### Overview
- **What Not To Do (General Research)**
- **What To Do (General Research)**
- **What To Do (For This Class)**

### Paper Pitfalls: Strategy
- **What I Did Over My Summer Vacation**
  - focus on effort not contribution
  - too low-level
- **Least Publishable Unit**
  - tiniest increment beyond (your) previous work
  - bonus points: new name for old technique
- **Dense As Plutonium**
  - so much content that no room to explain why/what/how
  - falls reproducibility test
- **Bad Slice and Dice**
  - two papers split up wrong
  - neither is standalone, yet both repeat
- **Slimy Simultaneous Submission**
  - often detected when same reviewer for both
  - instant dual rejection, multi-conference blacklist

### Paper Pitfalls: Tactics
- **Guess My Contributions Game**
  - it’s your job to tell reader explicitly
  - consider carefully, often different from original goals
- **I Am So Unique**
  - don’t ignore previous work
  - motivation: why should I care
  - overview: what did you do
  - details: how did you do it
  - Jargon Attack
  - avoid where you can
  - define before using

### InfoVis Paper Styles
- **technique**
  - most common
  - here’s how to do X
  - do first, or do better
- **design study**
  - not just apply technique X to domain Y
  - justify visual encoding choices
- **system**
  - very hard to do well!
  - lessons learned: why do we care?
- **evaluation**
  - often but not always user studies
- **model**
  - frameworks, taxonomies
- **results**
  - complexity, performance, visual quality, efficacy
  - usage scenarios, case studies

### Paper Writing: InfoVis Technique/Design Study
- what problem are you solving
- why should I care
- order depends on whether familiar
- why doesn’t existing systems solve problem
- technique
  - how algorithm works: overview, then details
- design study
  - why is mapping from domain problem to visual encoding
  - why does it solve problem
  - abstraction and justification is critical
  - may include multiple design iterations
- results
  - complexity, performance, visual quality, efficacy
  - usage scenarios, case studies

### Paper Writing: Contributions
- what are your research contributions?
  - what can we do that wasn’t possible before?
  - how can we do something better than before?
  - what do we know that was unknown or unclear before?
- determines everything
  - from high-level message to which details
  - often not obvious
  - diverged from original goals, in retrospect
- state them explicitly and clearly in introduction
- don’t hope that reviewer or reader will fill in for you
- don’t leave unsaid what should be obvious after close reading of previous work
- best case: taxonomy as aid to thinking, finding gaps
  - actual paper may (should?) have a mix of these elements
  - more at www.infovis.org/infovis/2003/CFP/6papers

### Paper Writing: InfoVis Technique/Design Study
- write and give talk first
- then create paper outline from talk
- encourages concise explanations of critical ideas
  - avoids wordiness/rhetoric and digressions
- practice talk feedback session: at least 3x talk length
- global comments, then slide by slide detailed discussion
- nurture culture of internal critique

### Course Requirements vs. Standard Paper: 1
- research novelty not required
- some past projects implement published technique
- some past projects explicitly not aiming for academic publishability
- many past projects propose solution using existing techniques
- some past projects have become posters at InfoVis
- some past projects could have been submitted as papers with further work

### Course Requirements vs. Standard Paper: 2
- explicit explanation of what was coded is required for programming projects
- submission of code itself not required
  - (but you’re encouraged to make it available open-source)
- part of my judgement is about how much work you did
  - high level: what toolkits etc did you use
  - medium level: what pre-existing features in them did you use
  - low level: how did you adapt/extend existing features to solve your specific problems
- design justification is required for programming projects
  - technique alone is not enough
- evaluation encouraged but not required
  - tradeoff: hard to do both evaluation and technique

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**Lecture 15: Writing Papers**

**Information Visualization**

**CPSC 533C, Fall 2006**

**Tamara Munzner**

**UBC Computer Science**

28 November 2006
Final Presentations

- 20 minutes each
  - some context setting
  - focus on results
- demos encouraged
  - do include screenshots in slides as backup
  - practice in advance since hard to do quickly
  - if you're using my laptop, must checkout in advance