

# Effective Implementation of Quality Education System for Orphanage Children

Ajay Kokate<sup>1</sup>, Prasad Kamlaskar<sup>2</sup>, Dinesh Nikam<sup>3</sup>, Rohini Pise<sup>4</sup>

<sup>1,2,3</sup>Student, Department of information Technology, Pimpri Chinchwad College of Engineering, Pune, India

<sup>4</sup>Asst. Professor, Department of information Technology, Pimpri Chinchwad College of Engineering, Pune, India

**Abstract:** Orphan children are one of the important parts of society and cannot be neglected, after turning 16, orphans are sent out of the orphanages. Our thesis is mainly focusing on development of orphanage children and provide ways for them to survive and become successful in life. We have created a system which keeps track of their profiles according to which suitable jobs are recommended to them. We have also provide online parenting, donation platform, job opportunities, scholarships etc. to all of the registered orphans. The profiles can be maintained by the mentors or authorities of the orphanage so that the data and personal characteristics will be authentic and verified. This will help in job recommendation system as well as scholarships can also be provided to the children.

**Key Words:** Orphan, On-line parenting, Profile, Mentor

## 1. Introduction

A good quality education is one that gives all learners with capabilities they need to become economically productive, develop property livelihoods, contribute to peaceful and democratic thus cities and enhance individual well-being. The educational outcomes that needed vary according to context however at the tip of basic education cycle mandatorily embrace threshold levels of skill and basic knowledge domain and life skills as well as awareness and bar of sickness. Capacity development to boost the standard of lecturers and different education stakeholders is crucial throughout this method.

### A. Overview and Motivation

There was a need for developing a system which will help these children to grow and live a happy life in the society. Orphans mostly don't have the expertise in skills required to do any job. Our focus was to create a system which will provide orphans a platform to grow through online parenting and e-governance. Our system also has a transparent platform for donation.

### B. Goals of Quality Education

#### 1. Equity:

This term refers to fairness and equity. Equity in education implies that personal and social circumstances like gender, ethnic origin or family background don't seem to be obstacles to achieving academic potential which all people reach a minimum of a basic minimum level of skills.

#### 2. Contextualisation and Relevance:

Quality education can't be absolutely supported a blueprint that's helpful and applicable all told things. Solutions and variations of education systems should be supported the important wants of a rustic and/or community.

#### 3. Child-friendly Teaching and Learning:

Quality education puts the kid in main space of focus and helps him/her to achieve his or her full potential. Quality Education needs kid's active participation

#### 4. Sustainability:

Educational change processes and methods mostly need time to be realised, by enhancing the capacities of local education authorities.

#### 5. Balanced Approach:

Quality education focuses at developing a balanced as well as managed set of capabilities of children they need to become economically productive, develop livelihoods, contribute to democratic and peaceful societies and enhance individual well-being.

#### 6. Learning Outcomes:

After finishing an exact level of education, children should have developed a minimum normal of skills. Quality education needs a results-oriented approach.

## 2. Literature Survey

### A. Education Focus (Goals)

#### 1. Build the matter visible

Regular assessments are required to track progress in learning and build the present levels visible in a way which will be understood wide. India ought to participate often in international assessments like Trends in International Arithmetic and Science Study and Programme for International Student Assessment so on set goals and benchmark its performance and progress. The standard of national assessments should be improved and third party evaluators like Annual standing on academic Initiatives and Education Report ought to be inspired to produce periodic feed-back. The District Information System for Education (DISE) 1 system should be upgraded to a Student Progress Tracking System which will track learning levels of individual children and provide diagnostic data to serve as a basis for improvement to schools and teachers.

2. *Build systemic and institutional capacity*

The biggest problem in the educational system today is a severe shortage of capacity. Consider two initiatives the Continuous and Comprehensive Evaluation (CCE) and the Teacher Eligibility Test (TET). Few people disagree that these initiatives are based on sound principles and good ideas. Yet, many some may say most well-intentioned ideas do not achieve their goals due to people across the system not having the required skills. In the case of the TET test, pass percentages have been between 1% and about 15% and the initiative has not had the intended impact.

3. *Change the goal post by reforming board exams to test understanding, not recall*

India's rote-based Board Exams are a source of the learning crisis observed even in primary schools. The focus on parents, students and teachers is on increasing exam marks and not on gaining knowledge, which needs to be corrected by having Board Exams that measure learning. This is not difficult to do because there are so many exams that can serve as a benchmark for this change.

4. *Invest in technology for education*

Hand-in-hand with academic analysis inherent in all the initiatives, there's a requirement to develop ways to use technology to drive the amendment. The focus shouldn't get on putting in hardware however making new, high-quality content like intelligent teaching systems and tools which will facilitate students to acquire basic skills like reading and arithmetic, and developing content in multiple Indian languages. ICT-based remedy programmes ought to be inspired, in which the service supplier is reimbursed based on the measured student improvement. ICT should even be accustomed track teacher attending. Free high- speed net connections may be provided to all faculties through an easy theme by that the government reimburse net service suppliers directly.

5. *Introduce school based practices for learning improvement*

This includes initiatives like monthly tests in school with academic support from State Council of Educational Research and Training (SCERT) or District Institute of Educational Research and Training (DIET) and quarterly parent-teacher meeting days which encourage parents to visit schools and build a parent-teacher connect focused on student learning.

6. *Work on mindsets of people through public education campaigns*

Public education campaigns should be aimed at prospective teachers to attract talent to the sector; at parents to make them aware of what constitutes a good school, the value of education more than gaining marks and at existing teachers to understand that every child can learn well.

The above mentioned goals must be achieved to increase the quality of education in India. The orphanages are not keeping track of children's growth. They don't get any kind of proper guidance after leaving orphanage as well as while in the orphanage. Their lack of skills in any domain makes them unemployable, which leads to lower lifestyle. There is not any

committee to keep track of the donation as well as the use of the donations.

Our proposed system will help to lead to the above mentioned goals. The on-line mentor will keep track of the child assigned to them. The tracking will include educational, social, individual growth of the child. Government bodies can keep the track of donated money to prevent the misuse of donated money or any other donation.

3. **Proposed Method**

A. *System Architecture*

Users of this system interact with the system using website front-end. Data upload interface is used to upload the candidate information. Entered data will be stored in Data ware house (DWH).ETL is extraction, transformation and loading. These processes are used to load the data in DWH. The data is converted in Well-structured format.

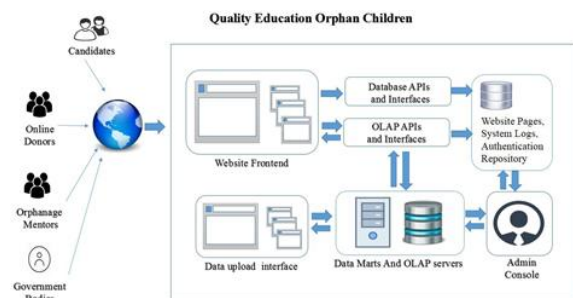


Fig. 1. System architecture

All System webpages are stored on webserver, which can be manipulated and managed by System admin. Admin console allows the Admin to manage the System. OLAP interfaces and Database APIs act as an intermediate systems between website front-end and Data mart & OLAP server.

B. *Block Diagram*

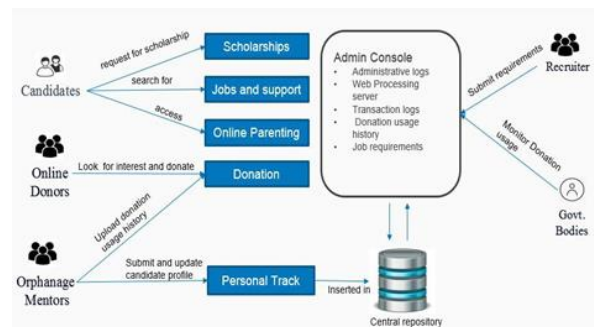


Fig. 2. Block diagram

Mentor has the authority to fill as well as update student (Candidate) data in database. Student are able to view their own profile. He can obtain contact of his allocated mentor through system. He can apply for jobs which will be recommended by system as per his skill set. Student can apply for scholarships if applicable.

Donor can check orphanage information and donate amount. Orphanages CSR cell will manage and update organization

record. On-line mentor is able to track growth of student and guide them as well.

C. Implementation of Modules

1) Personal tracking

This module features registration and login for Mentors, online mentors and Students. Every user has to select the type before registration and while logging into the system. This approach has helped to make the content more user-specific as the contents for every user are different. The Students data can only be filled by the orphanage mentor, this feature prevents anyone from entering false information.

2) Scholarships and jobs

This module includes the implementation for classification and recommendation of Scholarships and Jobs modules. The recommendation is done for jobs, scholarships and opportunities. We have used Naive Bayes classifier for job to skill mapping as well as for providing user specific recommendations.

• Naive Bayes Classifier

It is a classification technique supported Thomas Bayes Theorem with associate degree assumption of independence among predictors. In easy terms, a Naive Thomas Bayes classifier assumes that the presence of a selected feature in an exceedingly class is unrelated to the presence of the other feature. Bayes theorem provides some way of scheming posterior probability  $P(c|x)$  from  $P(c)$ ,  $P(x)$  and  $P(x|c)$ .

$$P(A | B) = \frac{P(B | A) P(A)}{P(B)} \tag{1}$$

Above,

- $P(c|x)$  is that the posterior chance of sophistication (c, target) given predictor (x, attributes).
- $P(c)$  is that the previous chance of sophistication.
- $P(x|c)$  is that the chance that is that the chance of predictor given category.
- $P(x)$  is that the previous chance of predictor.

• Naive Bayes algorithm

Step-1: Rework the dataset into a frequency table

Step-2: Produce chance table by finding the probabilities

Step-3: Use Naive theorem equation to calculate the posterior chance for every category. The class with the best posterior chance is the outcome of prediction.

• Online parenting

This module includes implementation for services of online parenting. The Communication platform of chatting through messages is implemented in this module.

• Donation

This module includes implementation for services of donation platform. Our System provides donate as per need

services to donors. This provides a way for donors to check the names of the orphanages which are most needy of donation. This will be helpful for smaller orphanages to survive.

• Technologies used

- Java
- HTML
- CSS
- mongoDB
- SpringMVC

4. Performance Testing

A. For Individual Request

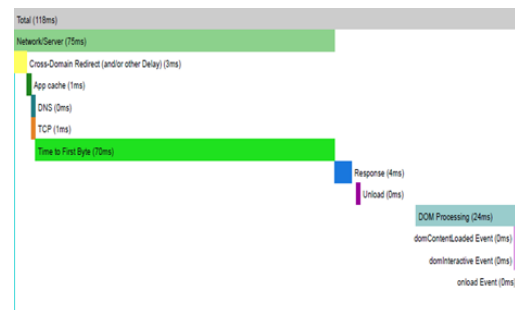


Fig. 3. Network timing graph

- Total Navigation Time -118ms
- DOM Processing time - 24ms
- DOM Content Loading 23ms
- Slowest call 6ms
- Average call 3ms

Maximum Request at a time 4854

For Naive Bayes classifier (Refer Table-1):

- Precision of Comp = 0.9
- Recall of Comp = 0.9
- Precision of Civil = 1
- Recall of Civil = 0.94
- Precision of Mech = 0.87
- Recall of Mech = 0.91
- Precision of Account = 0.92
- Recall of Account = 0.96
- Precision of Electrical = 1

Table-1 Prediction data

		Predicted class					
		Comp.	Civil	Mech.	Account	Electrical	
ACTUAL CLASS	Comp.	18	0	1	1	0	20
	Civil	0	17	1	0	0	18
	Mech.	1	0	20	1	0	22
	Account	1	0	0	24	0	25
	Electrical	0	0	1	0	14	15
		20	17	23	26	14	100

- Recall of Electrical = 0.93
- Total Accuracy = 93.00%

### 5. Conclusion

After analysis and literature survey we understood that the manual methods are not convenient and tedious. Our thesis has provided an efficient way for managing children's education, their job profile, current living status and donation management. The donors can opt for On-line parenting of children as well as various donation platforms. As per the implementation aspect, the Naive Bayes classifier with collaborative filtering gave best results for prediction module of this system. The technologies used in implementation of this system are most suitable and latest till date.

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