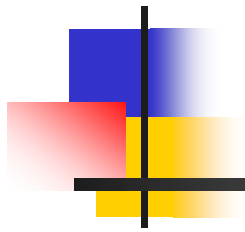


Preparing and Delivering Presentations



R. Greiner
Dept of Computing Science
University of Alberta

... including material from J Nelson Amaral, M desJardins and others...



Making
IT
happen

Computing Science

General Comments about presentations in general:



People are uni-processors: if their reading, their NOT listening.

Therefore, it makes sense to write as LITTLE material on your slides as possible. You should avoid complete sentences; by using Bullets! You should use LARGE fonts. An be sure to also use many pictures!

Give a simple examples FIRST, before giving the formal definitions, theorems, etc. Then perhaps use that example to "instantiate" the definitions, etc. (Don't worry: people typically do an amazingly great job of generalizing from such examples. Most of the time.) Help them parse by splitting out phrases on separate lines.

Try to avoid technical terms, if at all possible. (Or at least give a simple example of the idea.

Be sure to re-read slids, and check!

4.1

General Comments about presentations in general:

Move over...

Hard to read color?
Too small?

No bullets...
Bad line breaks

People are uni-processors: if their reading, their NOT listening. Therefore, it makes sense to write as LITTLE material on your slides as possible. You should avoid complete sentences; by using Bullets! You should use LARGE fonts. Use pictures! Give a simple examples FIRST, before giving the formal definitions, theorems, etc. Then perhaps use that example to "instantiate" the definitions, etc. (Don't worry: people typically do an amazingly great job of generalizing from such examples.) Help parse by splitting out phrases on separate lines. Try to avoid technical terms, if at all possible. (Or at least give a simple example of the idea.) Be sure to re-read slides, and check!

Just skipped?

Typos

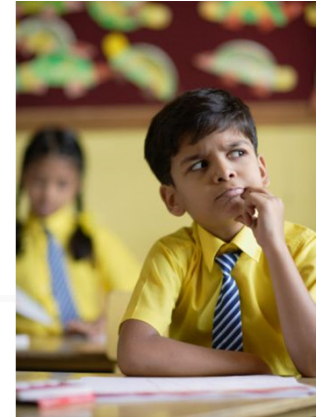
Why have this junk?? What does it mean?

4.1

... lighting? ... movement? ... monotone voice?

Context? Why am I saying this?

Presentations



- People are uni-processors:
 - If reading, NOT listening \Rightarrow minimize text!
 - *Don't need complete sentences;* use Bullets!
- Simple examples FIRST
 - ... before formal definitions, theorems, ...
 - use example to "instantiate" the definitions
- Easy to read *fast*:
 - Avoid technical terms
 - Include relevant Pictures!
 - Separate lines for each idea
 - Use LARGE fonts... colors are fun ... so is animation
- Proof-read!!

Which would you prefer?

General Comments about presentations in general:

People are uni-processors: if their reading, their NOT listening.
Therefore, it makes sense to write as LITTLE material on your slides as possible. Avoid complete sentences; use Bullets! Use LARGE fonts. Use pictures!

Give a simple examples FIRST, before giving the formal definitions, theorems, etc. Then perhaps use that example to "instantiate" the definitions, etc. (Don't worry: people typically do an amazingly great job of generalizing from such examples.) Help parse by splitting out phrases on separate lines.

Try to avoid technical terms, if at all possible. (Or at least give a simple example of the idea.)

Be sure to re-read slides, and check!

4.1

4

Presentations

- People are uni-processors:
 - If reading, NOT listening \Rightarrow minimize text!
 - *Avoid complete sentences*; use Bullets!
- Simple examples FIRST
 - ... before formal definitions, theorems, ...
 - use example to "instantiate" the definitions
- Easy to read *fast*:
 - Avoid technical terms
 - Lots of Pictures!
 - Separate lines for each idea
 - Use LARGE fonts... colors are fun ... so is animation
- Proof-read!!

<http://www.gettyimages.ca/detail/78742884/Fuse>

3



Outline

- Preparing the presentation
 - Content:
What material to present?
 - Form:
How to show that material?
- Delivering the presentation
 - Before presentation
 - During presentation

While focus is on *Research* Presentations,
similar ideas for *Course* presentations



Why Have Presentations?

- Researchers / Developers / ...
 - Important to have ideas
 - Important to develop/validate ideas
 - Important to **disseminate** ideas
 - Publications
 - Presentations
 - locally: in lab, team, ...
 - non-locally: in workshops, conferences, ...
- Instructors
 - Present course material
- ...



Goal of Presentation

- Possible Purpose(s):

- to entertain
- to inspire
- to persuade
- to inform or educate



- Goal of **Research** Presentation:

- Say enough to get them excited... and
- motivated to read paper!

- Goal of **Educational** Presentation:

- Emphasize high points of text
- Reinforce ideas
- Give examples
- Bring up auxiliary issues

Presentation ~ Story



- Tell a story!!
- Should FLOW...
 - Beginning, middle, end
 - Not a shopping list!
- Structured, to answer...
 - Task itself
 - Def'n: What is the problem?
 - Motivation: Why should the audience care?
 - Results...
 - How was it solved? (Theoretical? Empirical? ...)
 - Why relevant? ...impressive?
 - Conclusion
 - What do you want them to remember?

Here: CHRONOLOGICAL...



Prepare for your Audience

- Goal:
for **intended audience** to understand material
- Know your audience!
 - If a “**general audience**”:
Give the necessary background
 - If talking to **researchers in your field**:
Don't waste time on basics
- Imagine you didn't know this material
 - What would YOU need to get it?
- Emphasize
 - *what is important*
 - *(what **you** have done)*
 - *why they should care!*



How Much to Say?

- What do you want
your intended audience
to know, when done?
 - Say THAT!
 - Say ONLY THAT!
 - Everything you say should relate to this msg(s)!
- Having too much can be bad...
 - Superset of a good talk is *NOT* a better talk



What (not) to say ...

- Think of what **you'd LIKE to hear...**
 - High points; not irrelevant details
- Think of what **you'd be able to UNDERSTAND** in talk
 - Not complicated algorithms, complicated proofs, ...
- Proof?
 - If essential: Sketch: **Yes** Details: **No**
- Algorithm?
 - If essential: Sketch: **Yes** Details: **No**
- Tangentially related material – eg, things you tried?
 - If audience would think about it \Rightarrow **Yes** (sketch)
 - If really obscure \Rightarrow **No**
- Unmotivated, hard-to-describe alg... that didn't work?
 - **No!**



Timing

- Know how long you have
 - How long is the talk? Are questions included?
- How many slides?
 - ... depends on your own pacing...
- Can *rarely say everything* about a topic, so don't worry about skipping some things!
- Better to go slightly
UNDER time, vs OVER time



Other Thoughts, wrt Contents

- Be sure **YOU understand the material!**
 - ... even if someone else's slides!
 - Heuristic:
 - Think through to one level more depth than slides...
- **Re-read slides**
 - make sure they are understandable
 - make sure they "flow"
- **Ok to be cute...** but not too cute...
 - Never have off-color comments



Outline

- Preparing the presentation
 - Content:
What material to present?
 - Form:
How to show that material?
- Delivering the presentation
 - Before presentation
 - During presentation



Make it easy for Audience to Track

- Pictures better than words
 - ... if relevant!
- Use colors consistently
 - Eg, write everything that the user types, in blue
- A full slide of text can be overwhelming!
 - Use animation to present information incrementally.
- Use line breaks to help parse
- Notation: Do not use the same variable for many purposes... not even if in different fonts! Think of saying it: big_A vs little_a vs A vs B



Make it easy for Audience to Track

- Pictures better than words
 - ... if relevant!
- Use colors consistently
 - Eg, write everything that the user types, in blue
- A full slide of text can be overwhelming!
 - Use animation to present information incrementally.
- Use line breaks to help parse
- Notation:
 - Do not use the same variable for many purposes...
 - not even if in different fonts!
 - Think of saying it: **big_A** vs **little_a** vs **A** vs **B**



Make EASY to understand

- $=>$ VS \Rightarrow
- $!=$ VS \neq
- $a=<2,3>$ VS $a = \langle 2,3 \rangle$
- $*$ VS \times
- ε VS \in
- Use spacing to help viewer
- Be aware that some symbols are ambiguous
 - $|$ vs 1 ; 0 vs 0
 - R vs \Re
- Use appropriate notation:
 - $\{ \dots \}$ for set;
 - $[\dots]$ for tuple; ...

$A=f(b(x),g(y))$ forall x,y

$A = f(b(x), g(y))$ forall x, y



Help Viewer Understand Tables

	Age	Gender	Height	Label
P1	25	M	5'11"	+
P2	33	F	5'6"	+
P3	5	M	4'3"	-

	Age	Gender	Height	Label
P1	25	M	5'11"	+
P2	33	F	5'6"	+
P3	5	M	4'3"	-



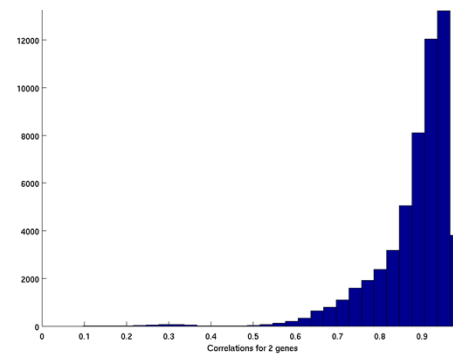
Easy to Understand

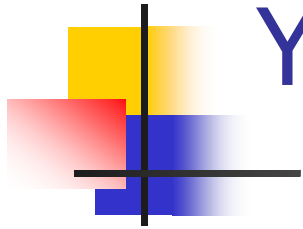
- YOU control the space in your slides...
 - Use it effectively!

- Make figures **LARGE!**

Yadda Yadda Yadda

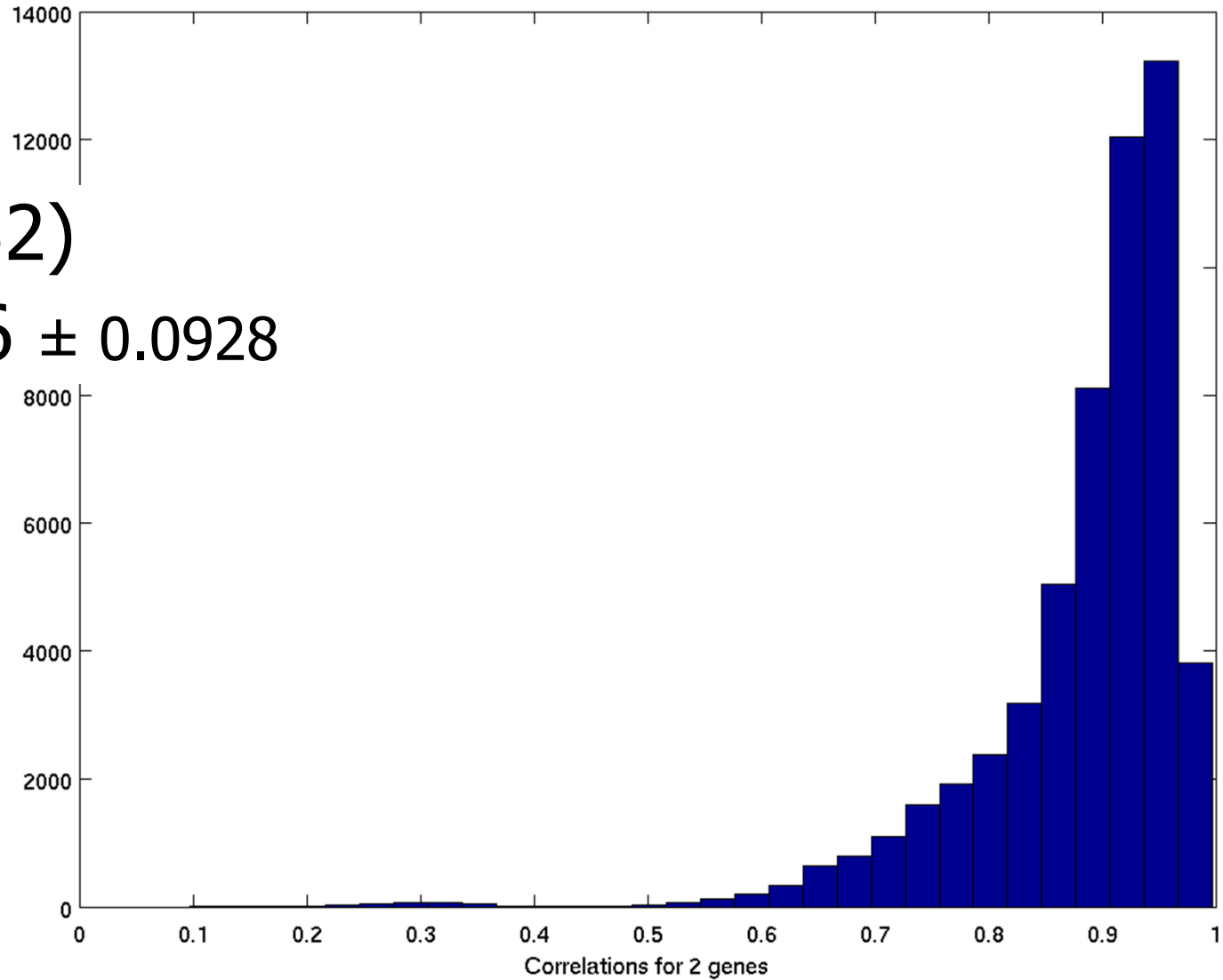
- Blahs (332)
- P: 0.8836 ± 0.0928





Yadda Yadda Yadda

- Blahs (332)
- P: 0.8836 ± 0.0928





Graphs

- Label axes of graphs
 - Accuracy? Error? Inches? Miles? ...
- Do NOT use “Fig 1” or “Table 2”
 - Unlike paper, viewer cannot go back ...
 - Readers will NOT remember ...



Make EASY to understand

- In general...
If something helps
readers understand **papers**,
it probably applies here, to **presentations!**
- Define terms...
 - ... before use!
 - Use in example, to illustrate

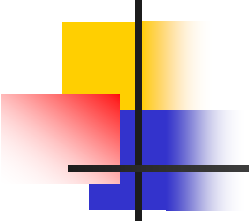
Use RoadMap

- Roadmap slides

- if >15 minutes
- helps “wake people up”

- Organization

- *Tell'em what you're going to tell'em*
 - ≈1-2 minutes
- *Tell'em*
- *Tell'em what you told'em*
 - ≈1 slide (1 minute)



Outline

- Preparing the presentation
 - Contents
 - Form
- Delivering presentations
 - Before presentation
 - During presentation

19

Timing Issues

- Manage time
 - Have “accordion slides”
 - If necessary, skip material
 - Plan for this...
- People best remember the *LAST* thing you said
 - ... Contributions, Future Work
 - ≡ What I did, What I did NOT do
 - ... Future Work, Contributions





Outline

- Preparing the presentation
 - Content
 - Form
- Delivering the presentation
 - Before presentation
 - During presentation

Just in case ...

- Real problem if
 - you lose your presentation...
 - your laptop dies ...



- Back-up copy!

- Flash drive
- On-line
- ...



<http://nelsoncentral.wikispaces.com/backingup>

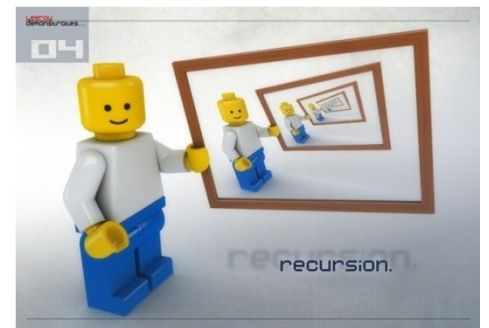
<http://blog.bluemountainlodges.ca/wp-content/uploads/laptop.jpg>

Practice, Practice, Practice

■ Practice!

Give talk to

- professional colleagues (students, advisor, collaborators)
 - friends, or spouse, or ...
- ## ■ Include slide numbers (at least during practice)
- ## ■ Never give a talk for the first time 😊
- If inexperienced, practice your timing:
 - ~2 times on your own, to get the general flow
 - ≥ 1 dry run to work out the kinks
 - A run-through on your own, night before the talk



Just Before Presentation

- You are in charge!
 - Arrive early, to engineer your room
 - lighting
 - decide where to stand
 - by SCREEN, not middle of room
 - move obstacles away
 - ...
 - Just in case...
 - Plug in laptop
 - Turn *off* cell phone, messaging (Skype, ooVoo), ...
 - ...



Lighting



With lights on, in front

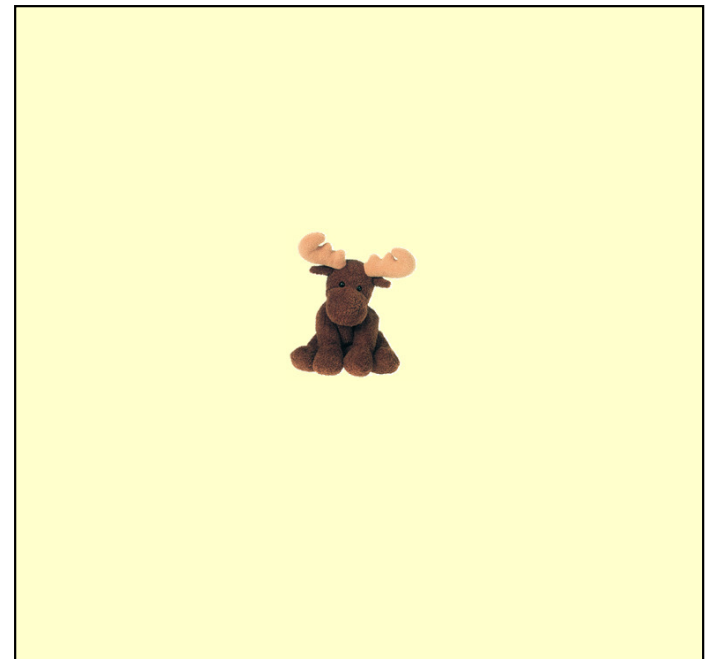


With lights off

Large Images!

- If necessary ... possible...

MOVE projector to get LARGE image





During Presentation: Interact with Audience

- *Don't just read your slides!*
- Interact with the audience!
 - Make eye contact
 - See if audience is tracking
 - Ask questions!
- Adjust your voice for **emphasis** ...
- Pause

Move Around !



- Move!
 - Do not just sit ...
 - You can (should!) move around
 - Don't fidget
 - Point to PRESENTATION, not to your laptop!
- "Work the room" ... effective motions:
 - To emphasize something, or catch audience's attention:
Walk closer to the audience and stop
 - To make a new point / change topic:
Move to new location
 - When asking question:
Walk towards the audience and wait for a reply
... after getting reply, return to original position



Questions

- Questions from audience are typically good!
 - Helps audience “wake up”!
 - Helps you gauge how well they are tracking
- Feel free to “delay” answer
 - If relevant slides coming later
 - If off-topic: “take this off-line”
- If question is relevant, but not anticipated:
Ok to pause, to think it through...
- Reward the questioner
 - ... even if the question is ...sub-optimal ...

If you make a mistake ...

- Don't fret, pout, get upset ...
- If critical...
 - just go back to problem and fix it!
 - or... fix it when necessary
- If not critical, just go on!
 - Perhaps mention this issue at END
 - ... or not ...





Overcoming Nervousness

- Realize
 - you are an expert on this topic!
 - ... you know it better than the audience!
 - audience wants you to succeed!
- Prepare thoroughly
- Concentrate on the message
 - not the medium
- Gain experience



Revising Material ?

- Few presentations are perfect
Few presentations are “one off”s
- If you will give presentation again...
 - Do ‘post mortem’ after presentation
 - Make changes to slides
 - ... or just add notes of what you need to change



Some Useful Resources

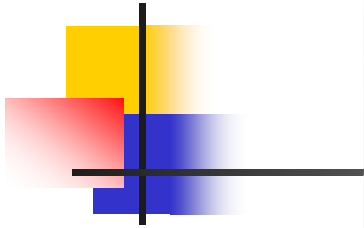
- Toastmasters
http://toastofedmonton.shawwebpace.ca/pages/view/tips_for_speakers/
http://toastofedmonton.shawwebpace.ca/pages/view/i_speak_two_languages_body_and/
- Mark Hill, "Oral presentation advice"
- Patrick Winston, "Some lecturing heuristics"
- Simon Jones, et al., "How to give a good research talk"
- Dave Patterson, "How to have a bad career in research/academia"

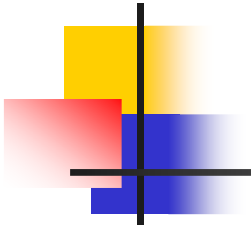


Summary

- Preparing material
 - Tell a story!
 - Think of what you want audience to know
 - Include that ... only that...
 - Be concise, focused
 - Large print, easy to follow...
- Delivering material
 - Practice!
 - Engineer your environment to facilitate communication
 - Relax, and Enjoy!

Any questions??







Other Material

- Series of Presentations
- Use Diagrams
- Context information
- Auxiliary Slides
- Posting material
- Posters

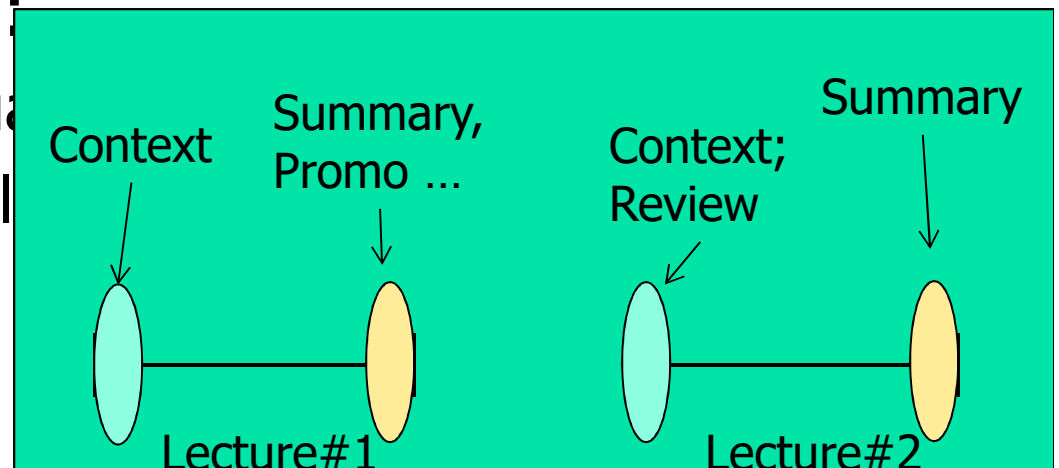


Series of Presentations

- When giving a SEQUENCE of related presentations
 - Eg, a course, or seminar series, or ...
- Have “landmark slides” covering ENTIRE series
- Take time at start of each lecture to...
 - ... set the context (wrt global “landmark slides”)
 - ... REVIEW previous material
- At end of each lecture:
 - summarize current situation
 - point to future material

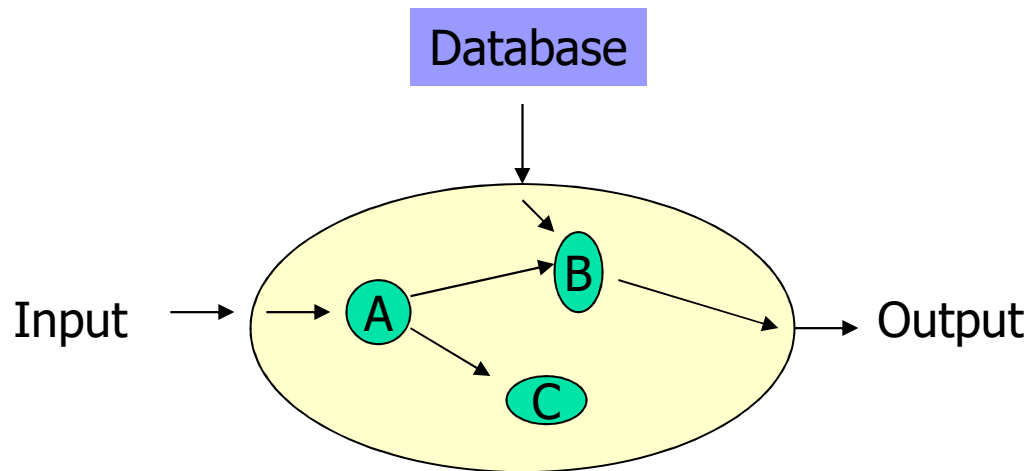
Series of Presentations

- When giving a SEQUENCE of related presentations
 - Eg, a course, or seminar series, or ...
- Have “landmark slides” covering ENTIRE series
- Take time at start of each lecture to...
 - ... set the context (wrt global “landmark slides”)
 - ... REVIEW previous material
- At end of each lecture:
 - summarize current situation
 - point to future material



Use Diagrams !

- Many Computing Science ideas correspond to some *procedure*
 - Perhaps with subroutines...



- Distinguish Data from Process
- Be sure to include “implicit inputs”
 - Eg database

Context info?

- Give context
 - Course: chapter in text, auxiliary readings, ...
 - Research:
 - collaborators, funders
 - bibliography?? ... only your results, if job talk
 - List... do **NOT** summarized one-by-one !
- If use image/ideas from others (web):
give citation ... get permission
 - Especially if slides are handed out



Auxiliary Slides

- If you ...
 - anticipate some questions
 - have tangentially related ideashave AUXILLIARY slides,
at end of presentation!
- Use to answer questions
... if necessary

- ? Use later, for longer talk ?



Posting Slides

- Should you post material?
 - For courses: Yes...
Helps students to remember/review
- If so... when?
 - BEFORE your talk, vs AFTER ?
 - I prefer AFTER (to fix-up, subset, revise)
- If so... what medium?
 - I prefer PDF... if PPT, others can modify easily
- wrt Animation (overlay):
 - Have MULTIPLE slides if overlays
- If modification (post presentation):
 - Can post revised version...
 - but perhaps indicate updates...



Outline

- Oral Presentations
 - Preparing slides
 - Delivering presentations
- Posters
 - Preparing material
 - Presenting posters



Effective Poster: Contents

- Include
 - **BIG** idea? ... simple to understand, quickly!
 - Use examples – in pictures!
Better: **one** example,
 - many times to illustrate the basic ideas
- Framework
 - **Foundations** – what problem are you solving?
Why should anyone **care**, if you succeed?
 - **Your approach** (high level)
 - **Your results** – theoretical, empirical, whatever...
- **Re-read it**, to make sure it is understandable

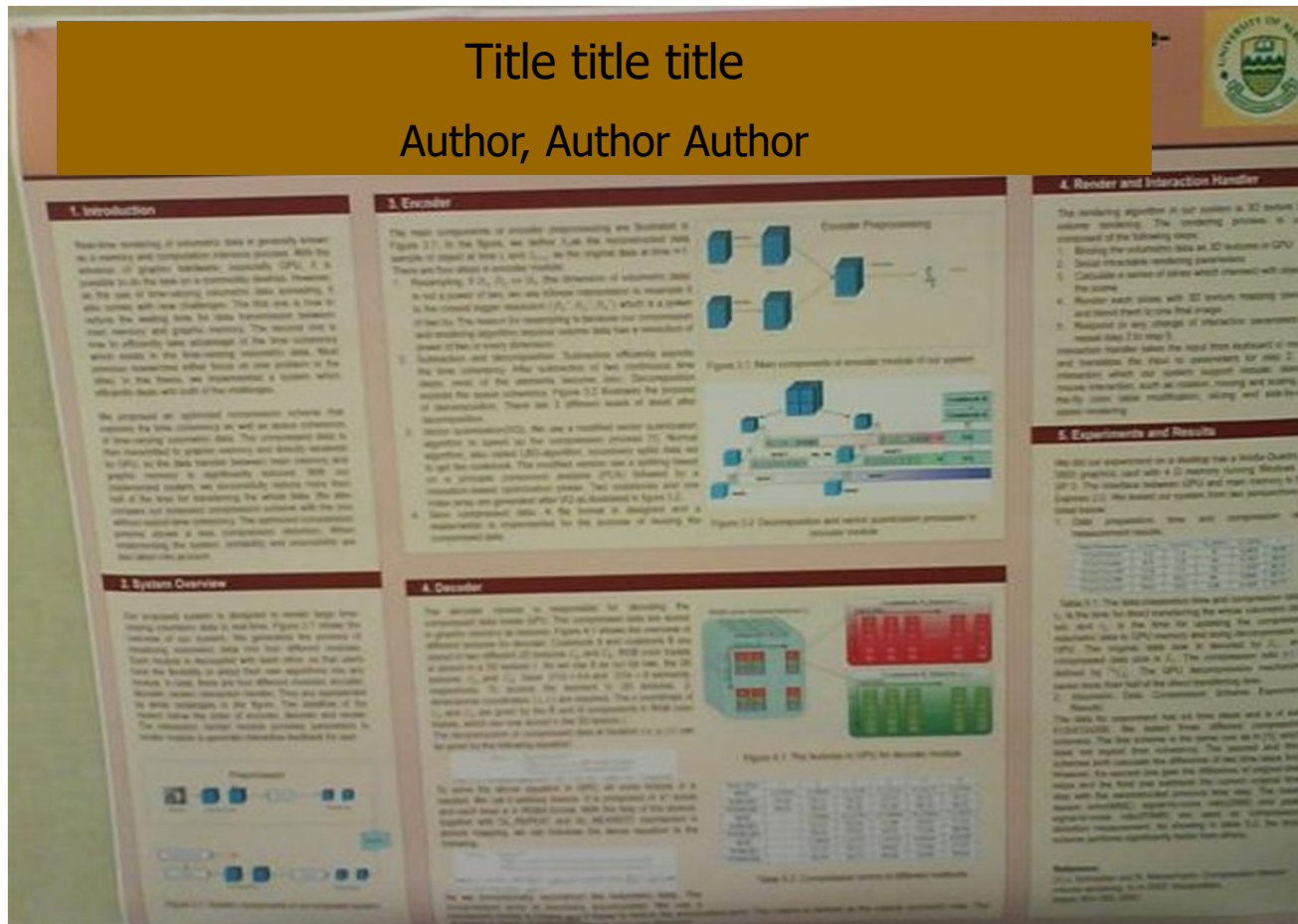


Effective Poster: Form

- Poster \approx Presentation (ppt), ... not essay
... easy on the eyes...
with
 - pictures
 - few words (lots of white space)
 - large letters

- Stand 2-3meters from poster.
 - Should get most of the ideas
 - ... based only on the figures,
w/out the "small print"

Which would you rather see: I?



Which would you rather see: II?



Title title title
Author, Author, Author

GOAL

i-Layer Video Segmentation
Automatic segmentation of a foreground layer from a natural scene in real time by fusing infrared, color and edge information.

DATA ACQUISITION

Foreground is illuminated by IR source at 850 nm.
IR light is captured by an infrared camera.
Beam splitter partitions light into two perpendicular paths.





ADVANTAGES:

- Full control of illumination process
- Mirrored images, synchronized in time and space
- No complex calibration and synchronization process
- Foreground template by thresholding the IR image
- Flexibility of foreground object


PENTAMAP INITIALIZATION

- Foreground IR MASK, $MAIK = \{p: P_i \geq T_i\}$.
- Trimap, $T_i, P_i \rightarrow [T_a, T_r, T_v]$
- Pentamap, $T_i, P_i \rightarrow [T'_{ca}, T'_{cb}, T'_{cr}, T'_{cv}, T'_{v}]$



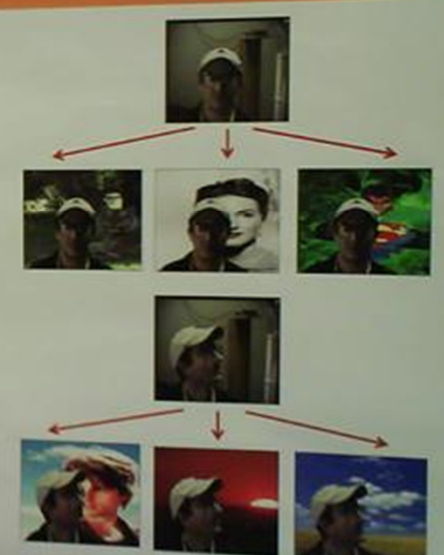
GRAPH CUTS

- $G=(V, E)$
- Node set $V: T'_{ca}, T'_{cb}, T'_{cr}$, each pixel in $[T'_{ca}, T'_{cb}, T'_{cr}]$
- Edge set E :
 - T-links: $[V_i, OBI/BKG]$.
 - N-links: neighborhood pixels in T'_{ca}/T'_{cb} and T'_{cr}
- Edge weight: GMM model derived from T'_{ca}/T'_{cb}



ADVANTAGES:

- prevent unwanted cut
- Predict possible cut
- Improve max-flow algorithm, $O(mn^2)$



ACKNOWLEDGEMENT

- NSERC
- HP

Credits:
Dr. Pierre Boulanger, Dr. Shih-Wei Chen

Which would you rather see?

Title title title
Author, Author, Author

GOAL
• 3-Layer Video Segmentation
• Automatic segmentation of a foreground layer from a natural scene in real time by fusing infrared, color and edge information.

DATA ACQUISITION
• Foreground is illuminated by IR source at 850 nm.
• IR light is captured by an infrared camera.
• Beam splitter partitions light into two perpendicular paths.

PENTAMAP INITIALIZATION

- Foreground in MAIK, $MAIK = [p|P|Zp \Rightarrow T]$
- Trimmap, $T = [T_u, T_v, T_w]$
- Pentomap, $P = [T_u, T_v, T_w, T_x, T_y]$

GRAPH CUTS

- $G = (V, E)$
- Nodes set $V = \{T_u, T_v, T_w\}$, each pixel in $\{T_u, T_v, T_w\}$
- Edge set E
- T -links: $\{V, OBI, BKG\}$
- W -links: neighborhood pixels in T_u/T_v and T_v/T_u
- Edge weight: CMM model derived from T_u/T_v

ADVANTAGES:

- Full control of illumination process
- Mirrored images, synchronized in time and space
- No complex calibration and synchronization process
- Preprogram template by thresholding the IR image
- Flexibility of foreground object

ACKNOWLEDGEMENT

- NSERC
- HP

Title title title
Author, Author, Author

1. Introduction

Real-time monitoring of volumetric data is generally known as a memory and computation intensive process. With the advent of graphic hardware, especially GPU, it is no longer a task of time-consuming data processing, it also comes with new challenges. The first one is how to reduce the loading time for data transmission between user memory and graphic memory. The second one is how to efficiently take advantage of the fine-grained parallel processing resources of the GPU. In this thesis, we designed a system which offloads data with both of the solutions.

We proposed an optimized compression scheme that is low-complexity and low-latency. The compressed data is then transferred to graphic memory and directly rendered to GPU. In this data transfer between user memory and graphic memory, it significantly reduces I/O and transmission delays, we successfully reduce more than half of the time for transferring the video data. The advantages of proposed compression scheme with the real-time monitoring system. The proposed compression scheme offers a data compression ratio, which is independent of the content, scalability and extensibility, we describe the system.

2. System Overview

The proposed system is designed to monitor large time-series monitoring data in real-time. Figure 2.1 shows the overview of our system. We generate the process of monitoring volumetric data over time different resolution. Each module is designed to work either on the GPU, or on the CPU. There are four different modules, including: data acquisition, data processing, data transfer, and data rendering. Each module is designed to work either on the GPU, or on the CPU. The data acquisition module is designed to work on the GPU. The data processing module is designed to work on the CPU. The data transfer module is designed to work on the GPU. The data rendering module is designed to work on the GPU.

3. Encoder

The main components of encoder processing are described in Figure 3.1. In this figure, we define the compressed data blocks of depth at time t as $\{D_t\}$, so the original data at time t is $\{D_t\}$. We define the dimension of volumetric data as (x, y, z) . We use the following notation to describe it: (x, y, z) is the original data, (x', y', z') is the compressed data. The main components of encoder module of our system are:

1. Resampling: $(x, y, z) \rightarrow (x', y', z')$
2. Decomposition and quantization: Subtraction effectively reduces the data volume. After subtraction of two consecutive time blocks, most of the elements become zero. Decomposition exploits the sparse structure. Figure 3.2 illustrates the process of decomposition. There are 3 different modes of block after decomposition.
3. Integer transformation (ITZ): We use a modified vector quantization algorithm to speed up the compression process. The normal algorithm also called VQ algorithm, requires after data we get the compressed. The modified vector quantization algorithm-based compression phase. The compression rate we use here is 10:1. Figure 3.3 illustrates the process of integer transformation. In this figure, it is designed to compress the compressed data. In this figure, it is designed to compress the compressed data. In this figure, it is designed to compress the compressed data.

4. Decoder

The decoder module is responsible for identifying the compressed data blocks (CPB). The compressed data we have different resolution to monitor. Figure 4.1 shows the overview of decoder module. The decoder module is designed to work on the GPU. The decoder module is designed to work on the GPU. The decoder module is designed to work on the GPU. The decoder module is designed to work on the GPU.

5. Experiments and Results

We did our experiment on a desktop with a Intel Core i7-9700 processor, 16GB memory, and a NVIDIA GeForce RTX 3090 GPU. The hardware between GPU and main memory is PCIe Express 4.0. We tested our system from two perspectives as listed below:

1. Data preparation time and compression ratio measurement results.
2. Data preparation time and compression ratio measurement results.

Table 5.1: The data preparation time and compression ratio. The data preparation time is the time for identifying the video volumetric data with (x, y, z) in the form of updating the compressed CPB. The original data size is denoted as D , and compressed data size is C . The compression ratio R is defined by $R = D/C$. The GPU decomposition module can save more than half of the data preparation time.

Table 5.2: Data preparation time and compression ratio measurement results.

Resolution	Original Data Size (MB)	Compressed Data Size (MB)	Compression Ratio	Data Preparation Time (ms)
1080p	100	10	10:1	100
720p	50	5	10:1	50
480p	25	2.5	10:1	25

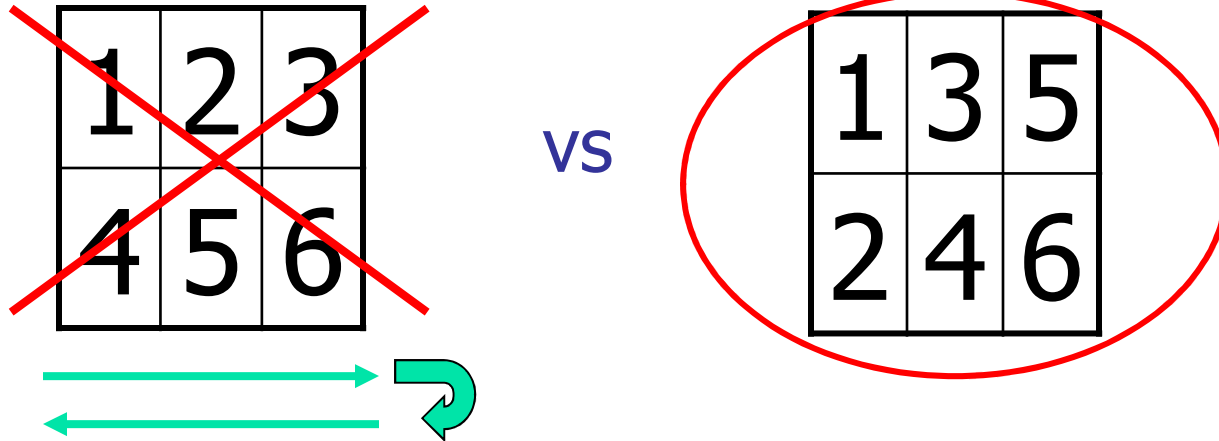
Table 5.3: The data preparation time and compression ratio. The data preparation time is the time for identifying the video volumetric data with (x, y, z) in the form of updating the compressed CPB. The original data size is denoted as D , and compressed data size is C . The compression ratio R is defined by $R = D/C$. The GPU decomposition module can save more than half of the data preparation time.



Think of Poster \approx Presentation...

- Use line breaks to help readers parse sentences
 - Avoid “Figure 1” or “Table 3”
 - unless you *need* to refer to a figure/table
 - Typically NOT needed – just use proximity, or arrows
 - Use just PHRASES within BULLETS
 - not complete sentences
 - Extra words are problematic, as ...
 - If people are reading, they aren't listening!
 - Many words make a poster look crowded, ...
like it will be hard to understand.
- ⇒ potential viewers will go to another poster ...

Poster Layout ?



- Left-to-right: reader will slide left-to-right, then jump back to the left margin, then slide to the right, then ...
- Especially problematic if many viewers
 - "sliding viewers" will distract others!





Don't forget ...

- Acknowledge your funders!
- How to learn more...
 - get databases? ... code?
 - URL? ... email address?
 - Bring/distribute business cards (with URL)!
- If general poster:
 - ... NOT for a single specific venue
 - give citations to where these results appeared



Effective Poster: Presentation

- **RIGHT**-handed \Rightarrow poster on your **RIGHT** side
 - so you can point to material, while facing audience
- As you progress over the poster, you will block some viewers
 - unavoidable... just try to minimize it.



Getting / Maintaining Viewers

- Have 30sec “pitch” – to lure people in
 - Or actually:
so they know whether to view, or go on
- Devote your attention to current viewer(s)
 - If others arrive during presentation,
interrupt to say
"I will restart in *X* minutes"