



# IMPLEMENTATION OF SAP STUDENT MANAGEMENT SYSTEM (SMS) AT UNIVERSITI TEKNOLOGI PETRONAS MALAYSIA



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- **Objectives**
- **Background**
- **SAP - Student Management System**
- **Implementation Experience**
- **Campus Mgmt Gap Assessment Study**
- **Moving Forward**

# Objectives

The objectives of this presentation are to:-

- ***Share system functionalities and implementation experience*** with the Higher Education and Research (HER) User Group Members; and
- ***Propose to include important SMS functionalities*** in Campus Management.

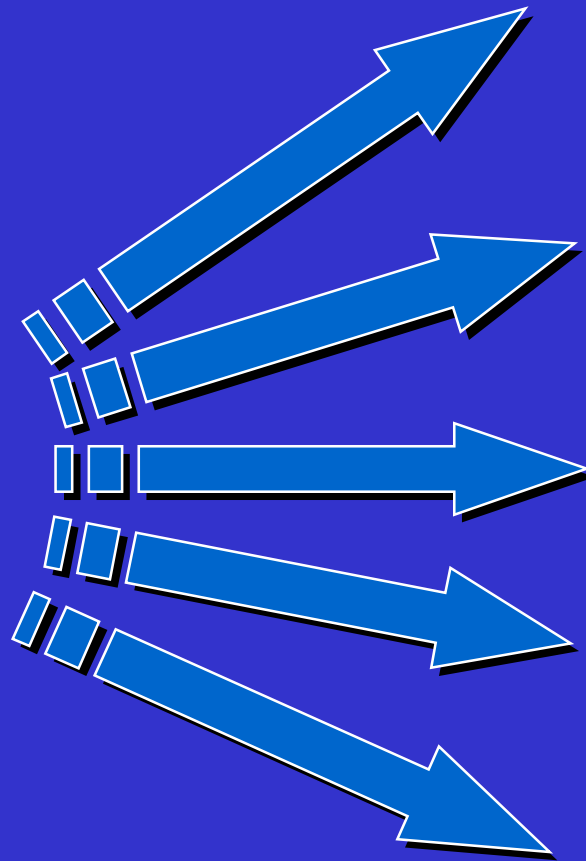
# Background

- PETRONAS, is an acronym to Petroleum Nasional Berhad, Malaysia
- It was incorporated on 17 August 1974
- PETRONAS is vested with the entire oil & gas resources in Malaysia and responsible to develop and add value to these resources
- It has operations in more than 20 countries around the world and owns over 100 subsidiaries and associated company. PETRONAS is also ranked number 51 in 1999 for profit among the Fortune Global 500 companies.
- PETRONAS other businesses include:-
  - Oil Refining
  - Natural Gas Processing
  - Natural Gas liquefaction
  - Marketing of Fertilisers and Petrochemicals



PETRONAS Education Business Division comprise of five Education

**PETRONAS**



Universiti Teknologi  
PETRONAS (UTP)

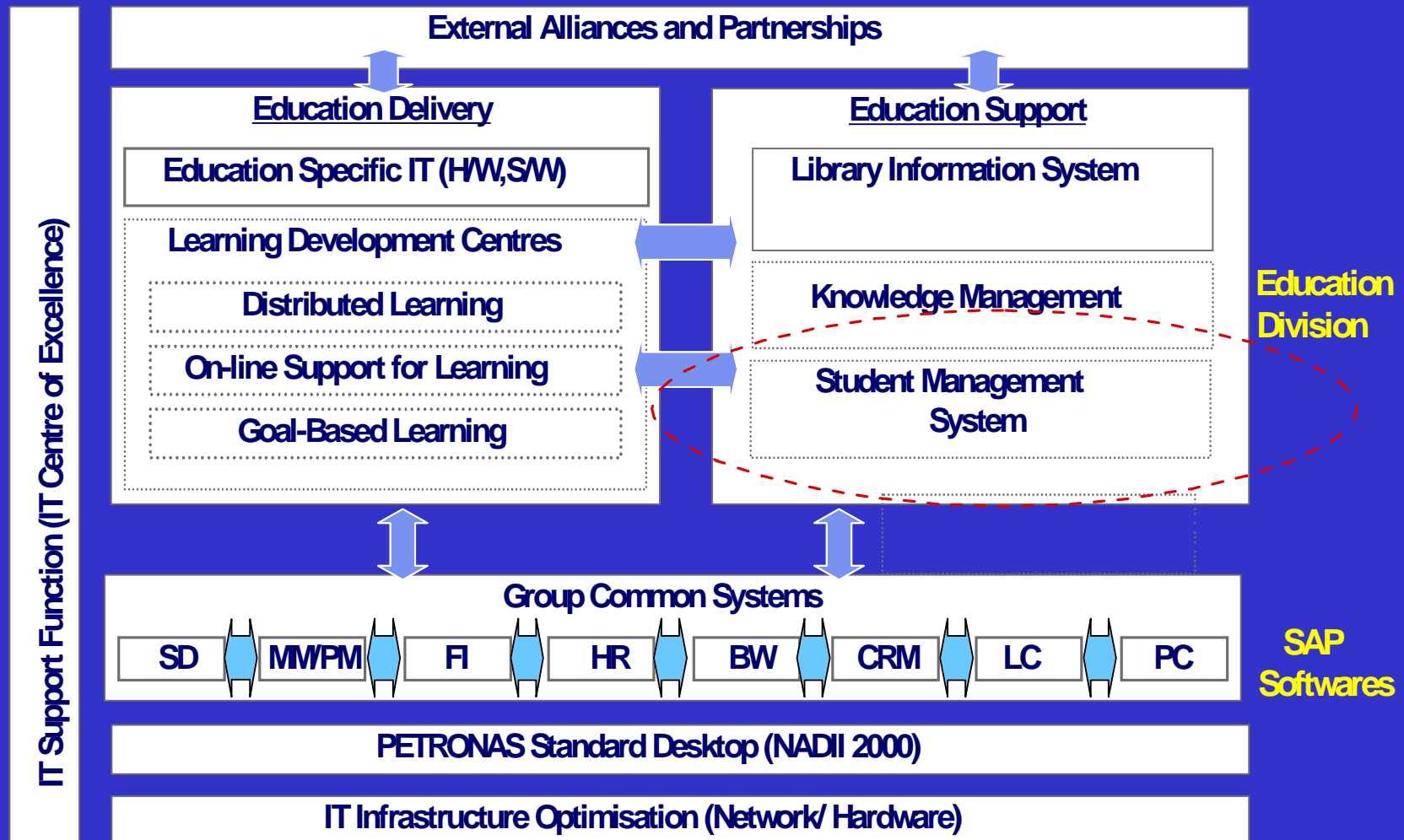
PETRONAS M'MENT  
TRAINING (PERMATA)

Education Sponsorship  
Unit (ESU)

PETRONAS TECH.  
PETROLEUM INSTITUTE  
(INSTEP)

MALAYSIAN MARITIME  
ACADEMY (ALAM)

PETRONAS utilises SAP as its Group Common System. SMS is a customised HR to manage UTP students' information.





# Introduction to Universiti Teknologi PETRONAS (UTP)

In line with its aspiration to share its knowledge and to support the nation education development, PETRONAS has established its own university known as UNIVERSITI TEKNOLOGI PETRONAS.



## What is UTP's Vision?

A Leader in  
Technology  
Education  
  
AND  
  
Centre for  
Creativity and  
Innovation

## What are the Mission Statements?

- UTP is an institute of higher learning. We provide opportunities for the pursuit of knowledge and expertise for the advancement of engineering, science and technology to enhance the nation's competitiveness
- Our objective is to produce well-rounded graduates who are creative and innovative with potential to become leaders of industry and the nation.
- Our aim is to nurture creativity and innovation and expand the frontiers of technology and education for the betterment of society.

**1995**

**JULY**

Start operations.

**1996**

**JULY**

Relocate to New Campus

**1997**

**JAN**

Invited by Ministry of Education to set up a university

**AUG**

Approved by Ministry of Education to run degree programs

**1998**

**JULY**

Expert Panel Workshop held to review programs and curriculum

**1999**

**FEB**

Visit by Board of Engineers Malaysia

**AUG**

Chemical & Electrical & Electronics Eng. accredited by National Accreditation Board

**OCT**

IT & Mech Eng. accredited by National Accreditation Board

**2000**

**NOV**

First IT Graduates

**2001**

**MAY**

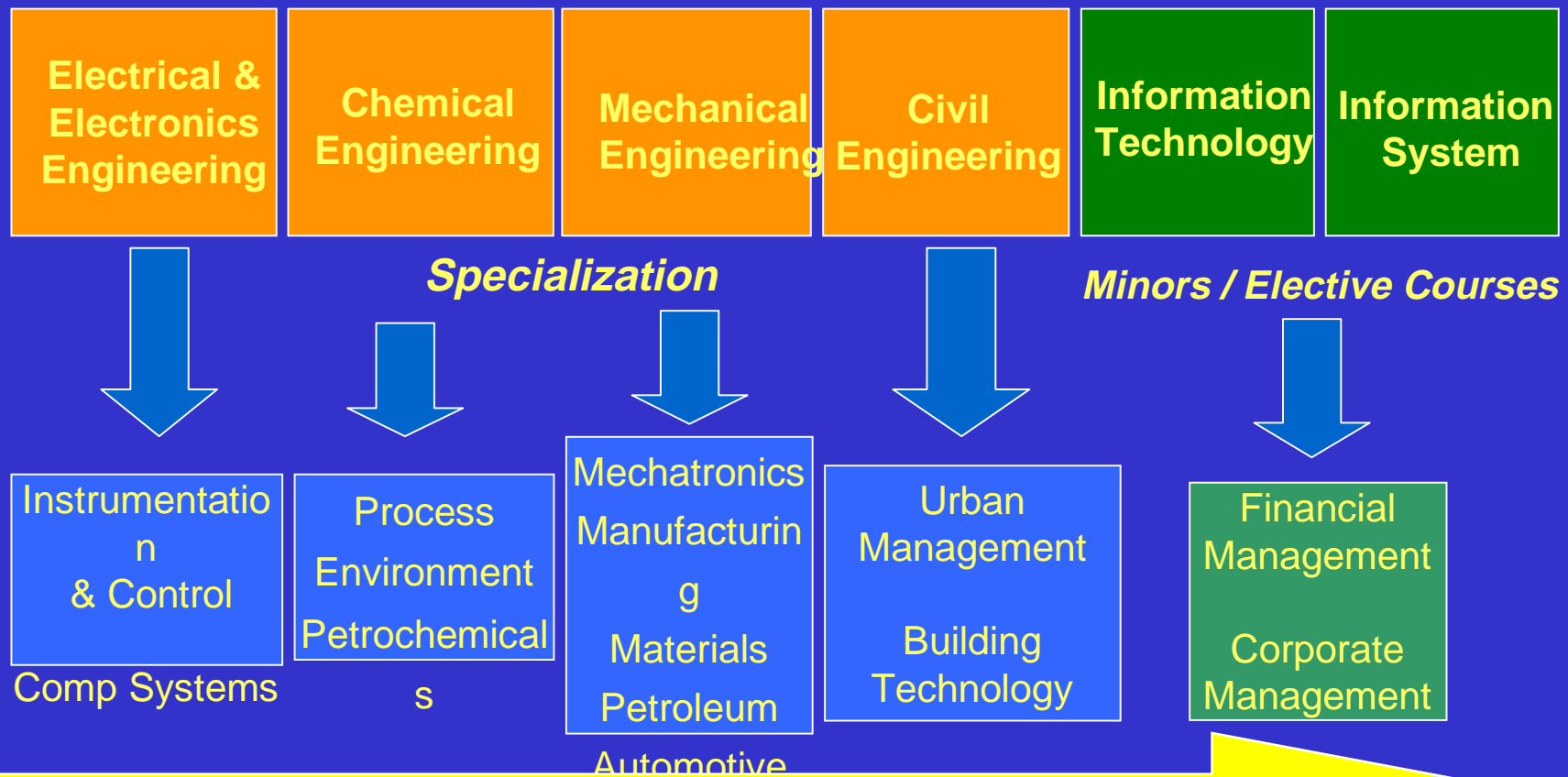
First Engineering Graduates

**AUG**

Inaugural Convocation

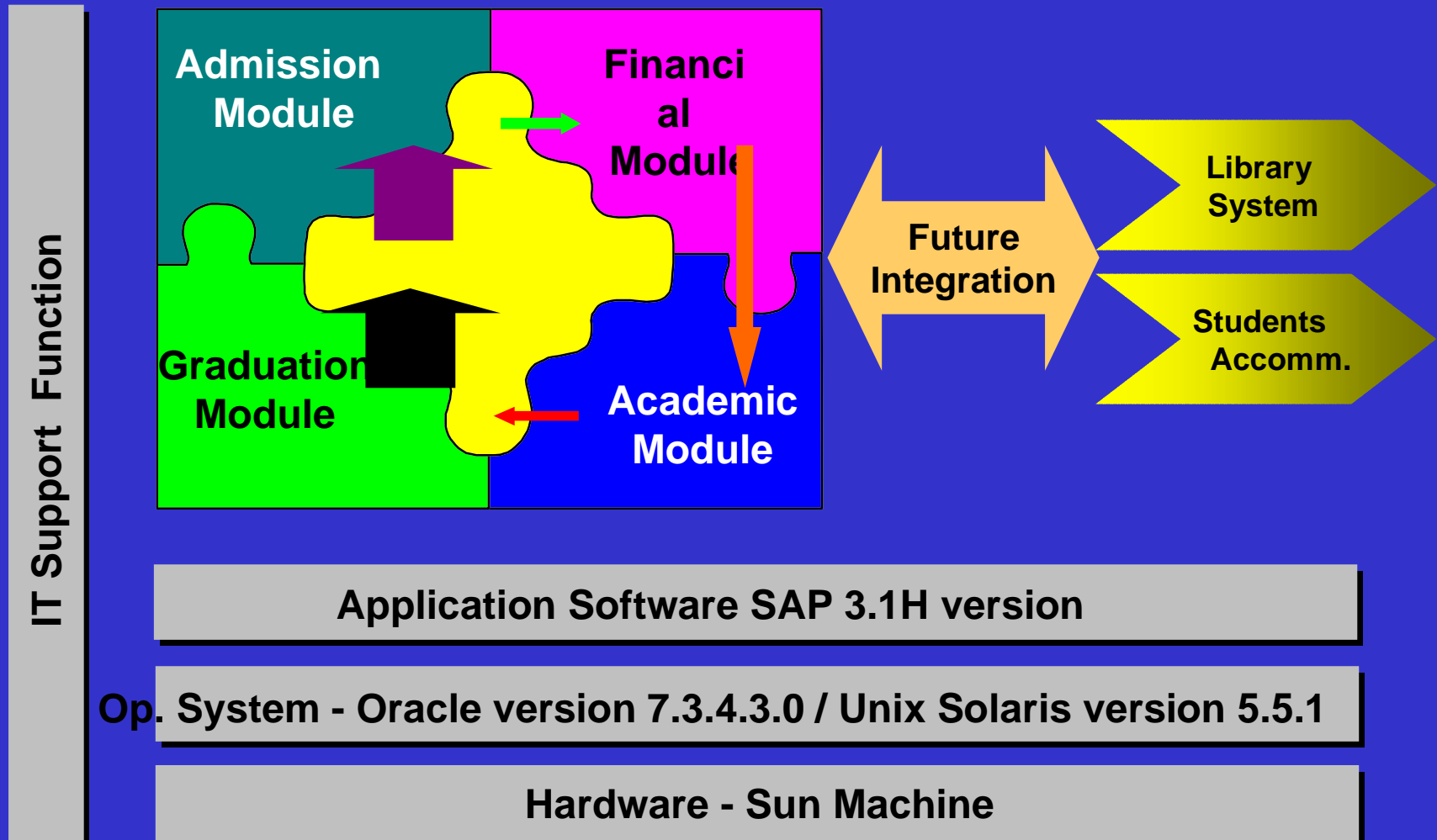
UNIVERSITI TEKNOLOGI PETRONAS offers a wide range of Engineering and Information Technology programmes for both Under Graduate and Post Graduate students.

## UNDERGRADUATES



POST GRADUATE (MSC & PHD) - BY RESEARCH FOR THE ABOVE PROGRAMMES

# SAP - Student Management System



SMS

Financial  
Module

Examination  
Module

AR

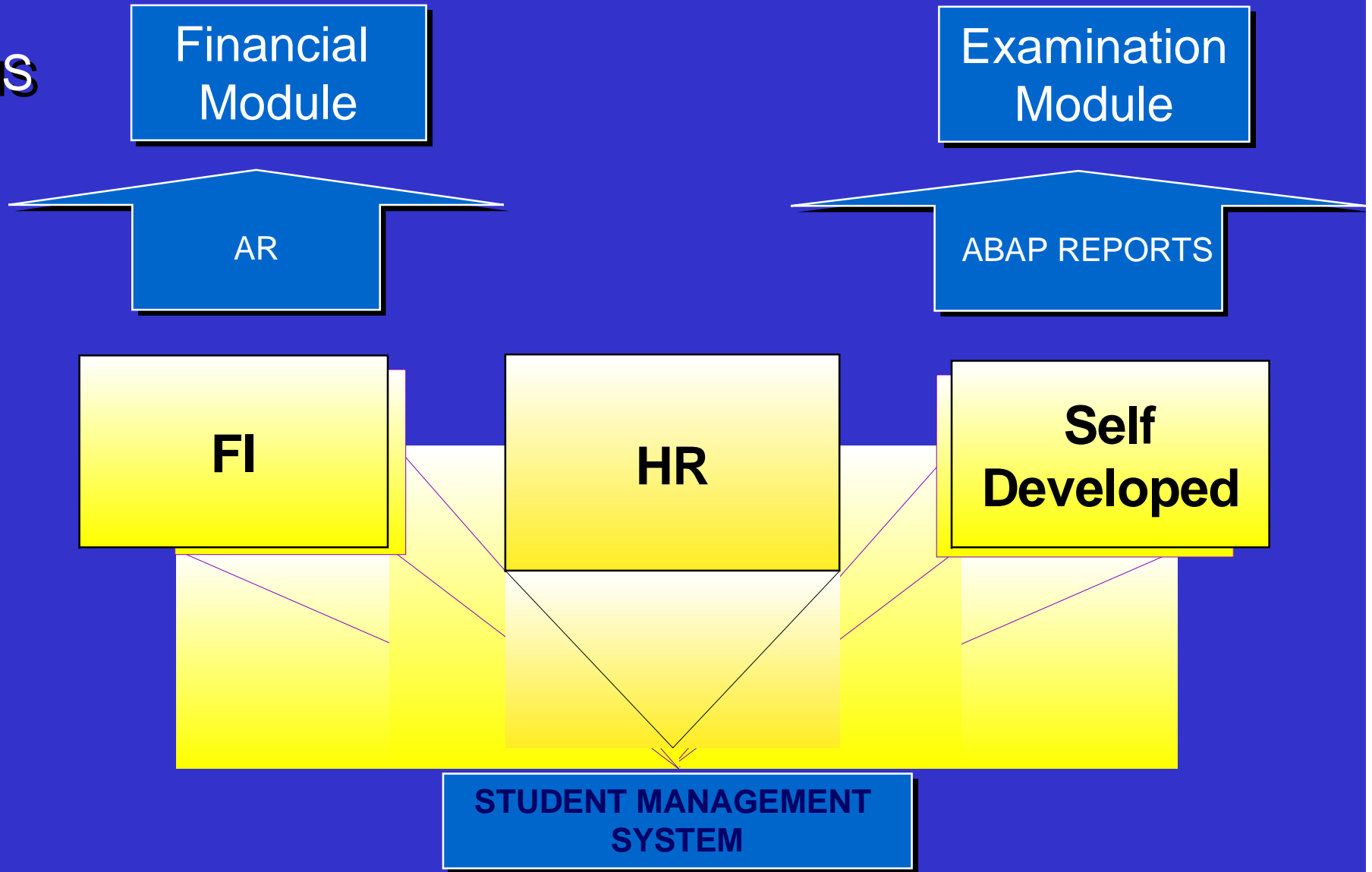
ABAP REPORTS

FI

HR

Self  
Developed

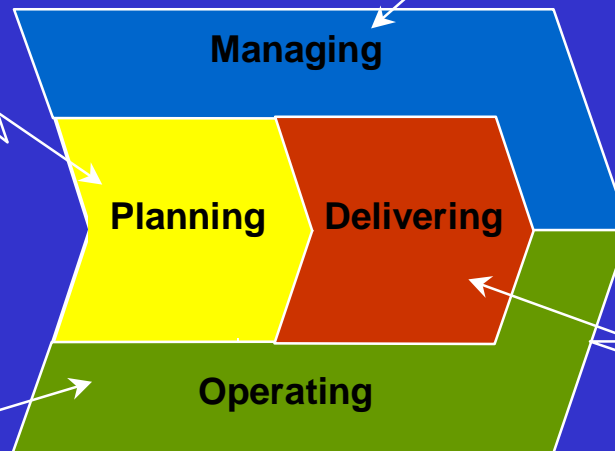
STUDENT MANAGEMENT  
SYSTEM



*Started as a management driven project. In 1999, the users have taken an active role in turning this project into a user-driven project.*

*In 1996 when UTP moved to current campus , the need for an integrated education management system was urgent.*

*Production began in 1997 with several enhancements. Currently SMS has moved into its second enhancements which focus on academic and student services modules*

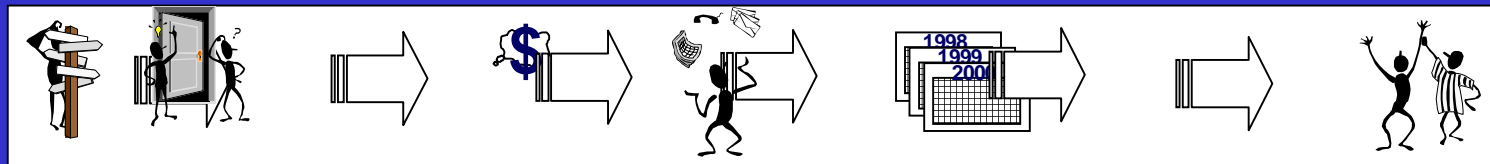


*PETRONAS SAP Business Support and UTP conducted structured approach in the design of SMS.*



SMS core Modules comprise of

## TYPICAL STUDENT LIFECYCLE



### Students Admission

- Application Processing
- Application Evaluation
- Status Correspondence

### Students Finance

- Manage Fees
- Manage Billing
- Manage Payment
- Manage Collections

### Students Records

- Academic Structure
- Student Registration
- Examination
- Student Progress

### Graduation Module

- Graduation Status
- Transcripts

With future integration :

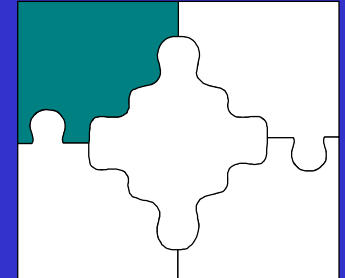


Library Systems

Students' Accomodation

Web enable application

## Admission Module Process Flow



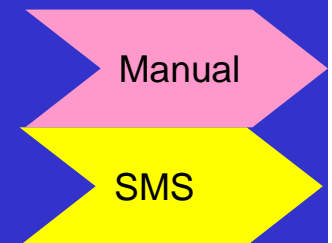
- Promotions, Roadshows
- Prospecting
- Nationwide advertisement

- Qualified candidates selected
- Concurrent interview sessions Nationwide
- Successful/ unsuccessful candidates notified

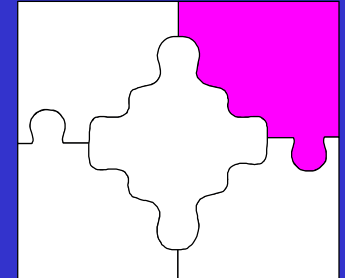
- Successful candidates ranked according to score
- Ranking based on entry exam results
- Ranking to facilitate selection

- Selection based on ranking
- The highest ranked candidates selected
- Successful/ unsuccessful candidates notified

- Generate Matrix # for students
- Registration payment linked to Financial module
- Generate list of students names for course registration



## Financial Module Process Flow

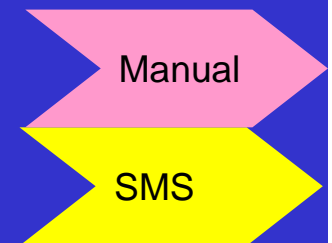


- Creation of Customer No.
- Charges are posted to respective customers' account
- Manage sponsor and students accounts.

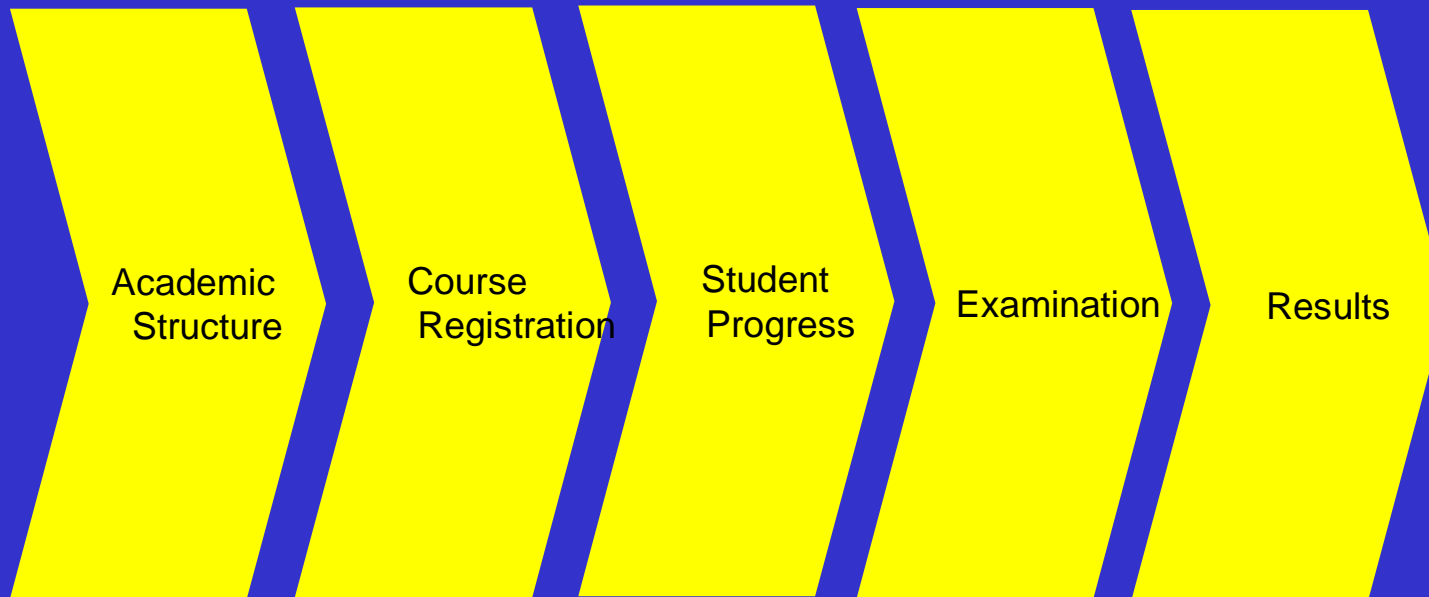
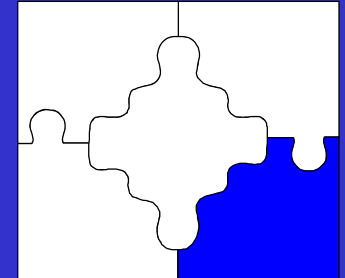
- Invoices are issued to respective customers
- Report students by sponsors is generated
- Income captured

- Cost of Living Allowances is disbursed via cheque or TT Transfer
- Refund of caution money

- Payment received posted to respective customers' account
- Issue receipts as prove of payment
- Generate Ageing Report to track overdue acc.



## Student Records Module Process Flow



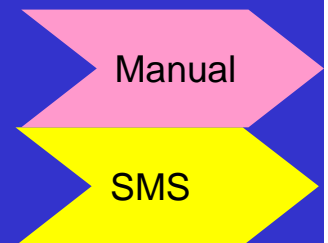
- Set up Academic structure
- Determine
  - courses offered
  - Lecturers
  - Pre-requisites
- Maintain tables
- Pre-determine grading scale
- Prepare schedule

- On-line course registration
- Registration by batch/individually
- Determine students' fees
- Generate class list
- Final class schedule generated

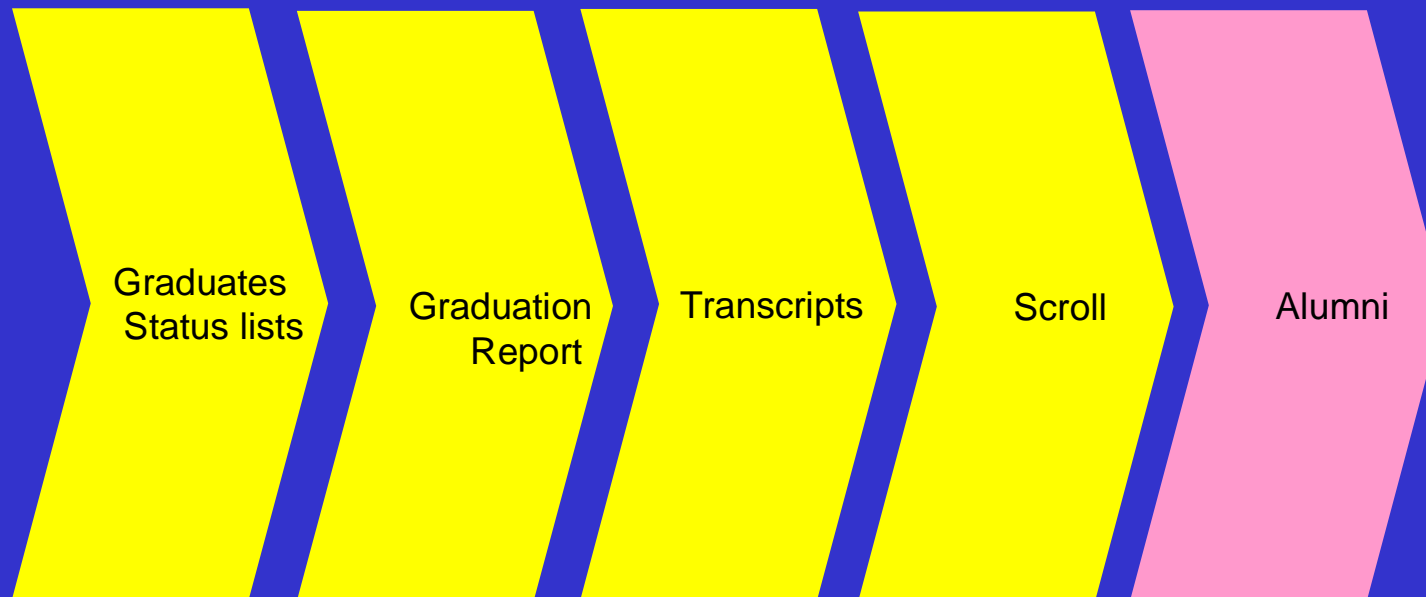
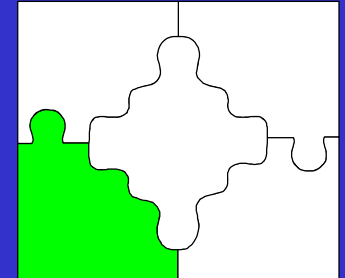
- Monitor student progress
- Continuous assessment
- Monitor student's attendance
- Capture student's monthly/weekly test

- Generate Exam ID
- Capture exam marks
- Generate results report
- Calculate Grade Point Average

- Produce students' results slips
- Results announced through web



### Graduation Module Process



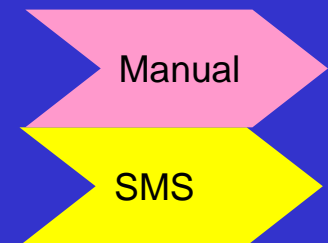
- Status of students who are eligible to graduate
  - credit fulfilled
  - credit yet to be taken
  - credit exempted

- Report on students eligible to graduate
  - based on program

- Transcripts generated for eligible students

- Scroll produced based on students' graduation status
  - eg First Class, Second Class etc

- Keeps records on UTP Alumni
  - Database on students Graduation list and list of employers



# Implementation Experience

The following are some of the experience and lessons learnt during the implementation of SMS :

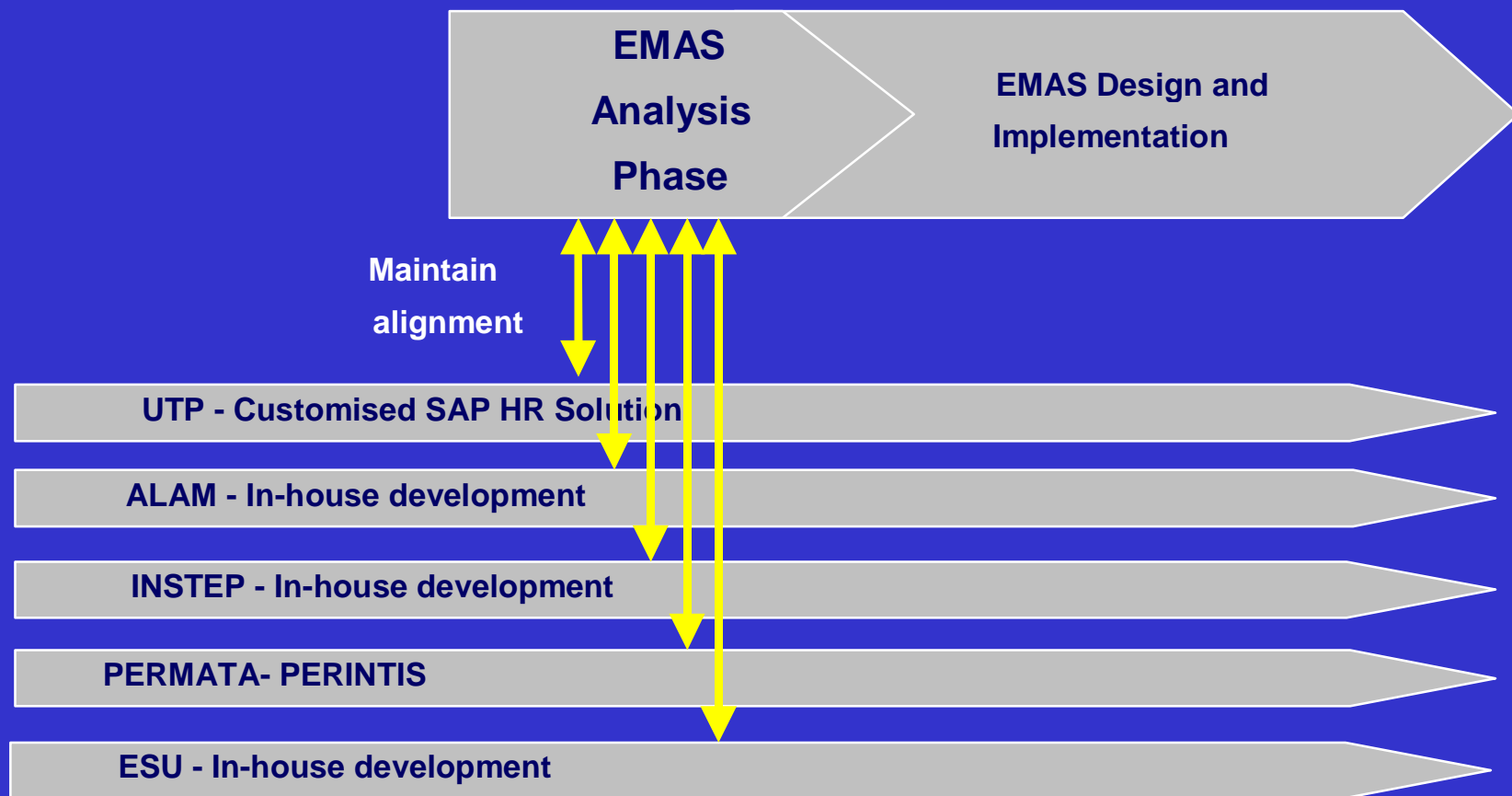
- Efforts were carried out to customise the Human Resource (HR) and Account Receivable (AR) module to suit UTP business requirements.
- System enhancement had to be carried out from time to time to further improve the functionalities and also to cater for new business requirements.
- Challenges in transferring the knowledge from one person to another.
- Dedicated IT support is critical to ensure the smooth running of the system.

# Campus Management Gap Assessment Study



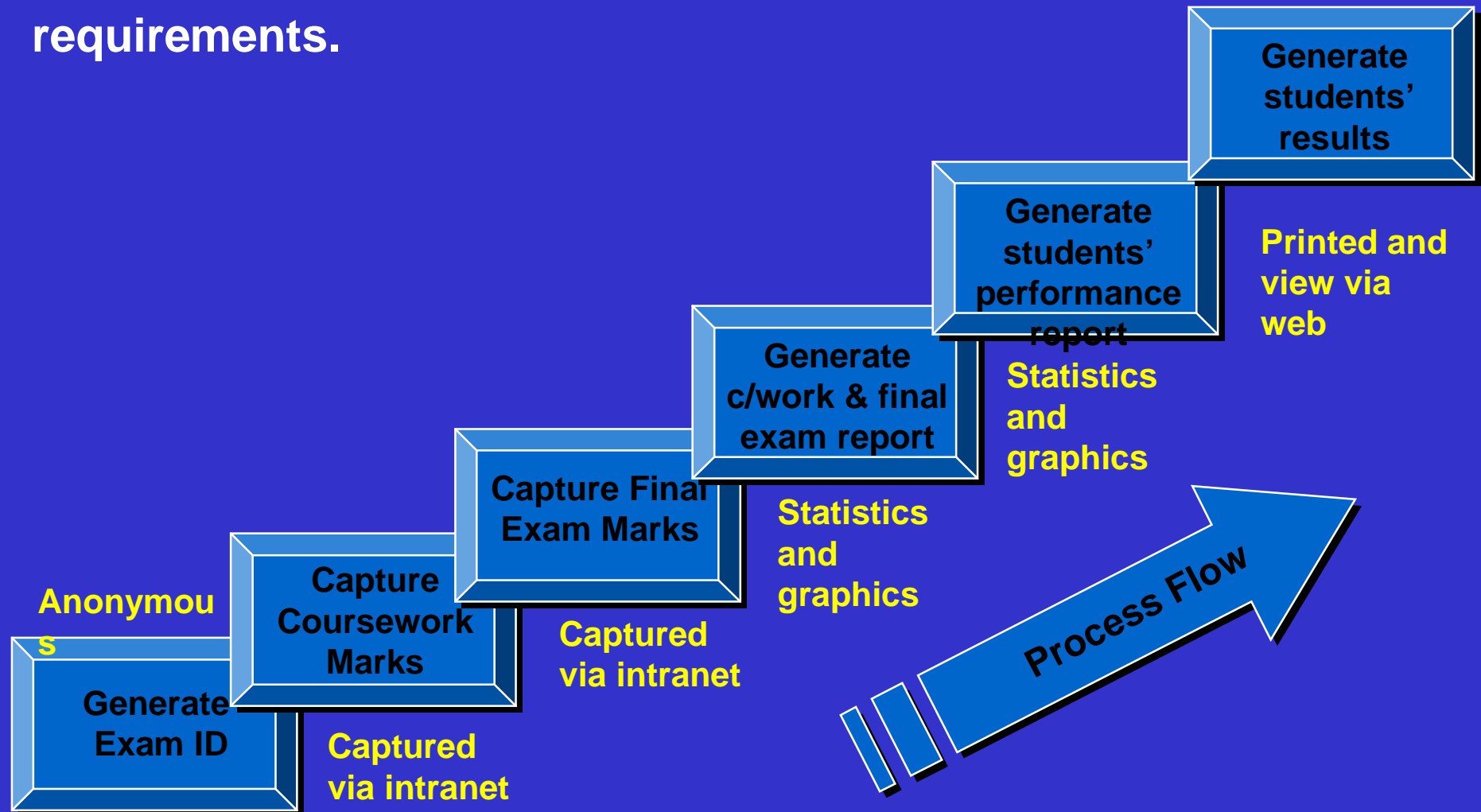
# Education Management System Project Campus Management Gap Assessment Study

Education Management System Project was to identify a system that can best cater for all Education Units needs





The SMS Examination module offers a complete examination module to cater for UTP business requirements.



Development Request on gaps identified which will be submitted:-

- ▶ Examination module