TCSS 562: SOFTWARE ENGINEERING FOR CLOUD COMPUTING

Group Presentations II

Wes J. Lloyd
School of Engineering and Technology
University of Washington – Tacoma

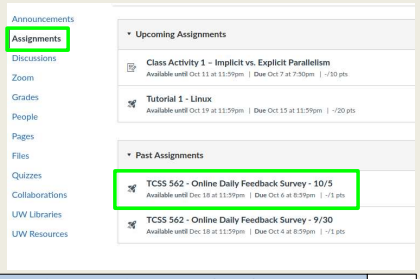
MW 5:50-7:50 PM

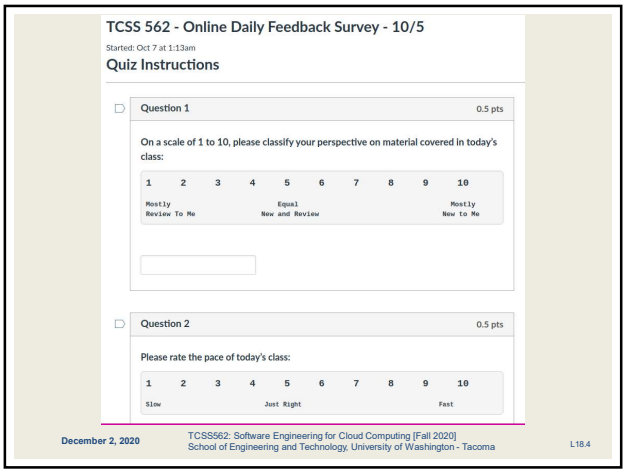
OBJECTIVES – 12/2

- **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 Warrier 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

ONLINE DAILY FEEDBACK SURVEY

- Daily Feedback Quiz in Canvas – Take After Each Class
- Extra Credit for completing





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*)**

FEEDBACK FROM 11/30

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

GROUP PRESENTATIONS – WEEK 10

Monday Nov 30

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

Slot #2 - **Microservices Architecture Enables DevOps**
- *Group 1: Rajbir Deol,Madhuri S Sharma, Shrustishree 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 Warrier Edakunni*

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

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 Batching**
- *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: Enbei 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%

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WE WILL RETURN AT ~7:09PM

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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)