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Using blockchain to help Groningen residents control their debts

The City of Groningen and CGI create a blockchain proof of concept to help people regain financial control

Lack of knowledge and insight can lead individuals down the path of poor financial decisions. Without a clear understanding of their current financial situation, people can make irresponsible or ill-timed purchases, pay bills late or fail to pay creditors at all. These behaviors can result in increased money owed, collections activities and higher levels of debt.

In Groningen, the largest city in the northern Netherlands, a government institution, the Groningse Kredietbank (GKB), helps residents gain control over their debts through a variety of services including debt assistance, debt prevention, income management and social lending.

Institutions like GKB, though, struggle under heavy administrative burdens, as creditors may regularly communicate only with debtors and not with the credit bank. As a result, debt relief officers spend a great deal of time updating data related to payments, earnings and expenses and coordinating between the parties. What if they could spend less time on administrative tasks and more time coaching debtors to make better-informed financial decisions? This premise underpinned an innovative approach using blockchain technology to benefit Groningen residents in need of debt relief services.

From blockchain hackathon **to proof of concept**

A rapidly emerging technology, blockchain allows data to be agreed upon, stored and updated in near real time on a secured distributed ledger. It also enables the data to be accessed by numerous authorized participants, making it ideally suited for environments where multiple parties wish to exchange information reliably and securely while guaranteeing each party's privacy.

As home to the world's largest blockchain hackathon, Groningen sought to understand how blockchain might be relevant to its debt relief ecosystem. Groningen and GKB partnered with CGI to help refine this idea and move the blockchain concept to reality. Together, the team created a proof of concept that stores financial status changes of GKB clients in a private blockchain, along with invoices and income payment information of external partners.

A collaborative **journey**

Close cooperation between Groningen/GKB and the CGI team set the stage for success. The municipality contributed a product owner, an application architect and security officer to the team. CGI assisted with functional design, development and creation of the cloud environment in which the proof of concept would run. Through joint analysis, the team decided to adopt Ethereum as the blockchain platform in a Microsoft Azure cloud environment.

The team took an agile approach to designing and building the proof of concept, meeting one week at the municipality and the next at CGI. Instead of working to agreed-upon milestones, the team worked side-by-side in designing and developing the application.

Blockchain added a new dimension of complexity to the project. Given the relative infancy of the technology, no clear blueprint or roadmap for building the "to-be" vision existed. Therefore, an open, collaborative attitude was critical. Groningen's Senior Project Manager, Günther Bosman, explained, "If something did not work, we were open about it and we sought a solution together. That gives confidence that you know that everyone has done the maximum to deliver a positive result."

Privacy by **design**

Groningen envisioned a blockchain-based debt ecosystem available to GKB clients seeking debt assistance as well as creditors. Therefore, privacy was paramount. In the future, GKB clients within their debt assistance programs can log in to the application using their credentials from the Dutch national identity management platform, DigiD. From a secure dashboard, people can view their liabilities and income to keep better track of finances and plan payments accordingly.

To protect the privacy of citizens, the data provided to third parties is minimal. As part of the proof of concept, external parties can identify whether a citizen is working with GKB. If a green indicator shows that the debtor is a client of the credit bank, the creditors know to contact GKB. "We can then investigate whether we include the claim in the system," Bosman explains. This new insight helps third parties make collection decisions and avoid costly collection processes where little chance of recovery exists.

Blockchain benefits the **debt relief process**

The proof of concept, developed in just three months, has demonstrated the feasibility of using blockchain technology to support debt relief efforts. The municipality foresees benefits for residents, debt relief officers and creditors alike.
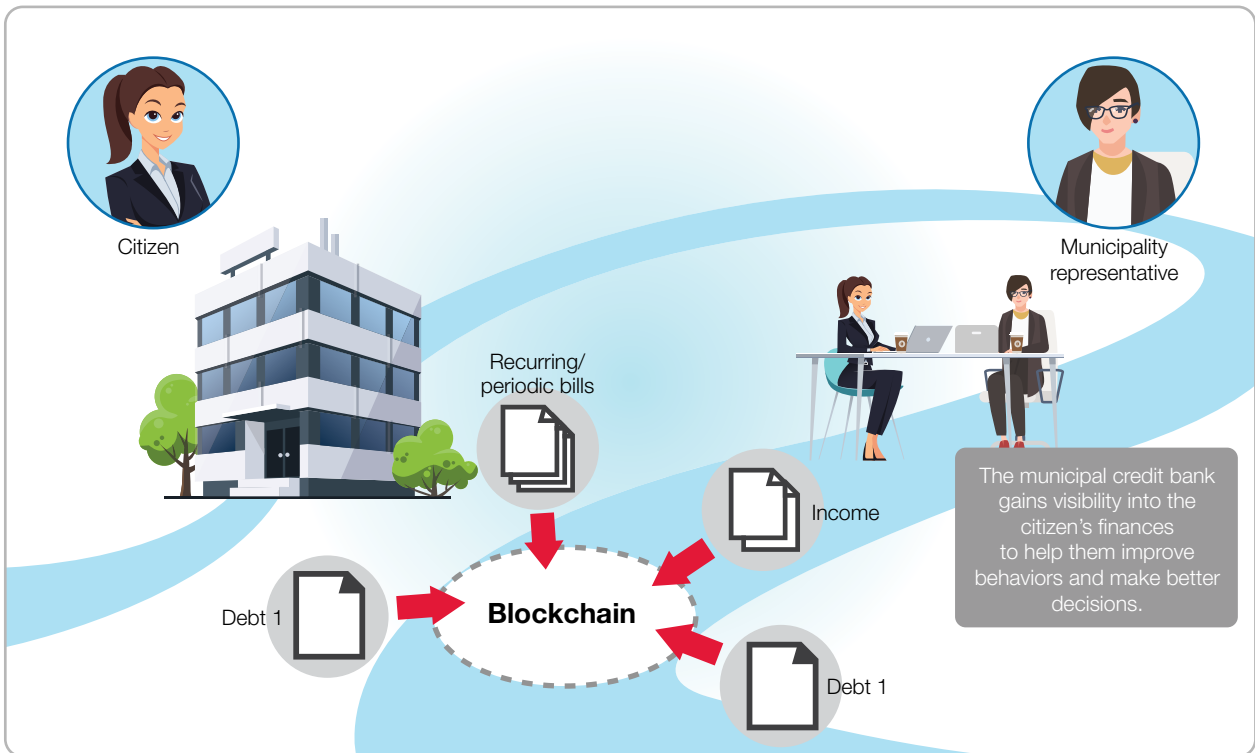
> " We strive towards better support for our citizens and therefore dare to think outside the box. To strengthen our income services for clients, we use experiments, projects and blockchain. "
>
> Hans Julsing, Managing Director Income Services at the Municipality of Groningen

Residents	Debt Relief Officers	Creditors
• Better insight into and control over earnings and expenditures • Tailored debt counselling	• More time for coaching • Less red tape • No unnecessary legal costs	• Decreased number of defaulters • Reduced administrative costs and debt collection savings • Ability to fulfill civil duties to citizens

Groningen has approached several other parties about participating in a follow-up aimed at evolving the proof of concept to a production blockchain system. The more parties involved, the greater insight GKB clients gain into their finances and the easier it is for them to avoid incurring new debts. Groningen has shared the results of this proof of concept with the Association of Debt Relief and Social Banking (NVVK) to discuss broader national applicability.

GKB's view on blockchain debt services

CGI and blockchain

Blockchain is a disruptive technology with the potential to make an enormous impact on society, governments and businesses. Through a variety of proofs of concept, blockchain is already producing compelling results.

CGI has been at the forefront of applying blockchain to a variety of use cases in financial services, the energy sector, health and life sciences, manufacturing, government services and more.

We help clients envision their blockchain strategy, build blockchain use cases, develop and implement their blockchain solutions, and manage the blockchain ecosystem and its integration within the enterprise.

To learn more, contact us at info@cgi.com.

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