

DYNAMIC FORM MANAGEMENT AND BUILDER

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ABSTRACT

Dynamic Forms has general applicability to a large class of sophisticated data-entry applications. These applications have large amounts of information to be managed and many constraints between different pieces of information. Dynamic Forms supports developers in creating a single, dynamic, scrollable form using a BPM tool. The virtual form is structured into sections and sub-sections so that effective organization and navigation of the information are possible. The object - oriented, textual, and interpretive nature of the language allow developers to incorporate user suggestions concerning changes to a dynamic form quickly and with minimal tools. Dynamic Forms is based on an understanding of the environment in which data-entry tasks are carried out, the manner in which users perform their tasks, and how the users utilize human and computer resources in solving these tasks. In this paper we have implemented the building and managing of dynamic forms using a BPM tool to satisfy and achieve the users 'need at a maximum accuracy and precision.

Keyword: *Dynamic forms, BPM Tool, User friendly, User interactive.*

1. INTRODUCTION

The widespread availability of graphical workstations has caused many to focus on drag-and-drop style user interfaces as a good methodology for interactive systems. However, this interaction style is often inappropriate when the task requires lots of data to be entered. Utilizing a list of possible features. Form Creator can create, modify and update forms depending on the specifics of a project. Many database-oriented applications provide user interfaces that often times are comprised of large numbers of input forms.

The static form approach typically requires much manual labor to craft the html pages by hand. When large numbers of page variations are required in an application, this approach can become very error prone and a maintenance nightmare. The dynamic form approach, on the other hand, utilizes software to programmatically generate much of the form content using data read from a database. Dynamic forms generated in typical applications are generally comprised of both static and dynamic content. The dynamic form approach, on the other hand, utilizes software to programmatically generate much of the form content using data read from a database. The basic layout and presentation of the form such as the controls (text fields, list boxes, etc.) and their positioning logic are statically

defined in the form processing scripts. Dynamic forms provide a way to focus on drag-and-drop style UI as a good methodology for better form building process.

1.1 BACKGROUND HISTORY

Form primarily based interfaces are effectively used for an extended time for structuring user experience, together with data-entry (e.g., management applications and programming (Tsichritzis, 1982; Zloof, 1992)). The first benefits are: the shape trope is acquainted to any or all sorts of users, the shape guide structures user tasks in a very helpful and usable manner, and forms don't want refined and big-ticket hardware or computer code platforms (Jeffries & Rosenberg, 1987). But fashionable graphical, form-based interfaces don't profit of the facility and practicality that refined workstations give.

As a result, there are a unit many well-known issues that needs to be addressed. (1) Solely a restricted range of fields will be shown at a similar time owing to restricted screen realty. The final resolution has been to partition all the fields into many alternative screens. (2) With such a big number of screens, it's terribly troublesome to navigate within the data house, to search out a bit of knowledge, or to check the general structure of the applying. (3) In several applications, solely atiny low fraction of the fields extremely should be stuffed for any given state of affairs. Consequently, there are a unit several fields that simply distract the user and assign valuable screen realty. (4) It's not sensible in these applications to reconstitute the shape into easier forms that correspond to the actual state of affairs of the user's task.

1.2 PROBLEM STATEMENT

An application that can be used to create dynamic forms or templates, as well as to assist the builder or administrator in managing the audit and responses generated or received using the forms created. The content of dynamic forms created in normal applications is usually a mix of static and dynamic content. The main idea is to express a form using meta data that defines a two-dimensional layout based on the user's request. A user interactive application that paves a way for users to create a variety of forms for a collection of usages.

1.3 SCOPE

The project focuses on creating an application that can be used to create dynamic forms or templates, as well as to assist the builder or administrator in managing the audit and responses generated or received using the forms created. To create an application that can be used to build dynamic, project specific forms for organizations which can be modified and updated based on user needs. The content of dynamic forms created in normal applications is usually a mix of static and dynamic content. This project focuses more on creating an application that helps in building dynamic form and also helps in managing them.

2. LITERATURE SURVEY

Review of literature is important in any research work. Many researchers have carried out research work in the area of medication reminding and health monitoring. Some of them have analyzed the data in different ways.

[1]J. Summers Intergraph "Form Builder: a tool for creating a consistent graphical user interface"- IEEE - UK Ltd., Swindon, Nov 2002. Form Builder is an interactive design tool. It allows a designer-not a programmer-to create menus and forms of arbitrary size, style, and complexity. Because Form Builder separates the task of GUI development and code development it enables a logical step forward-to include the function of form prototyping & testing. This means that a form can be created and used without any application code. The designer can sit down with the potential application user and determine a satisfactory user interface standard before the application is written. Forms can be modified with the user present to obtain the most meaningful man-machine dialogue. Form Builder allows the GUI designer to include context-sensitive help functions within the form definition. The paper describes the use of Form Builder but lacks the UI features required for better user interaction.

[2]Vasanth Raju, Narayanaswamy & N.S., Harinarayana "Online Survey Tools: A Case Study of Google Forms" - National Conference on "Scientific, Computational & Information Research Trends in Engineering, GSSS-IETW,

Mysore, Jan 2016 This paper an attempt has been made to explore the potential advantages of web based survey tools for data collections and analysis. It also explains how web-based survey can be designed and developed for data collections using Google Forms. A sketchy comparison in the paper provides snapshots of some of the popular web-based survey tools. The paper concludes by discussing the technological and privacy issues involved in web-based surveys.

[3]Černý, Tom & Donahoo, Michael - “Form Builder: A Novel Approach to Deal with View Development and Maintenance” - SofSem 2011 Jan 2011 In most web applications, the attributes of entity classes directly determine the content of corresponding view forms. In addition, these entity classes often encapsulate constraints on associated proper Lies. For example, a user entity class may have an mail property with constraints on the form of the address; consequently, the view form for creating/updating users should include an email field and perform validation on the submitted data. Unfortunately, view form development is often done manually, an error-prone and tedious process. Form error detection is particularly difficult because the errors only manifest themselves at runtime because of weak type safety and limited mechanisms for constraint verification. In addition, entity modification may cause inconsistency with the corresponding form. In this paper, we propose a new tool, Form Builder, which automates the development and maintenance of view forms. The application of this tool in production applications has repeatedly demonstrated the practical contribution of this approach.

[4]Pablo Mennuto, Julio César Meca Belahonia , Patricia Bazán BPM Socialization Tools Integrated to Improve Acquisition and Management of Information During Design and Execution of business processes Vol. . 21 No. 1 (2021): Fifty-Third Issue, 2021 the use of BPM (Business Process Management) has matured over the years, reaching high levels of acceptance and utilization. Despite this, there are still points that BPM does not fully resolve. One of the main limitations of the use of BPM is the lack of a complete acquisition of valuable information during the design stage, taking place in contexts where communication between the stakeholders is not appropriate and it is not possible to fully collect essential data. At the execution stage, the participation of users has not been studied in depth to record detected problems or indicate improvements in business processes. The emergence and development of Web 2.0 opened a way to solve these problems. This work proposes to base how the socialization tools can solve current problems in BPM through a theoretical analysis added to the practical development of a socialization tool integrated to a BPMS (Business Process Management System).

[5]Tomas Cerny, Eugee Song, UML - Based Enhanced Rich Form Generation – Proceedings of 2011 ACM Symposium on Research in Applied Computation, Nov 2011 The Model Driven Development (MDD) has provided a new way of engineering today's rapidly changing requirements into the implementation. However, the development of the user interface (UI) part of an application has not benefited much from MDD although today's UIS are complex software components and play an essential role in the usability of an application. It is a common practice that developers create view forms manually by referring to entity beans to determine their content. However, such kind of manual creation is very error-prone and thus makes the system maintenance difficult. One promise in MDD is that we can generate code from UML models, but existing design models in MDD does not capture enough information that are required to generate desired UI fragments. This paper presents our approach addressing these issues. The approach makes it possible to generate complex UIS, rich view forms, that fully satisfy both designers and endusers and to enforce system access control.

[6]Idan, Ghusoon - “Design of Administration System in Client Side Using Oracle Form Builder” - INTERNATIONAL JOURNAL OF COMPUTERS & TECHNOLOGY. 15. 7156- 7159. 10.24297/ijct.v15i10.4392 This paper focuses on the creation of a single system for distribution to a team of developers. Oracle Form Builder are popular and made the function of project expansion easier and comparably faster to reduce costs and improve service levels for users. Design of administration system in client side is made available to employees to assist them in the performance of their job duties. Both Oracle Database and MySQL are strong relational database management systems that effectively run great amounts of data. Oracle Database is a full distinct database engine that has successfully passed severe security exams and has excelled in performance benchmarks. With built-in backup for PL/SQL and Java. Oracle focusing on Java for next generation commerce applications.

[7]Ender Sahinaslan, Onder Sahinaslan, Mehmet Sabacioglu - Low Code Application platform in meeting increasing software demands quickly, AIP Conference Proceedings 2334 The dependence on technology, digital transformation

and the need to work remotely are increasing day by day. It is predicted to increase further after this COVID-19 pandemic. The desire to digitize every object also leads to the need to develop or update many application software. It is very difficult with traditional software development methods to produce flexible solutions to such dynamic and changing demands on time. At the same time, there are problems such as finding qualified human resources and high cost in writing and updating corporate program codes that can be considered complex on a large scale. Low-code software development platforms provide solutions for such problems. These platforms aim to produce flexible and less costly programs in a shorter time by using drag-and-drop components through visual interfaces without requiring deep programming knowledge. This study is based on the examination of the SetXRM platform, which is one of the new generations low code applications that helps to produce more flexible and short-term solutions to the increasing software needs of the enterprise.

3. BUSINESS PROCESS MANAGEMENT

Business process management (BPM) paves a way for people to use various methods to discover, model, analyse, measure, improve, optimize, and automate the processes involved in a business. Such combination of methods used to manage the processes involved in a company's business is BPM. BPM sees the processes in a business as important assets of an organization that must be understood, managed, and developed to announce and deliver valuable products and services to clients or customers. This approach closely resembles other total quality management or continual improvement process methodologies. Business process management (BPM) may be a disciplined approach to spot, design, execute, document, measure, monitor, and manage each machine-controlled and non-automated business processes to realize consistent, targeted results aligned with an organization's strategic goals. BPM involves the deliberate, cooperative and more and more technology-aided definition, improvement, innovation, and management of end-to-end business processes that drive business results, produce results, and modify a company to fulfil its business objectives with agility. BPM allows an enterprise to align a business strategy, resulting in effective overall company performance through enhancements of specific work activities either at intervals a selected department, across the enterprise, or between organizations.

4. EXISTING AND PROPOSED SYSTEM

4.1 EXISTING SYSTEM:

In the current system, the form is created by the end user. You can construct your own forms or utilize a template from the restricted options. In the current system, the form creators close the responses. Respondents can only track their responses if they are given permission. The responses are manually collected and managed. The responses can be collected only through email of a particular domain. The html pages for the static form method are often seated by hand, which demands a lot of human labor. When a large number of page variations are required in an application, this method can become exceedingly error-prone and difficult to maintain. The fields are restricted to a certain limit in the current system. Hence, we conclude that the above-mentioned points are the drawbacks that are available or collected from the existing system based on the survey.

4.2 PROPOSED SYSTEM

In this paper, we propose that the dynamic forms is utilized by the company's project creators. This program is used to build dynamic forms. This program manages the audit, form, and responses. The Generate Template action is used by form creators to create templates. The project creators are in charge of setting up the project and tagging the form templates that the form creators have developed. The project creator can then email this form to responders and receive their responses. The system is comprised of three major modules: administrative, information collection, and report generation. The administrative module can be used to generate and maintain metadata in various relational tables. The information collection module provides the basic enduser interface supporting data collection. The report generation module generates various reports used to evaluate system-to-system interoperability capabilities of the systems for which information has been generated. Hence, we conclude with the above-mentioned features and the later are the modules that has been proposed for this project.

5. METHODOLOGY

Methodology is defined as a way of doing something based on particular methods. This chapter depicts the process flow and connects each module (Form creator, Project Creator, Responder/Client) through some actions of the stake holders in our dynamic form builder and management project.

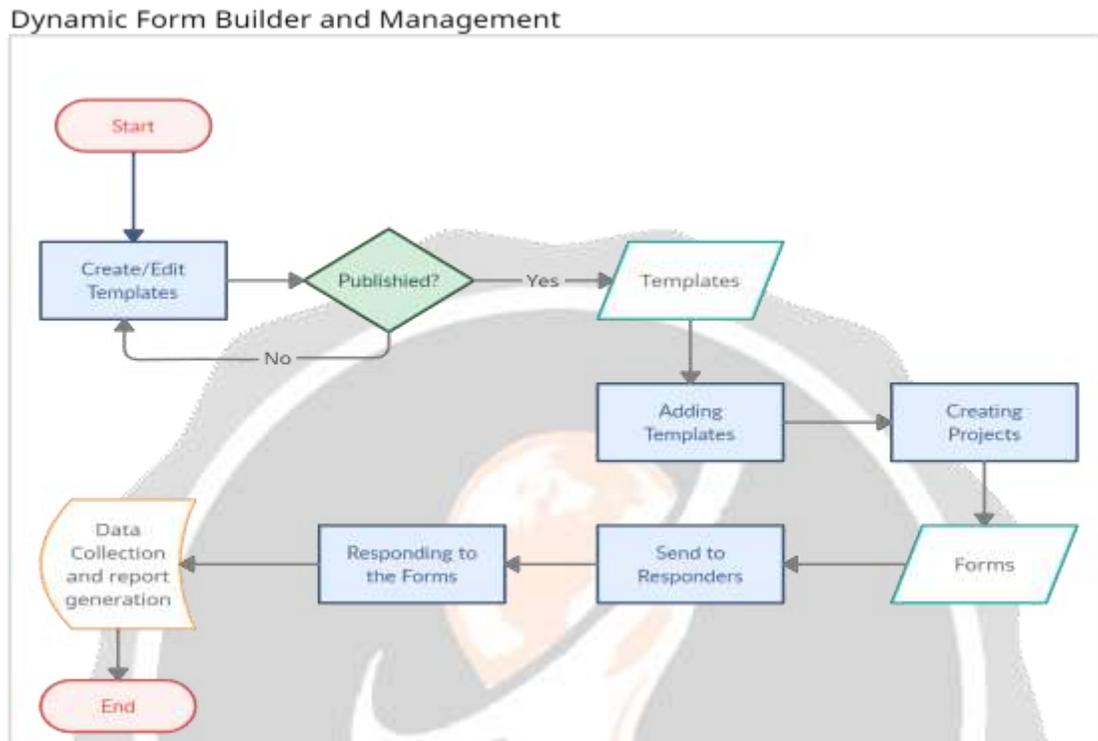


Fig-1: Flowchart of Dynamic form management and builder

The Action Starts with creating the template based on clients request by the Form Creator. And these templates have been used by project creator for creating different projects and also, he will add form responders while project creation. The projects will be created by the Project Creator and they can tag the Responders to these projects. The task will be automatically assigned to the responders that have been added by the project Creator during project creation. The Responders will complete the task by responding to the form with their responses. The responses will be recorded and will be stored as reports and records for further processes. This figure 1.0 explains the workflow involved in the Dynamic Form builder and Management project.

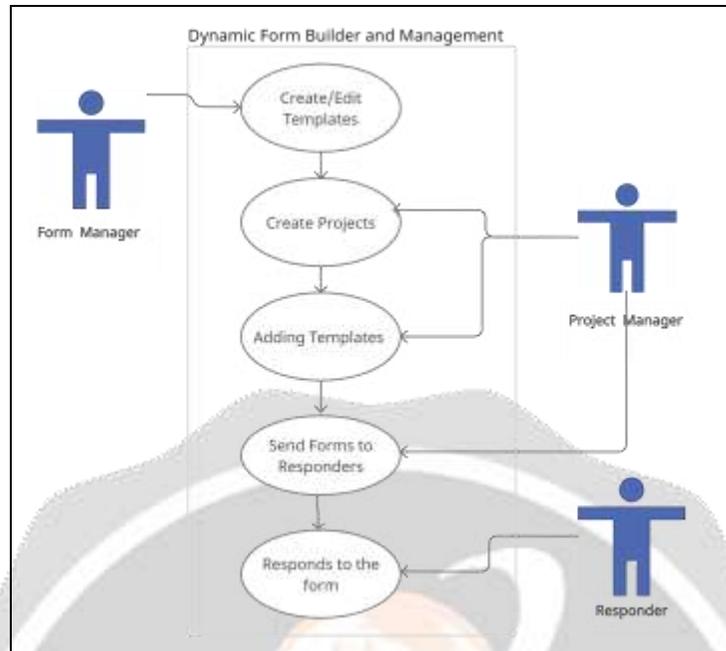


Fig-2: Use case digram

6. MODULES

The entire project consists of three modules, which are;

1. Template creation
2. Form distribution
3. Report Generation

1) Template Creation Module

In this module, administrative privileges are set. It is used to generate, develop templates using different fields from which the forms are produced for further usages and also to maintain metadata in various relational tables based on the different types of fields used.

2) Form Distribution Module

This module indicates the process in which the form is being sent to the end user and the end users gets to interact with the form to provide the required inputs or responses and provides the basic end-user interface supporting data collection.

3) Report Generation Module

This module generates various reports from the inputs of the end-user and also reports from the administrative end to evaluate system-to-system interoperability capabilities of the systems for which information has been generated.

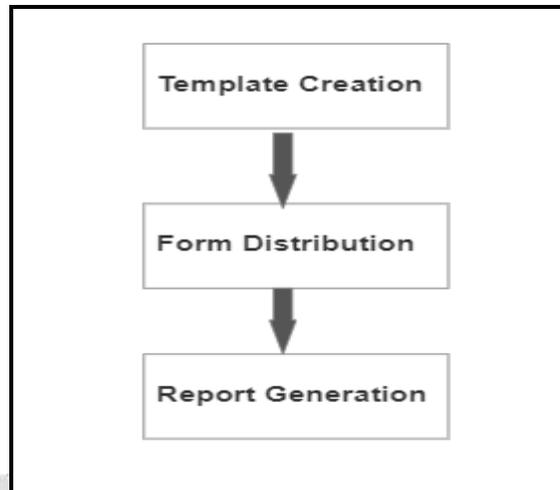


Fig-3: Modules of DFMB

7. CONCLUSION AND FUTURE WORK

For the favorable paper addressed a totally dynamic form producing method that changed into effectively applied in an advanced statistics series system. Many database-driven apps use a fixed of comparable bureaucracy to accumulate statistics from a set of customers. In many enterprise-huge web-primarily based totally systems, imparting a manner to lessen the quantity of software program improvement attempt and reservation essential to generate and deal with such bureaucracy pays off handsomely. Interactive Form interfaces are nevertheless the fine interplay fashion for complicated statistics-access duties. Our method complements the prevailing interactions with mainframe monitors or conversation packing containers in graphical consumer interfaces in numerous ways. These enhancements, encapsulated in Dynamic Forms, are primarily based totally on an information of the surroundings wherein the consumer duties are carried out, the way wherein customers carry out of their duties, and the way the customers make use of human and pc assets in fixing those duties. Closing a Section lapsable sections and steorage gear which includes checklists makes navigation thru the shape simple. This gain is maximum obvious for complicated statistics-access duties which require loads or maybe lots of fields. The dynamic visibility of fields blended with the automated format that reclaims unused display property is an effective characteristic for releasing the customers from pointless distractions.

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