Final Meeting

• Favorite Papers
• Least Favorite Papers

• Program Committee Operations
  – The “Champion” Theory

• Themes and Analyses
  – Paper Weaknesses, Paper Generation
Theme: Symbolic Execution

- ESC/Java
- Angelix
- KLEE
- From Tests To Proofs

- When should you use it? What are the weaknesses?
Theme: Large Empirical Evaluation

- Producing Wrong Data
- Fair and Balanced
- ESC
- Bugs As Inconsistent
- FindBugs
- Tarantula
- GenProg
- Uniqueness / Naturalness
- (cf. FFTW)

When should you use it?
Theme: “Too Formal”

- ESC
- CCured
- Random Interpretation
- DIG
- Life, Death, Critical

(but not “Precise Interprocedural” or “Program Verification to Program Synthesis”)
Theme: “Run The Tests” (Dynamic Analysis)

- Delta Debugging
- Tarantula
- GenProg
- PAR
- SPR
- Angelix
- muTest / EvoSuite
- Daikon
- DIG
- FFTW

When should you use it? What are the weaknesses?
Paper Idea Generation

- KLEE = DART + ESC
- GenProg = FFTW + Tarantula + DeltaDebugging
- “Debugging helping programmers?” = Tarantula + “Producing Wrong Data”
- Angelix = GenProg + (KLEE | ESC)
- SPR = GenProg + “Improving with Path Profiles”
- Pin = ATOM + “Fast Breakpoints”
- “Life Death Critical” = “Precise Interprocedural” + “Limits of Generic Recovery”
Concluding Thoughts

• “Seems obvious in retrospect”
  – This is a good thing
• “How did this get in [when mine did not]?”
  – Avoid “should”
• Claim: formal papers, on average, have short-term benefits but lack long-term impact
  – Exceptions exist
• Recognize recurring themes
  – Identify weaknesses
  – Make your own papers