Sanjib Kalita
- CMO of Money20/20, one of most successful Fintech brands launched in last 6 years
- Formerly at Google, Intel and Citi (9 years in credit card business, including SVP)
- Member of 3 startups w. 2 successful exits (acquired by Google, Ascential PLC)
- B.S. & M. Eng. in EE (Cornell University) and MBA (Kellogg – Northwestern U)

Petros Zerfos
- Research Manager at IBM Research
- IBM Master Inventor (35 patents filed / 19 granted to date)
- Leads team of 9 in analytics systems and applications offered as cloud services
- Productized 3 research projects in last 2 years - Big Data, Predictive Analytics & Cloud Services
- PhD, CS (UCLA), B.Eng. (NTU of Athens)

Sujay Parekh
- Senior Software Engineer at Bloomberg
- Holds 20 patents
- Team lead developing SDK and APIs for real time data access
- 3 years at Bank of America – developed centralized Risk Data Warehouse
- PhD, CS (U of Washington), B.S. (Cornell)

Business Overview: Guppy operates a distributed ledger for credit data. Through a secure, permissioned, publicly accessible platform, personal data is easily uploaded, verified, offered and used. Guppy enables data owners--including financial institutions and everyday consumers--to monetize their own data, whether for account opening and maintenance or for employment and rental verification. Guppy modernizes and improves the credit data ecosystem for all participants by addressing the industry's biggest pain points–transparency, accessibility, security, control and quality.

Background/Opportunity: With over 300 million credit reports pulled annually to open over 40 million new loans totaling over $2 trillion dollars, credit bureaus are an integral part of the economic system, generating over $10B in revenue. Credit bureaus collect data on millions of consumers from hundreds of thousands of data providers. However, the current system is error-prone and results in dissatisfied lenders, consumers and regulators. Additionally, the billions of consumers with limited history, or thin files, are an expansion opportunity. As lenders incorporate new data sources to develop better predictive models, they look outside of traditional credit bureaus and into the shadowy world of data brokers, filled with lax controls and dubious practices. Recent bureau hacks, such as Equifax, highlight issues at the highest levels.

With blockchain technology, Guppy introduces transparency and reinforces accountability in credit bureaus. Smart contracts in the Guppy platform enable tiered access and ensure authorized usage of specific data elements. The Guppy blockchain stores hashed identifiers rather than actual data, mitigating privacy issues and enabling data owners to maintain final access and control. Importantly, Guppy enables data owners, including everyday consumers, to monetize their own data. By verifying uploaded data, consumers obtain partial ownership of their data and are compensated when it is used. Finally, account-based access to Guppy maintains a complete and auditable record of data access and usage for regulators, consumers and lenders.

STAKEHOLDER	PAIN POINT	THE GUPPY FIX
Consumer	• Data errors increase rejection rates, APRs, and time spent fixing errors • Everyone except the consumer is monetizing consumer data	• Blockchain transparency simplifies finding and fixing errors • Platform engages consumers and incentivizes accuracy by verification
Account Provider	• Bad data leads to bad decisions • Lack of single source with adequate controls • Lack of control once data sent to bureau	• Incentives for clean & verified data • Scalable, easily extensible API-driven platform • Data owner maintains ultimate control
Credit Bureau	• New data sources eroding existing business • Data errors and remediation drain resources • Limited/no contact w consumers	• Easily extensible platform with controls • Consumer incentives for data verification • Direct consumer engagement
Regulator	• New data sources lack of controls • Limited documentation of data usage	• Algorithmic control w smart contracts • Auditable record of access & usage

The Guppy Way: With Guppy, Data isn't simply a set of numbers or even a database entry. With verification by consumer and account provider, they're <u>jointly owned digital assets</u> that include a powerful set of features that address the biggest failures of existing credit bureau infrastructure AND open new doors for revenue and ecosystem satisfaction. Guppy leverages cryptographic technologies to enable the secure recording of data that enables its frictionless, trustworthy use. Guppy technology revolutionizes credit bureaus through the following services:

✓ *Secure Data Recording & Use:* Through the use of cryptographic primitives similar to those in the Blockchain, the cataloging of data can be conducted in a highly secure and transparent manner without the requirement of a third-party intermediary. Thereafter the data can be used via these records on the Blockchain.

✓ *Syndicated Sales Platform:* Through a flexible sales structure and a REST API, anyone can upload and sell data. Actual data is never stored on the blockchain. The blockchain records the time and source of the data, which enables its access. A data buyer only sees the result of their data query through smart contracts, but never the actual data.

✓ *Smart Access & Auditability:* Algorithmic controls with variable levels of access enable the entire ecosystem to interact with data assets at the appropriate level. Distributed ledger technology records these interactions and provides a fully auditable record appropriate for regulatory and compliance purposes.

The Blockchain Advantage: Guppy will leverage the power of blockchain technologies to create the next generation credit bureau. Blockchain creates a unique competitive advantage for credit and financial data:

✓ *Secure & Immutable Digital Assets:* Cryptographic keys and an open ledger validated with consensus algorithms creates an immutable record that is resistant to fraud & enables verifiable ownership of data assets in a fully distributed fashion.

✓ *Resilient Data Store:* There is no downtime or single failure point due to a distributed and decentralized architecture. Blockchain failover mechanisms allows operation even with intermittent connectivity.

✓ *Open & Accessible:* With an openly accessible "database", Guppy provides a stark contrast to existing closed systems, enabling embeddable applications and an extensible platform.

Impacts & Benefits: Guppy is a big idea that attempts to bring one of the most disruptive technologies in the last 10 years to one of the most important and empowering sectors of the economy.

✓ *Disrupt & Improve Credit Bureau Data:* Increased transparency coupled with open access will enable bureaus to develop new offerings and address pain points in current system

✓ *Empower & Enrich Consumers:* Guppy represents a quantum leap in consumer engagement over the status quo and enriches customers with assets that owned by definition – personal data

✓ *Accountability & Auditability:* Guppy turns data markets away from the shadowy world of data brokers and onto a transparent system that regulators and compliance professionals can fully review

THE GUPPY DISTRIBUTED LEDGER

TECHNOLOGY MATCHES USE CASE	SPECIFIC TECHNOLOGY BENEFITS	BUSINESS BENEFITS
Manages trust in multi-party scenarios	Transparent and secure	Increased consumer & lender visibility
Distributed architecture pushes control to consumer	Operational cost savings	Extensible architecture REST API enabled access
Typically batched processes – limit real-time requirements	No single point of failure	Data owners control access