Problem Statement 1:

Expanding Digital Trade Finance on Public Blockchains

Challenge Objective:

- Make it easier to use public blockchains to record and transfer digital ownership of documents/goods in the trade finance sector
- Technology deliverable: port the key functions of an existing blockchain-based software tool (TradeTrust) from the Ethereum blockchain to the Algorand blockchain
- Key functions include: wrapping documents, verifying documents, deploying transferable record registry smart contract, creating wallets, and more.
- High-quality projects and participants for this Challenge will have the opportunity to be featured in a ongoing project with the Hong Kong Monetary Authority ("HKMA")

Trade finance is one of the world's most important engines of economic growth. In simple terms, trade and supply chain finance are financial transactions between a borrower and a lender where a borrower may rely on his existing orders in order to justify creditworthiness for a short-term working capital loan. Several different types of documents can be used by borrowers for this purpose, including bills of lading (evidence of ownership to a shipment of goods), invoices (evidence of future cash inflows), and warehouse receipts (evidence of ownership to inventory in a warehouse).

Today, this critical economic function is still hampered by paper-based transactions between banks, shipping companies, and counter-parties - causing unnecessary delays and extra business costs. Over the last few years, however, several organizations have created different digital business networks that attempt to solve digital trade by using blockchain technology. But because all of these networks use proprietary, permissioned blockchains, they have resulted in fragmentation in the industry, making it difficult for industry to adopt one single standard.

In both Singapore and in Hong Kong, governments have been trying to eliminate this fragmentation by encouraging the industry to become interoperable and adopt digital standards for trade data.

In 2019, the Singapore government began work on an Ethereum-based software framework called TradeTrust. TradeTrust is a digital, blockchain-secured trade document notarization framework designed to create an open, digital registry for title documents in trade like electronic bills-of-lading or other documents of title. The framework is designed to implement the rules of the UN's Model Law on Electronic Transferable Records in an ERC721 smart contract framework for transferable digital title documents.

Using an open, public blockchain is an essential part of the design of TradeTrust. Why? TradeTrust works by allowing a business entity to record its issued documents (in hashed form) to a digital registry which can also process ownership transfer requests (using ERC721-derived logic). A key design principle is that other proprietary trade finance platforms, if they so choose to do so, can integrate the TradeTrust framework to generate a verifiable file format whose data record is stored to a public blockchain. By storing this data to a public blockchain, you make it possible for the document's authenticity and status to be verified by any third party using open verify functions on the public blockchain. This is one of the key elements of interoperability: because the underlying document is hashed but verifiable integrity data is recorded on a public-chain, data can be verified (shared) between platforms in a privacy-protected way.

That said, the current challenge with the existing TradeTrust framework is that it currently is only implemented on the Ethereum public blockchain. Given that Ethereum is not accessible in Mainland China, and Mainland China is one of the world's biggest trading countries, it would make more sense if the TradeTrust framework were ported to other public blockchains - especially public blockchains that aim to collaborate in China through BSN, like Algorand.

Your challenge for this competition is to port the existing TradeTrust framework over to work on the Algorand public blockchain, and publish your code in a coherent way to a public GitHub repository. TradeTrust is a very well-documented framework (with documents and videos) so you should have enough resources to support you.

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Documentation -

https://docs.tradetrust.io/docs/introduction/what-is-tradetrust

Code -

https://github.com/TradeTrust

Videos -

https://www.tradetrust.io/resources