Schedule

For reading materials linked below that belong to certain digital libraries such as ACM/IEEE, don't buy the articles but access the links from the campus network.

Lecture videos should be available [here].

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Presenter</th>
<th>Reading</th>
<th>Slides</th>
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<tbody>
<tr>
<td>1</td>
<td>08/27W</td>
<td>Darko Marinov</td>
<td>Introduction</td>
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<td>1</td>
<td>08/29F</td>
<td>Darko</td>
<td>Introduction (Continued)</td>
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<td><a href="#">HW0 DUE</a> (11:59:59pm, Champaign time)</td>
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<td>2</td>
<td>09/03W</td>
<td>Darko</td>
<td>Testing Introduction Book Chapter</td>
<td>book</td>
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<td></td>
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<td>Paul Ammann and Jeff Offutt (Testing Textbook)</td>
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<td><strong>HW1 DUE</strong> (6:59:59am, Champaign time)</td>
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<td>2</td>
<td>09/05F</td>
<td>no class</td>
<td>• work on HW2</td>
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<td></td>
<td>• read sections 1, 2, and only one of sections 3, 4, or 5 from this paper:</td>
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<td>Regression Testing Minimization, Selection and Prioritization: A Survey</td>
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<td>Shin Yoo and Mark Harman (STVR 2010)</td>
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<td>3</td>
<td>09/10W</td>
<td>Darko</td>
<td>How to Read an Engineering Research Paper</td>
<td>3</td>
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<td></td>
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<td>William G. Griswold</td>
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<td>Writing Good Software Engineering Research Papers</td>
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<td>Mary Shaw (ICSE 2003)</td>
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<td><strong>HW2 (login to access) DUE</strong> (6:59:59am, Champaign time)</td>
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| 09/12F | Owolabi Legunsen | - HW3 DUE (6:59:59am, Champaign time)  
- write a four-item report as described in Syllabus for one of these two papers:  
  (hw3-1.txt) Scaling Regression Testing to Large Software Systems  
  Alessandro Orso, Nanjuan Shi, and Mary Jean Harrold (FSE 2004)  
  (hw3-2.txt) An Empirical Evaluation and Comparison of Manual and Automated Test Selection  
  Milos Gligoric, Stas Negara, Owolabi Legunsen, and Darko Marinov (ASE 2014) |
| 09/17W | Lamyaa Eloussi Farah Hariri | - HW4 DUE (6:59:59am, Champaign time), write a four-item report for one of these two papers:  
  (hw4-1.txt) Empirically Revisiting the Test Independence Assumption  
  Sai Zhang, Darioush Jalali, Jochen Wuttke, Kvanç Mulu, Wing Lam, Michael D. Ernst, David Notkin (ISSTA 2014)  
  (hw4-2.txt) An Empirical Analysis of Flaky Tests  
  Qingzhou Luo, Farah Hariri, Lamyaa Eloussi, Darko Marinov (FSE 2014) |
| 09/19F | Alex Gyori August Shi | - HW5 DUE (6:59:59am, Champaign time), write a four-item report for one of these two papers:  
  (hw5-1.txt) On-Demand Test Suite Reduction  
  Dan Hao, Lu Zhang, Xingxia Wu, Hong Mei, and Gregg Rothermel (ICSE 2012)  
  (hw5-2.txt) Balancing Trade-Offs in Test-Suite Reduction  
  August Shi, Alex Gyori, Milos Gligoric, Andrey Zaytsev, Darko Marinov (FSE 2014) |
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| 5    | 09/24W | Darko | • Draft project proposals DUE (6:59:59am, Champaign time)  
  • Commit file draft-proposal.txt with these items:  
    • Preferred partner (can leave this empty): FirstName LastName - NetID  
    • Problem: <up to 80 words describing the problem you want to work on>  
    • Proposed solution: <up to 80 words describing how you want to solve it>  
    • Evaluation: <up to 80 words describing how you will evaluate it>  
    • Related paper: <list one conference paper related to your work, not among those we already covered>  
    • Notes (can leave this empty): <can provide more info /background if needed>  
  • NO paper report due  
  The problem with project risk management by Michelle Symonds |
| 5    | 09/26F | Milos Gligoric | • HW6 DUE (6:59:59am, Champaign time), write a four-item report (hw6.txt) for “Related paper” from your project proposal (different from those we already covered)  
  Ekstazi demo  
  • Signup for presentation date (for on-campus students only) DUE by 11:59:59pm Champaign time |
| 6    | 10/1W | Darko | • HW7 (login to access) DUE (6:59:59am, Champaign time)  
  • HW7 followup and proposal format  
  Tao's AVDEC  
  Bug Advocacy |
Final project proposals DUE (6:59:59am, Champaign time)

- All team members should commit the same file proposal.txt with these items:
  - Team: Name1 <NetID1@illinois.edu>, Name2 <NetID2@illinois.edu>
  - Problem: up to 80 words describing the problem you want to work on
  - Proposed solution: up to 80 words describing how you want to solve it
  - Evaluation: up to 80 words describing how you will evaluate it
  - Initial steps: up to 80 words describing what you will do in the next two weeks
  - Notes (can leave this empty): can provide more info /background if needed

If you are presenting in some week, you do not write a report for any paper that week!

HW10-8 DUE (6:59:59am, Champaign time), write a three-item report (good point, bad point, question for discussion, NO potential project) for one of these two papers:

(hw10-8-1.txt) Reducing wasted development time via continuous testing
David Saff and Michael D. Ernst (ISSRE 2003)

(hw10-8-2.txt) Automatic and Scalable Fault Detection for Mobile Applications
Lenin Ravindranath, Suman Nath, Jitendra Padhye, Hari Balakrishnan (MobiSys 2014)
| 7 | 10/10F | J.G. | A.J. | • **HW10-10 DUE** (6:59am, Champaign time), write a three-item report for one of these two papers:  
(hw10-10-1.txt) **Regression Test Selection for Distributed Software Histories**  
Milos Gligoric, Rupak Majumdar, Rohan Sharma, Lamyaa Eloussi, and Darko Marinov (CAV 2014)  
(hw10-10-2.txt) **Automated Decomposition of Build Targets**  
Mohsen Vakilian, Raluca Sauciuc, J. David Morgenthaler, Vahab Mirrokni (UIUC TR 2014) |
|---|---|---|---|---|
| 8 | 10/15W | S.A.M. | M.L. | • Reminder: If you are presenting in some week, you do not write a report for any paper that week!  
• **HW10-15 DUE** (6:59am, Champaign time), write a three-item report for one of these two papers:  
(hw10-15-1.txt) **Understanding and Detecting Real-World Performance Bugs**  
Guoliang Jin, Linhai Song, Xiaoming Shi, Joel Scherpelz, Shan Lu (PLDI 2012)  
(hw10-15-2.txt) **Feedback Generation for Performance Problems in Introductory Programming Assignments**  
Sumit Gulwani, Ivan Radicek, Florian Zuleger (FSE 2014) |
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| 10/17F | 8           | - Project progress report 1 DUE (6:59:59am, Champaign time – please ask by Monday if you need extension or have questions)  
- Commit file _projects/netid1_netid2/progress1.txt to describe what you have done in the last two weeks and what you plan to do in the next two weeks  
- If you have big changes in the project (changed problem or solution or evaluation), please describe those; otherwise state "no changes"  
- HW10-17 DUE (6:59:59am, Champaign time), write a three-item report for one of these two papers:  
  (hw10-17-1.txt) Comparing Non-adequate Test Suites using Coverage Criteria  
  Milos Gligoric, Alex Groce, Chaoqiang Zhang, Rohan Sharma, Mohammad Amin Alipour, and Darko Marinov (ISSTA 2013)  
  (hw10-17-2.txt) Creating a Shared Understanding of Testing Culture on a Social Coding Site  
  Raphael Pham, Leif Singer, Olga Liskin, Fernando Figueira Filho, and Kurt Schneider (ICSE 2013) |
| 10/22W | 9           | - HW10-22 DUE (6:59:59am, Champaign time), write a three-item report for one of these two papers:  
  (hw10-22-1.txt) A Case Study of The Class Firewall Regression Test Selection Technique on a Large Scale Distributed Software System  
  Mats Skoglund and Per Runeson (ISESE 2005)  
  (hw10-22-2.txt) Generalized Symbolic Execution for Model Checking and Testing  
  Sarfraz Khurshid, Corina S. Pasareanu, and Willem Visser (TACAS 2003) |
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<th>Date</th>
<th>HW Due Date</th>
<th>Report Due Date</th>
<th>Report Details</th>
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| 10/24F | HW10-24 DUE | 6:59:59am, Champaign time | write a three-item report for one of these two papers:  
(hw10-24-1.txt) How We Get There: A Context-Guided Search Strategy in Concolic Testing  
Hyunmin Seo and Sunghun Kim (FSE 2014)  
(hw10-24-2.txt) Unit Test Virtualization with VMVM  
Jonathan Bell and Gail Kaiser (ICSE 2014)  
(Try this link if the one above doesn’t work properly. Firefox doesn’t seem to like this link either.) |
| 10/29W | HW10-29 DUE | 6:59:59am, Champaign time | write a three-item report for one of these two papers:  
(hw10-29-1.txt) WebDiff: Automated Identification of Cross-browser Issues in Web Applications  
Shauvik Roy Choudhary, Husayn Versee, Alessandro Orso (ICSM 2010)  
(hw10-29-2.txt) Automatic Identification of Bug-Introducing Changes  
Sunghun Kim, Thomas Zimmermann, Kai Pan, E. James Whitehead, Jr. (ASE 2006) |
<table>
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<td>K.C.</td>
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<td>P.V.</td>
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- **HW10-31 DUE** (6:59 am, Champaign time), write a three-item report for one of these two papers:

  - (hw10-31-1.txt) **Mining Software Repositories to Study Co-Evolution of Production & Test Code**
    Andy Zaidman, Bart Van Rompaey, Serge Demeyer, and Arie van Deursen (ICST 2008)

  - (hw10-31-2.txt) **Search-Based Inference of Polynomial Metamorphic Relations** (or try HERE)
    Jie Zhang, Junjie Chen, Dan Hao, Yingfei Xiong, Bing Xie, Lu Zhang, Hong Mei (ASE 2014)
• Updated project proposal (especially for students who split teams) DUE (5:59:59am, Champaign time)
  • Update/add file _projects/netid1[_netid2]/proposal.txt to reflect your project ideas/plans (as asked in proposal.txt)
  • If you plan to follow your existing proposal.txt, just write "NO CHANGE" at the beginning of the existing file
• Optional: submit project progress report in _projects/netid1[_netid2]/progress2.txt (and email Milos and Darko when you submit)
• HW11-5 DUE (5:59:59am TIME CHANGE, Champaign time), write a three-item report for one of these two papers:
  (hw11-5-1.txt) Context-Sensitive Delta Inference for Identifying Workload-Dependent Performance Bottlenecks
  Xusheng Xiao, Shi Han, Dongmei Zhang, Tao Xie (ISSTA 2013)
  (hw11-5-2.txt) DeadSpy: A Tool to Pinpoint Program Inefficiencies
  Milind Chabbi, John Mellor-Crummey (CGO 2012)

• HW11-7 DUE (5:59:59am TIME CHANGE, Champaign time), write a three-item report for one of these two papers:
  (hw11-7-1.txt) Automated Cross-Browser Compatibility Testing
  Ali Mesbah and Mukul R. Prasad (ICSE 2011)
  (hw11-7-2.txt) Making Offline Analyses Continuous
  Kivanc Muslu, Yuriy Brun, Michael D. Ernst, David Notkin (ESEC/FSE 2013)
HW11-12 DUE (5:59am, Champaign time), write a three-item report for one of these two papers:

(hw11-12-1.txt) **Localizing Failure-Inducing Program Edits Based on Spectrum Information**
Lingming Zhang, Miryung Kim, Sarfraz Khurshid (ICSM 2011)

(hw11-12-2.txt) **Human Performance Regression Testing**
Amanda Swearngin, Myra B. Cohen, Bonnie E. John, Rachel K. E. Bellamy (ICSE 2013)

HW11-14 DUE (5:59am, Champaign time), write a three-item report for one of these two papers:

(hw11-14-1.txt) **A preliminary evaluation of text-based and dependency-based techniques for determining the origins of bugs**
Steven Davies, Marc Roper & Murray Wood (WCRE 2011)

(hw11-14-2.txt) **A safe regression test selection technique for database-driven applications**
David Willmor and Suzanne M. Embury (ICSM 2005)
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<th>Homework Due Time</th>
<th>Report</th>
<th>Authors/Title</th>
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| 11/19W | U.M.    | 5:59 am, Champaign time | 3-item report for one of these two papers:  
(hw11-19-1.txt) **Regression Testing in the Presence of Non-code Changes**  
Agastya Nanda, Senthil Mani, Saurabh Sinha, Mary Jean Harrold, and Alessandro Orso (ICST 2011)  
(hw11-19-2.txt) **Configuration Selection Using Code Change Impact Analysis for Regression Testing**  
Xiao Qu, Mithun Acharya, Brian Robinson (ICSM 2012) |
| 11/21F | R.S.    | 5:59 am, Champaign time | 3-item report for one of these two papers:  
(hw11-21-1.txt) **Empirical Evaluations of Regression Test Selection Techniques: A Systematic Review**  
Emelie Engström, Mats Skoglund, Per Runeson (ESEM 2008)  
(hw11-21-2.txt) **Robust Test Automation using Contextual Clues**  
Rahulkrishna Yandrapally, Suresh Thummalapenta, Saurabh Sinha, Satish Chandra (ISSTA 2014) |

**11/26W**  
**Thanksgiving Break**

**11/28F**  
**Thanksgiving Break**
| 15 | 12/3W | P.J.  
A.S. | - HW12-3 DUE (5:59:59am, Champaign time), write a three-item report for one of these two papers:
(hw12-3-1.txt) **Maintaining and Evolving GUI-Directed Test Scripts**
Mark Grechanik, Qing Xie and Chen Fu (ICSE 2009)
(hw12-3-2.txt) **Improving Oracle Quality by Detecting Brittle Assertions and Unused Inputs in Tests**
Chen Huo and James Clause (FSE 2014) |
|---|---|---|---|
| 15 | 12/5F | P.C.  
A.A. | - HW12-5 DUE (5:59:59am, Champaign time), write a three-item report for one of these two papers:
(hw12-5-1.txt) **Covrig: A Framework for the Analysis of Code, Test, and Coverage Evolution in Real Software**
Paul Dan Marinescu, Petr Hosek, Cristian Cadar (ISSTA 2014)
(hw12-5-2.txt) **Strategies for Avoiding Text Fixture Smells during Software Evolution**
Michaela Greiler, Andy Zaidman, Arie van Deursen, and Margaret-Anne Storey (MSR 2013) |
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<thead>
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<th>16</th>
<th>12/10W</th>
<th>A.G.</th>
<th>A.J.</th>
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<td>HW12-10 DUE (5:59am, Champaign time), write a three-item report for one of these two papers:</td>
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|     | (hw12-10-1.txt) **Efficient Instrumentation for Code Coverage Testing**  
Mustafa M. Tikir and Jeffrey K. Hollingsworth (ISSTA 2002) |
|     | (hw12-10-2.txt) **What Bugs Live in the Cloud? A Study of 3000+ Issues in Cloud Systems**  
Haryadi S. Gunawi et al. (SOCC 2014) |

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<tr>
<th>16</th>
<th>12/13Sat</th>
<th><strong>FINAL PROJECT REPORTS DUE at 11:59pm AoE</strong></th>
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<tr>
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<td>Submit final.txt as described on Piazza post @214</td>
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<td>If you need an extension, email Darko as soon as possible</td>
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