

# xxRFP-2022-000

## Shielded Help

This xx foundation request for proposals will fund the creation of a reference implementation of Shielded Help, an open-source tool that allows users to open a helpline with various support providers. This tool is intended to help users safely connect with support networks such as those for assisting victims of domestic violence and whistleblowers.

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

Shielded Help consists of a client-side app that facilitates sending data over cMix to the server-side software that receives and handles client requests appropriately. Additionally, there is software that providers will use and can be contacted by users of the client-side app.

Users should be able to contact a predefined server over cMix. The server will possess a set of contacts corresponding to active helpline agents which can be registered with the server by authenticated personnel. While an agent is occupied with a user, their contact file should not be served to others in the queue. When the agent finishes with a user, that status should be reflected in the server to once again become available to other users.

When a user contacts this server, they should be placed in a queue and informed of their queue status. After a user reaches the front of the queue, the server should provide to them a contact file that the client can use to establish an anonymous line of communication with a helpline agent. Once this line of communication is established, the user can begin chatting with the agent like a standard chat application. Additionally, a helpline agent should be able to send the contact file for a specific provider to the user.

The client software should be able to, alternatively, select from a list of providers and be able to open a line of communication with each. This should include support for a bespoke UX as eventually dictated by the business requirements of a specific provider - this may include things such as filling out forms and digital signatures over cMix.

Proposals should select a topic area that they would like to target. The xx foundation will assist with creating a partnership with a provider, at which point further requirements may be put in place depending on that provider's needs.

Include designs for a UI for the client and server side software including the queue and chat screens.

To summarize, there are four distinct pieces of software:

1. Client-side app, used to contact all other servers
2. Server-side helpline queue mechanism
3. Helpline personnel application
4. Provider application

## Architecture

The suggested client/server architecture is the use of the [REST-like package](#). The helpline server side software can be created by following the steps in [this document](#), and should be backed by Connection objects.

Client requests can be made using the [restlike/connection/request.go](#) API. Once a helpline contact file is returned to the user, it can be used either to establish a new [peer-to-peer connection](#) or to connect to a different restlike server operated by an individual agent (as detailed above). This can be extended to the provider software as well.

There are [several example repos](#) that can be referenced.

## 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.

**Phase 2: Command-Line Tools**—Build a server client that can receive anonymous messages and serve a queueing system to users. This should include the helpline agent software, which allows registering availability status with the server itself.

Additionally, include a fully functional client-side command-line tool which exercises your proposed system without a user interface. It should be able to obtain contacts from the server and open new helpline connections.

The client-side command-line tool will be the final library used by the Android and iOS apps and have test coverage of at least 85% of the codebase. There should be an accompanying continuous integration/continuous deployment (CI/CD) styled testing script.

**Phase 3: iOS & Android App**—App with the final user interface design using the library from Phase 3 and exercises the complete functionalities.

# 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 two 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.