

Data Analytics and Dashboard for SSDMS

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Abstract: We thank Skill Council for Green Jobs for considering and selecting our proposal to develop a solution for building a Data Analytics Driven Automated Online Management System for Skill Ecosystem. In order to provide a fillip to the objective of providing transparency, accuracy and reducing the complexity of work and to ensure that the entire procedure of operating is less complex and transparent, the Skill Council for Green Jobs (SCGJ) realized the absence of a national platform which could capture and process this information. Hence, it became an imperative need to build a technology platform which can help the organization to get accurate statistics, maintain transparency and keep the process public friendly through a common platform. Through this tool, which is a web application, senior leadership of the organization would be able to get more accurate statistics and information due to which crucial decisions for the organization can be taken, moreover the process of assignment of batches and the affiliation of Training Partner and Assessment Body which were one of the time-consuming task would also become less time consuming thereby saving time We thank Skill Council for Green Jobs for considering and selecting our proposal to develop a solution for building a Data Analytics Driven Automated Online Management System for Skill Ecosystem. In order to provide a fillip to the objective of providing transparency, accuracy and reducing the complexity of work and to ensure that the entire procedure of operating is less complex and transparent, the Skill Council for Green Jobs (SCGJ) realized the absence of a national platform which could capture and process this information. Hence, it became an imperative need to build a technology platform which can help the organization to get accurate statistics, maintain transparency and keep the process public friendly through a common platform. Through this tool, which is a web application, senior leadership of the organization would be able to get more accurate statistics and information due to which crucial decisions for the organization can be taken, moreover the process of assignment of batches and the affiliation of Training Partner and Assessment Body which were one of the time-consuming task would also become less time consuming thereby saving time.

Index Terms - Admin Panel, Approval and Rejection AB|TP, Digitization, Automation of SCGJ Ecosystem, Certification, Pan India Statistics.

I. INTRODUCTION

Skill Council for Green Jobs has been created as part of Skill India Mission to act as an interphase to understand and address skilled manpower requirement of the Green Business Industry. Skill Council for Green Jobs is promoted by the Ministry of New and Renewable Energy and Confederation of Indian Industry. It is managed by an industry led Governing Council to meet skill requirements for Green Businesses. It acts as a bridge between the Government, Industry and various key stakeholders for developing strategy & implementing programs for Skills Development, correlated to Industry needs and also aligned to international best practices. The SCGJ scope covers the entire gamut of "Green Businesses", via Renewable Energy, Energy Storage, Green Construction, Green Transportation, Carbon Sinks, Solid Waste Management, Water Management & e-Waste Management, hence would have pan India impact.

The Skill Council for Green Jobs is focusing on understanding and capturing the skill needs for both service users and service providers within the sector and will work on a road-map for a nation-wide, industry led collaborative skills initiative. The key activity drivers of SCGJ are:

- [1] Skill India Mission
- [2] India's Intended National Determined Contribution (INDC)
- [3] National Solar Mission
- [4] Swachh Bharat Mission
- [5] Green India Mission
- [6] Smart City

It would develop sector-specific competencies /skills, quality assurance of the skills acquired by Trainees, curriculum development, qualification framework and setting of standards and benchmarks, recruitment and placement of trained and skilled workforce, as well as a data Collection, management and provider to the industry

We started our journey as for making an automated system that will automate the skill India ecosystem earlier named as SSDMS now it's known as **Digitization and automation of Skill development ecosystem for SCGJ**. Particularly the whole Project was divided into multiple tracks out of which we worked in admin panel i.e. Dashboard. This Dashboard panel is a like a super user panel that will look after for all the approval and rejection of training partners(TP) and assessment bodies(AB). Further the dashboard panel comes with the real time statistics of fact and figures that will be useful from a perspective of higher

Authorities (like CEO Level Officials or Our Honorable Prime Minister). The dashboard panel comes handy with few important facts and figures like how many people enrolled, trained, assessed and certifies over different regions of PAN India under different Schemes Particularly PMKVY OR Non-PMKVY.

Later on the Dashboard Panel is termed as **“Data Analytics Dashboard”**

Here the term analytics comes into existence when we start with fetching, filtering and processing the useful data for the real time statistics,

The need for module can be understood in many ways like it would process, filter and more importantly to model the data in form of graphs and charts. This would further help in effective decision making by observing the trends and patterns in the existing data and improves the overall working of the ecosystem.

In earlier scenario SCGJ all the work is supposed to be manual which was very tedious, repetitive and time consuming. Hence we came with this concept of Digitization of this manual work over an effective automated system.

Earlier the manual system exists with the following inherent limitations like: -

- [1] Manual registration of AB and TP which is a very large form, and the record is maintained in an excel sheets.
- [2] Overall the process is tedious and time consuming which required large part of user documents to be attached with manual forms
- [3] Processing of the form may sometimes take more than specified time
- [4] Real time monitoring of the statistics were not there.
- [5] Hard to maintained record of how many proposals are approved or rejected?
- [6] No SPOC of monitoring and manipulating records at higher levels

II. OBJECTIVE

In order to provide a fillip to the objective of providing transparency, accuracy and reducing the complexity of work and to ensure that the entire procedure of operating is transparent and less complex, Skill Council for Green Jobs (SCGJ) realized the absence of a national platform which could capture and process this information and answers the most common queries required every now and then by Skill Council for Green Jobs. Hence, it became an imperative need to build a technology platform which can help the organization to get accurate statistics, maintain transparency and keep the process public friendly through a common platform

We propose Digitization and automation of Skill development ecosystem for SCGJ where a common platform for the private firms and the SCGJ will be provided which will not only make the whole process more user friendly but will also provide transparency, accuracy and will be time saving-

For the objectives of creating module **Data Analytics and Dashboard** are –

- [1] Real time data analysis of huge data facts and figures
- [2] To provide a fillip to the objective of maintaining transparency
- [3] To eradicate the chaos and confusion in the statistics and figures
- [4] To monitor every important facts and figures in real time without ambiguity
- [5] Single view to see important infographics
- [6] Cumbersome manual process of obtaining accurate data and statistics
- [7] To facilitates senior leadership of the organization, that would be able to get more accurate statistics and information which will eventually help taking strategic decisions for the organization

This **Data Analytics and Dashboard** would not only make the entire system more transparent but will also help in getting accurate statistics by analyzing the data which would help the leadership of the organization to take strategic decisions and will add more transparency into the system which is the utmost priority of SCGJ.

III. METHODOLOGY/PLANNING OF WORK

The above objectives would be accomplished by working with the ‘Scrum’ Methodology. Most agile development methods break product development work into small increments that minimize the amount of up-front planning and design. Iterations are short time frames (time boxes) that typically last from one to four weeks. Each iteration involves a cross-functional team working in all functions: planning, analysis, design, coding, unit testing, and acceptance testing. At the end of the iteration a working product is demonstrated to stakeholders. This minimizes overall risk and allows the product to adapt to changes quickly.

The AGILE methodology is used to build this project, which promotes continuous iteration of development and testing throughout the software development life cycle of project.



Fig -1: Agile Development (Various Phases)

AGILE work model



Fig-2: Agile Work model using SCRUM

IV. TECNOLOGY STACK

Here we used Html and CSS for the front end development and Java8, Maven for the backend development. We also used some project management tools like JIRA and Confluence.



Fig -3: Technology Stack and Project Management Tool

IV. EXECUTION OF WORK(WORKFLOW)



Fig -4: Work-flow of Data Analytic and Dashboard

This fig. 4 shows the entire workflow of the Data Analytic and Dashboard. Firstly, the SCGJ or Super User login with their credential created through backend panel of database. Then and HTTP request will get real-time data from backend database. This response is then return in form of JSON object which will further populates high charts or info graphics and important fact and figures at the top just below the navigation bar.



Fig -5: Proposed UI of Data Analytic and Dashboard

This fig.5 represents the proposed UI of the Data analytics and Dashboard panel. On this page we have four info graphs and charts that are made using high charts. On the top Right of each info-graphs comes with an option to download chart in multiple formats like pdf, jpg, png etc. Just on left side we have navigation panel for viewing, approving the status of every AB and TP. This page will only be visible to Admin User. It will give options to admin like data import, manage registration, and batch assignments.

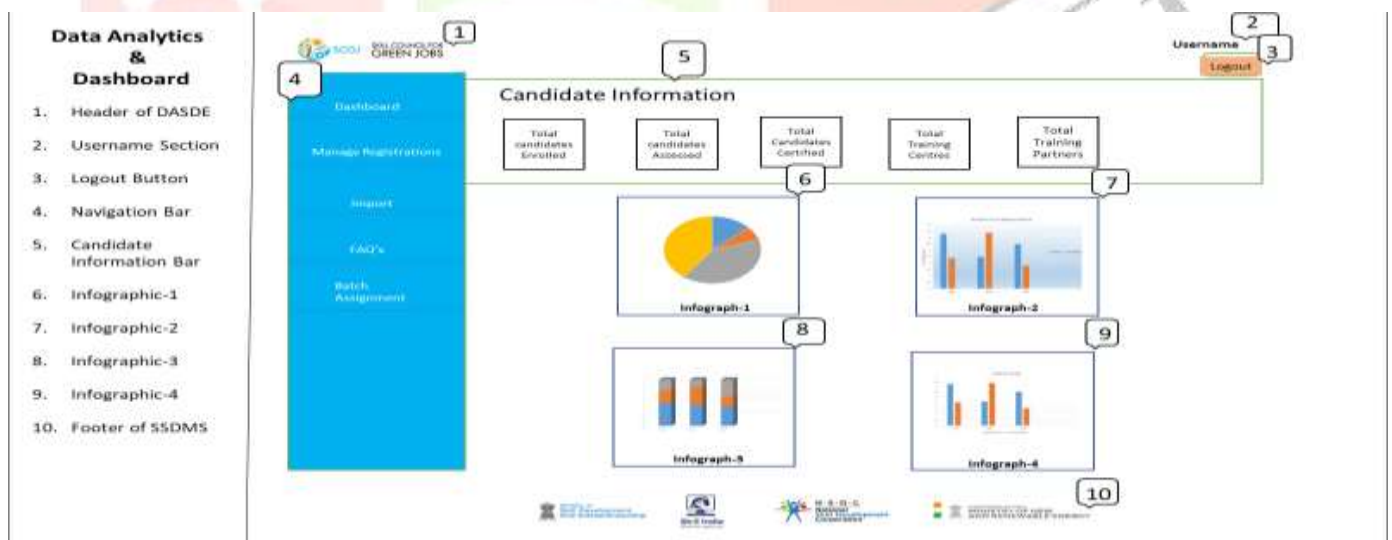


Fig -6: Wireframe of Data Analytic and Dashboard

This screen(fig.6) basic structure of the Page to be built and design prior starting the work so that everyone has clear understanding of what to develop.

V. CONCLUSION

The assignment leads to the conclusion that the manual extraction of the amalgamation data and statistics and managing them leads to the increment in tediousness in the affair. The managing of whole affair becomes harder (when filtering the data from the forms or cvs sheets). The manual handling and extraction of the data leads to inconsistency. Thus Digitization of the whole

affair with the data analytics platform for entire ecosystem, will allow the Sector Skill Council to work more coherent and less overhead. The Dashboard that we will develop will provide a solution to this problem by providing a single view for all the most important information needed by the leadership of the organization, the information provided will be in the form of numbers And the users –Training Partners and Assessment Bodies can get affiliated through an easier online affair. And moreover, the Skill India mission has the goal to make the system unambiguous and boot up the affair. And making the affiliation affair online takes the country near to that grail. And this podium can be used by other Sector Skill councils in the doom. It will be helpful in boot up the system and connects the different organizations over a common platform.

This module will not only provide a single view for all the necessary and most frequently asked questions but will also save time which was spent in searching the Excel sheets. The information would directly come from the Database and hence it will increase the accuracy by 60% as there would be less chances of human errors. This will also allow the leadership to understand the current scenario and take important strategic decisions that are beneficial for the Skill India Eco System

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