Project 'Discover'

No child should be left behind.

by

Nandu Kumar

Guide **Dr. Deepak John Mathew**Head of Department

A Thesis Submitted to Indian Institute of Technology Hyderabad for The Degree of Master in Design 2014-2016



Department of Design Indian Institute of Technology Hyderabad

Project 'Discover'

No child should be left behind.

A project on identify out of school kids, capture real time, authentic and reliable school attendance data and maximize the access to the basic primary education in India.



A Thesis Submitted to Indian Institute of Technology Hyderabad for The Degree of Master in Design 2014-2016

Department of Design Indian Institute of Technology Hyderabad

Declaration

I declare that this written submission represents my ideas in my own words, and where ideas or words of others have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. I understand that any violation of the above will be a cause for disciplinary action by the Institute and can also evoke penal action from the sources that have thus not been properly cited, or from whom proper permission has not been taken when needed.

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Approval Sheet

This Thesis Project 'Discover' No child Should be left behind. by Nandu Kumar is approved for the degree of Master in Design, from Department of Design IIT Hyderabad

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PREFACE

As part of the Department of Design curriculum, all final year students are required to undertake a thesis project which is a full scale design project in the industry.

The thesis project. which is expected to be of four to six months in duration. It provides a platform for an independent and a complete client where in the student is expected to generate a professional design assignment with application and implementation capabilities.

The project exposes the student to a real life situation of working in the industry and function under the constraints and limitations of an organization. It involves understanding the strength and infrastructure of the organization, their design sensibilities and providing an appropriate solution within the practical parameters of constraint, time, economic viability and innovation.

A student undertaking the thesis project imbibes a real life experience to gain understanding of the role of a designer, which in practice is not only restricted to just design; but also includes time management, communication skills, efficient handling of practical constraint and pitching one's design idea to concerned people in the organization. The Diploma project is an excellent platform to help students realize their strengths and weaknesses before entering the professional world of design.

world of

For thesis project i got the chance by 'Digital Impact Square'. A TCS Foundation Initiative. Digital Impact Square (DISQ) is an online platform and a physical location at Nashik, Maharashtra.

The Thesis project was for a period of 6 months from March, 2016 to August 2016



A C K N O W L E D G E

Hasit Kaji Vice President

Special Initiatives at TCS

Mahadevan Venkatakrishnan

It is my pleasure to express my thanks to Department of Design, Indian Institute of Technology, Hyderabad. and Digital Impact Square, Nashik. For offering me an opportunity to work on interesting projects and innovations. In the field of social innovation platform, to enhance the lives of citizens.

Product Manager at TCS

My special thanks to my guide Pro. Deepak John Mathew. Head of Department, Department of Design, IIT Hyderabad. Mr. Mahadevan Venkatakrishnan TCS Mentor,

Ramesh Raskar John Werner Beth Zonis

Professor at MIT Media Lab United States

Professor of Media Arts and Sciences, MIT For their guidance and constant help throughout the project.

Eman Jaradat

Director's Fellow at MIT Media Lab United States Many thanks to all, My faculty members at DOD IIT Hyderabad and my Fellow Designers, who have imparted and shared their experience and knowledge to make me a empathetical professional designer, Innovator and Team player.

Mr. Umesh Dongre Education officer, NMC Nashik Mr. Sachin Joshi Director of NGO

Also, my sincere thanks goes to all the members of the Team "kalam" Education and Skill. And fellow Innovators interns at Digital Impact Square, Nashik. for their support and guidance throughout the project.

Education on Wheels NGO team and the entire staff of Digital Impact Squre, Nashik

PROJECT GUIDE

Dr. Deepak John Mathew Head of Department Department of Design, IIT Hyderabad

For their encouragement, support and guidance throughout the project

MY FRIENDS

Vineeta

Pritesh Agrawal, Kovid Sawla Ashish Sharma, Himanshu Yadav

For social support, inspiration and relevant academic guidance that was crucial in keeping my interest and motivation alive through the course of the project.

Fabin Rasheed, Farooq Imran Khan, Shakthi Prasad Rajesh Ayamchirakkunnel, Seemant Chourey, Pranay Sute Verma Pallavi, Garima and Marisha Narula

And my mother Shri Dhanwati Devi, and father Shri Dhanesh Ram Gond.and brother, sister for being an invaluable source of positive energy and love.

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"If a child can't learn the way we teach, maybe we should teach the way they learn." Ignacio Estrada

RESEARCH TIMELINE

(March- April)

To identify the drop out/ at risk of dropping out students and track them

(May- June)

To increase the class room attendance and keep it stable throughout the day

(July- August)

To provide quality education or basic literacy to these kids



ABOUT DEPARTMENT OF DESIGN

Design is the youngest of academic disciplines to be hosted by IIT Hyderabad. It comes into being through post-graduate studies in the form of Matter of Design (M. Des.) and PhD in Design. The M. Des. is a two year full-time program aiming to provide broad-based understanding of design along with student-driven specialization in varied domains. Beginning with a M. Des. in Visual Design (begins July 2014) focusing on experiencing the world based on what and how our eyes see, the post-graduate studies intend to diversify into other domains like User Interface design, Moving Images, Contemporary Photography, Design education, Design for well-being, Collaborative design, Urban Environments, managing creative industries, and Mobility design.

PhD in Design (begins July 2014), provides a platform to pursue practice based and practice led research in art, design, culture, creative practices and related areas. The doctoral program aims to retain and bring the practice-oriented spirit into research in/through/on design, beside other more traditional modes of doing research in design.

Masters in Design

The Department of Design at IIT Hyderabad offers a vibrant environment for learning, practicing and exploring several facets of design. The department envisions to creatively engage in the space between technologies and people. This involves facilitating innovation in the key emergent areas such as Participatory and collaborative Design, Professional Ethics/ Sustainability, Product Systems and Services, Design and education, Wellness, Crowd sourced Design.

Core Courses

Introduction to design
Ergonomics
Design methods
Design semantics
Design principles
Form studies
Graphic design
Experience design
Product design and development

Thesis Project

During the course of four semesters, the Masters program covers a thesis. The Master thesis is a year long project, completed in two semesters, which enables the students to research, analyses and design solutions in the field of any domain of Visual Communication Design, Product Design, Photography Design, Interaction Design, Film and Video design or interdisciplinary domains within design.



ABOUT DIGITAL IMPACT SQUIRE

Digital Impact Square (DISQ) is an online platform and a physical location at Nashik, Maharashtra. Students, young startups, and budding entrepreneurs from across India can participate at DISQ. It is an open social innovation platform designed to enhance the lives of citizens. The platform encourages innovation using digital technologies, to address the needs of citizens through their voice and that of the local administration, government, and industry.

Digital Impact Square

Is a living lab where research and technology from academia and industry influences everyday life

Fosters a culture of innovation through a series of sustained innovation cycles

Accelerates the journey of many from being ideators to entrepreneurs.

THE INSPIRATION

This unique model for collaboration is in part inspired by the MIT Media Lab's Camera Culture research group's previous work in India to encourage innovators, conducted in collaboration with TCS, the local government and citizen representatives in Nashik. The Kumbhathon was set by eminent citizens with support from industry partners along with critical expertise and inputs from the MIT Media Lab's Camera Culture group and TCS. This helped the local administration create a better visitor experience at the Kumbh Mela through innovative, technology driven solutions that resulted in this large event being run successfully without any loss of human life.



S Y N O P S I S

Obtaining quality education is the foundation to improving people's lives. And yet, India has an illiterate population of 287 million adults, which makes up 37% of the global total. Nationally, 29 percent of children drop out before completing five years of primary school, and 43 percent before finishing upper primary school. High school completion is only 42 percent. Just one out of nine children finishing school joins a college in India. 53% of girls in the age group of 5 to 9 years are illiterate; and on average women receive only 1.8 years of schooling in India. India is one of the youngest nations in the world with more than 62% of the population in the working age group (15-59 years), and more than 54% of the total population below 25 years of age. However, a large section of labor force does not have the required skills, or is unaware of opportunities or having outdated skills. It is imperative for the nation to quickly skill the workforce in relevant technologies, at scale, and standard.

The project being a concept for solution after research, I had the freedom to think freely and come up with innovative, ideas that would open doors to new unheard possibilities and new startup idea.

I was given a free hand in my project, spanning across several aspects like creating a brief for the project, carrying out an extensive research, and coming up with a set of ideas and solution that can implemented in digital perspective.

The project was an exciting journey that I made in these six months -questioning my learning at every stage, trying to find the right direction and exploring something novel every time.

Further ahead I will be sharing some of my works and insights from my six- month journey in DISQ. I hope you enjoy ...

DESIGN











The long-term goal is to identify out of school kids, capture real time, authentic and reliable school

attendance data and maximize the access to the basic primary education.



http://www.rteforumindia.org/content/95-percent-schools-lack-rte-infrastructure-0

RTE Forum



95 PERCENT SCHOOLS LACK RTE INFRASTRUCTURE

New Delhi - Two years after the Right to Education (RTE) Act came into force, more than 95 percent of schools across India still don't comply with RTE standards for infrastructure; a study suggests.

A review of the legislation's implementation by the Right to Education Forum, a civil society collective comprising around 10,000 NGOs and three networks, has shown that while some progress has been made in implementing the act, it is far from adequate. A copy of it is

The report reveals that 95.2 percent of schools are not compliant with the complete set of RTE infrastructure indicators, and in 2009-10 only 4.8 percent of government schools had all infrastructure facilities stipulated

STATUS REPORT

under the RTE Act.

· Year 1 Stock taking Report RTE Forum

. Year 2 Stocktaking Report RTE Forum

Year 3 Stocktaking Report RTE Forum

Under the act, schools must have basic infrastructure facilities like an all-weather building with at least one classroom for every teacher and an office for the head teacher.

A separate tollet each for girls and boys, a playground and a library for every school with sufficient reading material, electrification of the school building, ramp access for disabled students, and computers are some of the basic requirements that have "The current status paints a bleak picture for children as more than 95 percent schools don't adhere to government norms and we have only one year left to meet the criteria laid in the RTE Act," says Ambarish Rai, National Convener of the RTE forum. March 2013 is the time stipulated under the act to achieve infrastructure and other requirements like teacher-student ratio and teacher qualification standards.

been recommended under the act.

in 10 schools lack drinking water facilities, 40 percent lack a functional

common toilet while another 40

percent lack a separate toilet for

Sixty percent of schools are not electrified and only one in every five

schools has a computer. Also, 40 percent of primary schools have a

The report, however, shows that one

"Now that we have the RTE Act in place, it is sad to see the lackadaisical attitude of state governments in implementing the Right to Education as a fundamental right in the true sense," Rai said. The forum members add that monitoring the work is in the domain of the national and state commissions for protection of child rights; however, only 21 states have constituted State Commissions for Protection of Child Rights (SCPCRs)

or the Right to Education Protection. Authority (REPA).

"These bodies are critical in protecting the larger interest of children including education," said Shireen Vakil Miller, director of policy and advocacy, Save the Children. Rai adds: "There is, consequently, a huge infrastructural backlog that requires to be cleared, which makes the slow pace doubly unfortunate. Around four percent of habitations lack a primary school within a walking distance. Still we have 16 million children out of school."

The report also cites DISE (District Information System for Education) data, which suggests that 21 percent of teachers in schools were not professionally trained. The number of such teachers in December 2011 was as high as 670,000.

States like Uttar Pradesh, Bihar, Jharkhand, Madhya Pradesh, Chhattisgarh, Andhra Pradesh, West Bengal and Orissa have especially large pools of unqualified teachers, which directly impacts the quality of school education.

Things have only become worse in comparison with 2010, when 91 percent of teachers failed to clear the national Teacher Eligibility Test (TET) - the latest figure stands at 93 percent. "This reflects the quality of instruction in teacher training institutes,"

95 PERCENT SCHOOLS LACK RT INFRASTRUCTURE

New Delhi - Two years after the Right to Education (RTE) Act came into force, more than 95 percent of schools across India still don't comply with RTE standards for infrastructure, a study suggests. A review of the legislation's implementation by the Right to Education Forum, a civil society collective comprising around 10,000 NGOs and three networks, has shown that while some progress has been made in implementing the act, it is far from adequate. A copy of it is available with IANS.

student classroom ratio higher than 1:30, stipulated by the act.

girls.





than 95 percent of schools across India still don't comply with RTE standards for infrastructure, a study suggests.

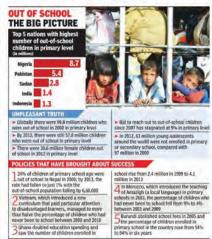
A review of the legislation's implementation

A review of the legislation's implementation by the Right to Education Forum, a civil society collective comprising around 10,000 NGOs and three networks, has shown that while some progress has been made in implementing the act, it is far from adequate. A copy of it is available with IANS.



The report reveals that 95.2 percent of schools are not compliant with the complete set of RTE infrastructure indicators, and in 2009-10 only 4.8 percent of government schools had all infrastructure facilities stipulated under the RTE Act.

Under the act, schools must have basic infrastructure facilities like an all-weather building with at least one







DISE data: Elementary education findings show Maharashtra lagging

Just 31.18 per cent rural schools have regular headmaster or teacher, only 12 states rank below Maharashtra on this parameter.



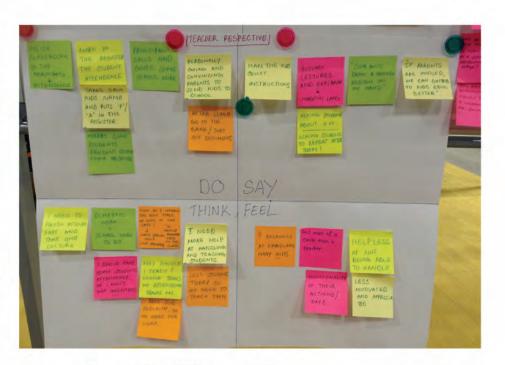
http://tlmesofindia.indlatimes.com/indla/1-4-million-Indlan-children-aged-6-11-out-of-school-Unesco/articleshowprint/37929697.cms



empathy map Care Mapping of Users



Stakeholders Mapping.



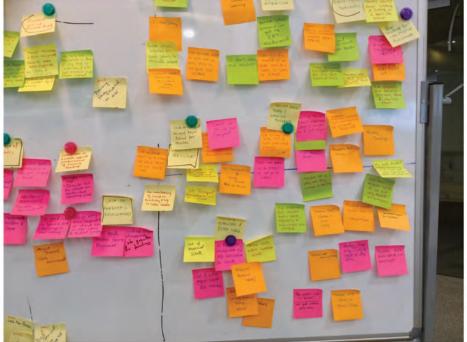




empathy map Care Maping of Users













Block Profile

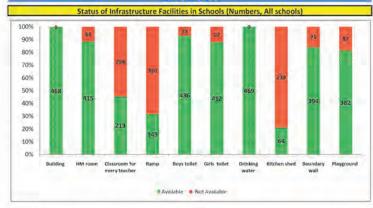
Based on District Information System for Education (DISE), 2011-12

Block:	Nashik (Nashik (M Corp.) District		Na	shik		
1 – Demographic (Source: Census of India,2011)							
	Male	Female	Person	Sex Ratio	Child Sex		
Population	784,995	701,978	1,486,973		Ratio (0-6 years)		
Literacy rate	94.96	86.51	90.96	894	856		

2 - Number of Schools by Management and Category

Indicator (Number of schools)	Govt. and Local bodies	Pvt. Aided	Pvt. Unaided	Total
Primary (1-4)	20	39	48	107
Upper Primary (1-7,5-7)	112	39	57	208
Secondary and Higher Secondary (1-10/12, 5-10/12,8 10/12)	.12	80	62	154
Total	144	158	167	469
Having Primary level classes	132	78	120	330
Having Upper Primary level classes	116	105	87	308
Ratio of Primary to Upper Primary schools		State average	2	1.84
		Block		1.07

3- Infrastructure Norms as specified in the schedule under section 19 of "The right of children to free and compulsory education act



District Profile Nashik (MC) DISE, 2011-12

Status of Elementary Education In Maharashtra State and Municipal Corporation profiles District Information System for Education (DISE), 2011-12

Indicator : Schools without infrastruc	ture facilities	Govt. and Local bodies	Pvt. Aided	Pvt. Unaided	Total
1.Building	Number	1	0	0	1
THE STATE OF THE S	%	0.7	0.0	0.0	0.2
2.Office-cum-store-cum-HM	Number	14	15	25	54
room	%	9.7	9.5	15.0	11.5
3.One classroom for every	Number	97	59	100	256
teacher	%	67,4	37.3	59.9	54.6
4.Ramp	Number	49	125	146	320
	%	34.0	79.1	87.4	68.2
5.Separate toilet for boys	Number	25	8	0	33
п	%	17.4	5.1	0.0	7.0
6.Separate toilet for girls	Number	32	14	11	57
44	%	22.2	8.9	6.6	12.2
7.Drinking water facility	Number	- 0	0	- 0	0
f ==	%	0.0	0.0	0.0	0.0
8.Kitchen shed	Number	122	116		238
ā	%	84.7	73.4	4	78.8
9.Boundary wall	Number	30	26	19	75
	%	20.8	16.5	11.4	16.0
10.Playground	Number	40	24	23	87
	%	27.8	15.2	13.8	18.6
Indicators		Govt. and Local bodies	Pvt. Aided	Pvt. Unaided	Total
Number of Classrooms		1,160	1,834	1,738	4,732
% of classrooms in good condition		90.8	94.3	96.9	94.4
Student Classroom Ratio (SCR)		37	54	38	44
Primary schools having SCR more than	Number	12	39	26	77
30	%	60.0	100.0	54.2	72.0
Upper Primary /Sec./ Higher Sec.	Number	84	94	48	226
schools having SCR more than 35	%	67.7	79.0	40.3	62.4
Schools fulfilling "10" infrastructure	Number	2	2	7	11
norms for building under RTE	%	1.4	1.3	4.2	2.3

180 160 140 120 100 80 60 40 20 8 5

District Profile Nashik (MC) DISE, 2011-12

	4- Enn	olment			
Number of students enrolled in		Govt. and Local bodies	Pvt. Aided	Pvt. Unaided	Total
Primary Classes (1-5)	Boys	15,414	28,190	27,446	71,050
	Girls	15,514	24,765	19,651	59,930
	Total	30,928	52,955	47,097	130,980
Upper Primary Classes (6-8)	Boys	6,104	25,347	10,707	42,158
	Girls	6,172	20,726	7,505	34,403
	Total	12,276	46,073	18,212	76,561
Elementary Classes (1-8)	Boys	21,518	53,537	38,153	113,208
	Girls	21,686	45,491	27,156	94,333
	Total	43,204	99,028	65,309	207,541
School size (Distribution of school (Higher Secondary Schools (8-12) are not	and the second second	Govt. and Local bodies	Pvt. Aided	Pvt. Unaided	Total
Total number of Primary and Uppe	r Primary schools	136	144	135	415
Less than 10		0	0	1	1
11-20		0	0	0	. 0
21-30		2	0	5	7
31-60		2	0	8	10
61-150		13	1	21	35
More than 150		119	143	100	362

5- Gender Gap in Enrolment (in %)

Indicator : Gender Gap in Enrolment by Social Groups (in %)	Primary (1-5)	Upper Primary (6-8)	Elementary (1-8)
All Social Groups	8.5	10.1	9.1
General	9.7	11.7	10.5
Schedule Castes (SC)	5.0	6.7	5.6
Schedule Tribes (ST)	6.7	7.4	7.0
Other Backward Classes (OBC)	9.5	10.8	9.9
Vimukat Jatis (VJ)	7.2	11.1	8.6
Nomadic Tribes (NT)	7.1	18.0	11.1
Special Backward Classes (SBC)	7.9	10.1	9.0
Muslim	2.8	4.8	3.5
Number of clusters having gender gap more than 10%	13	11	- 8

6- Teacher

(Norms at specified in the schools under section 19 and 73 of the RTE ACC)

Indicators		Govt. and Local bodies	Pvt. Aided	Pvt. Unaided	Total
Number of Teachers	Male	387	708	188	1,283
	Female	686	1,471	1,458	3,615
	Total	1,073	2,179	1,646	4,898
Percentage of female teachers to tot	al teachers	63.9	67.5	88.6	73.8
Schools without a female teacher	Number	12	5	2	19
Acres to Many Many Many	%	8,3	3.2	1.2	4.1

District Profile Nashik (MC) DISE, 2011-12

Indicators		Govt. and Local bodies	Pvt. Aided	Pvt. Unaided	Total
Schools with single teacher	Number	1	0	1	2
	%	7.3	0.0	0.6	0.4
Percentage of teachers having qualificat RTE act	ion as per	99.2	98.1	86.4	94.4
Pupil Teacher Ratio (PTR)		40	45	40	42
Primary schools having PTR more than	Number	14	39	29	82
30	%	70,0	100,0	60.4	76.6
Upper Primary /Sec. / Higher Sec.	Number	102	91	63	256
schools having PTR more than 35	96	82,3	76,5	52.9	70.7
Primary Schools fulfilling RTE norms for	Number	16	36	38	90
Head teacher	%	80.0	92.3	79.2	84.1
Upper Primary /Sec./Higher Sec.	Number	45	41	67	153
schools fulfilling RTE norms for Head teacher	96	36.3	34.5	56.3	42.3
Primary Schools fulfilling RTE norms for	Number	.6	3	19	28
teacher	96	30.0	7.7	39.6	26.2
Upper Primary /Sec./ Higher Sec.	Number	14	26	32	.72
schools fulfilling RTE norms for teacher	96	11.3	21.8	26.9	19.9
Schools fulfilling RTE norms for teacher (Availability of qualified HM and Teacher)	Number	9	10	22	41
	%	6,3	6,3	13.2	8.7

7-Efficiency indicators

Annual Average Grop-nut Flate in Primary (1-4) Classes

Social Groups	Boys	Girls	Total
All Social Groups	-2.6	-1.2	-2,0
General	-0.5	-0.2	-0.4
Schedule Castes (SC)	-3.8	-1.7	-2.8
Schedule Tribes (ST)	-0.5	-1.0	-0.7
Other Backward Classes (OBC)	-5.2	-2.1	-3.8
Vimukat Jatis (VJ)	-62.6	-45.6	-54.4
Nomadic Tribes (NT)	8.4	11.2	9.7
Special Backward Classes (SBC)	-17.8	-23.0	-20.1
Muslim	4.7	5.4	5.0

Panish Average Onio-out Eath in Upper Finning (5-7) Classes

Social groups	Boys	Girls	Total
All Social Groups	1.2	0.4	0.8
General	2.4	2.2	2.3
Schedule Castes (SC)	2.9	1.4	2.2
Schedule Tribes (ST)	5.8	5.3	5.6
Other Backward Classes (OBC)	-2.8	-4.2	-3.4
Vimukat Jatis (VJ)	-49.3	-47.0	-48,4
Nomadic Tribes (NT)	6.1	13.8	9.7
Special Backward Classes (SBC)	-56.4	-39.0	-48.0
Muslim	1.6	7.0	4.2

District Profile Nashik (MC) DISE, 2011-12

Transition Rate (Primary to Upper Primary: Grade 4 to 5)				
Social Groups	Boys	Girls	Total	
All Social Groups	105.8	104.5	105.2	
General	105.9	102.2	104.2	
Schedule Castes (SC)	105.3	104.7	105.0	
Schedule Tribes (ST)	100.9	108.9	104.5	
Other Backward Classes (OBC)	107.7	106.0	106.9	
Vimukat Jatis (VJ)	198.1	165.4	183.0	
Nomadic Tribes (NT)	84.9	88.6	86.6	
Special Backward Classes (SBC)	152.2	187.6	167.4	
Muslim	96.0	91.7	93.9	

Transition late (Upper Primary to Secondary - Gratin 7 to 8)

Social Groups	Boys	Girls	Total
All Social Groups	97.9	97.6	97.7
General	97.5	97.5	97.5
Schedule Castes (SC)	98.8	94.2	96.7
Schedule Tribes (ST)	89.4	89.6	89.5
Other Backward Classes (OBC)	100.5	102.1	101.2
Vimukat Jatis (VJ)	165.3	116.4	143.8
Nomadic Tribes (NT)	97.3	86.3	91.9
Special Backward Classes (SBC)	203.4	173.5	188.2
Muslim	97.8	92.0	94.9



For further details please contact :

Maharashtra Prathmik Shiksha Parishad (MPSP)

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District Profile Nashik (MC) DISE, 2011-12







Status of Elementary Education, 2011-12

Summary

Summary				
Name of the district	Nashik			
Name of the block	Nashīk (M Corp.)			
Norm	Status			
	Access			
Ratio of Primary to Upper Primary schools should be less than 2 (State average : 1.84)	Ratio of Primary School to Upper Primary schools is 1.07, which is better as per the norm.			
School with enrolment of less than 20 are not viable.	1 schools have enrolment less than 20. It is suggested that justification for need of school should be looked at.			
Gender Gap in enrolment should be less than 5%	Gender Gap in enrolment is more than 10% is in 13 clusters at Primary level and 11 clusters at Upper Primary levels. Reasons should be find out for higher gender gap in enrolment.			
Infrastructure				
As per RTE act, all schools should have All- weather building consisting other infrastructural facilities like classroom for every teacher, HM room, barrier free access, separate toilet for boys and girls, safe and adequate drinking water facility, Kitchen, Play ground and boundary wall.	Buildings are available in almost all the schools but other infrastructural facilities are required in many schools.			
Student Class room Ratio (SCR) should be less than 30 at Primary level and less than 35 at Upper Primary level (State average: Primary-	77(72.0%) Primary Schools have Student Classroom Ratio (SCR) more than 30, which shows that immediate attention is required to improve the status.			
21.0%, Upper Primary- 29.4%)	226(62.4%) Upper Primary, Secondary and Higher Secondary schools have Student Classroom Ratio (SCR) more than 35 which shows that immediate attention is required to improve the status.			
Teacher				
Pupil Teacher Ratio (PTR) should be less than 30 at Primary level and less than 35 at Upper Primary level (State average: Primary- 24.8%,	82(76.6%) Primary Schools have Pupil Teacher Ratio (PTR) more than 30, which shows that immediate attention is required to improve the status.			
Upper Primary- 31.3%)	256(70.7%) pper Primary, Secondary and Higher Secondary Schools have Pupil Teacher Ratio (PTR) more than 35, which shows that immediate attention is required to improve the status.			
Outcome				
No children should dropout (State average: Primary- 2.2%, Upper Primary-	Annual average dropout rate in Primary classes is -2.0%, which is good as per the norm.			
2.6%)	Annual average dropout rate in Upper Primary classes is 0.8% which is good as per the norm.			
All students should transit from Primary to Upper Primary level and from Upper Primary to Secondary level. (State average: Primary to	Transition rate Primary to Upper Primary level (Grade 4 to 5) is 105.2%, which is higher than the state average.			
Upper Primary level 98.2%, Upper Primary to Secondary level 94.1%)	Transition rate Upper Primary to Secondary level (Grade 7 to 8) is 97.7%, which shows that improvement is required.			

FIELD VISITS

NMC School, Pathardi, Nashik NMC School, Ganjamal, Nashik Education on Wheels (NGO), Dang Seva sadam (NGO)

Mr. Umesh Dongre Sachin Joshi Sunil Khandhbalale Pankaj, NMC primary school teacher Prakash Andhale, ssc, secretary Imran Khan Zilla Parishad school, ambad Nashik, maharashtra

Brick factory, Ambad Nashik, maharashtra

Teacher training program, Guru Gobind school. Nashik, maharashtra

Ambad slum area, Nashik, maharashtra

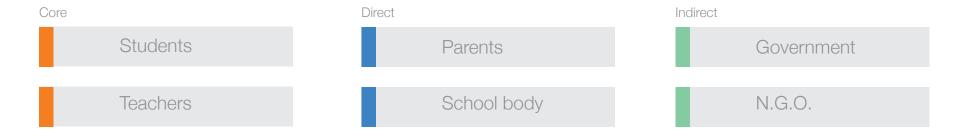
New era private school Rajivnagar slum area

STAKEHOLDERS

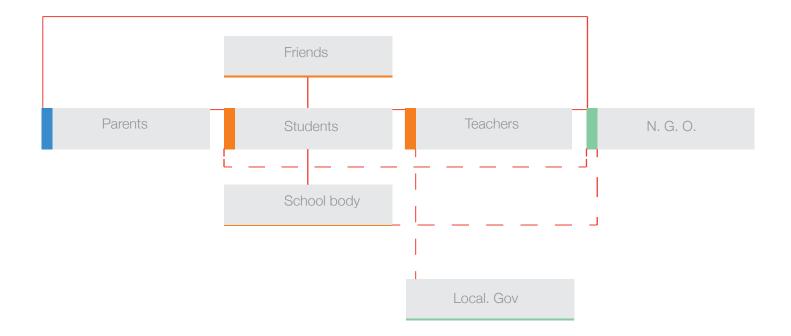
Any person, company or other institution that owns at least one share of a company's stock.

Shareholders are a company's owners.

They have the potential to profit if the company does well, but that comes with the potential to lose if the company does poorly. A shareholder may also be referred to as a "stockholder".



In our case, our core stakeholder is students and teachers. Direct stakeholder is parents and school body and indirect stakeholder is government and local N.G.O



BIGGER PICTURE

25% of the Indian population is illiterate.

Only 7% of the population that goes to school managed to graduate and only 15% of those who enroll manage to make it to high school and achieve a place in the higher education system.

Schools are supposed to be the temples of learning, but the average primary educational institution in India is likely to be a dingy, dilapidated place without access to electricity, toilets and with too few teachers. True, just having great school infrastructure is not sufficient to improve learning outcomes.

The DISE data shows that only 6 out of every 10 schools in the country have access to electricity. State-level data throws up an even grimmer picture—one-third of states do not provide electricity to the majority of their schools.

The quality of the teachers is also important for learning outcomes. The DISE data shows that only 69% of all school-teachers in the country have a graduate degree or more. However, around 91% of all higher secondary teachers in the country have a graduate degree or more. Only eight states have a proportion lower than this.

Due to all reasons, most of the kids are not going to school

1in10

Schools
Lack of drinking water.

60%

Schools no electricity

20-40%

Doesn't attend school due to temporary migration

4-15% Dropout rate

All India infrastructure statistics

20-40%

said child does not like going to school

61%

Teachers in school are not trained Professionally

40%

No toilet

40%

no separate toilet for girls

Maharashtra Gov. infrastructure statistics

SCHOOL VISIT

For real situation and to get real time data. We visit some government runs school, primary school in Nashik Maharastra

During a field visit we covered some of the primary school. In ground level, the report publishes by government and real scenario was different.















PAN AREAS Student point of view

We met lots of school kids during School visits, we talk and interact with them, also different class of students. We collect common pain points, pain areas From the student point of view, those problems They faced every day. And what we observe

No transport facility to the school, Hence she walks everyday	Lots of student in one class and No proper desk to sit on
Left school anytime. No check on a child in the class room	Parents don't ask about the day In school
Skips school to do household work And take care of their siblings	The toilet is not in a usable condition
Physical abuse by the teacher	No proper area for lunch to be served, Quality of lunch not good
Cannot understand teaching modules	Lack of help from the teacher

No transport to reach house

Does not have a lot of help so Takes daughter along

Does not send her daughter to school due to abuse by teachers

less earning and priority

Monetary incentive is more important than education

Lots of house work

Has to handle other teacher's work as well as his own.

Teacher not qualifies to teach the subject

Appoints other teacher to work in his place on a lower income

No inspection/ teacher, not accountable to anyone.

Skips teaching to do other works within class hours

Finds it difficult to handle many kids

Teacher fakes attendance to get his benefits.

PROBLEMS IN THE SYSTEM

Now we note the problem, in the system. Related students, teachers, parents, local municipal government and NGO, after our desk and field research in Nashik Maharashtra.

No policy for migrating students

Teachers overworked with clerical work

Monetary incentive. No policy to check accountability

No monitoring of students going in & outside class

No data of drop out students

No strong laws for differently abled kids

No special attention to weaker students

Teaching modules/ course not reviewed/ changed

Teaching methods not interactive

Inaccurate attendance records

Physical & mental abuse of kids

Teachers overworked with school work

No awareness among parents

No accountability in the funds system

NGO have no manpower & funds

No actual /at risk student drop out data

Kids walk in & out of classroom

Resistance to adapting teaching tech.

Teachers don't take accurate attendance

Kids abused physical & mentally

Migrating students

Awareness among parents

Monetary incentive

Teachers less accountable

NGO not able to gather data for each drop out student

NGO dependent on the school record/ teacher for drop out data

Teachers don't monitor weaker students

Teachers absent

Weaker students not monitored

Attendance taken in a register which is not 100% reliable

No Internet connection in the school

No computer labs

Teachers show resistance to technology

No sanitation, No desks, boards

No transport facility

No funds given for infrastructure

BUCKETING OF THE PROBLEMS

We identify the problem and bucket it in 5 different groups as a policy change. Process level, people problems, technology issues and infrastructure development, for related, how can we solve it in big level.

Policy

No policy for migrating students Teachers overworked with clerical work

Monetary incentive

No policy to check accountability No monitoring of students going in & outside class

No data of drop out students

No strong laws for differently abled kids

No special attention to weaker students

Teaching modules/ course not reviewed/ changed

Process

Teaching methods not interactive Inaccurate attendance records Physical & mental abuse of kids Teachers overworked with school work

No awareness among parents
No accountability in the system
NGO have no manpower & funds
No actual/ at risk student drop out
data

Kids walk in & out of classroom
Weaker students not monitored
No strong attendance record of
absent teachers
Resistance to adapting new teach

Resistance to adapting new teaching tech.

People

Teachers don't take accurate attendance
Kids abused physical & mentally
Migrating students
Awareness among parents
Monetary incentive
Teachers less accountable
NGO not able to gather data for each drop out student
NGO dependent on the school record/ teacher for drop out data
Teachers don't monitor weaker students

Technology

Attendance taken in a register which is not 100% reliable
No internet connection in the school.
No computer labs.
Teachers show resistance to technology.

Infrastructure

Teachers absent

No sanitation.
No desks, boards.
No transport facility.
No funds given for infrastructure.
No internet connection in the school.

BUCKETING OF THE PROBLEMS

After analysis of areas and problem, We came out some most important point that should be changed in our current primary level education system

Policy

No policy for migrating students

Teachers overworked with clerical work

Monetary incentive

outside class

No policy to check accountability

No monitoring of students going in &

No data of drop out students

No strong laws for differently abled kids

No special attention to weaker students

Teaching modules/ course not reviewed/ changed

Process

Teaching methods not interactive Inaccurate attendance records

Physical & mental abuse of kids Teachers overworked with school work

No awareness among parents

No accountability in the system

NGO have no manpower & funds

No actual/ at risk student drop out data

Kids walk in & out of classroom Weaker students not monitored No strong attendance record of absent teachers

Resistance to adapting new teaching tech.

People

Teachers don't take accurate attendance

Kids abused physical & mentally Migrating students Awareness among parents Monetary incentive

Teachers less accountable

NGO not able to gather data for each drop out student

NGO dependent on the school record/ teacher for drop out data Teachers don't monitor weaker

students

Teachers absent

Technology

Attendance taken in a register, which is not 100% reliable

No internet connection in the school. No computer labs. Teachers show resistance to technology.

Infrastructure

No sanitation.

No desks, boards.

No transport facility.

No funds given for infrastructure.

No internet connection in the school.

Our challenge

- To identify dropout students
- To have an effective attendance system
- To provide basic quality education to kids

OPPORTUNITY AREA

Here is what opportunity areas we are covering to change the primary level school education system in Nashik Maharashtra.

- infrastructure gap
- Teacher Student generation gap
- Lake of awareness for Education inn parents
- Student teacher ratio
- Teacher Motivation

- No interactive learning
- Low attendance of kids
- Teacher training
- Skills development
- Transportation



To identify /discover Out of School students and take corrective actions with the help of NGO.



To capture systematic and reliable student attendance data on a regular basis at regular intervals.



To Provide them quality of attendance

OUR CHALLENGES

After research and observation, we decide to work in 3 phases. With the basic point to change the current education system

1

To identify the drop out/ at risk of dropping out students and track them (March- April)

2



To increase the class room attendance and keep it stable throughout the day. (May-June)

3



To provide quality education or basic literacy to these kids (July-August)

GAIN POINTS

Expected point of the change with our challenges and solutions in all areas related to education.



STUDENTS

Students get a school exposure.
Kids getting a basic quality education.
Attempt to change the students perspective on studying.



NGO

Efficient data gathered with less manpower

Child will be identified and tracked



PARENTS

Child getting education.

Awareness regarding education.

Child is channeled in a positive direction.



GOVERNMENT

Increase in education quality.
Increase in student attendance.
Reduce in drop out rates.
Increase in state statistics.



TEACHERS

Hassle free attendance technique.
Increase in recognition.
Decrease in the class drop outs.

FINAL CHALLENGE

We started with our 1st phase challenge with the help of NGO and local government



According to the report, there is a number of kids are not going school or else they have left some of the reasons, let's get them back into the school,

and provide them a quality of education. for that, 1st we need to identify all the kids and students with the help of the NGO. Who are not enrolled ever or not going school after enroll in school.

NATIONAL STATS.

For our challenges we choose Nashik city in sate Maharashtra. With the help of local municipal school, NGO and local government

39%

Boys dropout before completing elementary Education

33%

Girls dropout before
Completing elementary
Education

However RTE act helped increasing enrollment, but unable to ensure quality education and retention thus leading to dropouts.

OUT OF SCHOOL KID







There are a number of students who are out of school, despite the RTE act and various other government incentives.

So what is out of school: If a child is not going to school for 3 months or more, he/ she is considered out of school.

MAHARASHTRA DROPOUT

Maharashtra Gov. dropout statistics

1.6 Ikh

Enroll (6-14 yrs.)

1.18 Ikh

Kids never gone to school

2 Ikh

Students out from the school

0.82 lkh

Students dropout from the school

CLASS DROPOUT RATES MAHARASHTRA

Highest drop out rate In class 4



WHAT LEADS TO A CHILD DROPPING OUT?

Abusive school Environment

Babysitting siblings at home

No interactive learning

Lack of awareness among parents Regarding free education

Abusive school environment

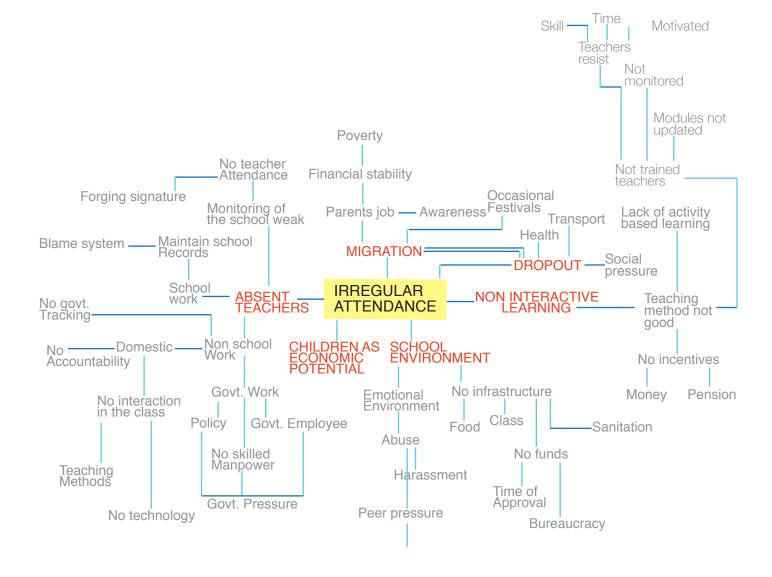
No transport

Absent teachers

No monitoring of students

ROOT CAUSES

"Our focus is on identifying the reasons for irregular student attendance in government school."



TYPES OF OUT OF SCHOOL STUDENT

1



Migrating students- Students which move from place to place for work

2



Enrolled- Students who are enrolled but do not go to school regularly

3





Never been- Students who are not enrolled and never been to school

Student point of view

For the best solution, we analysis the all the government and private school, those schools are non-government funded and government funded. We compare them with a different perspective.

like. Students, Teachers, Administration, and Parents point of view.

PRIVATE SCHOOL

GAIN POINTS

Good Infrastructure

Games and fun Learning

Smart classes/audio-Visual

Extra curricular Activities

PAIN POINTS

Peer Pressure/ Competition

Pressure of marks

Depression

GOVERNMENT SCHOOL

GAIN POINTS

PAIN POINTS

Free books

No quality of education

Uniform

No Infrastructure

Mid day meal

Non engaging Teaching

Freedom to come and go at any time.

No pressure of Failing a subject.

Teacher point of view

Less non teaching Related work

GAIN POINTS PAIN POINTS Non teaching Job security Related work No monitoring Transport PRIVATE SCHOOL **GAIN POINTS** PAIN POINTS Not interested kid Good salary for learning Less Pay Monitoring of Class and teacher work Less Parental Opportunities Involvement Family like No Job security Environment Less teacher Strong support Training activities Good Infrastructure Depression Teacher management

GOVERNMENT SCHOOL

PAIN POINTS

Less No funds from

Government Pay

Submit report to

The government

Administration point of view

PRIVATE SCHOOL

GAIN POINTS

Manage teaching and Teacher quality

Timely audit and Inspection

High accountability for Principal, Teacher etc.

Well management

GOVERNMENT SCHOOL

GAIN POINTS

Good Salary

Open admission
To anyone anytime

Follow RTE Act

PAIN POINTS

Delay in funds For school operation

Delay in approval Process

Follow orders and Rule from Gov.

Time and
Record maintenance

Parents point of view

PRIVATE SCHOOL

GAIN POINTS

Access with teachers On the kids progress

Access to the Management

Kid's report, if not Attending class

Timely Parent Teachers meet

PAIN POINTS

No free lunch, books, Uniforms etc.

All fees paid by Parents

Competitive Environment for kids

GOVERNMENT SCHOOL

GAIN POINTS

PAIN POINTS

No awareness for Importance education

Free from kids care

Free Mid day meal

No kids progress

Mid day meal

Presence in The school

Free education

Free books Uniforms

Cannot help their Kids with the studies

No PTA meetings

SIMILAR INTERVENTION

EVERY CHILD COUNTS - Identifying dropouts and quality Education

Creating awareness about the RTE act among citizens and asking them to help identify kids

INITIATIVE BY MAHARASHTRA GOVT. - Identifying out of school

Students

Tracking of out of school kids based on the Adhaar card. (not implemented yet)

USAID Pilot Program - State of Bihar pilot project

Early Warning System (to reduce student absenteeism and support at-risk students)

Recreation/Enrichment Activities (to increase attractiveness of education to students and attendance)

HOW ITS BEING DONE CURRENTLY

Our Local NGO is doing a similar process for identifying out of school/ students kids and tracking attendance. But we have done better and in a better way of identifying each of out of school kids, students and monitoring their 100% attendance in the class.

But due to less manpower, NGO is not performing well.

We need to do some digital solution for best result



NGO

Pre term beginning





Door to door survey to capture information of out of school kids and counsel them





Get them enrolled into schools.



NGO

Post school term



Report with the teacher



Teacher gives absent student data to the NGO





NGO goes to the houses of the parents and again counsel and enroll



What impact could be if. We do in our way.

- 15% Decrease of out of school kids in Maharashtra.
- Out of school kids will be identified and their record will be maintained
- Government will get statistical data on migrating kids, which today is missing.
- Technology can substitute manpower for the NGO's.
- Sites, which have high amounts of migrating families like Construction sites, slums will be tapped into.

WHO WILL BENEFIT

Students

Students get a school exposure

Kids getting a basic quality Education

Attempt to change the students

Perspective on studying Migrating child identified

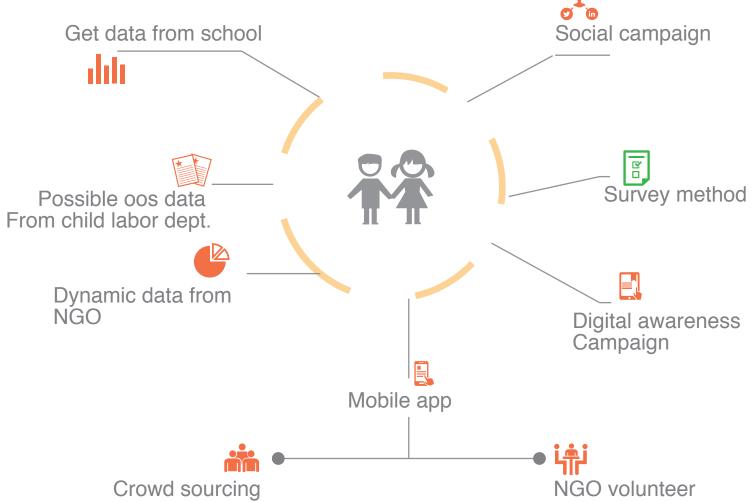
Parents

Child getting education
Child is channeled in a positive Direction
Awareness regarding education

Government

Reduce in drop out rates
Increase in student attendance
Migrating kids data
Increase in state statistics

SOLUTION APPROACH FOR IDENTIFYING



APPROACH





This app will capture the basic information of an out of school child.



Once submitted this data, will go onto the government (NMC) server.



Data stored on the server can be used for viewing, generating reports, data analysis etc.

purpose by government officials and the NGO personnel as per their access rights

FEATURES

- Capture the kid's information making the whole process secure and faster.
- Capture a kids photo to easily identify him/ her later.
- Have accurate information to council and enroll the child later into school.
- Migrant option for the parent

Kids of migrant workers in construction sites

Volunteers use the tool to capture info of the child

Submit the info into the app

Database access is for the government, NGO and also for analysis

NGO gets this data and counsels the parents

Child is enrolled into the school

IMPACT

- 15% Decrease of out of school kids in Maharashtra.
- Out of school kids will be identified and their record will be maintained.
- Scaling up of the idea is much easier with a technology intervention. We can connect several NGO and builders in different cities.
- Government will get statistical data on migrating kids, which today is missing.
- Sites, which have high amounts of migrating families like Construction sites, slums will be tapped into record.
- Teachers will be given recognition for retaining these dropouts in the Classroom thus, involving them also. .

RISK AND BUSINESS VALUE

- Adequate awareness is to be imparted to the citizens if they are to be involved.
- Convincing private schools to take in these drop out kids.
- Duplication of data gathered by volunteers in our database
- Prediction model can be generated for at risk drop out students.
- Selling this tool to the government and NGO officials.
- Reports can be generated and data evaluated.

TARGET MARKET

Main Users

Trained and authorized NGO/ government volunteers

Main Influenced

Primary school going age kids between 6-11 years.

FINAL SOLUTION

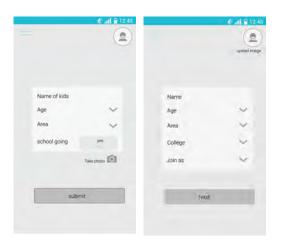
After lots of research, stakeholders and government body meeting and field visit, finally we came up a mobile app base digital and effective solution for identifying out of school kids or students in the city and the ruler area with the help of NGO volunteers and also crowd sourcing.

A simple mobile based application that can help NGO's volunteers to take out of school kids or not going school kids data in a database. With features of taking the kid's Name, Photo, Age, Parents name information and address with school going information

The information, which is taken by volunteers. That will go on a government server at the real time. After taking kids' data and their location. The government will provide a data sheet with the name of kids information and his location. Now NGO's Volunteers will visit his/her house and met with them, their parents. and counseling, convinced them to send their child to nearest government school. Providing transportation and admission will done by an NGO

App Prototyping And Initial Concepts

Create User profile and Kids information screen with upload image of user and image capture button



App Prototyping And Initial Concepts

After functional testing, Usability, Compatibility, Data Exchange & synchronization testing in Field, we feel some changing in app.













With new Create account login screen,

Kid profile screen, Gps. and additional login button

User insights:

Duplication is an issue, Duplication is an issue, Need the exact location of the child.

If child is going to school, then which one volunteer Verification is needed.







Kid Profile

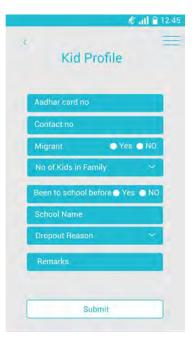
Kid Profile

With new Kid profile screen, with gender, age adhaar no. Gps and parents contact number integrated into the kids profile page.

User insights:

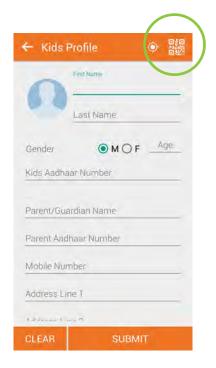
Volunteer notes down the adhaar number of the parent and the child. Kids have mainly 4 common reasons for not going to school. Many families are migrants. Volunteer knows the closest school. The NGO asks for government cards to certify a volunteer





In 5th prototype we add, QR code function to scan kid adhaar card and take information in less time.







FINAL APP FOR IDENTIFY OUT OF SCHOOL KID

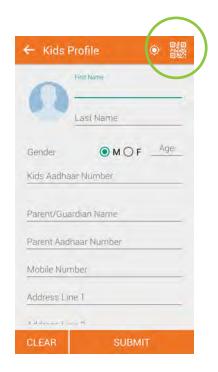
We, finally made the final app for the Android platform in android studio software with the help of android app developer and coder

The app name is "Identify Kids"

Currently the app" Identify Kids" is running on Nashik Municipal corporation (NMC) server, the data custodian is NMC, Data view and volunteer access has been given to the NGO

"Education on wheels" Nashik Maharashtra, India

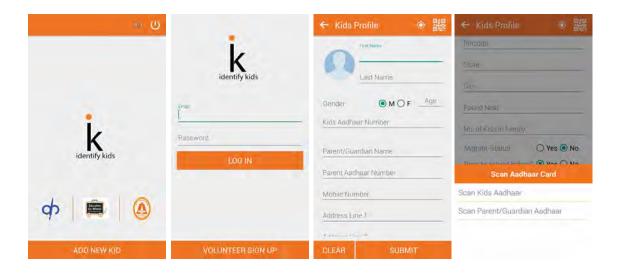


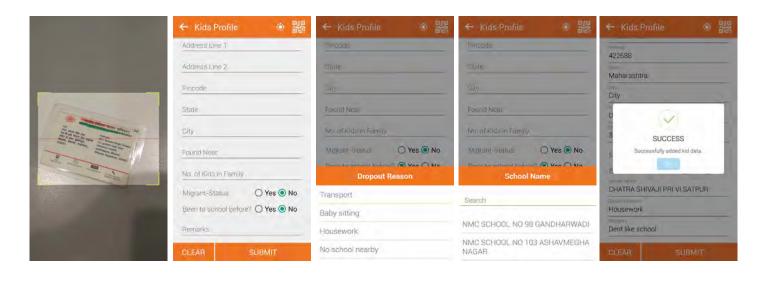




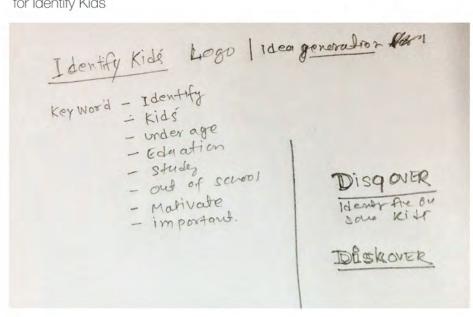
FINAL APP FOR IDENTIFY OUT OF SCHOOL KID

All Screen of the app "Identify Kids"





Logo Ideation for Identify Kids



Identify Kids

Keyword: Identity

kid

Underage Education

Primary

Out of School Motivation Important

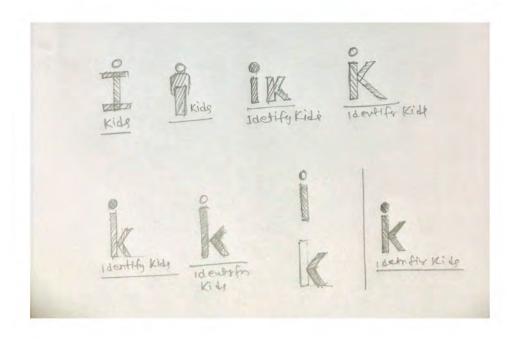
DISQOVER

earlier idea was for app name DISQOVER in this DISQ was the digital impact square name and, i add OVER to creat a name DISQOVER.

Q was the pronounce as "C" like Discover. i designed logo type "DISKOVER". in the logo "k" is point for Klds.







FINAL APP AND LOGO BRANDING



Logo for 'Identify kids' app

In the logo of the app 'Identify kids' Small letter 'I' stand for Identify and letter k stand for kids. On the top of I, the small circle also depicts a human form, which is competing with small letter 'I'. The color of the circle showing importance with 'I



app icon for app store



BUSINESS VALUE

Cost Structure:

Domain name, Hosting Package, Coding Charges, Server, Junior Engineer to maintain the App

Value Proposition:

Lot of Kid related information will be captured and maintained which is not done currently

Increase in traceability of the migrant population

Captured information can be used for various predictive purposes.

Dashboard enables pulling various data analytical reports

Enabling citizens to be a part of the RTE Campaign

Stakeholders:

Nashik municipal corporation (NMC) and NGO

Key activities:

Improve app versions

Manage IT infrastructures

Data analyzing

Marketing through various channels

Revenue:

Premium tools and services like dashboard and predictive modeling can be charged at some basic fee

Revenue can be generated through subscription fees to the different technological tools

Key Resources:

NGO volunteers NMC data-centre, Coders

THE BUGS WE ENCOUNTERED

Particular feature not being compatible with few phone models, so we are debugging the same

No way to retrieve the password by "Forgot password way"

Fields like School and Age were made optional, after field visits

DATA ANALYSIS

What Kind of analysis we are doing

How many dropouts. and at what age.

Gender wise and associated age wise dropouts - This will help us to identify why a Male/Female child drops out.

Gender wise, Age wise and No of Kids wise dropout - Will help those if No of kids in the family is affecting the dropouts.

Locality wise dropouts - this will help us to find the reason if the school in the locality is not safe or any other reason for high dropouts in a city

385

We have 385 entries of kids in our database currently.

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Thank you



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