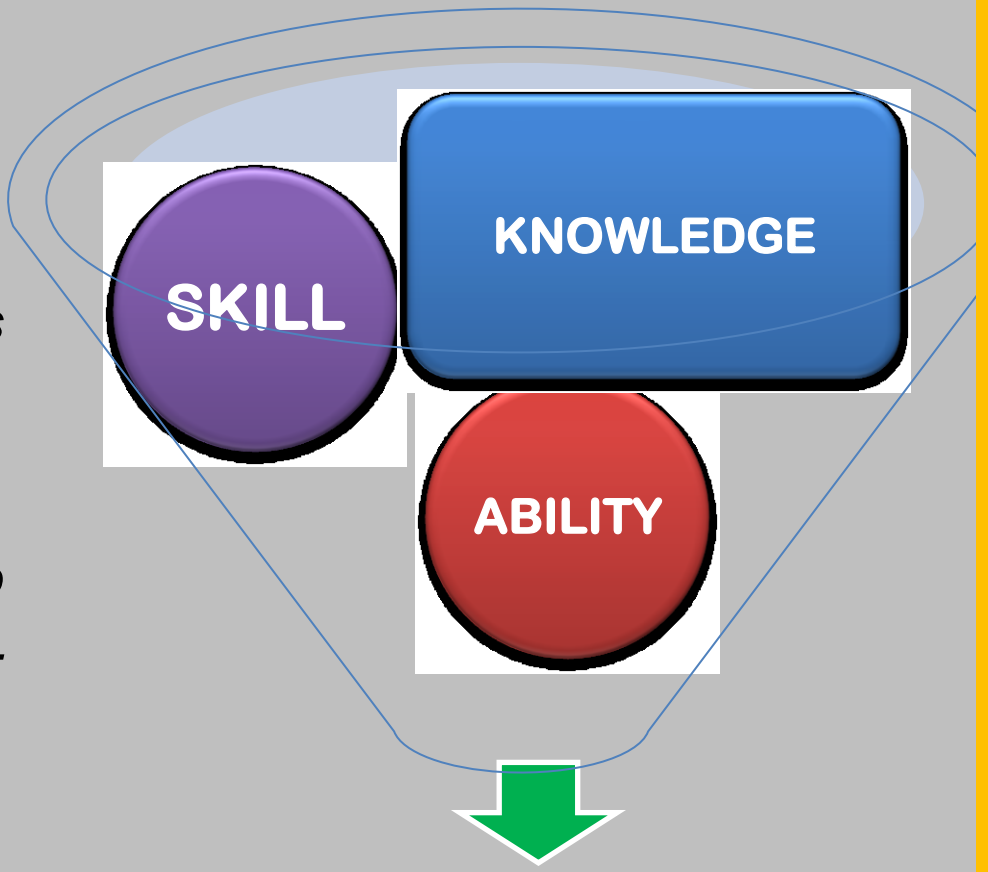
HazinahKM_Sem21617

PSM1
SCSR3032

PSM2
SCSR4134

PSM PURPOSE

To apply your knowledge , skills and ability to produce a good, well-designed, usable solution to a known problem.



FINAL YEAR PROJECT

- *Coding*
- *Time management*
- *Project management*
- *Discipline*
- *Communication*
- *Ethics*
- *Understanding*
- *Critical thinking*
- *Design*
- *User Interface*
- *Data Collection*
- *Data Search*
- *Data Storage*
- *Accessibility*
- *Availability*
- *Ease of Use*
- *Listening*
- *Researching*

.... and more

GENERIC INFO

PSM Website: http://comp.utm.my/psm/	• All info is here (forms, handbook, schedule, calendar, Thesis Writing Guideline, etc.)
FC Institutional Repository : http://ir.fsksm.utm.my/	• To view previously completed titles and thesis
PSM1 E-learning site (& PSM2 as well)	• Refer to this regularly, for updates and notifications.
The people	• Dr. Maznah Kamat ➔ CS PSM1 Coordinator • Ms. Hazinah KM ➔CS PSM1 Class & CS PSM2 Coordinator

PSM1
SCSR3032

Course Outline: Program Outcome

PO1(Knowledge Understanding)	• Ability to acquire and apply theory and principles of Computer Science and equip with social science and personal development knowledge.
PO3 (Solve Problems using Technical Knowledge)	• Ability to identify, formulate and solve real world network and security problems using current practices.
PO4 (CS-Communication)	• Ability to present technical solutions to a range of audience
PO5 (CTPS-Critical Thinking & Problem Solving)	• Ability to think critically and creatively in order to solve real world problem
PO7 (LL-Life Long Learning)	• Ability to undertake lifelong learning and actively participate in change
PO10 (EM-Ethical Moral)	• Ability to demonstrate behaviours that are consistent with the Code of Professional Ethics and Responsibilities

PSM2
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Course Outline: Program Outcome

PO1(Knowledge Understanding)	• Ability to acquire and apply theory and principles of Computer Science and equip with social science and personal development knowledge.
PO2 (Technical)	• Ability to design and construct computer programs using standard approaches
PO3 (Solve Problems using Technical Knowledge)	• Ability to identify, formulate and solve real world network and security problems using current practices.
PO4 (Communication)	• Ability to present technical solutions to a range of audience
PO5 (Critical Thinking & Problem Solving)	• Ability to think critically and creatively in order to solve real world problem
PO8 (Entrepreneurship)	• Ability to identify business opportunity and develop entrepreneurship skill
PO10 (Ethical Moral)	• Ability to demonstrate behaviours that are consistent with the Code of Professional Ethics and Responsibilities

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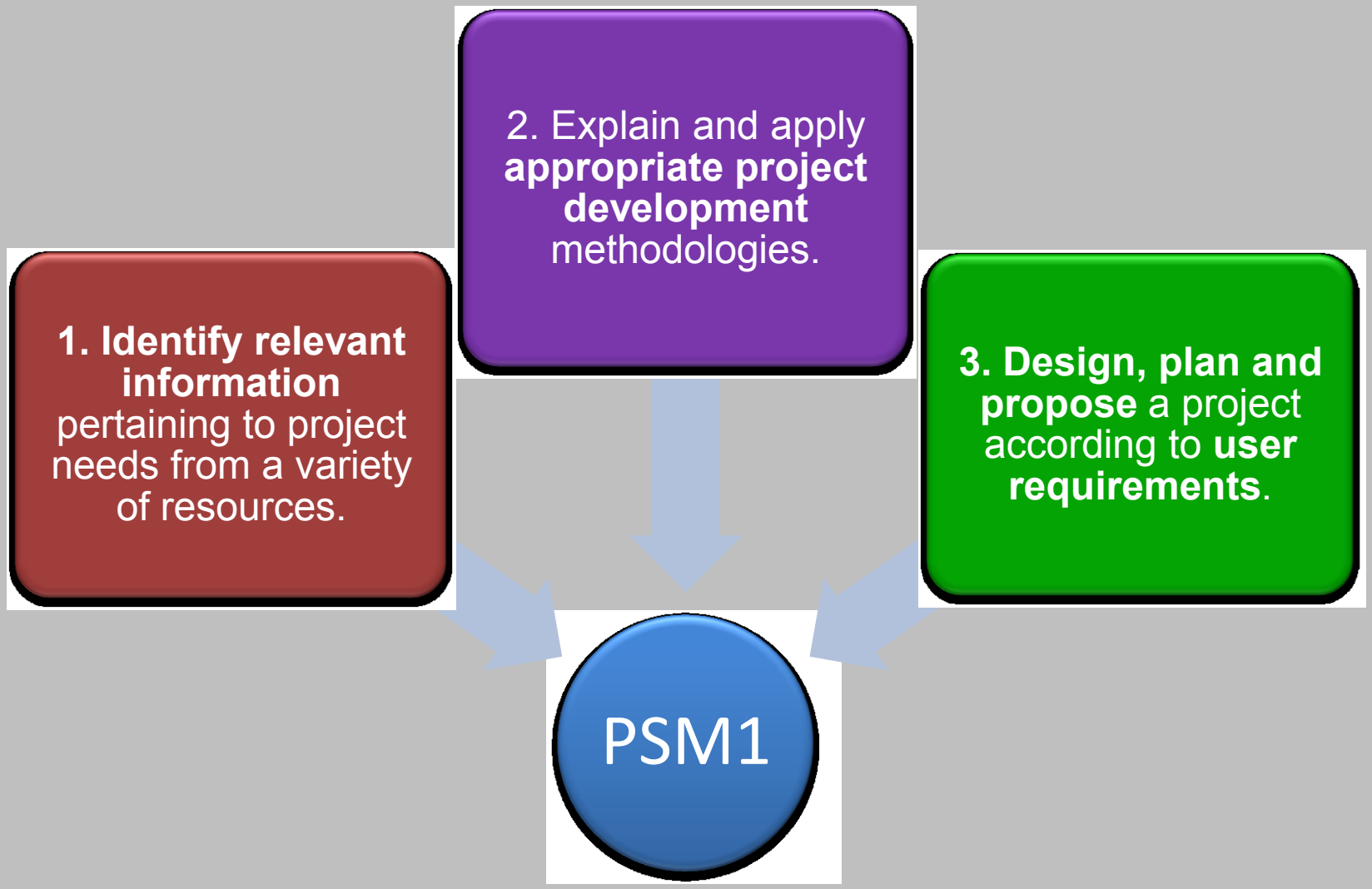
Course Outline: Course Outcome



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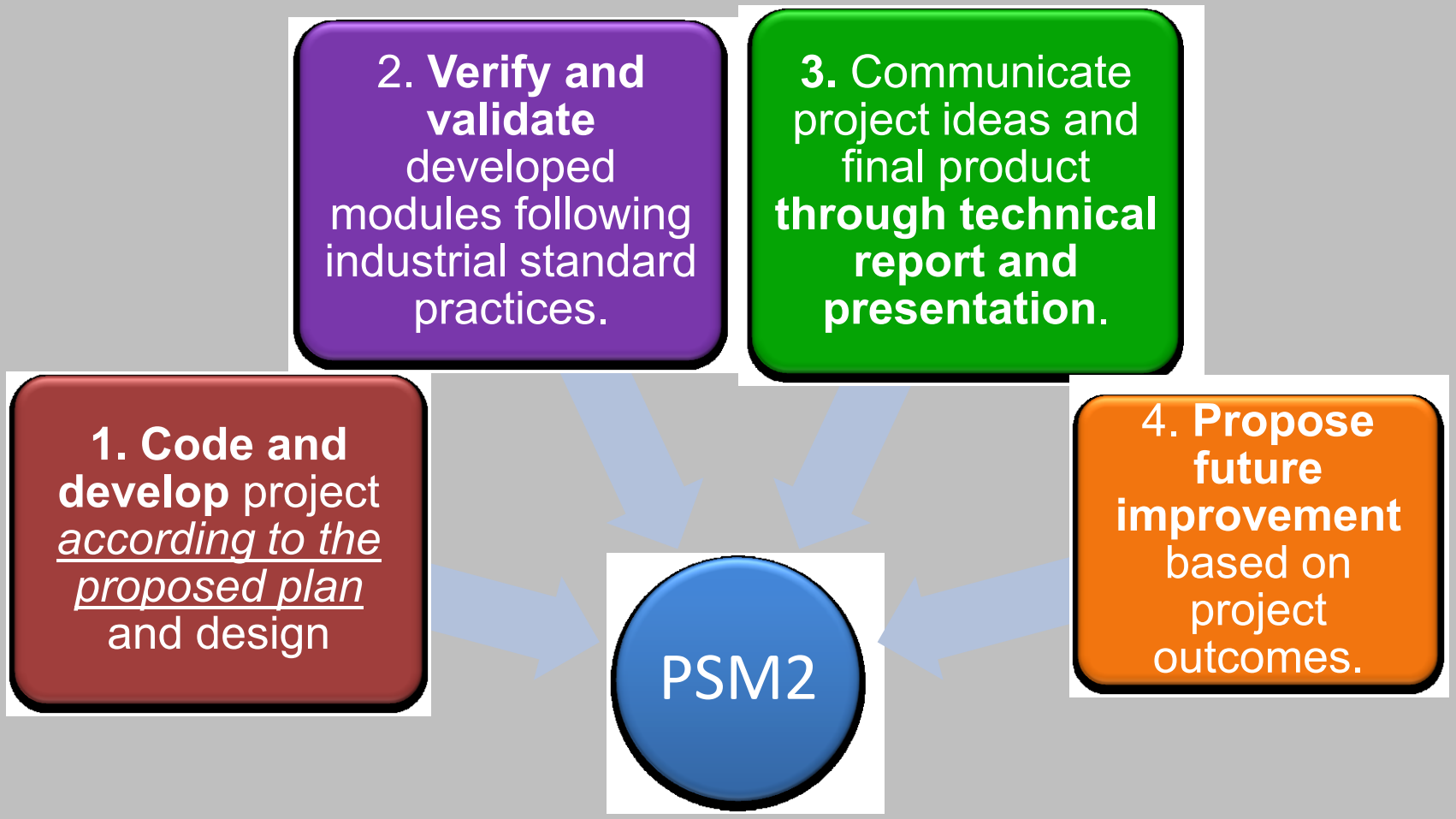
Course Outline: Course Outcome



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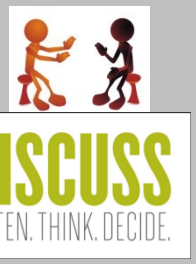
PSM1 Process Landscape

Register

Attend Briefing

Find : Project & SV



21Feb Submit Proposal

27Feb Interview

6Mar Resubmit Proposal

7May Submit Report Draft to SV

CORRECTION

18May Submit Report to Coord.

21-22May Presentation & Evaluation

CORRECTION

5Jun Submit Corrected to SV & Coord.

Note: Use appropriate Forms

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PSM SV and Project Types

- **Supervisor Tips**:
  - Find one early
  - Find one you can work with and easy to meet
  - Find one suitable in the area of interest/project
  - Discuss with them (the SV) first
  - If cross discipline, can have a co-SV

- **Project Types**
  - System Development
    - Resort E-Booking
    - Mobile App
    - RFID tagging
  - Research
    - Efficiency of Crypto Algo
    - Spam Detection Using Hybrid Clonal Selection

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PSM Requirements

- **Log Book**:
  - Must complete and keep up-to-date a logbook
  - Update at least after every meeting
  - **MUST have minimum 6 formal meetings** with supervisor before can submit and present project

- Network Security Projects **MUST** include elements of
  - **Network**
    - LAN, VPN, Wireless, Mobile, Client-Server, Servers (Web, Database), Cloud, etc.
  - **Security**
    - Access Control (Authentication, Authorization, Verification, Identification, Role Privileges) CIA, Firewall, IDS, Biometrics, Cryptography, Steganography, etc.

Please Note:
*-Password alone is **not enough security***
*-Localhost and emulators **not acceptable** (especially to get A)*

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PSM Good Practice

- *Follow standard practices*
- Practice writing everyday
- *Cite diligently, stay away from plagiarism*
- *Direct translation is plagiarism*
- *Have your reports proofread before submission*
- *Meet SV regularly, work smart, be ethical*
- *In formatting, always consult SV and handbook - not seniors' thesis*

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ANATOMY OF THE PROPOSAL

SV & Project Title	Title should reflect the project and be easily understood
Problem Background	**Problem Background**: Explain why there is that problem. How it came by. The weakness of a system or lack of a system. How it affect users, profit or whatever. Know who your users are.
Proposed Solution	**Proposed Solution:** How you propose to solve (or at least make very much better) the problem → a new technique, an upgraded system, etc.
Objectives	Should be measurable process or outcomes to be achieved by the project
Scopes	The coverage provided by the project – not too wide, not too narrow

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ANATOMY OF THE PROPOSAL

Project Requirements

What you are going to use in your project (do a little research here)

Software: Java, PHP, .Net, C#, SQL

Hardware: Android Phone, RFID Reader, Fingerprint Scanner, Server

Technology/Technique/ Method/Algorithm : Watermark, AES, DES, Feature Selection

New feature added

Network elements: Client/Server, Mobile, WSN, synchronization

Security elements: Password and password strength verification, Input/output verification, encrypted database, synchronization of database

Project Type

System Development OR Research

Project Area

What area is your project focusing on? Security, Collaborative systems, Mobile computing, Embedded system, System Development, VPN, etc.

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Exercise : Crafting a proposal

- **User**: Lecturer H
- **Consultant**: **Your group name here
- **Project**: Class attendance system
- **Project Requirement**: Must be accurate, cheap, quick, efficient and easy to use.

- **Task**: Write a proposal for this project to win the contract
- *Note: be creative, think outside the box if need be*

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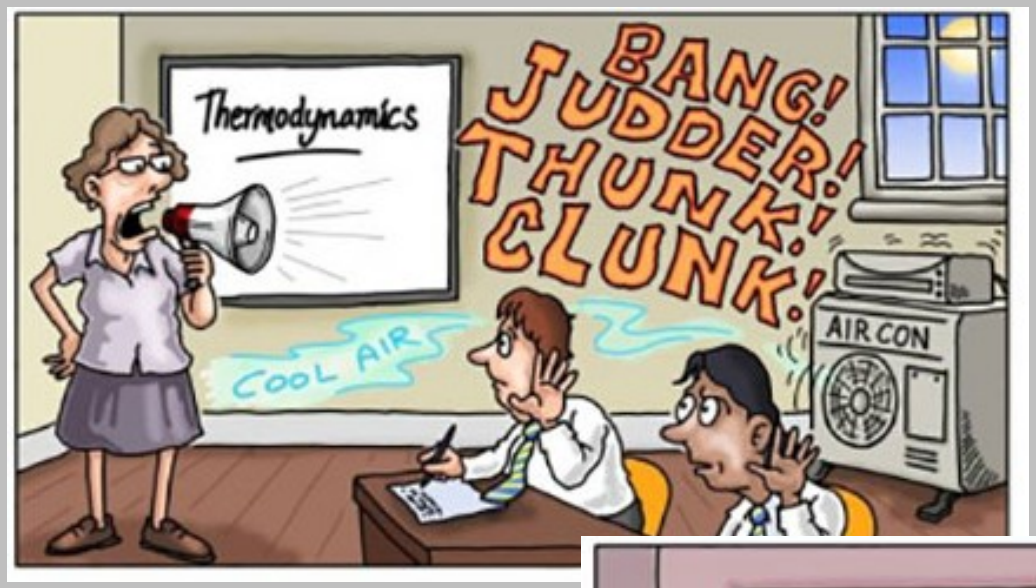
Exercise Review : Crafting a proposal

- What did you find to be most challenging?
- Is there more information you need? Where and how can you find it?
- Did you brainstorm many ideas before focusing on a winning idea?
- Do you think you can make the proposal better now?

Your Task:

Craft your own PSM proposal. Ready for discussion on the next class.

Interesting Way of Thinking

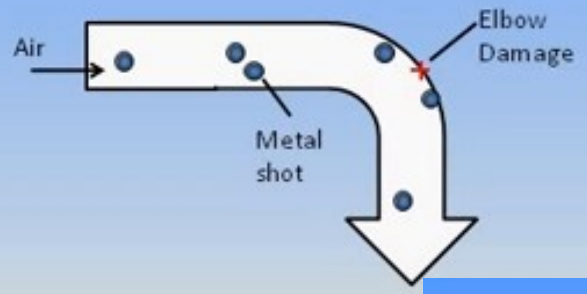


http://www.designorate.com/triz-method-problem-solving/

Example

Problem: a plastic pipe is used to transport metal shot. The shot are moved by the flow of high velocity travelling air.

Unfortunately the shot damages the plastic at the elbow and it wears thin. How can we solve the problem without replacing the pipe?

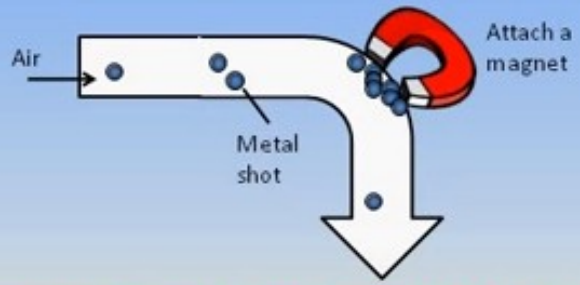


How would you solve this problem?

TRIZ Solution

(breakthrough solution based on how others solved similar problems before)

We are directed to eliminate the harmful action by using an available resource and adding a magnetic field (from the 76 inventive Standards 1.2.2 and 5.1.1.2).



The magnet attracts and forms a cluster of metal shot. The cluster of metal shot itself, protects the pipe being damaged and eliminates the erosion.

End of Class…Today

EXPLORE !