

Software Developer DACUM MAP

KEY IDEA		DUTY	TASKS						
A	<b>(Pre) DESIGN</b> (Web / Software Applications)	<b>Develop conceptual understanding of applied layered software architecture to project development.</b>							
		<b>A1. Project Management</b>	<b>A1.1</b> Develop a Problem Statement	<b>A1.2</b> Develop a Project Plan	<b>A1.3</b> Determine Feasibility	<b>A1.4</b> Establish Performance Standards	<b>A1.5</b> Apply Agile Methodologies		
		<b>A2. Determine Requirements</b>	<b>A2.1</b> Gather Business Requirements	<b>A2.2</b> Gather User Requirements	<b>A2.3</b> Identify Optimal User Experience	<b>A2.4</b> Gather Software Requirements	<b>A2.5</b> Gather Hardware Requirements		
B	<b>DESIGN</b> (Web / Software Applications)	<b>Develop conceptual understanding of the software development methodologies.</b>							
		<b>B1. Develop Applications</b>	<b>B1.1</b> Develop an Application Design	<b>B1.2</b> Write Application Source Code	<b>B1.3</b> Debug Application	<b>B1.4</b> Validate Against Requirements	<b>B1.5</b> Test Application		
C	<b>LIFECYCLE</b> (Web / Software Applications)	<b>Develop conceptual understanding of the software development life cycle.</b>							
		<b>C1. Deploy Solution(s)</b>	<b>C1.1</b> Identify deployment strategy	<b>C1.2</b> Deploy package	<b>C1.3</b> Collaborate with Stakeholders	<b>C1.4</b> Execute Performance Tests	<b>C1.5</b> Prepare a User Guide	<b>C1.6</b> Create End-User Trainings	<b>C1.7</b> Demo Software Functionality
		<b>C2. Maintain Application</b>	<b>C2.1</b> Troubleshoot Problems	<b>C2.2</b> Modify Existing Application	<b>C2.3</b> Monitor Systems	<b>C2.4</b> Identify Changes	<b>C2.5</b> Select Resolution Strategy		
D	<b>COMMUNICITON</b>	<b>Develop a conceptual understanding of industry language and terminology</b>							
		<b>D1. Create Technical Documentation</b>	<b>D1.1</b> Create Operations Manuals	<b>D1.2</b> Create User Documents	<b>D1.3</b> Read Technical Documents	<b>D1.4</b> Update all Document Types	<b>D1.5</b> Prepare Status Reports		
		<b>D2. Communicate Professionally</b>	<b>D2.1</b> Contribute to Knowledge Base	<b>D2.2</b> Communicate with Team Members	<b>D2.3</b> Communicate with Stakeholders	<b>D2.4</b> Know When to ask for Support	<b>D2.5</b> Develop Active Listening Skills		



# Software Developer DACUM

## JOB TITLES

Junior Software Developer	Programmer	Application Developer
Software Developer Level 1	Junior Developer	Software Developer

## OCCUPATIONAL TRENDS

Cloud Native software development	Systems Monitoring Tools	Serverless, Zero Trust Networks
Cybersecurity	Customization / Fragmentation of work	Microservices architecture
Expanding program languages	More web-based, less app-based	Business Intelligence (BI)
Machine Learning	Internet of Things (IoT)	Test and test automation
Web Assembly		

## EQUIPMENT AND TOOLS

Databases - SQL	Package Managers (NPM, Nuget)	System Monitoring (New Relic, Graylog)
GraphQL	Linux	DevOps and DevSecOps
HTTP/DNS Basics	Framework (i.e. React/Angular)	C#, C++, HTML (Programming Lang.)
Versioning systems - Git/GitHub	JavaScript	
Visual Studio Code	Cloud Tech. (Amazon, Google,MS)	

## KNOWLEDGE

Data Structures/architecture	Agile Project Management	Programming
Coding – Efficient Code	Systems Integration	Differentiate layers in an app
Coding – Secure Code	AWS (Cloud) Experience	Troubleshooting / Debugging
Cloud Computing	Time Management	Open Source Contribution
Data Warehousing	Testing and Validation Processes	Security awareness & mitigation
Customer Service Skills	Technical Document. write & interpret	Source Control & coordinated structures
Ability to do web-based searches		

## ATTITUDES & TRAITS

Communication (oral & written)	Problem Solving	Conflict resolution
Critical Thinking	Lateral thinking	Show/Take initiative (self-starter)
Continuous Learning	Ask questions	Collaboration (teamwork)
Adaptability	Flexible approach to novel situations	Humility; self-awareness
Ability to give and take criticism	Giving and accepting help	Growth Mindset
Research ability – web based	Passion for excellence	

## ECOMMENDED PROFESSIONAL CERTIFICATIONS

GitHub/GitLab	IT Certs (A+, Network +) (bonus )	AWS (Amazon Web Services)
Microsoft certifications	MS AZURE cloud	