

MathServer.kz

Diploma theme:

Development of an application that solves predefined mathematical tasks

Keep time! Learn math more effective!

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SDU 2016

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2016

Project Description:

Application available everyone who wants learn math. That's why will be web application. So, this web application solve difficult mathematical problems for users. User will write equation, application will solve with all possible solutions (if needed to draw graph will draw) with step by step function to show for user how it solve. Will be theoretical part if user needed to learn before to see solution of equation.

Goals:

- Add equation as more as possible (matrix, integral, etc...)
- Easy to use
- ability to easy write math equation via keyboard
- Find all possible solutions of equation

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Actors:

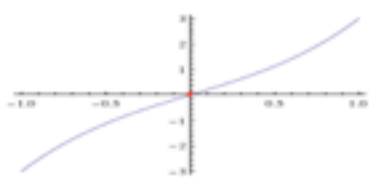
Users: Someone who write equation and see the results (usually student)

Use cases:

- Write equation and see result.
- Read description and learn it.
- Register/Login
- Can save the equation to user account
- Can talk with other user account

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1	→	Basic Math	Pre-Algebra	Algebra	Trigonometry	Calculus
2	→	$\frac{\square}{\square}$ $\left[\begin{smallmatrix} \square & \square \\ \square & \square \end{smallmatrix}\right]$ $\sqrt{\square}$ \geq $f(x)$ $f(x)=\{$				
3	→	Problem: $x^3 + 2x = 0$ (ex.)				
		Root plot:				
4	→					
		Alternative form:				
		$x(x^2 + 2) = 0$				
		Real solution:				
		$x = 0$				
		Step-by-step solution:				

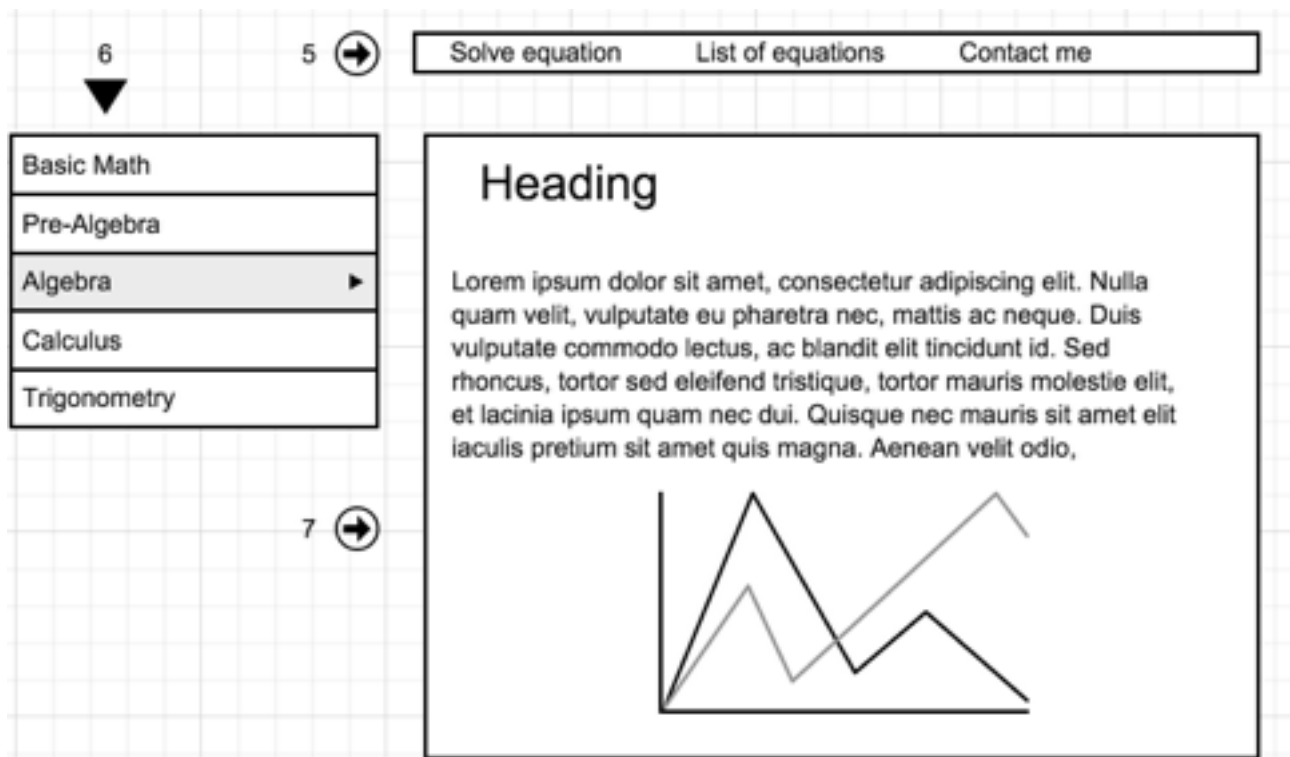
Screen #1:

This the heart of web application. Here web application solve math problems. (Solve equation page)

1. Tab menu to choose needed theme.
2. Shortcuts icons to give ability easy write equation.
3. Write equation.
4. Results of solving equation.

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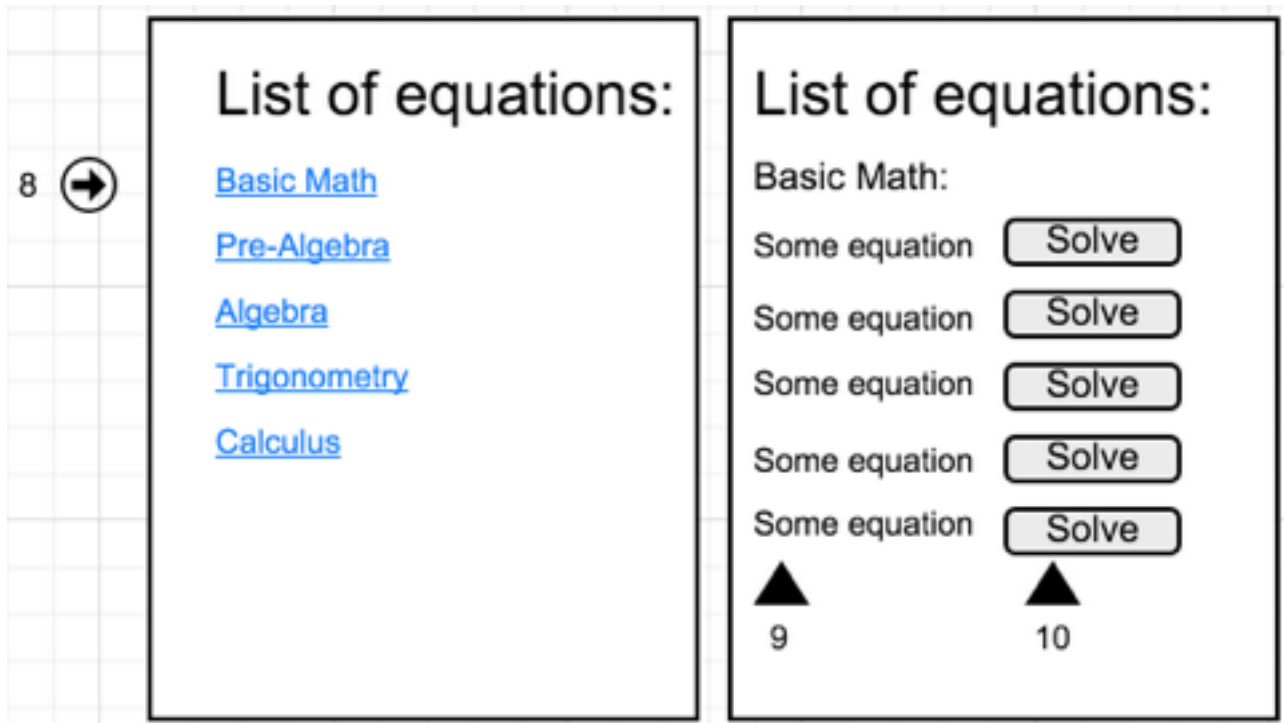
Screen #2:

This screen it's theoretical part of math. All needed information to learn math and understand solutions.

5. Horizontal menu. Linked to 'Solve equation', 'List of equations', 'Contact me'.
6. Vertical menu to link Math theme which needed.
7. Description. All theoretical information on that area.

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Screen #3:

List of equations. Randomly list of equations for practice.

8. List of Math theme. First must choose theme.

9. List of equations.

10. Solve that equation.

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11 ➡ E-mail

12 ➡ Description

Multi
line
textarea

13 ➡

Screen #4:

Contact me page. Also can ask a question or say that i have logic mistake everything.

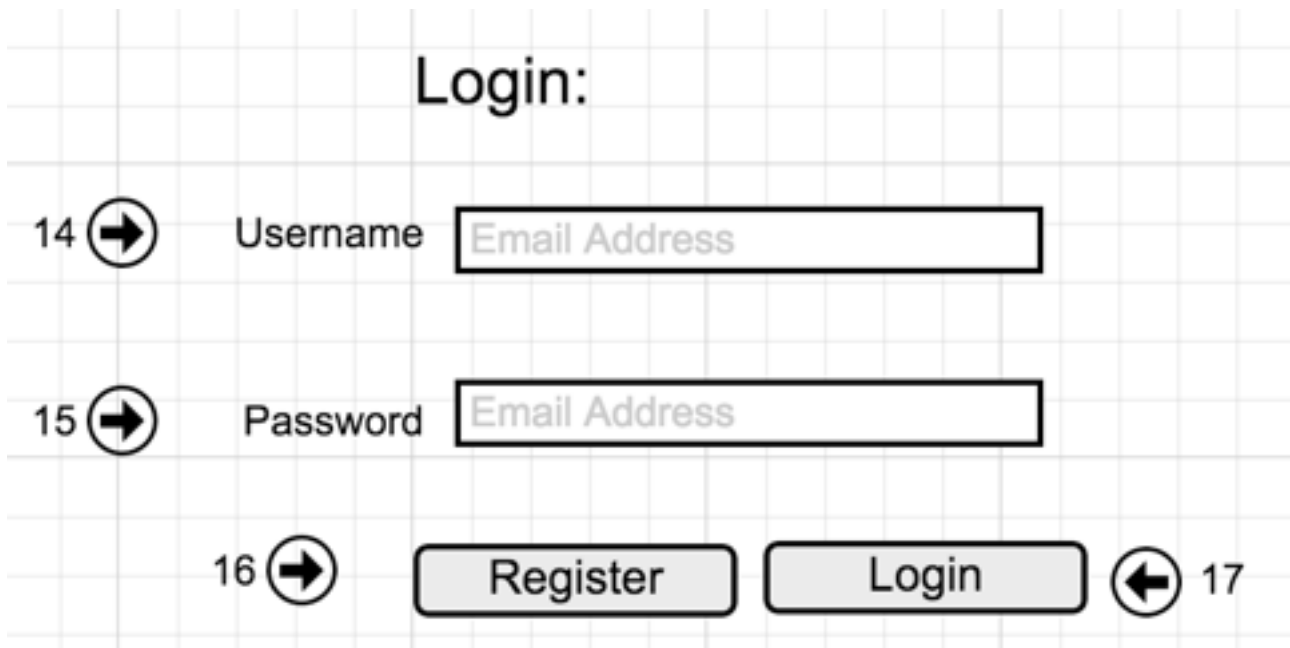
11. E-mail textfield. Who want to get answer will right his E-mail address.

12. Description. There will right a problem which want decide.

13. Send button. Just after click will send me that message.

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The diagram shows a login form on a grid background. At the top center is the text "Login:". Below it are two input fields. The first field is labeled "Username" and contains the placeholder text "Email Address"; it is annotated with "14" and a right-pointing arrow. The second field is labeled "Password" and also contains the placeholder text "Email Address"; it is annotated with "15" and a right-pointing arrow. At the bottom, there are two buttons: "Register" and "Login". The "Register" button is annotated with "16" and a right-pointing arrow, while the "Login" button is annotated with "17" and a left-pointing arrow.

Screen #5:

Login page which not necessary. User who login will have more functionality.

14. Textfield is for username.

15. Password to verify.

16. If user want create account, user can register by clicking this button.

17. After filling all required information click this button to open some functionality.

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Register Page:

18	➔	Name	<input type="text" value="Email Address"/>
19	➔	Surname	<input type="text"/>
20	➔	Password	<input type="text"/>
		21	➔ <input type="button" value="Submit"/>

Screen #6:

The register page, filling this fields will create account.

18. Your name.

19. Your surname.

20. Password that will verify for you.

21. After filling information and clicking this button will create account.

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Screenflow of MathServer.kz

