KNOWLEDGE TRIBE

The Home of the Knowledge Community!

Solving Small. DENTING BIG!

Kuldeep Dantewadia
Co-founder and CEO, Reap Benefit

In This Issue

Knowledge Events You Can't Miss

Pickbrain's Challenge

Knowledge Cafe
Fun activities & Facts

Our Picks
Books, Websites, Apps & Interesting videos

and much more...

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Table *of* Contents

Solving Small. Denting Big !

Kuldeep Dantewadia
Co-founder and CEO, Reap Benefit

Civic issues such as pollution and poor sanitation bother us all. Complaining about these has become a part of our daily lives. Knowledge Tribe met with Kuldeep Dantewadia, who believes in "solving issues, rather than just talking about them". Co-founder and CEO of Reap Benefit, Kuldeep's motto is to churn out solutions for environmental sustainability, that are both low-cost and low-maintenance, by creating 'Solve Ninjas'. Read all about his journey from a lost college student, to finding his calling and collaborating with Reap Benefit's co-founder and current CTO, Gautam Prakash.

Knowledge Tribe: Take us through Reap Benefit's journey.

Kuldeep Dantewadia: Reap Benefit was started in 2012. I can trace its journey to 2009, when I had just graduated from college. I hadn't participated in placements. My logic was that, what we study should enable us in solving problems around us. But that was not happening. So, I asked myself why I am thinking this way. I realised that it was because of my school and my amazing teachers who used to organise community initiatives and sustainability programmes. Sustainability was not just a project for me. It was a way of life.

At this time, I applied to the Tata Jagriti Yatra. I found the idea very interesting— 300 young people travelling nearly 10,000km across the country. For me, this journey was an eye-opener. I realised that I had so much to learn. So, once I returned from the trip, I thought, "I have to do something to make an impact; to solve problems." I chose what I thought was the easiest problem—garbage disposal. I was so wrong. It's not that easy. I collected garbage from over 150 households around Bengaluru for nearly seven months. It was a great experience. I realised how many people are deployed to manage the mess created by one set of people. At this point, I went as a speaker to an event called 'Ashoka Green Planet' that was organised by Ashoka: Innovators for the Public. This is when I met

Gautam. In 2011, we collaborated on the idea of getting young people to start solving issues. We wanted to start at the ward level, which is the smallest unit in a city; and the smallest unit in a ward is a young person. To target the youth, we approached schools and colleges. In just a couple of years, we realised that it's working. In a way, this was like quizzing. Initially, the quizmaster would realise that people are excited about his questions. But, the real responsibility of a quizmaster is not to serve the people who already love quizzing. It is to excite non-quizzers about quizzing, so that they enjoy answering the questions even if they don't win the quiz. That's what we wanted to do with Reap Benefit. We wanted to make public responsibility into a habit.

Bringing Gautam onboard was the best decision. He came with a lot of hands-on experience—he built nearly all the solutions. He developed an organic enzyme that converts food waste into compost, he co-designed India's first waterless low-cost urinal for children and he co-created a low-cost censor that monitors air pollution in different areas. So, in the first three years of Reap Benefit, we focussed on intensive mobilisation, working with both, private and government schools. Then, we enabled students to reach out to us on WhatsApp about civic issues, to urge the authorities to respond and seek a status update. We can guide you on how to approach issues, and on possible solutions. People can also share their ideas on the platform, explore funding options and run local campaigns as well. So how it works is, every neighbourhood has five types of 'Young Ninjas'—'Reporting Rhinos' for reporting, 'Campaign Chameleons' for spreading awareness, 'Hands-on-Hippos' for implementing solutions, 'Techno Tigers' for driving it all using technology, and 'Lions' who integrate everything at the policy level. There is a role for everyone. We have worked with 24,000 people as of 2018 and are currently working in Bengaluru, Chennai and Hubballi. Through the data we have collected, our team has spent half a million hours in problem solving in the community, we have crowd-sourced around 2-3 lakh data points with respect to sanitation, air quality, potholes etc. Approximately 500 tonnes of waste has been diverted and recycled, and about 46 million litres of water has abeen saved.

Gautam Prakash, co-founder and Chief Technology Officer at Reap Benefit, working on a solution

We have improved sanitation systems in round 300 government schools and co-created nearly 200 products. Not all of them can be scaled, but the prototypes are there. So yes, that's been our journey so far.

KT: Tell us more about the co-developed innovations that you carry out with youngsters.

KD: Well, our idea is to put out as many probable solutions as we can. If they work, they work; if they don't, we learn. I just told you about the assistance we provide through WhatsApp. Beyond this, there are our physical products. In 2013, no one wanted to carry out composting because of the smell. That's when Gautam and I identified cocopeat as a base for the same. Today, it is a full-fledged composting accelerator called 'De'Grade' and is available in Bengaluru, Goa, Mumbai, Delhi and Mangaluru. Recently, we built India's first low-cost 'Do-it-yourself air pollution monitoring system'. Using this, you can monitor the air quality in your area real-time, and that data goes to the cloud from where any citizen can access it.

Another idea that we co-developed with students involves censors, to carry out 'behavioural nudges'. If you are using more water than required, it beeps. A few years ago, we had also developed low-cost waterless urinals using discarded water cans. Today, it has evolved into a proper product. We know people in Manipal and Suratkal, who are developing a censor, to check the dehydration level of primary school children when they urinate. We are working on an application that detects potholes real-time. These are just some of the solutions that we have managed to churn out.

KT: We're sure you would have faced resistance to your initiatives as well. How do you work around them and convince people to co-operate?

KD: Well, beyond a point it really isn't in our control. Be it with schools or governments, I empathise with authorities in both domains, because there are just so many variables in their day-to-day functioning that affect their response to us. This has led to one understanding—people will respond positively if we have a good point to prove… ●

Key Updates

- With the approval of another set of 14 names for Pluto's features by the International Astronomical Union (IAU), an Indian planetary scientist Bishun Khare, will have a crater named after him, called the 'Khare crater', on the Solar System's dwarf planet.

- A crashed spacecraft has put earth's most indestructible organisms, 'tardigrades' or 'water bears', on the Moon!

- A newly discovered lake, the Kajin Sara lake, in Nepal is likely to set a new record of being the 'world's highest lake'. It is replacing Tilicho, which currently holds the title, situated at an altitude of 4,919 metres in the Himalayas.

- According to NASA scientists, Mars might have had vast oceans and a thick atmosphere billions of years ago which could retain heat like Earth.

- Temples in Uttar Pradesh's Noida, are recycling floral waste into organic colours, incense sticks and compost.

- A drug called BPN 14770 has been recently discovered to protect people against memory loss in Alzheimer's disease.

- Nine names have been recommended by the Sports Ministry for the Padma Awards, and all of them are women! The list includes Mary Kom (boxer), P. V. Sindhu (badminton player), Vinesh Phogat (wrestler), Manika Batra (table tennis player), Harmanpreet Kaur (cricketer), Rani Rampal (hockey player), Suma Shirur (shooter), Tashi Malik and Nungshi Malik (mountaineers).

Events For You*

20 **TCSITWiz**
20 Oct, 2019 | Delhi

23 **TCSITWiz**
23 Oct, 2019 | Kochi

*For the event venues and other details,

Click here

Feature your knowledge event for FREE!

Submit Now

Knews

We Celebrate…

Roald Dahl's birthday – Roald Dahl was born on 13 September. An interesting fact about him is that he invented around 250 new words in the English language!
Learn more interesting facts about him, here.

Click to Watch

Anant Pai' birthday – Anant Pai is popularly called 'Uncle Pai'. Did you know that he was a chemical engineer by profession? Know more such interesting facts by watching this interesting video.
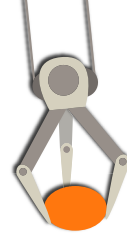
Click to Watch

We Remember…

5 Lesser-Known Dinosaur Films – We all love Dinosaur movies like Jurassic Park or Jurassic World, but have you heard of the movie named 'The Land Before Time?'.
This is the story of a young dinosaur named 'littlefoot' who is orphaned after his mother dies trying to protect him from a vicious carnivore. Watch this video and discover more such dinosaur movies!

Click to Watch

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Pickbrain's Challenge

Giri 'Pickbrain' Balasubramaniam

Giri Balasubramaniam, better known as 'Pickbrain', is a noted quizmaster and co-founder of Greycaps, Asia's largest onstage quizzing and knowledge services company. He and his team have presented over 2,000 quiz shows across the world.

We at the Knowledge Tribe, bring Pickbrain's exclusive quiz challenge to you. Are you ready?

PLAY NOW

1. Which famous search engine runs on an algorithm called 'PageRank' system?

   a. Bing

   b. Ask

   c. Google

   d. None of the above

2. Which river is also known as the 'Sorrow of China'?

   a. Yellow River

   b. Brahmaputra

   c. Yangtze

   d. Songhua

3. Which programming language shares its name with a kind of coffee bean and an island of Indonesia?

   a. Jakarta

   b. Robusta

   c. C++

   d. Java

Knowledge Café

Have You Ever Wondered?

How many muscles does the human body have?

Mail us your answers at **knowthetribe@gmail.com**

Your Dose of Knoxygen

The scientific term for brain freeze is 'sphenopalatine ganglioneuralgia'.

The term 'jaywalking', which refers to carelessly walking on the road, originates from the old slang word 'jay', which means 'foolish'.

Firefighters add certain chemicals to water to make it 'wetter' and thus extinguish fires more effectively.
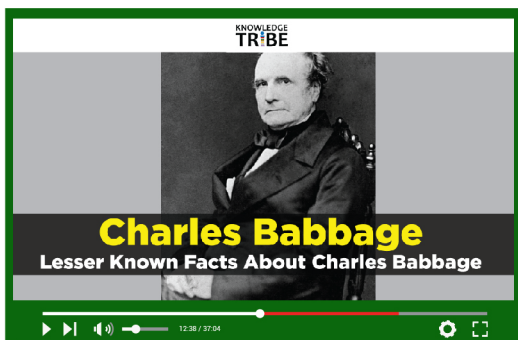
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Knowledge Tribe

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ON OUR YOUTUBE CHANNEL

The Knowledge Tribe YouTube channel is a platform where we host informative and fun videos on a variety of topics. This month, we introduce you to a few of these videos, which you will absolutely love watching!

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Charles Babbage
Lesser Known Facts About Charles Babbage

12:38 / 37:04

Click to Watch

Knowledge Tribe shares a few lesser known facts about Charles Babbage. Did you know that he developed the very first concept of programmable computers? To know more such interesting facts about the 'Father of Computer', watch the video.

KNOWLEDGE TRIBE

Interesting Facts You Didn't Know About Rolls Royce

12:38 / 37:04

Click to Watch

Did you know that the ornament on the hood off Rolls-Royce cars is called 'Spirit of Ecstasy'? Learn more such interesting facts about the renowned luxury car brand by watching this video.

Subscribe to the Knowledge Tribe YouTube channel and stay tuned for more such interesting videos!

ARTIFICIAL INTELLIGENCE

A large portion of the population is at the mercy of a rising technology, yet few actually understand what it is. Artificial intelligence (or AI) is not easy to define. In the most general of terms, AI refers to an area of computer science that makes machines do things that would generally require human intelligent. This includes tasks like learning, seeing, talking, socialising, reasoning or problem solving. We should get one thing out of the way though: Artificial intelligence doesn't entirely mean robots. And at least at the moment, it's not flying cars or revenge-seeking cyborgs either.
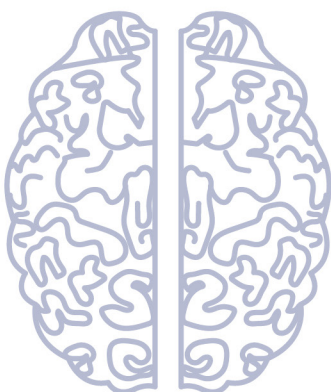
Under the huge umbrella of AI, machine learning is one of the most popular and rising field.We all know that computers are incredible in storing, organising, fetching and processing huge volumes of data. But what if we want computers not to fetch and display data, but to make decisions about data. This is the key point of machine learning. Machine learning is the application of AI where machines 'learn' from data without being explicitly programmed. Hence via machine learning, machines learn like how humans would-through experience, mistakes and training.

Another popular area of AI is natural language processing (NLP). Codes of programming languages (like java, python etc.) will run only if it 100% free of spelling and syntactical errors. Of course, this is quite different from human languages containing a large and diverse vocabulary, words with several meaning, and speakers with different accents. In this technique, machines can understand and process human language (also known as natural languages) as it is spoken. A very good example of NLP is Amazon Alexa and Google Assistant.

Though AI is popular only for the past decade, its history dates back to 1956. That was the time when the term 'artificial intelligence' was coined. Dartmouth professor John McCarthy led a small team during a summer project to see if machines could learn like a young child does, using trial and error to develop formal reasoning. Researcher from Carnegie Mellon University (CMU), Massachusetts Institute of Technology (MIT) and an employee from IBM met together and founded the AI research. In the following years they made huge process. They were very optimistic about the future of AI. But the progress slowed down in the mid-70s as the failed to recognise the complexity of tasks and had insufficient data. Moreover computers were not fast in processing data.

During the past few years, AI has become "the next big thing". Huge amounts of data is being created every minute. In fact, 90% of the world's data has been generated in the past two years. And now thanks to advances in processing speeds, computers can actually make sense of all this information more quickly. Very soon, AI will become a little less artificial, and a lot more intelligent.

AI is likely to bring out a tremendous change in our lives. The sky is no longer the limit. The power and the freedom that we have of artificial intelligence is huge. We as humans are capable of creating machines that can learn and think like us. In the long run AI cannot replace biological intelligence, but it will enhance our future.

- **Varshini Jayasankar,**
Class 12, Presidency School
Bangalore South

Is humanity alive?

Humanity means extending unconditional love to each and every living being on earth. Humanity can be defined as a quality of being a human. A human is born with a pure soul that knows nothing bad. Humanity means helping others at times when they need that help the most. Humans are characterized by different natural qualities that include thinking, emotions, feelings, etc. That is what makes us human, in a distinctive way. Serving the poor and the disabled is one of the greatest humanitarian help an individual can provide in his/her lifetime. One of the most outstanding examples of extraordinary humanity can be portrayed by Mother Teresa. World is at peace when the minds dominate over the heart. People are becoming very competitive and emotionless. Observing this may lead one to want to believe that humanity no more exists in today's world. Humanity is alive, but of no use. To quote any example, if any tragedy took place in any place, people make videos and click photos instead of helping the victim. So, according to me the coming generation is going to be very egoistic. Humanity is alive until the humans are alive. It is inside us, we should get up. Many people are very selfish don't bother about the pain and suffering. Some are always there to set things right. As soon as we understand the importance of humanity, the purpose which we are on Earth is automatically fulfilled. I believe in Gandhiji's inspirational quote "you mustn't lose faith in humanity. Humanity is an Ocean. If few drops of ocean get dirty, the ocean does not get dirty."

Shreshta
Class 5,
GMVPS, Brahmavar

Our Picks

Book- York: The Clockwork Ghost

What it is about: Adventures in alternate history

What you would like: The fun quests of three youngsters in New York, to solve a mystery that is over 150 years old. The language used by author Laura Ruby in the book is easy-to-read and the story is extremely gripping. If you like this book, you would also like 'The Shadow Cipher', the first book in the York series.

YouTube- Kurzgesagt- In a Nutshell

What it is about: 'Making science look beautiful'

What you would like: The vibrant illustrations and interesting topics on this channel, which satisfy your curiosity about aliens, robots, black holes and so on. The channel also has many creative videos such as 'Why the current year should be 12,019'.
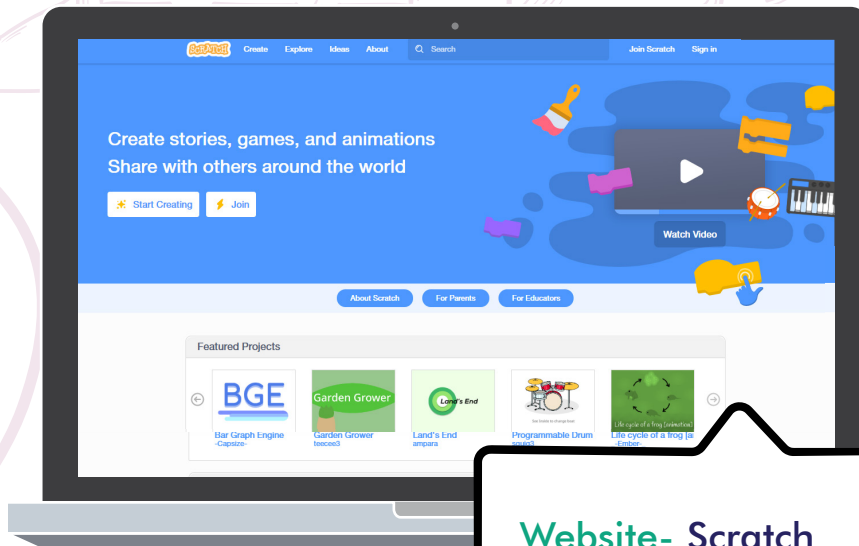

Kurzgesagt – In a Nutshell

Videos explaining things with optimistic nihilism. We are a small team who want to make science look beautiful. Because it is beautiful.
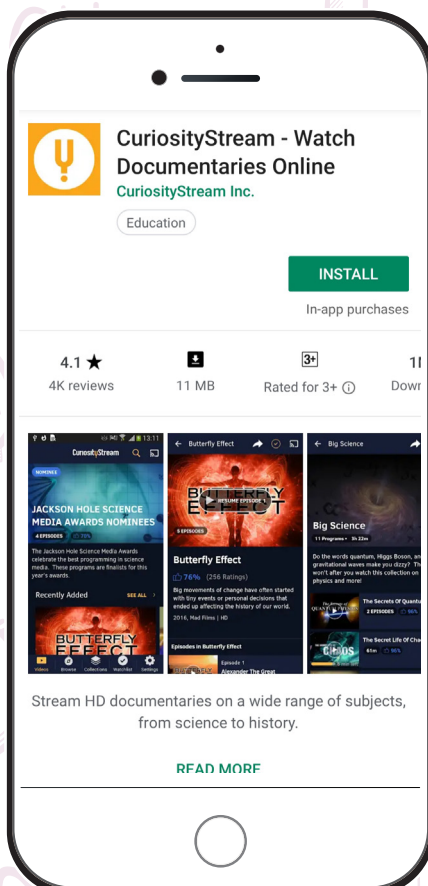
SUBSCRIBE

Website- Scratch

What it is about: 'Imagining, programming and sharing'

What you would like: Creating your own games, animations, music and stories by learning to code for free. This site has lots of tutorials and guides to make coding easy and fun. You can also share your work on the site, for others to see!

App- CuriosityStream

What it about: Entertaining and inspiring documentaries

What you would like: The informative and exclusive documentaries such as 'The Science of Deception', 'How the Ball Taught the World to Play' and 'Why Are We Here?'. The app is very convenient to use, as the videos are organised into categories.

Celebrating INDIA

Dhop Khel

Dhop Khel is a game indigenous to the Indian state of Assam. An ancient game, it really flourished during the rule of the Ahom Dynasty.

This sensational game is played during the state's spring festival, 'Rangoli Bihu'. It uses a rubber ball and is played in an open field, between two teams comprising of 11 players each. The game begins with a player throwing the 'dhop' or ball, in the air. If the ball does not fall in the opponent's court, it is thrown again. The dhop has to be caught by the opposing team. If the opponent fails to catch it, the first team takes the throw.
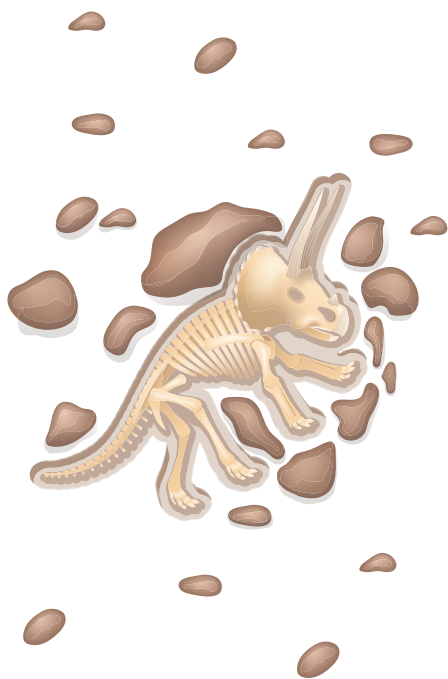

A player who goes over to the opposing side and tries to prevent the players of the team from catching the dhop, is called a 'bondha'. If a bondha succeeds in catching the dhop in the opponents' court and crosses over to his team's side without being touched by any of the opponents, he becomes a 'ghai'. If both teams have an equal number of ghais by the end of the game, it finishes in a draw.

Bonus Facts:

• There are two types of dhop—one played by men, and the other by women.

• Four flags called 'chukor nishan' are planted in the four corners of the field.

• The game has moves such as 'aulia' and 'hora'.

• Initially, the term 'ghai' was used for all the players of this game.

In the next issue of the Knowledge Tribe EMagazine...

India's Youngest Paleontologist

Aswatha Biju