United Nations Children's Fund
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unicef 🙂
for every child

CONSULTANCY - TERMS OF REFERENCE

BLOCKCHAIN DEVELOPER

Division: UNICEF Office of Innovation - Giga
*Duration: **12 months (Deliverable-based)***
Duty Station: Barcelona, Spain

Advertising summary

We are seeking a blockchain developer interested in advancing his/her career in web3 by contributing to a goal of connecting every school in the world to the Internet.

Giga is piloting web3 products which will be used to enable children to use digital technology in schools and their communities. Exploring and implementing real-life use cases for web3 is what drives us, and we have gathered an amazing group of blockchain geeks to work on this during crypto winter. Products on which we are currently working include Connectivity credits platform (think carbon credits for school connectivity), an accounting platform for real-time payments for connectivity through smart contracts, and of course – an NFT collection. We tend to come up with new product ideas quite often and follow the latest trends in web3 in order to find ways we can accelerate connecting the remaining 1.3 billion unconnected children.

Child Safeguarding

Is this project/assignment considered as "Elevated Risk Role" from a child safeguarding perspective? ☐ YES   ☑ NO

If YES, check all that apply:

Direct contact role   ☐ YES   ☑ NO
If yes, please indicate the number of hours/months of direct interpersonal contact with children, or work in their immediately physical proximity, with limited supervision by a more senior member of personnel:

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[                                                        ]
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Child data role   ☐ YES   ☑ NO
If yes, please indicate the number of hours/months of manipulating or transmitting personal-identifiable information of children (name, national ID, location data, photos):

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[                                                        ]
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More information is available in the Child Safeguarding SharePoint and Child Safeguarding FAQs and Updates

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UNICEF works in some of the world's toughest places, to reach the world's most disadvantaged children. To save their lives. To defend their rights. To help them fulfill their potential.

Across 190 countries and territories, we work for every child, everywhere, every day, to build a better world for everyone.

And we never give up.

For every child...innovate

UNICEF has a 70-year history of innovating for children. We believe that new approaches, partnerships and technologies that support realizing children's rights are critical to improving their lives.

The **Office of Innovation** is a creative, interactive, and agile team in UNICEF. We sit at a unique intersection, where an organization that works on huge global issues meets the start-up thinking, the technology, and the partners that turn this energy into scalable solutions.

About Giga

Launched in 2019 as a joint initiative between UNICEF and ITU, **Giga** has set the ambitious goal to connect every school in the world to the internet. Half of the world's population has no regular access to the Internet. Millions of children leave school without any digital skills, making it much more difficult for them to thrive and contribute to local and global economies. This has created a digital divide between those who are connected and those who are not, a divide that has become even wider during the Covid-19 pandemic. UNICEF and ITU have therefore joined forces to create **Giga**, an initiative to connect every school in the world to the Internet and address this new form of inequality.

Giga focuses on connecting schools so that children and young people have access to information, opportunity, and choice. It also uses schools as anchor points for their surrounding communities: if you connect the school, you can also connect local businesses and services. This creates opportunities for service providers to generate revenue from paying users, making connectivity more sustainable. A 2021 report by the Economist Intelligence Unit found that a 10% increase in school connectivity can increase effective years of schooling by 0.6% and increase GDP per capita by 1.1%.

You can read more about Giga's work at https://giga.global/ and by following us on twitter @Gigaglobal

Current Giga blockchain products

Connectivity credits platform

The pandemic has demonstrated just how important internet access now is for education and work; people who can't get online are at significant disadvantage. Currently, 3.7 billion people in the world do not have internet access – almost half the world's population. Connectivity credits are one possible solution. These would function like carbon credits, creating incentives for service providers and other technology companies to extend their networks to the poorest regions. Under this system, institutions such as schools would be granted credits, based on the difficulty, and cost of connecting them. Network operators, internet service providers, and other partners would then collect credits as they provide connectivity.

Further reading: https://www.weforum.org/agenda/2021/06/how-connectivity-credits-could-help-billions-get-online/

Accounting platform

In most cases, the school connectivity is paid for by either governments or by Giga directly. Doing this at scale (with >1M schools so far) means that it's not always practicable to validate whether the quality of service we pay for is actually delivered.

Our decentralized global accounting platform aims to change that by making the delivered quality of service public and visible, at scale. Going forward, we want to enable automated payments directly to ISPs, making it feasible to drastically scale-up the roll-out of internet globally.

Giga Blocks

We are currently working on a new collection of digital assets that will form the basis of a future decentralized platform to facilitate school connectivity.

How can you make a difference?

Giga is seeking a blockchain developer who can work with a diverse, global, and interdisciplinary team to help us build and then scale tools and products that support the successful, on-the-ground implementation of the Giga project. Giga team is scattered across the world, but our blockchain team is mainly working from different locations in Europe.

Your main responsibilities will be / (Key outputs)

- Work closely with the Product Manager and the Mapping & Tech Lead, to work on the development of Giga blockchain products (Connectivity credits platform, accounting platform, Giga Blocks)
- Engage with vendors and other software partners that are supporting us to build new products, APIs, and distributed infrastructures worldwide.
- Build new prototypes and tools that support the current Giga project, as well as scale features in existing ones.
- Support and maintain, including documentation, software and products related to Giga.
- Work closely with other parts of the team to explore collaboration and integration.

Description of assignment

#	Tasks	Deliverables/Outputs	Delivery deadline	Payment
1	Initial Blockchain Framework Assessment.	Report on blockchain frameworks assessment	Month 1	8%
2	Blockchain Tech Stack.	Report on proposed and improved blockchain tech stack for Giga's blockchain products,	Month 2	8%

		including Giga Count, Giga Blocks and Connectivity Credits.		
3	Blockchain architecture plans	• Updated architecture plan for Giga Blocks. • Architecture plan for Giga Counts.	Month 3	8%
4	Development of Core Blockchain Infrastructure	Core blockchain infrastructure for projects, including Giga Blocks	Month 4	10%
5	Data Management and Security Protocols	System for secure and dynamic data management for Giga Blocks	Month 5	8%
6	Developing Smart Contracts for GigaCounts	Operational smart contracts for Giga Counts	Month 6	8%
7	Developing Smart Contracts for Giga Blocks	Operational smart contracts for Giga Blocks	Month 7	8%
8	Implementation of Real-Time Data Features	Real-time data functionality and monitoring system for Giga Blocks	Month 8	10%
9	Developer Community Engagement	Established developer community and strategy targeted at the blockchain open-source community	Month 9	8%
10	Development of Decentralized Applications (dApps)	Functional new iterations of dApps for GigaCounts and Giga Blocks	Month 10	8%
11	Scalability and Infrastructure Enhancement	Expanded and scalable blockchain infrastructure	Month 11	8%
12	Documentation, Training Material Development, Handover	Comprehensive documentation and training materials	Month 12	8%

To qualify as an advocate for every child you will have…

- A master's degree in computer science or related field. *A first University Degree in a relevant field combined with 2 additional years of professional experience may be accepted in lieu of an Advanced University Degree.*
- A minimum of five (5) years of relevant professional experience in software development, with at least two (2) years of experience in blockchain development.
- Experience working as part of a fully staffed scrum team.
- Experience in building software prototypes and extensible APIs.
- Strong knowledge of Ethereum-like blockchains and ability to design and implement smart contracts.
- Understanding of both fungible and non-fungible tokens.
- Having built public smart contracts or web3 apps is a great advantage.
- Good knowledge of a scripting language such as JavaScript will be highly useful.
- Experience with one or more language for backend development.
- Experience with relational databases.
- Experience with cloud services, like AWS, Azure
- Knowledge of computer networks and understanding how ISP (Internet Service Providers) work is an asset.
- Experienced and comfortable with remote team dynamics, process, and tools (Slack, Zoom, etc.)
- Developing country work experience and/or familiarity with emergency conditions is considered an asset.
- Fluency in English is required. Knowledge of another official UN language (Arabic, Chinese, French, Russian or Spanish) or a local language is an asset.

Travel:

- The consultant is expected to travel to Geneva one time (1 trip), for a stay of 4-5 nights.
- The consultant is responsible for arranging his/her own travel, including visa and travel insurance.

Payment details and further considerations

- Payment of professional fees will be based on the submission of agreed deliverables. UNICEF reserves the right to withhold payment in case the deliverables submitted are not up to the required standard or in case of delays in submitting the deliverables on the part of the consultant.
- Consultant is responsible for his/her own health and travel insurance.
- Consultant is responsible to arrange his/her own travel, including visa.

How to apply:

- Interested applicants are required to submit a financial proposal with an all-inclusive fee. Please see the financial proposal template.
- Financial proposal must include travel costs (economy class) and daily subsistence allowance, if travel is required as per TOR and any other estimated costs: visa, travel/health insurance.
- **Applications without a financial proposal will not be considered.**

For every Child, you demonstrate…
United Nations Children's Fund

UNICEF's values of Care, Respect, Integrity, Trust, Accountability, and Sustainability (CRITAS).

To view our competency framework, please visit here.

UNICEF is here to serve the world's most disadvantaged children and our global workforce must reflect the diversity of those children. The UNICEF family is committed to include everyone, irrespective of their race/ethnicity, age, disability, gender identity, sexual orientation, religion, nationality, socio-economic background, or any other personal characteristic.

UNICEF offers reasonable accommodation for consultants/individual contractors with disabilities. This may include, for example, accessible software, travel assistance for missions or personal attendants. We encourage you to disclose your disability during your application in case you need reasonable accommodation during the selection process and afterwards in your assignment.

UNICEF has a zero-tolerance policy on conduct that is incompatible with the aims and objectives of the United Nations and UNICEF, including sexual exploitation and abuse, sexual harassment, abuse of authority and discrimination. UNICEF also adheres to strict child safeguarding principles. All selected candidates will be expected to adhere to these standards and principles and will therefore undergo rigorous reference and background checks. Background checks will include the verification of academic credential(s) and employment history. Selected candidates may be required to provide additional information to conduct a background check.

Remarks:
Only shortlisted candidates will be contacted and advance to the next stage of the selection process.

Individuals engaged under a consultancy or individual contract will not be considered "staff members" under the Staff Regulations and Rules of the United Nations and UNICEF's policies and procedures and will not be entitled to benefits provided therein (such as leave entitlements and medical insurance coverage). Their conditions of service will be governed by their contract and the General Conditions of Contracts for the Services of Consultants and Individual Contractors. Consultants and individual contractors are responsible for determining their tax liabilities and for the payment of any taxes and/or duties, in accordance with local or other applicable laws. For more information on Non-staff members IO based in Geneva, you can visit this link.

The selected candidate is solely responsible to ensure that the visa (applicable) and health insurance required to perform the duties of the contract are valid for the entire period of the contract. Selected candidates are subject to confirmation of fully-vaccinated status against SARS-CoV-2 (Covid-19) with a World Health Organization (WHO)-endorsed vaccine, which must be met prior to taking up the assignment. It does not apply to consultants who will work remotely and are not expected to work on or visit UNICEF premises, programme delivery locations or directly interact with communities UNICEF works with, nor to travel to perform functions for UNICEF for the duration of their consultancy contracts.