

# Effective Portal To Rescue Child Labour



Megh Singhal, Lalit Tyagi, Mohammad Sameer, Lalit Kumar Trigunayat

**Abstract:** *Shishu Vikas portal is an extended version of PENCIL (Platform for Effective Enforcement for NO Child Labour) portal. PENCIL portal is used to eliminate the child labour and leads to child labour free society. Though prohibited, and having PENCIL Portal, child labour is still rampant in the country in various sectors. We have systematically design an integrated approach across various stakeholders including Central Ministries and State Governments is required through which child labour can be prevented and also the rescued children can be effectively monitored and tracked in the country. For effectively monitoring of rescued children we have designed a GPS based hardware device (wearable hand band) by which admin can access the location of children.*

**Keywords:** *Monitoring, Rescue, Tracking, Social-impact*

## I. INTRODUCTION

Child labour basically define as exploitation of children. As per child labour act 1986 ,it is a crime to hire any children for any work. According to the census, in 2001, around 12.6 million children found in child labour whose age was between 5-14 years and about 120000 children found in hazardous job. In 2011 as per census, the number of working children was 4.3 million. Child labour finish the childhood of children and the dignity of children. Child labour is very harmful for physical and mental development of children and snuff out the many opportunity of children like schooling and their dreams.[2][1]

- The Factories Act of 1948: According to this act any children below age 14 cannot work in any factory. The law also applicable on pre-adults between age 15-18.[3]
- The Mines Act of 1952: According to this act child under age 18 cannot work in a mine.[3]
- The Juvenile Justice (Care and Protection) of Children Act of 2015: According to this law anyone is punishable if he found to keep a child in slavery for the purpose of employment.[3]
- The Right of Children to Free and Compulsory Education Act of 2009: The law mandates free and compulsory education to all children aged 6 to 14 years.This legislation also mandated that 25 percent

Revised Manuscript Received on March 30, 2020.

\* Correspondence Author

**Megh Singhal\***, Assistant Professor, ABESIT, Ghaziabad, India. Email: meghsinghal123@gmail.com

**Lalit Tyagi**, Student (CSE), ABESIT, Ghaziabad, India. Email: tyagalalit661@gmail.com

**Mohammad Sameer**, Student (CSE), ABESIT, Ghaziabad, India. Email: sameersaifi517@gmail.com

**Lalit Kumar Trigunayat**, Student (CSE), ABESIT, Ghaziabad, India. Email: lk945600@gmail.com

© The Authors. Published by Blue Eyes Intelligence Engineering and Sciences Publication (BEIESP). This is an [open access](http://creativecommons.org/licenses/by-nc-nd/4.0/) article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>)

of seats in every private school must be allocated for children from disadvantaged groups and physically challenged children.[3]

- Article 21 A Right to Education: This article says that state will provide free and mandate education to children whose age between 6 to 14.[3]
- Article 24 Prohibition of employment of children in factories, etc. No child below the age of 14 years shall be employed in work in any factory or mine or engaged in any other hazardous.[3]
- There are many Schemes provided by government to children. This is the major Central Sector Scheme for the rehabilitation of child labour.
- The Scheme seeks to adopt a sequential approach with focus on rehabilitation of children working in hazardous occupations & processes in the first instance.
- Under the Scheme, survey of child labour engaged in hazardous occupations & processes has been conducted.
- The identified children are to be withdrawn from these occupations & processes and then put into special schools in order to enable them to be mainstreamed into formal schooling system.
- Project Societies at the district level are fully funded for opening up of special schools/Rehabilitation centers for the rehabilitation of child labour such as Non-formal/bridge education, Skilled/vocational training, Mid Day Meal, Stipend @ Rs.150/- per child per month, Health care facilities through a doctor appointed for a group of 20 schools.[11]

## II. ABBREVIATIONS AND ACRONYMS

DNO, district nodal officer; GPS, Global Positioning System; GSM, Global System for Mobile; AES, Advanced Encryption Standard; QR code, quick response; smtp, simple mail transfer protocol; NGO, Non-Government Organization; ILO, International Labour Organization;

## III. EXISTING WORK

PENCIL stands for Platform for Effective Enforcement for No Child labour. PENCIL portal is a web portal which is used to make a child labour free society. It was launched by Union Home Ministry on 26 September 2017. It involves DNO (District nodal officer), State Government, Central Government and general public to eliminate child labour from our society. In India one in every 10 child is involved in child labour.[10] Complaint resolved: Out of 1010 complaints of child labour received on PENCIL portal only 361 complaints have been resolved by DNO (District Nodal Officer).[10]

Features of PENCIL Portal: Child Tracking System, Complaint Corner, State Government, National Child Project and Convergence.[10]

DNOs (district Nodal Officers) will be chosen by the District who will get the complaints, after receiving the complaints DNO (District Nodal Officer) will check the genuinity of the complaint after that DNO (District Nodal Officer) will take an action regarding to that complaint with the help of police. Nation child labour project scheme is a Central Government scheme which provides funds to District Project headed by DM (District magistrate) who allocates fund to NGOs (Non-Government Organization) Agencies for running special training Centers.[11]

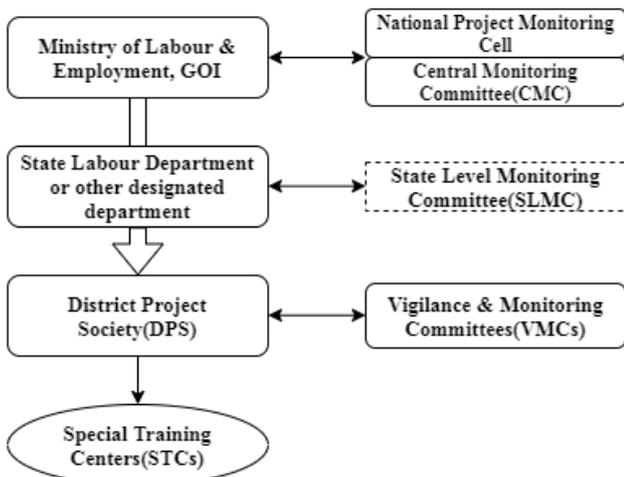
**A.SCHEME**

- Preparing children withdrawn from work for mainstream education along with vocational training.[11]
- Ensuring convergence of services provided by different government departments/agencies for the benefit of child and their family.[11]
- Raising awareness amongst stakeholders and target communities, and orientation of NCLP and other functionaries on the issues of 'child labour' and 'employment of adolescent workers in hazardous occupations/processes[11]

**B. CHILD LABOUR POLICY**

Recognizing that child labour is the outcome of multiple causes and has multiple dimensions, Government of India enacted legislation (1986) and prepared the national policy on child labour (1987) to tackle the problem with a multi-pronged approach. The important pillars of the national policy on the elimination of child labour have been as under:

- **Legislative Action Plan**--Strict and effective enforcement of legal provisions relating to child labour under various laws.[11]
- **Convergence of government developmental programmes**-- Focus on converging various developmental initiatives to alleviate poverty, provide access to social security, health and education, economic and social empowerment of the child workers and their families.[11]

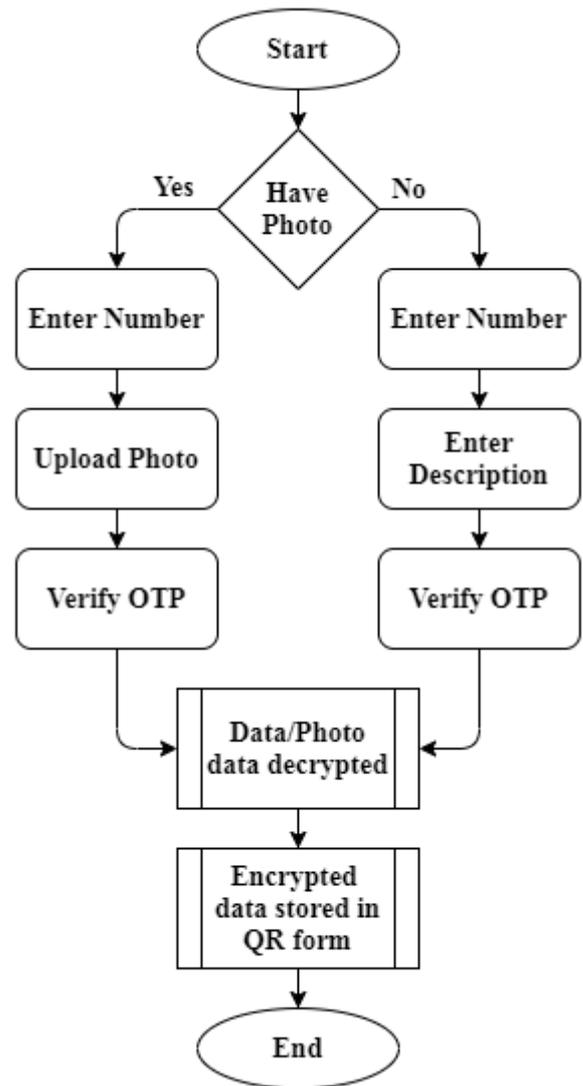


**Fig. 1 The architecture of institutional mechanism under NCLP Schemes.[11]**

**IV. DESIGN AND METHODOLOGY**

**A.Complaint and Tracking Module**

- In Complaint module for complaint user have to enter his/her mobile number for OTP verification. After that click the photo of child and submit it. And In backend corresponding district Nodal officer entertain that complaint with in limited time and automatically nearest police station get information about that particular complaint with particular location.
- We fetch the location from image by accessing the longitude and latitude of image. And provide it to DNO and Police officers for taking action.
- For user safety purpose we encrypt the data provided by user



**Fig. 2 Complaint and Tracking process**

**B. Organization Registration and Adoption**

In this module, child adoption and organization registration process has shown. Firstly all NGO's and legal organization have to registered himself. All organization have a unique identification number by which we can check the legality of any organization.



And for adoption process of child they have to enter their organization name and that tax exemption number. And DNO verified the legality of that particular organization and take action either request accept or reject.

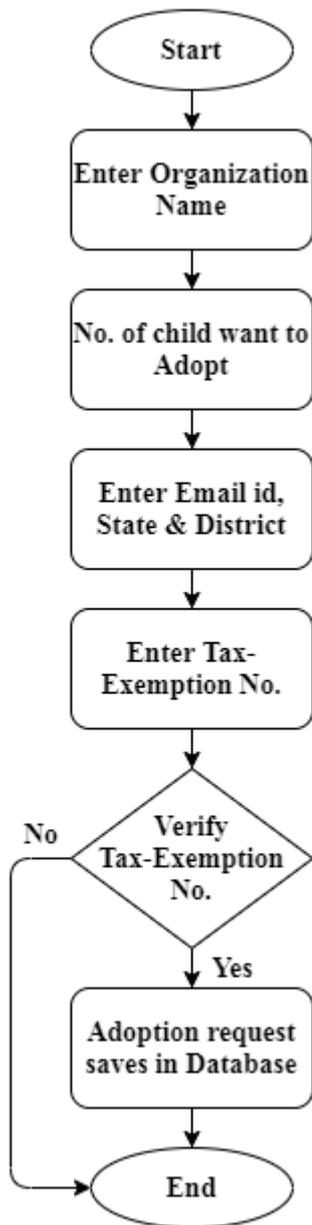


Fig.3 Registration and Adoption process

**C. Monitoring**

In this module, we have shown Monitoring process or surveillance process of rescued children. For doing this we have design a hand band inbuilt with GPS tracker and GSM. This band notify to admin if any children cross the limit of area and send it location to admin. This band will send location in every 30 minutes to admin. And also send complaint id with that particular child.

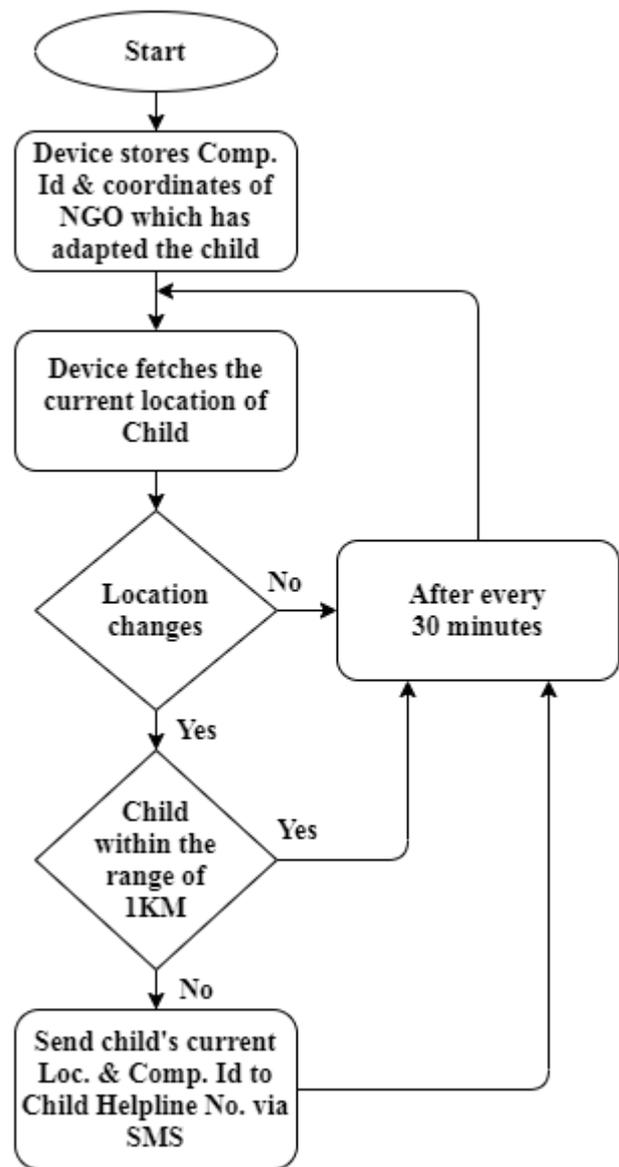


Fig.4 Monitoring process

**D. Social awareness**

In this module, we have connected our portal to the social media platform for the awareness of our portal. Because as much the awareness will increase, the rate of child laboring will decrease. In this module we are simply uploading these complaints regarding data which has been solved by DNO (District nodal officer). This module plays a very important role for making child labor free society.

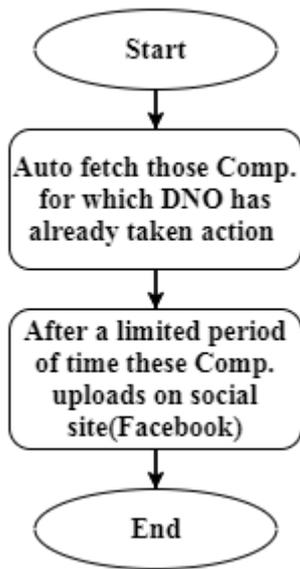


Fig.5 Social Awareness process

V. TECHNOLOGY STACK

| TECHNOLOGY STACK    | DEPENDENCIES     |
|---------------------|------------------|
| HTML/CSS/JAVASCRIPT | SERVER           |
| FRONTEND            | CAMERA           |
| PHP/JAVA            | SOCIAL MEDIA API |
| BACKEND             | SMS GATEWAY      |
| MYSQL               | PAYMENT GATEWAY  |
| DATABASE            | H/W DEVICE(GPS)  |

Fig.6 Technologies used in portal

VI. COMPARISON

| FEATURES      | PENCIL PORTAL   | SHISHU VIKASH PORTAL   |
|---------------|---|--|
| CONNECTIVITY  | There is no connectivity between state and central govt.  | There is connectivity between district state and central govt.                 |
| COMMUNICATION | There is no communication process between govt and NGO's. | Auto communication occur between govt and NGO's                                |
| INSERT DATA   | In this portal we have to insert many data.               | In this portal only mobile verification is sufficient                          |
| MONOTORING    | There is no monitoring system.                            | In this portal we have designed a hardware device for monitoring the children. |

|                                  |  |   |
|----------------------------------|--|---|
| <b>AWARNESS</b>                  | There is no module of awareness in the pencil portal.                        | In this portal we have designed a awareness module.               |
| <b>INTERFACE</b>                 | Only website interface is available.   | Both apps and website is available.                               |
| <b>SECURITY</b>                  | There is no user data security.  | We encrypt the User data by using AES algo.                       |
| <b>TRACKING</b>                  | Tracking process is slow in pencil portal due to communication between govt. | Tracking process is much faster than pencil portal.               |
| <b>CHILD ADOPTION</b>            | There is no adoption process of rescued children.                            | In this portal we have designed the module of child adoption.     |
| <b>ORGANIZATION REGISTRATION</b> | There is no option of organization registration module.                      | For adoption process we have designed this module in this portal. |
| <b>Backend technology</b>        | Java-script  | Php   |

Fig.7

VII. FINDING AND DISCUSSION

The reason for this alarming gap between identification, enrollment and mainstreaming are multifold, including, protection mechanism not being linked with rehabilitation of children, insufficient funds allocation for rehabilitation of children and even when funds are available, child victims not receiving timely compensation. This inordinate delay caused in release of funds for rehabilitation due to same being contingent upon the conviction.[1] [8] [11]

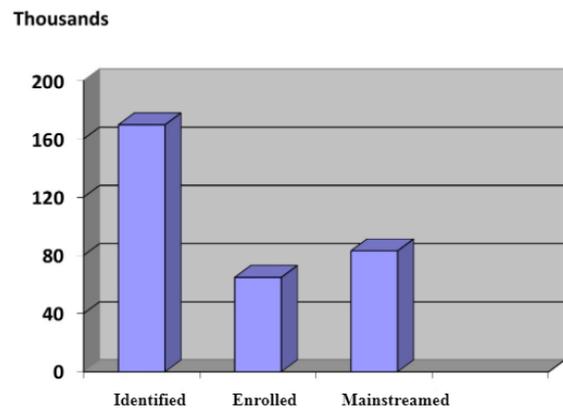


Fig.8 Source, Pencil portal accessed on 29 February 2010

So, to overcome all these things we have add on some extra features in our portal by which the increasing rate of problem solving can increase and we all know very well awareness plays important role to finish anything. As we know pencil portal could not spread out the country so for doing this we have design a module name as social awareness in which we connect our portal to social medial as much as possible.



In today era all people present at social media so everyone spend half of time on social media. This can be a power-full tool for awareness of our portal and connect people as much as possible with our portal and second big problem is that how govt assign the children to any organization so for this we have designed a module organization registration and adoption. All NGO's and child organization like UNICEF all are connected with our portal. This will lead to better future of rescued children. And third major point is how we monitor the rescued child because out of 100% , 20% child again want to try involved in child labour, so for this we have designed a hardware device with GPS tracker which is a simple hand band and if anyone cross the area of organization admin will get a automatically message regarding that child and get the current location of that child . By monitoring we can make the better future of children and give all right to them so they can learn everything which they want and make country proud in all over the world.[1] [8] [11]

Govt. Provided More Funds to children but that funds could not get to those needy children. According to NCLP schemes in 2018-19 Govt provide 160cr for rehilitation and mainstream for rescued children. So we have overcome this problem by designing the systematically approach for rehilitation of children under surveillance of DNO.[1] [8] [11]

According to census data in 2011, 4.3 million children are involved in child labour in India. In 2017, 509 cases registered regarding child labour.[1] [8] [11]

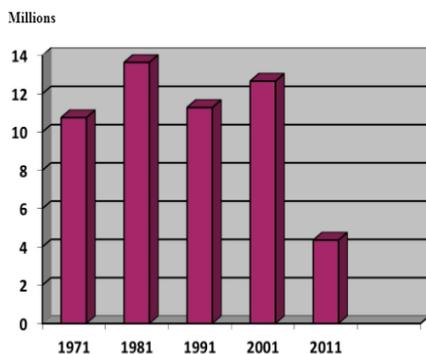


Fig.9 Census data of child labour from 1991 to 2011.

### VIII. CONCLUSION

As we all know child labour is prohibited in all over world and there are many act and rule regarding stop for child labour but inspite of that all these things child labour is not under control and increasing year by year. So for controlling the child labour Indian government launched a portal which name was pencil portal in 2017. But In pencil portal there are many problem such as input data problem tracking problem monitoring problem those make it slow and according to a website there are 361 problem solved among 1010. So a big question arises that after rescued and track the children what should government do with those children and how they do continuously monitoring the children, this all about we have designed in our Shishu Vikas portal. By which we can completely eradicate child labour in India and can make child free society.[1] [8] [11]

### FUTURE SCOPE

- Image processing
- Big data used
- Emergency button for the hardware device

### REFERENCES

1. Age Data C13 Table (India/States/UTs), Final Population - 2011 Census of India
2. "Child Labour - ILO". *ILO, United Nations*. 2011.
3. "India: Child Labour (Prohibition And Regulation) Amendment Act, 2016 Of India"
4. "Agriculture accounts for 70 percent of child labour worldwide". *FAO, United Nations*. 2006.
5. "National Legislation and Policies Against Child in India". *International Labour Organization - an Agency of the United Nations, Geneva*. 2011. Archived from the original on 9 August 2012. Retrieved 13 July 2012.
6. "What is child labour?". *International Labour Organization*. 2012.
7. "Definitions: Child Protection". *UNICEF*. 2012.
8. "Figures: An Analysis of Census 2001 Child Labour Facts and Figures" (PDF). *Govt of India and ILO*. 2007.
9. "Abolition of Child Labour- A Brief Note" (PDF). *National Advisory Council*. 2011. Archived from the original (PDF) on 19 January
10. <https://pencil.gov.in/>
11. <https://labour.gov.in/childlabour/census-data-child-labour>

### AUTHORS PROFILE



**Megh Singhal**, currently designated as Assistant Professor of Department of Computer Science and Engineering at ABES Institute of Technology affiliated to AKTU. He has completed his M.Tech. in Computer Science and Engineering with specialization in Information Security and B.Tech. in Computer Science and Engineering. He is interested in information security and data mining areas.



**Lalit Tyagi**, is currently doing his B-tech(2016-20) from ABES Institute of Technology with major computer Science and Engineering. He completed his High school in 2014 and intermediate in 2016. He participated in Smart India Hackathon 2019 which is a National Level competition. He joined Computer Society of India in 2017 as a student. In 2013 He has participated in Swami Vivekananda Biography Competition and got first prize in it. He is Leading his College Project. His area of Interest is Data Structure, Algorithm, Machine Learning, Computer Networking and Logical Programming.



**Mohammad Sameer**, is currently doing his B-tech(2016-20) from ABES Institute of Technology with major computer Science and Engineering. He completed his High school in 2014 and intermediate in 2016. He participated in Smart India Hackathon 2019 which is a National Level competition. He joined Computer Society of India in 2017 as a student. In 2013 He has participated in Swami Vivekananda Biography Competition. He is working on his College Project. His area of Interest is Data Structure, Algorithm, Machine Learning, Computer Networking and Logical Programming.



**Lalit Kumar Trigunayat**, is currently doing his B-tech(2016-20) from ABES Institute of Technology with major computer Science and Engineering. He completed his High school in 2013 and intermediate in 2015. He participated in Smart India Hackathon 2019 which is a National Level competition. He joined Computer Society of India in 2017 as a student. He is Working his College Project. His area of Interest is Data Structure, Ethical Hacking, Machine Learning, Computer Networking and Logical Programming.