

TCSS 562:
SOFTWARE ENGINEERING
FOR CLOUD COMPUTING

Group Presentations II

Wes J. Lloyd
School of Engineering and Technology
University of Washington – Tacoma
MW 5:50-7:50 PM



OBJECTIVES – 12/2

Questions from 11/30

Presentation Questions

Quiz 2 Results Overview

Term Project Paper, Term Project Presentation, Tutorial 9

Group 3 - **Paper: Serverless Applications: Why, When, and How?**
Bharti Bansinge, Deepthi Warriar Edakunni

2nd hour:

Group 5 – **Paper: Multitenancy for Fast and Programmable Networks In the Cloud**
Xiaowan Guo, Jiayu Li, Jiawei Yao

Group 2 - presentation moved to 12/9

Office Hours / Tutorial questions / Team planning

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ONLINE DAILY FEEDBACK SURVEY

Daily Feedback Quiz in Canvas – Take After Each Class

Extra Credit for completing

Announcements

Assignments

Discussions

Zoom

Grades

People

Pages

Files

Quizzes

Collaborations

UW Libraries

UW Resources

Upcoming Assignments

Class Activity 1 – Implicit vs. Explicit Parallelism
Available until Oct 11 at 11:59pm | Due Oct 7 at 7:50pm | ~10 pts

Tutorial 1 - Linux
Available until Oct 19 at 11:59pm | Due Oct 15 at 11:59pm | ~20 pts

Past Assignments

TCSS 562 - Online Daily Feedback Survey - 10/5
Available until Dec 18 at 11:59pm | Due Oct 6 at 8:59pm | ~1 pts

TCSS 562 - Online Daily Feedback Survey - 9/30
Available until Dec 18 at 11:59pm | Due Oct 4 at 8:59pm | ~1 pts

TCSS 562 - Online Daily Feedback Survey - 10/5

Started: Oct 7 at 1:13am

Quiz Instructions

Question 1

0.5 pts

On a scale of 1 to 10, please classify your perspective on material covered in today's class:

1

2

3

4

5

6

7

8

9

10

Mostly Review To Me

Equal Now and Review

Mostly Now to Me

Question 2

0.5 pts

Please rate the pace of today's class:

1

2

3

4

5

6

7

8

9

10

Slow

Just Right

Fast

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MATERIAL / PACE

Please classify your perspective on material covered in today's class (17 respondents):

1-mostly review, 5-equal new/review, 10-mostly new

Average – 6.00 (↔ - previous 6.00)

Please rate the pace of today's class:

1-slow, 5-just right, 10-fast

Average – 5.59 (↑ - previous 5.39)

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FEEDBACK FROM 11/30

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TUTORIAL SUMMARY

- Tutorial 6: Extended to Wednesday Dec 2nd @ 11:59p
- Tutorial 7: Sunday Dec 6th @ 11:59p
- Tutorial 8: **Extra Credit** - Posted 11/25
- Tutorial 9: **Extra Credit** - Posted 12/2
- Tutorial 10 - No Credit - Posted 11/25
- Tutorial 11 - No Credit - To be posted

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GROUP PRESENTATION QUESTIONS

- Assignment created as quiz on Canvas
- Only **ONE MEMBER** of each team needs to submit the quiz
- Quiz collects questions for group presentations in one place
- Best to submit all questions at once on/after Wed Dec 11
- Please provide 2 questions for each presentation not occurring on your team's presentation day
- Monday Nov 30 - Quiz for Groups 2, 3, 4, 5, 6, 9, 12
- Wednesday Dec 2 - Quiz for Groups 1, 2, 4, 6, 7, 8, 9, 12
- Monday Dec 7 - Quiz for Groups 1, 2, 3, 4, 5, 7, 8
- Wednesday Dec 9 - Quiz for Groups 1, 3, 5, 6, 7, 8, 9, 12

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GROUP PRESENTATIONS - WEEK 10

Monday Nov 30

Slot #1 - **Technology: Elasticsearch**
Group 8: *Hulcong Jiang, Yaqing Cao, Yuri Liao*

Slot #2 - **Microservices Architecture Enables DevOps**
Group 1: *Rajbir Deol, Madhuri S Sharma, Shrutishree Sumanth*

Slot #3 - **Costless: Optimizing costs of Serverless Computing through Function Fusion and Placement**
Group 7: *Richard Bankhead, Alina Saduova, Brian Wolk*

Wednesday Dec 2

Slot #1 - **Serverless Applications: Why, When, and How?**
Group 3: *Bharti Bansinge, Deepthi Warriar Edakunni*

Slot #2 - **Multitenancy for Fast and Programmable Networks In the Cloud**
Group 5: *Xiaowan Guo, Jiayu Li, Jiawei Yao*

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GROUP PRESENTATIONS - WEEK 11

Monday Dec 7

Slot #1 - **Serverless Containers-Rising Viable Approach to Scientific Workflows**
Group 9: *Siddharth Sheth, Patrick Moy, Srivatsav Gopalakrishnan*

Slot #2 - **FECBench: A Holistic Interference-aware Approach for Application Performance Modeling**
Group 12: *Jordan Overbo, Zoe Sadeghi*

Slot #3 - **A FaaS File System for Serverless Computing**
Group 6: *Jingyan Sun, Lu Han, Zeng Fu*

Wednesday Dec 9

Slot #1 - **BATCH: Machine Learning Inference Serving on Serverless Platforms with Adaptive Batchng**
Group 4: *David Melanson, Samuel David Adams, Richard Brun*

<MOVED> Slot #2 - **Serverless in the Wild: Characterizing and Optimizing the Serverless Workload at a Large Cloud Provider**
Group 2: *Enbel Liu, Jingru Zhao*

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QUIZ 2

■ Partial Credit: +0.5 pts

■ Q3 – all answers

■ Q5 – for maintainability & resiliency

■ Q8 – all answers

■ Q10 – general purpose 2

■ Q15 – snapshots or AMIs

■ Q20 – all answers

■ Curve: +1 pts (+5%)

■ Curve class-wide average from 80% → 85%

⊙ Average Score

⊙ High Score

⊙ Low Score

⊙ Standard Deviation

⊙ Average Time

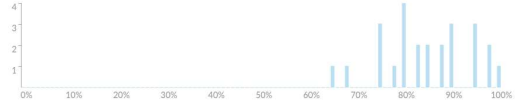
85%

105%

65%

1.96

01:19:88



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WE WILL RETURN AT
~7:09PM



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QUESTIONS




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QUESTIONS



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TCSS 562

OFFICE HOURS

PLEASE SAY HELLO



OFFICE HOURS

HAVE STEPPED OUT

WILL RETURN SHORTLY



AREAS OF THE CLOUD

- **Area:** Serverless Computing
 - Function-as-a-Service
 - Container-as-a-Service
- Infrastructure-as-a-Service Cloud
 - Virtual Machines
 - Containers & container clusters (Kubernetes)
- **Perspective:** cloud provider vs. cloud consumer
- **Applications:** tsunami modeling, bioinformatics, environmental modeling
- **Problem:** driven by the area & perspective
 - Common problems: what is the right abstraction? → observability
 - resource contention, resource heterogeneity, provisioning variation, performance variability (delta between min/max performance)

