Skills Sheet

Software Developer

Role overview: A Software Developer plays a pivotal role in enhancing operations, improving customer experience, and ensuring your organisation remains competitive. They translate complex requirements into functional applications and design custom technology solutions aligned with business needs.

DISCOVER

Step 1: Discover
- Sourcing
- Testing and matching
- Culture fit interview
- Candidate approval

Watch this video for a demo of shortlisting and interviewing candidates on *Potential*

TRAIN

Step 2: Train (avg 235 hrs)
- Principles of Programming
- Java Fundamentals
- Introduction to Web Development
- Intermediate Web Development
- Python Programming Fundamentals

CAPSTONE PROJECT

Step 3: Demonstrate
Capstone: SFIA level 3
Design and build a program where users can CRUD data in the CLI for a specific task.

Read more about Capstones

This Capstone is an example only, and can be tailored to your organisations needs.

DEPLOY

Step 4: Deploy
- Internal hiring
- Onboarding

GROW

Step 5: Grow
- Post deployment
- Capstone: SFIA level 4
- Capstone: SFIA level 5

Ready to take the next step? Get in touch at: potential@withyouwithme.com

Training pathway

Software Developer

Below is the recommended training for candidates to be job-ready as a Software developer. This suite of courses can be completed in as little as 235 hours.

Explore the full Software Developer pathway

Duration: 5-10 hrs

Principles of Programming

Programming is a key skill for any professional looking to improve their job prospects in the IT industry. This course aims to give students a foundational knowledge of programming concepts and principles.

- Types, variable and constants
- Conditions
- Loops
- Arrays and nested loops
- Subroutines
- Classes

Java stream

Duration: 50-80 hrs

Java Fundamentals

In this course, students learn the basics of the Java language. Each module contains associated coding challenges to evaluate skills and understanding.

- Create and run a basic Java application
- Identify the components of a Java application
- Declare and initialise variables
- Use Java operators
- Control program flow with Logic Flow
- Create and use functions
- Understand Scope for variables and functions
- Handle exceptions
- Create and use arrays
- Format data for output
- Read data from user input
- Demonstrate an understanding of importing libraries and packages
- Construct basic object-orientated solutions based on given requirements (as demonstrated in Java Assessment)

WebDev/JavaScript stream

Duration: 10-15 hrs

Introduction to Web Development

In this course, students will create their first website, learn to build development projects with confidence and prepare for more advanced coding courses.

- How to write code in HTML, CSS and JavaScript
- Designing and building simple websites
- Using web development tools
- Accessing technical documentation

Duration: 80 hrs

Intermediate Web Development

This course expands on the learning gained from Introduction to Web Development.

- CSS techniques
- Bootstrap library
- Flex Box Model
- Forms and regular expressions
- JavaScript and jQuery subroutines
- Classes

Python stream

Duration: 30-50 hrs

Python Programming Fundamentals

This course gives students a foundational knowledge of Python programming concepts and principles, along with an understanding of programming using Python syntax.

- Variables and data types
- Repetition structures
- Data structures
- Object orientated programming

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Training pathway

Software Developer (additional)

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By completing additional courses in the Software Developer pathway, candidates can broaden their skill set, adapting their expertise to the unique requirements of your organisation.

Duration: 10 hrs

DevOps Fundamentals

DevOps puts small teams with varying objectives together to work toward efficient and high-quality code releases. This course teaches students how to adopt a collaborative approach to software development, testing and deployment.

- DevOps key concepts, principles and practices
- Culture and terminology
- Tools and the cloud

Duration: 10-15 hrs

Source Control Fundamentals

This course allows students to work on a real-life scenario to understand how Git is used by a team of developers to ship a product.

- Understand what Git is and why developers use it for version control
- Understand Git fundamentals and local/remote repositories
- Understand the collaborative aspects of Git branches
- Demonstrate the ability to collaborate with developers professionally using GitHub

Duration: 5-10 hrs

Big O Notation (Time Complexities)

Big O notation formalises the notion of how long an algorithm takes to run. It is used to describe the worst-case runtime. This course teaches students how to determine and account for time complexities.

- Identify the time complexity of an algorithm on a graph
- Explain why the time complexity of an algorithm is given a specific label
- O(1); O(log n); O(n); O(n2); O(n log n)
- Interpret algorithms to determine their time complexity

Duration: 5-10 hrs

Software Quality Assurance Testing Fundamentals

This course is designed to provide a baseline understanding of software quality assurance testing.

- Recognise the fundamentals of testing
- Describe testing throughout the software development lifecycle
- Describe static testing
- Identify test techniques
- Describe test management

Software Developer

Capstone: SFIA level 3

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CAPSTONE PROJECT

A Capstone project is a practical exercise which enables students to demonstrate technical proficiency before stepping into a new role.

The final Capstone presentation is made to the employer or hiring manager and other relevant team members who may ask technical questions relevant to the person's new skill set.

Software Developer
Capstone outline

- **Design and build a program where users can CRUD data in the CLI for a specific task.**
- Using User Stories, create a presentation that demonstrates the key elements of the program's implementation to meet the customer brief.
- Explain how the project satisfies the user story and meets the mission brief.

SFIA skills tested

Programming/software development
PROG | Level 3

Developing software components to deliver value to stakeholders.

- Designs, codes, verifies, tests, documents, amends and refactors moderately complex programs/scripts.
- Applies agreed standards and tools to achieve a well-engineered result.
- Monitors and reports on progress. Identifies issues related to software development activities. Proposes practical solutions to resolve issues.
- Collaborates in reviews of work with others as appropriate.

Software design
SWDN | Level 2

Specifying and designing software to meet defined requirements by following agreed design standards and principles.

- Creates and documents detailed designs for simple software applications or components.
- Applies agreed modelling techniques, standards, patterns and tools.
- Contributes to the design of components of larger software systems.
- Reviews own work.

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