INFO5990: Professional Practice in IT

Week 10:
Communication

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"The single biggest problem in communication is the illusion that it has taken place".

George Bernard Shaw

"We have two ears and one mouth so that we can listen twice as much as we speak".

Epictetus





Overview

Part A

- Appreciate the value of good writing / presenting
- Understand some of the basics of good writing
- Recognise correct paragraph structure
- Avoid common pitfalls in writing / speech's

Part B

- Q&A Session

This weeks focus: Communication



- Writing & Presenting
 - To convince and persuade
 - For IT Professionals



- Your Project
 - Who is your audience?
 - What information will they want?
 - What key messages do you want them to understand?



The University of Sydney







Slides with common sense coming up!

The Australian Computer Society wants IT executives to learn this!

Good writing skills are essential for professionals in IT

Writing is part of being a professional

- project proposals,
- requests for funding,
- progress reports,
- user documentation,
- legal procedures,
- job applications,
- requests for promotion







Example

Password Management in the WA State Government

Introduction

Western Australian government agencies collect and store a significant amount of sensitive and confidential information. The public rightly expects agencies to protect this information from unauthorised access. Effective management and use of passwords remains a vital part of information security. However, since 2004 our information systems audits have consistently raised issues around agency access controls, particularly passwords.

The objective of this audit was to determine if selected government agencies are using good practices to manage network passwords, to protect the information they hold.

Conclusion

Over one quarter of the enabled network accounts we looked at had weak passwords at the time of audit. In a number of instances these accounts are used to access critical agency systems and information via remote access without any additional controls.

Generally, agencies lacked technical controls to enforce good passwords across networks, applications and databases, and did not have guidance about good practice for password management.

Background

Agencies have a diverse range of users, applications and services with different purposes and security requirements. These require different types of accounts or identities to access information from inside and outside agencies. For example:

- Employees: Normal user accounts for staff to perform day-to-day tasks
- Partners: contractors and vendor support staff
- Privilege Accounts: Individuals with high level administrative privileges such as system, network and database administrators

See: https://audit.wa.gov.au/wp-content/uploads/2018/08/report2018_14-IS-GCC-App-Pass.pdf

Example

2.2.1.3 Save Local File

[DEMO-SRS-59] The application shall allow users to save the opened document into a file.

2.2.1.4 Document Template

[DEMO-SRS-61] The application shall allow users to create a document template file from the opened document.

[DEMO-SRS-62] Document templates shall store structure of document sections and definition and values of requirement attributes.

[DEMO-SRS-63] The application shall allow users to create a new document from a chosen document template file preserving the structure of document sections and the definition and values of requirement attributes.

2.2.1.5 Import

[DEMO-SRS-72] The application shall allow users to import a MS Word document preserving structure of document sections and paragraphs, rich text description of requirements and images.

[DEMO-SRS-73] The application shall allow users to import a MS Excel table of requirements preserving section headings, levels, unformatted text description of requirements and values of custom attributes.

2.2.1.6 Export

[DEMO-SRS-76] The application shall allow users to export the displayed document view to HTML.

[DEMO-SRS-77] The application shall allow users to export requirements to CSV.

2.2.2 Document View

2.2.2.1 Table of Contents

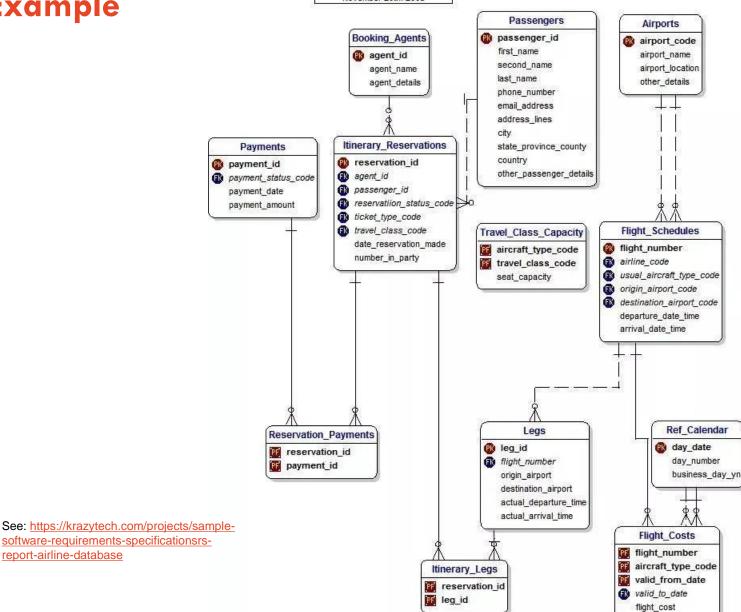
[DEMO-SRS-80] The application shall display the table of contents containing section headings organized according to their document tree hierarchy.

[DEMO-SRS-81] When user clicks on a document section in the table of contents then the application shall focus the section in

See: https://www.reqview.com/doc/iso-iec-ieee-29148-srs-example

Example

Airline Reservations Data Model Barry Williams DataBaseAnswers.org November 20th, 2008



report-airline-database

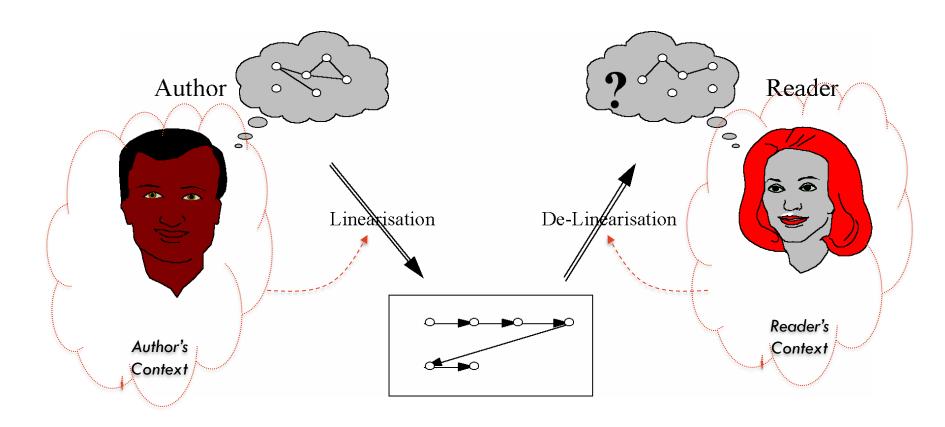
Poor writing can hurt you!

- Your message may be misunderstood
 - A badly written specification can lead to flawed outcomes
 - A badly written report won't convince its audience and will be rejected or ignored
 - If your application, request or proposal is poorly expressed it won't succeed



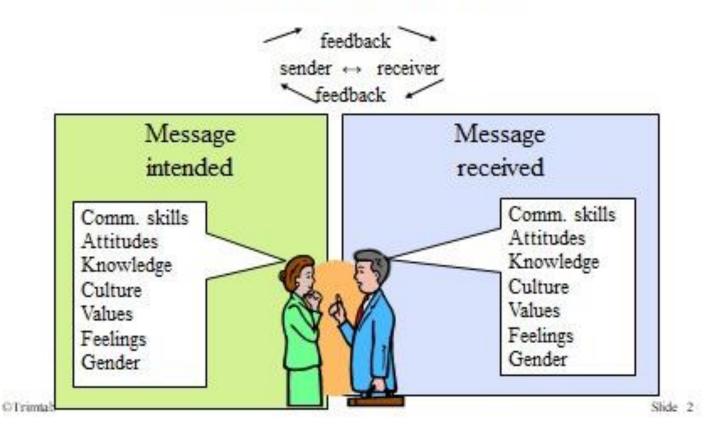


Why is writing difficult?



Interpersonal communication

Two-way dynamic and complex process



Interpersonal communication

- Mistake: Saying what you want to say, rather than what the other person needs to hear!
 - Think about what the other person already knows?
 - Think about what the other person might be interested in?

- From https://canvas.sydney.edu.au/courses/59195/pages/key-information
- I do not know how to do Q5?
- Is my Assignment section 3 long enough?
- I don't agree with my mark. Can you remark it now?
- Can you tel me how best to study?

Two things that help make writing clear

https://canvas.sydney.edu.au/courses/12076

Structure

the organization of ideas



Cohesion

the presence of a clear and logical flow of ideas



Characteristics of professional writing

Clarity

- Clear structure. Logical argument
- Simple but complete explanations
- Precision
 - No ambiguity or confusion
 - Uses words with precise meaning
- Objectivity
 - Statements supported by evidence
 - Avoids exaggeration or emotive statements
- Brevity
 - Effective and efficient
 - Avoids being 'longwinded', stating the obvious









Structuring each paragraph

https://canvas.sydney.edu.au/courses/59195/pages/4-writing-paragraphs-and-referencing-sources-in-the-text?module_item_id=2332249

COMPONENT of Paragraph	FUNCTION of Component
First sentence: Topic sentence	Introduces and clearly states the idea that you will develop in the rest of the paragraph so that the reader can easily follow your writing. (You must make sure that every item of information in the rest of the paragraph relates to what your topic sentence says, and that nothing else is included in the paragraph - check this after you have written each paragraph or when proof-reading your final work).
Development section (or body)	Elaborates the idea that you have introduced with sentences that all relate to the idea in the topic sentence by, e.g. - describing or explaining - presenting more information about the idea in the topic sentence - exemplifying - using examples to illustrate the idea with evidence - analysing - comparing, and contrasting concepts associated with the idea
Concluding sentence(s) (OPTIONAL)	E.g Rounds off what you have said in your paragraph - Qualifies what you have said - Links to the next paragraph

Topic Sentences

"There is no form of prose more difficult to understand and more tedious to read than the average scientific paper," wrote Francis Crick in his 1994 book *The Astonishing Hypothesis*. The observation is a caution to lay readers tempted to delve into the papers referenced in the book. But the co-discoverer of the structure of DNA was also acknowledging what everyone in science knows: research papers can be a nightmare to read.

It wasn't always so. Crick and others of his g writing scientific papers in the 1940s, have w transformation of scientific prose. A form that the average newspaper has, in some fields, jargon that even those familiar with the territor understand.

Topic sentence	State the main idea/point
Development	Elaborate
Concluding sentence	Round off, Link to next paragraph

How do I know when my paragraph is right?

Everything in the paragraph should relate to the same idea, the one spelt out in the topic sentence.

- Is my paragraph too short?
 - Is there a significant new idea introduced?
 - Is the idea continued in the next paragraph?
- Is my paragraph too long?
 Several ideas crammed into one paragraph?
 Too much information all together?
 - Break the paragraph into two or more distinct ideas.
 - Decompose information into series of ideas

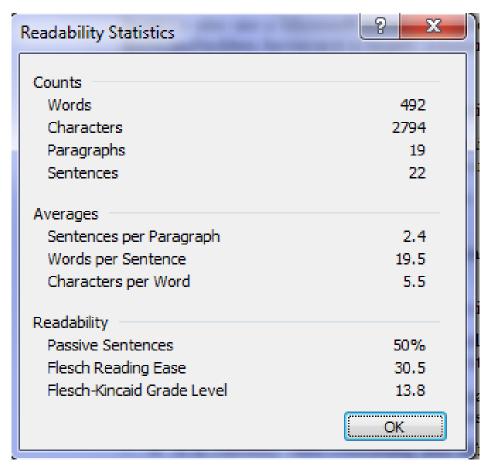
Example: This paragraph too long

Jonathan Knight, "Clear as mud", Nature, Vol 423, 22 MAY 2003

The balkanization of science into sub-disciplines, each with its own vocabulary, is largely to blame. Many journals are trying to tackle this, producing easy-to-read summaries of papers, and linking online papers to web-based glossaries. But these approaches tend to have a limited impact, whereas addressing other factors - notably writing style - could transform many papers. Writing takes practice, yet it is not part of standard scientific training. So could science become readable again if researchers went back to school and took writing lessons? Readability itself is not easy to quantify. Microsoft's Word program features the Flesch Reading Ease scale, which measures the average length of words and sentences to calculate the number of years of education needed to comprehend a document. But such tools fail on several counts. For one, a long sentence that walks the reader down a path to its conclusion can be easier to follow than a muddled short sentence. And common words can be relatively long - technological or professor, for example - whereas many technical terms are short, such as meson, genome or glycan. עוטובטטו, וטו באמווועוב - שוובובמט ווומווץ נבטווווטמו נבווווט מוב טווטונ, טעטוו מט meson, genome or glycan.

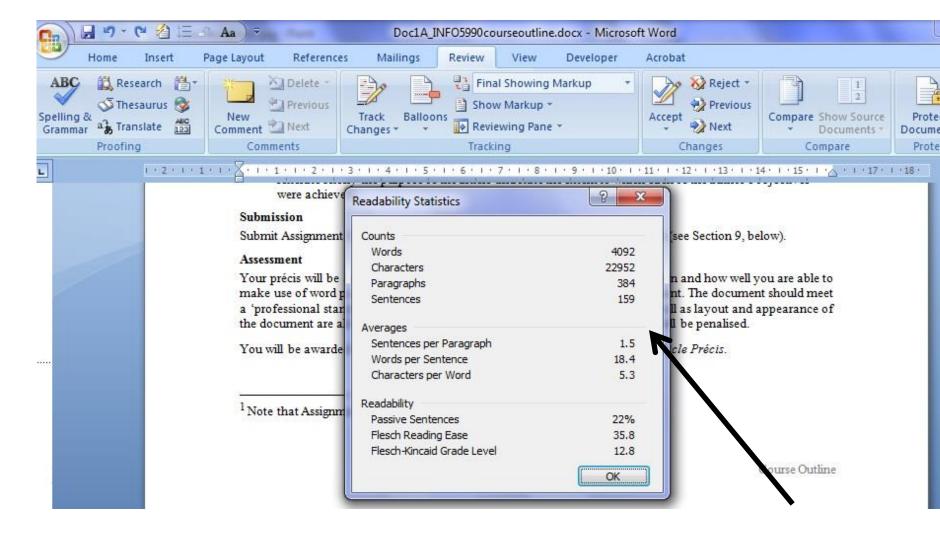
Flesch Reading Ease

- 100-point scale.
- The higher the score,
 the easier it is to
 understand the
 document.
- For simple writing the score will be between
 60 and 70.



Readability 'Sportico' Case Study

Checking spelling, grammar and readability in Word



Using the 'right' word helps

- Don't use 'vague' words,
 - fairly, roughly, approximate, lots of
- Don't exaggerate
 - huge, massive, minute, infinitesimal, enormous, earth shattering, fabulous
- Avoid words that aren't exact
 - many, several, hardly any, mostly
- Find the word that is exactly right for the idea you are wanting to express
 - Use a thesaurus

Get rid of distractions

- Spelling errors, Wrong grammar
- Bad typography (layout or font choice)
- Unusual, or little known words, (balkanization), or jargon (periapse)
- Inflammatory or biased statements,
 e.g. 'any student from the University of Sydney would know that ..."

Avoid Acronyms and Initialisms (1)

Abbreviations formed from the initial components of a phrase or word

ATM machine: Automated Teller Machine <u>machine</u>
PIN number: Personal Identification Number <u>number</u>

You can find out what an acronym means at http://www.acronymfinder.com/

Defined but never used again!

ent thesis

What is BOINC?
Maybe defined
somewhere else?

Most existing scheduling policies that are used to distribute work-units (WUs) in VC (Volunteer Computing) environments are based on simple heuristics. Up to now there are two different policies: the First-Come-First-Serve (FCFS) policy commonly used in BOINC projects and the fixed threshold-based policy. Both policies use Homogeneous Redundancy (HR) for the distribution of multiple work-unit instances (WUIs). HR distributes instances of the same WU to volunteer computers that are computationally equivalent, meaning that that they have the same operating system and processor vendor (e.g. Intel or AMD). This yields bit-identical successful results for

Why not MWUIs?

ons.

Usually stands for "Human Resources"

This is what it sounds like when you read it!

The project scope statement and project management plan are the primary input for creating a Work Breakdown Structure. The main tools and techniques include using Work Breakdown Structure templates, as described below, and using decomposition or e outputs of the problem.

Boring

Boring

typian.

Structure is often depicted as a task-oriented family tree of activities, similar to an organization chart. A project team then organizes the Work Breakdown Structure around products or phases. Many people like to create a Work Breakdown Structure in chart form first. Figure 1 shows two different starting points for Work Breakdown Structures. etc. etc.

Summary - Remember the 3 Cs

Clarity

- Good structure, straight forward language, precise words

Coherence

- Topic sentences tell the reader what to expect
- Links between paragraphs give flow
- Logical progression of content (argument)

Consistency

language level, typography

Sydney Uni "WriteSite"

https://canvas.sydney.edu.au/courses/12076

Welcome to the Write Site

The Write Site provides online support to help you develop your academic and professional writing skills.

Each module deals with common issues and requirements in academic and professional writing and strategies for addressing them. You will see samples of good writing and also do some practice activities in error correction.

Using this site

You can navigate the site by either selecting from the topics below or selecting <u>modules</u> to view the full range of topics in this site. If you find a broken link or something that's not quite right on the website, please <u>email us.</u>



Module 1: Structure

- ▶ <u>Unit 1: Planning your essay</u>
- ▶ Unit 2: Structuring paragraphs
- ► <u>Unit 3: Introductions &</u> <u>conclusions</u>
- ▶ <u>Unit 4: Writing persuasively</u>
- ▶ <u>Unit 5: Writing cohesively</u>



Module 2: Evidence

- ▶ Unit 1: About sources
- ▶ Unit 2: Evaluating sources
- ▶ Unit 3: Quoting & paraphrasing
- ▶ Unit 4: Reporting evidence
- ▶ Unit 5: Referencing



Module 3: Grammar

- ▶ <u>Unit 1: Sentence fragments</u>
- ▶ Unit 2: Run-on sentences
- ▶ Unit 3: Subject-verb agreement
- ▶ <u>Unit 4: Tenses</u>
- ▶ Unit 5: Passive
- ▶ Unit 6: Apostrophes
- ▶ Unit 7: Articles

Oral communication







- Making your point



The University of Sydney

Hints for your oral presentation



Giving a talk is a commitment!

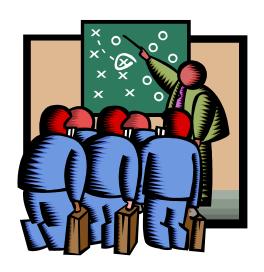
"A speech is a solemn responsibility. The man who makes a bad thirty-minute speech to two hundred people wastes only half an hour of his own time. But he wastes one hundred hours of the audience's time - more than four days - which should be a hanging offense".

Jenkin Lloyd Jones, a Unitarian minister and the Secretary of the World Congress of Faiths held in 1993

Why might we want to give a talk?

- To amuse
- To inform
- To convince other people
- To change other peoples' minds
- To demand action / investment
- To request additional resources
- To beg for help or funding

Communicate Information





Example 1: Conference talks

- Used by academics to swap ideas and to keep up to date
 - Keep abreast of 'up to the minute' developments in research
 - Publishing in a journal often takes too long, particularly in IT
 - -5-30 minutes to get the message across



Example 2: Presentations to peers or management

- Keeping colleagues up to date
- Reporting on progress
- Initiating a new project
- Securing sponsorship
- Introducing a new program, procedure
- Requesting additional resources



Unfortunately ...

- Talks are too often boring, uninspiring
- Audience switches off
- Message is not communicated
- Purpose of talk not achieved



- The audience?
- The presenter?





We want to help you improve your oral communication skills

To achieve this, we will

- Analyse the elements of a presentation
- Identify what makes a presentation 'good'
- Suggest guidelines to help make your presentations better, and
- Give you an opportunity to practise
- Any one think they are a good presenter?

Anatomy of a presentation

- 1. The Message
- 2. Structure
- 3. Timing
- 4. Physical factors
- 5. Personal factors
- 6. Visuals Powerpoint



1. Message - Be sure of the message you want to communicate

- Decide what information, question or problem you want to present
- First formulate your conclusion
 - Yes, this gives you an aiming point!
- Collect supporting evidence or data
 - Find suitable references
 - Images and 'Clip art' can enhance
 - Word documents and Excel spreadsheets can be imported into PowerPoint

2. Construct your presentation systematically

- 1. Formulate your conclusion with impact
- 2. Determine a strong opening
- 3. Prepare slides containing the main points of the message
- 4. Add supporting material
 - data
 - visuals, graphs
 - quotations

3. Timing is everything

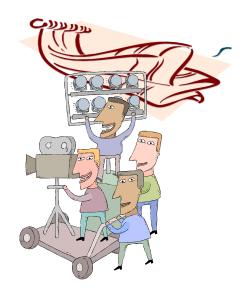
- Work out your timing
 - Allow time to present key points
 - Leave time for conclusion
- Practise with a stopwatch
- Running overtime is unacceptable
 - It is very bad form
 - It can affect others, e.g. at conference or meeting
 - It can disorientate the rest of the function
- "Be sincere; be brief; be seated."

Franklin D. Roosevelt



4. Physical factors

- Is your audience comfortable?
 - Ensure that lighting is OK
 - Check that ventilation is OK
- Don't obstruct their view
- Don't stand with the light in your eyes
- If there is a microphone use it properly
 - Check volume
 - Not too close
 - Avoid feedback





5. Know your audience

- How many in the group?
- Are they experts in your field?
- Are there non-experts as well?
- What are their interests and educatio
- Why are they here?



What are they hoping to get out of it?

Know yourself

- Believe in what you are saying
- Be confident
 - 55% communication comes from facial expressions
 - 38% comes from vocal quality
 - 7% comes from the meaning of the words
- Talk to your audience
 - Look them in the eye
 - Look at each individual in turn
- Speak up, speak clearly, not too fast





Things to avoid

- Don't read your talk
 - Use brief notes if necessary
- Don't turn around to read your slides (except for in lecture!)
- Don't walk about or jangle keys
- Avoid 'um', and 'ah' prefer silence
- Curb irritating habits
 - "You know", "sort of", "like", "right?", "OK"





6. Why use PowerPoint?



Keep slides SIMPLE

- Support just one idea at a time
- Uncluttered layout
- Simple colours
- Not overloaded with information



Too much information

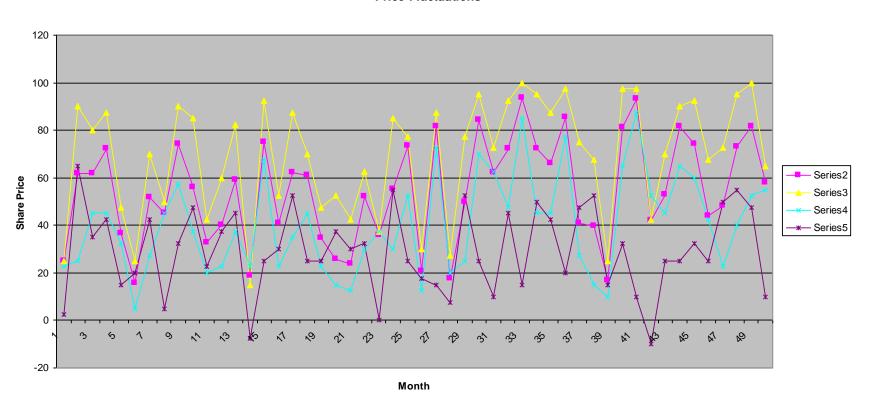
Unit	HD%	D +%	<i>CR</i> +%	P%	Enrolment
Faculty Targets	4%	18%	50%		
Year 2					
INFO2120		11%	42%	58%	90
SOFT2130	2%	14%	39%	61%	147

Year 3

BINF3101			17%	83%	6
COMP3310	6%	22%	44%	56%	18
COMP3456	100%	100%	100%		1
COMP3457	100%	100%	100%		1
INFO3404	1%	12%	36%	64%	74
INFO3600	17%	83%	100%		6
ISYS3400		3%	35%	65%	40
MULT3307		15%	55%	45%	40
NETS3304	3%	26%	49%	51%	61
SOFT3300		8%	43%	58%	40
SOFT3302	1%	15%	53%	47%	81
Grand Total	2%	15%	44%	56%	605

So has this one

Price Fluctuations



This one too

University of Sydney Graduate Attributes

- The University of Sydney categorises Graduate Attributes[1] under three broad headings: Scholarship, Global Citizenship and Lifelong Learning. Each of these overarching attributes can be understood as a combination of five overlapping clusters of skills and abilities which must be developed in disciplinary contexts:
- Research and Inquiry: Graduates of the University will be able to create new knowledge and understanding through the process of research and inquiry.
- Information Literacy: Graduates of the University will be able to use information effectively in a range of contexts.
- Personal and Intellectual Autonomy: Graduates of the University will be able to work independently and sustainably, in a way that is informed by openness, curiosity and a desire to meet new challenges.
- Ethical, Social and Professional Understanding: Graduates of the University will hold personal values and beliefs consistent with their role as responsible members of local, national, international and professional communities.
- Communication: Graduates of the University will use and value communication as a tool for negotiating and creating new understanding, interacting with others, and furthering their own learning.

[1] for more detail see http://www.itl.usyd.edu.au/GraduateAttributes

Make sure slides are READABLE

- Use appropriate FONT
 - Use san serif font (e.g. Arial not Times Roman)
 - Use font size at least 24 points
- Choose COLOUR thoughtfully
 - Too much colour can distract
 - Good contrast for text
 - Avoid heavy background
- Effective LAYOUT
 - Make good use of white space
 - Columns, indenting
 - Capitalization mixed case is best

Fonts

Times New Roman is a serif font

Arial is a non-serif font (sans serif)

Microsoft sans serif a variable width font

Courier New is a fixed width font

Readability 2: Colour and contrast

A paragraph is
A paragraph is
A paragraph is

A paragraph is terminated by

A paragraph is terminated by a ¶ mark

A paragraph is
A paragraph is
A paragraph is

A paragraph is terminated by A paragraph is terminated by a ¶ mark

A paragraph is
A paragraph is
A paragraph is

A paragraph is terminated by

A paragraph is
A paragraph is
A paragraph is

With slide back ground colour that varies across the slide ...

- contrast is going to be poor somewhere on the slide

no matter what colour lettering you choose

Better to keep to simple, sure options like

Designing a slide - Template 1

- Three or four information points per slide. Fewer if complex points.
- Use simple animation to build up a more complicated image.
- Use colour sparingly for emphasis.
 - Use good contrasting colours. Avoid
 blue orange, green yellow, red purple
 - Avoid 'fancy' templates as supplied

Designing a slide – Template 2

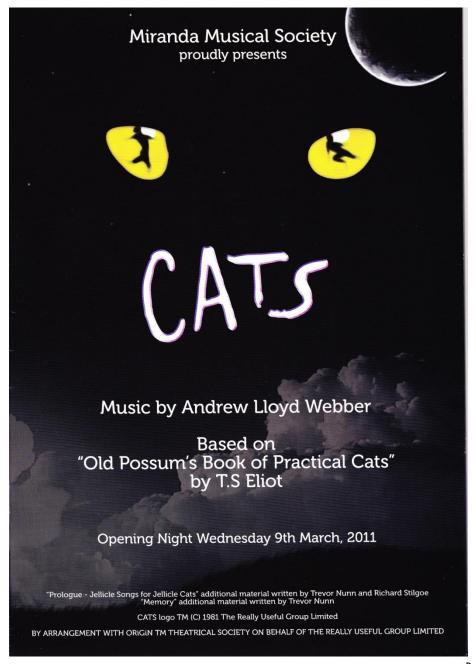
- Three or four information points per slide. Fewer if complex points.
- Use simple animation to build up a more complicated image.
- Use colour sparingly for emphasis.
 - Use good contrasting colours. Avoid
 blue orange, green yellow, red purple
 - Avoid 'fancy' templates as supplied

Designing a slide - Template 3

- Three or four information points per slide. Fewer if complex points.
- Use simple animation to build up a more complicated image.
- Use colour sparingly for emphasis.
 - Use good contrasting colours. Avoid
 blue orange, green yellow, red purple
 - Avoid 'fancy' templates as supplied

Designing a slide - Template 4

- Three or four information points per slide. Fewer if complex points.
- Use simple animation to build up a more complicated image.
- Use colour sparingly for emphasis.
 - Use good contrasting colours. Avoid
 blue orange, green yellow, red purple
 - Avoid 'fancy' templates as supplied



Bankstown Theatrical Society
Presents



A musical by ALAIN BOUBLIL & CLAUDE-MICHEL SCHÖNBERG

Music by CLAUDE-MICHEL SCHÖNBERG

Lyrics by RICHARD MALTBY Jr. and ALAIN BOUBLIL

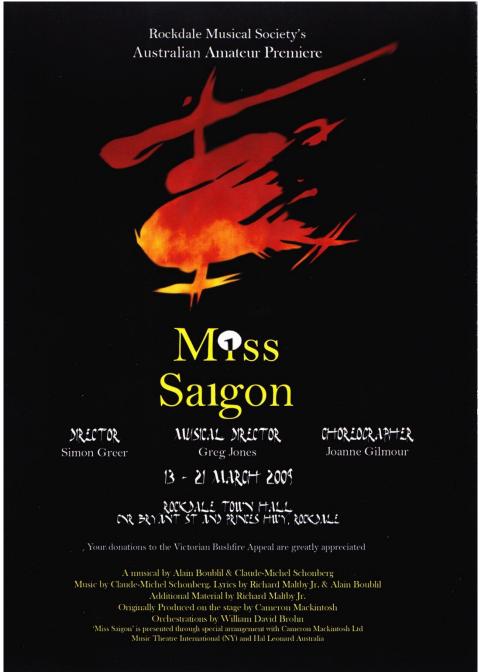
Additional Material by RICHARD MALTBY Jr.

Originally Produced on the stage by CAMERON MACKINTOSH

MISS SAIGON is presented through special arrangement with

Cameron Macintosh Limited,

Music Theatre International (NY) and Hal Leonard Australia.





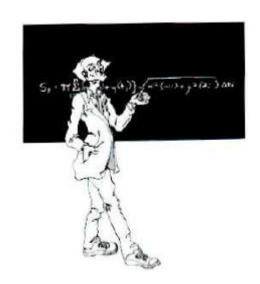
Simple is good, so, keep it simple

- Three or four information points per slide. Fewer if complex points.
- Use simple animation to build up a more complicated image.
- Use colour sparingly for emphasis
 - Use good contrasting colours. Avoid
 blue orange, green yellow, red purple
 - Avoid 'fancy' templates as supplied

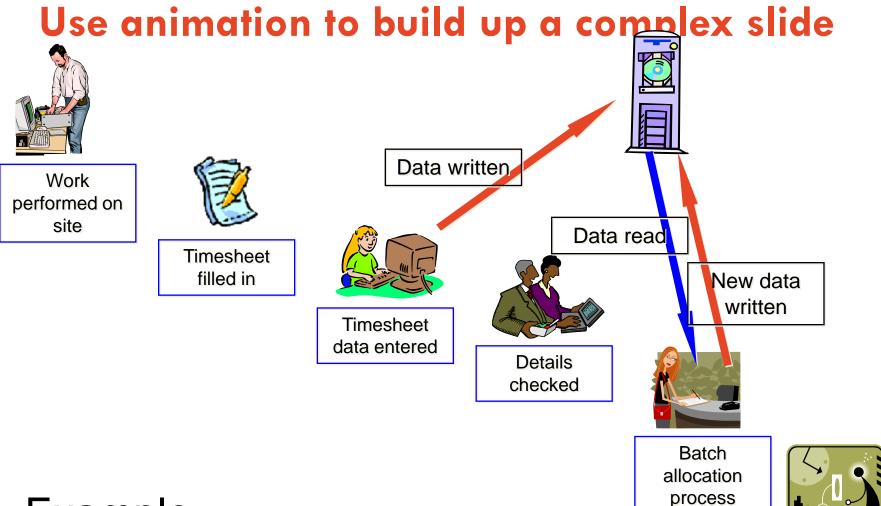
Make each slide COUNT

- The moment a slide is presented, the audience's attention is drawn to it ... so use it!
- Allow time for audience to read and absorb it
- Use every word on your slide
 - If you can simply 'skim over it' then leave it out
- Do not have too many slides
 - It's an ORAL PRESENTATION, not a picture show
 - Rule of thumb: no more than about 1 slide per minute. For
 10 minutes, no more than 15 slides.

Sometimes it is necessary to use numerical data, graphs, or equations ...



... if so, slow down, and talk your audience through each equation or table of data



Example:

Timesheet processing

Labour hours appear in job details

You can even include video clips



Group Assignment: Timing for your talk

- 1. What
- 2. Purpose
- 3. Key information
- 4. Summary

1 minute

1 minute

6 minutes

2 minutes

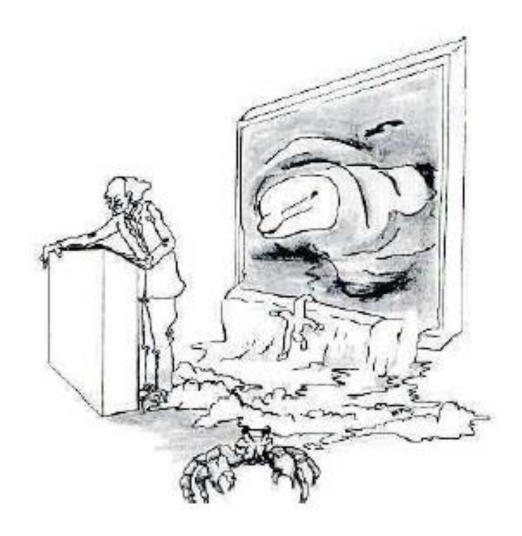
10 minutes = 10 slides 10 minutes Q&A



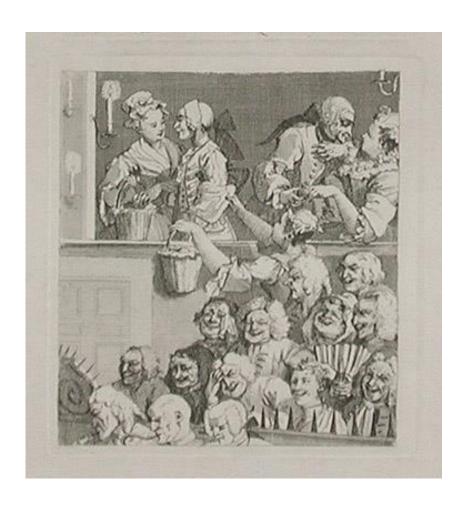
What if English is not your first language?

- Don't worry
- SLOW DOWN
- Check the pronunciation and meaning of any words you are not sure about
- Practise
- Try your presentation out on friend or relative

Bring your subject to LIFE!



ENTERTAIN your audience



SPEAK UP and don't rush

Try to make an IMPACT!



ENJOY the experience!



Above all

PRACTISE!

