



CASE STUDY

Fair task distribution system

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Thousands of professionals receive millions of tasks to accept or reject by SMS/phone/email.

“The team at OPTI are notable for their respect for deadlines and for avoiding financial overruns, for the adaptability of their solutions to our constantly-evolving needs and for the general quality of their software implementation. We will continue our collaboration to fulfil other needs of the Bar Association in other projects.”

Bucharest Bar Association

“We had to choose time-tested technologied in order to guarantee the high availability and redundancy of a system of such responsibility. Each hour, new tasks are fed into the system. The system chooses at random a corresponding lawyer and ask them to accept the task. In case of refusal, the task is redistributed. I am happy that the project was fully functional in less than four months.”

Marian Calborean, managing partner, OPTI

challenge



solution



The Bucharest Bar Association requested OPTI to develop a system in which 1000+ lawyers receive thousands of tasks in a fair and fast method.

The previous distribution system was manual and poorly administered.

Legacy issues had to be investigated and clarified before automation. Since the system involved more than 1000 lawyers that received tasks from the Bar Association, the beneficiaries had to be consulted so that the new system be fair and widely accepted.

We had to choose a technology to distribute the tasks and receive the answers.

We proposed SMS send & reply, which we contracted with third-parties after market research.

Speed and reliability were of paramount importance.

Some tasks had to be accepted by at least one lawyer in 30 minutes at most, while giving a fair chance to the others.

OPTI helped deliver an **automated fair and quick task distribution system** using a eight-step flow.

- Holding several open consultations with beneficiaries (lawyers) to design a fair attribution system.
- **Modelling and simulating** the rules for the new system. Past data was analyzed to certify that such a system would result in equal financial outcomes.
- **Custom software developed by OPTI** which allows the introduction of tasks, their distribution, and receiving the answers of the beneficiaries.
- Implementing an **SMS-provider for send & reply**.
- **Integration with the official website** of the Bar Association to allow lawyers to see the distributed tasks.
- **Training** the employees and making public presentations of the new system.
- Creating a **pilot project** to test the system on a limited initial number of tasks and beneficiaries.
- **Wide launch with a quick-response period** when all the complaints and reports were investigated as emergencies.

The main technologies used were PHP, MySQL, memcache, SOAP and JSON REST APIs. OPTI still ensures support and maintenance of the solution for the client.

results



Speed and high availability

Custom programming guarantees few loaded dependencies. The underlying technologies (PHP, MySQL, memcache) are optimized for speed. A backup plan is in place.



API integrations

JSON API integrations allow the extension of the system to future SMS/email providers. JSON APIs are used for publishing tasks to the public website.



SMS send & reply

The tasks are sent to each lawyer by SMS. In case they accept them, they get the official mandate. If they refuse, someone else is attempted until acceptance.



Fairness and equality of outcomes

The system picks randomly among lawyers having the same number of previously-distributed tasks. A statistical analysis proved that this would result in fair outcomes.



Flexibility and preferences

The system allows beneficiaries flexibility in choosing availability windows and types of tasks to receive, without affecting the fairness of the system.



Transparency and traceability

The system publishes its historical data for any possible inspection. Both sent and received messages are kept, along with the justification of each individual choice.

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Thank you for your time!