VCE IP&M

PowerPoint Problem Solving Activity

Possible methods

Students to complete the activity individually or in small groups

Or

Teacher guided activity with each section discussed and brainstormed on the board prior to students completing the relevant sections on the worksheets

Study design unit three

Information Processing
- Major stages associated with information processing
- Techniques and procedures to produce information efficiently and effectively
- Methods for organising and validating data to enhance its quality
- Techniques for representing the design of solutions
- Formats and conventions to suit different audience needs
- Factors affecting the suitability of information
- A problem solving methodology to develop solutions that meet the information needs of organisations

MS PowerPoint: Kallista College for the Gifted.

The Problem

Kallista College for the Gifted is a school with 400 students at year 11 and 12 level. Its role is to provide quality, up to date, academic education to its students.

Their main goal is to achieve a reasonably high profit in order to maintain and improve their facilities. One method to achieve this goal is to attract as many paying students as possible from Australia and overseas. They have a number of agents overseas who distribute information to overseas parents and students. The college also wishes to maintain a high academic standard in order to maintain their reputations as a successful academic college.

Their current marketing practice is that the Deputy Principle Frederick Einstein (who is also in charge of marketing and recruitment) sends fliers to overseas agents and feeder schools in the area to advise on fees etc. but on the whole, the school relies on word of mouth and previous students sending their children to the school, but it seems that the "alumni" have been sending their children to other private schools. There are yearly meetings of the alumni where information has traditionally been given in speeches, however the numbers attending have dropped over the last few years.

It has been raised at the school board meeting that enrolments are down for the year 2000 as compared to previous years. The School Board has instructed Margaret the she must take steps to improve the college's recruitment methods in order to attract the "right" type of students.

The School Board feel that the school's focus needs to shift from "elegant gentility" and old fashioned values and teaching, to something which will attract more parents to send their children to the school and indeed to attract the students themselves.

You have been brought in as a consultant to help Frederick produce a business presentation to Margaret and the board, to convince them to upgrade the Information Technology infrastructure in the school in order to attract more students and to provide the most up to date, quality education to their students.

You should also provide costings for the proposal to support the presentation. The school has recently been granted a bequest from an ex-student of $1 million, some or all of which can be allocated to the proposal (although Margaret would rather use it for the refurbishment of her office and some artwork for the boardroom)

At the moment Frederick gives his speeches using black and white overheads which are created by photocopying word-processed pages onto clear plastic sheets. Frederick goes

through his speech and identifies his main points, which he writes on paper and Germaine (the administrative assistant) types up and saves in word 6 and prints using a laser printer. Frederick checks the data after it is printed and if changes are needed he writes them on the print out and returns to Germaine for correction and reprinting. While this is adequate Germaine feels that it would be more efficient if Frederick typed the information himself and also more effective to produce colourful presentations with movement to reveal points rather than Frederick covering up parts of the overheads with bits of paper.

Frederick's Proposal ideas:

Albert Turing is the head of the information technology department and will coordinate the teaching staff in that area as well as a technician who will be a trained network Administrator and who will staff a Help desk for students and staff. (This extra wage needs to be taken into account. As part of the school fees, (currently $15000 per year) all students will be provided with a state of the art laptop computer with network capabilities and there will be network and Internet access for all students in each classroom. There will also be provision for students to project work on screen and share information from a shared network drive. (Note: Albert wanted to implement these changes in the last year or so but hasn't said too much about it because Margaret says that "...computers are for secretaries and our students will be managers)."

Germaine Gates is the college administrative assistant and has completed a diploma of business (Information Technology).

Kay Picasso works in the Art and Design department and is highly qualified in graphic design and visual communication using computers. Kay would like a class set of large (17" - 20") monitors in order that students can do compositing and design work on a large format rather than on a laptop screen. Her Head of Department is Mary Casat.
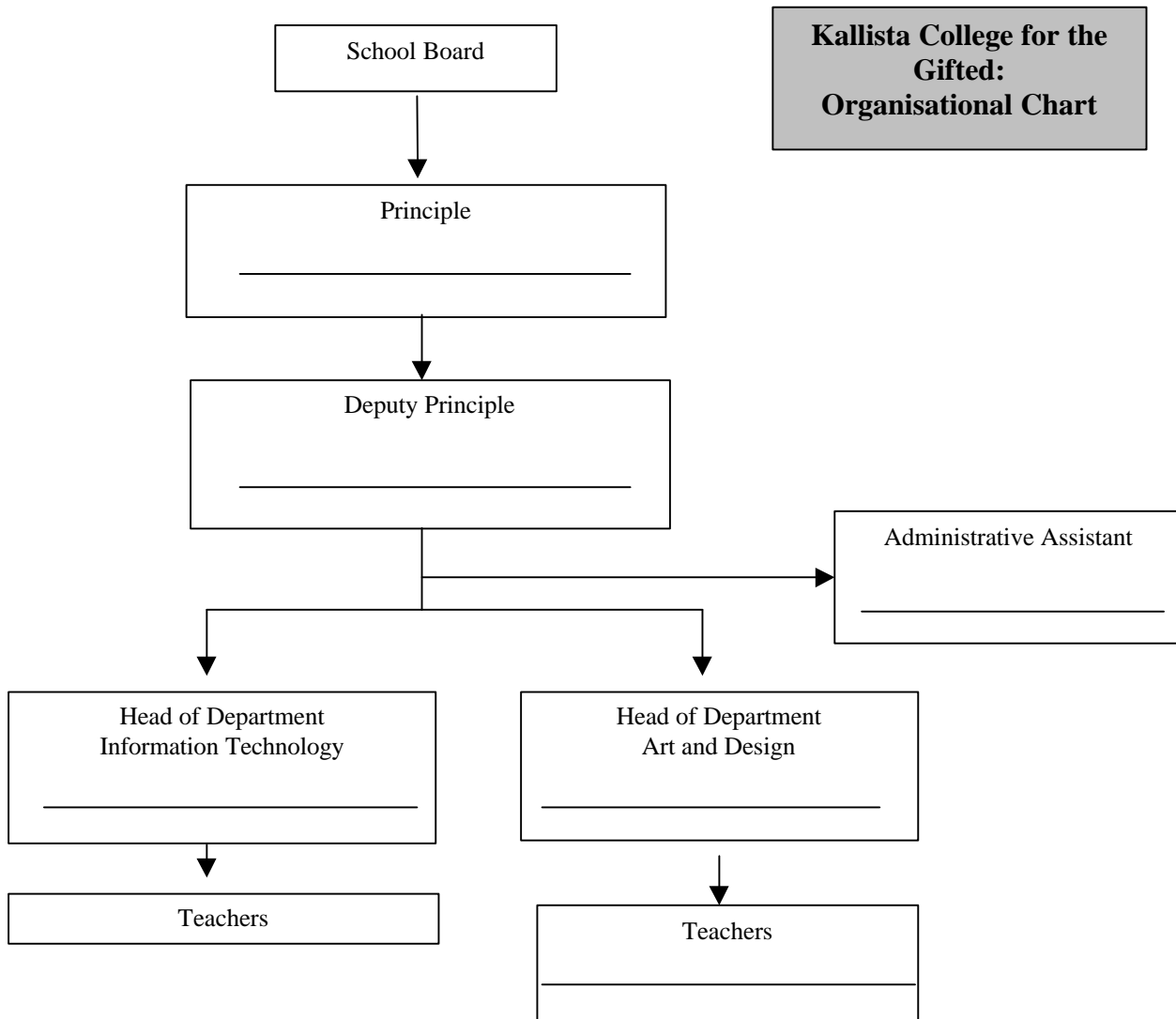
Kay and Germaine are interested in producing information on a school web site for students and for parents and Albert is looking into publishing some on-line tutorials and class notes so students could study from home etc.

Describing the organisation and the problem.

What is Kallista's role in society? What are they there to do?
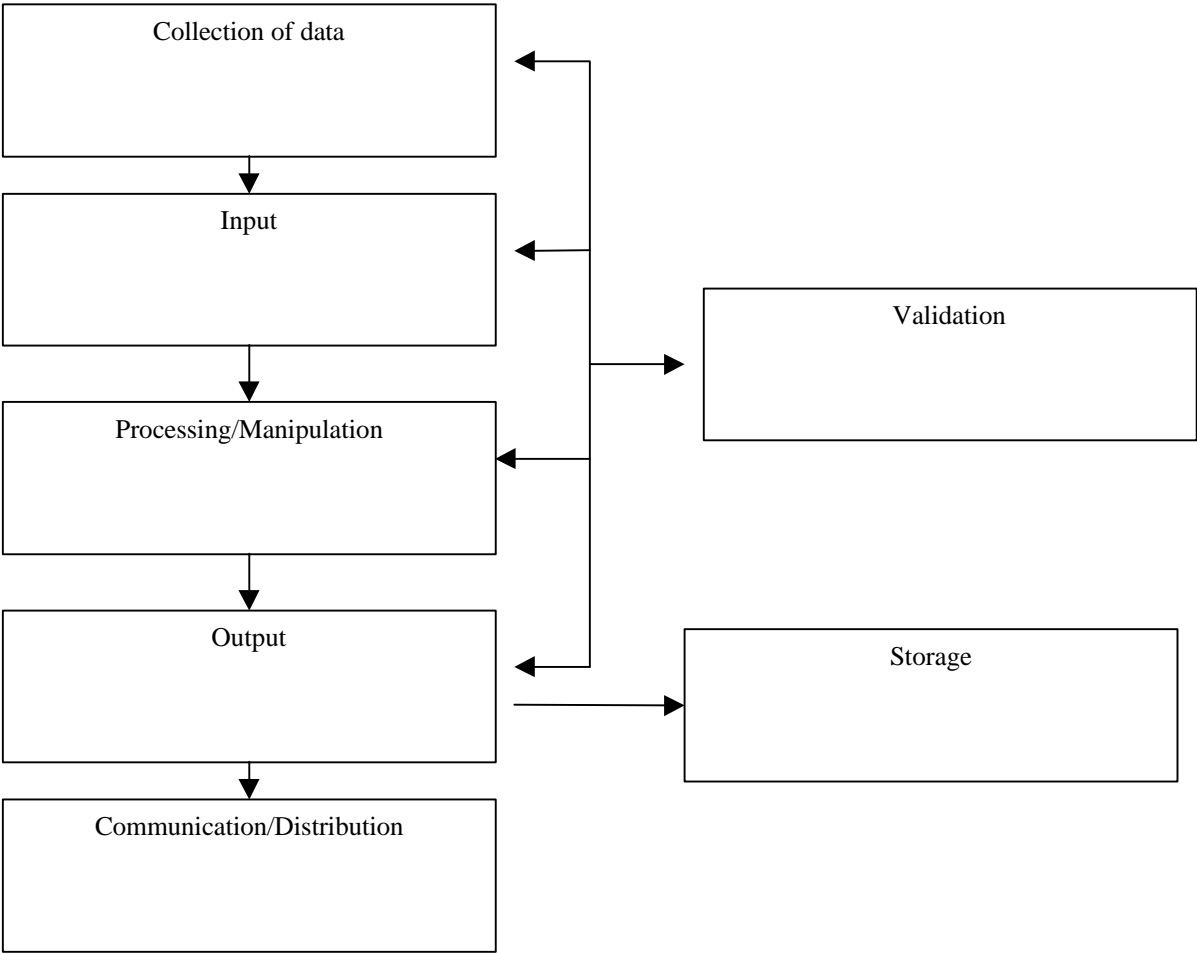
_____

_____

_____

What are Kallista's organisational goals?

_____

_____

_____

Who works at Kallista? Fill in the organisational chart below.

```
┌─────────────────────┐        ┌───────────────────────────┐
│    School Board     │        │ Kallista College for the  │
└─────────────────────┘        │         Gifted:           │
          │                    │    Organisational Chart   │
          ▼                    └───────────────────────────┘
┌─────────────────────────────┐
│          Principle          │
│  _____  │
└─────────────────────────────┘
          │
          ▼
┌─────────────────────────────┐
│       Deputy Principle      │
│  _____  │
└─────────────────────────────┘
          │                              ┌───────────────────────────┐
          ├─────────────────────────────▶│  Administrative Assistant │
          │                              │  _____  │
          │                              └───────────────────────────┘
     ┌────┴─────────────────────────┐
     ▼                              ▼
┌──────────────────────┐   ┌──────────────────────┐
│ Head of Department   │   │ Head of Department   │
│ Information Technology│   │   Art and Design     │
│ _____ │   │ _____ │
└──────────────────────┘   └──────────────────────┘
     │                              │
     ▼                              ▼
┌──────────────────────┐   ┌──────────────────────┐
│      Teachers        │   │      Teachers        │
└──────────────────────┘   │                      │
                           │  _____  │
                           └──────────────────────┘
```

Who will operate the hardware and software used to produce the information? How is this different to how it was done previously?

_____

_____

_____

Who are the users of the information? (Who will gain from this information?)

_____

_____

_____

How are they currently doing the task? (Current procedures) Complete, as far as possible, the following chart.

```
┌─────────────────────────────┐
│      Collection of data     │
│                             │◄──────┐
└─────────────┬───────────────┘       │
              ▼                        │
┌─────────────────────────────┐       │      ┌─────────────────────────────┐
│            Input            │◄──────┤      │          Validation         │
│                             │       ├─────►│                             │
└─────────────┬───────────────┘       │      └─────────────────────────────┘
              ▼                        │
┌─────────────────────────────┐       │
│    Processing/Manipulation  │◄──────┘
│                             │
└─────────────┬───────────────┘
              ▼
┌─────────────────────────────┐              ┌─────────────────────────────┐
│            Output           │◄─────────────│           Storage           │
│                             │─────────────►│                             │
└─────────────┬───────────────┘              └─────────────────────────────┘
              ▼
┌─────────────────────────────┐
│  Communication/Distribution │
│                             │
└─────────────────────────────┘
```

What technology (Hardware and Software) did they use previously to process the information and what will they use now?

	Then	Now
Input		
Processing		
Output		

Why is the new equipment (Hardware and/or software) the best to use to solve the problem?

_____

_____

_____

_____

What are the system goals? (What does Germaine hope to improve by the changes being proposed?) How will the changes that Germaine is proposing increase efficiency and effectiveness?

Efficiency

_____

_____

Effectiveness

_____

_____

What sort of data will the needed by Frederick to produce an effective presentation?

Type of data	Yes/No
Alphanumeric	
Graphics/Images	

What are the main areas of content Frederick needs to present to this particular audience? For example - Explanation of the benefits of a network or costings on laptops. Why are these areas important for this particular audience to achieve Frederick's goal? Fill in the table below.

Content Area.	Why Important to achieve the goal.
Example: Explanation of technical terminology - i.e. network, laptop, internet	Because the audience is not computer literate and may not know what these terms mean.

Why does the information presented by Frederick need to be clear, accurate and complete? Give examples to support your answer.

Clear

_____

_____

_____

_____

Accurate

_____

_____

_____

_____

_____

Complete

_____

_____

_____

_____

_____

Procedure timeline/flowchart

You wish to be employed to produce a solution to Kallista's problem. In order to be awarded the contract you need to show Kallista the steps you will be taking in order to solve the problem. In each box include who, what and how, where appropriate.

Collecting data on which to base your solution i.e. Interviewing Frederick and collecting data about the target audience		**Validating the solution**
Input data		
Processing		**Testing the solution**
Output		**Storage and security**
Communication/Distribution		
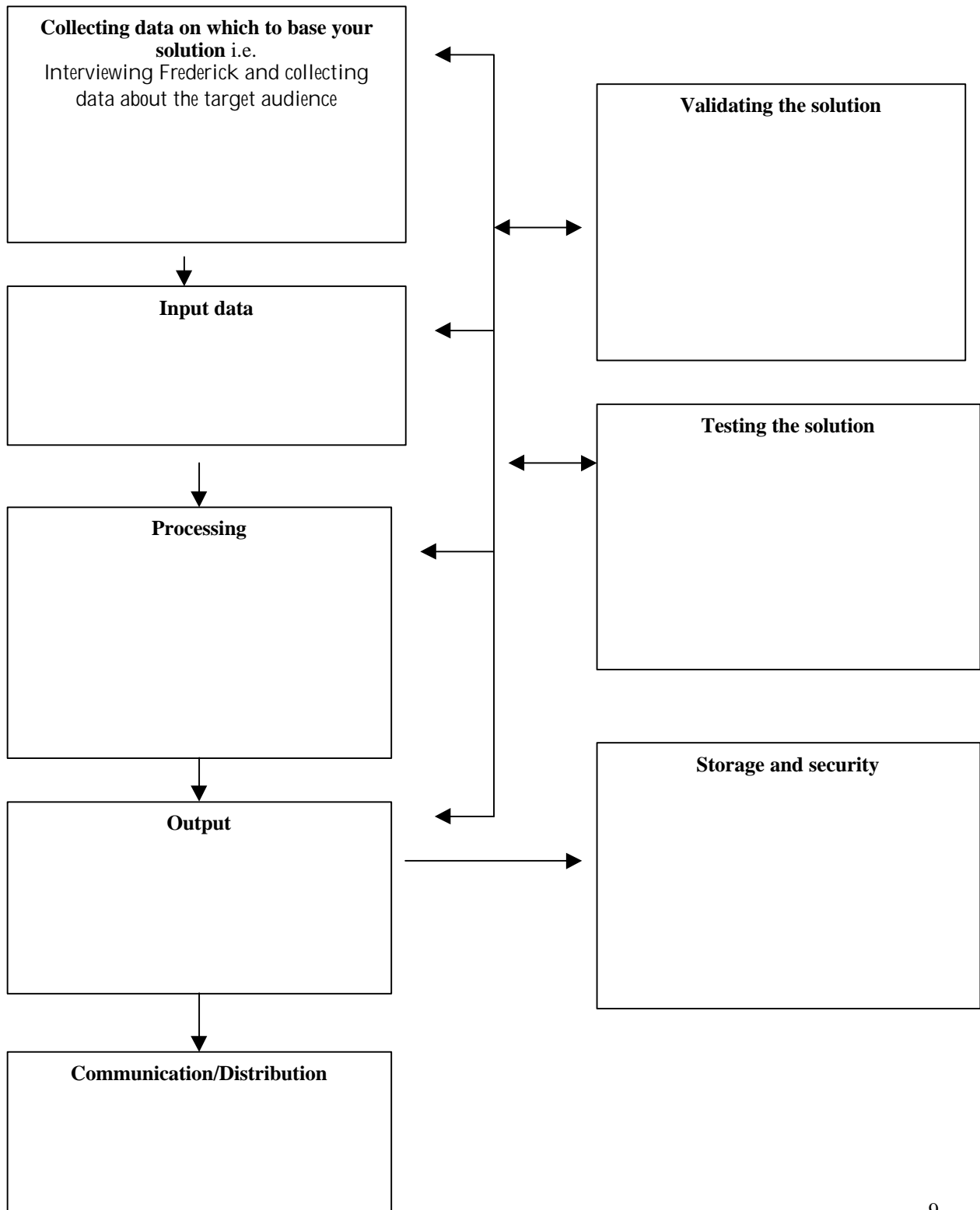
A **Gantt Chart** is another approach to managing your project. Plot the major tasks you would need to complete to solve the problem (as in the timeline above) against the time you have to complete the project. (As set by your teacher) Sessions represent a 40-minute class.   You might like to produce the chart on butcher's paper or A3 in order to fit it all in or use a computer application such as Microsoft Project or Excel.

Task	Session 1	Session 2	Session 3	Session 4	Session 5	Session 6
Collect Data Interview/ Collect Costings	Interview / Costings					
Design		Hand Drawn				
Input						
Process						
Validation		Check costings				
Testing		Test Designs				
Output						
Storage						
Security						
Communication/ Distribution						
Dates						

The boxes represent the start and finish times of your tasks. The more you break down the tasks the more useful the chart will be.

Designs: Frederick's Presentation

Design the content of Frederick's slides:

Slide	Heading	Subheading(s)
Title	IT Upgrade Presentation	▪ To upgrade or Not to Upgrade? ▪ That is the question ▪ By Frederick Einstein
1		
2		
3		
4		
5		
6		
Ending		

Design the look of Frederick's slides
Example Background/Master:
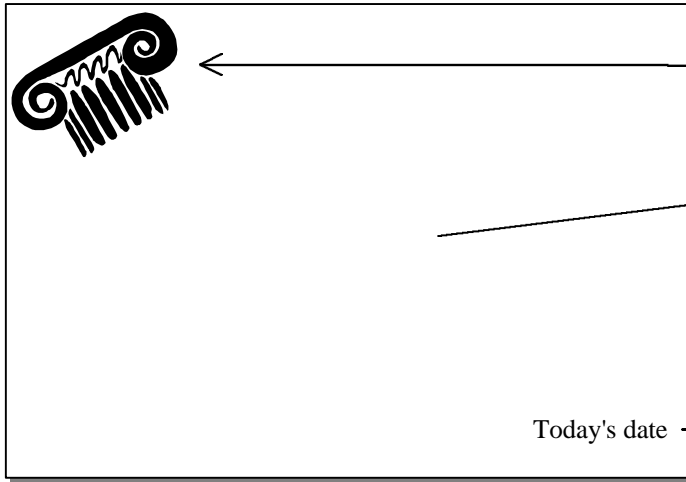
	Kallista Logo in background
	Background dark blue with gold text. Faded text pale blue.
Today's date	Date pale blue in background

Example Title Slide with movements and timings

IT Upgrade Presentation

To upgrade or not to upgrade?
That is the Question

By Frederick Einstein

Today's date
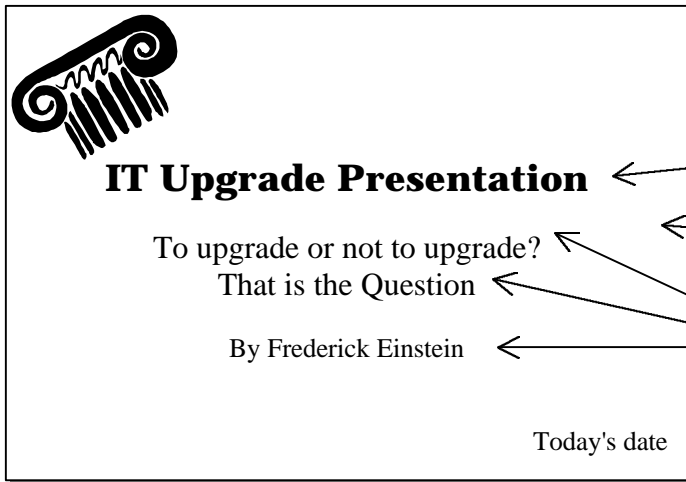
Main title dissolve in 3 seconds
Slide Blue background. Fade in from black 2 seconds
Fly in from right 3 seconds each
Total time 14 seconds dissolve to slide 1

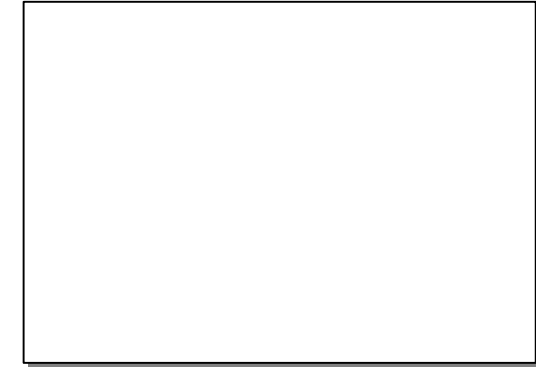**Your Background/Master**

Title
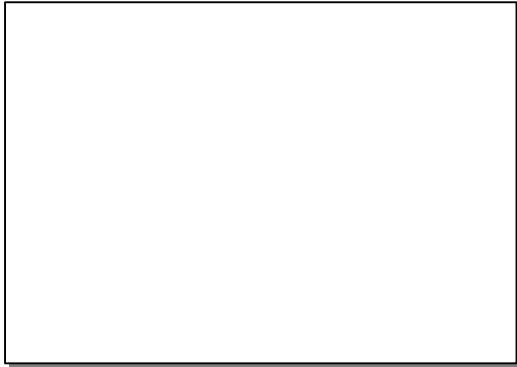
Slide 1
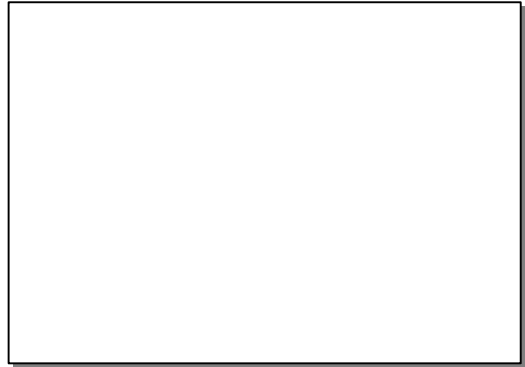
Slide 2
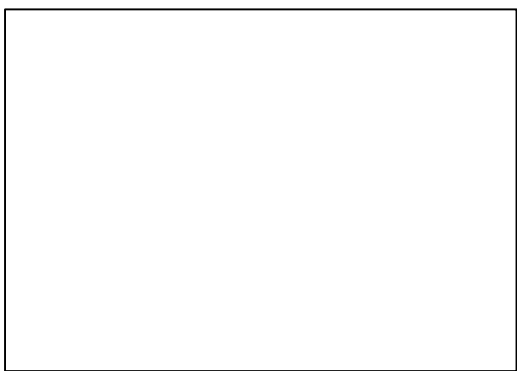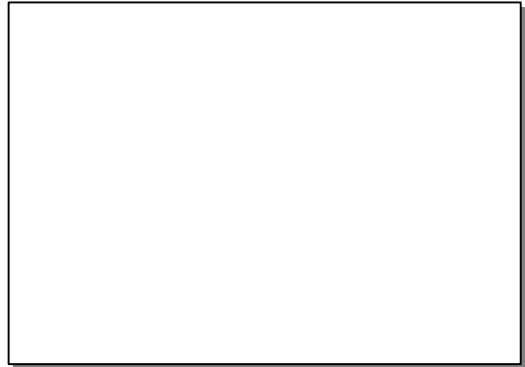
Slide 3

Slide 4

Slide 5

Slide 6

End

Walkthrough/Testing Report VCE IPM

Walkthrough Identification

Student Number of Author: _____

Project: _____ Kallista college IT upgrade presentation _____

Date: _____

Product Identification

Material Reviewed _Design of Presentation for Frederick Einstein_

Walkthrough Team

(Student Number or First Name Only)

Name or Number   Signature
1. _____   1. _____
2. _____   2. _____
3. _____   3. _____
4. _____   4. _____

Error/Revision List

_____
_____
_____
_____
_____

Suggestions

_____
_____
_____
_____
_____

Comment by Author (i.e. revisions accepted/rejected and explanation of why)

_____
_____
_____
_____

Process your presentation. Print out major stages.

- Validate your presentation Manually (Proof Read) and Electronically (Spell Check)

- Test your presentation

  - **Individual Testing** (Go thought your first effort yourself and make comments and/or changes as appropriate).
  - **Group Testing** (Walkthrough Reports) Test on other people in your class *(on next page)*
  - **PowerPoint Testing** Timings and effects (run your presentation and see if the timing and effects **work**)
  - **User Testing** (Make up a list of questions you could ask Frederick or one of the Board of directors to ensure that the presentation was effective)

Example of User Testing:
User Evaluation (for Audience)

- Did you like the look of the presentation?
- Did you think that the timings were appropriate?
- Did you find that the images added to the message of the presentation?
- etc

Evaluation Questions (Write your testing questions here A series of questions for Frederick and a series of questions for the target audience)

Frederick	Target Audience

Walkthrough/Testing Report VCE IPM

Walkthrough Identification
    Student Number of Author: _____
    Project: _____Kallista college IT upgrade presentation_____
    Date: _____

Product Identification
Material Reviewed <u>Draft Output of Presentation for Frederick Einstein</u>

Walkthrough Team
(Student Number or First Name Only)

Name or Number
1. _____
2. _____
3. _____
4. _____

Signature
1. _____
2. _____
3. _____
4. _____

Error/Revision List
_____
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Suggestions
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Comment by Author (i.e. revisions accepted/rejected and explanation of why)

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