



ONLINE DAILY FEEDBACK SURVEY Daily Feedback Quiz in Canyas – Available After Fach Class Extra credit available for completing surveys ON TIME Tuesday surveys: due by ~ Wed @ 10p Thursday surveys: due ~ Mon @ 10p = TCSS 558 A > Assignments Winter 2021 Search for Assignment Upcoming Assignments Assign TCSS 558 - Online Daily Feedback Survey - 1/5 3 Chat TCSS558: Applied Distributed Co School of Engineering and Tech February 22, 2024 puting [Winter 2024] ogy, University of Washington - Ta L14.3



















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USING JAVA 11 IN NETBEANS				
In Netbeans IDE, under Tools menu, 'Java Platforms', be sure to install and select JDK 11				
Iava Distform Manager				
Use the Javadoc tab to register the API documentation for your JDK in the DEL Cick Ad4 Plottom to register other Java platform versions. Platform : to Java SE to Java SE t				
 On left-hand Project menu, <u>right-click</u> on 'GenerlcNode' project Select Properties Under Build Compile, be sure Java Platform is JDK 11 Under Sources, be sure Source/Binary Format is 11 				
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and a second sec				



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SHORT-HAND-CODES FOR MEMBERSHIP TRACKING APPROACHES				
Include readme.txt or doc file with instructions in submission				
Must document membership tracking method				
>> please indicate which types to test <<				
ID	Description			
F	Static file membership tracking - file is not reread			
FD	Static file membership tracking DYNAMIC - file is			
	periodically reread to refresh membership list			
Т	TCP membership tracking – servers are configured to			
refer to central membership server				
U	J UDP membership tracking - automatically discovers			
nodes with no configuration				
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PROBABILISTIC FLOODING

PROBABILISTIC FLOODING Washington state in When a node is flooding a message m: $(\ensuremath{p_{flood}})$ is the probability that the message is spread to a speci How many edges does network with Thro 10,000 nodes have with $p_{edge}=0.1?$ Impl achi Effic 4.999.500 edges netw • With $p_{edge} = 0.1$ and $p_{flood} = .01$ Achieves 50-fold reduction in messages vs. full flooding TCSS558: Applied Distributed Computing [Winter 2024] School of Engineering and Technology, University of Wa February 22, 2024 L14.27

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specific neighbor =(p_{flood})

node Q has n neighbors

network with 10,000 nodes

• With $p_{edge} = 0.1$ and $p_{flood} = .01$

to Q is $p=(1-p_{flood})^n$







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EPIDEMIC PROTOCOLS Gossiping Nodes are randomly selected One node, randomly selects any other node in the network to propagate the network Complete set of nodes is known to each member







RUMOR SPREADING Variant of epidemic protocols Provides an approach to "stop" message spreading Mimics "gossiping" in real life Rumor spreading: Node P receives new data item X Contacts an arbitrary node Q to push update • Node Q reports already receiving item X from another node • Node P may loose interest in spreading the rumor with probability = p_{stop} , let's say 20% . . . (or 0.20) TCSSS58: Applied Distributed Computing [Winter 2024] School of Engineering and Technology, University of Washington - Tar February 22, 2024 L14.39 39







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DEATH CERTIFICATE EXAMPLE For example: Node P keeps death certificates forever

- Item X is removed from the system
- Node P receives an update request for Item X, but also holds the death certificate for Item X

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• Node P will recirculate the death certificate across the network for Item X

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