Enterprise Evaluation Tool

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Abstract

Nowadays organizations/Institutes perform evaluations and reviews manually which is a tedious time-consuming task and there is no structured approach to carry out this process. Our proposed system shall provide a platform for the companies/institutions for performing assessments/performance evaluations and reviewing their employees/projects/processes/students based on their response. The user will be allowed to generate a detailed customized template with a checklist of his own based on his evaluation criteria for the particular employees/projects/processes/students. Various options will be provided for the user to customize different sections and subsections. The user will be able to maintain a dynamic workflow from the assessment phase to the review phase. Also, he can add gradings and can upload documents. Then the platform will analyze and evaluate every particular employee/project/process/student based on the user response and provide grading reports through an interactive dashboard. On the basis of the present data, it will also offer descriptive analysis.

Introduction

Almost all the organizations/Institutes nowadays perform assessments/performance evaluations and reviews on their employees/projects/processes/students. It is a tedious manual task and there is no structured approach to carry out this process, if at all small tools are available there is no common framework available to develop, customize and run such assessments and risk assessments to be done post such process. Proposed framework shall provide organizations with customizing and building multi levels templates with options to set gradings for each checklist item. Framework would also provide review and compliance cycles against each assessment/evaluation. Most of the organizations stop at this stage by completing the assessment cycle but the output remains untouched for further analysis. Due to this, organizations miss out on leveraging the power of data analysis. This framework intends to solve this problem and get some valuable insights by means of interactive dashboards from the output of each process which would help Organizations address the points, mitigate the high risk areas and plan towards improvements. This framework would also allow organizations to define and customize the workflow supporting their evaluation process. The major objective of this platform is to make the evaluation process that is carried out amongst various organisations and enterprises easier. Companies will be able to create a dynamic, personalised review template with the aid of the suggested tool, and a variety of user-defined roles will be available to make the process easier and maintain a workflow as needed. The system uses a relational database to hold data on different registered organisations and the questions that are

created from the templates by those organisations with the allocated responsibilities. Also, to offer commentary on the evaluation that was conducted. The greatest and most relaxing user experience is our top priority.

Literature Survey

The Business Process Model and Notation (BPMN) can be used to manage the workflow of process checklist generator(PCG). The process checklist generator (PCG) contains the required information in a gate which diverges by decision made by the user where to jump in the next step. The tasks in the gate are queued in order ie. step by step. The gates are nested. In which there will be a start point which we will have a goto instruction for the user to follow. Also it will have an end point complying with the process completion. In the model if there is a case in which the upcoming task was already performed, then there will be an additional step where the process will restarted from the beginning for the user but in our case if the answer does not meet the requirement it is sent back to assigned user to do the changes required and forward it to reviewer. So basically we will be using a business process model in our tool to manage the workflow according to the organization needs and even change the created workflow when they need.[1] Flexible workflow management is highly useful since it accelerates development in a dynamic setting. It aids the organisation in managing specific variations or changes in the condition of development. Flexibility is produced by the management system using design patterns and architecture. As an illustration, consider the management system for H.W. (Homework), in which the student is given an assignment by the administration or the teacher. There are several definitions for the dynamic production of flexible workflow. First definition describes the process as a relationship between two states that will have a sequence and an option for selecting the state. When there are many states to attain, relations like AND, OR, and NOT joins are implemented and use the roles of managers present in the management as a reference for features of user roles. In recent years the company and factories have gone through a high degree of changes due to economical, technological, political and social pressure. To support organizations and companies to keep up with changes by a continuous improvement by a systematic, incremental and iterative way can be done or represented with the help of visual management that can provide a solid base in supporting the above initiatives through displaying the requirements, setting directions and guiding actions.[2] Dashboard is an example of a visual management application. We are referring to this paper's Dashboard requirements assessment function and will be using it in our project to display how many of the requirements or questions that were framed by the administrator are answered and if many of them meet the requirements of the test. And to display the comments made by the reviewer. All the above mentioned requirements and how well they have been met will be represented in a graphical manner for better and easy understanding.[3] The design of the user interface influences the users' attention while they're interacting with the applications such as Business Intelligence and Analytics (BI&A) dashboards. The users' attention is assumed to be selective as only a limited amount of information can be processed simultaneously out of the total information that these eyes gather visually. There are two methods of directing users' attention, while interacting with the UI. Stimulus Driven and Goal-Directed selection. In stimulus-driven selection, attention is guided by visually most noticeable content, which makes content stand out from other not so noticeable neighbouring content and therefore grab the users' attention. In goal-directed selection, the intention of the user is considered and users consciously select the specific parts of his interest of the interface. However, even with a perfect UI design users will shift their attention according to his area of interest. In our case the dashboards will be considered as a critical part of the project as they will contain a lot of data in compressed format in the form of graphs and statistical information which can influence

and impact the Business Decisions.[4] Looking at the Workflow Management Systems (WfMS) market, one quickly finds that the market is young and promising, and it often develops and changes very quickly. A successful evaluation procedure must be established in two parts. The problem domain must first be defined, and then an evaluation must be carried out based on the application domain's specific qualities. The method for evaluating workflow management systems is presented here. There are three sections to it. First, a workflow management business automation life cycle that describes the primary functional elements of a workflow management system as well as the primary stages of business performance and automation. A set of requirement classes for workflow management systems were created based on the life cycle. In order to determine whether a tangible system is in place and the accompanying requirements are satisfied, a series of questions was developed for each class.Along with creating this evaluation methodology, a database-based tool for handling metadata (structure of the requirement classes) and data (the responses to queries for specific systems) was implemented. Additionally, this tool offers a convenient method for adding or retrieving information regarding workflow management systems. [5]

Proposed Work

The proposed tool will enable the user to create the generalised checklist for evaluation by creating a suitable template. The tool will have three basic roles; Creator, Contributor and Reviewer. Creator or Admin is the one who is going to generate the checklist by creating the template. Admin will have all the rights on the tool. Contributor is the one who is going to answer the checklist and add responses to it. Contributors will have the least rights on the tool. Reviewer is the one who will review the responses submitted by the contributor, and will have the option to resend the checklist to the contributor if he is not satisfied with his answer. Once he submits the checklist, Analysis will be performed and a Report will be generated which will be displayed to the creator.
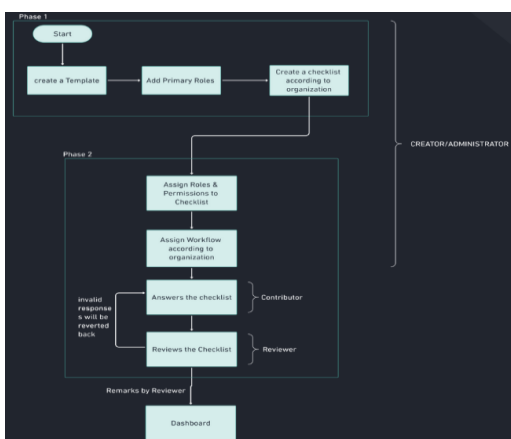

Fig.4.1 Block Diagram

Phase 1:

Create Template: Here the creator will be creating a template as per his needs.

Add Primary Roles: Here the creator will add or create the desired roles for his checklist.

Create Checklist: On this stage, he will be generating the checklist with desired sections and subsections as per the needs of the organisation.

Phase 2:

Assign Roles & Permissions: Here the creator will be assigning the users for the various roles that he has previously created in the checklist.

Assign Workflow: In this stage, the creator will be assigning workflow[1], as to how the checklist will move between different roles of the generated checklist.

Answer Checklist: Here the Contributor will answer the section or the subsection of the checklist assigned to him.

Review Checklist: Here the Reviewer will review the responses filled out by the contributor and add his reviews based on the contributor's responses. In case a contributor's responses are incorrect or invalid then the reviewer can resend the checklist to the contributor.

Phase 3:

Dashboard: Here the output of the answered checklist will be displayed in the form of graphs. The output dashboard will be displayed on the completion of the checklist. The visibility of the checklist can be managed by the creator based on the different roles.
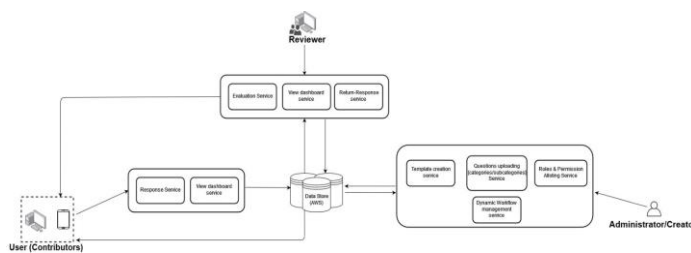

Fig 4.2 Architecture Diagram

Administrator/Creator:

The creator will create the template first, then add pieces and give duties to those areas. The creator will then create a checklist. During this process, data will simultaneously be stored on the database.

A user who has the power to oversee both the registration of new, valid users and the ability to make changes.

In essence, the administrator has complete control over how the tool operates and may add, delete, or edit the checklist as well as the type of score you want to deliver.

Along with a user list, a user registration page, and a user access control page.

As a consequence, because we already know that a user is a member of the organisation, we will provide a login option for the administrator.

Contributor:

The contributor might be an employee or a member of the organisation whose job it is to respond to the inquiry and to whom the administrator/Creator allows access. After the contributor's response, data will get stored on the database and then further move to the reviewer.

Reviewer:

If the reviewer is dissatisfied with the response, the question is returned to him or her for a second attempt.

The reviewer will confirm the answer to the question and respond with his or her thoughts. Once the reviewer is satisfied, the data will be stored on the database and then will be displayed on the dashboard.

Comparative Study

The proposed research work provides a generalised tool for evaluation process with fully dynamic workflow management which can be replaced by Google Forms for various inter-institutional evaluation purposes by various organisations/institutions. Following are the few points of comparison with Google Forms which will please the organisations to use the proposed tool for the evaluation process. Presented tool will allow organisations to create a checklist for different departments using sections and subsections. Creators can create multiple levels of section nesting. Creators of the checklist will be given an option to add Roles for the tool. Creators can even dynamically change the roles during run time. Tool will give the creator an option of access control for each section, so that only desired users can access that particular section of the tool. With the help of this feature, organisations can use the same checklist for the evaluation of all the departments by controlling access to the irrelevant sections by the contributor. This tool will give a chance for the reviewer to review the responses of the contributor before being analysed. If there are any invalid or incorrect responses from the contributor then the reviewer can resend the checklist to the contributor for the correction before sending for the analysis part. Organisation can customise the checklist after its use and reuse the same checklist with modifications.

This proposed tool can also be compared with tools like Notion and Asana, which provides a platform for the user for workflow management.
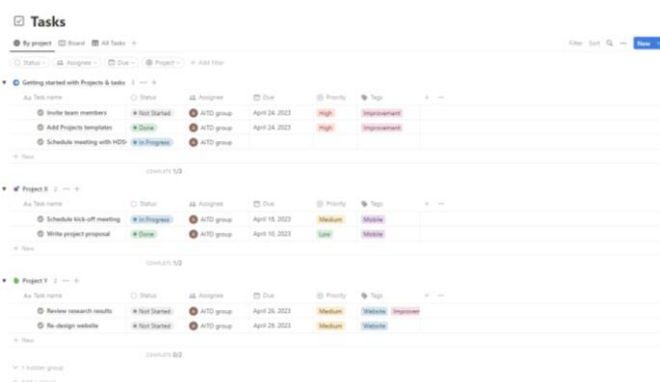

Fig.5.1 Main Page of Notion

However these tools just allow users to create workflows and assign various users and titles to it. Notion allows users to add sections and subsections.
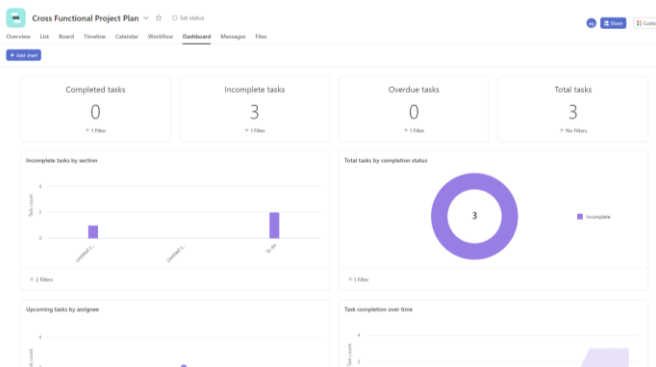

Fig.5.2 Customizable dashboard of Notion

Asana allows users to customise the dashboard by allowing users to select the charts to display data.

Whereas this proposed tool will provide all these features along with creation of evaluation checklist.

Fig.5.1 Template Creation Page

This is the main Template Creation Page which will allow the user to create the template. The user will have to enter the Template Name which is a mandatory field and the Description will be optional. Then the user will have to upload the excel file consisting of questions in the specified format unlike Google Forms which allows users to directly type out the questions. As soon as the user uploads the file, questions from the file will be displayed on the screen in tabular format. Then the user is provided with the options of the type of responses he intends to accept from the contributors.

Fig.5.2 Template Creation Page

As soon as the user saves and proceeds further with the template created, he will be allowed to add users and then assign various roles to the user. He will also be able to review the checklist he generated before he publishes.

Fig.5.3 Template Preview Page

For the display of the final report of the evaluated checklist, users will have to search the Template Name on the search bar provided in the Reports sections, upon which a bar graph will be displayed on the screen based on the responses of the contributors. The display format of the final Report can be changed from bar graph to any other format.
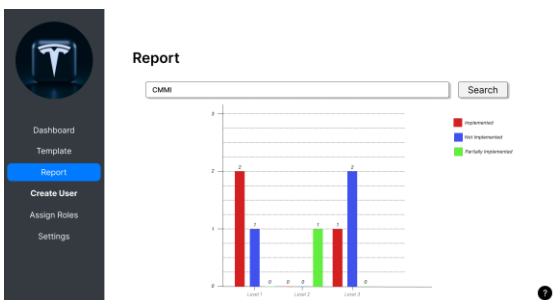

Fig.5.4 Final Report Page

Conclusion

The traditional evaluation system, where organizations/institutions perform their reviews, evaluations and assessments on their employee/student/projects/process manually, which was very tedious, without any structured approach and time-consuming. This led to the motivation for this project, which brings forward the very structured and systematic approach for doing the same things in a much more efficient manner. This evaluation checklist generator is fully dynamic where organisations are able to create templates for the evaluation checklist, create various sections-subsections, manage various user roles & assign tasks, control access and manage workflow of the entire checklist. The result of the evaluations will be displayed through the descriptive dashboard, whose access can be controlled by an administrator. Another important feature of this tool being the reusability of the already created checklist template. Once the checklist template is created by an organisation, they can reuse it any number of times, and can even modify the previously built template. Thus, this tool will help various organisations/institutions to perform evaluations/assessments in a structured and time-saving manner.

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