SoundLogin - Two-factor Authentication with Speed of Sound
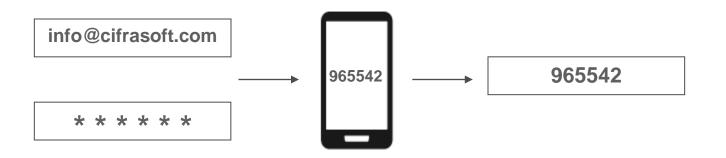
Cifrasoft, OOO (Ltd)

Sergey Zhidkov, PhD

What is two-factor authentication?

info@cifrasoft.com

* * * * * *

965542

965542

Two-factor authentication is a two-level process of confirming a user's identity:

1. The first factor is "something the user knows" usually username and password.

2. The second factor "is something the user owns", for example, his/her mobile phone, which can be used to:
- Receive a temporary PIN-code via SMS
- Generate a special one-time verification code (OTP).

Two-factor authentication via phone (SMS/OTP) becomes very popular

Banks

Payment systems

Social networks

Web - services

Corporate Systems

Problems of two-factor authentication

User perspective:

• *Inconvenience:* two-factor authentication requires step of reading information from mobile phone and entering the code via keyboard

• *Time limits*: the user might not have enough time to enter one-time password during the time allocated for its activation

• *Human errors*: the need to manually enter one-time passwords leads to occasional errors

Service provider perspective:

• Complicated user experience = unsatisfied customers

• Insecurity: because of the additional inconvenience users often prefer one-factor authentication

• Security vs. usability trade-offs: short length of one-time passwords, "trusted" browsers and so on.

• Human errors lead to increased number of sent SMS messages

What is SoundLogin?

- SoundLogin is a solution which simplifies two-factor authentication process.

- With SoundLogin one-time passwords generated by application (compatible with Google Authenticator) or received via SMS are transferred from your mobile device to PC/Notebook browser via notification sounds and automatically entered in web-form within fraction of second.

What are benefits of SoundLogin solution?

1. One-time passwords are entered without errors even if it consists of long string of numbers.

2. Authentication process is very fast, so you don't have to worry about one-time password expiration period, and you don't have to re-enter one-time passwords again and again

3. SoundLogin encrypts acoustic signal which is used for one-time password delivery to your browser. We guard your account security

4. SoundLogin combines security of two-factor authentication process with simplicity of one-factor authentication.

SoundLogin security

- Sound travels within a limited range, fades very quickly and does not extend beyond the enclosed space (room)

- Comprehensive data encoding algorithms and the encryption of transmission channel from the mobile phone to the browser do not allow to "dechiper" signal

- In SoundLogin, we use the minimum acoustic signal volume

- Interception of SoundLogin acoustic signal does not make much sense, since authentication is instantaneous, and one-time password is losing relevance once the user is logged in

- SoundLogin provides an option to disable acoustic code transmission without user confirmation

- SoundLogin does not use any third-party libraries the entire source code is available for inspection

How to test?

Step 1
Install SoundLogin mobile app in your smartphone and browser extension on your PC or Notebook (Computer must be equipped with mic).

Step 2
Mobile application generates one-time password (OTP) or extracts OTP from SMS and transfers the code to your browser via notification sounds

Step 3
Click SoundLogin extension icon in your browser and choose two-factor authentication providers from the list or add your own.

Step 4
Enable encryption in SoundLogin application settings to additionally protect your mobile-to-browser acoustic channel.

The app for Android phones and iOS:
https://play.google.com/store/apps/details?id=com.cifrasoft.cifrasoftauthenticator
https://itunes.apple.com/us/app/soundlogin/id918478376

Browser add-on for Chrome, Opera and Yandex.Browser:
https://chrome.google.com/webstore/detail/soundlogin/gogmojfgnckfkpgnipnckbghoingiemp

+73412600526

+79090651100

THANK YOU

CIFRASOFT

CONTACT US

www.cifrasoft.com

info@cifrasoft.com