PandaManager

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What is Panda Manager?

Panda Manager is a password manager designed to prioritize the security of it’s stored passwords; passwords are stored split between two databases

it is composed out of fours 4 main components:

- Chrome extension
- Proxy service
- 2 databases
- Backend for each database

Chrome Extension

Pages:

- Login/Register
- Generate password
- Vault

Scripts:

- autoFill
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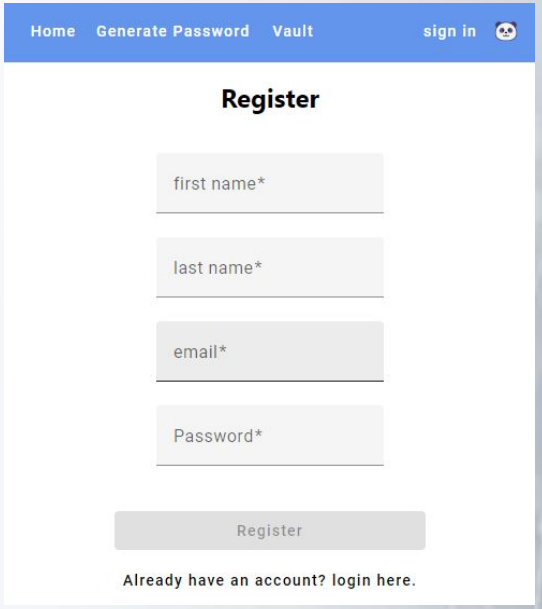

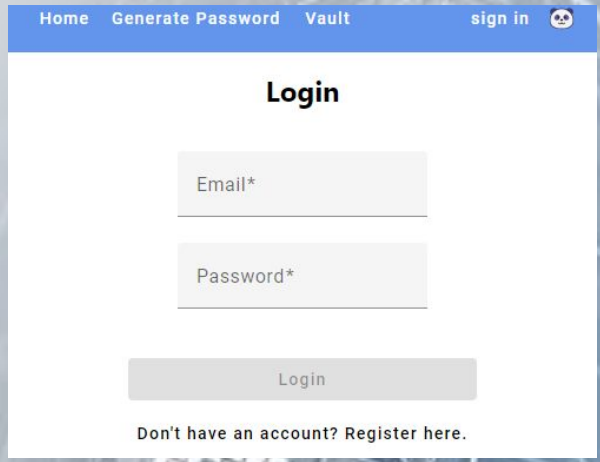

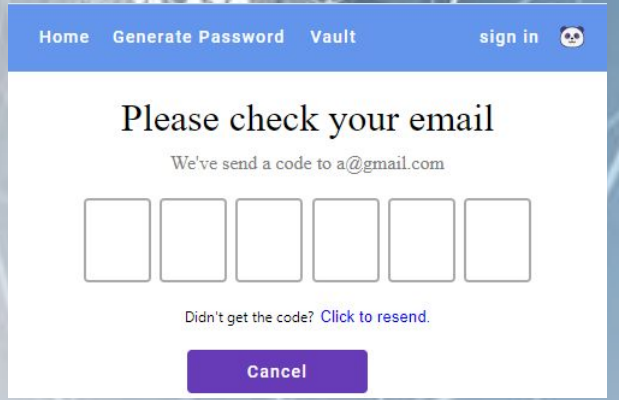

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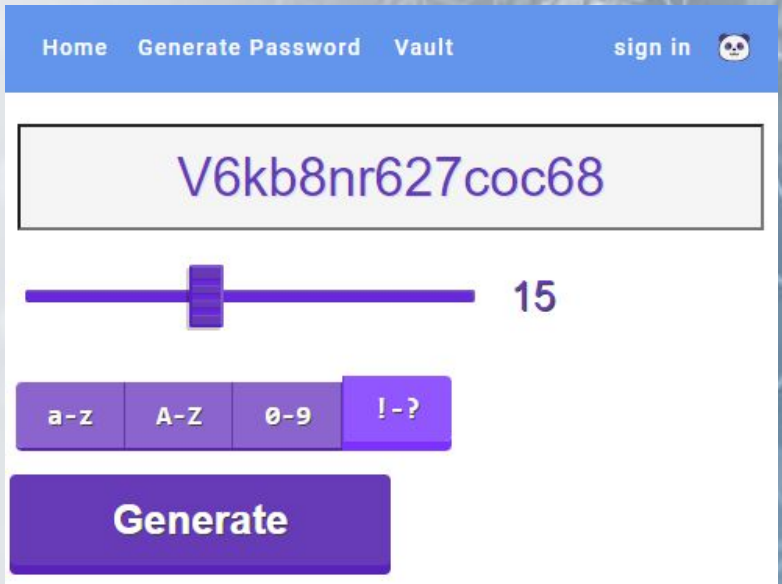

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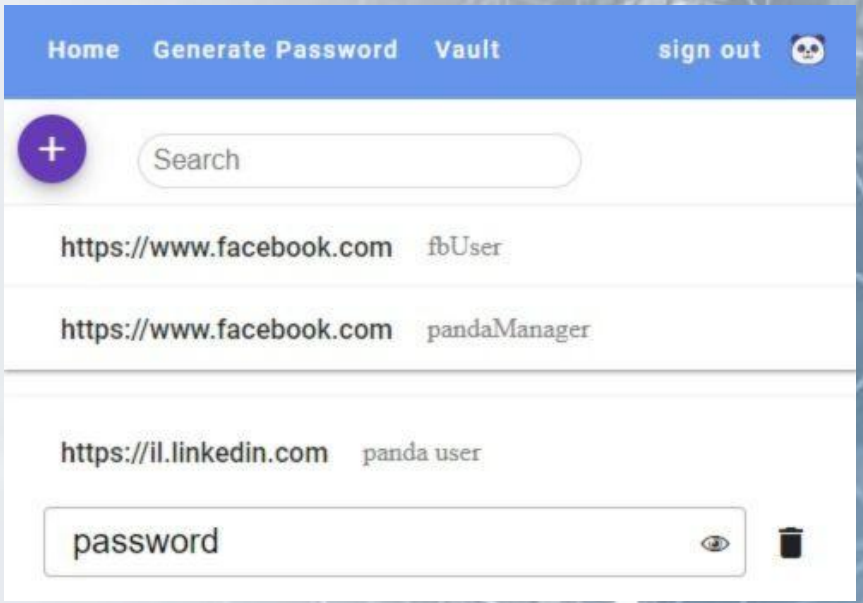

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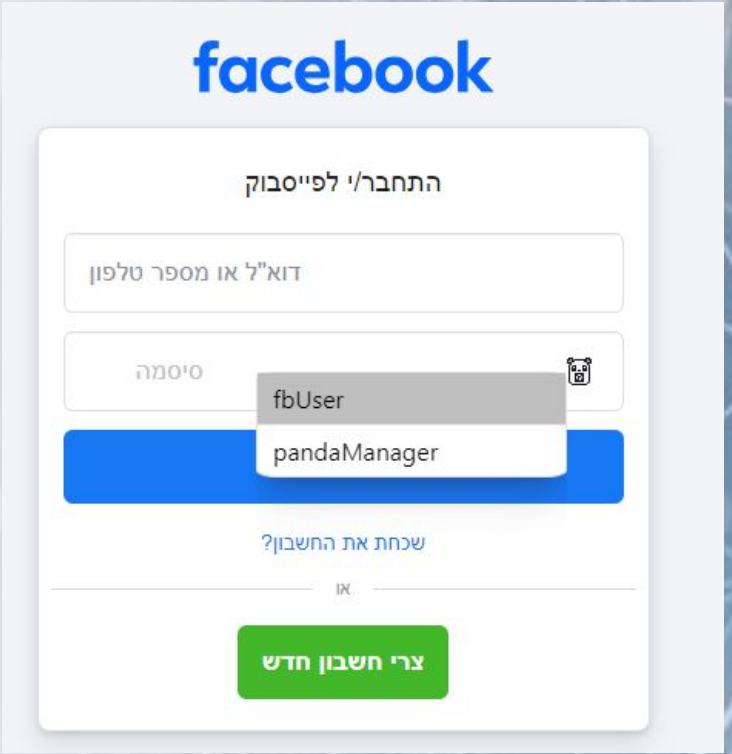

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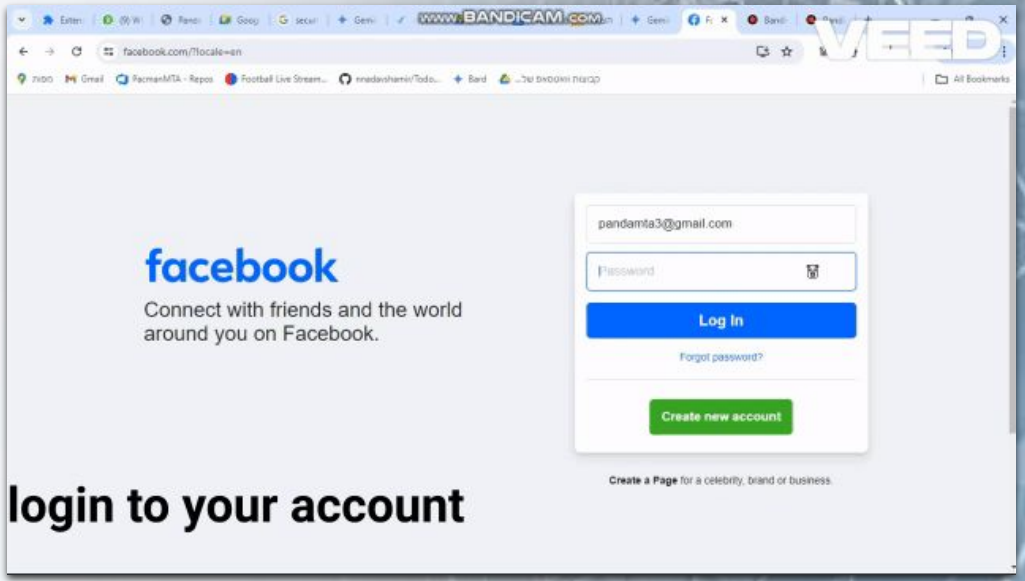
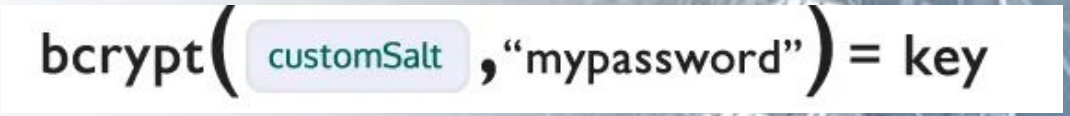


Encryption

- Generate salt
- Encryption key (bcrypt)
- AES256 encrypt
- Pill creation



Encryption - Security

Resistant to attacks such as:

- MITM
- Brute Force
- Known Passwords Dictionaries

Databases

- 2 MongoDB clusters, each on a different region
- Hold the split info

Backends

- Main purpose - secure API to the credentials DB
- “Close” to the sensitive data
- Distribution - 2 distinct providers
- Distinct

Proxy

- Main purpose - API, backends orchestrator
- Protocol between the client & the proxy
- Also manages OTP, authorization, reverts

Security - Architecture

- 2 distinct providers
- Provider is selected randomly
- Secrets are stored in the providers vaults
- App authorization + OTP for untrusted devices
- Passwords have no meaning for the backends
- DBs are accessible only from their matching backend