

ASSESSMENT MAPPING – BLKSMC004

KEY: WQ = Written Question | PST = Practical Skills Task | MP = Major Project

Element	Performance Criteria	Assessed By
1. Redefine trust through Smart contracts	1.1 Establish the roles of a Smart Contract in activating a blockchain network	PST
	1.2 Use consensus in a blockchain to create trust through self-executing Smart Contracts.	MP A (g & h)
	1.3 Use Reputation systems to address default and issues of trustworthiness	MP A (g)
	1.4 Solve disputes using Multisig and Arbitrators	MP B
	1.5 Evaluate the benefits of a trusted blockchain and application of Smart Contracts in enabling the benefits	PST
2. Apply a Smart Contract	2.1 Evaluate the potential applications of a Smart Contract in a decentralised peer-to-peer network	PST
	2.2 Identify ways to apply Smart Contracts to solve problems	PST
	2.3 Secure Smart Contracts using digital signatures	MP B
3. Interact with off chain data sources	3.1 Modify a Smart Contract behaviour by interacting with Oracles	MP A (e)
	3.2 Identify and consider uses for off-chain services	PST

4. Create a Smart Contract specification	4.1 Identify the problem that the Smart Contract is to solve, and the participants and contributors required to arrive at the outcome	MP A (a&b)
	4.2 Identify and agree the terms and conditions of transactions activated within the contract to reach mutual understanding of the required outcomes.	MP A (c)
	4.3 Ensure the transactions within the contract by applying 'if this happens then do that'	MP A (f) MP B
	4.4 Ensure valid intermediary functions have been identified for the transactions	MP A (d)
	4.5 Ensure the Transaction Map is compiled into a specification in preparation for coding	MP A (f) MP B
	4.6 Ensure a specification review process to ensure agreement between specification designers and code developers	MP A (i&j)

PERFORMANCE EVIDENCE

REQUIRED EVIDENCE	ASSESSMENT ACTIVITY
<p>Demonstrated evidence of the ability to lead a team to evaluate and apply the tenets of smart contracts to:</p> <ul style="list-style-type: none"> • Create trust • Solve disputes through the use of Multisig and Arbitrators 	MP B
<p>Prepare a Smart contract specification that includes:</p> <ul style="list-style-type: none"> • Articulation of the problem to be solved • Articulation of agreed terms and conditions of a transaction • A 'transaction map' that uses 'if-then' logic to map processes 	MP A (a-j)

<ul style="list-style-type: none"> • Valid intermediary functions • A review process that seeks agreement for the Smart Contract Specification with relevant stakeholders 	
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KNOWLEDGE EVIDENCE

REQUIRED EVIDENCE	ASSESSMENT ACTIVITY
Describe the tenets of Smart Contracts	WQ 1
Explain how trust can be created through consensus	WQ 2
Explain the role of Reputation systems in addressing default and issues of trustworthiness	WQ 3
Explain the role of Multisig and Arbitrators in Smart Contracts	WQ 4
Outline a range of potential applications of Smart contracts and the problems that they might solve	WQ 5 & 6
Explain how oracles can modify the behaviours of a smart contract	WQ 7
Explain how Smart Contracts can work with off-chain services	WQ 8
Explain the necessity for a Smart Contract review process	WQ 9