

CPCS Integrated Open Source Solutions into a System for Behavioral Counseling



Objective

Implement a number of integrations aiming to establish one system for behavioral counseling of individuals and groups recovering from drug addictions.

Challenge

A North American Client reached out to CPCS with a request to help hospitals -- that treat patients from drug addictions -- with a digital solution for post treatment therapies. Initially, we had a few technical requests from the Client: a patient should be able to sign up/in into the system, take part in individual and/or group counseling sessions, participate in individual and/or group chats. Although, quite a few sophisticated encryption tasks were added into our backlog along the development of the project.

Solution

To meet all the Client needs, we decided to apply open source solutions for the video and chatting session purposes. To do the right steps from the start, our team started with a deep research of the open source elements we wanted to integrate into our system. Each solution had its limitations; therefore, we were investigating the most suitable ones for our end users -- doctors and their patients -- to benefit from. Simultaneously, we were also developing an API that would enable our system to read patients' prescriptions stored in hospitals programs.

Another important aspect of our efforts was deeply intertwined with the sensitive nature of drug-recovery patients' data. We were building a super secure system by encrypting each message within the system independently from the other ones. Namely, we applied the approach of adding a random set of data for the encryption of varied messages. Our engineers applied mathematical algorithms to do so.

As a result of our collaboration with the Client, we came up with a system that integrates Matrix, an open source messenger, and Life Switch, an open source solution for video calls. Doctors have the admin right to schedule, start/end, facilitate, and let patients participate in individual and/or group calls and chats. We have also solved

a number of scaling challenges and the system can now process big amounts of data without any downtimes.

Technology choice

- Native application for iOS and Android
- Backend development - Python, Flask
- Integrations - Matrix, Life Switch

Team and Duration

- 1 iOS engineers
- 1 Android developer
- 1 backend engineer
- 1 PM
- 1 QA
- 0.6 year for the MVP

Results

We developed a system that allows hospitals to support their drug-free patients with post-treatment therapies. This is enabled via one digital solution which is highly secure. For instance, even in case an auditor or prosecutor requests a piece of information that is encrypted within the system, the latest would allow to decode only a separate message(s) and leave all other messages encrypted. This ensures trust between patients and doctors. After successful completion of this project, the Client has also requested our team to develop a few other solutions. All the projects are connected with the security/encryption side of communication channels.

/ Industry

Healthcare, behavioral counseling

/ Application

Post treatment therapy for drug-free patients.

/ Quick Fact

Counseling and other behavioral therapies are the most commonly used forms of drug addiction treatment.

/ About CPCS

From artificial neural networks to custom electronics design, highload and big data projects. CPCS is a team of 100+ senior-level dedicated engineers open to go through an in-depth feature-by-feature product discovery process with you. We believe you would also benefit from our client-first approach, transparency of all our magic, as well as fair and flexible rates.



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