

Skills Matrix after completion of Software Engineering Project Management Module February 20, 2022

1 (help!) - 2 (needs work) - 3 (satisfactory) - 4 (good) - 5 (excellent)

Skill	Proficiency	Notes
PROGRAMMING		
Flask - Using Blueprints	4	First time implementing blueprints - makes sense, and allows the code to be structured clearly.
Flask - Unit Testing	3	No issues writing unit tests but do need to investigate how to hook the tests up to a temporary database - rather than use the real one.
Python - general coding	4	Increasingly confident that I can achieve what I want in Python.
Python - interacting with MySQL	3+	Much improved not that I've started working with SQLAlchemy ORM. Reduces data manipulation and increases security by blocking SQLInjection attacks
Behave - Using Gherkin to write acceptance tests	3+	Clear understanding of the language and the framework. Used selenium to click through the UI. All good - but some issues with accessing the web address once deploying everything on docker.
Localisation	2+	First time trying this. Good understanding of how to use Babel to provide alternative languages in the UI. Still more to learn about how to make the Babel notation in the HTML understood by the jinja forms. Had quite a lot of issues trying to run tests after the application had been Babelized.
HTML	3+	Getting better at using forms and how to embed elements in others
CSS	3	Building knowledge about using classes to conditionally style elements of the application
TOOLING		
Docker	3	Much improved understanding of how to deploy the code on a dockerized container. Learned how to run unit tests from inside the container.
Bandit	4	Used bandit to scan the application for security flaws. Learned about yaml config file and reading the output. Will be useful to implement in projects moving forwards.
Linters	4	Got comfortable using Pylint and reading the results. Fixed issues and added annotation to tell the linter what to ignore. Could improve use of this by making it a step in a CI pipeline, forcing builds to fail if there are linting issues.
Coverage	4	First time using the coverage library to measure code coverage and highlight lines of code that were not covered by the unit tests. Very useful moving forwards. Would be good to include in a CI pipeline with builds failing if coverage drops below a certain percentage.
Git	3+	Much better knowledge of using git from the command line, branching strategies, committing regularly with clear messages. Still need to fully investigate Git actions as an effective way of running tests automatically against PRs.
Project Management		
AGILE Scrum	3	Good understanding of the principles and best practices of Scrum. Our partial implementation of Scrum this module highlighted there are certain parts of the process that are essential. Regular stand-ups to check in on the progress of the team and keep the lines of communication open between the developers. Also realised that without retros to look back at previous sprints, there is no improvement from sprint to sprint and the 'agility' of the team is severely compromised.
JIRA	4	Learned a lot about implementing Scrum using a JIRA board and

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		sprints, etc. Different to the KAnban approach we use at work and gave me a good look behind the scenes at a lot of the DevOps work that happens behind the scene at my job.
Estimation	3	Good understanding of various historical estimation models and tools. Not sure how useful these are now. Definitely found out that the 'expert opinion' planning poker approach only actually works with experts as part of the team. Definitely something I'd like to investigate more - how do actual software companies estimate delivery of applications/features.
GENERAL STUDY SKILLS		
Time Management	3	Much improved this module with the workload being spread evenly across the duration of the module.
Prioritizing	4	Acutely aware of what I need to work on, and concentrating on that. Also good at focussing on where the marks are.
Teamwork	3	I am generally good at functioning as part of a team, though definitely will look to have more team 'rules' up front for the next team-based module - especially when it comes to PRS, reviews and coding standards. Also, meetings should be weekly on an agreed day and time so that members can plan their life without having to wait each week to see when the meeting is scheduled for.