

DYNAMIC FORM BUILDER

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INTRODUCTION

Form builders have become an essential tool for individuals and organizations to collect data, streamline processes, and automate workflows. With the increasing need for digitization and online communication, form builders have become even more crucial in today's society.

This research paper explores the various aspects of form builders, including their history, development, features, and benefits. The paper also discusses the different types of form builders available, and their pros and cons.

The process of creating a Form manually takes a lot of time, effort, money, etc. That's where the Form Builder comes into play. Manually building a CRUD (Create Read Update Delete) part takes 6-7 hours, whereas building a CRUD with the form builder takes about 5 minutes.

Form builders save time, effort, etc. How should a Form Builder be designed? Firstly, the Form Builder must be user-friendly so that anyone with a basic understanding of computers can create forms easily.

BACKGROUND HISTORY

One of the earliest form builders was FormMaster, which was developed by Hal Lanning in the late 1980s. FormMaster was a program that allowed users to create electronic forms using a graphical user interface, and it was used primarily for data collection in research studies.

The form builder industry has evolved significantly since the late 2000s and early 2010s, with many web-based form builders becoming popular.

Form builders are tools that make it easy for people to create forms on websites without needing to know how to code. They have made it faster and easier to create forms, and have improved the way forms look and work. Form builders also allow website owners to collect information more easily, and this information can be automatically transferred to other systems like email marketing platforms and customer relationship management (CRM) systems. Overall, form builders have made website development simpler and more accessible for people of all skill levels.

TYPES OF FORM BUILDERS

Today, there are different types of form builders, each with its own features and capabilities. A few of the most common forms builders are listed below:

1. **Standalone form builders:** These are software programs or web applications that allow users to create and publish forms without any additional software or web development skills. Examples include JotForm, Wufoo, Google Forms, and Typeform.
2. **Form builders for Content Management Systems (CMS):** Many CMS platforms, such as WordPress, Drupal, and Joomla, have form builders built into their core or offered as plugins. These form builders allow users to create custom forms that integrate seamlessly with their CMS website.
3. **E-commerce form builders:** These form builders are designed specifically for e-commerce platforms and allow users to create forms for order processing, shipping, and billing. Examples include Shopify, Magento, and WooCommerce.
4. **Enterprise form builders:** These are form builders designed for larger organizations and offer advanced features such as integration with CRM, ERP, and other enterprise systems. Examples include Formstack and FormAssembly.
5. **Custom form builders:** Custom form builders are developed specifically for a particular organization or industry, with unique features and integrations tailored to their needs. These form builders are typically developed by specialized development firms.
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FEATURES OF FORM BUILDER

Here are some of the common features offered by many form builders:

1. **Drag-and-drop interface:** This feature allows users to easily create and customize forms using a graphical user interface, without any coding skills. This is the most common feature of Form Builder.
2. **Pre-built form templates:** Form builders often offer pre-built templates for various types of forms, such as contact forms, surveys, registration forms, and more. These templates can save users time and effort creating a form from scratch.
3. **Customizable form fields:** Form builders allow users to add different types of form fields, such as text fields, checkboxes, radio buttons, dropdown menus, and more. Users can customize these fields to match their specific needs.
4. **Conditional logic:** This feature allows users to create rules that show or hide form fields based on the user's responses to previous questions. Conditional logic can make forms more user-friendly and reduce clutter.
5. **Form analytics:** Users can track form submissions, view form completion rates, and analyze user responses with form builders.
6. **Integration with third-party apps:** Form builders can integrate with third-party apps, such as email marketing software, CRM software, payment gateways, and more. This integration can automate processes and streamline workflows.
7. **Mobile responsiveness:** Many form builders offer responsive design, which means that forms can be viewed and completed on mobile devices, making them accessible to a wider audience.
8. **Security features:** Form builders can provide security features such as CAPTCHA, SSL encryption, and more to ensure that form submissions are secure and protect against spam and fraud.

BENEFITS OF USING FORM BUILDER

1. **Time-saving:** By automating the process of collecting and organizing data, form builders can save researchers time. It is easy to create and customize forms, and data can be exported in various formats for analysis.

2. User-friendly: Form builders are often designed to be user-friendly, making it easy for participants to complete forms and for researchers to analyze the data.
3. Consistency: Forms can help ensure consistency in data collection and reduce the risk of errors that may occur when using paper forms.
4. Customizable: Form builders allow researchers to customize their forms to match their specific needs and research goals, making them a flexible option for data collection.
5. Cost-effective: Form builders can be a cost-effective solution for data collection, as they eliminate the need for paper-based forms, manual data entry, and other administrative tasks.

CHALLENGES OF USING FORM BUILDER

Using a form builder can be beneficial for collecting data, but users may also encounter several challenges. Here are some common challenges of using form builders:

1. Technical issues: Form builders may encounter technical problems such as software bugs, slow load times, or errors that prevent users from submitting forms. Users may need to contact the support team or troubleshoot the issues themselves.
2. Limited customizability: While form builders offer many options for customizing forms, users may not be able to achieve the exact design or functionality they need. Some form builders may also have limitations on the number of fields or responses that can be included in a form.
3. Data security: Form builders store sensitive data, such as personal or financial information. There is a risk of data breaches, hacking, or unauthorized access to this data if proper security measures are not in place.
4. Integration issues: Form builders often integrate with other tools and software, such as payment gateways or CRMs. Users may encounter problems with the integration, such as data not syncing correctly or data being lost during the transfer.
5. Cost: While some form builders are free or offer a basic free plan, users may need to pay for advanced features or increased data storage. This can be a challenge for users who have limited budgets or need to collect large amounts of data.

EXISTING AND PROPOSED SYSTEM

EXISTING SYSTEM:

There are many existing Form Builders available in the market; they all have different-different features.

Google Forms: Google forms are easy to create. This form can be embedded easily and users can view responses easily, but there are some limitations such as you have to use the Google domain URL instead of the users' domain URL and limited customizations.

Wufoo: Wufoo is a paid form builder that offers advanced features like conditional logic, payment integrations, and custom branding. However, its pricing plans can be expensive for small businesses or individuals, and it doesn't offer as many customization options as some other form builders.

Typeform: Typeform is a visually appealing form builder that uses conversational forms to engage users. However, it can be expensive for businesses that need to create many forms, and its reporting and analytics tools are not as robust as some other form builders.

Formstack: Formstack is a form builder that offers advanced features like conditional logic, payment integrations, and workflow automation. However, it can be expensive for businesses that need to create many forms, and its user interface can be confusing for beginners.

PROPOSED SYSTEM:

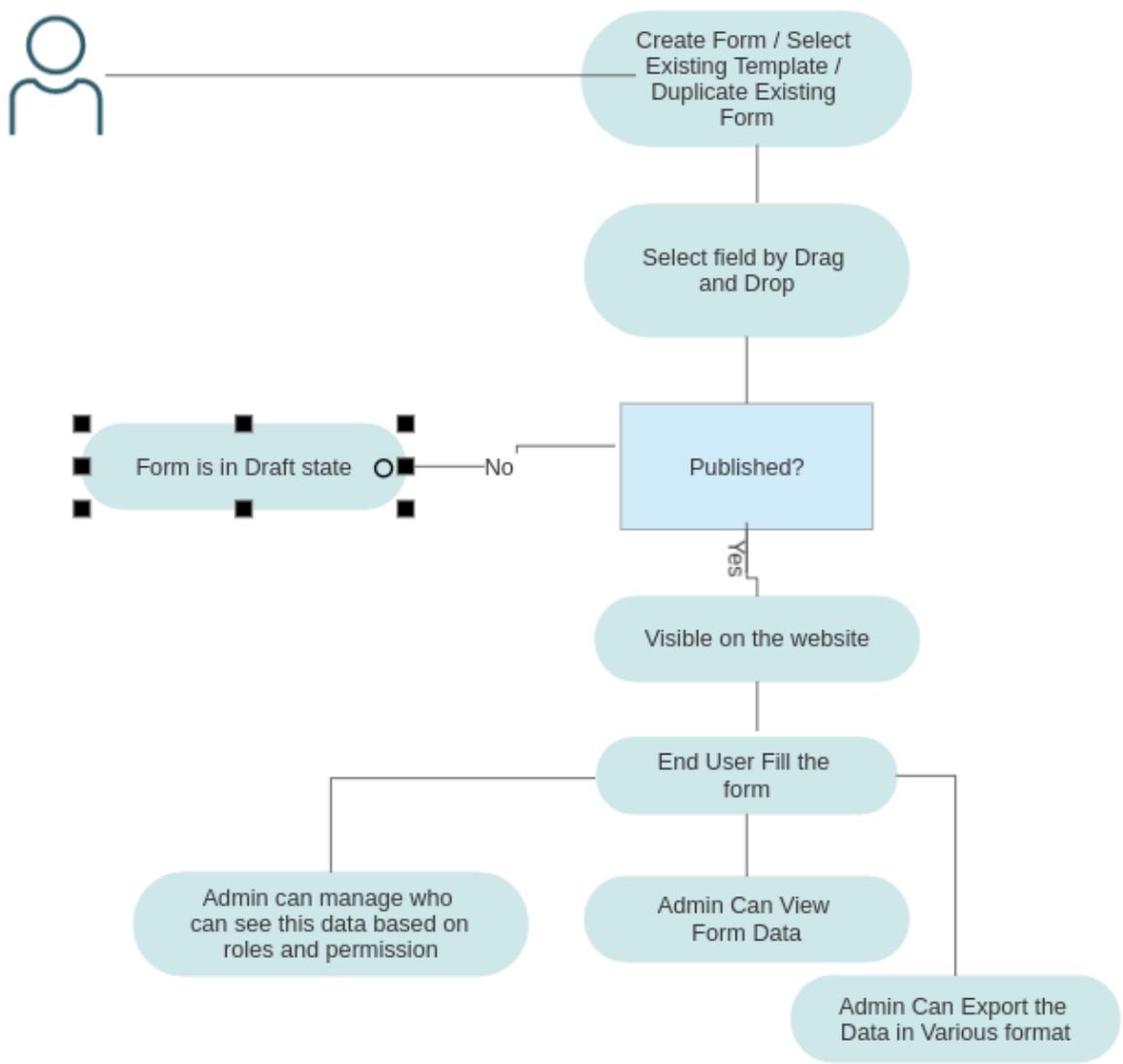
According to research, some Form Builders are less customizable and some are more expensive. For example, if you want a form builder that provides a payment gateway, they are too expensive and your form data is stored on their server's, It means they can read your data.

A few form builders don't provide a good way to display all the entries in a single and simple view, e.g. They don't provide a flexible UI, allowing the user to view all the entries in the form through a single and simple interface.

To ensure that all data is only visible to the owner, Form Builder should host the form on the owner's website. The form builder should feature drag-and-drop UI and a preview of the form while creating a form. A user

should be able to view all submitted data on an entry list page and filter, export, sort, search according to their needs. Exporting a report should not take much time, if it does take a long time, it should be handled by a background job.

The admin should be able to control who can view submitted data in a Form Builder. Admins can restrict data based on certain filters. Roles and Permissions can be managed by admins and based on Roles and Permissions, data will be displayed.



The action starts with creating the form by selecting a template, duplicating an existing form or creating a completely new form. If the admin publishes the document, it will be visible on the website, otherwise it will

be in a draft state. If the administrator publishes the form, it will be published on the front-end of the application. End users fill in and submit the form. An admin can view submitted data, review them, and export them in their preferred format.

REFERENCES

[1] Dynamic Form Management and Builder - Kirthika K.M

https://ijariie.com/AdminUploadPdf/DYNAMIC_FORM_MANAGEMENT_AND_BUILDER_ijariie16598.pdf

[2] Low-Code Development Platform for Business Process Automation: Aurea BPM,
Waszkowski Robert

<http://dx.doi.org/10.54941/ahfe1001633>

[3] Filament Form Builder - Dan Harrin

<https://filamentphp.com>

[4] Low code app platforms: App development made fast & simple

<https://www.financialexpress.com/life/technology-lowcode-app-platforms-appdevelopment-made-fastsimple-2332546/>

[5] Frappe framework: Open Source Low code Framework

<https://frappeframework.com/>

[6] Quick Admin Panel: CRUD Generator

<https://quickadminpanel.com/>