

xxRFP-2022-007

xx Tweet Relay: Pseudo-Anonymous Twitter Identities via xx *messenger*

This xx foundation request for proposals will fund the creation of xx Tweet Relay, a service allowing users to create a twitter identity which you can tweet through pseudo anonymously using the xx messenger.

The xx foundation is offering a competitive bidding process to complete this work, with independently compensated phases. The [selection process](#) will analyze each phase individually according to the response contents, the proposed compensation, and the proposed final deliverable dates and contents. Proposers are expected to propose for all phases.

Requirements

xx Tweet Relay consists of a server-side application which receives commands (tweet or create identity) from clients via the xx Messenger. It then executes these commands via the twitter API. Users should be able to perform two operations: create identity & send tweet. Identity creation will create a user account on twitter, returning an authentication token. Users with this authentication token should then be capable of sending messages to the service which are tweeted via this account. Users should be able to send short text messages and include small files, per twitter limitations.

Proposals should include a full protocol design for creating identities and sending tweets. It should pay particular attention to the method in which accounts are created & accessed. Account creation cannot be automated via the twitter API, but can be automated via programmatic interaction with the website. Once created, accounts can be controlled via an oauth api.

Additionally, proposals should include a user interface design for creating identities and sending tweets.

Architecture

A cMix client running as a server can accept incoming requests. Incoming requests can use the [REST-like](#) package and are backed by the [authenticated connection implementation](#).

When a request is received, it will be processed and passed to the Twitter API. Response data can then be returned to the requestor.

Additionally, file transfer can be integrated to allow for transmission of small images.

Phases

You may propose your own phases, but the following phases are desired:

Phase 1: Proof of Concept—Implement the basic version of your proposed design and submit a final design for the client-side and server-side functionalities. This should include final versions of any cryptographic primitives and fully explained versions of all data structures and sub-protocols. This should also include a detailed description of how the implementation will handle account creation and access, and how it will maintain anonymity of users.

Phase 2: Core Implementation

- **Server-Side Integrations**—Build a server client that can receive anonymous requests to interact with the twitter API. Show the ability to create new identities programmatically, and that users can tweet through accounts using the data returned by identity creation.
- **Command-Line Tools**—Fully functional client-side command-line tool which fully exercises your proposed system without a user interface. The client-side command-line tool is the final library used by the Android and iOS apps, with test coverage of at least 85% of the code base and an accompanying continuous integration/continuous deployment (CI/CD) styled testing script.

Phase 3: xx Messenger UI—Final user interface for interacting with the server. This should function like other similar bots created to interact with the xx messenger, using simple commands to create an account and adding a new identity which users can send data to post to twitter.

Submission Instructions

Proposers should submit their proposals, in English, to the following website:

- <https://xxfoundation.org/archive/xx-foundation-announces-the-xx-dapps-grant-program>

Note that proposals are divided into 2 parts: An anonymized technical proposal and a staffing proposal. The technical proposal will be posted online and should not contain any identifying information about your organization or staff. The staffing proposal will contain resumes and additional evidence for why you and your team are qualified to do the work you propose.