Private Law Society
The Free Speech Press Challenge

Abstract

This document presents a problem statement to foster the Private Law Society development. In this problem statement, a news company called @privcomp hires a journalist called @libwriter using the Private Law Society platform. This document provides the business case details and requests a prototypical implementation in the Bitcoin Testnet.

Keywords: PLS, Contracts, Bitcoin

1 Introduction

Private contracts are a fundamental principle of a free society. Individuals should be free to enter into agreements with one another as they see fit, without interference from the state or other outside parties. Private contracts allow individuals to peacefully and voluntarily exchange goods, services, and property, promoting cooperation, efficiency, and wealth creation.

Private contracts are essential for protecting the rights of individuals and allowing them to freely engage in commerce without interference from the state or other external forces.

Private Law Society (PLS) is a platform to support private contracts on the Bitcoin infrastructure. It is in its infancy, and a lot of work must be done. This document aims to provide a case study formatted as a problem statement, to test PLS ideas, algorithms, workflows, and protocols.

1.1 The challenge

Section 2 presents a business case. After that, section 4 presents several open questions. Finally, section 5 gives instructions on how to answer, submit and contribute to the project.

The answers are intended to help clarify and define the project requirements. We encourage the community to carefully review the answers and provide feedback or additional questions as needed to ensure that the requirement-gathering process is thorough and effective.

2 Context

2.1 The job offering

The following job offering message appeared on a Discord group:

Dear writers, journalists, and photographers:

@privcorp is a news hub that creates original content to resell to YouTube creators, newspapers, and other conventional media.

We are writing to offer you a unique and exciting opportunity to join our team as we cover free speech violations in developing countries. As a professional in your field, we believe you have the skills and expertise to help us shed light on these important issues.

As part of this assignment, you will be responsible for researching and writing articles, conducting interviews, and capturing photographs that showcase the struggles faced by individuals in these countries. We are committed to protecting your anonymity and will pay you in Bitcoin for your work.

We believe your contribution will be invaluable in helping to raise awareness about free speech violations and their impact on individuals and communities. If you are interested in joining our team, please send us your resume and writing samples as soon as possible.

Thank you for considering this exciting opportunity. We look forward to working with you.

Sincerely,

@privcorp

2.2 The offer

@libwriter is a Brazilian journalist covering the Brazilian Supreme Court's tyranny and is afraid to be arrested and silenced. He sees an opportunity to keep his work anonymous, preserving his identity, family, and wealth. He sent a message to @privcorp asking for more information.

After two weeks of conversations and negotiations, @privcorp and @libwriter agreed on the following terms:

- @libwriter will cover Brazilian politics;

- @libwriter articles will be revised by peers (other @privcomp contractors);

- only articles approved by the peer review and the @privcorp editors will be published and paid;

- @libwriter will write at least one article per week;

- articles will be divided into three classes:

    - A - 0.1₿/page - Breaking news, exclusive content

– B - 0.05Ƀ/page - Investigative article supported by facts
– C - 0.01Ƀ/page - Incremental - More news or facts from a known issue

- @privcorp will review, accept or refuse the articles in the following time frames:

    – A - Up to 2 working hours
    – B - Up to 12 working hours
    – C - Up to 48 working hours

- articles that are not timely reviewed will be considered accepted and must be paid;

- @privcorp will pay @libwriter monthly, every 1st day of the month, in a Bitcoin wallet[1]

- @privcorp and @libwriter agreed in a 1Ƀ collateral in this contract.

- @privcorp and @libwriter agreed on a contract duration of 2 months automatically renewed six times (total of 12 months).

2.3 The workflow

2.3.1 Contract formalization

The following steps summarize how the contract was formalized:

1. @privcorp and @libwriter wrote a contract in .doc, exported it in PDF, and exchanged the final PDF file on Discord;

2. @privcorp created the contract at PLS:

    - Generated the PDF file hash
    - Created a multisig (2 of 2) wallet for the contract

3. @privcorp and @libwriter transfer collateral into a time-locked transaction expiring in 3 months. If the time expires, funds will go to the DAO's wallet. The UTXO contains the PDF hash in the opcode.

2.3.2 Contract execution

The following steps summarize how the contract was executed:

1. In the first month, @libwriter wrote 4 class A and 2 class B articles. All articles were timely reviewed and published by @privcorp.

2. On the first day of the following month, @privcorp transferred 0.5Ƀ to @libwriter.

3. In the second month, @libwriter wrote 3 class A and 1 class C articles. All articles were timely reviewed and published by @privcorp.

4. On the first day of the following month, @privcorp transferred 0.31Ƀ to @libwriter.

5. Both @libwriter and @privcorp agree with the bimonthly renewal, and the deadline is extended for more two months.

6. In the third month, @libwriter wrote 4 class B articles. @privcorp refused the last article, but the refusal arrived after the close of the month. This starts a conflict. @privcorp says that @libwriter did not write four articles that month. @libwriter states that the refusal came only after the end of the month, so on the last day of the month, four articles were delivered as promised. @privcorp says that the last article was delivered too late that month, and that's why the refusal came only the subsequent month.

7. @libwriter requests a mediation.

8. PLS puts a Mediator in contact with both parties. The Mediator asks for the PDF contract, generate a hash, and compares it with the hash in the transaction opcode.

9. Mediator analyzed the contract and realized that it had a flaw. Both parties have valid points. He tries to negotiate a middle ground with both parties without success.

10. Time expires, and funds are transferred to the DAO's wallet.

11. PLS puts an Arbitrator in contact with both parties. The Arbitrator asks for the PDF contract, generate a hash, and compares it with the hash in the transaction opcode.

12. Arbitrator decides that @libwriter must be paid for the three articles, and the contract must change to ensure that situation will not happen anymore.

13. The Arbitrator transferred 1.3Ƀ to @libwriter (his collateral plus three articles) from his own wallet. @privcomp lost its collateral.

14. The Arbitrator writes a report and submits it to DAO

15. In the next cycle, PLS allocates three new Arbitrators (Committee) to analyze and vote on the report. The Committee votes in favor of the report. So the DAO pays the Mediators and Arbitrators:

    - Mediator - mediation fee
    - Arbitrator - (1.3 + arbitration fee)Ƀ
    - For each Committee Arbitrator - committee fee

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[1]bc1qg9chmtrd9fnej23vzqtpl0xeaxvxrg9y8srw3rd9evl8rhm3m56qfe67z4

3 Preparation

We strongly encourage you to buy and sell Bitcoins at Bisq (https://bisq.network) before going further. Bisq is a reference implementation of decentralized P2P contracts and is very similar to what we are trying to accomplish with PLS. Pay attention to your learning curve and contribute to the Bisq project by giving your valuable feedback.

4 Problem statement

Given the context stated in section 2, please execute one or more tasks or answer one or more questions as follows:

1. Use the Bitcoin Testnet to create the multisig wallet (section 2.3.1, item 2)

2. Use the above-created wallet to manually create the UTXO and simulate (section 2.3.2 item 3)

3. Simulate the arbitration process described in section 2.3.2

4. Write the contract between @privcomp and @libwriter (.doc, .PDF file)

5. Generate the hashcode of the contract PDF

6. Write a JSON contract descriptor containing all the info PLS needs to execute the contract, e.g., contract hash, parties' ids, dates, etc.

7. How will be a mediator, and an arbitrator chosen for the contract? Write an algorithm for this selection.

8. Propose a workflow and a user interface for @privcomp and @libwriter to agree on the mediator and arbitrator during contract creation.

9. What part of Bisq source code could be reused for PLS?

10. Could the workflow presented in section 2.3.2 and section 2.3.1 be different? How and why?

There are a lot more loose ends and open questions. For example, how much to pay for arbitration and mediation? @privcomp should lose the collateral? What about a transaction fee? Where will the Arbitrator submit the report? Please feel free to make assumptions and propose new questions and their respective solutions.

5 Submission instructions

First of all, join the community and enroll in the discussions:

- Join PLS: https://www.privatelawsociety.net/join;

- Please carefully study all channels and available documentation;

- Engage on #bisq-project channel.

Ideally, we would like to receive answers as a technical report following the structure ahead:

- Introduction: explain the problem/question you are answering;

- Assumptions: declare your assumptions;

- Answer: your answer. It can be text, a source code, a user interface prototype, etc.

Please provide your answer in an editable format: .doc, .ppt, .key, .latex, etc. If your answer has more than one file, please provide a .zip containing all of them.

Please feel free to post questions and engage in discussions at Discord.

6 DISCLAIMER

7 Version control

- Version 0.9.1 - January 3, 2023 - Fixed bullet at 2.2; Fixed 2.3.1.3 as discussed in Discord;

- Version 0.9 - January 2, 2023 - "Beta" version for team review