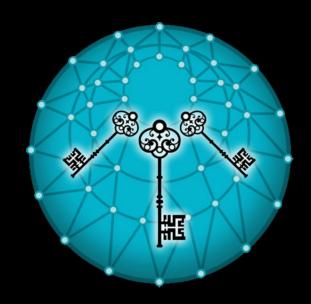
Measuring usability in the real world



Can we use Alternative Reality Games to evaluate UX for crypto tools?

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Laboratory UX studies are hard:

- cost per user multiplied by number of tools
- real world conditions are hard to simulate

Idea:

get scale and realism by testing in the wild

Challenges:

how to recruit representative test users?

how to count successes and failures?

Example Proposed CUP game:

Recruit players Assign an (instrumented) tool to each Match them in pairs / groups with a communication task Measure encryption success Attack the pairs/groups Measure authentication success

Recruiting players?

Offer a subgame to a large existing ARG?

Make a custom thematic ARG?

Brand as "test your security skills", not a game?

Ask relevant groups (journalists, activists, attorneys?) to participate directly?

Instrument tools?

Idea: transform some special subset of messages when they are encrypted

https://testyoursecurity.com/doc/12f3bc32fa7c3d33190

↓ HMAC

https://testyoursecurity.com/doc/27ca8348703ffe0bbcb

Assign pairs/groups task

Dear Alice Frankson!

Your first challenge is to get these documents to Laurent Poitrus in Paris and Benjamin Franklin in Washington, DC. They are expecting them:

https://testyoursecurity.com/doc/12f3bc32fa7c3d33190

Laurent and Benjamin are told to only trust documents from Alice, and to beware impostors.

During the game

Give users feedback on the speed of their communications, but little or no feedback on their security.

Measure encryption success:

Did the recipients click on a transformed version of the URL, an untransformed one, or both?

Attack the pairs/groups

Send Laurent Poitrus and Benjamin Frank an email or message which purports to be from Alice, but is not. Do they enter their credentials at that URL?