



“IOSC”- International Online Subject Contests

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1. Project Summary

“IOSC” website is the not-commercial dynamic internet website that will be used as distance subject olympiad. It contains 8 platforms for such subjects as physics, chemistry, math, informatics, English language, Russian language, history, biology.

Moreover, this website has two separate entries for administrator and for users. The role of administrator is to manage the contests for olympiads and to manage the website itself. The administrator is able to modify, update and block the website, to add, delete and modify the contests; whereas, the users are the participants to the contests.

Furthermore, users are allowed not only to participate to the contests; yet, they can visit and solve the previous contests that are kept in the archive of the website. In addition, teachers can add their own tests to archive, give it to their students and see students results. Students will be rated according to the achievements in the contests. “IOSC” has interesting rating system. Like if, you have rating from 0-500, you will have rank “newbie” or if you have rating 1500-2000, you will have rank “master”. It motivates students to get high scores at contests.

Students can communicate with other participants all over the world and discuss the problems of the contests by using forum of this application. For example, if I have some good problem or I need help for some theme I can write it on my blog.

Objectives of the project:

- to combine different subjects in one website;
- to help users improve their knowledge and skills;
- to share experience and communicate with other users all over the world;
- to allow users evaluate themselves by “rating” option of the website;
- to make it easy to participate and compete with participants from different countries;
- to provide users with challenging contests;
- to create easy-to-use interface.

Why do we need this project? Uniqueness (advantages):

Since almost all distance olympiad websites are focused on a single definite subject (ex.:codeforce, coci, usaco are focused on programming, MAA AMC, Caribou Contests focused on math, etc.), there is a need in this website because it contains 8 platforms for the subjects mentioned before. By containing different subjects this website has several advantages.

Advantage #1: it helps users to save their time. Firstly, they do not need to surf the internet looking for different subject olympiads. Secondly, in order to participate to all different subject contests that are provided by my website, they need only one registration to the website; instead of separate registrations for different subject websites. Next, users do not have to consume their time and money for visiting different countries in order to check their knowledge and skills or for competing with other participants from different countries.

Advantage #2: it attracts attention to different subjects and make people to try something new. Many people that participate to internet subject contests are interested only in one exact subject and they do not suppose that they can be good in other branches. Yet, when they will see different subjects any time they login, one day they will try themselves in other subjects and even be successful in it.

Advantage #3: it provides easy-to-use interface. Yes, technology is a great opportunity to enlarge your vision, knowledge, to drill your skills; but, for somebody it is like an horror film because they can be lost in lots of internet pages, buttons, menus and other elements of the pages. Since the audience is from different countries, there can be the users who do not use technology continuesly. Moreover, the internet connection can be poor. So, my project's design is very simple that does not have too complicated menus, a lot of pictures, intricate pages and that makes it easy to be loaded easily and used by novice people.

Advantage #4: my website is adaptive to the technical environment. It means that website promotes various versions of a web page to better fit the user's device. My website can fit desktops, notebooks, tablets and cellphones.

Advantage #5: my website is multilanguage website. It means that the user can select the language of interface; actually, they are English or Russian languages.

Advantage #6: There is no need for any extra applications for using this website. The only thing you need is browser.

Programming languages/techniques I have used.

Html/Css-this are languages must be used to develop website.

Bootstrap- Twitter's html framework. I have used it to develop adaptive website.

TypeScript- Microsoft's programming language based on JavaScript. I have used it for Angular framework.

Angular framework- is a TypeScript-based open-source front-end web application platform led by Google.

Angular material- Angular library with html element.

RxJs- JavaScript library. Used it for connecting to server.

Java-I used it with java's "spring" framework to develop server-side of my application.

SQL- database language. Used in server side of application to manipulate with data.

2. Details of insides:

By selecting the image of Great Britain's flag, English is chosen (img.1.1),

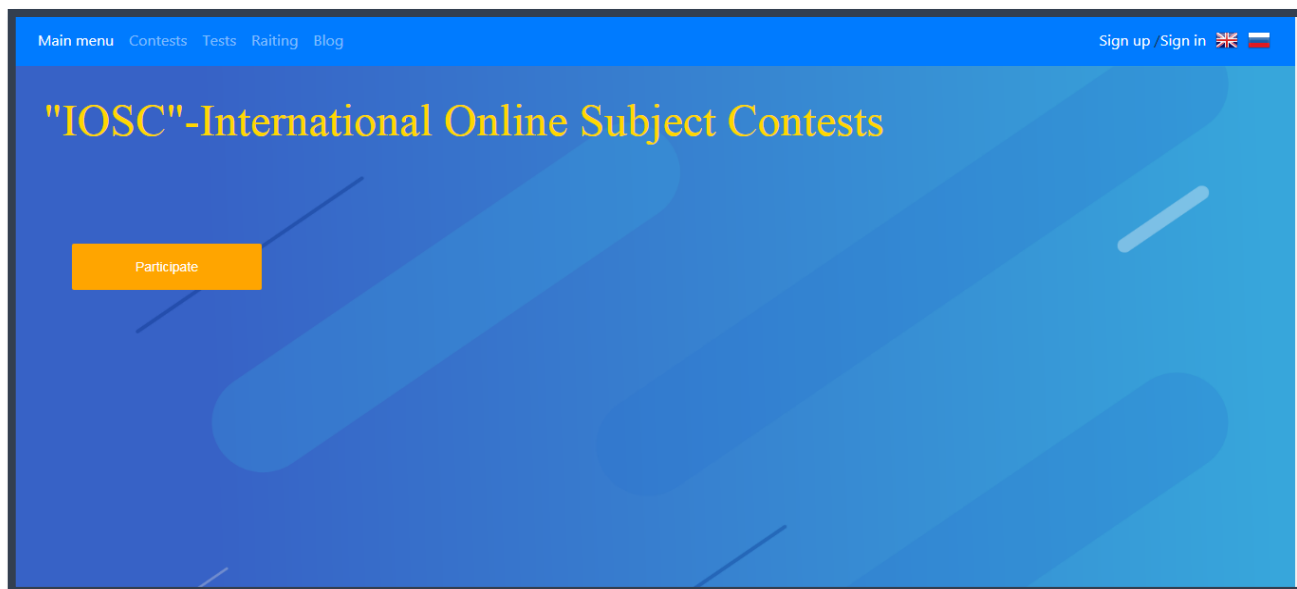


Image 1.1: main page of the website in English language

By selecting the image of Russia's flag, Russian is chosen (img.1.2)

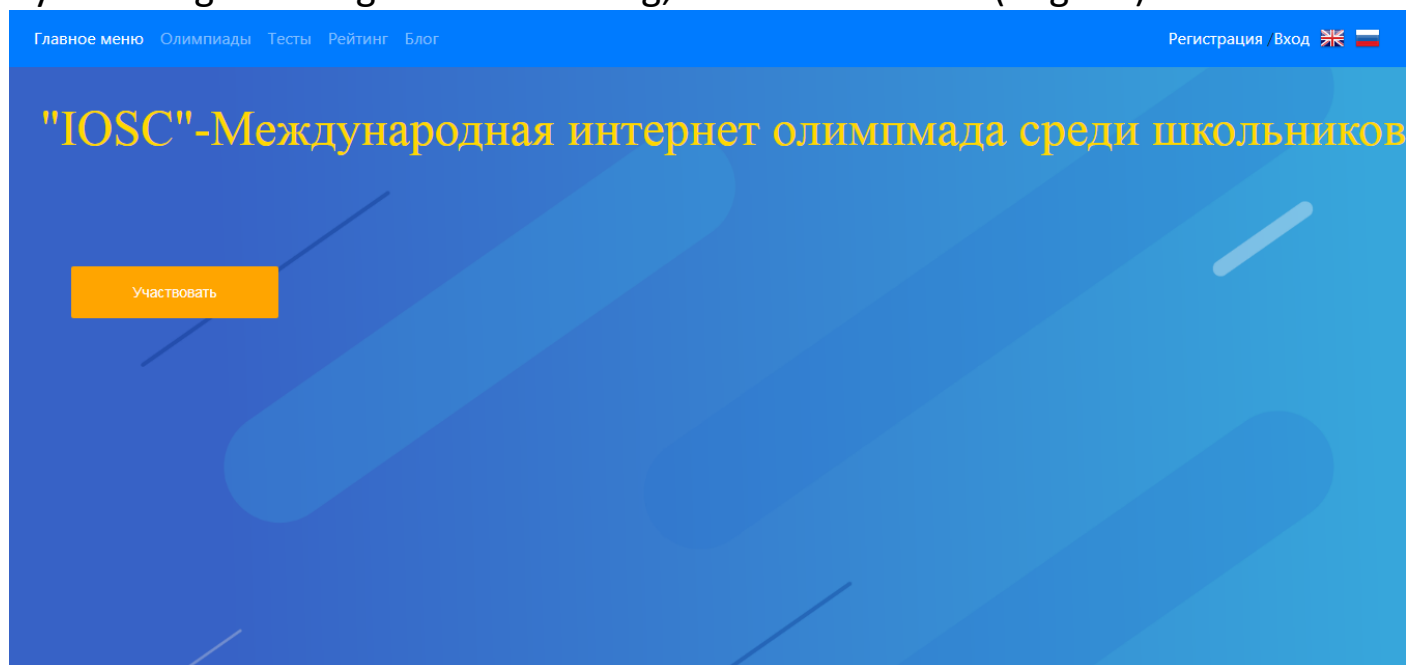
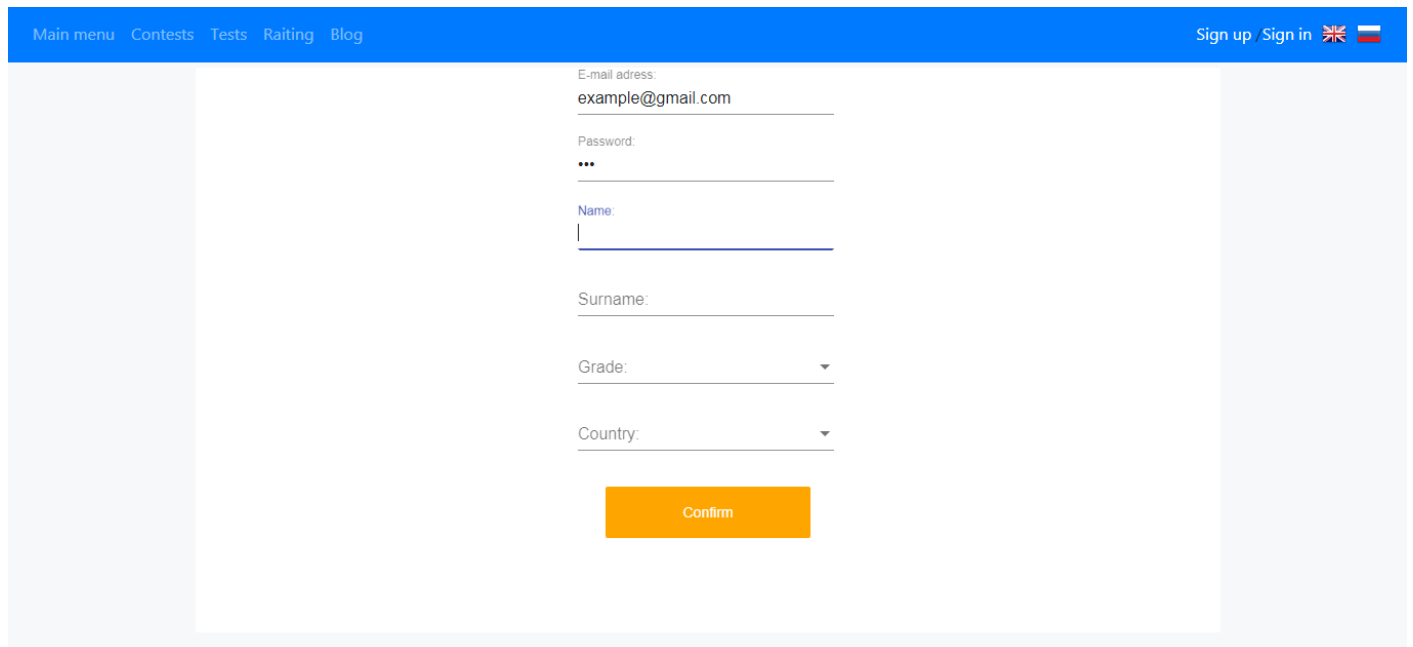


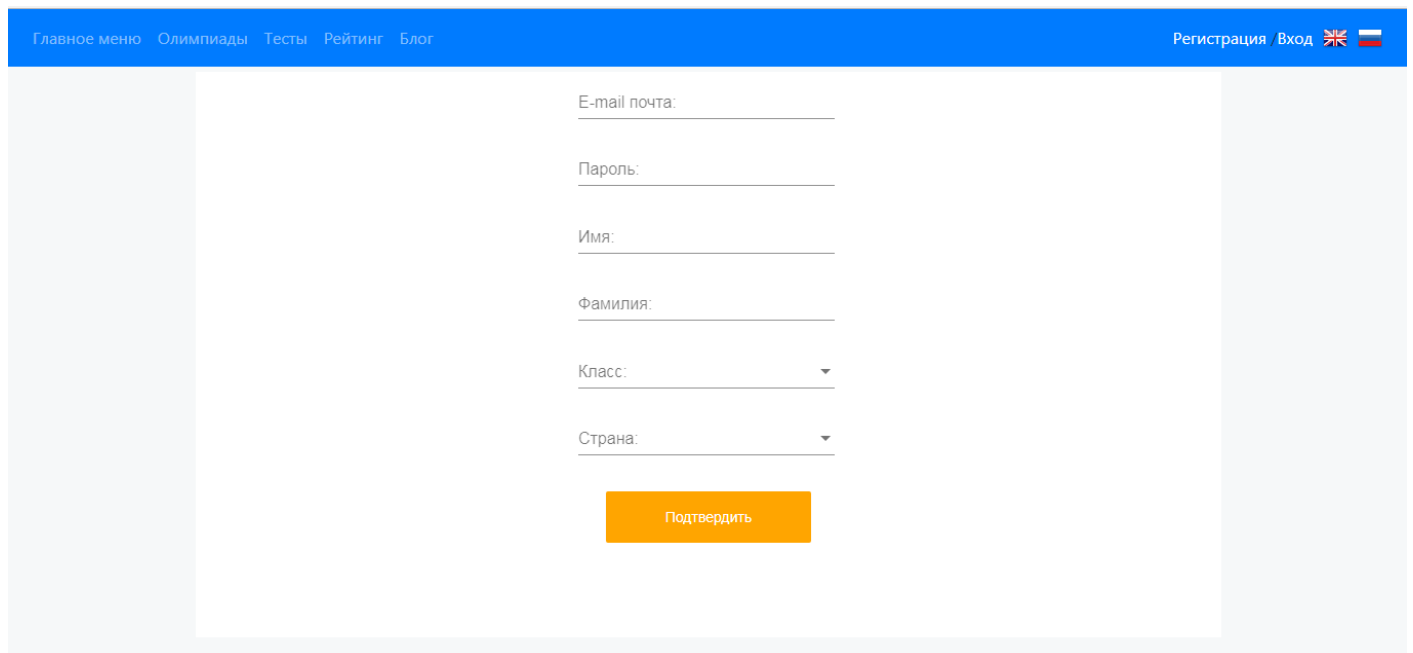
Image 1.2: main page of the website in Russian language

When “Sign up” button is pressed registration window is opened (img.2.1). Then, user must fill the information boxes in order to register.



The image shows a registration form in English. At the top, there is a blue navigation bar with links: "Main menu", "Contests", "Tests", "Rating", and "Blog". On the right side of the bar, it says "Sign up / Sign in" followed by flags for the United Kingdom and Russia. The main content area is white and contains the following fields: "E-mail address:" with the value "example@gmail.com", "Password:" with three dots, "Name:" with a single character, "Surname:", "Grade:" with a dropdown arrow, and "Country:" with a dropdown arrow. At the bottom of the form is an orange button labeled "Confirm".

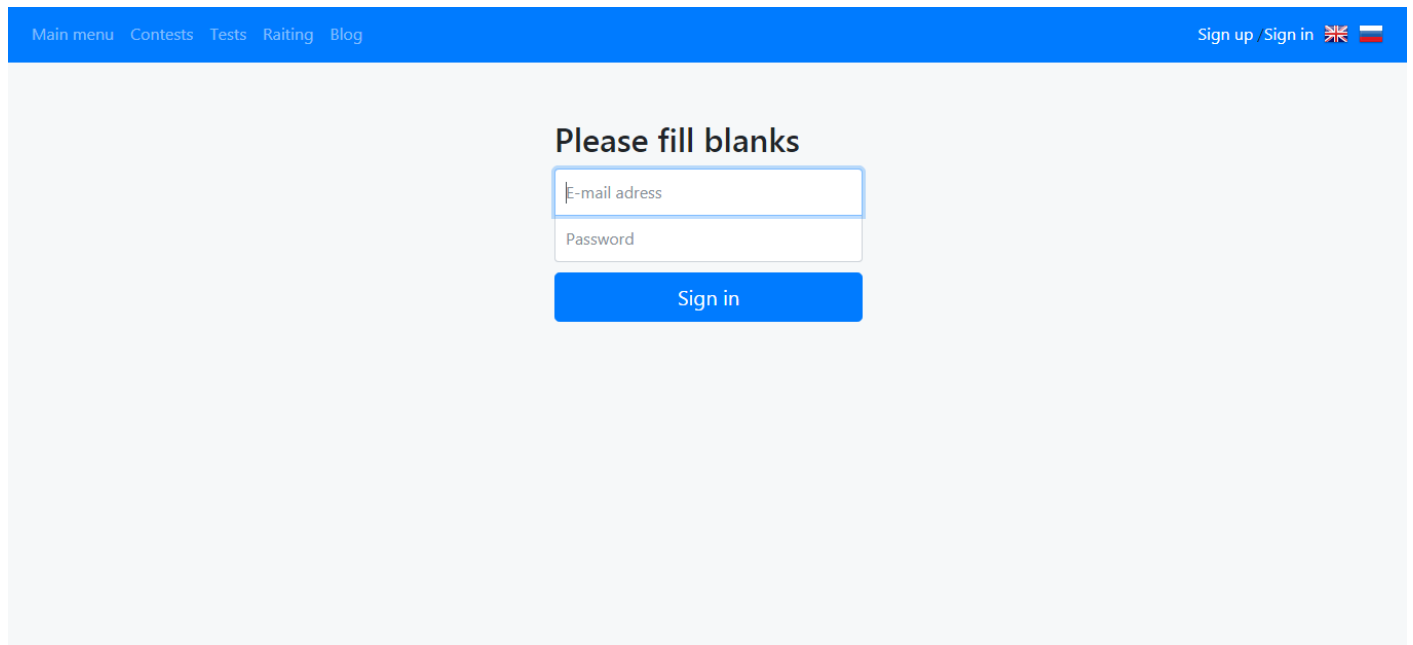
Image 2.1: *registration page in English language*



The image shows a registration form in Russian. At the top, there is a blue navigation bar with links: "Главное меню", "Олимпиады", "Тесты", "Рейтинг", and "Блог". On the right side of the bar, it says "Регистрация / Вход" followed by flags for the United Kingdom and Russia. The main content area is white and contains the following fields: "E-mail почта:", "Пароль:", "Имя:", "Фамилия:", "Класс:" with a dropdown arrow, and "Страна:" with a dropdown arrow. At the bottom of the form is an orange button labeled "Подтвердить".

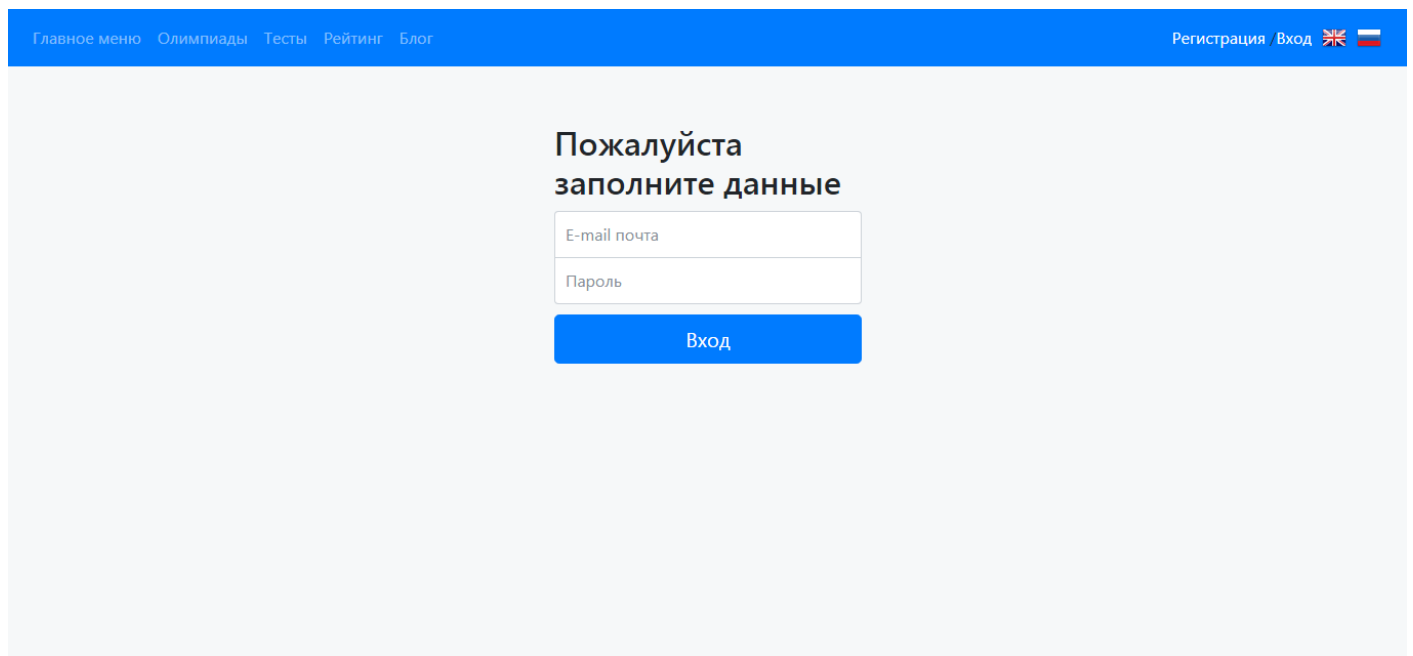
Image 2.2: *registration page in Russian language*

When “sign in” button is pressed “sign in” window is opened (img.3.1). Then, user must enter login and password in order to sign in the website.



The image shows a web page for signing in. At the top, there is a blue navigation bar with links: "Main menu", "Contests", "Tests", "Rating", and "Blog". On the right side of the bar, there are links for "Sign up / Sign in" and flags for the United Kingdom and Russia. The main content area has a light gray background. In the center, the text "Please fill blanks" is displayed. Below this text are two input fields: the first is labeled "E-mail adress" and the second is labeled "Password". Below the input fields is a blue button labeled "Sign in".

Image 3.1: sign in page in English language



The image shows a web page for signing in in Russian. At the top, there is a blue navigation bar with links: "Главное меню", "Олимпиады", "Тесты", "Рейтинг", and "Блог". On the right side of the bar, there are links for "Регистрация / Вход" and flags for the United Kingdom and Russia. The main content area has a light gray background. In the center, the text "Пожалуйста заполните данные" is displayed. Below this text are two input fields: the first is labeled "E-mail почта" and the second is labeled "Пароль". Below the input fields is a blue button labeled "Вход".

Image 4.2: contests page in Russian language

When “contests” menu is chosen, the list of contests is opened (img.4.1)

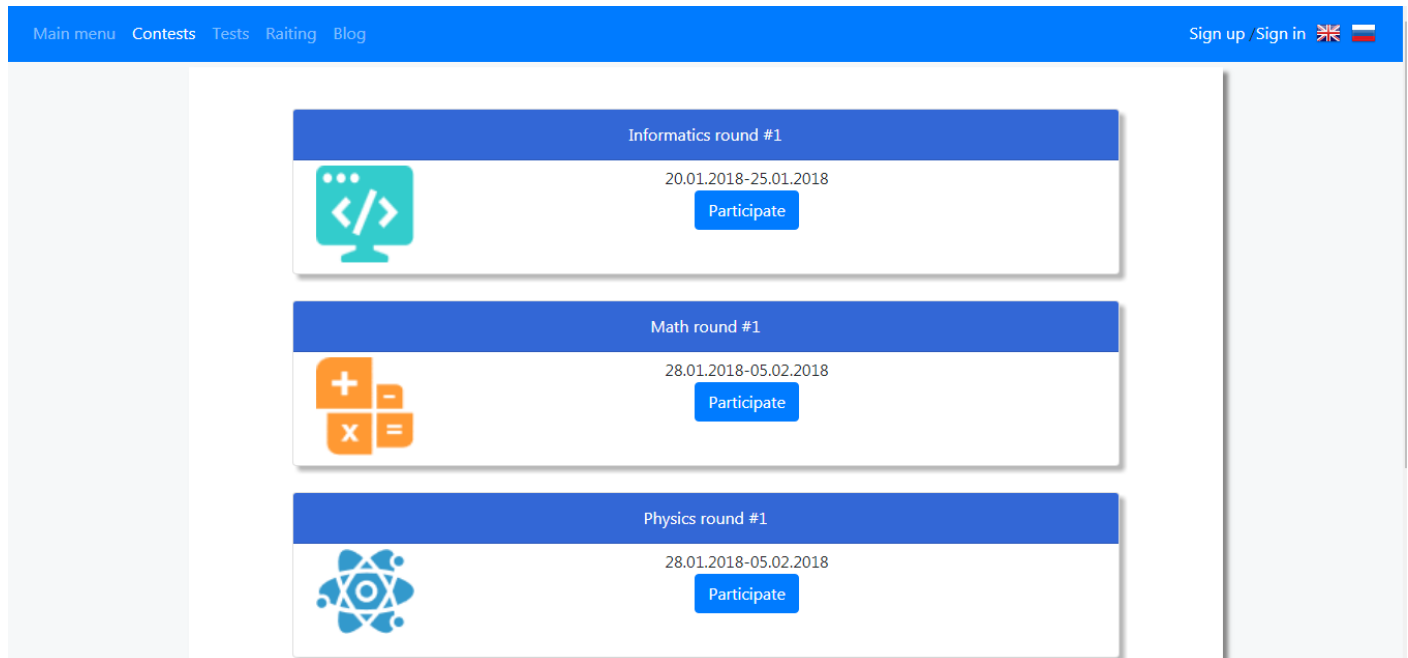


Image 4.1: contests page in English language

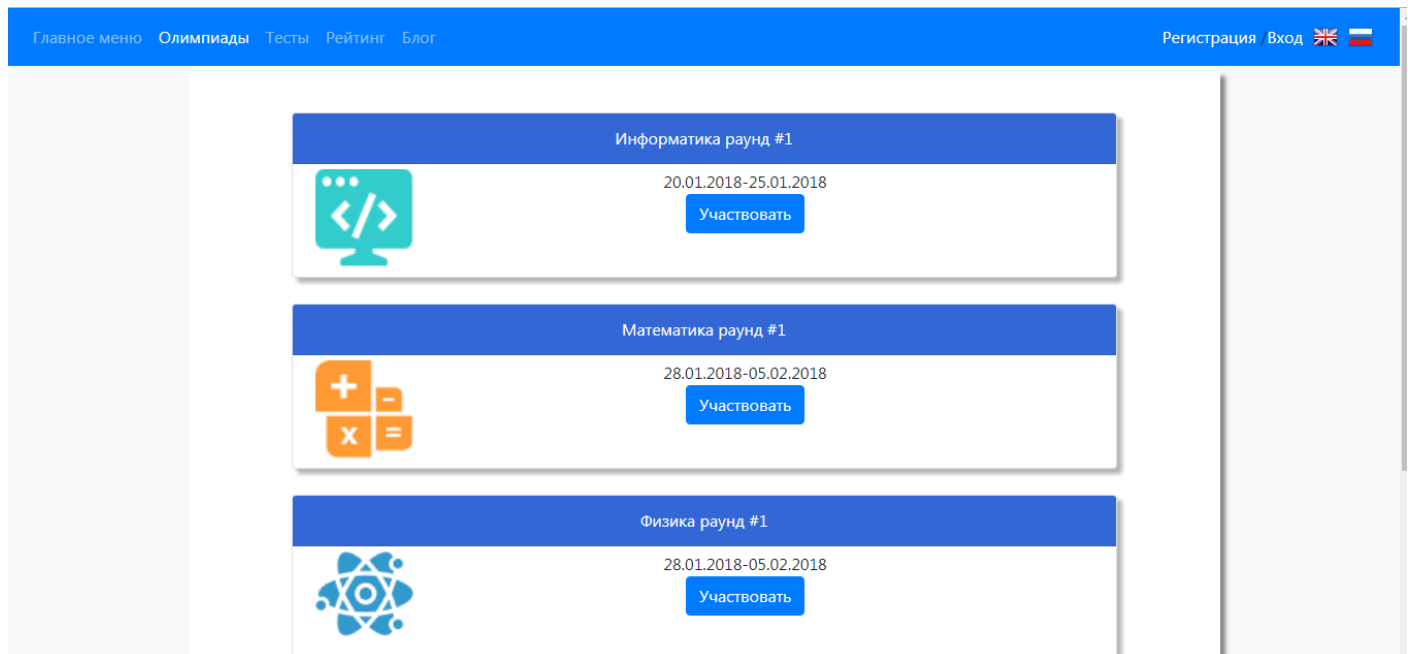


Image 4.2: contests page in Russian language

By pressing “rating” menu, related page is opened (img.5.1) and users can see the list of rating.

Main menu Contests Tests Raiting Blog Sign up / Sign in  				
#	Name and Surname	Grade	Country	Raiting
1	Jia Tong	10	China	3254
2	Alexandr Ivanov	11	Russia	3089
3	Luci Brooks	10	USA	2876
4	Wadim Stinga	9	Romania	2800
5	Adriana Bukowski	8	Poland	2596
6	Yhtyýar Sahatov	10	Turkmenistan	2438

Image 5.1: rating page in English language