Discussion questions for *Slideshow: Functional Presentations*

Comp 150PLD

September 15, 2015

**Warm-ups**

1. What is the domain of Slideshow?

2. Draw a simple picture using shapes described in the paper and then write Slideshow pseudo-code that would produce it.

**Design Evaluation**

1. Describe briefly how Slideshow is implemented.

2. What are the primitive abstractions/objects supplied by Slideshow? Are these primitive abstractions sufficient? How could you tell? Why have both `blank` and `rectangle`?

3. What are the operations provided by Slideshow? Are these operations sufficient? How could you tell?

4. What features are borrowed from the host language?

5. What are the advantages and disadvantages of writing slide presentations in Slideshow vs. a WYSIWYG editor like Powerpoint? Be specific and give examples.

6. What are the strengths of Slideshow? Be specific and give examples.

7. What are the weaknesses of Slideshow? Be specific and give examples.

8. What changes do you think might improve Slideshow?

**Evaluating Slideshow as a Domain-Specific Language**

1. What language is Slideshow embedded in? What are the advantages and disadvantages of hosting Slideshow in this language?

2. Does Slideshow have a syntax that is distinct from that of its host language? What are the advantages and disadvantages of that choice?

3. Does Slideshow have a type-system that is distinct from that of its host language? What are the advantages and disadvantages of that choice?

4. Does Slideshow have a runtime system? If so, what does it do?

5. Does Slideshow have or could it benefit from Slideshow-specific tool support? Explain.

6. Does Slideshow have or could it benefit from Slideshow-specific libraries? Explain.

7. Discuss the extent to which Slideshow enables multiple uses of a single program.

8. Discuss to what extent Slideshow is a DSL.
More detailed questions. These might help you answer the questions above or guide your understanding of the paper.

1. Explain what find-cb does. Why is it important that each pict has an identity in the sense of Scheme’s eq? function for this operation?

2. The colorize function changes the color of objects with the default color, but not objects whose color has already been overridden. What are the advantages and disadvantages of this design decision?

3. What are the advantages and disadvantages of making operations on pict s functional?

4. What are the advantages and disadvantages of the launder operation? Can you imagine other ways of solving the problem the launder was introduced to solve?

5. In what sense are launder and ghost complements? What other operations are related in some way? How might considering groups of operations help address the question of whether the operations are sufficient?

6. Why do the designers provide both drawing contexts and the pict abstraction?

7. Why can’t a pict’s font be changed externally?

8. Why would the designers want to migrate to a small set of primitives?

9. What does it mean that the designers made slide imperative? What are the advantages and disadvantages of that choice?

10. What are the advantages and disadvantages of rendering slides during presentations instead of in advance?