Week 8: How the rest of CG4002 will be run

Peh Li Shiuan

1

Current covid rules according to my understanding

- If someone tests positive/falls ill/gets notified by MOH due to close contact, he/she cannot come to campus
- Group of 2
  - Students cannot meet in groups larger than 2 outside of class hours
  - Students can meet in pairs occasionally outside class hours
    - E.g. pass hardware sets at MRT stations
    - Setup laptops as comms relay (Do at lab if possible)
    - Do as much virtually as possible – code integration, dancer AI model training, testing
- Plan:
  - Fully virtual testing – High likelihood of students/teaching team not being able to come to campus; Difficult to abruptly transition from physical to virtual testing
  - Hybrid labs – Face2face labs at SR1 will be only way for our project groups to meet in person; Try to split team to minimize risk of covid/isolation

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Weeks 8, 10, 12: Hybrid labs

- Face2face at SR1:
  - uNivUS green pass (-ve ART test, health qns, WiFi, Bluetooth, TraceTogether on)
  - Do not interact across project groups
  - TAs interact only with their project groups
  - Lecturers will split times to be at SR1
  - You can only be here during lab hours
- Online on zoom:
  - 7 breakout rooms for each project group
  - Students at SR1 can connect to zoom to reach groupmates online
  - Teaching team will be online and will pop into breakout rooms

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Weeks 9, 11, 13: Virtual tests

- Dancer(s) will be randomly selected 1 week in advance, before the prior week's lab, so wearables can be passed to them in advance. Everyone in the group will be a dancer at least once. There will be no unseen dancer test by the teaching team.
- 6 students will call into zoom individually from their own homes
  - Do NOT meet to call in
- Lecturer will run evaluation server and share evaluation server screen via zoom
- Dashboard student will share dashboard and screen record dashboard
- Dancers will see evaluation server screen on zoom. If they wish to see the dashboard, they need to call into zoom on another device
- Dancers will wear the Blunos and move left/right to specified position, and dance specified move
- Dancers' **3 laptops** will function as comms relay to Ultra96
- Screen recording will be on to enable TA to calculate fastest-to-slowest dancer sync delay. (Weeks 11, 13)
- TA will be at Makers@SoC to reboot Ultra96 in case of crashes
- *Record working dance, dashboard videos and test logs and submit as backup*

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Sample virtual test videos

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Week 9 virtual test (10% grade)

- 1 dancer, 3 moves (mermaid, jamesbond, dab), NO positions
- No need for final move

- Hw sensor: 1 wearable set (no EMG)
- Comms internal: Send sensor data from 1 wearable to 1 comms laptop
- Comms external: Relaying from 1 comms laptop to Ultra96, send predicted move to evaluation server (no sync delay)
- Sw AI: Train model on specified dancer, send features to Ultra96 FPGA (no positions)
- Hw FPGA: Run 1 dancer's trained model, return move inference (no positions)
- Sw dashboard: Get sensor data from Comms and display move in real-time (no/fake positions)

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Week 11 virtual test (15% grade)

- THREE dancers, 3 moves (mermaid, jamesbond, dab)
- + relative positions
- + sync delay
- + EMG
- No need for final move

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Week 13 virtual test (25% grade)

- THREE dancers, +EIGHT moves (all 8 moves)
- relative positions
- sync delay
- EMG
- + final move

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