

Propose a vacation student project for Summer 2019

Deadline for making your proposal(s): 17:00 Friday 22 March 2019. This is a hard deadline.

This form is for one project proposal, so to propose multiple projects please submit a separate form for each project. Any queries, do ask - Toby.

Project supervisor email *

steve.pettifer@manchester.ac.uk

Title of the project *

Interactive content for teaching Operating Systems

Source of funding *

- School funding requested
- You have your own funding (e.g. research grant)

Objective of the project *

To develop MediaWiki modules that will allow the migration of the MESH system used in the teaching of our current 2nd Year Operating Systems course into MediaWiki, and to update and tailor the content to be suitable for use in our new 1st Year Operating Systems unit. There will also be some other tasks to help with the new 1st Year programming courses, and changes to coursework marking processes.

Number of students requested (justify if > 1) *

2; one for 'technical gubbins' and the other for 'content'

Start date, end date, total duration (weeks) *

Somewhat flexible, but as long as possible.

The benefit to the School *

The current MESH system developed by JDG is completely bespoke and so carries a maintenance cost. This project will remove a significant amount of the bespoke code and use our school wiki with some (admittedly bespoke, but much smaller and more manageable) modules to provide the novel features. We are also developing the new Operating Systems for delivery in AY1920 and need some support preparing the material for that.

The benefit to the student *

Experience coding extensions/modules for use in a substantial existing open-source system (mediawiki), and of joining in the development of material for a novel 'system stack' based operating systems course.

Skills needed by the student. *

php programming, git

Details of the work that the student would do *

The MESH system, developed in recent years to support the teaching of COMP251 provides a novel interactive way to explore and learn operating system concepts. As a result of restructuring our programmes for delivery starting in September 2019, Operating Systems has moved to the first year, and this gives us an opportunity to review and refine the content in MESH for a different audience. At the same time we'd like to explore moving the content to be hosted in a MediaWiki installation, rather than using it's own bespoke engine for its wiki-like features. This will require writing some extension modules to MediaWiki to provide features beyond those available in a vanilla installation.

This project will involve working with Sean Bechhofer and Steve Pettifer (who will be delivering the new course next year), first to scope the technical details of the migration, and then to create the extensions and revise the content as its migrated over.

Infrastructure requirements and any required staff support other than the project supervisor *

We'll need some input from Chris Page who manages the school wiki, and who is also wise in the area of MW extensions. We'll also need to consult with Jim Garside who is responsible for the current system and its content

Supervision arrangements throughout the duration of the project (named staff and dates covering the entire duration) *

Steve P and Sean B will cover this; one or the other is available for the duration.

Location of the project work (building/room) NB projects must be on-campus *

Kilburn -- no specific location needed, and scope for some of the work to be done remotely if flexible working is needed.

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