eCEDI HACKATHON
TAKING THE CEDI DIGITAL

BANK OF GHANA

EMTECH

The eCedi Hackathon
Case Study

Introduction

What are Virtual Assets?

As Central Bank Digital Currencies (CBDCs) move towards deployment, central banks worldwide are strategizing their transition into the digital era, navigating through Fintech, Open Banking, Web3, and AI. The Bank of Ghana, seizing this transformative moment, unveiled the eCedi Hackathon on October 3, 2023, at the Money & DeFI Summit. This initiative set a benchmark in CBDC innovation, demonstrating how central banks can innovatively and safely collaborate with diverse sectors such as banking, telecommunications, and fintech ecosystems.

The eCedi Hackathon was driven by the need to create a digital version of central bank money that is accessible, interoperable, and trusted. Leveraging EMTECH's Beyond Cash(™) solution, a Web3-enabled digital cash infrastructure, the hackathon aimed to develop a platform where new financial products could be built safely and effectively.

This groundbreaking initiative brought together a vibrant community of developers, banks, fintech innovators, and representatives from the Bank of Ghana. Collectively, they explored the potential of EMTECH's tokenized CBDC solution in various use cases, including merchant payments, government transactions, lending, crowdfunding, and transparent taxation systems.
Starting with the BoG issuing the "BYDC-eCedi" token (created for the hackathon specifically), the designated Bank of Ghana team performed a full token lifecycle from issuance, distribution and burning of tokens using the EMTECH platform. The token leveraged Hedera Token Service which orchestrated the use of ERC20 standard via a smart contract.
On the participants' side, fFrom a pool of 868 applications, the Bank of Ghana selected 10 participants. These participants were onboarded onto a dedicated sandbox environment via the EMTECHhackathon platform, provisionedded with institutional wallets, and allocated 1000 BYDC-eCedi tokens by the BoG. This setup enabled them to prototype various financial solutions, leveraging the pre-built BYDC-eCedi APIs. These APIs played a pivotal role in easing integration processes and standardizingstandardising operations such as wallet creation and transaction handling for institutions and end-users.

All transactions within the hackathon were executed using the Hedera ledger consensus services, ensuring a secure, fair and transparentefficient ordering process. This approach underscored the importance of advanced technological integration in the development of CBDCs.

The collaboration extended beyond the immediate participants, involving key partners such as the HBAR Foundation, Mest Africa, and the Ghana Fintech Association. These partnerships enriched th..

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The collaboration extended beyond the immediate participants, involving key partners such as the HBAR Foundation, Mest Africa, and the Ghana Fintech Association. These partnerships enriched the hackathon, bringing diverse perspectives and expertise instrumental in driving the event to success.
The eCedi Hackathon was more than just a competition; it was a confluence of ideas and innovations. It provided a unique opportunity for participants to experiment with and shape the future of digital currencies in a real-world setting. The event highlighted the critical role of CBDCs in the end of finance, especially in fostering financial inclusion and revolutionizingrevolutionising Ghana's banking and payment systems and beyond.

As CBDCs continue to gain traction globally, the insights and outcomes from the eCedi Hackathon will undoubtedly influence future strategies and implementations. Through this event, the Bank of Ghana has not only positioned itself as a leader in CBDC innovation but also set a precedent for other central banks to follow. The eCedi Hackathon is a testament to the power of collaborative innovation in the digital age, paving the way for a more inclusive and efficient financial future.

BoG Goals and Objectives

The Bank of Ghana's eCedi Hackathon is more than just an event; it serves as a catalyst for research and development in digital currency. It aims to:

Foster Digital Innovation:

Encourage creative solutions for digital currency, integrating modern technologies.

Collaborative Learning:

Enable knowledge sharing among experts and innovators in fintech.

Prototype Development:

Encourage the creation of practical, innovative applications of the eCedi.

Digital Economy Enablement:

Embrace the shift towards a digital-centric financial environment, aligning with global trends in fintech.

Development of Real-world Solutions:

Inspire the creation of viable, innovative digital currency applications.

Encourage Diverse Participation:

A strategic goal to balance digital innovation with the enduring value of cash, ensuring its continued relevance in the digital age.

Preserving Cash Utility in Digital Form:

A strategic goal to balance digital innovation with the enduring value of cash, ensuring its continued relevance in the digital age.

Advancing Digital Cash Solutions:

A commitment to leveraging cutting-edge Web3 technologies to develop a sophisticated, secure digital cash system, augmenting traditional monetary practices.

Promoting Inclusive Digital Finance:

A strategic goal to balance digital innovation with the enduring value of cash, ensuring its continued relevance in the digital age.

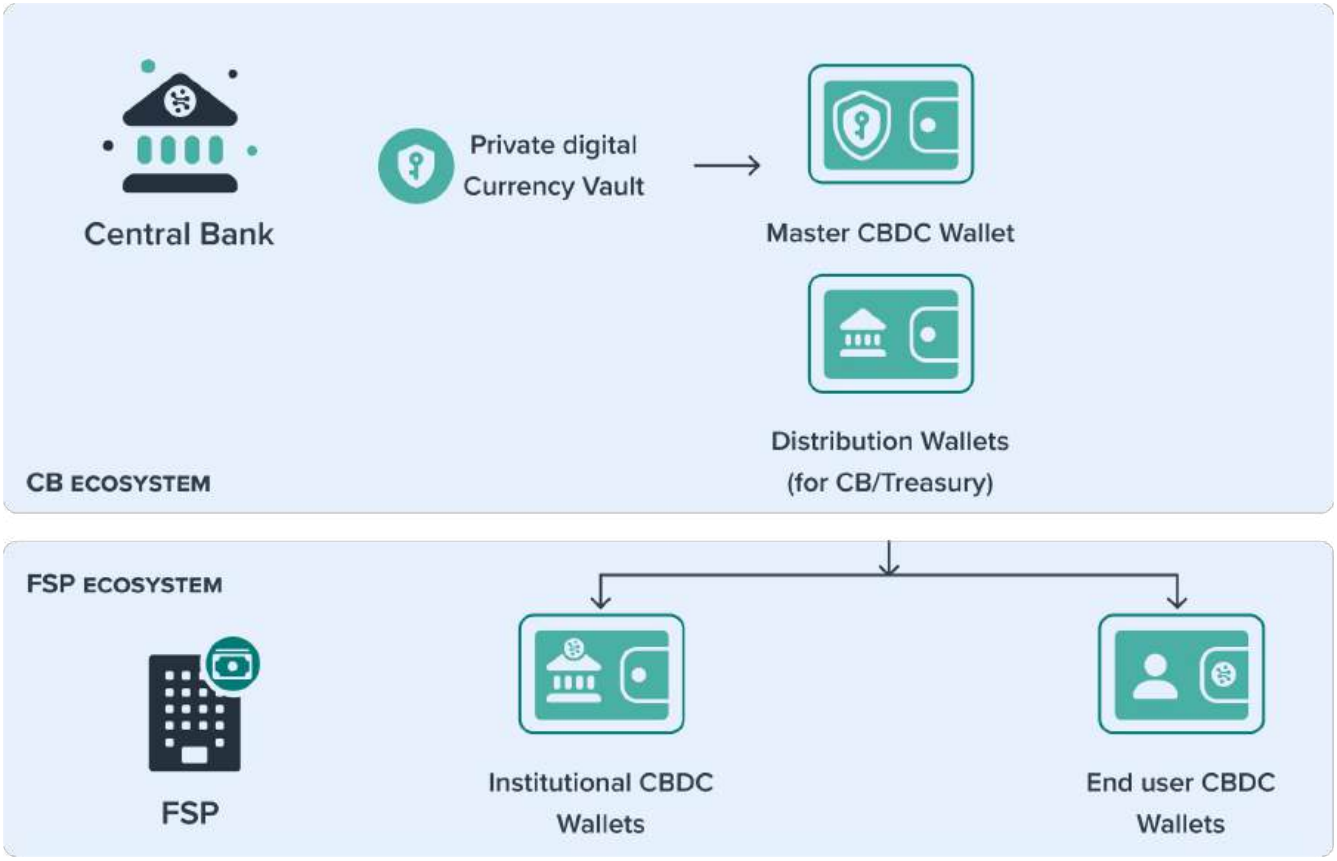
Enhancing Operational Efficiency:

A commitment to leveraging cutting-edge Web3 technologies to develop a sophisticated, secure digital cash system, augmenting traditional monetary practices.

The eCedi Hackathon, Powered by EMTECH

01 The Playbook

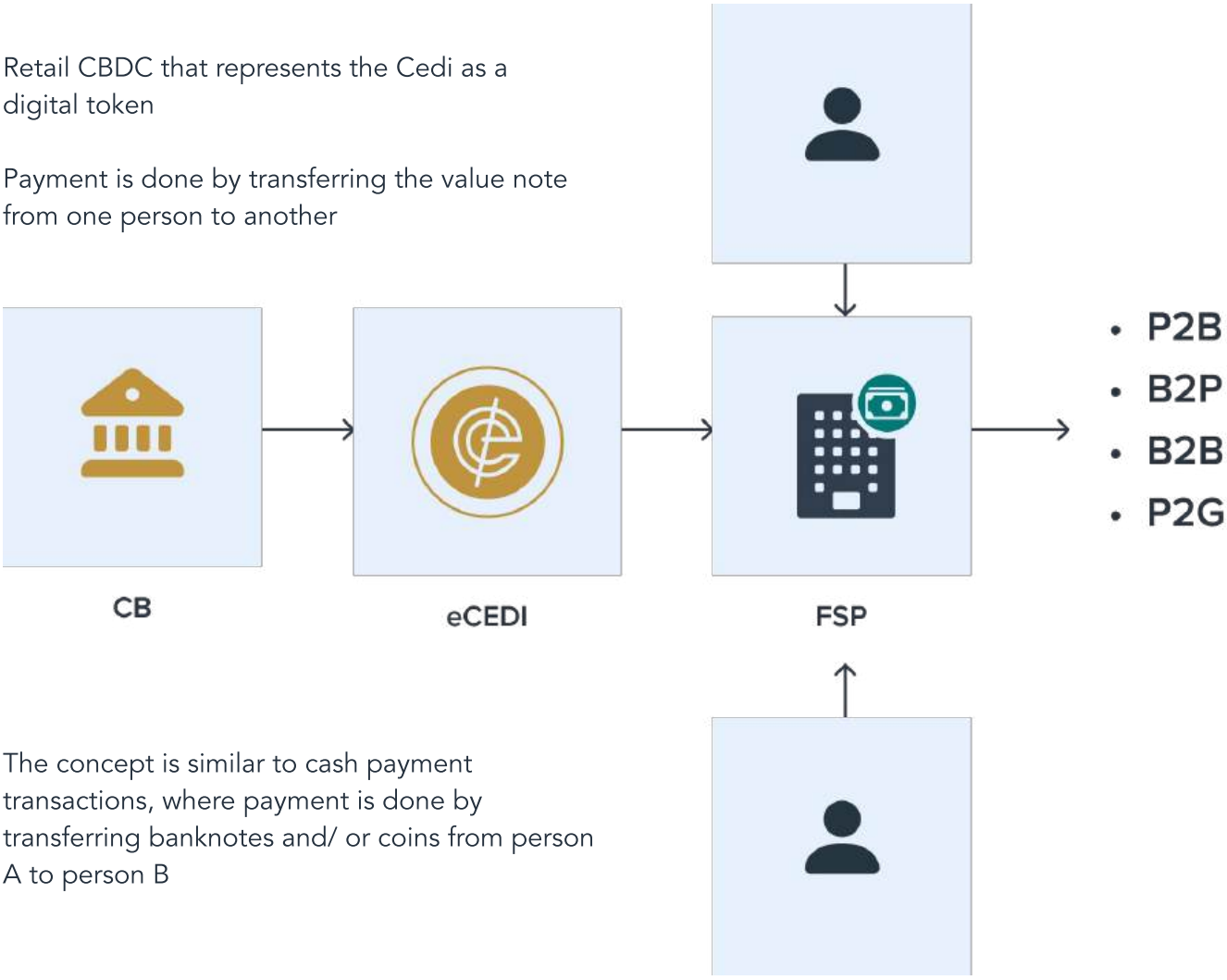
EMTECH CBDC Framework: Wallet Structure



Decoding eCedi: Infrastructure & Distribution Overview

Retail CBDC that represents the Cedi as a digital token

Payment is done by transferring the value note from one person to another



The concept is similar to cash payment transactions, where payment is done by transferring banknotes and/ or coins from person A to person B

02 The Challenges

The eCedi Hackathon, hosted by the Bank of Ghana, presented participants with a series of exciting challenges that spanned various aspects of the financial landscape. These challenges were carefully designed to harness the innovative potential of digital currency and explore its applications in real-world scenarios. Here, we delve into the challenges that participants tackled during this groundbreaking event.

	Challenge	Rationale
Merchant Payments	Create a solution that facilitates seamless and efficient merchant payments using the eCedi.	This challenge aimed to promote the adoption of digital currency in day-to-day commercial transactions, offering convenience and efficiency for both merchants and customers.
Government Payments	Develop a system that streamlines government transactions and disbursements through the eCedi.	This challenge aimed to promote the adoption of digital currency in day-to-day commercial transactions, offering convenience and efficiency for both merchants and customers.
Lending and Crowdfunding:	Design an innovative lending or crowdfunding platform that leverages the eCedi for peer-to-peer transactions.	This challenge encouraged participants to explore how digital currency can revolutionize lending and crowdfunding, making access to financial services more accessible and efficient.
Transparent Taxation Challenge	Create a solution for transparent taxation using the eCedi, ensuring fair and efficient tax collection	Transparent taxation systems can boost government revenue, reduce tax evasion, and foster greater trust between citizens and tax authorities.

These challenges were practical opportunities to pioneer transformative solutions in digital finance. Participants were tasked with developing prototypes and applications that could have a real impact on the financial landscape in Ghana and beyond.

The eCedi Hackathon was more than just a competition; it was a collaborative effort to explore the potential of the eCedi and its role in modernising financial systems. It brought together developers, financial institutions, fintech innovators, and the Bank of Ghana to collectively address these challenges.

To facilitate the development of solutions, the hackathon provided a platform for participants to tackle these real-world financial challenges using EMTECH's tokenized CBDC solution, which provided them with 1000 BYDC-eCedi tokens and access to pre-built BYDC-eCedi APIs. These resources accelerated the integration of the eCedi into their projects, allowing them to focus on the innovation and functionality of their solutions.

Throughout the hackathon, participants worked closely with the Bank of Ghana and key partners, including the EMTECH HBAR Foundation, Mest Africa, and the Ghana Fintech Association. These collaborations enriched the hackathon experience, providing participants with valuable insights and guidance as they tackled the challenges.

In conclusion, the eCedi Hackathon challenges were technical hurdles and opportunities to pioneer the future of digital finance in Ghana. Participants embraced these challenges with enthusiasm, creating innovative solutions that have the potential to transform various sectors of the economy. This event exemplified the power of collaboration, innovation, and the eCedi's role in shaping the digital financial landscape.

03 The Timeline & Milestones

Announcement

The eCedi Hackathon was officially announced, marking the beginning of an exciting journey into Central Bank Digital Currency (CBDC) innovation.

Application Review:

A total of 88 fully completed applications were received and reviewed meticulously.

1st Selection

68 exceptional applications were included in the initial shortlist, even though the initial plan was to shortlist 25. This unexpected increase in the shortlist highlighted the high quality and innovation present in the applicant pool.

Demo Day

The culmination of hard work and innovation, demo day provided participants with the platform to showcase their prototypes to a wider audience, including potential stakeholders.

Open Application

Participants from various backgrounds and industries were invited to submit their applications, showcasing their interest and expertise in digital currency innovation.

Pitch Day

The selected participants from the expanded shortlist had the opportunity to present their ideas and concepts to a panel of experts and judges, further narrowing down the field.

2nd Selection

Following the pitch day, 10 outstanding concepts were chosen to advance to the prototype development phase, where participants would bring their innovative ideas to life.

Awards

The eCedi Hackathon recognized and rewarded excellence and innovation: **Top 3 Winners:** A total of 250,000 Cedis in awards were distributed among the top three winners, acknowledging their exceptional contributions to CBDC innovation.

12-Month Subscription to EMTECH CBDC Innovation Kit: All 10 participants received a 12-month subscription to the EMTECH CBDC Innovation Kit, valued at 350,000 Cedis. This subscription empowered participants to continue building and exploring innovative solutions in the world of digital currency.

Hackathon Timeline & Milestones

The Use Cases to be prototyped

Agriculture / Farming:

Developing solutions that facilitate digital payments in the agricultural sector, streamlining transactions for farmers and agribusinesses.

P2P (Peer-to-Peer):

Designing platforms for peer-to-peer transactions using the eCedi, enabling individuals to transact directly with each other.

Credit Scoring:

Exploring how digital currency transactions can be used to assess creditworthiness and develop credit scoring models.

Crowdfunding:

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Interoperability Infrastructure:

Creating the infrastructure for interoperability, ensuring that different digital currency systems can seamlessly work together.

These use cases reflect the breadth of possibilities that the eCedi offers in revolutionizing financial services and transactions across different sectors. The eCedi Hackathon encouraged participants to prototype innovative solutions that have the potential to transform the financial landscape in Ghana and beyond.

Government Pay:

Creating systems to enable efficient government payments and disbursements, enhancing transparency and reducing bureaucracy.

Merchant Payment:

Innovating solutions for seamless and efficient merchant payments, making it easier for businesses to accept digital currency.

Lending:

Developing platforms for digital currency-based lending, expanding access to financial services for individuals and businesses.

Taxes:

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04 The Tech Components: Infrastructure Services

The eCedi Hackathon featured a robust technology stack that participants used to develop innovative solutions. Here's a list of the key tech components:

Infrastructure Services: Powering CBDC Innovation

The eCedi Hackathon harnessed cutting-edge infrastructure services to drive Central Bank Digital Currency (CBDC) innovation. These services provided the foundation for secure, efficient, and transparent digital currency operations. Here's a closer look at the key infrastructure components that underpinned the hackathon:

Smart Contract Tokenization

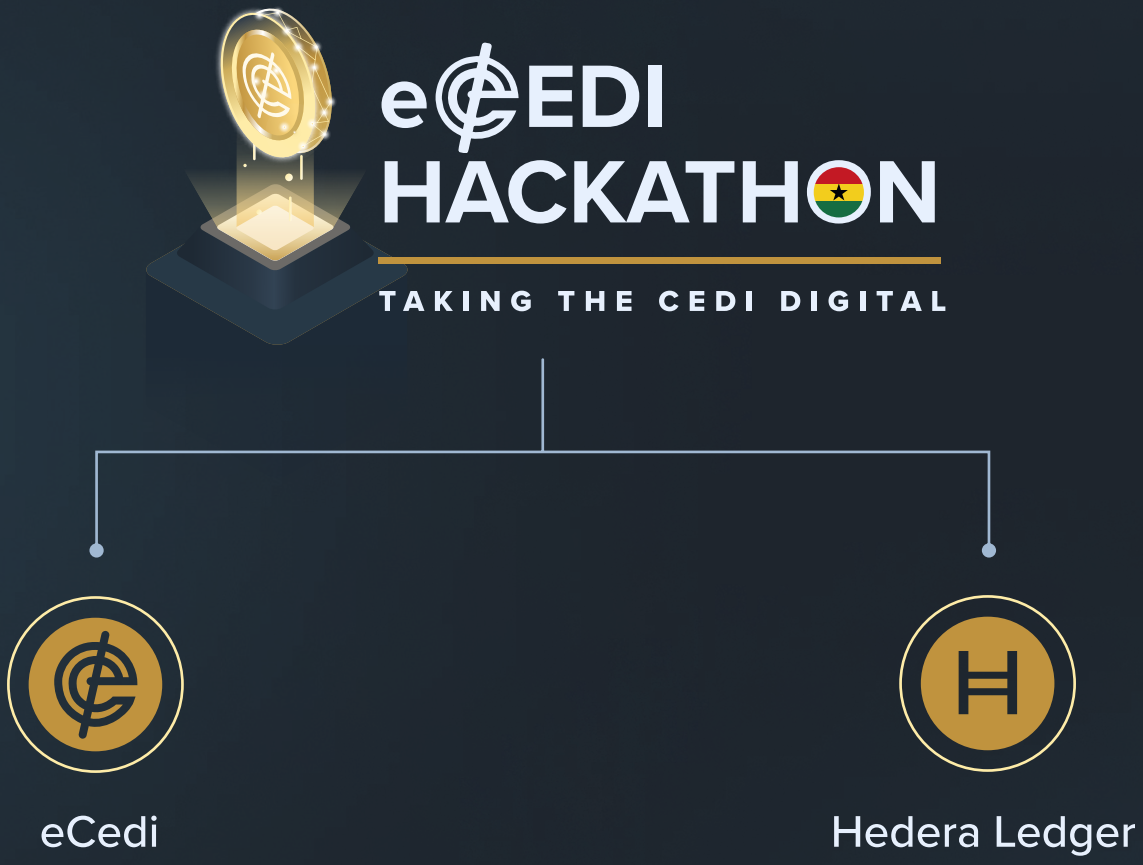
At the core of CBDC innovation was the utilization of smart contracts for tokenization. The hackathon introduced a simulated token named "BYDC-eCedi," which leveraged Hedera Token Service. Smart contracts played a pivotal role in defining the rules and behaviors of digital tokens, enabling programmable and automated transactions. Participants were empowered to explore diverse use cases and functionalities by leveraging smart contracts.

Public Ledger

A robust public ledger was a fundamental requirement for CBDC operations. The eCedi Hackathon ensured that the ledger met specific criteria, including fair ordering of transactions, data integrity, and reliance on trusted validators. This ledger provided a transparent and tamper-resistant record of all CBDC transactions. Participants could access this ledger 24/7, ensuring uninterrupted availability and transparency.

Hashgraph Consensus:

The eCedi Hackathon incorporated Hashgraph consensus for CBDC transactions. Hashgraph consensus is known for its fairness in ordering transactions and maintaining data integrity. It relies on a network of trusted validators to validate and finalize transactions. This consensus mechanism ensured that CBDC transactions were processed efficiently, securely, and with a high degree of reliability. Like the public ledger, Hashgraph consensus operated around the clock to support continuous CBDC activities.



05 The Tech Components: Management Platform

Leveraging Microsoft Azure for CBDC Innovation
The eCedi Hackathon demonstrated a commitment to cutting-edge technology and efficient management of Central Bank Digital Currency (CBDC) innovation. Central to this initiative was the deployment of the Microsoft Azure platform, a robust cloud computing solution that offered a wide range of capabilities for managing CBDC-related processes. Here's an overview of the management platform's key components and functionalities:…

Microsoft Azure Deployment

The eCedi Hackathon chose Microsoft Azure as the cloud computing platform for managing CBDC-related operations. Azure is renowned for its scalability, security, and flexibility, making it an ideal choice for hosting the infrastructure required to facilitate CBDC development.

User Access Management

Ensuring secure and controlled access to CBDC-related resources and data was a priority. The management platform included robust user access management features, allowing authorized individuals to access specific functions and data while maintaining strict security protocols

Token Lifecycle Management Flows

Effective management of CBDC tokens is essential for ensuring smooth operations within the digital currency ecosystem. The management platform offered comprehensive token lifecycle management flows, enabling participants to handle the issuance, distribution, and circulation of CBDC tokens efficiently.

Wallet / Funds Request Management

To support the creation and management of digital wallets and funds, the management platform included features for handling wallet and funds requests. Participants could use this functionality to streamline wallet provisioning and fund allocation.

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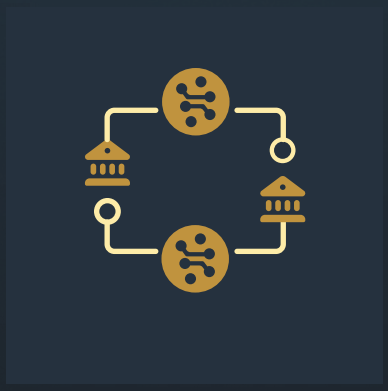
Dashboard

A centralized dashboard provided real-time insights and analytics on CBDC-related activities. This dashboard allowed participants to monitor transactions, track token issuance and distribution, and assess the performance of their CBDC prototypes. Real-time data visualization was a key aspect of this feature, offering participants valuable insights into their CBDC solutions' usage and impact.

By leveraging the capabilities of Microsoft Azure and integrating user access management, token lifecycle management flows, wallet/funds request management, and a comprehensive dashboard, the eCedi Hackathon established a robust and efficient management platform for CBDC innovation.
This platform not only facilitated the development of CBDC prototypes but also ensured the security, scalability, and transparency of digital currency operations. It played a pivotal role in enabling participants to create innovative solutions that showcased the transformative potential of Central Bank Digital Currency in Ghana's financial landscape. Through this platform, the eCedi Hackathon demonstrated the power of technology and collaboration in shaping the future of digital finance.…

Deployed Microsoft Azure

User Access Management



Token Lifecycle Management Flows

Token Lifecycle Management Flows

Wallet / Funds Request Management

06 The Tech Components: APIs Services

The eCedi Hackathon introduced a set of APIs (Application Programming Interfaces) to empower participants in creating innovative Central Bank Digital Currency (CBDC) solutions. These APIs offered essential functionality to facilitate CBDC development and prototype creation. Here are the key API services provided during the hackathon:

Create Wallets API

This API enabled participants to seamlessly create digital wallets for end users. Wallets are essential components for storing and managing digital currency, and this API simplified the wallet creation process. Participants could integrate this service into their prototypes to offer users a secure and user-friendly wallet experience.

Transfer Funds API

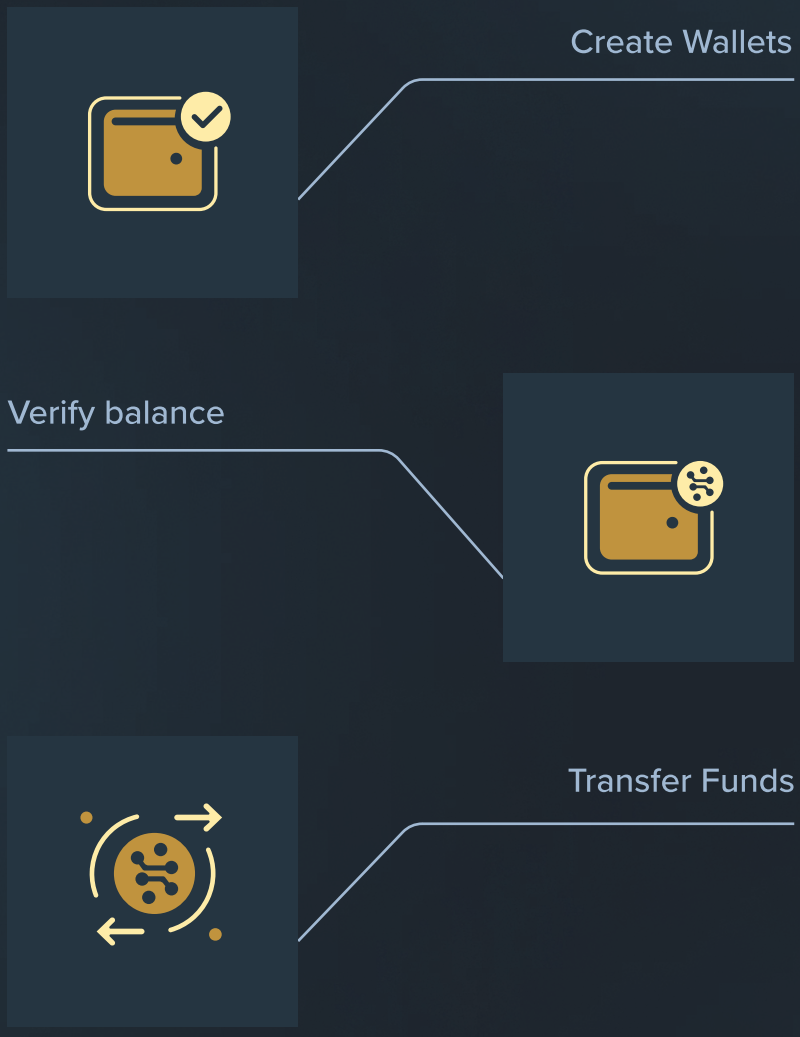
The Transfer Funds API allowed participants to incorporate fund transfer capabilities into their CBDC solutions. This functionality enabled users to send and receive digital currency easily. Whether for peer-to-peer transactions or other use cases, this API facilitated the movement of funds within the CBDC ecosystem.

Verify Balance API

To provide users with real-time information about their CBDC balances, the Verify Balance API was made available. Participants could integrate this API into their prototypes to offer users a reliable and up-to-date view of their digital currency holdings. This feature enhances transparency and user confidence in CBDC transactions.

These APIs formed the backbone of CBDC-related activities during the hackathon, offering participants the building blocks they needed to create functional and innovative CBDC prototypes. Whether it was wallet creation, fund transfers, or balance verification, these APIs empowered participants to explore various use cases and demonstrate the potential of Central Bank Digital Currency in enhancing financial services.
The availability of these API services streamlined the development process, allowing participants to focus on the unique features and value propositions of their CBDC solutions. This contributed to a diverse range of prototypes that showcased the versatility and utility of digital currency in addressing real-world financial challenges.

These technology components formed the foundation for the development of innovative solutions during the eCedi Hackathon. Participants leveraged these tools to prototype applications that could potentially transform various sectors of the economy, demonstrating the power of digital currency and blockchain technology....



07 The KPIs

The eCedi Hackathon measured its success through various Key Performance Indicators (KPIs). Here's a list of these KPIs and their results:

of Participants

10 talented participants joined the hackathon, contributing their skills and expertise.

of Industries Represented

The hackathon brought together participants from diverse industries, fostering collaboration.

of Prototypes Developed

total of [Number] innovative prototypes were created during the event.

of Wallets Approved

[Number] digital wallets were approved for use within the eCedi ecosystem.

Amount of eCedi Issued

[Amount] eCedi tokens were issued during the hackathon.

Amount of eCedi Distributed

[Amount] eCedi tokens were distributed among participants and users.

Amount of eCedi Burned

[Amount] eCedi tokens were burned as part of the digital currency lifecycle.

Total eCedi Burned

A total of [Amount] eCedi tokens were burned during the hackathon.

of Transactions Conducted

[248] transactions were conducted using the eCedi during the hackathon.

of API Calls Made

[Number] API calls were made to support various digital currency functionalities.

Average Cost of a Transaction:

The average cost of a transaction was [Avg Fee] GHS.

Hackathon Completion Rate

[Completion Rate]% of participants successfully completed the hackathon, reflecting dedication.

Participant Feedback

Participants provided valuable feedback, with [Satisfaction Rate]% expressing satisfaction and offering constructive suggestions.

Innovation Impact

Measuring the impact of innovations on financial services and sectors represented.

Operational Efficiency

Evaluating the efficiency of eCedi transactions in terms of time and resources.

Market Adoption Potential

Assessing the potential for eCedi adoption in the broader market.

Security and Trust

Evaluating the security measures in place and the trustworthiness of the eCedi system.

of Support Tickets Filed

[10] support tickets were filed during the hackathon.

These KPIs not only highlight the achievements of the eCedi Hackathon but also demonstrate the potential impact of digital currency and blockchain technology across various sectors and industries…

Number of industries 9

Number of participants 88

Number of Wallets Approved
61,001 GHS*

Amount of eCedi issued:
61,001 GHS*

Amount of eCedi distributed:
42,002 GHS*

Amount of eCedi Burned:
1 GHS*

Avg cost per transaction:
42,002 GHS

Total Transactions: 248

08 Delivery Approach: Behind the Scenes!

In the successful execution of the eCedi Hackathon, a well-thought-out delivery approach played a pivotal role. This behind-the-scenes strategy encompassed various key components that contributed to the event's achievements. Here's a closer look at each element:

Strategic Planning

he eCedi Hackathon's success was underpinned by meticulous strategic planning. A well-thought out strategy provided the foundation for a productive and innovative hackathon that aligned with the overarching goals.

Ecosystem Engagement (Partners)

Collaboration was at the heart of the hackathon's success. Engaging with strategic partners, including The HBar Foundation (THF), Mest Africa, StartOA and the Ghana Fintech Association, expanded the event's ecosystem. These partnerships enriched the hackathon by bringing diverse expertise and resources to the table.

The HBar Foundation (THF)

The involvement of The HBar Foundation (THF) was particularly instrumental in shaping the digital currency system used during the hackathon. Their expertise and support ensured the security and reliability of the technology components, such as tokenization and Hashgraph consensus.

Trusted Communication

Effective and transparent communication was a cornerstone of the hackathon's success. Trust was fostered through reliable communication channels, ensuring that participants and stakeholders were well-informed and confident in the event's proceedings.

Collaborative Execution

The execution phase of the hackathon was a multifaceted effort. It involved a combination of events, active engagement on social media platforms, calendar management, email communication, cadence planning, seamless onboarding processes, and dedicated support for participants. This collaborative execution strategy ensured that the hackathon ran smoothly and efficiently.

Testimonials / Feedback:

The hackathon was not just about delivering a one-time event; it aimed to create a lasting impact. Gathering testimonials and feedback from participants and stakeholders was essential. These insights provided valuable information for continuous improvement and served as a feedback loop for refining future hackathons and initiatives.

09 Key Considerations: Privacy

Privacy was a paramount consideration throughout the eCedi Hackathon, ensuring the security and confidentiality of participants' transactions and sensitive information. Specifically, the following privacy measures were implemented:

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Limited Visibility for Bank of Ghana (BoG):

The hackathon organizers, in collaboration with the Bank of Ghana, implemented measures to restrict BoG's visibility to only what was recorded on the ledger for any given transaction. This limited the access of BoG to participants' transaction data, ensuring that sensitive information remained confidential.

Data Security:

Stringent data security protocols were in place to protect participants' transaction data. Advanced encryption techniques and secure data transmission methods were employed to safeguard the privacy of all transactions.

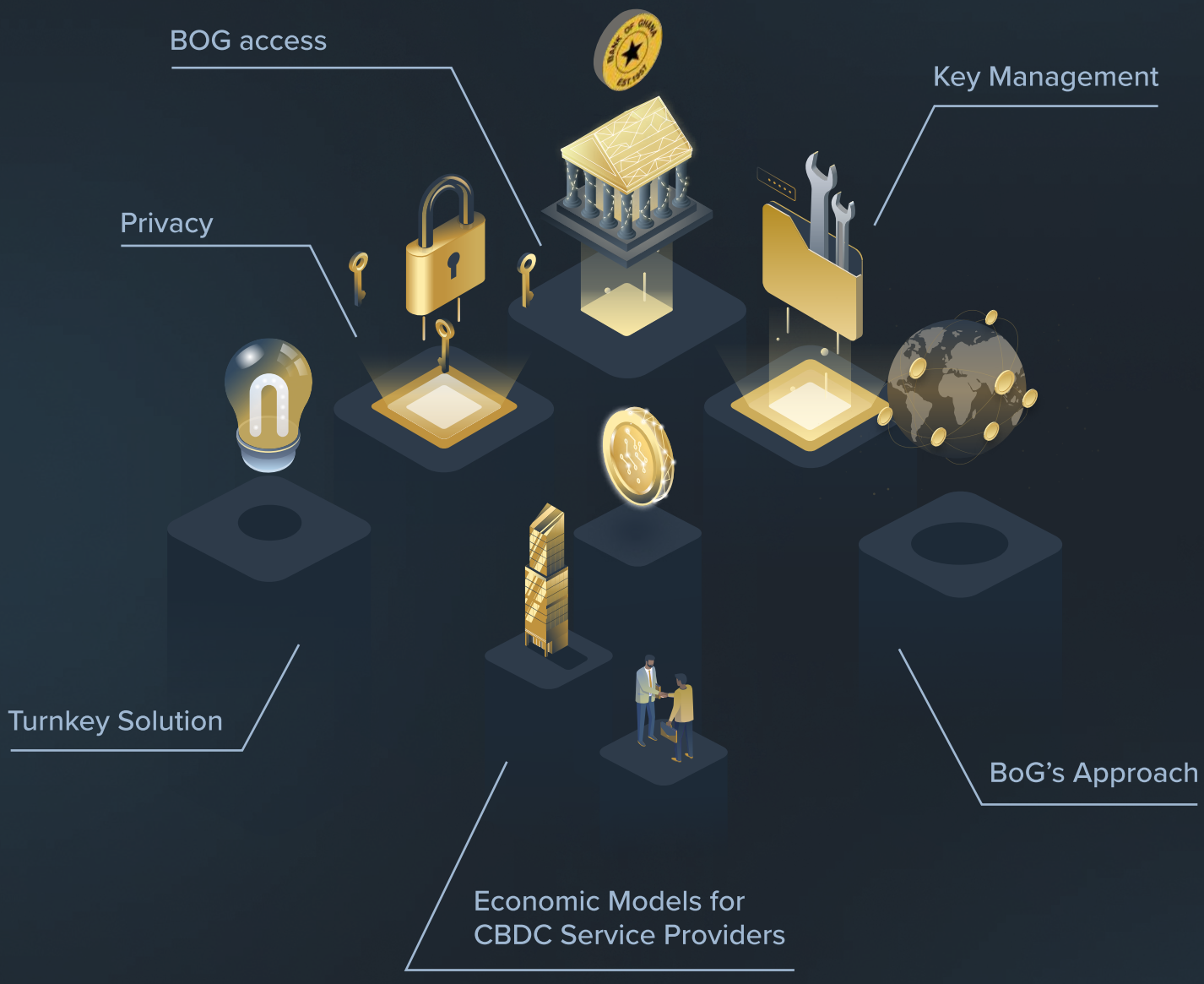
User Control:

Participants had control over their own transaction data, and BoG did not have access to participants' private keys. This ensured that participants had the authority to manage and secure their digital assets during the hackathon.

Regulatory Compliance:

The privacy measures implemented during the hackathon were aligned with existing and future regulatory frameworks. Compliance with data protection regulations and adherence to best practices in data security were integral to maintaining participants' privacy.

Overall, the eCedi Hackathon prioritized the privacy and data security of participants, enabling them to engage in innovative CBDC-related activities with confidence in the protection of their sensitive information. These measures fostered a secure and trustworthy environment for exploring the potential of Central Bank Digital Currency technology....



10 Key Considerations: Key Management

For the purpose of the Hackathon, EMTECH securely hosted the wallets' private keys in a custodial model with full encryption. However, it was recognized that in the future, regulatory frameworks should provide users with the choice of deciding who hosts their private keys, offering more control over their digital assets. Specifically for the Hackathon the following key management practices were implemented:

Custodial Model with Full Encryption:

EMTECH, securely hosted the wallets' private keys in a custodial model. This custodial model ensured that participants' private keys were protected with robust encryption, enhancing the security of their digital assets.

User Choice in Key Hosting:

It was recognized that in future Central Bank Digital Currency (CBDC) implementations and regulatory frameworks, users should have the choice to decide who hosts their private keys. This user-centric approach empowers participants and users to have greater control over their digital assets and enhances their overall security and privacy.

Compliance with Regulatory Frameworks:

The key management practices adhered to existing and anticipated regulatory frameworks. Compliance with regulatory requirements was a fundamental aspect of ensuring the security and legality of key management processes.

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11 Key Considerations: BoG Access

t was rigorously validated that the Bank of Ghana had no access to the private keys of participants' wallets during the hackathon, ensuring the security and integrity of the event. The security and integrity of the eCedi-BYDC minted for the Hackathon were of utmost importance, and as part of this commitment, rigorous validation was conducted to ensure that the Bank of Ghana (BoG) had no access to the private keys of participants' wallets. This validation process included the following key points:

Secure and Independent Wallets:

Participants' wallets were designed to be secure and independent, with private keys securely managed by EMTECH. This design prevented any external access to the private keys by unauthorized entities, including the BoG.

Data Security Measures:

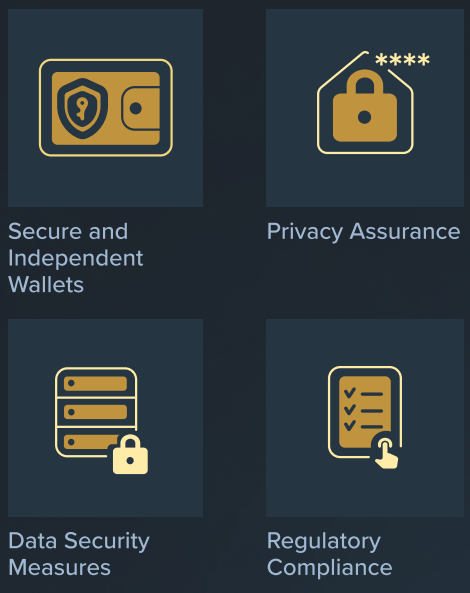
Robust data security measures were in place to protect participants' digital assets and ensure that only authorized individuals had access to specific information. These security measures included encryption and access controls.

Regulatory Compliance:

The validation process also ensured compliance with relevant regulatory requirements, which often prioritize the security and privacy of users' financial transactions.

Privacy Assurance:

The privacy and confidentiality of participants' transactions and wallet information were rigorously maintained. The BoG had no access to any sensitive data or private keys, ensuring the privacy of participants' digital assets.



12 Economic Models for CBDC Service Providers

During the eCedi Hackathon, a key area of exploration was the development of economic models for Central Bank Digital Currency (CBDC) service providers. These economic models were designed to foster a robust ecosystem for the adoption and utilization of CBDC. The hackathon considered a variety of service providers, including banks, non-banks/fintechs, and mobile money providers, each playing a unique role in the CBDC ecosystem. Here are some key points related to these economic models:

Diverse Participants

The hackathon encouraged diverse participants, including traditional banks, innovative fintech companies, and mobile money providers, to collaborate and prototype solutions. This diversity of participants helped in brainstorming and testing various economic models.

Innovation and Competition

By involving a wide range of service providers, the hackathon aimed to promote innovation and competition within the CBDC ecosystem. Different participants brought their unique perspectives and approaches to the table.

User-Centric Solutions

The economic models explored during the hackathon focused on delivering user-centric solutions. This means considering the needs and preferences of consumers and businesses when designing CBDC services.

Economic Viability

Service providers examined the economic viability of offering CBDC-related services. This involved assessing the costs, revenue potential, and sustainability of their proposed models.

Interoperability

The economic models also considered interoperability between different service providers and CBDC solutions. Interoperability is crucial for seamless transactions across various platforms and providers.

Financial Inclusion

An important aspect of the economic models was addressing financial inclusion. CBDC services should be accessible to a wide range of individuals and businesses, including those who are currently underserved by traditional financial systems.

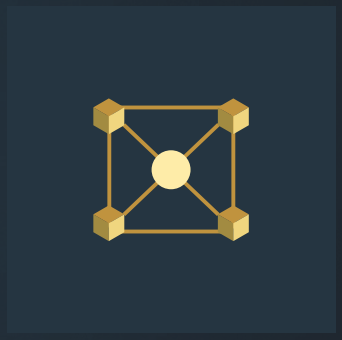
Scalability

Scalability was another key consideration. As the CBDC ecosystem grows, service providers need to ensure that their models can scale to accommodate increased demand.

Diverse Participants:

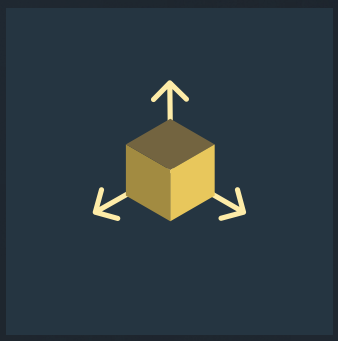
Innovation and Competition

User-Centric Solutions



Interoperability

Financial Inclusion



Scalability

13 BoG's Approach

The Bank of Ghana's approach to the hackathon was thoughtfully aligned with the EMTECH G.R.E.E.N. CBDC Framework, a guiding philosophy that emphasizes responsible and sustainable Central Bank Digital Currency (CBDC) development. The framework's core principles were meticulously incorporated into the hackathon's strategy, ensuring that the event contributed positively to the financial ecosystem and aligned with global trends in digital currency innovation. Here's an overview of how the Bank of Ghana's approach harmonized with each aspect of the G.R.E.E.N. CBDC Framework:

Governing for Impact

The Bank of Ghana prioritized the creation of the hackathon with a clear focus on achieving impactful outcomes. The event was designed to foster innovation and collaboration that could lead to substantial improvements in the financial sector, such as increased financial inclusion, reduced transaction costs, and overall economic growth.

Reimagining Trust through Transparency

ransparency was a foundational principle in the hackathon's approach. The Bank of Ghana ensured that all aspects of the event, from participant selection to prototype development and judging, were conducted with transparency. This commitment to openness helped build trust among participants and stakeholders.

Embracing Sustainable Use of Energy in the Digital World

Recognizing the importance of sustainability, the Bank of Ghana integrated the concept of energy efficiency into the hackathon. This approach aimed to align CBDC development with sustainable practices, including the use of eco-friendly technologies and energy-efficient solutions in the digital currency landscape.

Empowering Innovation with Core Infrastructure

The Bank of Ghana provided robust infrastructure and support for innovation during the hackathon. Participants were given access to the Beyond Cash Platform, a dedicated hackathon platform that included pre-built APIs and tools necessary for prototype development. This support empowered innovators to explore new CBDC applications.

Nurturing Inclusive and Resilient Ecosystems

The hackathon's design emphasized inclusivity and resilience in the CBDC ecosystem. By inviting a diverse range of participants, including developers, fintech experts, and financial institutions, the event aimed to nurture an ecosystem that benefits all stakeholders. Additionally, measures were in place to enhance ecosystem resilience, ensuring its adaptability to changing circumstances.

The Bank of Ghana's alignment with the EMTECH G.R.E.E.N. CBDC Framework underscored its commitment to responsible and sustainable CBDC development. This approach ensured that the hackathon was not only a platform for innovation but also a catalyst for positive change in the digital currency landscape, setting a strong example for future CBDC initiatives.

14 Turnkey Solution

The eCedi Hackathon introduced a comprehensive turnkey solution that streamlined the entire hackathon process and facilitated innovation in Central Bank Digital Currency (CBDC) development. This solution was carefully designed to provide participants with the necessary tools, infrastructure, and resources to create impactful CBDC prototypes. Here's an overview of the key components of this turnkey solution:

Dedicated Hackathon Platform

The hackathon featured a dedicated platform tailored to the event's requirements. This platform, known as the Hackathon Platform, served as the central hub for participants to collaborate, access resources, and develop their CBDC prototypes. It offered a user-friendly interface and tools to support the entire hackathon journey.

Private Central Bank Portal

As part of the turnkey solution, a private Central Bank Portal was established. This portal was exclusively dedicated to managing BoG-issued wallets, approved wallets, and the distribution of tokens. It also provided real-time monitoring of transactions conducted by participants through pre-built dashboards. This level of control and oversight ensured the security and integrity of the CBDC-related activities during the hackathon.

Pre-Built APIs

To expedite prototype development, participants had access to a set of pre-built Application Programming Interfaces (APIs). These APIs offered essential functionality that participants could seamlessly integrate into their CBDC prototypes. This approach simplified the development process, allowing innovators to focus on building and testing their ideas rather than reinventing the wheel.

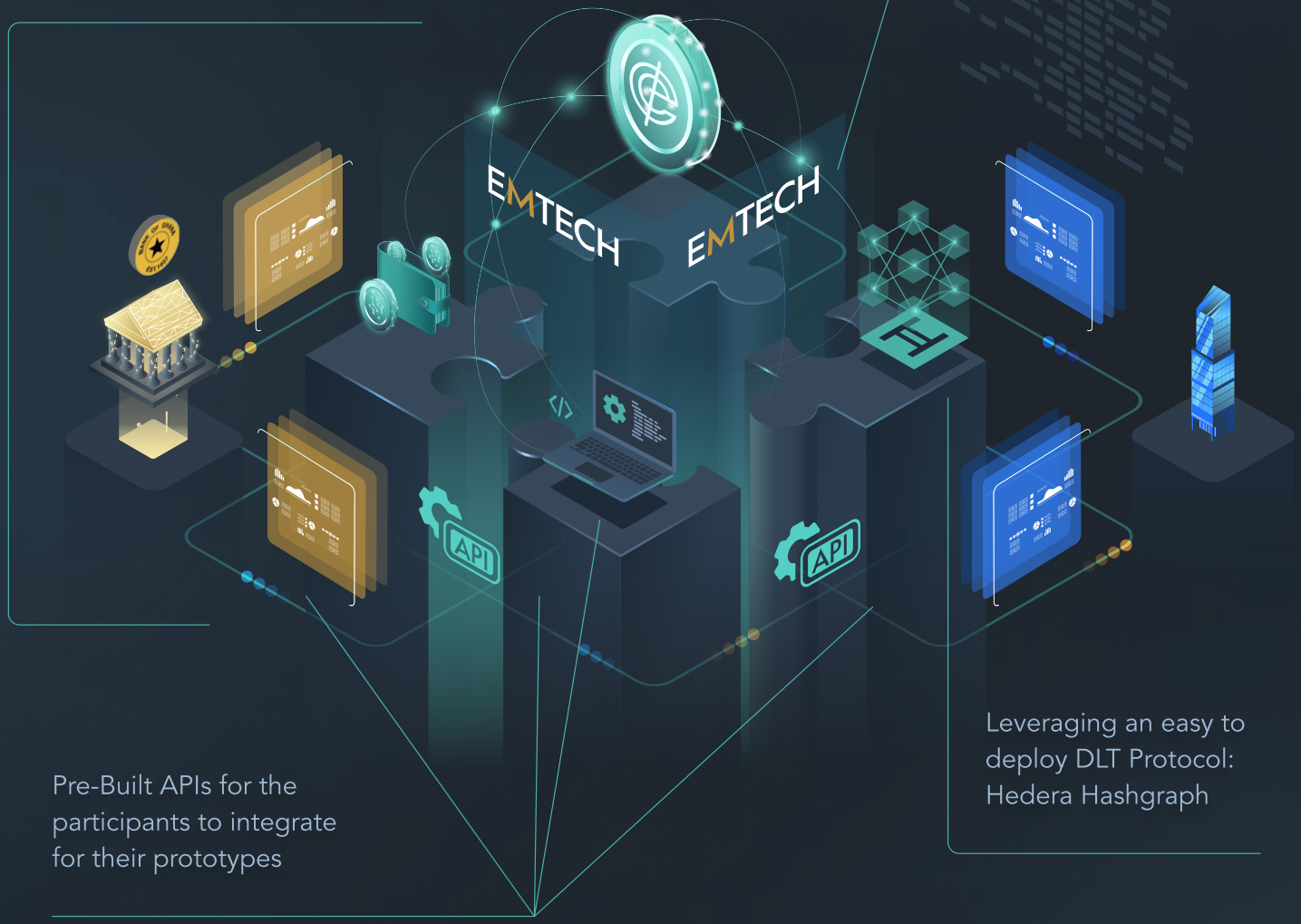
Utilization of Hedera Hashgrapp

The turnkey solution leveraged the Hedera Hashgraph Distributed Ledger Technology (DLT) Protocol. Hedera Hashgraph, known for its efficiency, security, and scalability, provided a robust foundation for CBDC-related activities during the hackathon. Its ease of deployment ensured that participants could quickly start working on their prototypes.

This turnkey solution played a pivotal role in making the hackathon a success. It provided a structured and supportive environment for participants to explore CBDC innovation, develop prototypes, and contribute to the broader goals of modernizing Ghana's payment infrastructure. With the dedicated platform, private portal, pre-built APIs, and Hedera Hashgraph technology, the hackathon facilitated efficient and impactful CBDC development while maintaining a high level of security and transparency.

Private Central Bank Portal (BoG Issued, Approved Wallets and Token distribution, Monitored transactions by the participants via pre built dashboards

Dedicated Hackathon Platform



Pre-Built APIs for the participants to integrate for their prototypes

Leveraging an easy to deploy DLT Protocol: Hedera Hashgraph

15 Summary

Alignment, Stakeholder Engagement

Web3 focus

Special Thanks to partners

16 Special Thanks to partners

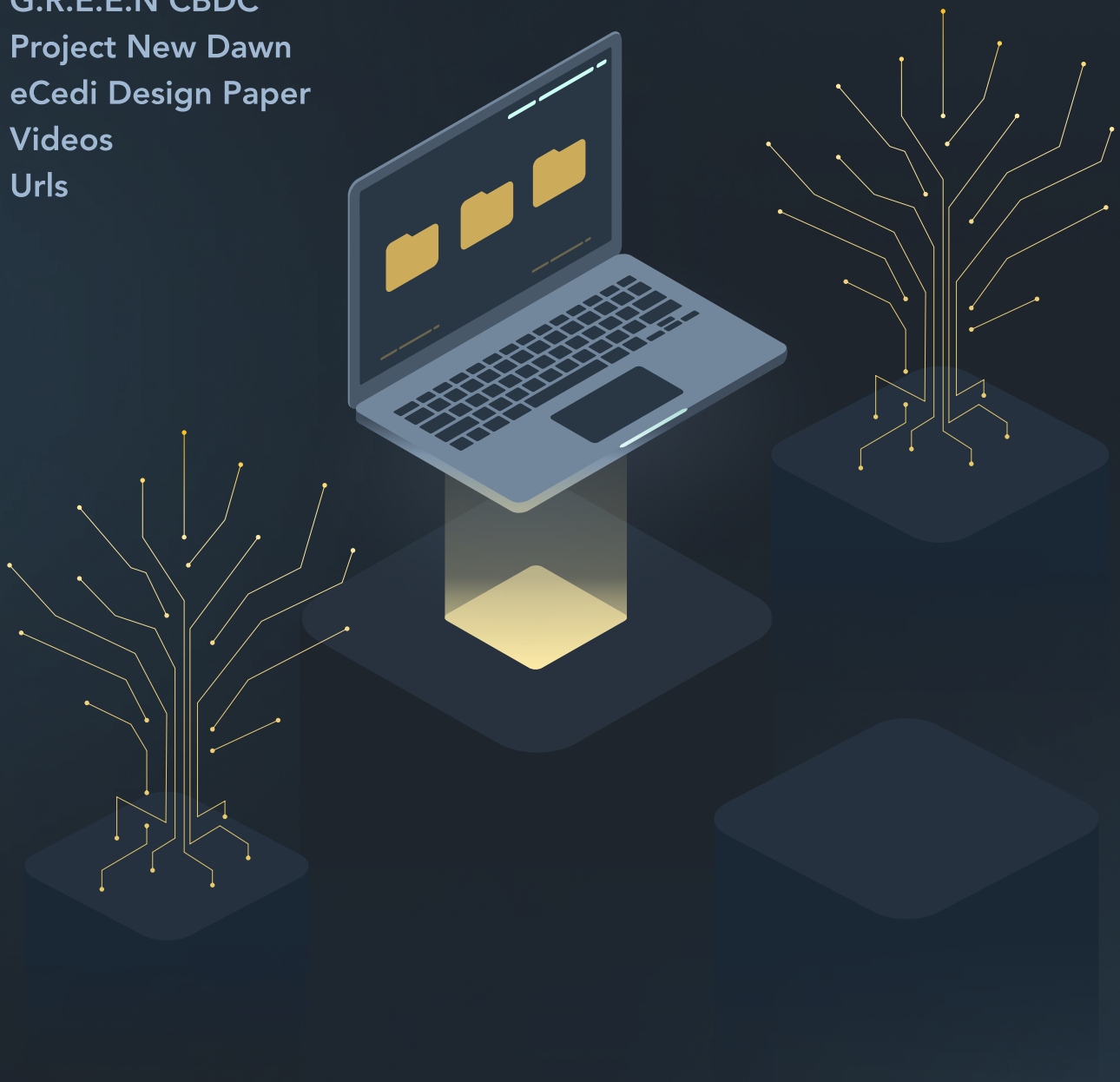
Thrilled to be part of the historic 12-week #eCedi Hackathon hosted by
@TheBankofGhana!

Also thanks to fellow partners
@HBAR_Foundation
,
@MESTAfrica, Ghana Fintech and Payments Association,
@KPMG_Ghana, and @Start_OA! 🙌🏾

THE HBAR FOUNDATION
Microsoft
Hedera Hashgraph
mest
START OA

17 Resources

- Press Release
- Documentary
- CBDC Hackathon Kit
- CBDC Innovation Kit
- G.R.E.E.N CBDC
- Project New Dawn
- eCedi Design Paper
- Videos
- Urls



Thank you!

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