



**ECELL**  
IIM CALCUTTA

UNLOCKING IDEAS  
UNLOCKING POTENTIAL !

# Launchpad

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November 2017 Edition



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# Conversational Systems

*Have you ever interacted with a chatbot? If your answer is no, think about it once again. Chances are good you've chatted with a robot recently without even realizing it. More and more, companies are using chatbots to help customers clear up issues quickly and easily. Many of us might be using Google Assistant, Apple's Siri or Micromax's Aisha daily in our lives for web search, reminder settings, etc. Conversational systems have become one of the [strategic technology trends for 2017](#). As [defined](#) by Tata Consulting, enterprise conversational systems offer a messaging or conversation-driven user experience and facilitate contextual conversations around business events.*

## ❖ Applications of Current Conversational Systems


In recent years, the applications of conversational systems can be divided into five categories:

- Online Customer Service
- Entertainment
- Education
- Personal Assistants
- Intelligent Quiz

Customer service chat system's main function is to communicate with the user, automatically replying to basic user questions about products or services, thus achieving significant reduction in operation costs and an enhanced user experience. The application scenario is usually home and mobile terminals. In China, representative commercial systems are **Little-I robot**, and **Jingdong JIMI** customer service robots. These chatbots also have a certain rejection capability, of being able to know what question he could not answer and when to turn to customer service.

The main function of entertainment conversational systems is chatting with users in the open domain, being the user's spiritual companion, giving them emotional comfort and psychological counseling. The application scenario is usually the social media and children's toys. Examples are Representative Systems such as **Microsoft Xiaolce**, **WeChat XiaoWei**, **Small Yellow Chicken**, **Love**. Xiaolce and XiaoWei also provide services on specific topics, such as weather forecasting and knowledge of life.

Educational conversational systems, based on the content of education, aim to build an interactive language environment to help users learn a skill. They guide the users step by step, and help them master the desired skills. The application scenarios usually have interactive learning, training software and intelligent toys. For example, **Amazon Alexa** has addons to help children to learn poems and stories.



Personal assistants primarily interact with the conversational system through voice or text and achieve personal affair inquiries, such as weather inquiries, air quality inquiries, calendar reminders and positioning, so as to assist making daily life easier. The application scenario is usually portable mobile terminal devices. Examples are representative systems like **Apple's Siri**, **Google Now** and **Microsoft Cortana**.

The main function of intelligent quiz systems includes answering factual questions, and the need to calculate logical problems from users in natural language form. These systems meet the user's information needs and assist users in decision-making purpose. The application scenario is usually a question and answer service robot system. Typical intelligent question answering systems are **IBM Watson**, **Wolfram Alpha** and **Magi**.

### Smart home

Not only limited to chatbots, conversational systems are also becoming the assistant in our homes. You can access the control center just by saying a few words. You can ask for the weather or check facts on Wikipedia. Any device that uses electricity can be connected with the smart home assistant and be at your command.

**Apple Homepod** automatically analyzes the acoustics, adjusts the sound based on the speaker's location, and steers the music in the optimal direction. If you want to change the song, just ask Siri on HomePod. It's the most intuitive way to find and play a song. Innovative signal processing allows Siri to hear your requests from afar, even with the music playing at full blast.

**Google Home** is powered by the Google Assistant. Ask it questions. Tell it to do things. And with support for multiple users, it can distinguish your voice from others in your home so you get a more personalized experience. With your permission, Google Home will learn about you and retrieve your flight information, set alarms and timers, and even tell you about the traffic on your way to work. Google Home connects seamlessly with smart devices like Chromecast, Nest and Philips Hue, so you can use your voice to set the perfect temperature or turn down the lights.

**Amazon Echo** powered by Amazon Alexa plays all your music from Amazon Music, Spotify, Pandora and more using just your voice. Alexa has **skills** which users can download, enabling Alexa to do more. It can also answers questions, reads the news, reports traffic and weather, reads audiobooks from Audible, gives info on local businesses, provides sports scores and schedules, and more using the Alexa Voice Service.



## Leading the Future - Conversational Robots

Conversational systems endowed robots, especially humanoids with the “ability” to communicate with us verbally. The voice of these humanoids are always designed to be sweet.

Communication robot **Sota** has already been used for PowerPoint presentations. Japan’s largest telecommunications company, NTT, is rolling out Sota in elderly care facilities to talk with and help care for seniors, and in banks to guide customers as a receptionist.

Humanoid **Pepper**, designed by Aldebaran Robotics and Softbank, is intended to make people happy, enhance people’s lives, facilitate relationships, have fun with people and connect people with the outside world. It has become the most popular humanoid robot in the world.

**ERICA**, who, it turns out, is 23, is the most advanced humanoid to have come out of a collaborative effort between Osaka and Kyoto universities, and the Advanced Telecommunications Research Institute International (ATR). She is intended to conduct natural communication by doing human-like behavior.

## Conclusion

Conversational systems have a long history of development. They have been improved from voice interface metaphor to human metaphor, rule-based language to spontaneous language, short utterances to mixed utterances, cold to human-like, and predictable to less predictable. There are however, several limitations to solve.

- ❖ **Limited Application:** Every conversational system today is designed for specific target of users. How to design a general system, with the same basic functions but with different personalities, knowledge domains and behavior styles, that can be used in more scenarios?
- ❖ **Unreal Perfection:** Have you ever seen a human speak without influence? The utterances are usually designed as unreal perfection.
- ❖ **Fixed Skeleton:** Even the smartest systems today cannot keep updating their knowledge during a conversation. In future, improvements in unsupervised learning may be helpful for designing a highly interactive conversational system.



# Grovill Education: Start Up Story

## JOURNEY AS AN ENTREPRENEUR

After working as professional for around 20 years (each) in Indian Education Sector & financial sector, we find that there is a huge Disparity in the Quality of Basic Education in Urban and Rural Areas. We find take this problem as an opportunity and started our entrepreneurial journey. We run a social enterprise that committed to develop rural livelihood. Through our enterprise we are developing Education, Woman empowerment & micro-entrepreneurship for rural sector.

## PROBLEM START-UP IS SOLVING

Disparity in the Quality of Basic Education in Urban and Rural Areas.

Most of the basic education providers focusing on servicing urban population (31% of population)\* with good infrastructure & facilities, and the bigger India (69% of population)\* i.e. rural India is underserved with good or basic minimum educational facilities.

\*-Census 2011

## HOW IS THE START-UP SOLVING THE PROBLEM

Our Solution provides:

Villagers Aspiration for quality education in neighborhood

We Create:

A School with Quality Infrastructure and structured curriculum

Our Product:

Learn India School-IT Enable Affordable Pre-Primary Education

A High Quality Pre-Primary School with Affordable Fees (Rs. 10-/ Day)



## WHAT IMPACT IS OUR ORGANISATION CREATING

### ❖ Impact on Education-

- Making quality education available at the doorstep of local populace
- Parents engagement with formal education-Parents orientation session

### ❖ Impact on Employment Generation-

- Woman empowerment through skill development
- Woman employment – School teacher & Aya

### ❖ Impact on Entrepreneurship Development-

- Encouraging rural entrepreneurs with sustainable business model
- Improved Economic profile of target population

### ❖ Impact on Livelihood-

- Rural small scale Businessman getting orders for School Infrastructure
- Local Skilled labor getting job work for School consumables

## WHAT CHALLENGES ARE YOU FACING?

- Identification of local business partner with right mindset
- Growth Capital

## HOW UNIQUE IS THE PRODUCT YOU ARE OFFERING?

How we are different- Non-Franchise (Control on Operations, Academics & Collection)

When all the branded players offering franchisee model which is capital heavy & not sustainable in this sector, we have innovated Management Model which is capital light & easy to replicate with standardization, quicker break even & better profitability.

## WHAT IS THE VISION OF YOUR ORGANISATION?

Our vision is to educate & empower every Indian and contribute to India's resurgence. Making quality education available to the hinterland hence remove the disparity created by geography



## AWARDS & RECOGNITIONS

Runner up in Entrepreneurship Summit held Jai Hind Collage, Mumbai (Dec-2017)

### WE CHANGE LIVES....



Ms. Sima Awandkar, a farmer's daughter perusing her Master, loves to teach children. Sima is passionate about teaching and enjoys her work. Learn India teacher training workshop has further polished here skills. Pursuing her further studies at the same time being economically independent. Self growth by helping young minds to grow.

Ms. Manisha Dhole, belongs to a village in the vicinity of our school, had strong desire to be independent and contribute to the cause of child education. Manisha is now independent and contributes to our initiative as an efficient teacher. Happily taking care of her personal responsibilities along with the role of a teacher in our rural pre-school.



Girl Child Kulsum Praveen :Just after 15 days of regular class the kid (first generation learner) is telling rhyme in English. Her father is an agriculture daily labor and never touched books & pencil

Md. Jamshed has lost his father at early age, his guardian (a vegetable Hawker) took an initiative to send him to school (1st Generation Learner). Everybody excited to see the progress in Md. Jamshed reciting English rhyme and good handwriting. The desire to shape the future of the child is too strong to which learn India is giving wings of early childhood learning.





# News



## Indian Government To Revise Tax Regime For Startups

The move aims to integrate exemptions and incentives to attract more entrepreneurs. The government had originally made provisions for tax benefits on profits earned by startups in the first five years of operations. Given that most new companies struggle to make profits initially, it has since revised the plan to extend tax benefits to a total of seven years.

## Paytm Payments Bank Formally Inaugurated

Finance Minister Arun Jaitley formally inaugurated Paytm Payments Bank in the capital. The bank will have zero charges on all online transactions and no minimum balance requirement and will offer free personalized RuPay digital debit card. It will also offer a 4-7% interest rate on savings account, and up to 7% on a linked sweep out Fixed Deposit. The company has planned an investment of \$500 Mn in KYC operations.



## Remitware Launches MoneyOS



Remitware Payments (Remitr) [is set to launch a blockchain based operating system](#), MoneyOS for global payments. The new OS aims to ease the cross-border/global payments by freeing up the current complexities. The international financial centre at UAE, Abu Dhabi Global Market (ADGM) will deploy and test MoneyOS during the 2nd cohort graduation Programme of RegLab, ADGM.

## Microsoft shows off Windows 'Sets,' a tabbed app interface that puts a web browser everywhere

Microsoft announced a new feature tentatively called "Sets," a fairly significant retooling of how web browsers and apps operate philosophically in Windows 10. Rather than having Edge users manage a set of browser windows filled with relevant tabs to a particular task, Microsoft wants to build those tabs directly into apps. It is very useful in bundling documents and web research into single files.



## Adobe previews new Photoshop feature that uses AI to select subjects



Adobe teased an upcoming feature that uses AI to identify and automatically mask subjects in the image. The feature is called Select Subject and it uses Adobe's AI platform, Sensei. From the "Select and Mask" menu, simply click anywhere on the image and it will automatically identify and select the various subjects in the image.

## Airbnb launches payment splitting for group trips

Now, Airbnb users can split payments with their fellow travellers. Earlier, one traveller was forced to front the cost of the trip and hope that their friends/colleagues/family were responsible enough to pay them back in a timely fashion. Payment splitting will work with up to 16 travellers, offering plenty of flexibility for large groups who travel together





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IIM CALCUTTA

## Credits:

### Co Ordinator:

Swaraj Rathore

### Content:

Mahesh Latey

Manu Jindal

Swaraj Rathore

Lipsa Goel

Prateek Bhutani

Sahastranshu Sinha

Surabhi Agarwal

### Design:

Rooshin Solanki

Vaibhav Kumar

### President

Manu Jindal

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Grovill Education