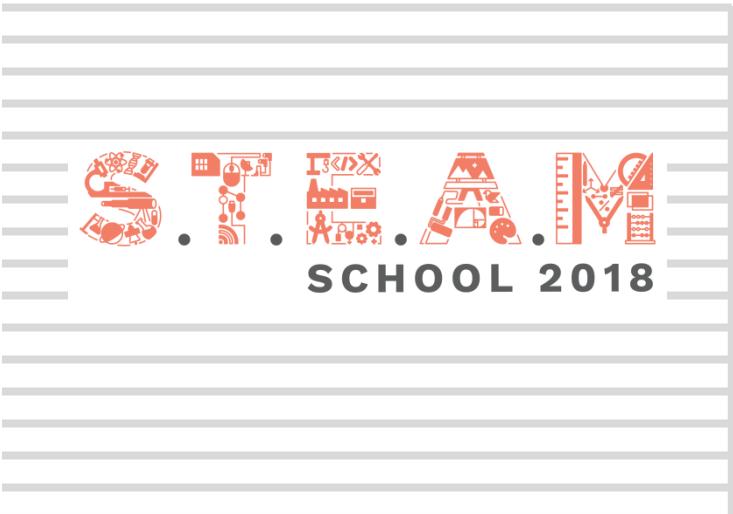




The logo for STEAM School 2018 features the word 'STEAM' in large, bold, black letters. Each letter is filled with a different icon representing a field of study: S (science), T (technology), E (engineering), A (arts), and M (mathematics). Below the letters, the words 'SCHOOL 2018' are written in a bold, black, sans-serif font.





Content

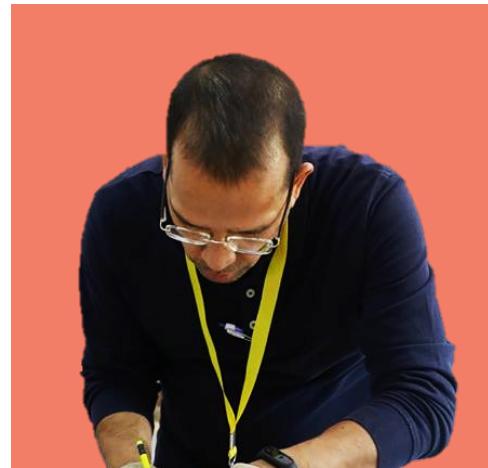
- About S.T.E.A.M School
- Participants/Mentors
- Framework for SS18: SDG Goals
- Program Structure
- Documentation
- Self evaluation Workshops
- Program outcome



ABOUT S.T.E.A.M SCHOOL

S.T.E.A.M School is a **project-based experiential learning program** that Maker's Asylum has been conducting in collaboration with our partners the **Center of Research & Interdisciplinary (CRI)** and the **French Embassy in India**.

The program is focused on bringing together various stakeholders which include entrepreneurs, students, universities and corporate organisations to work on solving problems that align to the **United Nations Sustainable Development Goals**.



MAKER'S™
ASYLUM

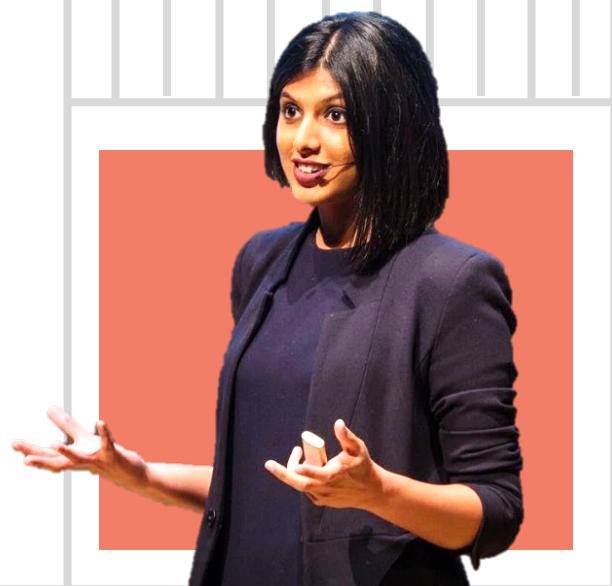




PARTICIPANTS AND MENTORS

S.T.E.A.M School 2018 was all about diversity. We saw **80 participants** who were supervised by **30 Mentors**. In all the mix of participants and mentors represented **10 countries**.

Moreover 45% of the participants were women. In S.T.E.A.M School season--2 this number stood at 15%. We saw a jump in women's participation by 3 times in Season 3.





FRAMEWORK FOR SS18

The program focused on solving problems based on the **United Nations Sustainable Development Goals**. These goals aimed at developing pedagogies for Building Peaceful and Sustainable Societies giving the participants a broader perspective about the state of affairs on a global scale.

The challenge was to understand this global framework at the local level and suggest innovative solutions using skills learnt over the course of the program. To accomplish such an intensive task participants worked in teams with mentors and peers from the industry, academia and the scientific community.





PROGRAM STRUCTURE

Time in %	Structure
20%	Orientation
20%	Hands on learning in workshops
10%	Research and Field Visit
30%	Application of the acquired skills
20%	Presentation and Demonstration

The program took into account the progress of each participant by a self evaluative model and every participant documented their learnings on a digital platform (airtable) and registered their day-to-day activities. The diversity of the participants enhanced the quality of discussions and brainstorming sessions during the program.

Each team followed a common framework to progress along the course of the program



STEAM SCHOOL 2018

WORKSHOPS

Participants were exposed to workshops of their preference which aligned with their project at the SS18 Program



Workshop

IoT

Textile

Geometry +
Origami

Digital Fabrication



Programming
and Arduino

Power tools

Design thinking and
Public Spaces

3D Modelling

STEAM

SCHOOL 2018

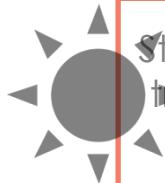
PROGRAM OUTCOME:

SS18 saw participants forming 13 teams who came up with 13 innovative projects. They are listed below:



Aqua

DIY Water purification system



Green Warriors

Stand alone sun tracking system



Bulls Eye

Game for kids to overcome bullying in private schools



Tailor Ed

Wearable device to track students learning activities

Uni

Suitup

Wearable tech to help people with bowel incontinence



ZipEd

Personal skill guide to help students discover their potential and guide them along the path to professions best suited to them.



Green line

Educate people about the value of waste



SCSC

Low cost modular self sustainable house built with recyclable materials



Kidstart

Elevate engagement levels in 6-8 year old underprivileged kids using technology and games



Sarthi

Waste management system



Wearable waste

Upgrads, develop and motivate local craftsmanship



STEAM SCHOOL 2018

PROGRAM OUTCOME :



Problem:

Lack of knowledge and access to economical, convenient water purification systems in low income communities leads to water borne diseases.

If water is not
muddy it is
drinkable.



Consequences are
• Diarrhoea
• Polio
• Hepatitis A+E
• Typhoid
• Death



Solution

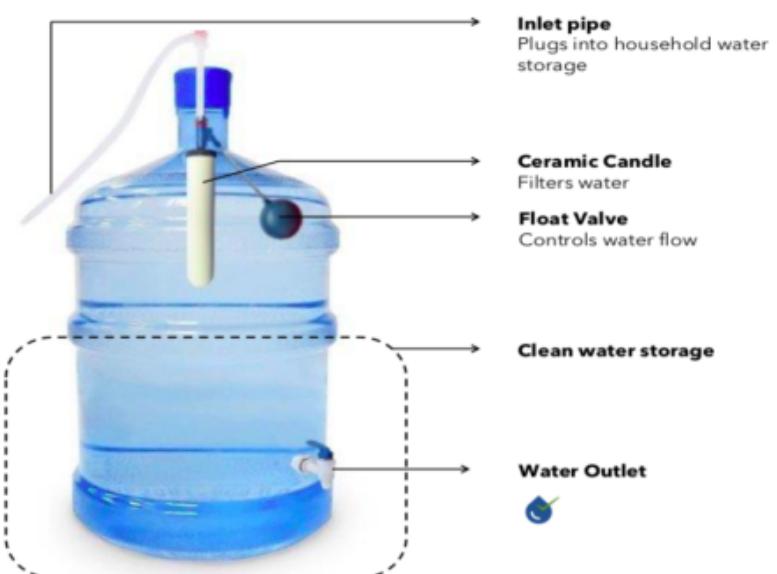
DIY water purification system that plugs into existing water storage for low income communities.

→ Education:

Short video to create awareness; leverages social and traditional behavioural hooks.

→ Product:

A DIY ceramic candle based, easy to use product that integrates into existing household water storage system.



Akanksha Jain
Louis Lalleau
Pankaj Saini
Rajiv Jain
William Jedrzejak

STEAM SCHOOL 2018

TailorEd

CONTEXT

Education needs to be adapted to each student to make learning more effective and enjoyable



RESULTS

Teachers can provide more relevant content to their students according to their learning path

Students are more likely to enjoy learning experiences at school



PROBLEM

Teachers don't have the tools to personalize their teaching to each student



TailorEd



SOLUTION

Smart Wearable Device
tracking students learning data

+

AI

analyzing those data and providing teachers recommendations to personalize their teaching



NEXT STEPS

- To track more variables related to learning
- To improve the design of the device
- To train the AI enabled Automated System



Greenline

green line

Green Line Solutions

The company is working towards increasing landfills due to unorganized waste management system in Mumbai along with a social media campaign, **#BinitRightChallenge** to educate people about the value of waste.

It will be accessible to all the housing societies in the city with the help of an application to segregate and manage their dry waste and will be connected directly to all other stakeholders involved in the process.



Waste Generators



Waste on Wheels



Bin It Right



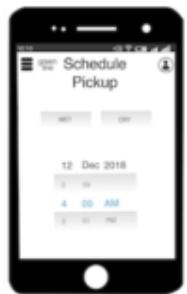
Scrap Dealers



Waste Transformers



Resource Makers



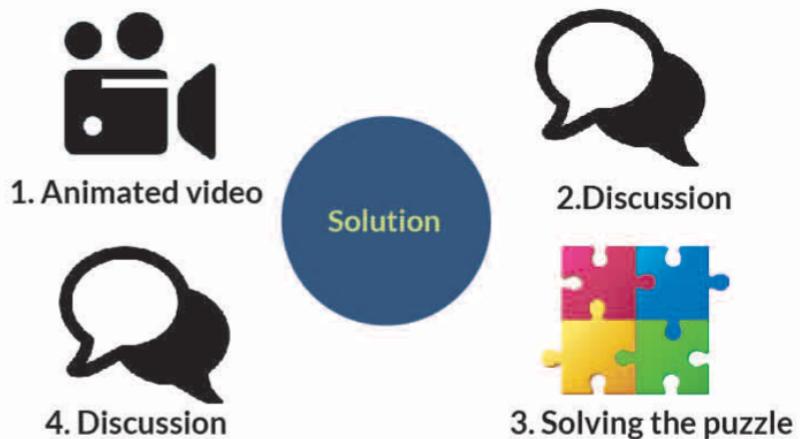
STEAM SCHOOL 2018

Bullseye

BULLSEYE

A game for kids in private schools to overcome the issue of bullying

- 42% kids are bullied in school in india.
- 29% kids dropout in school with high level bullying.
- 57.1% Steam school participants were bullied in school.



Final product



About us: Our team's name is BULLSEYE. Our aim is to stop bullying and help kids overcome bullying in a better and efficient.

Team Members: We are a diverse team of Educators, Engineers and Designers.

The Team: Lisa, Akshata, Prini, Saiyam and Chetan.

STEAM SCHOOL 2018

Wearable from waste



UPGRADE, DEVELOP & PROMOTE LOCAL CRAFTMANSHIP



PROBLEMATIC
In India, craftsmans are usually from a low class and not recognized for their talent

SOLUTION
Training and introducing the craftsmans to new techniques.
Creating jobs and helping indian craftsmans to pass their knowledge.

USERS
Bridging the gap and creating links between the craftsmans and the high end designers to sell product to higher social classes. Valorizing the work of the craftsmans and keeping a link between them.

ROAD MAP
Introducing luxurious raw materials such as leather and silk but also technics like embroidery.

STEAM SCHOOL 2018

Suit Up



In Time is a health care and well being Project that specifically deals with people suffering from Faecal (bowel) incontinence. It is the inability to sense the passing of waste matter from the body, thus facing untimely accidents. The project tries to solves it through a mobile app and a sensor based wearable.

In India, there aren't many public toilets, and those are dirty. It's hard to find toilets when you're out.

People suffering of incontinence (at least 10% of the Indian population over 65/over 50 million people) are more likely to stay inside their house because it feels uncomfortable for them not to have an easy access to restrooms.

Target Audience



It caters to people of elderly age (year 60 and above) who suffer from these issues. Along with people having some form of physical or mental disability. Further can also be used by General Public.

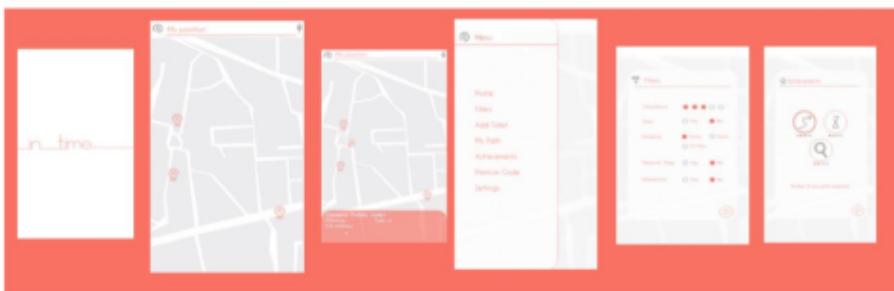
Merges



in time

In Time App

The App collaboratively maps the locations of the near by public toilets, along with toilets provided by restaurants, cafes, hospitals, shopping malls. It enables user to locate the toilet, get directions, choose the toilet according to the time and quality, map a pathway to walk with available toilets, locate medical shops for Layers, overcoming the issue in the form of games to redeem coupons for benefits. Also caters to the issue of finding toilets for general public, thus solving the issue of open defecation in India.



In Time Belt



In Time belt is a sensor based belt to be worn at the lower abdominal region of the body. The sensor detects the change in shape of the organ part when it is empty or full and sends a prior notification so that the patient has enough time to visit restroom and avoid accidents.

By making people feel more secure, we're empowering them to be more independent and more confident to go out. Also, by making a product which can be use by everyone, they would not feel stigmatise because of using this app. This would both be a comfort for the ill people themselves and for those who take care of them. Our solution caters to the following-

Easy access to Toilets on the go

Aiming to fill the biological gap

Encouraging the user to live independently

Reducing the issue of open defecation

Reducing the moments of embarrassment of user



Sneha Rao
India



Clarisse Tarrou
France



Crassant D'mello
India



Jinam Dedhia
India



Louise Guilmont
France



Rahman Torba
France



Revant Jhalani
India

STEAM SCHOOL 2018

ZipEd



Personal sustained skilling guide, that will help students discover and unlock their potential and guide them along the path to professions best suited for them.

Works by collecting information about the student's areas of interests and assessing their personalities and recommends paths accordingly.

The app suggests activities as per the recommended professions, which the student must complete in suggested durations to earn points. The points form basis for short-term rewards like gift-items related to their professions and long-term rewards like face-to-face interaction with professionals, event invites and even scholarships.

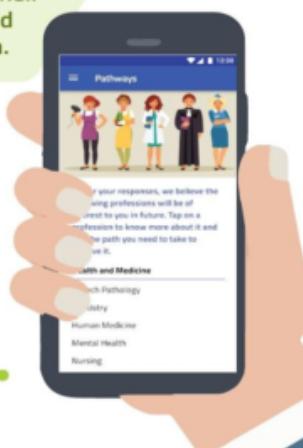


PATHशाला

Content will be generated by a team of experts in collaboration with industry professionals. Requires setting up an outreach programme.

Industry will benefit by having access to data telling them the number of potential candidates and allowing them to make job/internship postings, while providing opportunities for direct communication with upcoming talent.

Academic Institutions will also have access to the analytics and use the data to streamline their courses and curriculum.



STEAM SCHOOL 2018

SCSC



PROBLEM

Lack of self sustainable housing solutions which can be built rapidly

People who want to have alternate sustainable solution for housing - A urban professional with rural roots.

TARGET
USER

SOLUTION

A Low-cost modular self sustainable house built with recyclable materials.



- Solar/Wind Powered
- Rainwater Harvesting
- Modular Structure
- Urban Greenhouse
- Rapid Construction
- Recyclable Materials
- Space saving Furniture
- Carbon Neutrality

Further prototyping → Online Portal → Build Awareness & feedback → Collaborate with Institutions

ROADMAP

THE **1000\$** SELF SUSTAINABLE MODULAR HOUSE

STEAM SCHOOL 2018

Saathi

Introducing SAATHI

Saathi is a companion audio device in form of a toy for a child that listens and enables him or her to feel comfortable and express themselves.

It alerts the authority if:

- (i) It hears keyword(s) related to abuse or harassment
- (ii) It senses discomfort or stress in the child's voice

How SAATHI works?



RECORD



UPLOAD

When the child talks to SAATHI, it responds with verbal fillers while recording the conversation.

The audio file is uploaded to the cloud.



ANALYSIS



ALERT

The audio conversation is analysed for specific keywords with context or stress and discomfort in voice.

If the analysis report return positive, SAATHI alerts the proper authorities for appropriate actions.



Road Map

1. Develop a friendly outer form for the toy which encourages children to feel safe and share their thoughts and feelings with SAATHI.
2. Correlate colour selections with voice sentiments



KIDSafe
MANAS CHHABRA
VIVEK MARTIN
IVAN D LEPCHA

STEAM SCHOOL 2018

Kidstart



The problem!

Elevate engagement levels in 6-8 year old underprivileged kids through technology and games.



6-8 years old. Underprivileged kids

- No hands on engagement
- No Sense of achievement
- Need Community Building
- Love games and Technology

The process!

- Frugal prototype
- Field visit
- Redefine
- THE DESIGN!**
- Fabrication.
- Testing again.



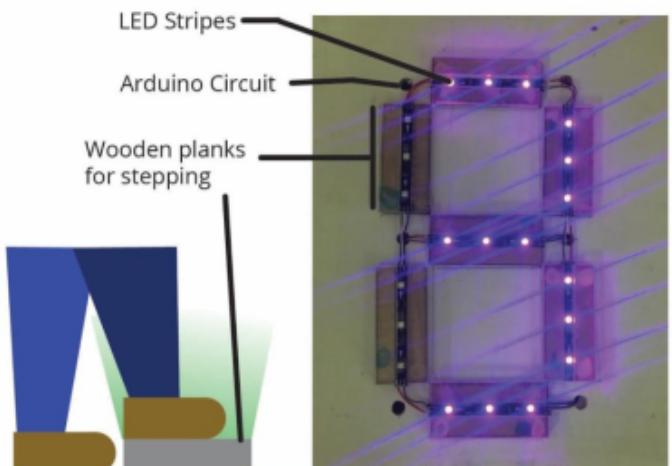
The solution!

Ma-Kudo - The game (Math+Kudo i.e to jump)

Select a number through the speaker. Step on the plank. Light it up. Complete the pattern. Solve a simple math calculation, TOGETHER.



Incorrect Pattern Correct Pattern Complete Pattern



The future?

- More testing!
- Validate the final product.
- First iteration and the first classroom
- Funding.
- EXPAND!
- Teach Efficiently

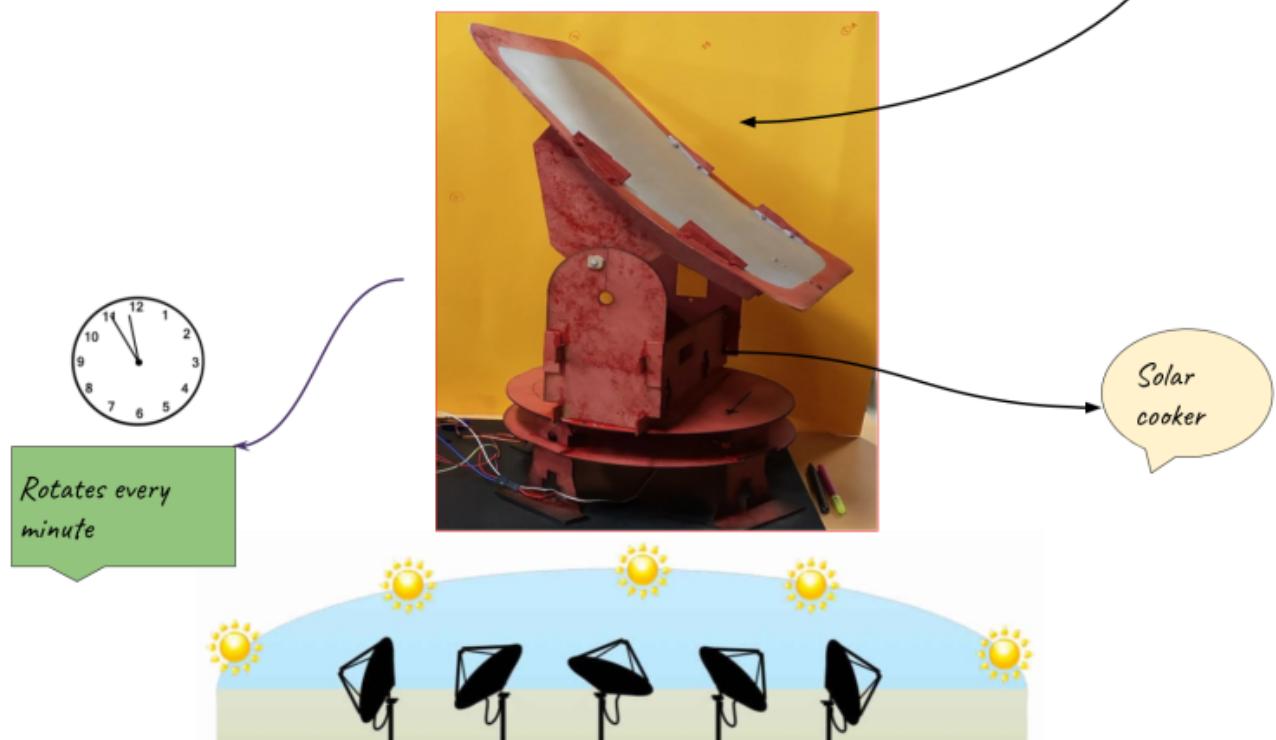
STEAM SCHOOL 2018

Green Warriors

SOLAR COOK OFF

PROBLEM STATEMENT

Today's time solar cells are becoming extremely popular for maximum radiation of sun all the time. The position of maximum radiation receiving position only comes in 24 hours



USER	FUTURE ENHANCEMENT	TEAM MEMBERS
Educational institutes and Environmentally sensitised people	To improve the sun tracking, A stand alone sun tracking can be designed using 18 series PIC microcontroller.	Norgay Rajat Stanzin Jigmet Nishigandha Umamadhuri

STEAM SCHOOL 2018

Knowledge Partners



Outreach/Post Program Incubation Partners



Media Partners



F&B

