1 Surfing through Ripple: A Grand Tour

The following post examines the Vision and Mission behind the Ripple Team. The essay is carried out by studying the Ripple environment, the stakeholders, and the team's accomplishments and possible future plans.

1.1 An Introduction to Ripple

Ripple is an open-source protocol designed to allow fast and cheap transactions. The platform has its own currency (XRP). It also allows anyone to use the platform to create their own via RippleNet. It allows us to make payments in any currency, including Bitcoin. XRP is the token used for representing the transfer of value across the Ripple Network. It is a public, counterparty-free asset native to the XRP Ledger. It is traded on the open market and made available for anyone to access. The `rippled` server, on the other hand, powers the XPR Ledger.

1.1.1 Ripple's Capabilities

- Transactions are secure, reliable, and instant.
- Transactions can be done globally and almost free of charge
- Addressing three critical issues with the payments:
    - Speed and certainty
    - Liquidity management
    - Transparency
- Offering Cross-currency; Payments can be sent and received in the local currency on either side of the transaction.
- Quick access to new markets for customers to help them expand their services.[1]

1.2 Product Context

In this section, the Ripple environment, its connection to external entities, people, and systems are portrayed. The context view diagram represents an overview of the different entities currently associated with Ripple:

The most popular users of Ripple are large financial institutions like American Express, MoneyGram, and SBI Remit since Ripple is one of the pioneers in Cryptocurrency. It is also backed by companies such as Standard Chartered and a16z. However, Ripple is in stiff competition against heavy-weight leaders such as Bitcoin and Etherium. They are also in the careful inspection of The FinCEN. RippleNet, a project of Ripple, provides banks and businesses different solutions to transfer money globally. The codebase maintained on GitHub is written in C++ and has support in Linux, macOS, and Windows.

1.3 Stakeholder Analysis

People have different interests in the Ripple Project. In this study, Rozanski & Woods' stakeholder types are used as a guideline to identify the various stakeholders. In the table below, a brief definition of stakeholder types can be found.
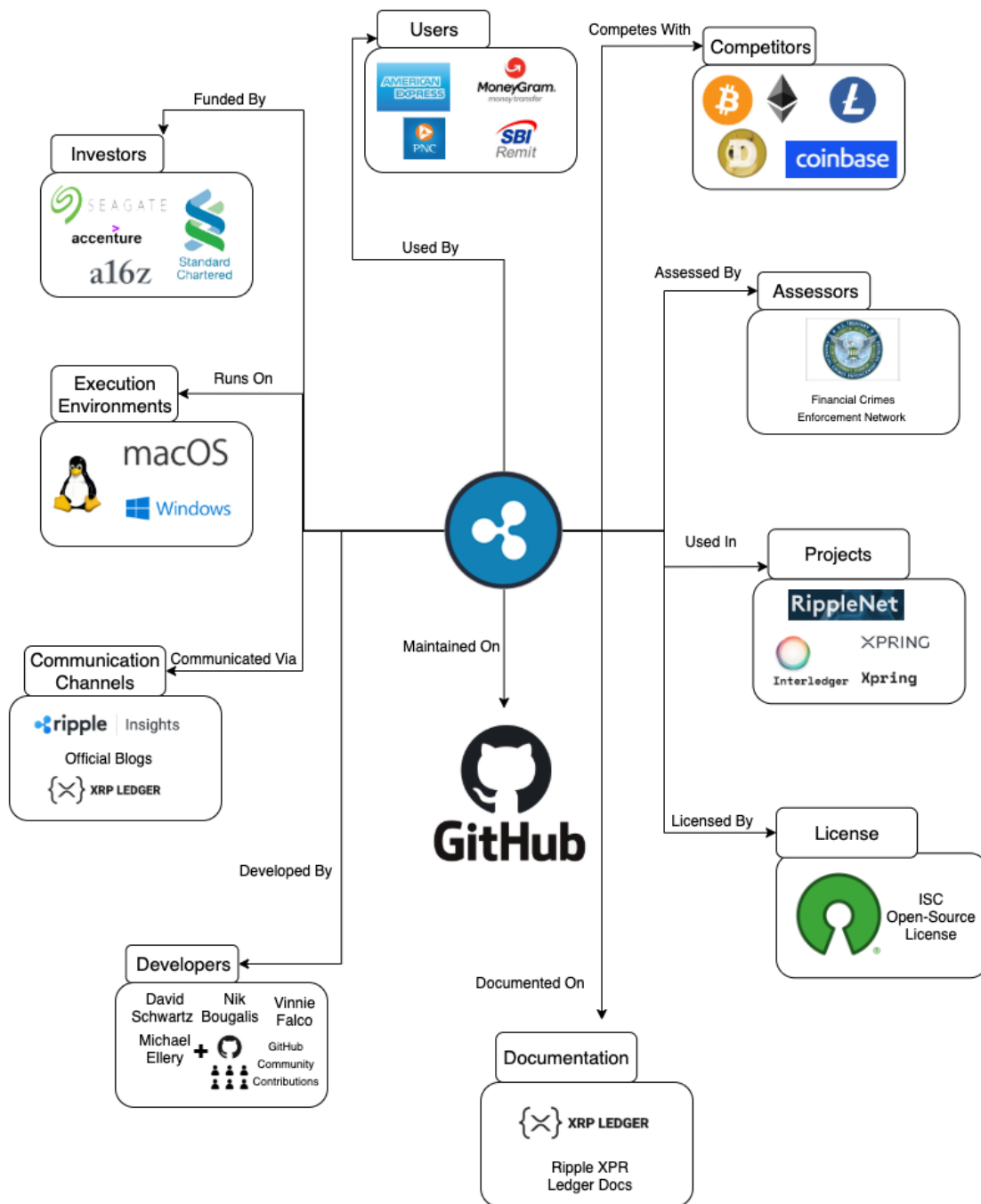
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[1]https://ripple.com/ripplenet/on-demand-liquidity/

Figure 1: Product context

Type	Brief description
Acquirers	Oversee the strategy of the product and seek for commercial profits
Assessors	Investigate the entire company for compliance with legal matters or industry standards
Communicators	Provide information and details of the system for other stakeholders
Support Staff	Provide users with technical support and answer potential questions
Developers	Develop the software system based on development needs
Maintainers	Manage the evolution of the system once it is deployed and operational
Testers	Operate the program under specified conditions to find program errors and measure software quality
Investors	Legal persons or companies who invest cash to purchase certain assets to obtain benefits or profits
Users	Individuals and companies who use Ripple for blockchain business
Competitors	Compete for a commercial gain of the same product or in the same industry

1.3.1 Acquirers

From the analysis of investments, MoneyGram International invests PIPE-IV round with $20M, and SBI Investment and Hinge Capital invest Series B with $55M. It is easy to conclude that the management members of these companies are the acquirers of Ripple. For fintech companies, they sponsor Ripple and need the real-time money transfer and estimation services provided by Ripple. For capital companies, they invest Ripple and gain dividends from stocks.

1.3.2 Assessors

The Financial Crimes Enforcement Network ("FinCEN") has the authority to investigate money services businesses. This organization assesses legal matters related to Ripple and checks whether Ripple is compliant with the standards for the regulation of a commercial blockchain company. Besides, CryptoNewsZ is a company that makes assessments for crypto markets. Ripple (XRP) is one of the leading bitcoin cases, and there are yearly assessments with its stock price, future trend, and market conditions made by CryptoNewsZ.

1.3.3 Communicators

The Ripple communication system is **RippleNet**. It enables access to new markets, expands users' services, and delivers the best customer experience in global payments. Customers can access the blockchain technology for global payments, payout capabilities, On-Demand Liquidity as an alternative to pre-funding, and operational consistency through a common rulebook.

1.3.4 Support Staff

Ripple offers three types of support on the official website. A form to contact the Sales Team, a form to contact the Press Team for press requests and finally, FAQs answering questions about Ripple company, XRP Token, XRP Tech, and Merchandising.

For more technical support, there are other resources, such as the XRP Ledger platform, which is an open-source technology. One can integrate and contribute to the platform using the tools and information provided.

1.3.5 Developers

The most active repositories of the Ripple project are xrpl-dev-portal, XRP Ledger developing documentation, rippled, The source code and, ripple-lib, an API development for interacting with the XRP Ledger. On average, these repositories have more than 70 Contributions. Below some of the leading developers of the project have listed.

Active Repository	Github ID	Affiliation	Contribution	Role
rippled	@JoelKatz	David Schwartz	4,251 commits	Ripple CTO and network architect
	@vinniefalco	Vinnie Falco	2,633 commits	Former Ripple Engineering Manager President at C++ Alliance
	@ahbritto	Arthur Britto	1,384 commits	
	@nbougalis	Nik Bougalis	589 commits	Ripple Software Engineer
	@mellery451	Michael Ellery	160 commits	Ripple software generalist
	@justmoon	Stefan Thomas	194 commits	Open-source developer
xrpl-dev-portal	@mDuo13	Rome Reginelli	1,806 commits	Ripple Labs Employee

Active Repository	Github ID	Affiliation	Contribution	Role
ripple-lib	@jhaaaa	Rome Reginelli	100 commits	
	@wltsmrz		528 commits	
	@geertweening	Geert Weening	262 commits	Ripple Employee
	@intelliot	Elliot Lee	205 commits	Ripple Employee

David Schwartz is the CTO at Ripple and is one of the original architects of the Ripple consensus network. Vinnie Falco is also one of the leading developers, and he took over David's work since 2013. The early development of Ripple was from 2012 to 2014, and the subsequent jobs are maintaining and updating.

1.3.6 Maintainers

Depending on the timeline of Ripple's commitment, different engineers and open-source developers are responsible for Ripple's maintenance. Since there is no clear description of the division of labor during the program development and operation and maintenance, all the developers above can be seen as maintainers.

1.3.7 Testors

The developers themselves look into the testing procedures. They undergo unit testing on each component of the repository.

1.3.8 Investors

The key investors of Ripple are players such as Andreessen Horowitz, SBI Investment, and more. In angel rounds, the company attracts corporate supporters and famous crypto bulls, including Tim Kendall, the former President of Pinterest, Jesse Powell, Co-founder, and CEO of Kraken exchange and others. In Venture Capital series rounds, specific capital companies and venture companies like SBI Investment and Accenture fund Ripple for commercial usage.

1.3.9 Users

There are hundreds of financial institutions around the world, relying on RippleNet to process their customers' payments anywhere in the world. Some of the important users are mentioned below.[2]

- American Express
- MoneyGram
- Santander
- SCB
- SBI Remit
- NIUM
- Banco Rendimento

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[2]https://ripple.com/customers

1.3.9.1 Case Studies

- Santander

  Customers who were not doing international transfers are now using the service. Customers who were using international transfers are now doing it more. Furthermore, the customers who had gone to use fintech competition have come back because of the One Pay offering.

- NIUM

  Through NIUM's use of Ripple in the Philippines and Mexico corridors, they have been able to eliminate pre-funding requirements. They offer faster remittances at a lower cost.

- SBI Remit

  They must continuously search for superior technological solutions to deliver ever improved remittance flows. Ripple helps open up new revenue potential for business and a better overall experience for customers.

1.3.10 Competitors

As part of the hype surrounding cryptocurrencies, there is a huge number of competitors for Ripple, including Bitcoin, Dogecoin, Litecoin, Ethereum. Among them, Bitcoin is the most widely used.

Litecoin is a fork version of the bitcoin system that has more features such as:

- a decreased block generation time (2.5 minutes)
- increased maximum number of coins
- different hashing algorithm (script, instead of SHA-256)
- slightly modified GUI

Dogecoin is a further fork of the Litecoin system, which used primarily as a tipping system on Reddit and Twitter to reward the creation or sharing of quality content.

One can see that Ripple faces competitors in high quantity as well as of great quality. Hence, it is ever so important to leverage help from the open-source community and create the best software possible.

1.4 Roadmap

Roadmap offers us a strategic plan that defines a goal and includes the milestones needed to reach it. It also presents what problems Ripple has overcome by reviewing the development history.

Founded in 2012
To realize the vision for the Internet of Value

SBI Ripple Asia Formed
To accelerate the commercial use of blockchain in Japan and Korea

Interledger Protocol (ILP) Launches
To ensure interoperability among all blockchain and legacy technology

RippleNet Committee Formed
To create and maintain a rulebook that ensures operational consistency and legal clarity for every transaction

100+ on RippleNet
More than 100 financial institutions join RippleNet

On-Demand Liquidity (ODL) Commercially Available
Customers on RippleNet use XRP to source liquidity on-demand

200+ on RippleNet
More than 200 financial institutions join RippleNet

Xpring Established
To build infrastructure and help innovative blockchain projects grow

UBRI Established
To support and accelerate academic research, technical development and innovation in blockchain, cryptocurrency and digital payments

MoneyGram Uses ODL
To power their RippleNet transactions between the U.S. and Mexico

300+ on RippleNet
More than 300 financial institutions join RippleNet

[3]

The figure above is the company's commercial road map since founded. Although the protocol as a working prototype was created away back in 2004, the company started in 2012 when Jed McCaleb secured investment for Ripple Labs.[4] The chart below shows the additional functions the developers introduced to the ripple core.

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[3]https://ripple.com/company

[4]https://capital.com/ripple-xrp-price-prediction-2020

V0.19.0-2013
V0.27.0-2015
V0.40.0-2017

Database
Enhancement

V0.30.0-2016

Better login system
With Ripples Names

Ripple-client project-2017

Improving
web client

XPRING project
October 2018

Built in
wallet

Downloadable
Client

Ripple-client-desktop project
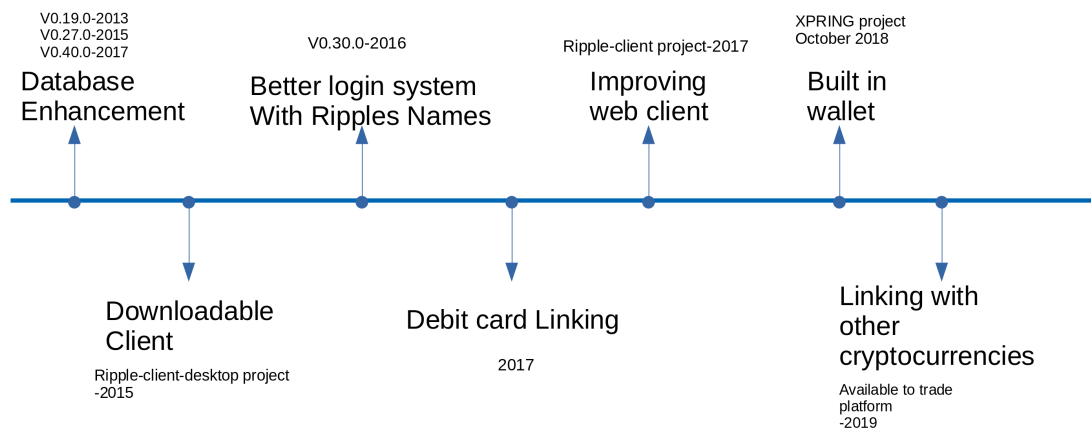-2015

Debit card Linking

2017

Linking with
other
cryptocurrencies

Available to trade
platform
-2019

Figure 2: Software Roadmap