Teaching OpenMP Online

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Overview

- Two courses based on similar material
  - Online OpenMP course in ARCHER Training programme
  - Threaded Programming course in MSc in High Performance Computing

- Format, technology and lessons learned

ARCHER course: Format

- Four live sessions at 1-week intervals

- Each live session – 2 x 1 hour lecture (with Q&A) with ½ hour break in between

- Access to HPC resources during and after course

- Written instructions for practical exercises

- Support for practical exercises via a chat page

ARCHER course: Technology

- Live lectures using Blackboard Collaborate

- Slides posted as PDFs on course web page
  - http://www.archer.ac.uk/training/courses/2019/11/openmp_online/

- Lectures recorded in Collaborate, minimally edited, uploaded to YouTube and posted on course web page

- Basic chat page on Dropbox

ARCHER course: Lessons

- Collaborate generally works well and easy to use for attendees
  - Got attendees to ask question in chat box and read them out before answering them – easier than trying to cope with attendees' audio

- Uptake on HPC system for practical work was poor
  - not really sure why – it's a popular part of face-to-face courses
  - maybe need to do live support sessions?

- Chat page wasn't used much, and it's completely unstructured.

MSc course: Format

- Pre-recorded lectures
  - 12 lectures, released in blocks of 4 at ~3 week intervals

- Practical programming exercises
  - self paced

- Course chat board for questions and answers

- Weekly interactive tutorial sessions

- Assessment via coursework (code and report)

MSc course - Technology

- Lectures recorded on laptop
  - screen capture of slides, no talking head video
  - use external mike to try to improve audio quality

- Lectures split up into 10-15 minutes sections
  - makes doing a single take more feasible, and reduces editing tasks

- Videos hosted on University's media service
  - also uploaded to YouTube to auto-generate subtitles
  - subtitle files downloaded, converted to plain text and edited to produce transcript

MSc course - Technology

- Videos embedded in course web page, along with PDF of slides and text transcript

- Live online tutorial sessions using Collaborate

- Course chat board on Piazza
  - quite structured and heavily featured
  - students post Q's and instructor (or students) can post A's
  - email notification of posts

- Assessment same as on-campus version

MSc course - Lessons

- Huge caveat - very small number of students on first run
  - No real problems (so far!)

- Lecture recording/editing/converting/publishing is quite time consuming

- Students appreciate online tutorials and prompt responses on Piazza

- For coding problems, can just be easier to get students to email their code.

Reusing this material