SaaS project development

# PERSIA, THE APPLICATION FOR RECRUITMENT PROCESSES AUTOMATION

www.PersiaHR.com



### PROJECT DESCRIPTION



Persia is a Web application that automates human resources recruiting processes.

**Developed by** Screen Interactive (Kharkov, Ukraine).

Main technologies: PHP (YII framework), MySQL, JavaScript (jQuery, Ajax).

Workload: 3816 hours.

Persia is a SaaS project, which means access is online through the Internet. Payments are monthly.

Persia refers to a software products class collectively known as Applicant Tracking Systems.

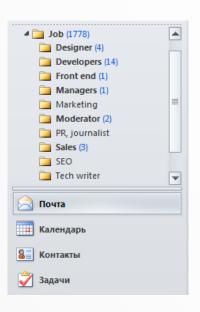
An applicant tracking system (ATS) is software that enables the electronic handling of recruitment needs

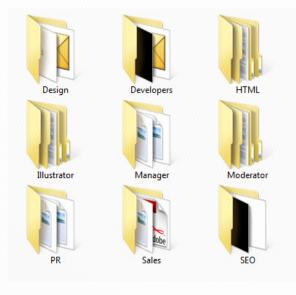
The name Persia stands for "personnel." And we just like the word :)

### THE PROBLEM

The majority of Ukrainian recruiters do not use special software products and continue to store applicants' CVs in folders on a computer's hard drive or in email. Sometimes they use MS Excel spreadsheets to create lists of applicants for a particular vacancy and use separate calendars or datebooks to schedule interviews.

Such an approach makes it difficult to find a specific candidate and almost impossible to remember the history of any interaction with a particular candidate. And it takes too much time to process and save all the information stored in different places.





Big companies solve this problem by using large corporate software products or foreign SaaS systems. However, small companies don't have those resources. Also, foreign services aren't suitable for our work specifics. The market also offers Russian desktop solutions, but they're too bulky, and the approach is already outdated.

Resumes stored in email program

Resumes stored in folders on a hard drive

## THE TASK

Since we have experience working with the recruiting market (we have our own regional job search website) and contacts with recruiters, we decided to create a product that could solve these recruiting problems.

**The task:** to create an online ATS for small and medium businesses for the Ukrainian and Russian markets.

### Key requirements:

- the ability to work through the Internet from any desktop computer (SaaS)
- high-speed data entry
- simplicity and convenience

### PROJECT DESIGN: ROLES AND SCENARIOS

We understood that the interface's simplicity and convenience were critical for the project's success. If the user interface is complicated and tangled, people won't use it. That's why we paid special attention to the project design and decided to create personas and describe user scenarios.

We created two personas to correspond with main users of the system, recruiter and HR director.

We wrote use scenarios for each persona after discussions with recruiters and adapting their suggestions. Also, we ranked these scenarios by importance and regularity (the most and the least important, daily and less frequently).

### recruiter

HR director

### Minimum viable product (MVP)

In product development the minimum viable product (MVP) is a strategy used for fast and quantitative market testing of a product or product feature.

A minimum viable product has just those core features that allow product deployment and no more. The product is typically given to a subset of potential customers such as early adopters who the designers believe are more forgiving, more likely to give feedback and can grasp a product vision from an early prototype or marketing information.

### MINIMUM VIABLE PRODUCT

The scenarios made it possible to define functionality requirements. The minimum viable product in our case must allow:

- adding CVs to the system in different ways, from different sources and of different file types
- automated extracting of contact information from a resume
- showing the full CV text in a browser
- searching applicant text in a CV, as well as by additional characteristics
- assigning CVs to vacancies with the ability to sort candidates by rating (selecting candidates)
- adding and storing notes about candidates
- scheduling interviews

We decided these features are enough:

- for using the system to make sense
- for launching the system and giving access to the first real recruiters

Actually, the plans for functionality were much wider; however, we decided to implement them later, after the system launched.

## PROJECT DESIGN: PROTOTYPE

Based on minimum functional requirements and user scenarios, we developed the system's prototype. We didn't draw the mockups in graphic editors but created the prototype functioning as a real website (static HTML) where we displayed the main pages of the completed system.

The prototype helped us to better imagine the system and to identify its weaknesses. After all, it's much easier to make changes to a prototype, rather than to a layout design or even to a ready-made product. We showed our prototype to recruiters and updated it after considering all their remarks.

We paid special attention to the most important functions: working with resumes and vacancies.

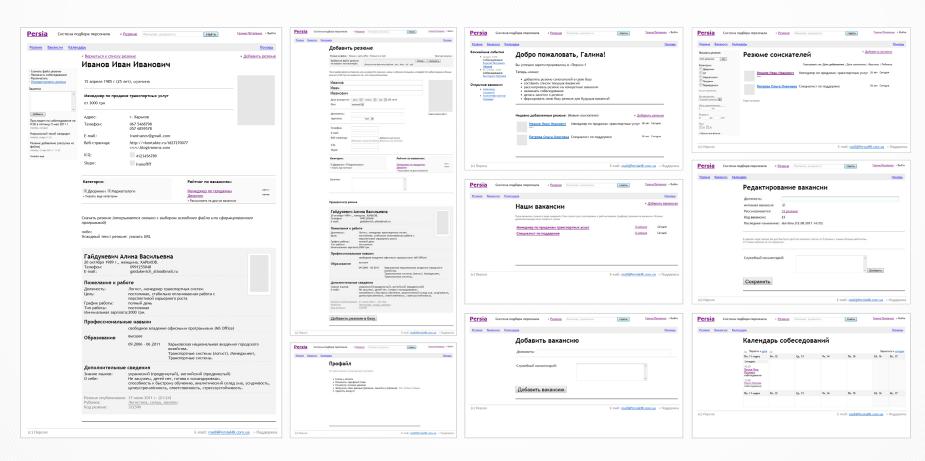
Since adding and searching candidates are the everyday parts of a recruiter's work, we placed these functions in the website header so they're available on all pages.

As a result of these changes we enhanced the prototype to the point where it was clear how to implement all main scenarios and presented all necessary information and functions.

## PROJECT DESIGN: PROTOTYPE

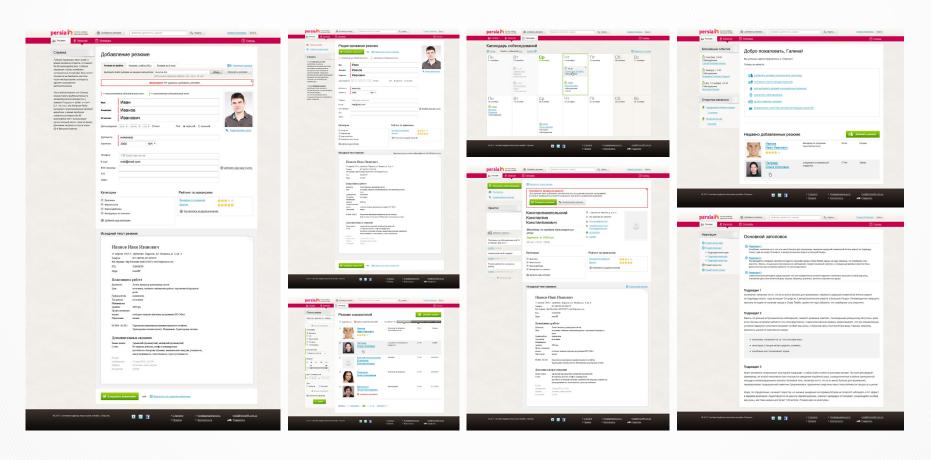
The prototype became the basis for the designers and developers.

The software developers didn't wait for the layout design and front end but began to work on the server side of the application right away.



## **GRAPHIC DESIGN**

The graphic designers based the application's pages on the prototype. Simplicity, comprehensibility and convenience were the key requirements for the layout design. We created the rest of the system pages based on the elements present in these main layouts.



### **FUNCTIONALITY**

Main development tools: PHP (YII framework), MySQL, JavaScript, jQuery, Ajax.

### **APIs:**

- LinkedIn (uploading and updating candidates' profiles)
- SuperJob (posting vacancies and receiving feedback)
- LiqPay (online payments)

After creating a beta version (minimum viable product), we allowed access for the first users—recruiters. Their comments, which appeared while using our system, were very valuable to us and helped to set the priorities for further development.

As a result, we implemented new features such as:

- team work
- an improved recruitment process (stages)
- integration with LinkedIn
- message templates and email communications with candidates
- statistics
- an employer's mini-website

### **FUNCTIONALITY**

### We also have carried out:

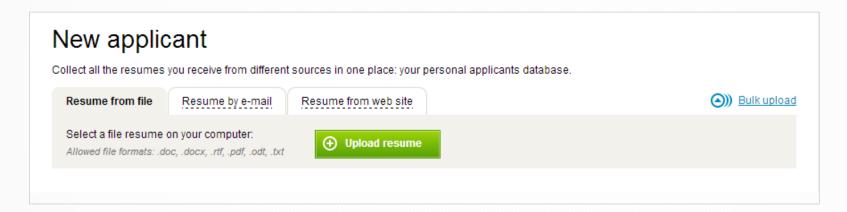
- price plans for users and a billing system
- integration with SuperJob, the leading Russian job search portal (posting vacancies, receiving feedback)
- a complete English version of the system

As a result, we created a system that helps to automate the significant part of recruiters' everyday job. The system is constantly undergoing development, and we keep it up to date.

Also, we describe in detail the most interesting features of Persia.

### ADDING CANDIDATES INTO THE DATABASE

The main task of Persia is to collect applicants from different sources into one database. It allows adding candidates into the system in several ways.



- Upload files from a hard drive.
- Add CVs via email. The recruiter can send an email message with an attached CV to his personal address in Persia, and the system automatically adds the applicant to the database.
- Copy and paste a CV from any job search website.

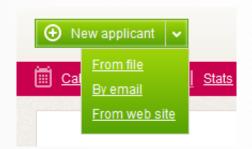
Bulk uploads from a zip-archive

## ADDING CANDIDATES INTO THE DATABASE

The system accepts the following file types: doc, docx, rtf, odt, pdf, html, txt.

Persia automatically extracts the applicant's photos and contact information from the uploaded CV. There's no need to enter these data manually.

It detects duplicates. If a candidate is already present in the database, the system will inform the recruiter immediately to replace an old candidate's CV or save it as a new one.



It allows quick access. Users can add candidates in different ways from any page of the system.

## **RESUME PARSING**

Persia automatically extracts the candidate's photo and contact information from uploaded CV files. The recruiter then doesn't need to enter this information manually.

The system uses different methods of data recognition: by masks, by context, by comparing with previously received data. Persia educates itself while accumulating new data.

As a result, the system identifies the majority of fields in a resume correctly in more than 95% of cases (for some fields even up to 99.7%).

### Accuracy of data identification:

>95%

## CANDIDATE SEARCH

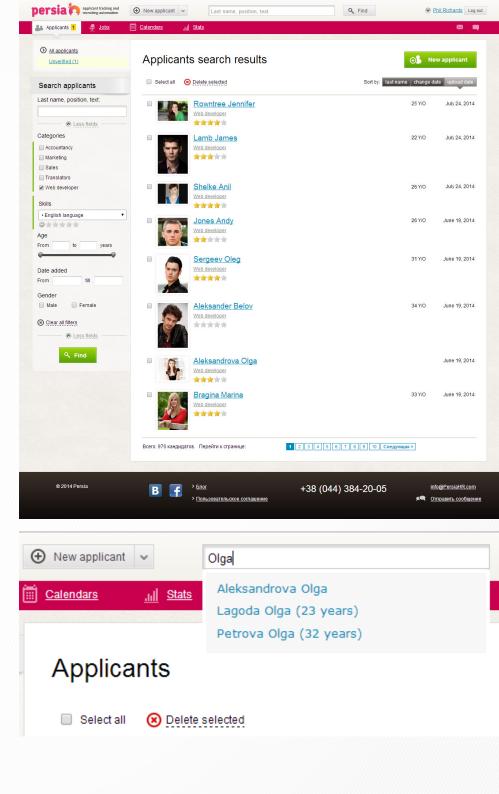
### It's easy to find appropriate candidates:

- by any text in the CV
- by skills
- by categories (Each CV can link to several categories at a time.)

The Sphinx technology improves the search in large resume databases.

Sphinx — is an open source full text search server, which makes it possible to reach greater performance and relevance (search quality).

The full text search form with autocomplete function is available on all pages of the website.



### Candidate's profile

Persia places all information about a candidate, as well as the history of any interaction, on a candidate's profile page.

It converts resume text automatically from the original file to HTML for viewing in a browser.

Recruiters don't need to use desktop software like MS Office to open and view CV files. An Internet browser is enough.

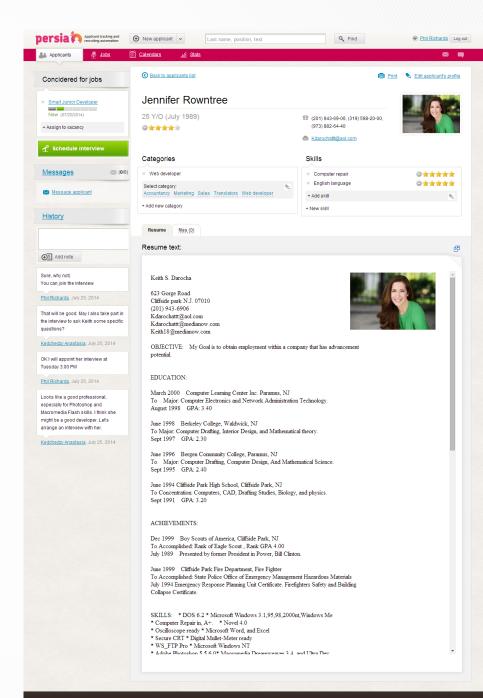
## CANDIDATE'S **PROFILE**

All the main everyday manipulations with a resume are made without reloading the page (Ajax):

- assigning a candidate to a vacancy and denoting a stage
- linking a candidate to categories (tags)
- adding and editing skills
- rating a candidate (general assessment of the candidate's value)
- adding files (portfolio samples, test tasks and so on)
- making notes
- scheduling an interview and sending notifications to a candidate

### Separate pages:

- history (complete log of all interaction with a particular candidate)
- email system
- edit candidate's profile









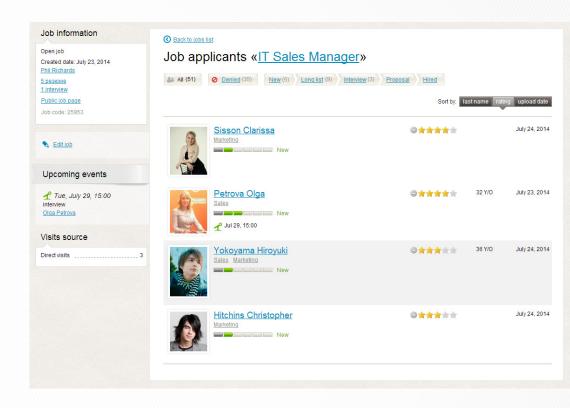
# SELECTING CANDIDATES

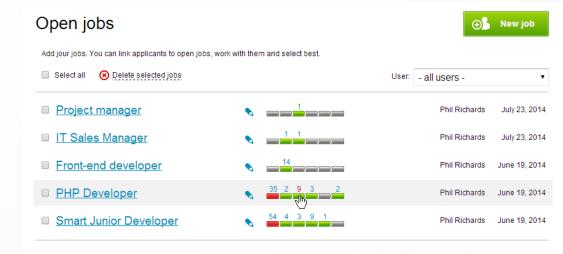
Candidates can be linked to vacancies. The selection process has several stages starting from "New applicant" up to "Hired." Each vacancy can have candidates at different stages.

Recruiters can easily find all the candidates at any stage and move them from stage to stage. They can do this right in the list of candidates. If there are many candidates on any particular stage, the recruiters can sort by rating; more valuable applicants will appear at the top of the list.

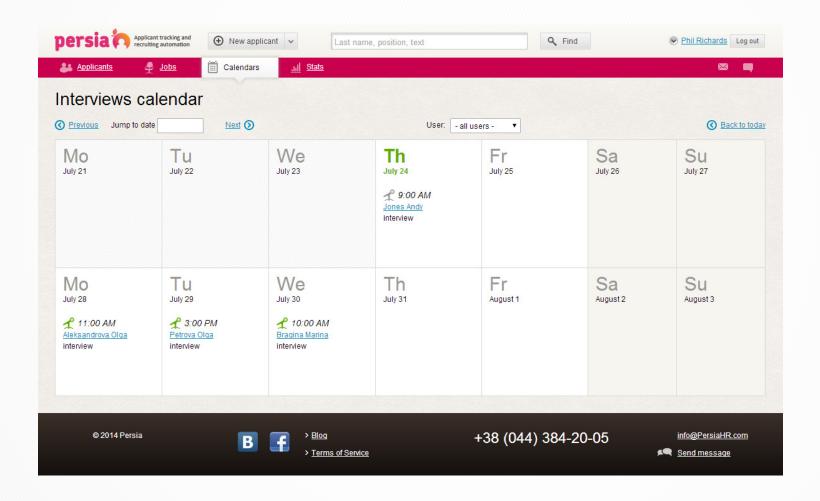
The recruiters can store all closed vacancies in an archive where they will remain.

A vacancy map shows the current status for all users' vacancies: which vacancies are still open, how many candidates fill it and at which stage and how far the job is from closure.





## INTERVIEWS CALENDAR



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### **TEAM WORK**

There are three user roles in the system:

- Administrator
  - Owns a CV database and can perform any actions with it: view, add, edit or delete any information and manage users.
- Recruiter
  - Can view and edit candidate's information. He or she cannot delete candidates other users added, as well as provide access to new users. Recruiters and administrators work with the shared database of candidates.
- Client
  - Has limited access to the system. The client sees only his or her own vacancies and candidates.

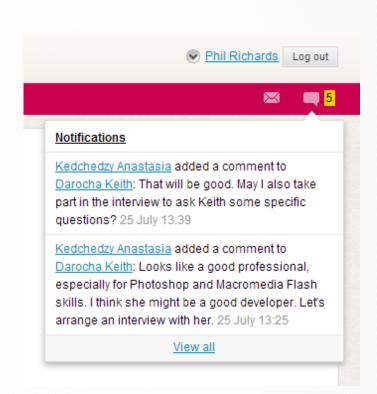


### **TEAM WORK**

### Client is allowed to:

- add notes and professional comments to CVs
- edit information (skills, categories)
- move candidate to another recruitment stage
- monitor the recruitment process on his or her vacancies

Users are notified when their colleagues/recruiters or clients add new notes or interact with candidates.



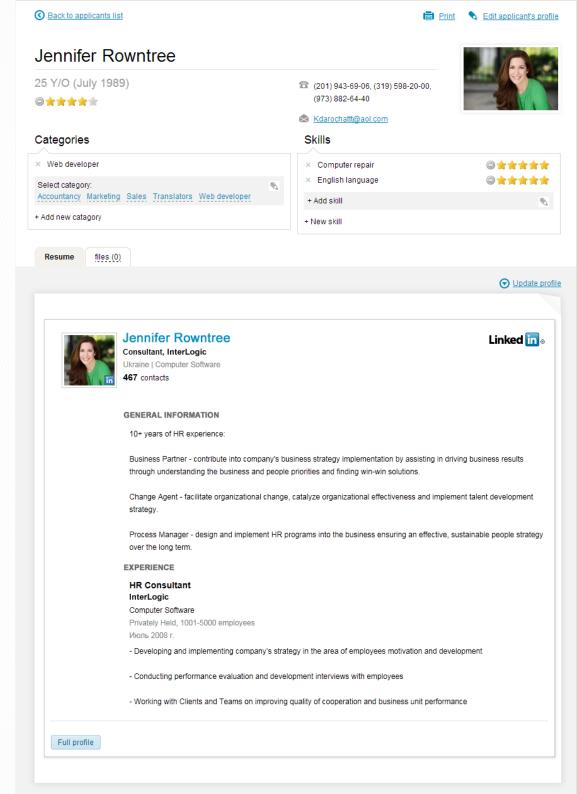
# INTEGRATION WITH LINKEDIN

Persia can extract information about a candidate from LinkedIn by alink to a public profile, which the recruiter can specify when he or she adds the candidate to the database. If the applicant's resume contained a link to his LinkedIn profile, Persia will process (grab) it automatically.

Persia then saves the LinkedIn profile and makes it available on the candidate's profile page next to his resume.

The system also allows updating this information and saving the history of changes.





## **STATISTICS**

Statistics help to forecast how fast a vacancy will close and plan the work needed in the future, to ascertain which recruiters work better and to indicate how to make their work more efficient

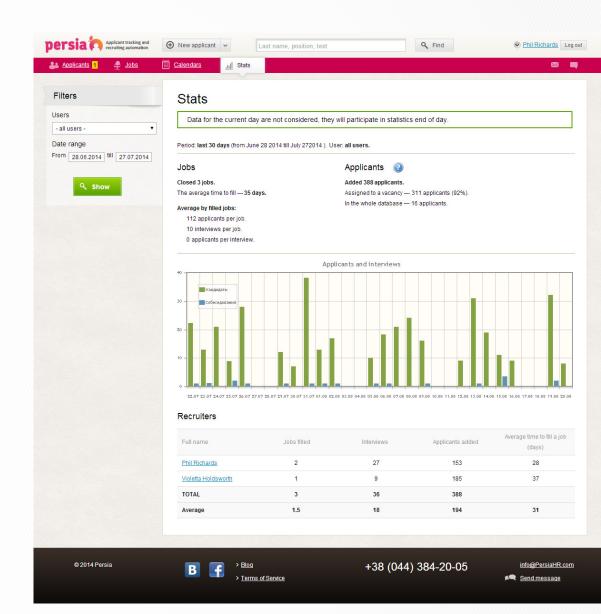
### Main metrics:

- Average time to close a vacancy
- Closed vacancies' statistics:
  - The number of candidates who have sent CVs on a vacancy
  - The number of interviews required to close the vacancy
  - The number of candidates per interview
- Total number of interviews for the period
- Total number of candidates added to the system. The percent of candidates assigned to vacancies is an indirect figure of the incoming resumes' quality.

## **STATISTICS**

We can monitor all these figures for the whole company, as well as for individual recruiters.

Persia saves the data separately from the main CV database. In other words, we can see the statistics for previous periods even if vacancies, resumes or users are now inactive or are no longer in the system.



### BILLING AND PAYMENTS

### Price plans

Price plans differ by number of users and number of CVs that the recruiters can add to the database during a month.

There are three prepaid price plans in the system, plus one free and one trial.

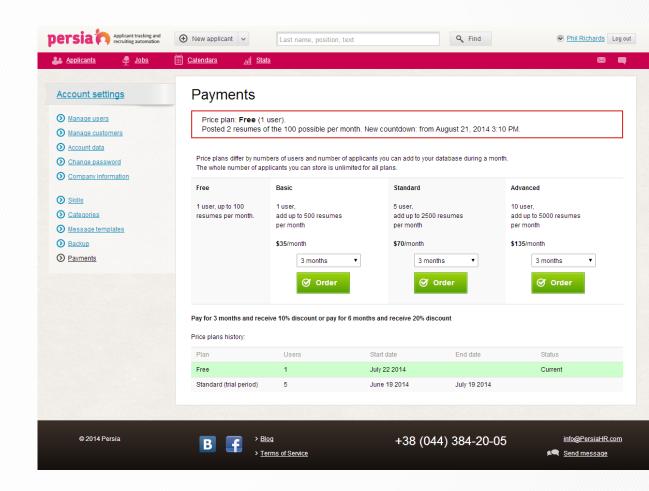
### Billing periods

Each price plan is active during a prepaid period.

Persia also stores the history of price plan changes.

### Payment

Credit card payments are accepted.



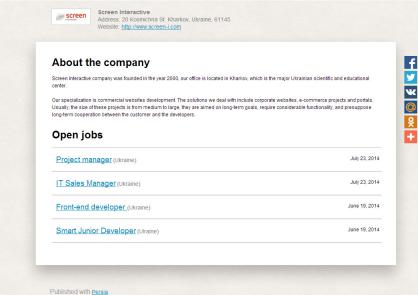
## **EMPLOYER'S** MINI-WEBSITE

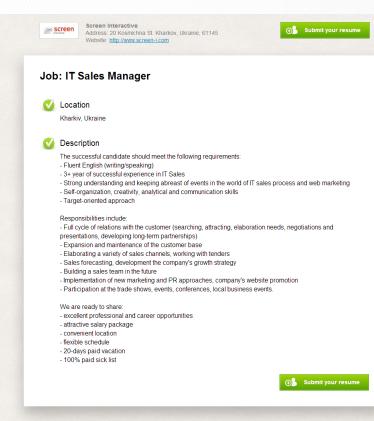
Users can create a public page with information about their companies and a list of current vacancies.

The employer can post the link to this page in social networks, send it directly to a candidate, display it in the advertisements on job-search websites or promote it through contextual advertising.

Each vacancy has an individual page and applicants can send their CVs directly from a job page.

Persia parses these CVs automatically, adds them to a database and assigns them to a current vacancy as a "New applicant."





Published with Persia

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### WORKLOAD

## Project design, research and setting technical assignment (MVP)—141 hours

### User interface

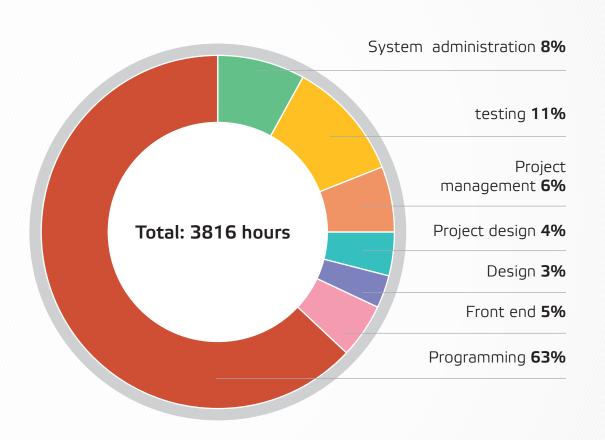
- Design—128 hours
- Front end (HTML, JavaScript)—186 hours

### Software development

- Programming—2390 hours
- System administration—315 hours
- Testing—420 hours
- Project management—236 hours

## The following experts contributed to the development process:

- project manager
- web designer
- front end developer
- programmers (from one to three on different stages)
- system administrator



### **CUSTOMER REVIEWS**

Persia has made resume searching, sending messages to candidates and conducting history of interactions with candidates much less time consuming. The service is truly convenient and simple to use. One of the advantages of this program is a meetings scheduling feature. It is funny, but candidates stopped losing my phone number and the address to where we invite them for the interview.

Anna Dudushko, HR manager in CityCites, Kharkov

Our company has been actively using the Persia program for a month. Now we can track stages of communication with a candidate, the history of this communication, the number of candidates to consider. It is a very helpful recruiting tool.

Anna Koval, HR-manager in Aweb, Kiev

Candidates' database search function is brought to the professional level in Persia. And resume parsing really saves a lot of time. And accompanied with a very polite, correct and friendly support it evokes only positive emotions. I am sure that all the members of the Persia team, even those who I didn't communicate with, do their jobs professionally.

Tofig Niftaliev, Trud.az, Baku

## ABOUT SCREEN INTERACTIVE

Screen Interactive is a web development company based in Kharkov, which is the major Ukrainian scientific and educational center.

Our specialization is custom website development. We work with:

- startups
- corporate websites
- e-commerce projects
- portals

Usually, our clients aim for long-term goals, require considerable functionality and high quality and presuppose long-term cooperation with the developers.

If you need a web development team for your projects, let's get acquainted!

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