FICCI-INDIAN LANGUAGE INTERNET ALLIANCE

BHASHA SAMACHAR

December 2018

FICCI-INDIAN LANGUAGE INTERNET ALLIANCE NEWSLETTER

An alliance to foster the growth of Indian Languages Technology Industry to enable access to ICT infrastructure in all Indian languages.

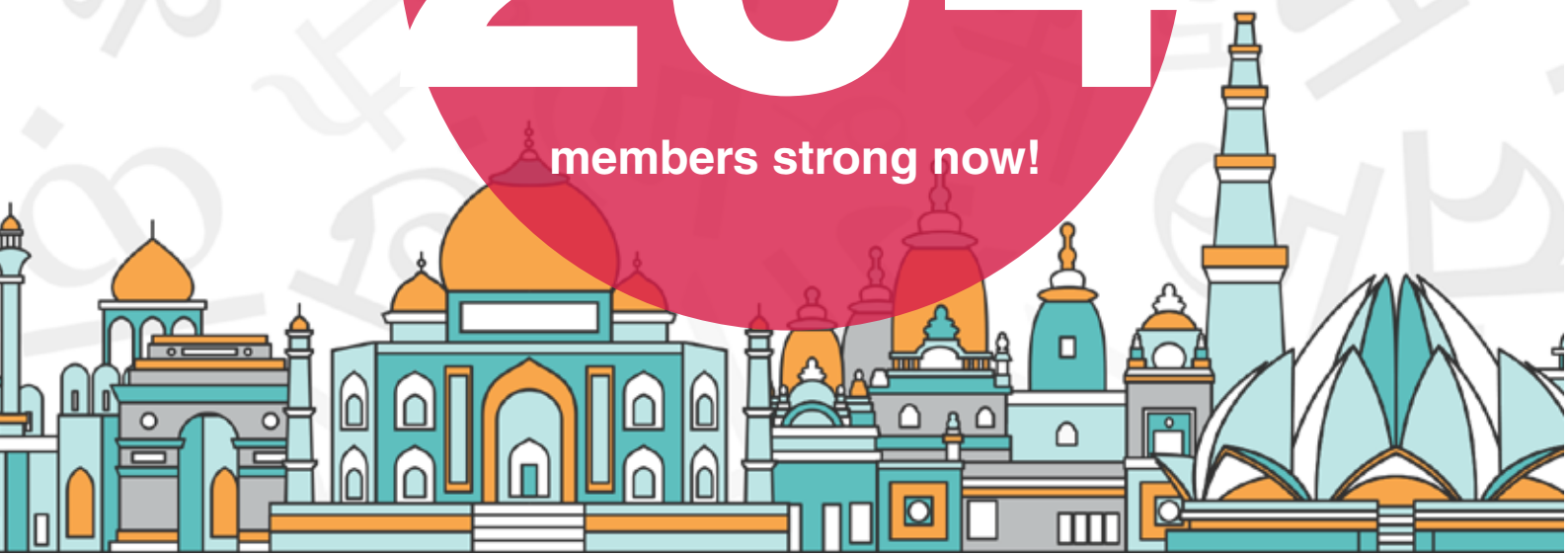
Welcome to the 4th edition of FICCI – Indian languages internet alliance (FICCI-ILIA) newsletter. You will find all the exciting news, views and events from the Indic language ecosystem captured in this space!

Where we stand now:

FICCI-ILIA is

254

members strong now!



ADDRESS BY MS. SARIKA GULYANI

Director and Head-ICT, Digital Economy & FICCI-ILIA Division

As FICCI-ILIA completes a year, I would like to take this opportunity to thank you for your support and wholehearted contribution to make this journey an exceptional one. The first year has been marked with fruitful collaborations with various government departments and private organizations. I am happy that we successfully launched the flagship event of FICCI-ILIA "Bhashantara" which was widely attended by our members and the Indic language community at large.

2019 is going to be an equally exciting year for FICCI-ILIA, given the advancement in AI and specifically in Natural Language Processing (NLP) world over.

India has also made major strides in language technology in the past few years. The government of India through its many initiatives like Digital India, Make in India and mandating Indian phone manufacturers to support its numerous official languages has bolstered the effort towards a multilingual internet. This growth will be further supported by huge technological advancement in NLP and machine translation technologies.

NLP in the past couple of decades has revolutionized the world wide web into a more inclusive space as digital content in various languages has become widely available on the Internet. However content available in Indian languages is still lagging behind and with a massive influx of non-English first-time internet users in India, NLP will become key to business success.

Natural Language Processing and Understanding (NLP/NLU) technologies have moved beyond mere text translations and are now able to perform voice and speech synthesis as well as sentiment analysis. Major sectors, such as information and communication technology, healthcare, banking and finance, education, automobile are adopting NLP to improve efficiency, gain insights and identify the most pertinent information from large databases. A recent report points out that the NLP market is poised to grow at a CAGR of 16.1 % until 2021, which translates to a $16 billion market opportunity.[1]

In this edition we bring to you the thoughts and views of various subject matter experts and thought leaders about the growth curve of the Indian Language technology market and the various challenges it is poised to face. Taking a cue from these insightful articles, we have commenced our activities focusing on working with the Industry and government to nurture innovation in NLP, promote use and adoption of available tools by generating awareness amongst buyers and users and connecting organizations and government bodies to explore business growth. With a member base of 250+, FICCI-ILIA is poised to undertake exciting projects in all the important areas and form further collaborative partnerships as we enter 2019.

[1] https://www.analyticsinsight.net/how-natural-language-processing-nlp-is-a-blessing-for-healthcare-organisations/ accessed 11 January, 2018

UNLOCKING DIGITAL BHARAT: USHERING IN THE INDIC INTERNET ECOSYSTEM

***By Dr. Subi Chaturvedi** President – YES Global Institute, YES BANK & Former Member, UN-IGF, MAG Tweets @subichaturvedi*

Today, with over 500 million internet users, India is the second largest online market in the world, only behind China. Thanks to a strong technology industry base, rapid growth in availability of affordable smartphones, cheap mobile data plans, as well as a sound policy push by governments at all levels, India's wireless telephony and broadband subscribers have touched ~1189 mn and 463.66 mn[1], respectively. Government's BharatNet program that aims to connect 250,000 gram Panchayats (GPs) through a network of optical fiber, has nearly touched the halfway mark. At the same time, government's DigiGaon scheme, has taken early steps towards bringing high-speed internet connectivity to over 700 villages. As India's digital infrastructure challenges gradually get addressed, the country's 'Digital India' vision needs to be supported by a strong Indic Internet ecosystem.

Shaping a digital society that integrates all social spheres, is crucial for India's inclusive development. Although English continues to have a high aspirational value

2 The views, thoughts and opinions expressed in all the articles under this section solely belong to the authors and do not necessarily reflect the official policy or position of FICCI-ILIA.

in India, only around 10 percent of Indians are estimated to speak the language. This necessitates localization of the Internet with vernacular languages to empower the country's non-English-speaking vast majority.

A FAST EVOLVING INDIC INDUSTRY LANDSCAPE

As year 2018 witnessed considerable momentum towards creation of a 5G ecosystem in the country, the field of Indic Language Internet ecosystem has also seen itself take several large strides, with both technology majors as well as new-age startups gearing up to tap the potential in this space:

Technology giants are leading the way

Global technology giants have announced major initiatives to bring Indian languages to the forefront. Google, which already supports 9 Indian Languages in 'Google Search', unveiled 'Project Navlekha' this year, to bring India's 135,000 Indic language publications online. Microsoft India, on the other hand, announced the availability of new phonetic keyboards in ten Indian languages to members of its Windows Insider Program.

World's most popular messenger app – WhatsApp and its parent Facebook, already allow users in the country to change language, supporting 11 and 13 Indian languages respectively. Similarly, leading cab aggregators operating in India - Uber and Ola, have taken the vernacular route to further strengthen their position in the market with localized offerings, making their platform available in multiple Indian languages. Amazon Web Services - a subsidiary of Amazon.com, has launched Hindi language support for 'Amazon Polly', a machine learning service that turns text to speech and supports both Indian English and Hindi.

Startups are stepping in

With a surge in usage of smartphones, coupled with rapid growth in internet penetration driven by telecom operators offering cheap data across India, a new breed of startups – the vernacular startups - are coming to the fore. Right from News Publications (e.g. Dailyhunt), Localization platforms (e.g. Process9), e-payments (e.g. Bijlipay), Language-as-a-Service (e.g. Reverie), Regional Operating systems (e.g. Indus OS), Text-to-speech (e.g. IndianTTS), Networking platforms (e.g. ShareChat), to Typing software (e.g Lipikaar) – these startups are building products in diverse

areas, drawing significant attention of marque investors, raising millions of dollars of funding.

KEY CHALLENGES

India's Indic language content ecosystem is still nascent, with numerous barriers, particularly in the areas of contextual conversion and content monetizing:

Natural Language Processing (NLP)

Natural Language Processing (NLP), powered by Artificial Intelligence (AI) and Machine Learning (ML) is instrumental in proliferation of local languages online. However, current methods for NLP are largely about computational statistics that converts text into data, and learning from the data patterns, not always resulting in contextual conversion. Adding to the problem is the fact that Indic languages are derived from Brahmic scripts, which aren't easy for NLP to understand.

Monetizing vernacular content

Content monetization has been one of the foremost challenges among all. Despite the existence of a huge pool of local language users, with merely 1 per cent of online content (text) in Indic languages, advertisers haven't shown the required willingness to explore this segment.
On the other hand, with fewer revenue generation options, publishers think twice before creating Indic language online content. While emerging platforms such as Google's Navlekha provides Indian language publishers with free web hosting, there is a need for more such platforms.

GOVERNMENT LEADING FROM THE FRONT

Central Government's phenomenal thrust in building a strong ecosystem of Indian Language Internet is evident from a number of initiatives taken in this direction. Right from mandating Indic-language support for mobile devices to supporting multiple Indian languages in key mobile platforms such as UMANG (Unified Mobile Application for New-Age Governance) and BHIM (Bharat Interface

for Money), the government has taken several encouraging steps to promote vernacular online content in the country.

C-DAC (Centre for Development of Advanced Computing) - the premier R&D organization of the Ministry of Electronics and Information Technology (MeitY), has enabled Indian languages on Pagers, Set-Top-Boxes, Dot Matrix Printers, Line Printers, Handheld devices, Digital cameras, etc. It has also been working on creating language corpora, dictionaries and tools. MeitY has also taken enormous efforts to include India's 22 constitutionally-recognized languages in the Unicode Standard.

Further, NITI Aayog in its 'AI for All' program, articulated in its National AI Strategy, has committed to support AI-based developments in speech recognition, natural language processing and creation of varieties of new applications.

THE ROAD AHEAD: MAINSTREAMING THE BIG IDEA

According to an analysis of India's 2011 census data, released this year, over 19,500 languages or dialects are spoken in India as mother tongue. At the same time, 96.71 percent of India's population speak one of the 22 Scheduled Languages as their mother tongue. [2]

With an estimated 234 million users, Indian language internet users have already outnumbered English language internet users (175 million) online[3]. Therefore, digital content localization makes complete business sense for all players in the online business, right from platform creators, service providers, OEMs, to online publishers.

It is about time that we get over the age-old 'chicken or egg' conundrum of who should start first, and craft a sustainable inclusive ecosystem model that enables creation, contextual conversion, discoverability, consumption as well as monetization of Indian language content online. Every digital content ecosystem player must pass all litmus tests to be able to tap the tremendous potential unleashed by this burgeoning vernacular digital user base.

As Natural Language Processing (NLP) technology evolves to go beyond text to include voice and speech synthesis, language localization needs will evolve to Speech-to-Text and will find wide adoption across sectors such as Healthcare, Education, Ecommerce, Retail, Transportation, Agriculture, Legal, Banking and Payments, Entertainment, among others. This will further open up plethora of opportunities for marketers, driving ad revenues from both urban and rural markets.

While Technology giants such as Google,

Microsoft, Facebook and Amazon have made the first move, a vernacular startups too have made significant advances by building localized apps and services from the ground rather than adding language support as an afterthought. Success for these startups will largely depend on adopting different revenue models including in-app payments/gifts, and not restricting themselves to just advertisement revenues.

Going forward, Industry-Academia collaboration will prove to be a real game-changer, leading to a true synergy between Technology and Liberal Arts for problem solving. At the same time, continuous policy push towards building capacity, enhancing last-mile connectivity, taking connections beyond Common Service Centers (CSCs) and relying increasingly on renewable sources of energy to power homes through the light of education, self-development and learning, will allow India to unlock the full potential of a true Digital Bharat. As we celebrate 150 years of the birth of the Father of the Nation, India must continue with its relentless efforts towards true inclusive development by becoming digitally inclusive.

1. Source: Telecom Subscription Data as on August 31, 2018, TRAI
2. Source: http://censusindia.gov.in/2011Census/C-16_25062018_NEW.pdf
3. Source: Google – KPMG report "Indian Languages – Defining India's Internet"

OVERCOMING NON-INDIC FRIENDLY UI/UX WITH VOICE TECHNOLOGY

by Arvind Pani, ***Co Founder & CEO of Reverie Language Technologies***

Digital platforms - both websites and apps - have generally been designed with a set of best practices in mind, ones which have been honed and refined through trial and error over the years. Internet users, in turn, have been exposed to these styles of UI/UX and have grown accustomed to them to the point that these users find them intuitive to use. These principles were generally designed with mature internet users in mind, users who were primarily English speakers.

However, the growth of the Indian internet has introduced the internet to hundreds of millions of new users. 90% of new users over the next 2 years will use the internet in their own language.

This creates issues for Indian language users. Traditional UI/UX principles are based on what works for mature English language users, users who have been using digital platforms for years.

While the importance of localization is increasingly being realized, it is often confined to content conversion alone. When it comes to interfaces, this means that the interface language is translated, but the process often ends with that. This stems from a misunderstanding of why localization is important. True language experience, or user experience with end-to-end localization, is generally not given enough importance. For example, even if an e-commerce platform's interface

is localized, its checkout page might not be. This breaks the localization flow at its most critical step, conversion.

Localization needs to be realized for what it is - a process that involves making a platform intuitive for users of a certain cultural background. While a user's background dictates the language they're more comfortable with, it also dictates other things, like user behaviour. Most Indian language users, both current and future, are new to the internet. This is a critical aspect of their user background.

Since these users are new to the internet, they need to be walked through these platforms. In other words, onboarding users needs to go hand in hand with user education.

Voice technology can help platforms eliminate these barriers for Indian language internet users. Solutions that speak directly to users, in their own language, can help these users carry out a wide range of tasks that would otherwise be confusing for them to execute. Indic language voice powered chatbots for example, can walk a user through an entire flow, asking them for their requirements and carrying out the desired action for them.

Taking the voice path means that user friction when it comes to unintuitive UI/UX is minimalized. Voice solutions can usher in a new era of user convenience for the Indian internet, where users can interact with platforms through conversations. Actual active usage of these platforms will help these users gain an understanding of UI/UX norms, while Indian user centric UI/UX can be developed in parallel.

All in all, voice solutions can be a powerful tool in breaking barriers to using digital platforms, for hundreds of millions of Indian language internet users, and can prove key in enabling digital usage for these users.

INTRODUCTION TO INTERNATIONALISATION AND LOCALISATION

by Dhanashri Patil,

Founder at Morai Solutions

"If you talk to a man in a language he understands, that goes to his head. If you talk to him in his language, that goes to his heart - Nelson Mandela"

India has 22 official languages, yet only English (which 80% of the Indian population are not fluent in), dominates the Indian online space. Users are expected to learn English to use digital platforms, instead of providing content in a language they are comfortable in. From the deep technical discussions in Tamil in a software company in Chennai to the Microwave with all knobs in Finnish in Finland, I have experienced and realized the immense benefits of localizing content for user comfort.

With regard to providing digital content in local languages in India, we are a bit late in the game. Even today, only a few players provide localized content. But some organizations are realizing the economic benefits of localizing content as they eye markets in tier-2 and tier-3 cities. Amazon recently launched a Hindi version of it's offerings.

If you are associated with building software or digital content, here is what you can proactively do to ensure that your content breaks the language barrier. Ensure that the software is designed with

internationalisation (i18n) and localisation (l10n) support upfront.

So what exactly is i18n and l10n?

i18n is a numeronym that stands for internationalisation. The number 18 denotes the number of letters between the first ('i') and last letter ('n'). l10n is also a numeronym that stands for localisation, the number 10 denotes the number of letters between the first ('l') and last letter ('n').

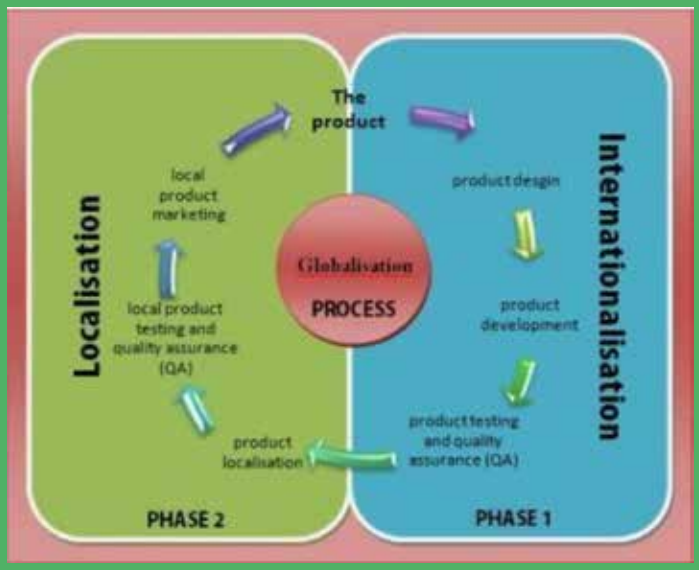
Here is a rough analogy from a layman's perspective. A cake in a bakery with the top part empty, without pre-defining the occasion(wedding or birthday or anniversary) or the name of the customer is akin to i18n design. In software, this is similar to not pre-defining the language as 'English only'. The piping on the cake can include the name and occasion, based on the customer choice. This customisation is similar to localisation, which enables users to pick and choose their language of choice.

Here is the definition from a technical perspective.

i18n is the process of designing and developing software in such a way that it can be translated or localized easily for any other language. This task is mainly performed by Software Developers.

l10n is the actual customization of the i18n software for a specific language target audience via translation. This task is mainly performed by language experts and translators.

The following figure based on a chart from the LISA website, depicts the



difference between the internationalisation and localisation process a little more clearly. The W3C website provides more clarity into the differences, as well as provides technical guidance on different steps to design internationalized software.

If you want to increase the scope of your software and reach a wider audience, then internationalisation(i18n) and localisation(l10n) are the way to go ahead.

MAKING INDIA, INDIC FIRST

by Sachin Gupta,

Director – Sales & Business Development, KeyPoint Technologies Private Limited

Thanks to the availability of low-priced smartphones, cheaper internet plans and new internet users, Indian Internet traffic has been growing at the fastest pace globally. With over 500 million internet users, India is all set to see further acceleration in years to come. India also ranks among top 5 countries with the highest number of Indic languages. Indian language users already far exceed the number of English language users in the country. Even though the figures indicate a positive graph, the internet penetration has still not reached half its potential in India.

Over 60% of Indian population belong to tier 2/3 cities or are from the rural areas who prefer end to end Indic language support on their mobile devices. Sadly, a lot of smartphones and most online platforms do not have end to end Indic language support. If a brand wants to penetrate the real India, the only way to drive successful engagement is- if they localize their content according to popular language sentiments. Online transactions, news, digital ads and ecommerce- all can see 100% better engagements and returns with the integration of local-language device support and localization of content.

Indic language is going to be the key driver to accelerate internet penetration and encourage the large chunk of native language users to come online, engage and stay connected. This can be driven by- localized app and web content, multilingual keyboards and chatbots, or software localization. This phenomenon has forced the international brands to consider the multilingual angle for Indian market. Any platform that enable users to interact in their preferred language is going to be a hit.

INDIC CHAAT

by Dr. Sunetra Sen Narayan,

Associate Professor, Indian institute of Mass Communication, New Delhi.

by Dr. Shalini Narayanan,

Independent Communications Consultant

Walking along the sangam* at Allahabad (now Prayagraj) two months before the big congregation of Kumbh** (previously Ardh Kumbh) 2019, we were met with a bizarre sight – a sadhu (holy man) with rudraksh*** on his arms and neck, ash on a forehead adorned with matted locks, who kept trailing us as we walked around. We were a group of four and like other trigger-happy tourists, busy clicking all sights which would populate our Instagram feeds. The sadhu finally came up to us and asked- "Photo?" And then it dawned on us that what he was offering to us was the opportunity to click a picture with him for our social media and on that pretext, give him some offering (read money) or dakshina!

This brought home to us the widespread use of technology and social media in the Hindi heartland. From just a few years ago when it was perceived as an elitist tool, the mobile revolution has managed to bring it to the mass level where you can find it not only in the hands of children, but beggars and mendicants too. In fact, as Dr. Anand Pradhan says in his analysis on new media in north India (India Connected: New Media ke Prabhavon ki Sameeksha, SAGE, 2019), projections show that by 2021, the number of internet users in Hindi will outstrip those using the internet in English, to cross the 200 million mark, given that the annual rate of growth for Hindi internet

* Confluence of the Ganga, Yamuna and the mythical Saraswati rivers

** Holy gathering that takes places every 6 years

*** Holy beads

users is 38%! The internet adoption level is the highest among Tamil users, followed by Hindi users. Quoting a report by KPMG and Google in India, 2016, Dr. Pradhan goes on to say that the profile of internet users is likely to look much different by 2021 with language users displacing English as the most widely used language on the internet. This growth will largely coincide with more internet users coming from rural areas, rather than urban ones.

In the next three years that is by 2021, internet users being mostly non-English speaking, businesses are likely to take notice of that and have more advertisements in Indian languages. Literacy being a barrier, video consumption should be the top choice of Indic language users, with chat platforms becoming the entry point for new internet users, as has been indicated by reports. Indian language users are also going to take to e-tailing, with numbers accessing e-commerce sites going up quadruple by that time to touch 165 million users.

Studies also show that a third of Indic language users are likely to exclusively access online government services using their regional languages.

So, what can we expect in the 2020s as far as internet users in India are concerned? A business in India would probably be looking to create online adverts more in regional, local and even hyper-local languages/dialects. A politician would send out online messages to her constituency in Indic languages, rather than in English. Governments would have to ensure availability of all services and interfaces online in regional languages. And the primacy of Indic language users online would be apparent to all who would want to be part of this cross-cultural, cross-country chaat*^ comprising various ingredients like languages and dialects, sweetened with regional sensibilities. The bonus? A greater sensitivity to cultural and regional nuances than ever before!

*^Spicy mixture served as snacks

INDIC INTERNET AND PARTICIPATION OF WOMEN

by Dr. Shagun Sinha

PhD Researcher, Sanskrit NLP (Natural Language Processing), School of Sanskrit and Indic Studies

As the age of technology advances, various preparations and efforts are being put to making the internet the 'accessible-to-all' space. To say the internet has become a necessity for most of us would not be an understatement. More so, internet availability totally in one's native language is long wished dream that awaits coming true.

With various MT tools and indic keyboards, the development of such a platform has already been initiated. However, the backend of such a development must introspect to ensure it does not become 'gender- specific'. In a report of a study conducted by the World Economic Forum and LinkedIn, it has been found that "22 percent of the AI workforce is women."[3] As surprising as it may sound, AI has had a low percentage of women working as its pioneers or even as simple workers. This has been said to be a grave concern that the AI that would be produced in the future would be gender-biased owing to the lack of the other point of view.

A similar case can be presented for Indic Internet as well. Women, too, are participants in the Indic Internet world. With the access of smartphones having reached approximately 300

3 https://www.irishtimes.com/business/technology/concerns-over-huge-gender-gap-in-artificial-intelligence-workforce-1.3740900

million people with around 650 million people using mobile phones in India,[4] it would be interesting to see how many of these owners are women with what requirements. This may move industry to focus research on content that has never been produced in the internet sphere in the regional languages. A woman might have some search queries that her male counterparts may never be able to think of and thus, never be able to incorporate in the overall scheme of Indic internet development. Inclusion is thus the key.

Initiatives like Bhashantara, which was recently organized by FICCI are required in more numbers. Women in the industry as well as home makers should be called to participate so as to ensure a holistic overview of the current situation and prospective expectations. Google's Internet Saathi[5] that helps rural women gain access to internet is another good step to be emulated.

Indic Internet, thus, must be a democratic platform that ensures not just the development of content for users across genders and age groups but also the participation of all its stakeholders in active and impressive numbers.

4 Counterpoint Research accessed on https://telecom.economictimes.indiatimes.com/news/india-to-have-530mn-smartphone-users-in-2018-study/61097817

5 https://www.google.com/about/values-in-action internet-saathi/

SHOWCASE NEWS

*FICCI-ILIA has aggregated this news from third party websites

Indian Voice Assistant Developed by IIT Patna Will Speak 18 Languages

NITI Aayog is collaborating with several researchers and developers at IIT Patna and 14 other institutions to create a voice assistant capable of addressing queries in as many as 18 languages. This voice assistant will have the required knowledge to respond to queries related to agriculture, health, education, and other professional skills.

Besides giving information about professional ventures and skills, the virtual assistant will be capable of playing music, creating and updating checklists, streaming media and podcasts, reading out news, playing audiobooks and so on, just like Google Assistant and Alexa.

Microsoft rolls out 10 new Indic language keyboards for regional Internet users

Microsoft rolled out Indic Phonetic keyboards in 10 languages namely, Hindi, Bangla, Tamil, Punjabi, Odia, Telugu, Kannada, Malayalam, Marathi and Gujarati. The keyboards are made available to the Windows Insider Program members, along with the Indic Traditional INSCRIPT keyboards that are already available with Windows. These keyboards will also be added to Windows 10 later.

The new Indic keyboards will allow the regional language users to type using their existing QWERTY keypads, which will, in turn, transliterate the words and suggest the closest Indic text options – from which one can choose.

Forget qwerty, you can now type your mother tongue on this specially designed keyboard for Indic languages

Ka-Naada Phonetics Private Limited, in Bengaluru founded by Guru Prasad in October 2017 have come out with a keyboard that can be applied to any language based on the Brahmi script. They formed nine groups for the keyboard and developed it based on Unicode.

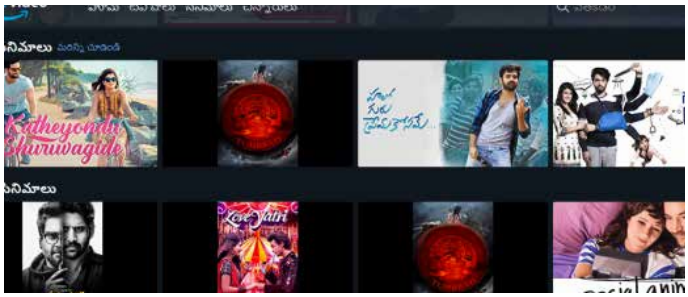
The keyboard can be used to type any Indic language. The format is very simple - the main button on the keyboard allows you to choose your mother tongue. The same keyboard, at the press of a button,

can be converted to any Indic language of the user's choice.

Ka-Naada's keyboard is available in 16 languages and can also be used in other countries such as Myanmar, Sri Lanka, and Nepal for their local dialects as these languages too are rooted in Brahmi.

News18 launches news app in 11 Indian languages

News18 has launched its flagship news app in 11 languages. The News18 app will provide news and live TV in English, Hindi, Bengali, Marathi, Gujarati, Kannada, Tamil, Malayalam, Telugu, Punjabi and Urdu.



Amazon Prime Video introduces Tamil & Telugu user interfaces

Amazon Prime Video has introduced Tamil and Telugu user interface, including navigation, browsing, and customer support, in a bid to offer more localized experience to its customers.

A large selection of Prime Video's content will also feature show descriptions and subtitles in these languages, the company said in a statement. This move comes on the heels of the service adding Hindi interface last month. Amazon said these interfaces will be available on Prime Video's website, mobile apps and supported connected devices like Smart TVs, latest Apple devices, gaming consoles such as Xbox One and PS3, PS4.

MEMBERS CORNER

"Rodali Assamese Keyboard" for Android Devices

Society for Language Technology Development, Assam (SLTD, Assam) has recently released an updated version of its popular keyboard app "Rodali Assamese Keyboard" for helping the users to write Assamese on Android devices in an easy and efficient way. When first released in 2014, "Rodali" was the first of its kind app for Android devices to write Assamese. Later, a few companies including Google included Assamese in their Indic Input Method apps. However, the updated version of "Rodali Assamese Keyboard" developed by native persons having experience in writing Assamese for many years provides some unique features like phonetic typing, autosuggestion for conjunct letters etc. Till date more than 1, 40,000 users have downloaded "Rodali Assamese Keyboard" for Android devices from the playstore. Average rating of this app is 4.5 till now.

Rajasthan State's New Email Project Brings Millions of Hindi Speakers Online

The former Rajasthan Chief Minister's administration worked with the Rajasthan-based firm Xgenplus and deployed its email solution RajMail. Residents could sign up and access the web-based email service and smartphone app to get their free email account in the language of their choice.

This initiative gives the government of Rajasthan a more effective way to engage with its citizens directly, and to provide critical information and services. Since its launch in December 2017, more than four million people have signed up for email accounts via RajMail. In recognition of her vision for a linguistically diverse Internet, the ICANN-backed Universal Acceptance Steering Group (UASG) presented the Chief Minister with a Universal Acceptance Thought Leader Award.

Seenअब: an Indic social media which connects us globally and still is rooted locally

About Seenअब: application/social media: It's a distributed and decentralized platform (online interface/nexus of academia-community-industry-policy) which offers a complete ecosystem/ decision making tool at its smallest unit of management i.e. at district/locality/ neighbourhood level. Offline it called the Resilience Center. It has been developed by two indigenous professors (Dr. Seema Sharma and Arnab Bose, Founders – Resilience Relations, a DIPP approved Start up under Start up India Mission) in India based out of 10 years of rigorous

ethnographic studies, research and analysis.

Each district/locality/neighbourhood has two major sections, noticeboard & local empowerment zone.

The Noticeboard feature of
is instrumental in creating an alternate paradigm in the flow of information –

- It allows free flow of correct information among stakeholders
- It has been designed to have accountability at its heart
- There are inbuilt check and balance mechanisms to control negative social impact
- It helps in improving the overall quality of life of all local stakeholders
- Only trusted sources are allowed to pin notices in this section

The Local Empowerment Zone has flexible and area specific tabs on attributes relating to social (jobs for women, day care, access to disabled people, financial inclusion, disaster risk mitigation) or ecological resilience (water conservation, solar roofs, energy efficiency, green housing, Resilience Atlas, creation of options for public built environment, leisure etc.).

Tele: +91-11-2375-3125
Email Id- ficci.ilia1@ficci.com; dona.sihi@ficci.com
Address: FICCI-Indian Languages Internet Alliance Team,
4th Floor, Federation House, Tansen Marg,
New Delhi - 110 001
Website: http://www.ficci-ilia.in/