Endeavour Program
MELBOURNE SCHOOL OF ENGINEERING

POSTER DESIGN
Session aims

To better understand how to design an effective poster in terms of:

✓ Your purpose and audience

✓ Content

✓ Layout

✓ Visuals

✓ Logistics
A poster can perform many functions

Your poster should be:

A conversation starter
Details are on your paper, in your head and in your notes

An advertisement
Generate interest in your project so that your audience wants to learn more

A summary
Provide a succinct summary of what your project achieves
Poster presentations are more flexible than traditional oral presentations

What are the main differences between oral presentations and poster presentations?

<table>
<thead>
<tr>
<th>Oral presentation</th>
<th>Poster</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited time</td>
<td>Audience selects what to view and how long</td>
</tr>
<tr>
<td>Brief question time to whole audience</td>
<td>Opportunity for extended questions and discussion 1:1</td>
</tr>
<tr>
<td>Contains more detail in all sections</td>
<td>Is reduced to essentials: detail can be provided when you present it</td>
</tr>
</tbody>
</table>
What are your four key audiences most interested in?

- Primary and high school students
- General public
- University staff and students
- Industry professionals

How will you adapt your vocabulary and pitch for each group?
Content

Select your content based on the needs of your audience

Ask yourself:

1. What is the **most useful/essential information** relating to our project?
2. What will my audience **most want to know**?
3. What is the **best medium** to present this information?
   - heading
   - text
   - graphic (chart, graph, image)
4. How can I show a **direct connection** between the text and the graphics?
5. How can I **reduce the amount of text** in order to maximise graphics/white space?
Compare these two posters...

Survey of the Least and Crested Auklet colony near Sugarloaf Head, Semisopchok Island, Aleutian Islands, Alaska, during 2004

L. Jones and J. Man. Department of Biology, Memorial University of Newfoundland, St. John's, Newfoundland, A1B 3G9, ljonse@mun.ca

Enhanced Intermediate Language Design to Preserve AO Modularity in Object Code

Broad Problem

Conceptual concerns not separate after Aspect-Oriented (AO) compilation

Nun: Enhanced Intermediate Language Preserves Modularity

• New constructs:
  • bind and remove
  • Language semantics allows static as well as dynamic deployment of aspects

Semantics of bind and remove

Virtual Machine Support for the Nun Intermediate Language

• Extension of Sun Java Hotspot™ Virtual Machine (VM)
• bind and remove constructs added as native methods and implemented inside the VM
• VM interpreter code instrumented to match join points and invoke delegates
• J2SE extended to include a library of patterns for developers

Sub-problem: Fast Dynamic Join Point Matching

Technical Results:
• Optimize individual pattern matching using fast algorithms and data structures
• index-based modifier matching, classification-tree based type matching, Finite-state automation based name matching, and petri-net based composite pattern matching
• Data structures and algorithms for caching already matched patterns
• Avoids unnecessary invalidation of cached results
• Techniques for incremental matching of a join point

Future Work

• Continue improving the efficiency of pattern matching and join point dispatch
• Develop a benchmarking framework to evaluate the efficiency
• Implement support for the Nun intermediate language in the Java VM C1 compiler

Technical Contributions
• enhanced intermediate language design to preserve design modularity in object code
• Production level virtual machine to support Nun Intermediate Language

Software Engineering Benefits
• Improved Scalability of Development Processes
• e.g., by improving incremental compilation of AO programs
• Afford improved benefit of separation of concerns enabled by AGSDI to large-scale software systems
• Other potential benefits:
• Improved post-compilation processes e.g., debugging
• Lower cost of developing robust tool support
• More opportunities for optimizations

Department of Computer Science

Robert Dyer and Hridesh Rajan
Carefully edit your text to maximize impact

To increase readability for a variety of audiences:

- Distill your ideas down to your core message (50 words or less for each section)
- Consider using bullet points
- Write in plain English

<table>
<thead>
<tr>
<th>With regard to</th>
<th>about</th>
</tr>
</thead>
</table>

*Read the more complex language out loud.*

*Can you think of a simple alternative?*
Use headings to help your audience to navigate the information on your poster

Some posters follow a research paper structure:

- Introduction/Aims/Objectives
- Methods
- Results
- Analysis/Discussion/Conclusions

What are the advantages/disadvantages of this?
How useful are the headings in these posters?

How much can you learn in a few moments?

Can Suburban Greenways Provide High Quality Bird Habitat?

Objective: Greenways for the Birds

Study Design & Independent Variables

Can Suburban Greenways Provide High Quality Bird Habitat?

Birds of Conservation Concern in Decline

Spring Neotropical Migrant Stopovers

Neotropical Migrant Stopovers

Greenways for Development-Sensitive Forest

Birds High Conflict with Intense Recreational Use

People & Managers Prefer

Forest Birders Prefer

Potential Solution: Wide Corridor, Trail Near Edge

Migrant Species Require Narrow Path

Migrant Species Require Wide Path

Wide Corridor, Trail Near Edge

Comparing the Location and Morphology of Minke Whale Dorsal Fin Marks: Scotland and Iceland

Figure 1. Examples of dorsal fin silhouettes used to highlight the position and morphology of marks: A: Bala_CIRRU_14 B: Bala_CIRRU_06 C: Bala_CIRRU_02 D: Bala_CIRRU_07 E: Bala_DEFAULT_01 F: Bala_DEFAULT_11

Table 1. Table showing the proportion of source dorsal edge mark positions and morphometrics between the two catalogues used in comparison: CRU and WHM

<table>
<thead>
<tr>
<th>Source</th>
<th>CRU</th>
<th>WHM</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>3.73</td>
<td>4.23</td>
</tr>
<tr>
<td>B</td>
<td>0.59</td>
<td>0.67</td>
</tr>
<tr>
<td>C</td>
<td>56.39</td>
<td>56.39</td>
</tr>
<tr>
<td>D</td>
<td>20.29</td>
<td>20.29</td>
</tr>
<tr>
<td>E</td>
<td>14.85</td>
<td>14.85</td>
</tr>
<tr>
<td>F</td>
<td>11.26</td>
<td>11.26</td>
</tr>
</tbody>
</table>

5. References

Society for Marine Mammalogy Conference. Cape Town. 2007
Use large, informative headings as much as possible

Headings should be large enough to read from 1-2 metres away

Informative headings will help you to:
- minimise text
- highlight key points

A. Methods

B. Measuring Water Flow Around a Pier with Computer Fluid Dynamics
Layout

Use layout to help your audience to navigate the information on your poster
Use layout to help your audience navigate the information on your poster.

The layout of your poster should have clearly defined sections with a logical flow.

Eye tracking studies suggest the eye focuses most naturally where the lines intersect.

<table>
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<tr>
<th>41% of viewers will look here first</th>
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Audience comprehension is higher when content is laid out in a zig zag pattern.

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Majooni, Masood & Akhavan, 2017
What do you notice about the difference in balance of these two posters?
What advantages and disadvantages can you see of a vertical vs horizontal layout?
Consider these two graphs...

*Which graph is clearer? Why?*
“No one ever complained that someone’s poster was too easy to read.”

American Society for Cell Biology
<http://www.ascb.org/index.cfm?id=1607&navid=112&tcode=nws3&search=1>
Carefully select your font type and size to help your audience

✓ Make your title readable from 5 metres away

✓ Use consistent text sizes for different heading levels
   • 80 - 90 point for titles
   • 30 - 36 point for headings
   • 18 - 24 point for text

✓ Put the names of all the authors and institutional affiliations just below (or next to) your title but with smaller font

✓ A serif font is more traditional (and less ambiguous)

✓ A sans-serif font is more modern (and cleaner)
Carefully select and use a consistent colour and font scheme

**Headings are Open Sans Extra Bold, size 42**

Sub-headings are Open Sans, size 24

Body text is Open Sans Light, size 16. It should be comfortably readable for long passages. Serifed fonts are widely used for body text because they are considered easier to read than sans-serif fonts in print. Sans-serif fonts are considered to be more legible on low-resolution computer screens.
Consider these two posters...

What do you like?

What would you improve?
Let the technology work *for* you
Prepare your poster with enough lead time to have it printed

University printing:

Submit by 5.00pm Friday 29 September
Consider these elements when designing your poster:

- Your purpose and audience
- Content
- Layout
- Visuals
- Logistics