RECOMMENDING ASSESSMENT BODY ALGORITHM

[1]Kaushal Kishor, [2]Aashish Sharma, [3]Pushkar Shukla, [4]Km. Sweta

[1]Associate Professor, [2]Research Student, [3]Research Student, [4]Research Student

Department of Computer Science and Engineering

ABES Institute of Technology, Ghaziabad, India

Abstract: Given a list of Assessment Bodies, we have to select an assessment body for assessing a particular batch. We are provided with a list of parameters to make selection of the assessment body. We would analyze the sequence of parameters i.e. order of the parameters to be evaluated for each assessment body such that it reduces the complexity of the overall algorithm and will develop an algorithm for the purpose of recommending an assessment body to a batch.

IndexTerms - **DASDEC, Skill Council of Green Jobs, SCGJ**

I. INTRODUCTION

Skill Council of Green Jobs (SCGJ) uses DASDEC (Digitization and Automation of Skill Development ECosystem) which is a common platform for private firms, organization and the SCGJ itself. The DASDEC provides transparency, accuracy and saves a lot of time in comparison to the manual process of maintain records on paper.

This common platform of DASDEC provides the following features:

- Data migration and Import
- Skill development Portal for Training Partners and Assessment bodies
- Data Analytics and Dashboard
- Automated assignment and monitoring platform for training
- Online registration platform for training partner and assessment body
- Interactive query builder for FAQs
- Automated workflow management system

This web application(DASDEC) 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.

In Automated Assignment and Monitoring Platform For Training partner module we would be working to ease out the doorway for training partner and assessment bodies in which we have to make the tables according to the different roles of the candidates with the information that the SCGJ wants to show case.

Figure 1 Working of SCGJ

For transparency purpose, we are using an algorithm for the purpose of recommending the assessment bodies for a particular batch on the basis of parameters as described to us by SCGJ. The parameters are as follows

- Automated Assignment and Monitoring Platform For Training partner
- Show Interest Feature
- Number of Past Assessment Records

These parameters will help in the proposal of recommending an assessment body for a particular batch in the Automated Assignment and Monitoring Platform for Training partner Module of DASDEC.

II. LITERATURE SURVEY

The Sector Skill Council for Green Jobs (SCGJ) is among the 42 Sector Skill Councils (SSCs) working under National Skill Development Corporation (NSDC) which monitors different SSCs. The NSDC works for the Ministry of Skill Development &Entrepreneurship (MSDE) established by Government of India on 9th November, 2014.

The Ministry of Skill Development & Entrepreneurship is working under the program National /Skill Development Mission for which different SSCs are responsible to skill the students in different sectors & certify them with the aim of "**Kaushal Bharat, Kushal Bharat**".

SCGJ is currently training students under different domains such as Water Management, Electronic Waste Management, Renewables and Green Construction which are discretely comprised under 26 Qualification Packs named as Waste treatment plant helper, Rooftop Solar Grid Engineer, Solar PV Installer etc.

SCGJ aims at skilling 20 crore individuals in the country by 2022 thereby making India a hub for Skilled Workforce. It also aims at increasing power capacity to 175GW by 2022.

These trainings are conducted in different institutions which gets affiliated by SCGJ as their Training Partners. The affiliation of each Training Partner involves analyzing the application form, analyzing the documents of respective organization and minor modifications if required in the application submitted by the applicant.

Once the institutions are affiliated as Training Partners, they train candidates as per the Qualification Packs designed by SCGJ once the training is completed. The candidates have to undergo through assessment process in order to get certified as a skilled workforce.

These assessments are conducted by third party and not the same institutions, these third parties are referred as Assessment Bodies in SCGJ ecosystem. Assessment Bodies also undergoes similar kind of affiliation process as of Training Partner.
The Assessment Bodies allot their assessors to different institutions to conduct the assessment.

Once the assessments are conducted, the result of each student for each assessment is sent to the SCGJ. SCGJ then issues certificates for all the assessed and passed candidates.
These results are issued to respective Training Partners for the batches trained by them.

All the SSCs are conducting the whole process manually. SCGJ identified the following problems while operating:
Tedious process of maintaining & storing information (Batch, Candidates)
Cumbersome manual process of obtaining accurate data and statistics
No single view to see important infographics.
Manual Affiliation process of training partners and assessment bodies
Manual assignment of assessment bodies

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.
Through this tool, which is a web application, senior leadership of the organization would be able to get more accurate statistics and information which will eventually help taking strategic decisions for the organization. Moreover introducing an algorithm based assignment of batches so as to bring more transparency into the ecosystem. Apart from data feeding and data analysis, this tool will also automate affiliation process of Training Partner and Assessment Body which was one of the most time consuming process when it was done manually over the paper, which in turn will make interaction of SCGJ with private bodies less time consuming.

The process of developing the web application will start with analyzing the affiliation form of SCGJ where all the fields would be carefully analyzed and modification in the form would be done with the consent of SCGJ, In order to make the application form more user friendly and to reduce the fields for unnecessary information the analysis of the application form will play a significant role towards the development of this platform.

III. PROBLEM

The need and significance of this is of great importance and can be understand as follows:

After the affiliation process of training partners and assessment body which is done manually on papers all this is leading to -

No Transparency in assigning batches to assessment body

Increasing corruption day-by-day by running ghost batches

There is a lot of chaos and confusion in the assignment process

Increased time of the assignment process

More human efforts required to calculate score for each assessment body for each batch

IV. PROPOSED MODEL

Algorithm – getRecommendedAgency(batch)

1. $batchId \longleftarrow batch$
2. Get State and District of batch into stateOfBatch and districtOfBatch respectively from database
3. Get details of all the assessment agencies$_i$
   // details include agency name, agency Id, State and District
4. For all agencies$_i$ starting from 0 to number of agencies
   - $score_i \longleftarrow 0$
   - check if $stateOfBatch \longleftarrow state[agencies_i]$
   - then $score_i \longleftarrow score_i + 10$
     - check if $districtOfBatch \longleftarrow district[agencies_i]$
     - then $score_i \longleftarrow score_i + 50$
     - end if
   - end if
   - $score[agencies_i] \longleftarrow score_i$
5. Get list of Interested agencies in assessing a batch
   - $interestedAgencies[] \longleftarrow$ Set of Interested Agencies
6. for j=0 to size of interestedAgencies[]
   - $score[agencies_i] \longleftarrow score[agencies_i] + 60$
7. Get maximum score from the score[agencies$_i$]
   - $maxScore \longleftarrow$ maximum score
8. Check if $maxScore \longleftarrow 0$
   - Then print "No Recommendations" and exit
   - End if
9. Check if more than one agencies have the same maximum score
   - Then do for all agencies having same score
     - Get Past Assessment Records of all agencies into previousAssessment[agencies$_i$]
     - Get index i of agency which has minimum previousAssessment
     - Set Recommended Agency $\longleftarrow$ agencyName[i]
   - End if
10. Else do
    - Get index i of agency which has maximum score
    - Set Recommended Agency $\longleftarrow$ agencyName[i]
11. Print Recommended Agency

V. CONCLUSION

In this paper we innovated an algorithm that proposes an Assessment Body for a particular batch with given batch Id. The User has the right either to select the recommended Assessment Body or may choose the other one if needed.

By developing this algorithm we have achieved the following

- Decrease time of the assignment process.
- To bring transparency in the system.
- To eradicate the chaos and confusion in the assignment process.
- To maintain the records properly.
- Reduced Human effort

VI. REFERENCES

- www.sscgj.in
- http://sscgj.in/publications/qualification-pack/
- http://sscgj.in/about-us/
- http://sscgj.in/wp-content/uploads/2016/05/SCGJ-Brochure-V3_19-10-2016.pdf
- http://sscgj.in/about-us/governing-council/
- http://www.skilldevelopment.gov.in/nationalskilldevelopmentcorporation.html