

Skills Matrix after completion of Secure Software Development Module May 30, 2022

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

Skill	Proficiency	Notes
WEB DEV PROGRAMMING		
Flask - Using Blueprints	5	Third time using blueprints in a medium sized project. Full confidence using blueprints to provide the View in MVC pattern using Flask
Flask - Unit Testing	4	Improved unit testing ability - much more confident and speedy when composing tests - particularly using the Pytest library
Python - general coding	5	Much more confident in my ability to use Python for data manipulation, logical algorithms, using OOP principles. Feel like I can do most things I need in Python now, and know where/how to look something up when I can't.
Python - interacting with MySQL	4	More confident using SQLAlchemy ORM. Makes hooking up to the database more secure. Reduces vulnerability to SQL injection
API development	3+	Learned a lot from Ian here. Had only ever set up very basic APIs before. This time, lots more about securing the API - using JWT tokens to secure communication with the API - ensuring that parameters were tokenized and passed in the JSON of the body of the request rather than as args in the url. This is one of the areas where I felt like I learnt the most. Really happy with the progress I made in this area. Still need to get more experience writing tests for the API rather than relying on integration and acceptance tests to do this.
Behave - Using Gherkin to write acceptance tests	3+	Second time using Behave on a project. Clear understanding of the language and the framework. Used selenium to click through the UI.
HTML	3+	Improved ability to pass data into html forms from flask and use embedded Python code to loop through the data for displays and refreshes, etc.
CSS	3	Basic functional understanding of style classes, etc. but definitely not a strong point.
TOOLING		
Kafka	3	First time ever using a message queuing system. Found Kafka relatively straightforward to use, with some good tutorials online - though I realise that I have only really scratched the surface of its capabilities.
SECURITY		
Libraries	3	Learned a lot from Ian here, who had more experience using different encryption tools. Have now got some basic familiarity with PyJWT, Fernet, Werkzeug
Sonarqube	4	First time using Sonarqube - very easy to use, very powerful tool, great, easy to implement suggestion. Will definitely reuse
Linters	4	Got comfortable using Pylint and reading the results. Fixed issues and added annotation to tell the linter what to ignore.
Git	4	First time using git actions to create a CI pipeline - very powerful and extremely useful - preventing the main branch from descending into a state of disrepair
GENERAL STUDY SKILLS		
Time Management	4	Continued improvement here - keeping my portfolio up-to-date in the first 8-9 modules to ensure there wasn't a huge workload at the end of the module.
Prioritising	4	Acutely aware of what I need to work on, and concentrating on that.

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		Feel like I am good at focussing on the marking scheme and driving our team in the direction to meet those criteria.
Teamwork	3+	This team worked more closely than previous teams during the degree. Slack definitely made communication more synchronous and much easier.
Project Management	3	I am good at c-operating with other team members but I do feel that the team's overall project management could be improved. I sometimes felt that I had to find out what the other team member was doing and then work around that - fill in the blanks. I think having an actual team leader, or project manager should be a prerequisite for all team projects in future.