

# Final Year Project Proposal

## Description of Task

You are required to create a proposal for a project for your final year dissertation, within the field of software engineering. This should be around 2,000 words and/or be around four to six pages of text, it can be more with images.

A key advantage of undertaking software development work on placement whilst still at University is the opportunity to reflect more widely on problems encountered in the actual practice of software engineering and the potential solutions that might address them. Consequently, the project proposal should be based on a problem or challenge that you have identified within your own working practice, that of your team and/or the wider software industry that could be addressed by developing and evaluating a novel software engineering tool, method or practice, **\*in collaboration with your placement employer\***.

Example topics for your dissertation project might be (in some cases based on previous workshop presentations):

- A novel language for infrastructure as code
- A suite of test case design patterns
- A novel static analysis tool for Python
- A chaos engineering toolkit, or language for describing chaos engineering experiments.
- A recommender system for automatically identifying open source project issues suitable for novices.
- An IDE plugin for easing the maintenance of software tests that incorporate mocks
- An augment reality Kanban board
- A tool for managing safety critical requirements in an agile development methodology.

You should begin by reflecting on **\*your\*** experiences since the beginning of the placement and discuss examples of potential projects with your employer.

You should submit a report describing your proposal using the provided LaTeX template. Your report must include:

- A background, including a general description of the context of the problem and relevance to the industry partner.
- An explanation of the nature of the problem to be addressed, the symptoms, the extent of the problem (is it specific to your employer, a sector, or the wider software industry?), and associated evidence in support of your description of the problem (conversations with team members, literature, personal diary entries).
- A set of objectives describing the outcomes of the project, either in terms of knowledge acquired through experimentation or artefacts delivered (including software code, data sets, process documentation, for example). These objectives will specify the **\*Definition of Done\*** for the overall project.
- A plan describing the overall approach and the different work packages of work that will need to be undertaken in order to achieve the stated objectives. Each work package should have a title, short description, an assigned outcome (Definition of Done), a due date and a list of assignees (student, employer etc) including the lead responsible for ensuring the work is completed. An example of a work package might be "Deploy Release 1.0 (Prototype 1) to Employer Infrastructure".