THE INGENIOUS TINKERPRENEURS

CELEBRATING THE ENTREPRENEURS OF NEW INDIA

TOP INNOVATIONS OF ATL TINKERPRENEUR 2021

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Indian School of Business

NITI Aayog | ATAL INNOVATION MISSION

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MESSAGE FROM MISSION DIRECTOR, AIM

In the 75 years since independence, India has come a long way. India is no longer the country where a billion mouths are waiting to be fed. It is the country which will soon have a billion mobile devices, a billion internet users, and a populace doing billion online transactions per week.

However, if India has to capitalize on this opportunity, it needs a legion of digital entrepreneurs. The 10,000 Atal Tinkering Labs established across India, along with their network of teachers and mentors, are already working towards this goal. The ATL Tinkerpreneur is another effort in this direction, where students undergo a journey, culminating in their own digital ventures. This journey starts with a summer bootcamp, where students are equipped with foundational digital and entrepreneurial skills. The prime moving force behind this bootcamp are the Mentors of Change, industry leaders volunteering to make the tinkering movement a grand success.

This book is a reward for the top innovators of ATL Tinkerpreneur 2021-22. The ideas and the stories behind them will ignite a million more minds to come up with digital ventures of their own. These ventures will tackle the problems faced by not only the billion residents of India but all across the globe.

I extend my heartiest congratulations to the teams who have made to the top after rigorous rounds of screening and evaluation. I sincerely believe the others were equally good and would whole-heartedly contribute to the ongoing digital revolution sweeping across India.

Chintan Vaishnav

PREFACE

The 21st century needs a radical and disruptive change in student learning processes. Each day, new technological interventions by the industry challenge the education system to create Future-ready Makers. 'Tinkering' and 'Making' are natural human skills that now need to be embraced with technology. The Atal Tinkering Lab (ATL) program has become a national movement that is revolutionizing the Education Ecosystem of India. The goals and vision of the ATL movement tie in beautifully with the National Education Policy 2020 (NEP) and will play a pivotal role in implementing the 'Experiential and Project-Based Learning' model in India. ATL is a workspace where young minds can give shape to their ideas through hands-on do-it-yourself mode and learn innovation skills. Young children get a chance to work with tools and equipment to understand STEM concepts (Science, Technology, Engineering and Math). After 6 successful years of iterative design with the support of expert ecosystem enablers from the Industry and Academia, AIM has created a journey for India's youth - from Tinkering and Making to Innovation and Entrepreneurship.

The Tinkerpreneur Bootcamp was a unique initiative by AIM to teach students digital skills and entrepreneurship during the summer break. Students learnt various skills

such as emerging technologies, product development, business models, marketing, branding, business finance, building a digital venture and finally pitching their venture.

The top students from Tinkerpreneur bootcamp were mentored by Indian School of Business (ISB) to nurture their ideas further. I-Venture @ ISB in collaboration with AIM developed and delivered the 2nd stage of the students' journey towards becoming entrepreneurs, Atal Catalyst program. Since then, the students with the most promising ideas have gone through a variety of masterclasses and mentoring sessions that have added value to them and to their products. This book is a compilation of all ideas and stories from top teams of Tinkerpreneur of their fabulous ventures.

I would like to take this opportunity to extend my warmest gratitude and regard for all the teachers and mentors who have worked tirelessly and given their time, mentorship and guidance to the students which has been the driving force behind their excellence.

I also take this opportunity to thank the NITI Aayog Vice-Chairperson, Mr Suman Bery, the CEO NITI Aayog, Mr. Parmeshawaran Iyer &, the Mission Director Atal Innovation Mission, Dr. Chintan Vaishnav and all the members of Mission High Level Committee (MHLC) for their spirited leadership and continuous support to the Atal Tinkering Labs. My special acknowledgement for the ISB team for making ATL Tinkerpreneur 2022 a success with the Atal Catalyst program.

From 'tinkering' with ideas last summer in ATL Tinkerpreneur, to actually seeing their products go live this summer, our young minds and Digipreneurs have certainly come a long way in their entrepreneurial journey.

Happy Tinkering

Deepali Upadhyay

ATAL CATALYSTS @ ISB

PROF. BHAGWAN CHOWDHRY: FACULTY DIRECTOR, I-VENTURE @ ISB

Ever since the Atal Innovation Mission (AIM) started to set up its Tinkering Laboratories in schools across India, it has done commendable work in introducing science, technology and innovation to young minds who are the future of India's innovation space. By providing physical spaces that are conducive to learning, experimenting, and questioning, the labs truly allow the youngsters to "tinker" with their ideas and technology.

The Mission's objective of instilling creativity, curiosity, and imagination in the perceptive minds of school students, resonates completely with what we do at I-Venture @ ISB. This is why we're program partners for AIM in the Tinkerpreneur Program.

We're very excited about what we were able to accomplish together with the brilliant students of our country. Not only were we able to play a part in shaping the thoughts and minds of our future entrepreneurs, but we also got first-hand insights into how our school children think. It would not be a stretch to say that we were all quite awed by what we experienced. Our school children are analytical, yet compassionate; they have a scientific temper, yet they do not lack imagination. Their ideas are futuristic, and their missions altruistic.

Technology is the engine that will power the growth story of the future. And with our Digipreneurs, this growth story is in good hands!

SAUMYA KUMAR: DIRECTOR, I-VENTURE @ ISB

When I-Venture @ ISB tied up with the Atal Innovation Mission to administer the second leg of the Tinkerpreneur Program, we knew exactly what we needed to create. Nothing, however, could prepare us for the experience we were to have.

Through the Atal Catalysts @ ISB program, we worked with teams that were shortlisted after going through an intensive boot camp that tested the mettle of their ideas. The 100 students/teams that joined the Atal Catalysts @ ISB program were then taken through a learning journey specially curated for them. The students attended Masterclasses with industry experts and learned what it means to work in a start-up-like environment. Each of them was assigned a mentor based on the idea they were working on. The mentors, who brought with them rich knowledge and experience, are ISB alumni themselves and from the start-up ecosystem.

Our Digipreneurs benefitted not just from group classes, but also from one-on-one time with their mentors who truly imbued them with the spirit of entrepreneurship and stewardship.

What made the entire journey worthwhile for us and for each of the mentors who supported the mission, is the zest with which the students took to the world of entrepreneurship. The alacrity they showed in donning both hats, of inventor and entrepreneur, was nothing if not inspiring.

I-Venture @ ISB is proud that we could be a part of these journeys that are sure to be success stories in the very near future!

CONTENTS

Medhavi Gupta and Charvi Sehgal are all both 13 years old and studying in the 8th grade of DPS Gurgaon, but they're already well on their way to becoming innovators and entrepreneurs. Their area of innovation is Mathematics, a subject that many students struggle with. Inspired by what they saw their peers going through, Medhavi and Charvi innovated **Learn Ahead** which is a program by **Wisdom Wizard** through which mathematical concepts are made easy. Learn Ahead's innovation is to create a bank of content like worksheets, quizzes and PowerPoint slides which will help in teaching and engaging with students. And that's not all. This team wanted their endeavour to have a more noble purpose and so they decided that the primary target of Learn Ahead will be to help the less privileged students obtain numeracy skills.

This awesome pair didn't come together by chance either. Medhavi and Charvi have been best friends since the 4th grade, so when they heard about the ATL Tinkerpreneur boot camp, they registered together. Being friends meant that they were on the same page throughout, even when it came to the idea itself. They both wanted to make a difference in the area of mathematics. In fact, they share a common vision which is to expand their product within India and teach lesser privileged students for free.

While their dream is to teach, the best friends have also learned a lot along the way. The last few months have been very exciting for them: drawing up plans, discussing, planning and sharpening their product has taken up much of their time. With limited experience, the hardest part for them was advertising Learn Ahead. But our Tinkerpreneurs are nothing if not illustrious. With the help of the Atal Catalysts @ ISB program, they up-skilled themselves and tenaciously moved forward. The mentorship program helped them modify Learn Ahead to make it more user-friendly.

MEDHAVI GUPTA & CHARVI SEHGAL

In its final stages now, Learn Ahead is ready to take the big leap. As encouragement for students who will be a part of future Tinkerpreneur boot camps, Medhavi and Charvi want to share that "things might get tough and you might want to give up, but remember that all the hard work you put in will surely pay off".

02 SANJITH SHYAM

This is one story that almost never happened. **Sanjith Shyam** is an 8th grader from Delhi Public School, Pune, who, till the last day of submissions, wasn't even aware of ATL Tinkerpreneur! A chance interaction with a friend on a video chat led to a last-minute race against time. And true to what is said about "where there is a will, there is a way", Sanjith took the help of his teachers and applied to the program. Not only did Sanjith manage to submit his idea: WebEasy Tech in the nick of time, but it also made it to the top 20 ideas.

Sanjith's **WebEasy Tech** is a solution that creates personalised digital identities for start-ups and SMEs. It provides a bouquet of services like website development, logo designs, business cards, SEO support, domain creation, social media setup, etc. The tools are developed into effective packages that are both cost-effective and beneficial to companies.

His journey with the Tinkerpreneur program has been very interesting too. Sanjith admits to having learned a host of new skills that will not only help him in developing his product, but also in his academics, and later, his career. Sanjith feels that his greatest challenge was being the face of the product and making presentations to several people, something he managed very well eventually. Not surprisingly, his big moment came when WebEasy Tech made it to the top 20!

With a vision that belies his age, Sanjith's goal is to create a brand that in time will become a household name like Google or Facebook. With a firm belief that "the world

can be changed through innovation", this enterprising pre-teen is inspired by none other than Dr. APJ Adbul Kalam Azad who made his first rocket with limited means and tools. Though his role model may have lacked the means, Sanjith believes that the youth today has many more opportunities that must be invested in the growth and development of the nation.

Sanjith's advice for his peers is as infectious as his energy: "We children can change the world, and we will make our voices heard by one and all".

03 MADHAV A NAIR

Madhav A Nair is a 13 year old from Kochi who attends Kendriya Vidyalaya in Ernakulum. Like many of his contemporaries, Madhav too has had an avid interest in developing apps, and solving 3D puzzles. When he's not tinkering with electronics, Madhav likes to read and play football. It's no surprise, therefore, that when the ATL coordinator in his school mentioned the Tinkerpreneur program, Madhav immediately submitted **POCKMED:** An app that digitally organizes and manages personal medical and health records and also helps to prepare for effective doctor consultations.

A keen observer, Madhav had noticed the medical experience of family members and close relatives and realized early on, the importance of well-documented medical history. He had also observed that despite its importance, most of us do not actually have a properly organized medical history. This was Madhav's eureka moment which led to POCKMED. His solution was simple: a mobile app that helps people not only manage and organize their medical history but also share personal medical records with their doctor or specialist. In addition to this, POCKMED also has features that allow you to map and document pain, record symptoms, and report vital parameters for effective doctor consultations.

This budding "*student-preneur*" is all praise for the ATL Tinkerpreneur program. For Madhav, it was an amazing experience with a lot of new learnings on digital skills and hands-on experience in building a product from scratch, starting with just an idea.

However, it wasn't an easy journey throughout. Like most ideas that eventually succeed, POCKMED also faced its fair share of challenges, primary among them was the collection of survey data from doctors. Madhav and his team contacted doctors from more than fifteen big hospitals, with a final response count of little over thirty. Networking with doctors/hospitals soon emerged as the core challenge. Not to be deterred, Madhav persevered and managed to collect enough data to launch the app. His moment of truth came when POCKMED was bought and given a five-star review by an international customer!

The knowledge gained from Atal Catalysts @ ISB has also helped Madhav in further improving his digital product and reaching a bigger customer base. Based on the program, POCKMED is planning to change the pricing strategy to Freemium. He has some advice for his peers who may have missed applying for the ATL Tinkerpreneur program last year: "Don't miss it next year. Because of the ATL Tinkerpreneur program, right now I am a successful *student-prenuer* and the owner of a business called POCKMED. I feel proud that the product I have developed is being used by nearly 2000 customers from 93 countries, and in just eight months my business has generated a net revenue of nearly 34 thousand rupees."

What an absolutely inspiring story!

04 RISHABH ARORA

Rishabh Arora is yet another 13-year-old from New Delhi. A student of class 9 at Hansraj Model School, Rishabh has already started to work on his first venture with the help of the ATL Tinkerpreneur Lab. Rishabh's product, 'Adopt a Parent' is as humane as it is technically savvy. We've all heard of babies and children being adopted into families that love them and give them new homes. But what about the ones who've had families once, but lost them later? This is where **'Adopt a Parent'** steps in.

Rishabh Arora's product is so deeply compassionate, that it's not surprising it comes from a young heart. His platform will help the elderly, residing in old-age homes, to be adopted into families – the same way children are. Young people who do not have parents, or have lost them, will be able to adopt a parent, while at the same time providing an elderly person with the love of a new family.

Rishabh was the average teen who enjoyed traveling, playing basketball and making digital games. But something not quite ordinary happened when he visited an old-age home on his birthday. He wondered that if children and pets could be adopted, why not the elderly who also want to live with families. And that was all it took for the seed to be sown. Rishabh made it his mission to help as many elderly people restart their family lives.

Despite the initial challenges of speaking with the management of old age homes to collect feedback and data, Rishabh plodded on undeterred. He even spoke directly to the elderly in the homes, in order to test his idea. The response was overwhelming.

It was just an idea still, far from becoming a reality, but the elderly he spoke to were so overwhelmed by the fact that someone wanted to find them a real home with a family, that they responded with, in Rishabh's own words, "hugs and blessings". And that was all the encouragement that he needed.

Adopt a Parent works like a registry website where hopeful families register with their details. The data is then forwarded to the management of old-age homes who 'match' the families with the parents. In the website that Rishabh is developing, Old Age Homes will be able to upload the data and profiles of the elderly under their care who are interested in being adopted.

Youngsters who have lost their parents and want to adopt one will have the option of choosing from 1 month or 3 months membership plans. They will then be able to connect with as many elderly people for the duration of their membership which will help them discover who they want to finally adopt.

Meanwhile, Rishabh's idea was also selected in the Top 100 and Atal Catalysts @ ISB helped him further refine his product. Rishabh started working on making 'Adopt a Parent' market-ready. However, none of this success made Rishabh veer from the path of his goal. He feels blessed and proud to have come up with an idea that no one had thought of before. Something which can change society and transform how we think of old-age homes.

05 VANSHIKA MANCHANDA

Vanshika Manchanda is a 16-year-old 11th-class student from Shiksha Bharti Vidyalaya in Rohtak, Haryana. She has devised **Made in India – Gain India**, a social entrepreneurship venture that aims to bridge the gap between rural artisans and urban markets.

Most potters and artisans live below the poverty line and struggle to make ends meet despite being the custodians of ancient art forms. Without direct access to urban markets, they are forced to sell to middlemen at low prices. It took Vanshika a single trip to a village near her hometown and she was able to not just process the magnitude of the problem, but also think of a solution. That trip to an artisan colony was how 'Made in India–Gain India' was born.

Vanshika's solution provides artisan-crafted and handmade pottery items available to us at our doorstep, with just a click on the carefully designed, interactive, tech-enabled platform. And all this comes with a zero-breakage guarantee. This sixteen-year-old has a colossal dream that she is determined to achieve: ancient Indian art forms should continue to live and thrive.

Encouraged by her teachers and her ATL in-charge in school, Vanshika took the idea to the ATL Tinkerpreneur program, and the rest of the journey fell into place.

Looking back, Vanshika realizes that not just her product, but she too experienced tremendous personal growth in the last year. While the Atal Catalysts @ ISB program was honing her entrepreneurial skills, her mentor kept motivating her throughout. It's

no surprise that this 11th grader is already talking about market strategies and finance options. With the tech support and sponsorship, "ISB helped me transform an idea into a venture", she says.

The sharp '*student-preneur*' in her has some sage advice for her peers too: "ATL Tinkerpreneur is a great opportunity to change our business idea into reality. Some of us may worry about how this might affect our academics. On the contrary, a program like this is actually helpful in many small ways. It has helped me develop many new skills and has opened doors to many new opportunities".
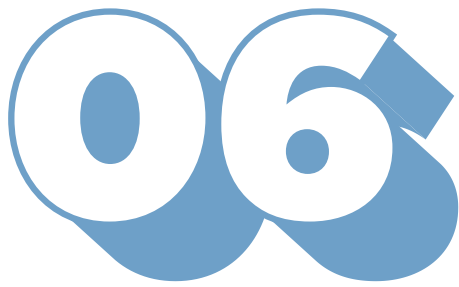
06 AKSHARA SINGH

Akshara Singh, an 11th grader from Delhi Public School, Gurgaon, was building basic models for disease classification using AI, when she stumbled upon something else entirely – the urgent need to create a solution that would help reduce misdiagnosis. That single turn of events is how **PneuCheck** came into being. Akshara's research told her that misdiagnosis of diseases is a mounting problem the world over. Sometimes existing diseases are not diagnosed at all, which causes a lot of problems in the advanced stages of occurrence. Currently, doctors have to study many different reports and documents that are all printed on paper. Not only does this increase the chances of missing critical data, but it also takes away from the time they can spend with the patients.

PneuCheck aims to solve this problem using a uniform electronic health record system, predictive analytics and computer vision. If that isn't mind-boggling enough, here's more! For her first prototype, Akshara has built a website where a user can feed in images of x-rays and get to know if there is a presence of pneumonia or not. For her next prototype iteration, Akshara is already working on creating a basic version of an EMR (Electronic Medical Record System). She's also looking to enhance the tool's machine learning capability so that it can give a more accurate model for pneumonia diagnosis.

Akshara manages to accomplish all this while being a regular 15-year-old who enjoys reading and poetry. When she heard about the Tinkerpreneur boot camp from her

school, she entered PneuCheck and later, kept honing it with the help of her mentors assigned by ISB. The Atal Catalysts@ISB program provided sage advice that helped Akshara identify gaps in her product and tweak the solutions accordingly. The sessions on entrepreneurship gave her insights into what it means to be an entrepreneur and how things work in the start-up world.

Akshara continues to balance her studies and the pursuit of making PneuCheck a reality. Her vision is that PneuCheck plays a big role in digitizing and storing healthcare data, something that could potentially save lives by giving accurate prognoses while making diagnosis quicker and more accurate. "Innovation and technology are the engines of prosperity," says Akshara. "Even as students, we can work towards solving major problems using innovation. I would encourage all students to learn beyond what is taught in classrooms, become problem solvers and work on things that can make an impact."

Riddhima Rahul Patil is a 13-year-old 8th grader from South Indian Association High School, Dombivali. Though she was even younger when the COVID pandemic hit the world, she still recalls the many stories she heard of people who were homebound in the early days of the lockdown. So many of the stories involved people who had limited access to supplies, or worse, did not know how to cook. Some of them were having to resort to outside food, which was not the healthiest option in the long run.

That's how this young entrepreneur conjured up the idea of **Riddhima's Kitchen** a website that has an e-book with an exhaustive list of recipes that have been written down in the simplest of ways which makes them easy to understand. Riddhima was also mindful that often people reach out to sites like hers because they don't really know what to cook. Her website's interface addresses this problem by making the recipes easy to locate as well. Her USP, she says, is that the recipes are simple, easy to make from basic ingredients at home, and are therefore hygienic and healthy.

Riddhima had heard about the ATL Tinkerpreneur boot camp from a friend of hers during a casual chat and decided to apply with her idea, not knowing that she would end up this far into the journey. Like her peers, Riddhima too feels that she's learned some incredible lessons along the way. From the girl who was struggling to comprehend what being an entrepreneur means, to the confident young lady who now believes that **Riddhima's Kitchen** can help many people who are struggling to keep their health in check, Riddhima has come a very long way indeed.

And it wasn't all easy either. Her toughest challenge was grasping concepts of profitability and risks, and making calculations and projections for her business. With help from her mentors at ISB, Riddhima is now fluent in business-speak and is equally determined to make Riddhima's Kitchen a successful venture.

RIDDHIMA RAHUL PATIL
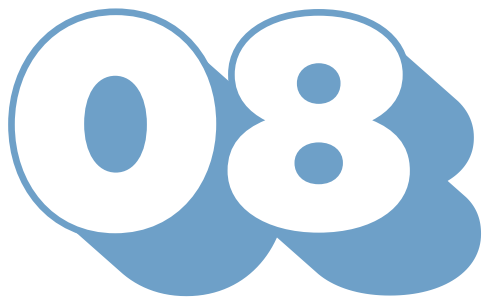
08 YUVATI

If there was ever a doubt about necessity being the source that leads to invention, **Yuvati** puts it to rest. Yuvati is a 10th grader from Canal Valley School in Rewari. She pursues art and dance, like many of the young teenagers her age. Except, there is something quite extraordinary about Yuvati.

Galvanized by her own challenging experiences related to menstruation and hygiene, Yuvati got thinking about all the daily challenges young girls like herself and women still face. Quite industriously, she actually set out to conduct surveys of her own to find out the spread and the depth of the problems. The survey and the research she did by reading any available material compounded her beliefs: girls were struggling with various aspects of menstrual hygiene. Many of them were even having to miss school during their periods. It was at this point that Yuvati conceived the idea of **S-Women**, an app that has credible information from experts on menstruation, hygiene and menstrual health.

Yuvati's vision for S-Women is as simple and elegant as the solution itself: To provide health services through the platform so that women don't have to go anywhere else for their menstrual needs. Which is why, over the months she has added a host of services to the app. S-Women can help calculate the user's BMI, it gives hygiene management advice during menstruation, suggests healthy diet plans and even has a separate section for menstrual health during pregnancy. Animated videos help demonstrate the best exercise regimes to follow during the cycle.

Yuvati is all praise for the mentoring she received during her months in the Atal Catalysts @ ISB program. Her mentor who she says was always there for her, helped her connect with corporations. As a result of networking and learning, several more improvements emerged. S-Women now has an e-com platform that will provide hygiene care products. In fact, Yuvati is also planning to add beauty care and baby care segments to the app, which is currently being hosted by her sponsors I-Venture @ ISB.

Like her contemporaries who were a part of the program, Yuvati too had to work twice as hard to ensure she was balancing her studies along with strengthening S-Women. But the winner that she is, Yuvati managed that quite well. She acknowledges her mentors from the Atal Catalysts @ ISB program who helped her not just refine the existing solution but also helped her add features like the e-commerce platform to the app.

S-Women and Yuvati are both ready to take flight!

09 ABHAY K. DAS

Abhay Kumar Das product is as elegantly designed as the passion with which he explains how it works. This 12th grader from Kerala Samajam Model School in Jamshedpur may be only 17 years old, but you wouldn't be able to judge that from the wisdom and experience he exudes.

Abhay's hobbies are playing cricket and badminton. Along with sports he has a keen interest in graphic designing and web development. It's no surprise then, that he envisioned '**Designers Desk'**: a concept that brings together art and technology.

Designers Desk is a multi-offering platform. It offers design and art workshops to learners at affordable rates, as well as internships that will help them practice their skills. It's also a multilingual ecosystem which ensures it's open to everyone interested in learning digital design, irrespective of their language preference. Abhay's belief in the 'Learn-Create-Earn' format, and his personal commitment to promote forgotten Indian folk arts, adds another feature to the product. The result is a completely new way of implementing these same art forms onto a digital canvas. As the world heads towards the metaverse, 'Designers Desk' will provide opportunities to sell the art created, in the form of NFTs that can be viewed in a 360° virtual art gallery, as well as bringing the virtual tokens into real life by displaying them in digital NFT frames.

Abhay's vision is nothing short of grand. He wants to revive Indian folk Art forms that are on the brink of disappearing by supporting design enthusiasts to learn and practice them in a modern way. He also wants to make Indian folk Art recognizable globally.

The most challenging part of Abhay's journey was documenting every small detail of his idea and exploring how his solution could be improved even more than the previous version. But the challenges of product improvement were made more enjoyable by his mentors at Atal Catalysts @ ISB. As did the interaction with the founder of Infosys.

The Atal Catalysts @ ISB program added what Abhay calls a "keen insight into the finance and marketing aspects of a business". One-to-one mentor support helped him bridge the gap that he experienced coming from a science background.

Abhay Kumar Das signs off with some advice for his peers who might want to be a part of the next batch: "Believe in yourself and your ideas. Look into the most ignored problems around you and solve those. It's these solutions that change society eventually."

Shivansh Kulshreshtha story has a distinctively Newton-ian quality to it. While Newton had his epiphany sitting in an apple orchard, Shivansh had his moment when he came home from an extended vacation at his grandparents' in Haridwar. Unlike Newton, Shivansh's experience was rather sombre.

On his return from the vacation, Shivansh had found that all the plants he used to carefully tend to, had withered for want of water. Right there, sitting amongst the flower pots with the wilted plants, Shivansh came up with the idea of **PlantGen**, a smart IOT device that waters plants and supplies nutrients, while being controlled remotely. PlantGen remotely receives commands from the user through a mobile app that uses Wi-Fi as a communication medium.

And just in case you were wondering, Shivansh Kulshreshtha is a 7th Grader from Delhi Public School, Ghaziabad, and is all of 12 years old. Apart from having the deepest compassion for plants, he also enjoys exploring new technologies, reading books and playing the synthesizer.

He distinguishes between his immediate goals and his long-term vision as well. His goal, he says, is to capture the maximum target market and make the device even more advanced with time. Shivansh would like global visibility too for the PlantGen. His big vision is: No plant should wither due to lack of water, and no plant-parent should experience what he did when he returned from his vacation.

Shivansh heard about the Tinkerpreneur boot camp from school and applied with his idea immediately. Despite his young age, he found the journey exciting and challenging, one which provided several opportunities to learn. The pandemic caused unforeseen delays along the way because some parts were difficult to source during the lockdown. However, being the innovative inventor that he is, Shivansh studied, researched and

SHIVANSH KULSHRESHTHA

took the help of his father, until he had all the parts that he needed to make his first prototype.

Another challenge for this brilliant 12-year-old was to prepare a revenue model. He prepared for this by researching target figures and relevant data that would define the fixed and variable costs of his project. Only after this was it possible for him to come up with a realistic model which could define the profit and revenue generation along with the break-even analysis. None of this, Shivansh feels, would have been accomplished without the expert guidance of his Atal Catalysts @ ISB mentors. The insights and knowledge he gained are irreplaceable. Not only did the mentors help him with the revenue models, they also pitched in to explain the circuits and the mechanics of his device.

An experience truly worth cherishing, says Shivansh.

11 ANSH SHAWRIKAR

Here's an interesting take on the very skills that propelled so many of our Tinkerpreneurs into the league of inventors and entrepreneurs: Programming Skills. Hundreds of students from across the country who poured in their technology related ideas to the boot camp this year, had programming at their base. **Ansh Shawrikar**, a 9th grader from DPS Greater Faridabad was also one of them. But here's the twist: Ansh's idea is to help other students learn programming.

Programming Spot is an e-learning platform that will provide coding courses and tutorials through short videos that will be uploaded onto a website. 13 year old Ansh is himself an avid coder, and that is why when he heard about the ATL Tinkerpreneur from his school, the first thought that came to him was how to make coding more accessible to students across the country.

His own proficiency with coding and programming showed Ansh how important the knowledge of computers is to current and future generations. However, this knowledge comes at a monetary cost. Programming courses are often prohibitively expensive for students who want to learn the skill.

Programming Spot wants to fill this gap. Ansh's simple but profound vision is to create one platform for anyone to learn programming from.

His experiences with the Tinkerpreneur and Atal Catalyst @ ISB programs too have been nothing short of amazing. Right from the time his submission was shortlisted,

Ansh says that he has been "learning something new each day." The programs allowed him to understand what a business really is, helped him learn entrepreneurial skills and even plan on how to expand his business. The budding entrepreneur can now comfortably talk about his marketing plans, his go-to market strategy and about putting ads on YouTube.

From the boot camp to the Atal Catalysts @ ISB program, his idea has gone through a rigorous churn to reach where it is now. It is in the development stage currently where the website that will host the training videos is being built. Ansh plans to go live with two courses: how to build a website and a Python course. Both of these will have a clear curriculum with tutorials and assignments. While he plans to go live with the two courses for now, Ansh has plans to add more with time and experience.

The young entrepreneur is confident and excited as he prepares for his next steps and wants to encourage his peers to "live with their dreams".

12 KAAVYA VK

Another exciting idea in the education space is by **Kaavya VK,** an enthusiastic 9ᵗʰ grader from Don Bosco HSS in Thrissur. Kaavya's product is aptly called **Education & U.** It's an e-learning platform with the sole aim of making the process of learning more fun by integrating lessons with quizzes, films, stories, toys and games. Kaavya's vision is to provide high-quality, interesting and technology-enabled education aid at the least possible cost for its users.

This 14 year old Tinkerpreneur had observed over time that students like herself often lacked interest in school lessons and this led to an absence of clarity in key academic concepts. Unable to fathom why this was happening to so many of her peers, she decided to do some research of her own and the results surprised her as much as they encouraged her to come up with a solution. Less than half of the students in India have access to e-learning. Amongst those who do, an overwhelming majority lacked interest in online learning and got bored quickly. This would lead to them not understanding basic concepts and would eventually impact their grades. A related problem was many students were unable to access e-learning courses because of financial considerations.

Armed with just her vision, Kaavya attended the Tinkerpreneur boot camp. From here, things took off. The last year has been like a journey into a magical new place for Kaavya, each stop teaching her new things that she was not even aware existed: right from sharpening her project plan to fine-tuning her product, from lessons in financial

modelling to mentoring on revenue related planning, Kaavya's journey has been filled with new discoveries and learnings.

Like anything worth working for, Kaavya's path too was filled with challenges. The toughest one that she had to cope with was handling all aspects of the product alone. But with the determination that is now her hallmark, Kaavya kept forging ahead.

She has something to tell her peers too: "Discover what you want and keep going after it. Never give up". Sage advice coming from someone who admittedly "did not even know the meaning of 'entrepreneur'" when she attended the boot camp last year. From then to now, both Kaavya and her product Education & U, have come a long way indeed!

When **Harshita Ramrakhyani and Radhika Singh**, both 12th graders and friends from Bal Bharti Public School, Noida were homebound in the summer of 2021, they realized that the only form of interaction available to them was of the virtual kind. Though they were able to pursue their individual hobbies of reading, calligraphy and dance, they still missed the casual interactions from school. Online classes gave them an opportunity to come together but it wasn't a substitute for talking, chatting, sharing and discussing the same way that students were used to pre-pandemic.

This was also the same time that they learned about the ATL Tinkerpreneur boot camp. And that's how things fell into place for Harshita and Radhika to come up with the idea of **Learner's Mate**: an interactive student community platform where students of age 11-25 can come together to socialize, network and acquire knowledge. And all of this in a safe, virtual space.

The duo's ambitious vision is to empower students on their learning journey through school and college. Learner's Mate will help users in several ways: they can connect with a diverse group on shared interests, discover opportunities and updates around a host of topics and also create and manage their own network of like-minded students.

Once Harshita and Radhika had applied and got shortlisted, there was no looking back for them. They embarked on what they describe now as a "rollercoaster journey full of challenges and brainstorming that taught us perseverance, patience and consistency". Like any difficult journey that eventually bears fruit, this one too came with its set of challenges for the two friends. Theirs was to work together to shape their vision into reality by developing a product which would be fundamentally strong and cater to a very large group. Along the way, help came in the form of the Atal Catalysts @ ISB

HARSHITA RAMRAKHYANI & RADHIKA SINGH

program which mentored them on much needed entrepreneurial skills and in shaping their idea to make it market ready.

With the grit and determination that Harshita and Radhika have between them, all they need is our best wishes!

Here's proof that our Tinkerpreneurs this year are a group of well-rounded and thoughtful students who are as committed to academic development and technical advancement as they are to mental health. **Thanvi Chennupati and Hasini Kottey** study in the 10th grade of 'Vikas The Concept School' in Hyderabad. Both are 15 years old. In between pursuing their hobbies of playing sports and listening to music, they also think about their peers and the larger community of students. When they heard about the ATL Tinkerpreneur boot camp from their school, they came together to brainstorm on what they could do. Unsurprisingly, they came up with **UsForYou**, a website that will help to care for the mental health of teenagers.

The seed of the idea emerged from their own experiences as well as their observations of the world around them. Thanvi and Hasini had both witnessed academic stress, peer pressure, and even bullying. And so, that is what they wanted UsForYou to address.

With the help of trained professionals, the website will provide counselling sessions for problems related to bullying and other common stresses associated with teenage life and academics. In fact, their design for an end-to-end end program is already in place. A full intervention will require at least four main sessions between the **counsellor and a parent, the child/teenager and the school officials.** This will help to get the information required to counsel the student."

UsForYou also plans to engage with larger groups, other than the individuals who voluntarily seek help. Thanvi and Hasini want to build awareness around mental health with the blog section in their website. They believe that a critical step in de-stigmatizing mental health is to first have conversations around it. Teens should be as comfortable talking about mental health, as they are about physical health. Their joint vision for

THANVI CHENNUPATI & HASINI KOTTEY

UsForYou stems from the belief that: All teens should have the awareness of what they're going through and should believe that they can fight the problem.

Like their counterparts in the boot camp, Thanvi and Hasini too went through a transformational learning journey. From just a thought, they managed to build UsForYou into a full-fledged technology-based product. With the advice and help of the mentors who supported them during the Atal Catalysts @ ISB Program, this tireless two-some learnt not only about being entrepreneurs but were also able to narrow down and streamline their services to specific problems faced by teens so that their product could be go-to-market ready.

Innovators, entrepreneurs and change-makers all rolled into one, this team is sure going places!

This team of three surprised even the mentors when they came with a product that was near market-ready. And to think that they hadn't realized that they'd made it to the boot camp just because they remembered their team name incorrectly! This is the story of how **Rachit Kumar, Ashesh Mishra, Shriyansh Dalmia**, all 12th graders from Lakshmipat Singhania Academy in Kolkata came up with **Fitframe.**

One of the team members had been struggling with working out during the lockdown. He had tried several fitness apps, but none of them seemed to work. Instead, he ended up injuring himself as his postures had been incorrect while working out. While discussing this together, the trio started looking for apps that would measure and correct the user's posture during a work-out, while still providing the other features that regular fitness apps do. As it turned out, no such app existed in the market. So what did these Tinkerpreneurs do? They decided to make one themselves and that is how FitFrame was born.

Fitframe is an artificial intelligence-based yoga fitness trainer, which calculates and tells the user whether their asanas are correct or not. Incorrect Yoga postures can cause damage to young and untrained Yoga enthusiasts if the asanas are performed unsupervised or without guidance. Fitframe uses the user's camera to visualise their poses and then it displays lines and dots to point out to the user, the mistakes they are making in their asanas.

For these three innovators, what began as a cool summer project that they could show off to friends, quickly turned into the dream of wanting to make FitFrame a universal platform, so that everyone can stay fit without having to compromise on their busy schedules. Despite the team being technically proficient and their idea being so unique, they had to face challenges like all first time entrepreneurs do. In

RACHIT KUMAR, ASHESH MISHRA, SHRIYANSH DALMIA

their product development phase, the toughest step to accomplish was making the AI accurate, as it would have to point out precisely when the users were making mistakes in real time.

The Atal Catalyst @ISB program gave the Fitframe team the much needed exposure to the business side of things. Through the program the team learnt about profitability and market dynamics. Conversations with the mentors kept adding to the product along the way so that it became more professional and market ready with time.

Something that they learned and want to pass on to their peers is not to wait for "the right time", but to get started right now because 'now' is truly the best time to do anything you want to. This team that went from making something together for fun, to having a start-up, likes to believe in "One world, One health, One trainer".

Chandana Polagangu, Samhita Gudihal, and Manepalli Joshita are all 14-year-olds studying in the 10th grade of Vikas The Concept School in Hyderabad. When these youngsters are not pursuing their hobbies of music, art, reading, and philately, they come together to create amazing products like **FitGENio**.

FitGENio is a digital application that reminds people to take short exercise breaks. In addition to the basic reminder function, FitGENio boasts other features like music, to-do lists, socializing goals, and even rewards to track progress. The goal of the app is to help its users minimize strain caused to the body and mind due to a static posture and continuous use of screens. This team of three observed the very same thing at their homes during the lockdown: their parents were working from home and often forgot to take a break from their computers to rest their eyes or just move around to restore circulation in their bodies. They observed something else too – that their parents would've liked to take breaks, but due to their workloads, they'd often forget to.

Instead of jumping to a solution, this far-sighted team first conducted a survey of young adults and adults who spend a lot of time in front of their screens for work. The results were overwhelmingly in favour of creating a solution to help the respondents and the target group at large. And that is how FitGENio came into being.

The journey from the boot camp to the pitch presentations also came with unexpected rewards for the group. One of them admitted that presenting the idea several times over, helped her shed her inhibitions and overcome the stage fright she had been struggling with for years. The team thoroughly enjoyed the well-organized curriculum that taught them how to "recognize a problem first, and then build a solution". They developed a keen interest in business and entrepreneurship through the course of their learning journey.

CHANDANA POLAGANGU, SAMHITA GUDIHAL, & MANEPALLI JOSHITA

There were challenges along the way too, but this team picked each other up every time there was one: whether it was revising the business model multiple times, getting the correct values, or even pointing at the exact problem. And just like how teams stick together no matter what, FitGENio is also determined to help its users 'no matter what'. Here's wishing the best of everything to this very driven team.

17 SHAMBHAVI PRAKASH

Shambhavi Prakash, a 7th grader from Delhi Public School, Faridabad is another example of how observant youngsters are and how their observations of the world, coupled with their compassion can create truly path-breaking innovations. She may be all of 11 but Shambhavi is already charting her course in the entrepreneurial world. A classical dance enthusiast who also has a keen interest in technology, Shambhavi Prakash is the brain behind **eLAAZ**.

Shambhavi's grandparents, who live in a small city of Bihar, always needed help in getting around when they visited Delhi for medical reasons. Shambhavi saw her father doing all the research and juggling his own work so that he could take his parents around to doctors. This is what inspired Shambhavi to create a solution for the elderly and sick people of India who live in far-flung areas so that they can get the best possible treatment in Delhi NCR.

Not only users within the country, but even those from across the globe who want to use the superior medical facilities in India, will be able to use eLAAZ in order to connect with the best suited hospitals/doctors in Delhi NCR.

eLAAZ provides a tailor-made and hassle-free solution for its users by taking care of air/train travel, stay and OPD/ IPD appointments. With the help of designated 'Captains', it provides hand-held assistance during treatment, and right until the patient is sent off.

Shambhavi's vision is to make eLAAZ a world leader in medical advisory services by providing its users access to world-class medical facilities. She is already making strides in this direction with the help of her mentors from ISB and her school's support. She attributes the fine-tuning of her idea to the Atal Catalysts @ ISB Program, and believes that her habit of jotting down ideas as soon as they come to her mind, really helped her in staying motivated. With a wisdom that belies her age, Shambhavi says that "anyone can achieve excellence with continuous practice". This Tinkerpreneur is a wonderful example of the adage she believes in.

18 KARTHIK RAJ

Karthik Raj from Kollam is the proud innovator of **EduEasy:** an Ultra-low-cost Edtech solution that will provide high-quality instructional material in regional languages to students. Karthik is just 13 and studies in the 8th grade at Amrita Vidyalayam Puthiyakavu. He loves to read and watch videos on science. He also enjoys coding, experimenting, and exploring new places on his bicycle.

It was during the lockdown that Karthik started to surf the net for education portals out of curiosity. What he saw led him to two realizations: Most of the content was in English, and most courses also cost a considerable amount. One thing led to another and Karthik decided to innovate a solution that addressed both these problems simultaneously. After all, the target group would be experiencing both these problems simultaneously too. A typical student in rural or even semi-urban India would neither be fluent in English nor be able to afford the high costs of online courses.

EduEasy will provide high-quality educational and fun courses in local regional languages. In fact, Karthik's dream is to make it publicly available across the country and to develop numerous courses over time while driving continuous improvements in the technology being used.

The Atal Tinkering Lab in his school inspired Karthik to take up the idea and work on it. Since then, and through his journey from the boot camp to the Atal Catalysts @ ISB Program, Karthik feels he has learned some very valuable lessons, especially

around digital marketing and entrepreneurship. The 5-week Masterclass was also a once-in-a-lifetime opportunity for him. Karthik still recalls creating his first pitch deck for which he had to gather valid data from the internet. The other milestone, which is also his most thrilling moment from the journey, was when he made the first working prototype of his product.

This first prototype had to go through a lot of change and refinement, but it is what galvanized Karthik into doing more. As he refined the prototype, he added new sections like educational games, and Malayalam explainer videos with notes. He was also able to add a premium doubt clearing session.

Karthik wants EduEasy to go places, quite literally and we wish him all luck with his endeavour.

19 ADITI MISHRA

It's truly remarkable how many Tinkerpreneurs have come up with innovations after they themselves, or someone in their immediate surroundings has had an experience that could've been avoided. **Aditi Mishra** is an 8th grader in Amity International School, Noida. She saw her older brother devastated because an incorrect post on a website made him miss a competitive exam. Spurred by this incident, Aditi got thinking: what could *she* do to prevent something like this from happening to other students and to her own brother in the future? The answer led her to a simple yet profound solution. Aditi deployed her interests in reading, writing, and programming to come up with **IndiExam**: an exam information app that will provide reliable information about all the important competitive examinations that are held in India. Thanks to Aditi, no one needs to miss important dates and exams because of incorrect information anymore.

Though the origin of the app was fairly single-minded, Aditi has ambitious plans for IndiExam's future. In addition to making it the most popular exam information app in India, she also wants to develop it into a full-fledged digital learning platform, with all the resources necessary to prepare for competitive exams.

Aditi shares that her Tinkerpreneur journey was challenging yet rewarding. Many hours of hard work went in, but she feels that each of them was worth it. Her biggest challenge, like that for many Tinkerpreneurs was preparing the pitch deck and presenting it. With no experience of having done something like this earlier, she was at a loss till her mentor worked with her and helped her understand the nuances of pitching. The result was

a once-in-alifetime experience that came with once-in-a-lifetime learning as well, and Aditi is grateful for both.

The mentoring program also helped Aditi gain clarity on what she wanted IndiExam to eventually become. "Technology is the future", she avers. "Developing skills in technology is extremely important for both our personal progress and the country's."

With a determination like that, little can stop Aditi from turning IndiExam into the app she truly wants it to be.

20 SEJAL NARANG

Sejal Narang might be in the 9th Grade herself, but she is already working towards empowering women twice her age through her product: **She-MpoWer**. This 13-year-old from Hansraj Model School, Delhi has built She-MpoWer as an online learning and earning platform for housewives and non-working women. Sejal's product enables gig workers (women in particular) to learn new skills, get certified, build products, procure materials, and even sell to buyers–all in one single platform. What's even more amazing is that Sejal has created this product while continuing her studies and pursuing her interests in swimming and table tennis.

Sejal's father has been running an NGO for a while now and while accompanying him to work, she observed many women come up with the same request: they all wanted to earn money in their spare time instead of sitting at home. Sejal started her own research and found that there are potentially 17 million such women who want to work and become financially independent. That's how the platform came into existence.

Sejal's vision is to empower those women who may have had to put their dreams aside due to marriage and motherhood. She hopes that She-MpoWer will help its users to turn their passions into a marketable profession. Sejal believes that this will also help women get more respect and dignity within their families.

Around the same time that she was hearing from the women in her father's NGO, Sejal also heard about the Tinkerpreneur Program from school. So, in the very spirit of She-

MpoWer, Sejal decided that she herself would first learn the technology needed to put the idea into motion.

Such was Sejal's drive that she made it to the top 20. From not knowing much about technology to creating a digital product, Sejal too has come a long way. The Masterclasses and the mentoring sessions at ISB helped her build a habit of identifying the problem first and then looking for solutions. This, she feels is the most valuable skill she's learned during her Tinkerpreneur journey.

For Sejal, the most challenging part of the journey was to decide the exact problem statement out of the many "wild ideas" she had. However, the Atal Catalysts @ISB Program helped her improve her problem statement, refine the application, and make her truly 'feel' like an entrepreneur.

Sejal says that one needs to be determined to pursue entrepreneurship. She explains, "I've heard 'No' a thousand times, and every 'No' inspired me to come back with a better solution". With resilience like hers, we know that She-MpoWer is in the right hands!