xxRFP-2022-001

xxDeadDrop: Location-Based Anonymous Sharing

This xx foundation request for proposals will fund creation of xxDeadDrop, an open source tool to share data anonymously via real-world locations. This tool is inspired by the [dead drops project](#), which is "an anonymous, offline, peer to peer file-sharing network in public space." Instead of USB flash drives placed inside physical infrastructure like a brick wall, xxDeadDrop will let users leave messages that can be accessed over the xx network via GPS or another method (e.g., printed code, NFC tag, etc) that allows one to access the dead drop.

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

When a user installs the xxDeadDrop app, it will ask the xx Messenger for permission to use the user's transmission identity in order to send requests to read and write to dead drops. After installation, the app asks the user for permission to monitor their GPS location. When a user gets close to an active dead drop zone, the app will send a notification to the user on how to access the dead drop.

Proposals for several different dead drop access mechanisms in addition to a GPS zoning mechanism are strongly desired. We will give significant weight to proposals with cryptographic controls to incentivize users to physically visit physical locations in order to access the dead drops.

All proposals, in addition to a protocol design for xxDeadDrop, must include a User Interface (UI) design. The UI should include mechanisms to write to the dead drop as well as read from it. It should limit dead drop entries to small images or text (client side-only restrictions are OK) at this time.

The xxDeadDrop app must never share location data with third parties. Server components (if any) must only be accessed through cMix on the xx network. Proposals should address how these properties are achieved (e.g., specific libraries, protocol sketch, etc) as well as provide a high-level description of the intended software architecture.

Phases

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

1. **Phase 1: Proof of Concept**—Implement the basic version of your proposed design and submit a final design. This should include final versions of any cryptographic primitives and fully explained versions of all data structures and sub-protocols as well as a final user interface design.

2. **Phase 2: Command Line Tools**—Fully functional command line tools which fully exercise your proposed system without a user interface. This 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.

3. **Phase 3: Android and iOS Apps**—Android and iOS apps with the final user interface design using the library from Phase 2.

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.