

## Results & Discussion ( / 30 Points)

Explain your results in detail including system/model train/validation/optimization analysis, performance evaluation and comparison with the state-of-the-art (if relevant), ablation study (if relevant), a use-case analysis or the demo of the product (if relevant), and additional points related to your project. Also include the discussion of each piece of result (i.e., what would be the reason behind obtaining this outcome, what is the meaning of this result, etc.). Include figures and tables to summarize quantitative results. Use sub-headings for each topic. This section should be between 1000-2000 words (add pages if necessary).

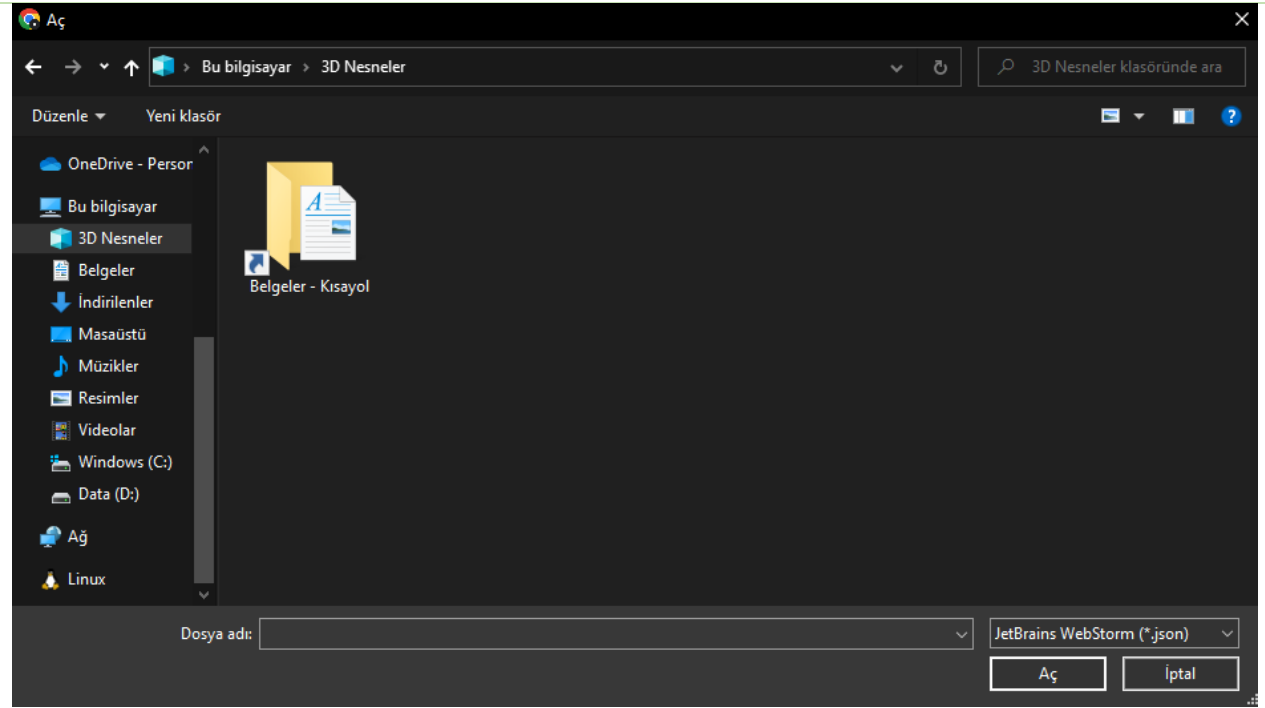
We will introduce the project results in detail from the perspective of a user who will use the Form Designer project we have prepared on this section.

When the user starts using the application, he/she will first start with the following welcome page.



There are 2 buttons on welcome page. The first button is "Create New Form" button. This button has hint feature. When you hover over the button, you will see the text "Create an empty form". When this button is clicked, we will switch to the FormEditor page and we will share the details of the FormEditor page a little later.

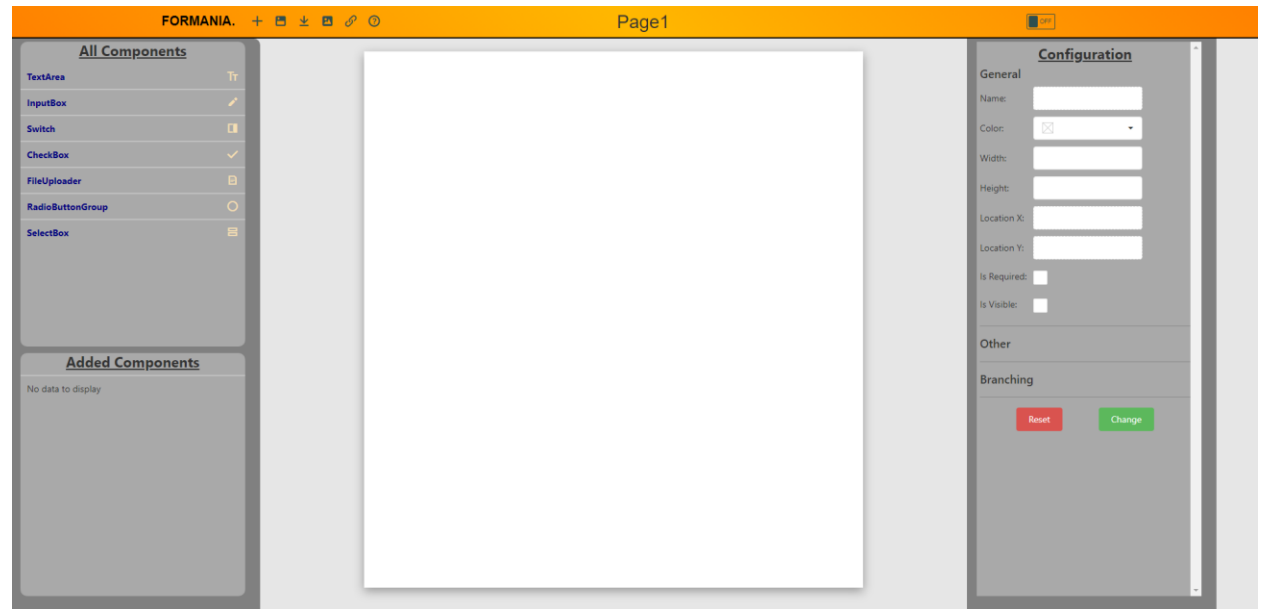
The second button on the login screen is the "Import Existing Form" button. This button also has the hint feature. When you hover over the button, you will see the text "Import a form in JSON file format from your local storage". When this button is clicked, a file dialog opens as you can see below.



This file dialog only accepts json files as the file type since we will only import json files.

In addition, we imported the buttons we used on this page from the DevExtreme library.

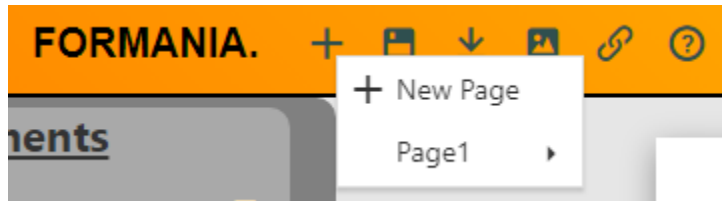
As we mentioned above, when we click on the first button on Welcome Page, the Create New Form button, we mentioned that it directs us to the FormEditor page. Below you can see the general view of the FormEditor page.



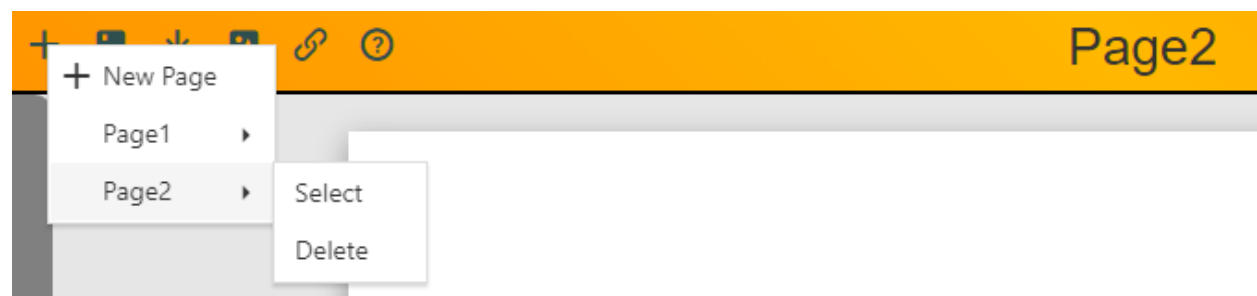
The form designer will see this page directly after clicking the button. FormEditor page consists of navbar, sidebars and a canvas in the center of the page. Let's start introducing this page of the project from the navbar first.

In the Navbar of the project, there are 6 icons and a light/dark switch button.

The first icon of the navbar section is the "Plus" icon with "Add new page" feature. When we press this icon, a pop up opens as below.

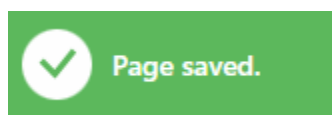


If New Page is pressed in this section, a second page is created. As each new page is opened, you can see the ability to switch to that page and delete that page from the image below.



You can also see that the text in the center of the Navbar changes to show which page we are on.

The second icon of the Navbar is the "Save" icon which has "Save Page" feature. When this icon is pressed, the page is saved and appears at the bottom of the page you see below.



The third icon in the Navbar is the "Download" icon with "Download" feature. Pressing this icon allows you to download the current page to your local storage. In the download feature, json file is used as the file type.

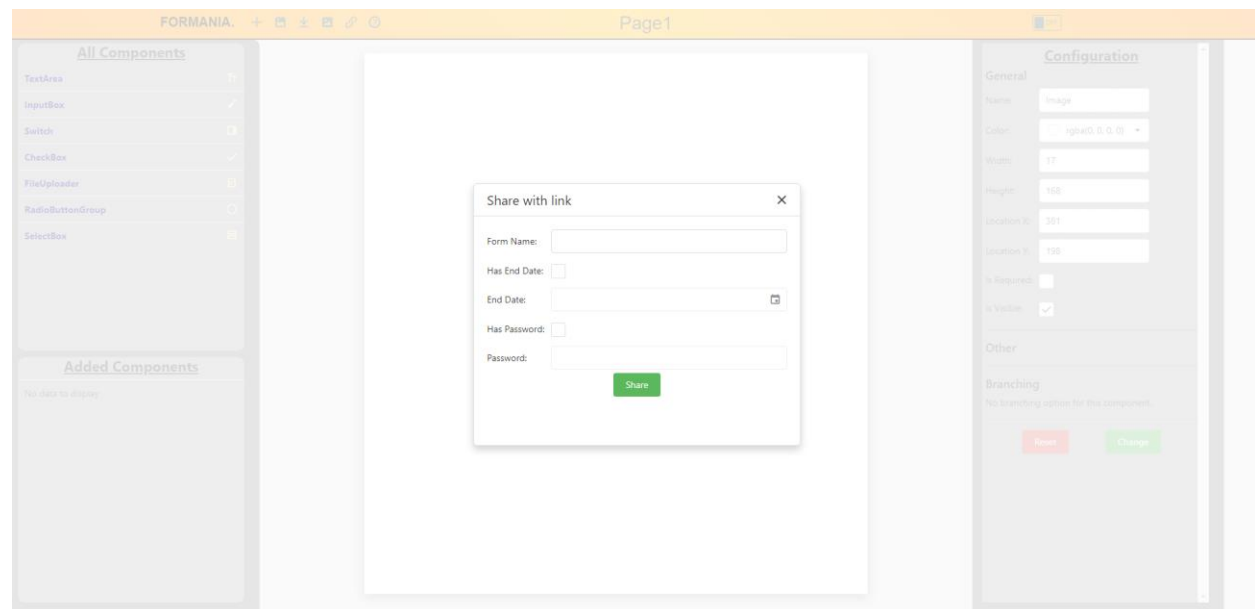
The fourth icon of the Navbar section is the "Image" icon with "Add image to canvas" feature.

When clicked on this icon, a file dialog opens in the middle of the page that accepts only image file types. With this file dialog, designer can select the image he/she want and add it to the page and also the selected image has a "draggable" feature on the page.

The added image also appears in the added components section. If the person who designed the form wants, he can remove the image from the page from the Added Components section.

The fifth icon in the navbar is the "Link" icon with "Share with Link" feature.

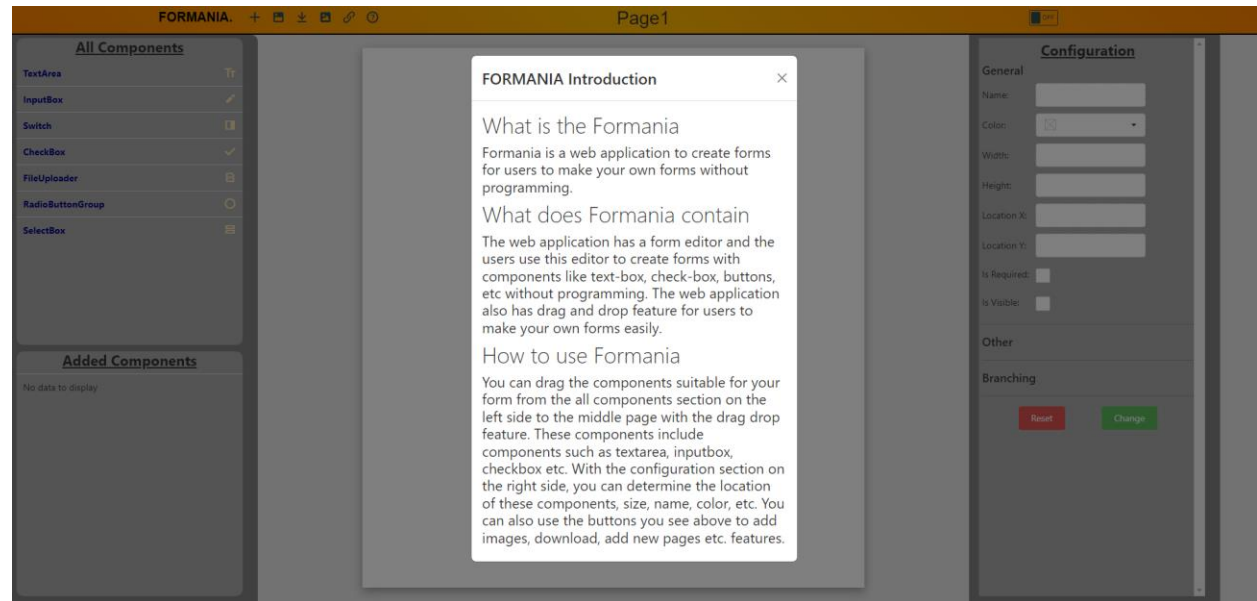
The designer who prepared the form must press this icon in the navbar to share the form with users. When this icon is pressed, there are fields to be filled in as you can see below.



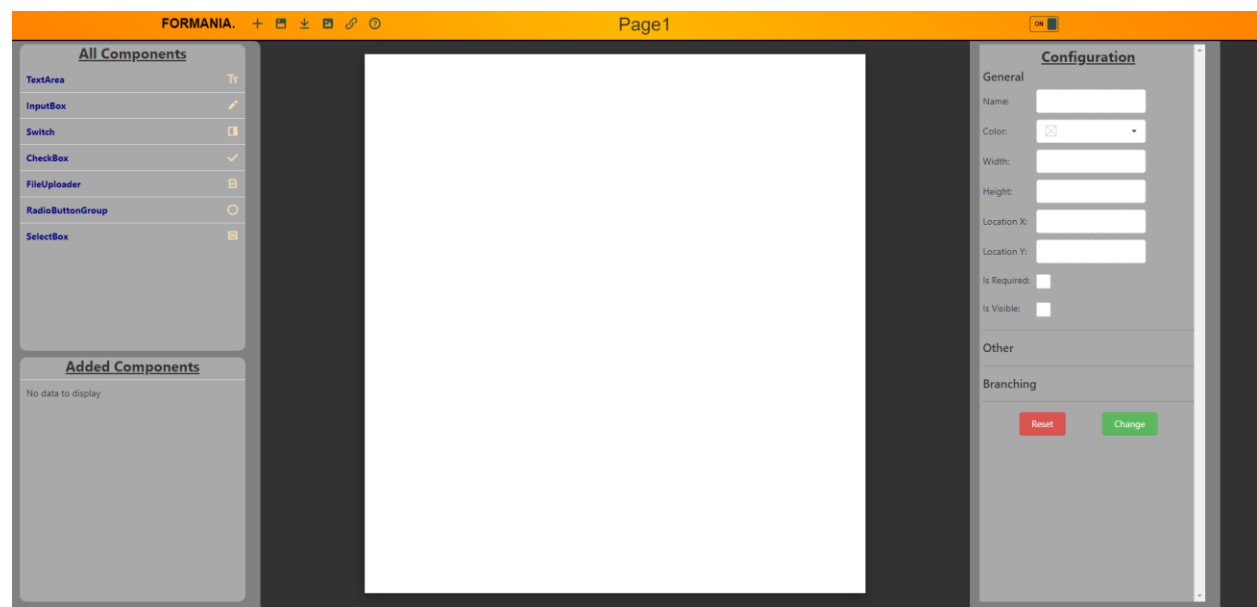
The screenshot displays the FORMANIA design tool interface. At the top, there's a yellow header bar with the text "FORMANIA." and several icons. Below the header, the main workspace is divided into three sections. On the left, there's a sidebar with two panels: "All Components" and "Added Components". The "All Components" panel lists various UI elements like TextArea, InputBox, Switch, CheckBox, FileUploader, RadioButtonGroup, and SelectBox. The "Added Components" panel is currently empty. In the center, a large white canvas displays a "Share with link" dialog box. This dialog box has a title bar with a close button (X) and contains several input fields: "Form Name:", "Has End Date:" (with a checkbox), "End Date:" (with a date picker icon), "Has Password:" (with a checkbox), and "Password:". A green "Share" button is located at the bottom of the dialog. On the right side of the interface, there's a "Configuration" panel with a "General" section containing fields for "Name", "Color", "Width", "Height", "Location X", and "Location Y". Below this, there's an "Other" section with "Is Required" (checkbox) and "Is Visible" (checkbox, which is checked). At the bottom of the configuration panel, there's a "Branching" section with a message "No branching options for this component." and two buttons: "None" (red) and "Change" (green).

In this section, the designer must first determine the name of the form. Then he/she should set the due date and password of the form. After the designer fills in the required fields and presses the share button, a link and a password specific to the designer will be created to send the form to the people who need to fill in the form. When the user clicks on this link, they will be forwarded to another page of project, "FormSubmitPage". All changes made by the designer on the form are displayed to the user, while all additions and changes made on the canvas are kept in the database with PostgreSQL.

The last icon in the navbar is the "Help" icon, which has feature of "Specifying how to create a form". When we click on this icon, the person who wants to design a form can get information about the application with the box that opens in the middle of the page as you can see below.



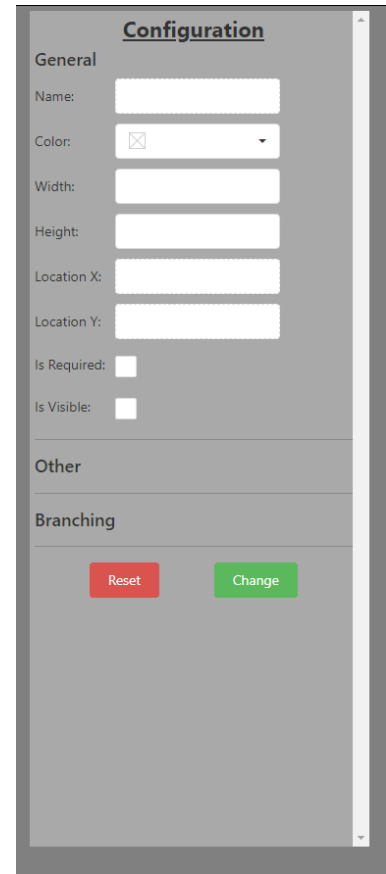
The designer can also decide whether the background is dark or light with the switch button in the navbar.



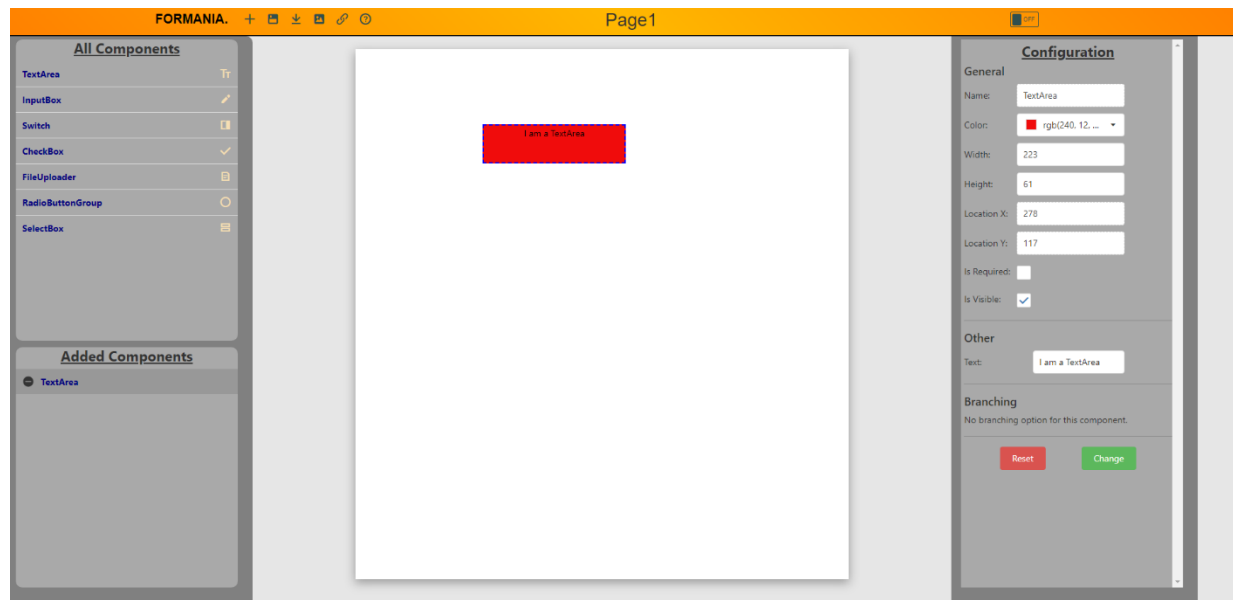
As you can see above, if dark theme is selected, the background will be dark themed.

Also, if you click on FORMANIA. in the Navbar, you will be redirected back to the welcome page.

Now let's move to the components section in the left sidebar, which designer will use to fill canvas in the center of page. The configuration menu in the right sidebar may vary for each component in the left sidebar. The default version of the configuration menu in the right sidebar is as shown below. Therefore, it is necessary to examine the components in the left sidebar one by one. As can be seen in the Configuration Menu, each component has name, color, width, height, location x, location y, is required and is visible properties. Other and Branching sections in the menu are specific to form components and are determined for that component after adding it to the canvas with the drag drop feature. Below we will explain each component clearly and show it with examples.



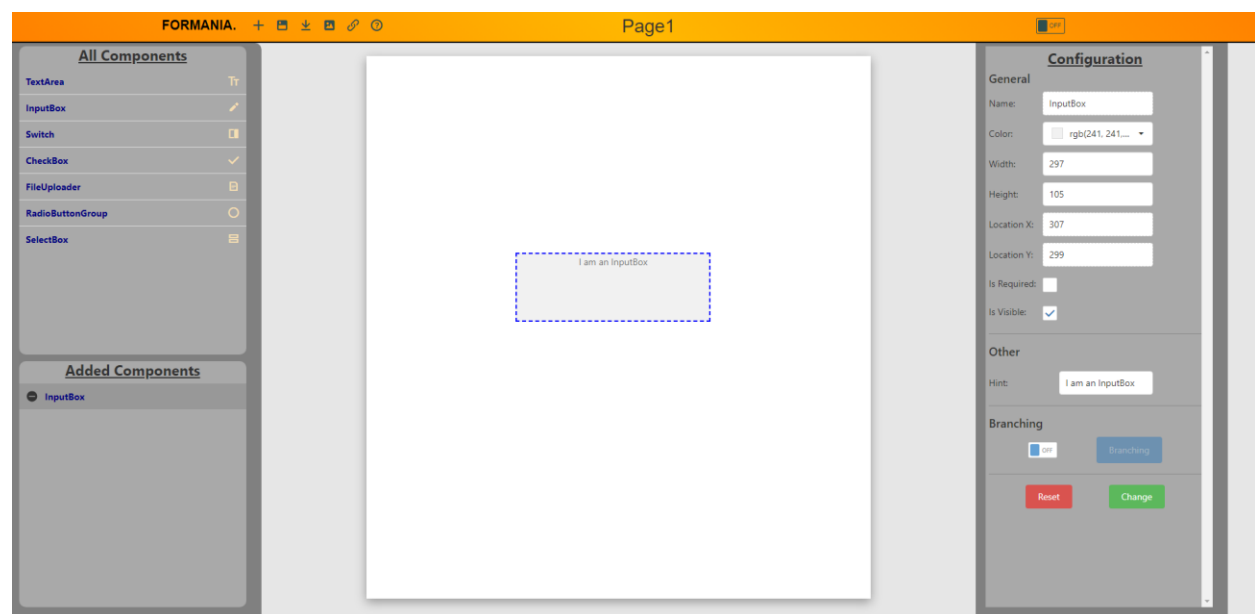
First component in the left sidebar under the All Components heading is the "TextArea" component.



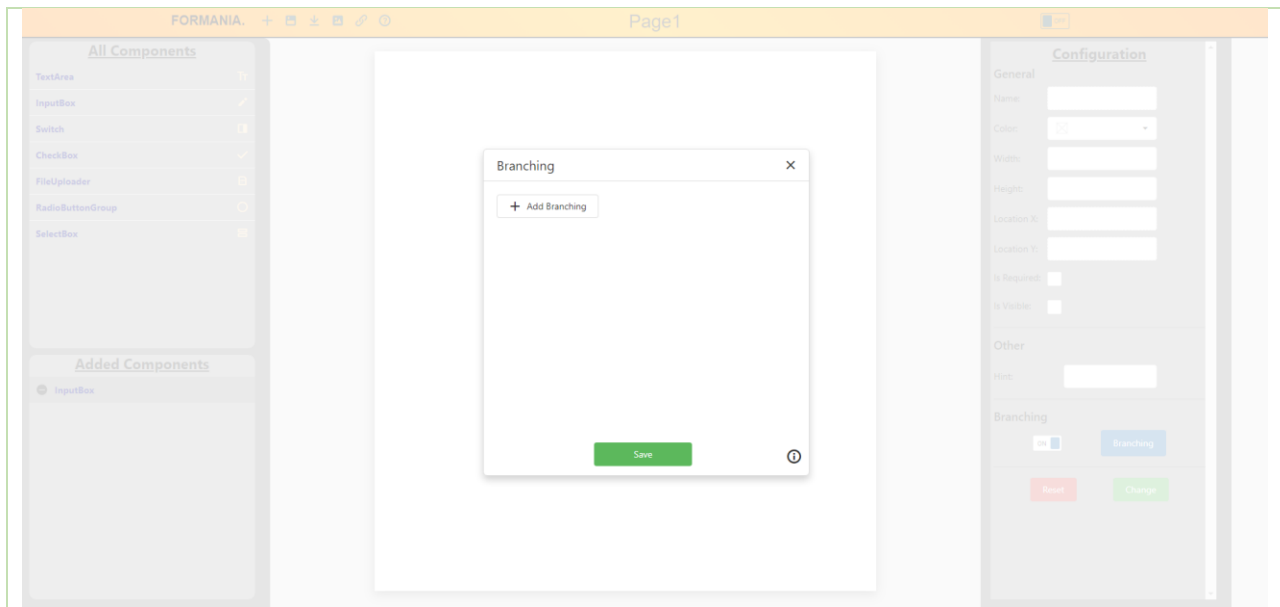
As you can see above, after dragging the TextArea component in the left sidebar to the canvas with the drag drop feature, TextArea component was created on the canvas. In general, these components are first created in the left-top corner of the canvas. Then the designer can change the location of the component created on the canvas as he/she wants in the canvas.

As you can see in the image above, when we type text into the TextArea with the Text property that appears in the Other section specifically for the TextArea component and press the change button, the changes we made in the configuration menu are shown on the canvas.

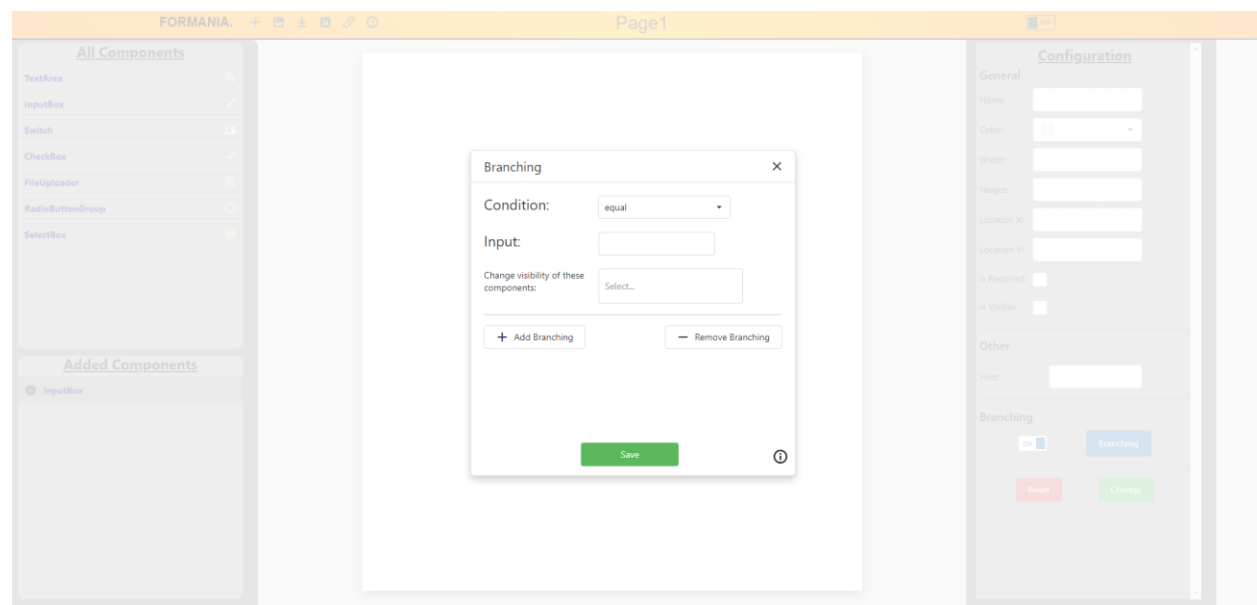
Second component is InputBox component.



As you can see above, after dragging the InputBox component on the left sidebar to the canvas with the drag drop feature, InputBox component has been created on the canvas. Above you can see the configuration menu created specifically for InputBox. For InputBox, text can be written as Hint and Branching feature can be added for InputBox. Branching feature works according to the request of the person who designed the form. If the designer wants, he/she can turn off branching or turn on branching. If the designer turns on branching and clicks on the branching button, a box opens as you can see below.



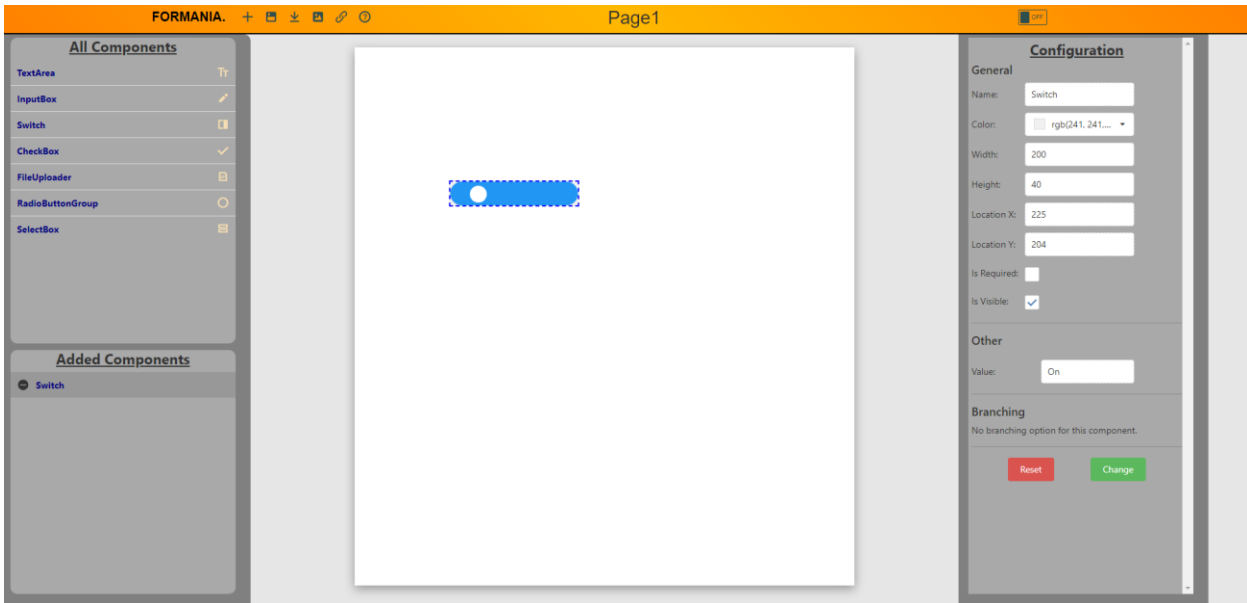
From this section, designer can create branching by clicking add branching.



After clicking on Add branching, the designer can choose from equal, contains, startwith and endwith conditions in the condition section. After specifying the condition, the designer should specify the input and if the condition is satisfied, the designer can choose which component's visibility will change from the box. If the designer wants, he/she can open more than one branching or remove existing branching.

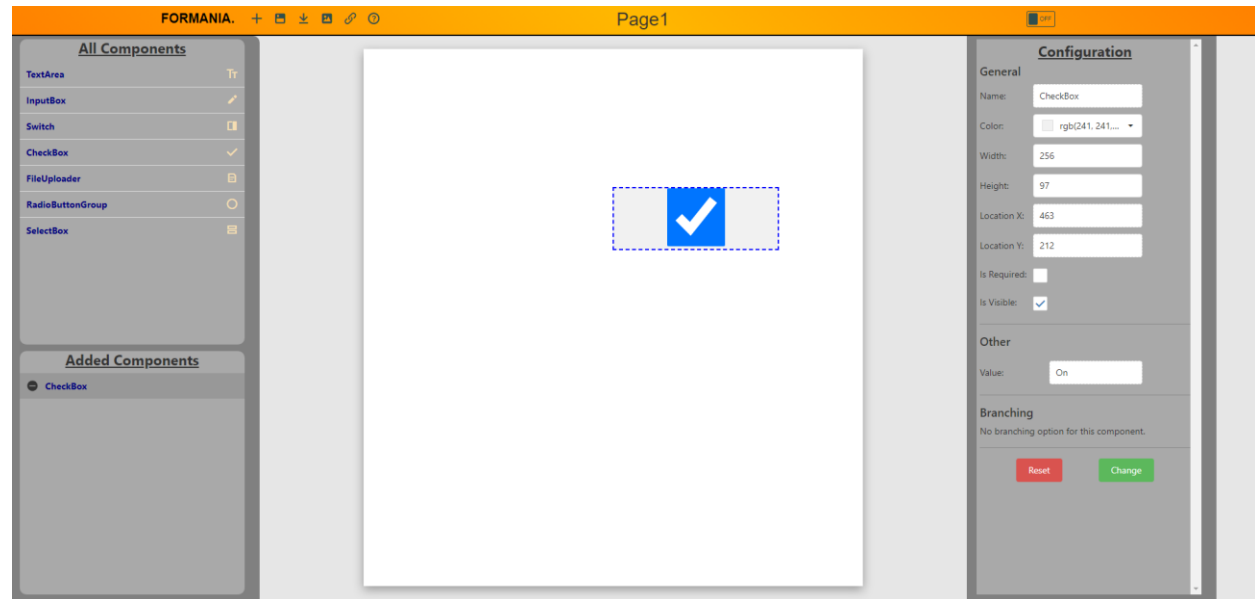


The third component is the Switch component.



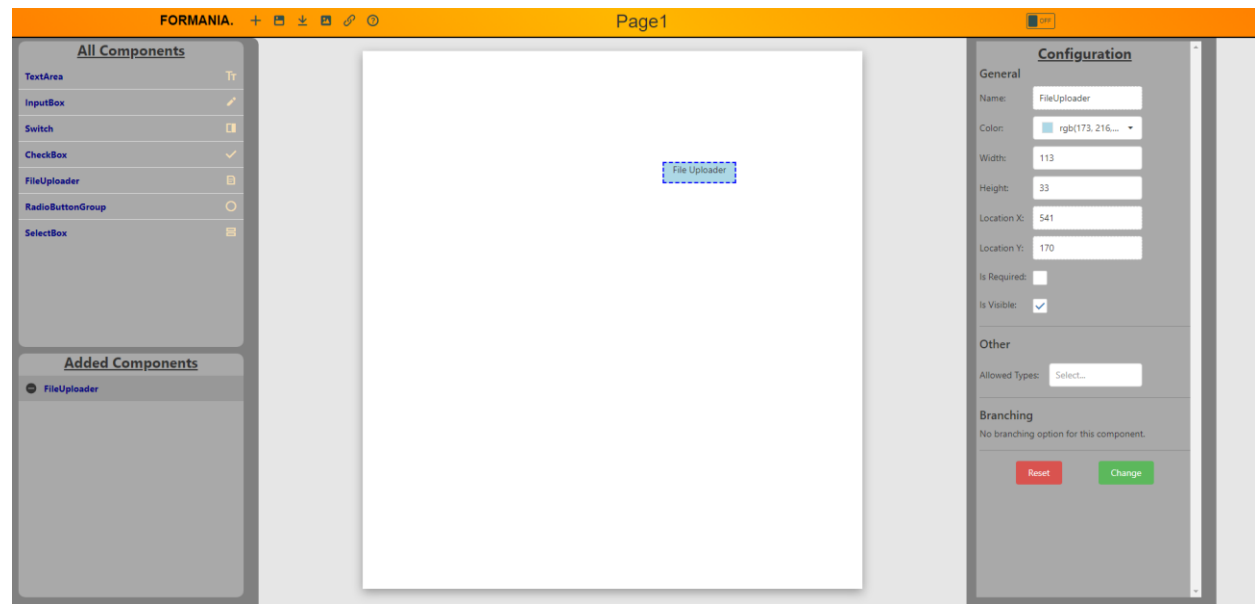
As you can see above, after dragging the Switch component on the left sidebar to the canvas with the drag drop feature, Switch component has been created on the canvas. Above you can see the configuration menu created specifically for the Switch component. There is no branching feature in the Switch component and there are only "On/Off" values as values. The change of the Switch button is made on the canvas.

The fourth component is CheckBox component.

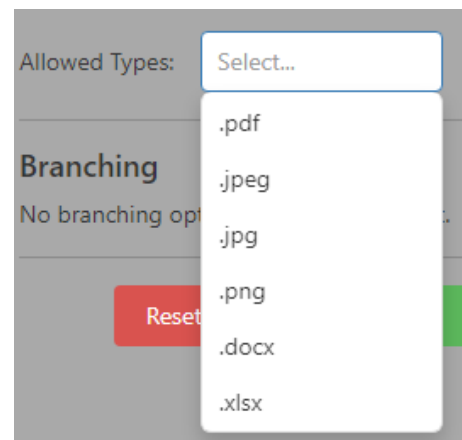


As you can see above, after dragging the CheckBox component on the left sidebar to the canvas with the drag drop feature, CheckBox component has been created on the canvas. Above you can see the configuration menu created specifically for the CheckBox component. There is no branching feature in the CheckBox component and there are only "On/Off" values as values. The modification of the CheckBox button is done on the canvas. Also, according to the Designer's request, CheckBox component can change the sizes on the canvas like other components. In the CheckBox component you see above, the sizes have been changed.

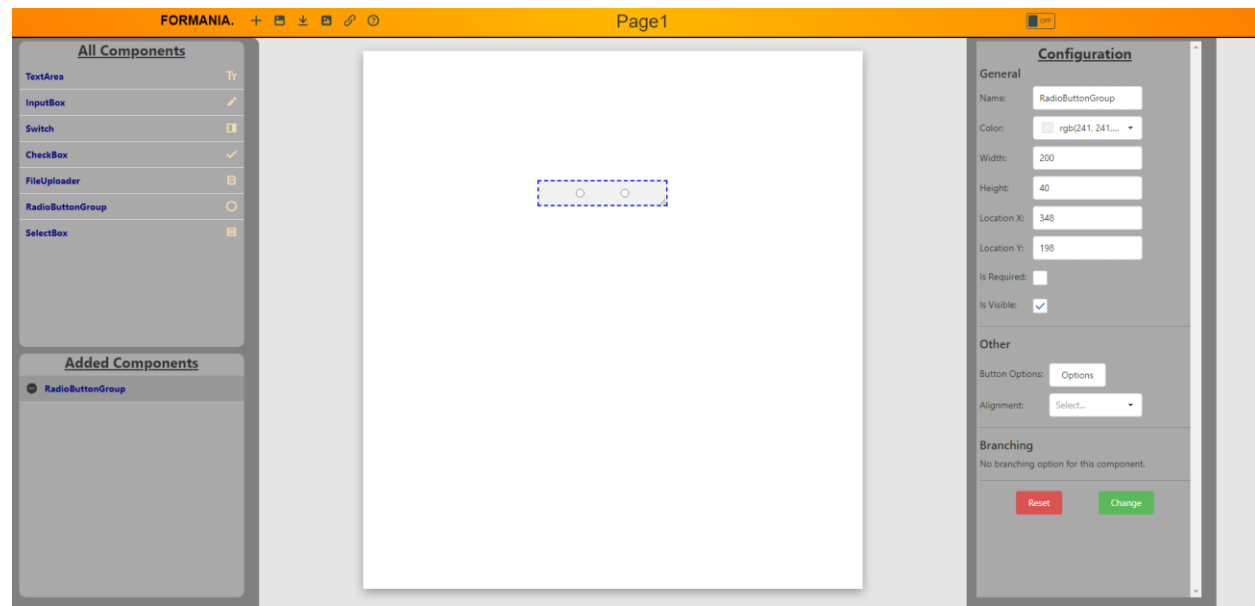
The fifth component is the FileUploader component.



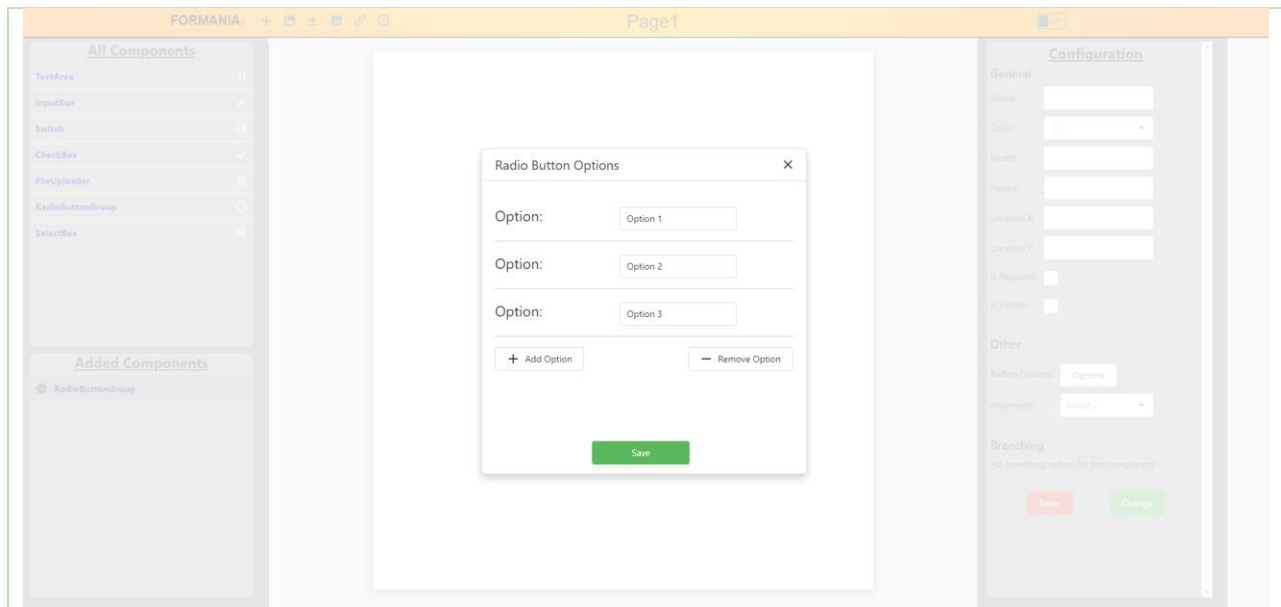
As you can see above, after dragging the FileUploader component on the left sidebar to the canvas with the drag drop feature, FileUploader component is created on the canvas. Above you can see the configuration menu created specifically for the FileUploader component. There is no branching feature in the FileUploader component. There is an "Allowed Types" section in the Other section specifically for the FileUploader component. The designer itself can determine the type of the file to be uploaded from the Allowed Types section.



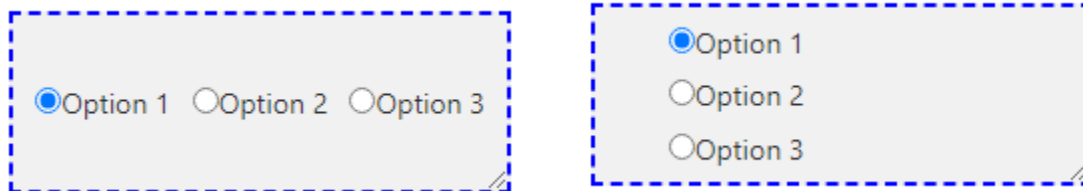
The sixth component is the RadioButtonGroup component.



As you can see above, after dragging the RadioButtonGroup component on the left sidebar to the canvas with the drag drop feature, RadioButtonGroup component has been created on the canvas. Above you can see the configuration menu created specifically for the RadioButtonGroup component. There is no branching feature in RadioButtonGroup component. There are "Button Options" and "Alignment" sections in the Other section specifically for the RadioButtonGroup component. When Button Options section is pressed from these sections, a pop up appears as below. In this pop up, designer can specify the number and names of the options.

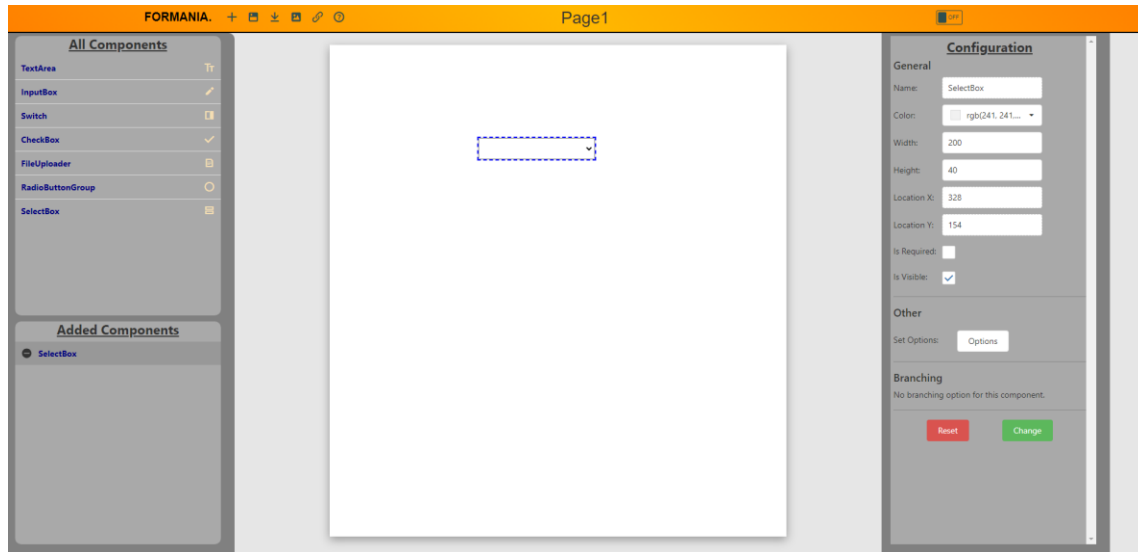


Above, designer selected 3 options from the Button Options section and named each of them.

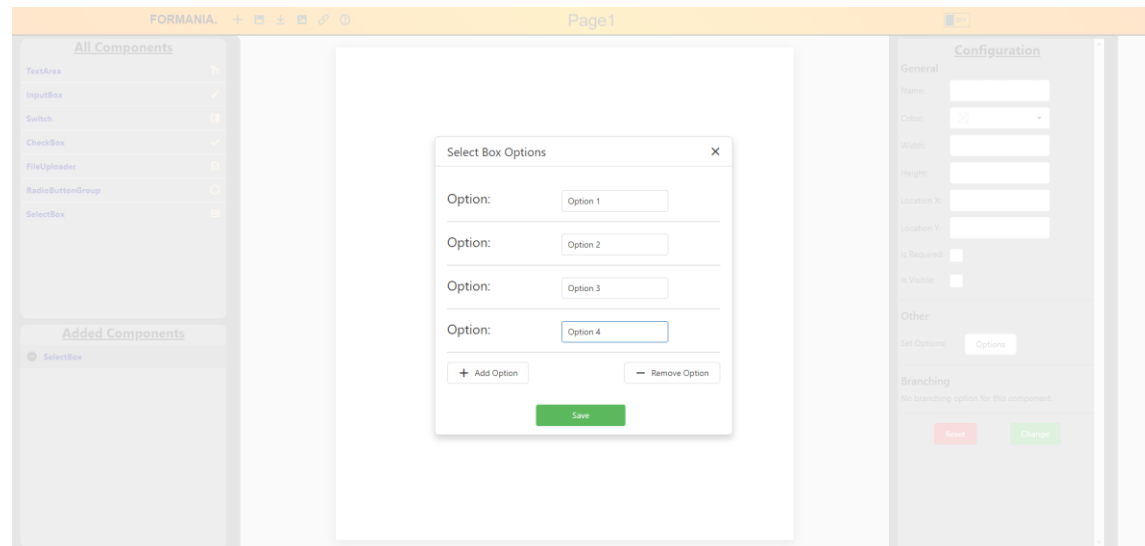


As you can see in the example above, designer can decide whether the radiobuttons are horizontal or vertical from the alignment section in the other section.

The last component is the SelectBox component.



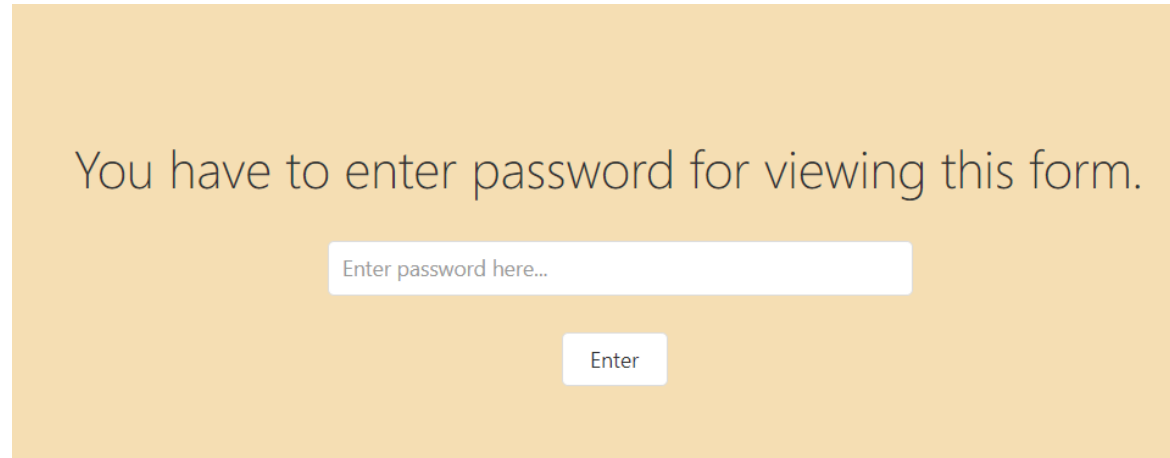
As you can see above, after dragging the SelectBox component on the left sidebar to the canvas with the drag drop feature, SelectBox component has been created on the canvas. Above you can see the configuration menu created specifically for the SelectBox component. SelectBox component does not have branching feature. There is a "Set Options" section in the Other section specifically for the SelectBox component. When the Options button is pressed, a box like the one below opens.



These boxes are filled as Option 1, Option 2, Option 3 and Option 4 in the example. When the Save button is pressed, these are the options that will appear when designer press the selectbox on the canvas.

As we explained Form Designer project above, we mentioned that the designer who prepares the form by clicking on the link icon in the navbar should send the link to the user. In the rest of the project, we will move to the FormSubmit page where the user will submit their own form.

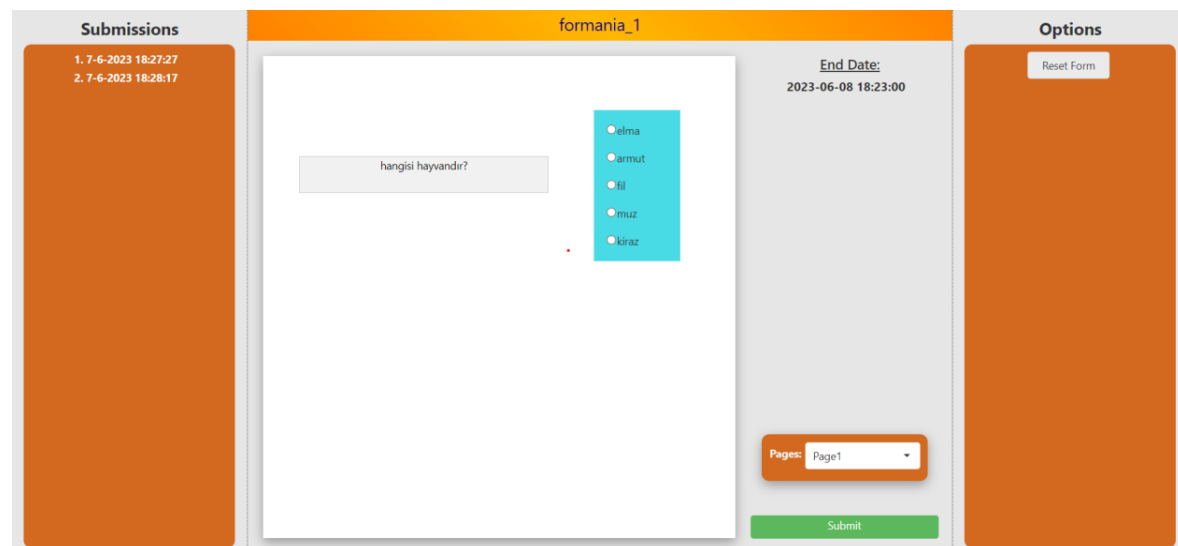
First of all, to access the FormSubmit page, you need to enter the password set by the designer on the FormEditor page.



The screenshot shows a light orange background with the text "You have to enter password for viewing this form." in a large, dark font. Below the text is a white input field with the placeholder text "Enter password here...". Underneath the input field is a white button with the text "Enter".

The page you see above is the page to enter the password before accessing the FormSubmit page.

After entering the correct password, the following FormSubmit page is filled in as an example.



The screenshot shows the FormSubmit page for a form titled "formania\_1". The page is divided into three main sections: "Submissions", "Form", and "Options".

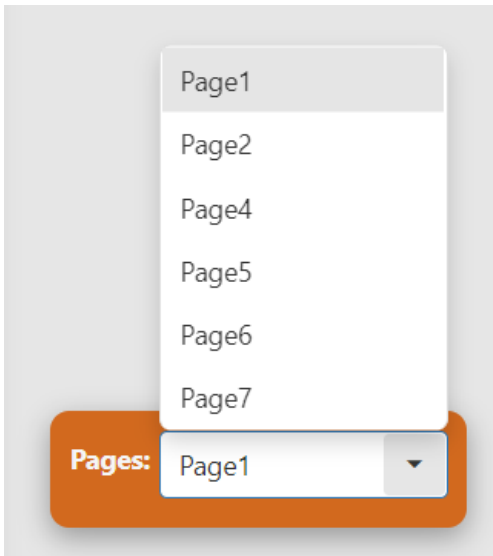
- Submissions:** A list of two submissions with timestamps: "1. 7-6-2023 18:27:27" and "2. 7-6-2023 18:28:17".
- Form:** A question "hangisi hayvandır?" (Which one is an animal?) with a list of radio button options: "elma", "armut", "til", "muz", and "kiraz". The "til" option is selected.
- Options:** A "Reset Form" button.

Additional details include an "End Date:" of "2023-06-08 18:23:00", a "Pages:" dropdown menu showing "Page1", and a green "Submit" button at the bottom.

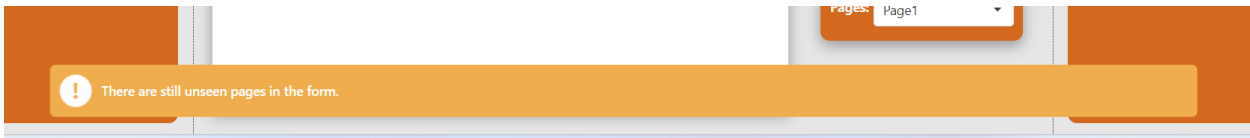
We introduce the features available on this page.

First, the form created by the designer appears directly.

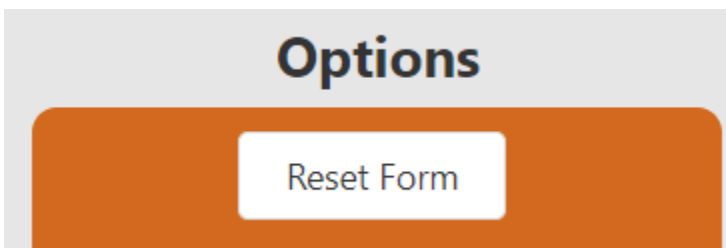
If the form consists of more than one page, you can access other pages from the example Pages tab you see below.



If the user tries to submit the form without looking at all the pages, user will get the following error.



Secondly, the user can also reset all the changes made on the form by clicking the Reset Options button below on the right side of the FormSubmit page.

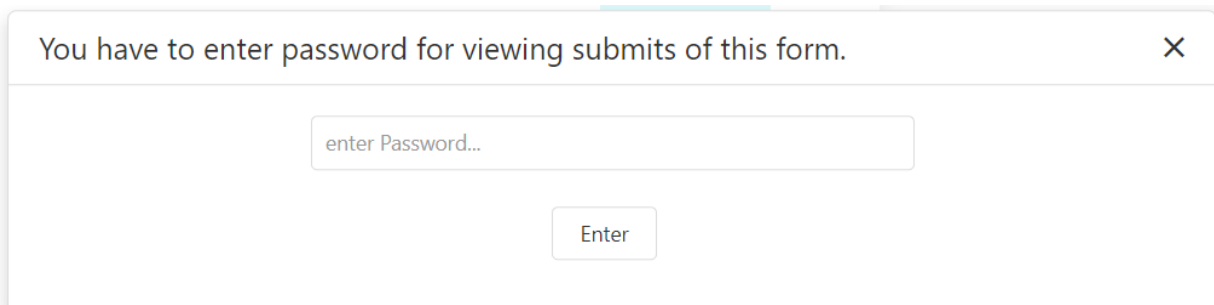




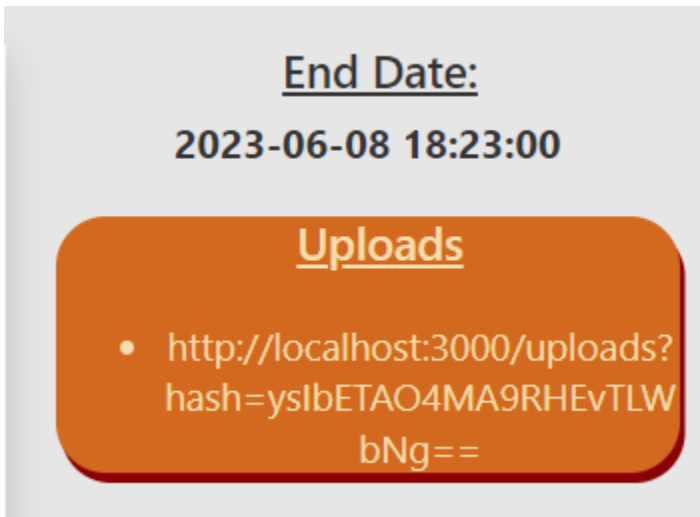
Thirdly, the person who designed the form can access it by entering the password first in the submissions section below on the left side of the page.



As you can see below, if the person who designed the form wants to look at the submissions, he/she must first enter the password generated on the FormEditor page.

A screenshot of a password prompt dialog box. The dialog has a title bar with the text 'You have to enter password for viewing submits of this form.' and a close button (X) on the right. Below the title bar is a text input field with the placeholder text 'enter Password...'. At the bottom center of the dialog is an 'Enter' button.

If the person who designed the form requested to upload a file in the submissions and the user uploaded a file, the person can see the uploaded file as below.



In addition, certain enddates have been added to the forms and if the form is tried to be filled after the deadline, the form will encounter an expired error.

Also, in addition to the project result and what we have done in the report, we will send a video to our supervisor to make it more understandable.