
ICANN85 Mumbai | CF – Enabling Universal Acceptance Adoption
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SEDA AKBULUT

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moderate pace. I will now hand the floor over to Geraldo Ferreira. Over to you.

GERALDO FERREIRA

Hello, my name is Geraldo Ferreira. I will be the moderator of this panel discussion. Next slide, please.

So, this panel discussion will be about enabling Universal Acceptance adoption. We will not discuss about Universal Acceptance concept, but basically our domain names and email address are treated equally and can be used by applications, devices, and systems.

So, this panel discussion, we'll discuss the motivations and challenges faced by different organizations with different backgrounds in enabling the adoption of Universal Acceptance. So, the participants will also discuss their experience and solutions in front of Universal Acceptance.

There will be translations for English, Spanish, and Hindi. So, in the room there are headphones, and one of the participants will comment in Spanish, so I recommend you use the headphones in order to understand him. Next slide, please.

So, the panel members, we're going to have Mark Davis from Unicode Consortium, Ronald Schwärzler from the GeoTLD Group, Abdalmonem Galila from UA Committee of ccNSO, Jorge Canto from Modelo University in Mexico, Devesh Tyagi from NIXL, the National Internet Exchange of India.

So, the format of the panel will be, we'll pass through each of the panelists in this order and provide a biography for each one, ask for a short introduction and make two questions for each one. And then each one will answer these two questions and we will move to the next panelists. So, in this order, Mark Davis first, and then Ronald, and so on. Next slide, please.

So let's talk to Mark Davis from Unicode Consortium. So, Mark, I have some notes here about his biography. Mark is co-founder of the Unicode project and served as the president of the Unicode Consortium from 1991 through 2021. As a principal co-author of the original Unicode standard, Mark has authored numerous technical publications that enable global digital communication.

Following roles at Taligent and IBM, he joined Google in 2006, and today he focuses on software internationalization, ensuring the effective and secure implementation of Unicode and global libraries across Google's product ecosystem.

So, Mark, welcome. It's good to have you in this session. So, if you can make a short introduction before we start the questions, please. Over to you.

MARK DAVIS

Sure. Well, thanks for introducing me and I'm glad to be here, at least in spirit, if not physically. I've had a long career working with internationalization and globalization, and I'm glad to see this conference attacking what's still a persistent issue.

GERALDO FERREIRA

Thank you, Mark. So, let's just start with the first question for Mark. So, Mark, what are the efforts being done by the Unicode Consortium towards implementing IDNs?

MARK DAVIS

Sure, that's a good question. I mean, in some ways, the first thing we did was establishing the Unicode standard itself, which let us deal with characters from all around the world. We have about, I think it's 159,000 characters at this point and without a unified standard character, encoding standard, it would have been a horrible mess trying to deal with URLs and email and everything else.

So, some of the things, some of the areas that are of particular interest for IDN are, we have a number of technical standards dealing with the characters supported by international domain names and what categories they're in. And these flesh out the data needed in order to implement international domain names.

The bidirectional algorithm also has data files that allow people to detect the different kinds of bidirectional characters and process them correctly for display. And they're also part of what constitutes a domain name and there are conditions in the RFC that plays a part in that. There are a number of other ones, but I don't want to go into too much time. I'm not sure exactly how much time I have for this.

GERALDO FERREIRA

Yeah. So, we have some slides, Mark, from your side. So, feel free to navigate through them.

MARK DAVIS

Sure. What this is really focusing on is a very recent technical standard that has appeared, which is for link detection and formatting. And we've become aware through a number of sources that for some time, URLs have not been treated consistently across applications.

And an example of this you see on the screen, I have x.com/rihanna, I have youtube.com/ and then a handle written in Korean and these two are treated very differently. So even beyond the use of internationalized characters in the domain name part of a URL, people have horrible problems with the rest of it. So, let's go to the next slide.

So, Rihanna works fine because it's all ASCII, but in practice, if you see a handle, as you'll see in YouTube, internationalized handles or X or any one of a number of different programs or applications that have handles, they're using the part of a URL which comes after the slash.

And what happens with those in a lot of modern browsers is, if you copy this out of the address bar, then you get something that's completely unreadable to human beings. Actually, it's a series of

hex numbers that correspond to the bytes in that representation of the Korean, but nobody can read that at all. Next slide.

GERALDO FERREIRA

So, Mark, just to comment.

MARK DAVIS

No, go ahead. Yeah, ask the questions.

GERALDO FERREIRA

So, we have the second question. Actually, I think you are already abording the second question, which is, could you please share more details about the more recent work on liquefaction standard, the UTS-58?

MARK DAVIS

Sure. Okay, so here's another example and in this example, we see that, not only is it unreadable, but it expands quite dramatically in making it completely incomprehensible to anyone. Go one more slide.

Now, the other side of the coin and something that has to be synchronized with this is how do things linkify? And if we look at the very top example, we see a more complex example of a URL. The part after this first slash, the alpha, beta, gamma, is part of what's called the path. Then comes a question mark and after the question mark is what's called a query. And then after the hash

mark is what's called the fragment, which usually represents a part of a certain location in a web page.

And if you look, and all of these examples were taken from real-life applications, very, very commonly used applications. And what people want to have is, when we have a plain text URL, the programs will automatically apply a link to those so that you can click it and you get an email and the link is applied. You don't have to copy it out and put it in a browser or anything like that. It looks like the numbering got messed up a little bit, but if we see from the second example, often it just completely fails to linkify, to put a link on the entire thing. So, this one stops after the second slash mark.

If we look at the third example, this one has actually gone all the way out to the end, but it's included the period, which is part of the sentence instead of it. So, it's gone even too far. And we see the final example of what it should look like. So what we've been doing in this latest technical standard is providing a standard that can be implemented by any implementation that treats characters from alphabets and languages around the world the same way. It puts everybody on the same footing.

And one of the big problems with this issue, linkification, I mean, link detection and link formatting, is that there hasn't been a standard that tells people what to do. So, in many cases, people have done what they think is the right thing to do, but they have hard-coded lists that don't expand to new characters or that fail in one way or another or don't.

They don't understand the difference between punctuation that should be included in a link and punctuation that shouldn't. And so, you get unreadable things when you're copying out the address bar, and you get problematic linkification when you're looking at things like emails.

So that's the goal of this new technical standard. And you may not have the last slide. The last slide points at -- ah, good. The last slide, it's called UTS number 58 and Unicode link detection formatting. And it specifies how to format and linkify URLs and email addresses in a readable, predictable, user-friendly way. And the data files cover all of the 159,000-ish characters in Unicode. So, does that answer the question, or would you like me to fill out in any other ways?

GERALDO FERREIRA

Thank you, Mark. I think it answers the question.

MARK DAVIS

Okay, great.

GERALDO FERREIRA

Okay, so any questions we may have for Mark, we can ask him at the end of the session, at the end of the panel. Let's move to the second panel member who is Ronald Schwärzler from the GeoTLD Group. Next please.

So, here is a short biography about Ronald. He's the CEO of the punkti.wien, dotKoeln, and the Registry Services Provider RyCE. He's a long-standing expert in the global domain industry he focuses on Universal Acceptance and the digital representation of city identities. Prior to his work in the domain sector, Schwärzler held senior roles in the Austrian media industry, including online director at ORF and managing director of major newspaper digital platforms.

He is a regular speaker at international conference and industry forums. Ronald is based in Vienna. So, good to see you, Ronald. Could you please make a short introduction before we start with the questions, please?

RONALD SCHWÄRZLER

Sure. Good morning, good evening, wherever you are. Happy to be here and, yeah, most of my personal data has been said in the short bio. I've studied computer science at the University of Vienna back in the last millennium. So, it's been 50 years or 45 years from now. So, you can imagine how dramatically things have changed when I was studying this and what I'm experiencing today.

And as you may notice, my name includes an IDN, Schwärzler. I have stopped using the A, which is the A with the two dots on it, whenever booking a flight, because you simply cannot check in. You cannot do the online check-in if you use this way. I just got my passport renewed in February this year, and the Austrian passport

now carries a line saying, Schwärzler is equivalent to this ASCII representation. So the A and the E, they simply give up.

And the last thing about my name, my daughter, clearly named Schwärzler, married a German. She is now named Marion Legler. And my son said, “This is a perfect way to get rid of the IDN in your name.” Yeah, it makes things easier. She works for an international company, and the name Schwärzler, as you experience, is very hard to pronounce, and it's even worse to use. Yeah, next slide, please.

I'm an ex-com member of the GeoTLD group. The GeoTLD group is the group consisting of the GeoTLD of the last round, and some of them have also existed longer. Our goal, the GeoTLD group's goal, is to promote the local digital identities of cities, regional languages and cultures on the internet. So, think of .catalonia, .cusk country, Paris, Amsterdam, London, these all are members of the GeoTLD group. Next slide, please.

And as you can think, if a GeoTLD, for example, for the Basque country is established, the government there expects that you put special attention to the special things of this region. And it's probably not that critical with the IDNs and the special characters in Austria or in Germany.

But if you think of the Basque country, if you think of the Catalanian country, that have many, many special characters in their language. And they want to preserve the language, and they even

have in their statutes that they have to have a special focus on the usage and the enabling of these characters.

And even the .cat Foundation, renamed herself to Accent Obert. It is a special character only existing in the Catalan language. So, to make it very clear, we are focusing on this heritage of the Catalan language, culture, et cetera. They are no longer .cat. They renamed their company to Accent Obert, which is a special accent, you would say, in the French language. Not existing in the Spanish language, but existing in the Catalan language.

To make it very clear, no, we are not separatists, but we want to express very clearly how much we stress this idea of local identity and have special efforts to take with providing all these special characters. Next slide, please.

GERALDO FERREIRA

Just can I ask the first question, Roland, so to guide our conversation? So, what's the motivation and challenges for UA as heritage operator for GeoTLDs?

RONALD SCHWÄRZLER

Yeah, this is just what I had explained. The GeoTLD, at GeoTLD, is focused to a special region, to a specific region, and they have to, out of their mission and in their statutes, promote these local identities and special characters like IDNs are local identity. This is why the GeoTLDs are really taking strong effort to do this Universal Acceptance effort.

GERALDO FERREIRA

And the second question would be, what are the solutions you guys are working to address this challenge?

RONALD SCHWÄRZLER

So, the GeoTLD group came together with ICANN, and we were able to found or to incorporate a local initiative, a Universal Acceptance local initiative. And we started to motivate our members to do events especially focusing on Universal Acceptance. And the first event, you don't have to read this. I know it's way too small, but it is a list of events that we did in the past one and a half year.

The first ones were more or less about awareness, making people, making students, making multipliers in the region aware of the challenges and the possibilities that you have using international domain names. The one is the .cat registry, the other was the .alsas registry. Next slide, please.

And we changed our strategy a little bit from awareness events to events that make a difference. This sentence has a copyright on it, it's from Sarmat. We have to do events that make a difference. So, if you hold an event and people go out after the event, it must have changed something. And for all the events that are listed there, you will see the majority of them is in universities. We managed to get universities, including Universal Acceptance lectures in their courses.

So, it is part of the regular education of IT people that they have to deal with IDNs, with possibilities, how to make websites, how to make parts of the operating system, whatever it is, UA-ready. We had an event in the Galician country in Spain, technical training in Iran, in Brittany, in France. Next slide, please. And the one that will take place in a month is in the campus of the University of Vienna.

For example, this is for 300 participants of the WordPress WordCamp in Vienna. 300 specialists, enthusiasts of WordCamp are coming to Vienna and they will have a one-and-a-half-day workshop on how to improve WordPress plugins or however you may call it to make them UA ready.

The Donostia, on the left side, you see the San Sebastian, Basque country, university lectures. And the next slide please, and this is the last one, we will hold in the May or June time frame at the University of Pretoria in South Africa because a member of our group, .africa, is the city of Cape Town, so these GeoTLDs even in the African continent.

The students will have a two-day hackathon and investigating the websites of South African governmental and other public organizations, how UA-ready they are. And they will come up with solutions, coded solutions, on how to make that better.

So, I think this effort that the GeoTLD group's members are doing is well worth it, and it does spread over, not say the whole world,

but at least the part of the world that the GeoTLD group is having members at.

GERALDO FERREIRA

Thank you, Ronald. One last question. What's the progress they are witnessing? Do you have any example?

RONALD SCHWÄRZLER

I have an example because I have an exchange server at home. Two years before, if someone sent me an email to schwärzler.wien, it would not be delivered. You had to use the xn--schwärlere-2ya.win, so the ASCII representation of my name. Suddenly, beginning middle of last year, emails were delivered and showing the IDN character correctly.

So, something has changed within Microsoft's libraries without me doing anything, but implementing the updates that have been delivered by Microsoft. So, things are changing, things are getting better, not at the airport, not at the airlines. And things are getting better in the regions that we try to work with because students even have to do tests, et cetera, including IDN or Universal Acceptance questions.

It is a long-term investment that you have to take. You cannot think I'm doing a two-day event in the University of Vienna and all the code will be good all over Austria in one week. Students will leave university two or three years later. They will start programming

and some years later the code will be better. Yeah, long-term investment. That's it.

GERALDO FERREIRA

Perfect. Thank you. Very good answer, Ronald. So, let's move to the next panel member. Next slide, please. So, let's talk to Abdalmonem Galila from the UA Committee of ccNSO.

Mr. Abdalmonem Galila is Director of Numbering of Egypt's National Telecom Regulatory Authority, the NTRA, overseeing the .mars IDN, ccTLD. Active in ICANN since 2010, he is the first recipient of the Tarek Kamel Fellowship Recognition. He chairs the ccNSO Universal Acceptance Committee and the GAC UA/IDN Working Group, advancing Universal Acceptance in Arabic IDNs globally.

Welcome, Mr. Abdalmonem. Could you please make a short introduction before we start with the questions, please?

ABDALMONEM GALILA

Yes, this is Abdalmonem Galila for the record. As you said, I am the Director of Numbering at the National Telecom Regulatory Authority of Egypt and also responsible for operating the ccTLD of Egypt. Let's go directly to our topic for today.

Actually, recently, the Telecom Regulatory of Egypt published a website related to selling the short codes, the 30-digit short code and 60-digit short codes through the auctions, application for auctions online. One of the issues that we received, one of the big

companies that have existence in Egypt that ends by .bank tried to register, to sign up for one of the auctions that were released, they couldn't. So immediately I asked them to make this application, especially in order to be Universal Acceptance 3D. That's one of the issues that affect the business of numbering whatever the area is.

GERALDO FERREIRA

Thank you. Let's start with the questions, Abdalmonem. So, the first one is, why is UA adoption important for the ccTLDs, and how can ccTLDs promote UA readiness with stakeholders?

ABDALMONEM GALILA

Yeah, thank you for the discussion. Actually, I think I am the only presenter for today that don't have any slides, but I have my notes, by the way.

Okay, Universal Acceptance adoption is strategically critical for ccTLD registry, as it directly affects the market growth, the national digital identity, and the visibility and the relevance of their domain names. So we could say that the main strategic reasons registries focus on is, the first one, to expand the potential user base. If we enable IDNs, if we enable IDIs, EAI, it means that we need to enable Universal Acceptance. And these kind of domain names and email addresses should be accepted by all applications, by all devices, by all systems, whatever it is, mobile applications or desktop applications. This is the first one.

The second one is to protect ccTLD competitiveness. If we are talking about ccTLD, you know that we are talking about the local community. If one of the large base of the local communities that couldn't use English language for sending and receiving email and for exploring the internet, we may have a problem.

If they wanted to have IDN domain name or even email address and have this environment, is not ready to handle such kind of domain names and email addresses, it will be a problem. So, I will lose business as a registry from here. So you could say that Universal Acceptance ensures that ccTLD remains technically compatible and competitive in the domain name marketplace.

The third one for today is that Universal Acceptance adoption drives national digital transformation projects especially that there is a huge cooperation between ccTLDs and the government. You know that government when –

SEDA AKBULUT

Abdalmonem, could you use the other microphone because the TV doesn't take you?

ABDALMONEM GALILA

Yeah, for driving the digital transformation project, you know government all the time uses the ccTLDs instead of other domain names, especially for the governmental services. So Universal Acceptance adoption, as this case, ensures government portals, e-

commerce applications, e-commerce platforms, and startups can use the domain name more reliably.

The fourth one is related to unlocking one of the services, the most important services and the critical one that is built upon IDNs, which is email address internationalization. You know that we couldn't have email address without a domain name. So, you are unlocking another opportunity for businesses.

Fifth one for today is to increase the revenue of the registry. As I will sell domain names, IDN domain names, that already handle a large base of internet users it means I added another thing, another source of revenue for my organization as a registry.

The last one for this is the future proof that DNS could handle a diversity of languages, whatever the way it is handled. It's your bunny code, whatever it is. So, it confirms that IDNs could be treated equally like legacy domain name system, accepted, validated, stored, and processed and displayed correctly.

The other part of your question is related to the cooperation for ccTLDs and other stakeholders. We all know that the issue of Universal Acceptance or the Universal Acceptance as a whole is collaborative work between different stakeholders.

As ccTLD is one of the main measures for the local community, we could say that ccTLD could cooperate with developers, with government, with businesses, with email providers, with platform operators through awareness and education campaigns to release

what is Universal Acceptance? Why does it matter? What is the business behind the adoption of Universal Acceptance at your environment?

Second one, to walk through government and public sector. You know that all the government are going deeply for digital transformation projects. So, this digital transformation project mainly for the local internet users. Maybe we have another international user like eVisa system. This kind of application should be universally accepted as well if you are looking for more businesses and more relevance of these domain names.

Second one, to provide, ccTLD could provide the developers or administrator a testing tool or staging environment in order to test Universal Acceptance adoption or AI adoption and domain names. And then, this could encourage the government in order to mandate Universal Acceptance for their policies and make it as mandatory for all software companies in order to be compliant with Universal Acceptance. And use the proper Universal Acceptance ready APIs for their applications that are used by the government.

You could say something like lead by example, I am the government, I will lead by example that I am going to be universally accepted.

The other ones, you could engage with local tech ecosystems, we could go for building national UA communities like we did for

universal accepted [inaudible - 00:37:17] group we have something called local initiatives.

GERALDO FERREIRA

For the sake of time, could you conclude?

ABDALMONEM GALILA

Yeah, okay. I think it's just two words, collaborate with email and host providers, and the most important one from my side is related to conduct UA audits and recognition programs. Like my colleague said, they conducted a hackathon related to Universal Acceptance readiness. It's one of the tools that we could use in order to share that there is Universal Acceptance and mandate it. Thank you.

GERALDO FERREIRA

Thank you, Abdalmonem. So, let's move to the next panel member who is Jorge Canto from Modelo University in Mexico. Next slide, please.

So, Jorge Canto, biography, Dr. Jorge Canto Esquivel, he's an electronic engineer and professor, researcher, specializing in digital transformation with a PhD in social sciences. He is affiliated with the Tecnológico Nacional de México, in Mérida and Universidad Modelo, where he serves as academic coordinator at the Centro de Investigaciones Silvio Zavala. His work focuses on Universal Acceptance and the integration of global internet standards into university education in Latin America.

So, Jorge, could you please make a short introduction before we start with the questions, please?

JORGE CANTO

Thank you. Hi, I will speak in Spanish. Thank you so much for this invitation, Sarmad and Geraldo.

SEDA AKBULUT

Jorge, please while we get some devices because some Zoom participants might not have the translation ready, so we will just take a minute or two to [inaudible - 00:39:40] them. Yeah. You can take also from the desk here.

JORGE CANTO

Thank you.

SEDA AKBULUT

Thank you. Please, go ahead.

JORGE CANTO

Yeah, I am an ICANN fellow in this meeting and I'd like to thank you all for being here. I have been in so many years working on Universal Acceptance, the other people present here. We've been working for about three years and because of my economic background, Universal Acceptance I understood it as a clearly social, technical aspect where universities have a huge part to play in this development.

I believe that Universal Acceptance is the silent indicator of the maturity of digital transformation where universities can leverage and define many concepts that present challenges. That was one of the main reasons why I became involved in this and from the Modelo University in its research center, we were able to make a push to include a cause of UA in the curriculum of the software technology development engineering program.

GERALDO FERREIRA

Thank you, Jorge. Let's start with the first question, what's the motivation and challenges faced by the Modelo University in integrating the UA curriculum content into their course?

JORGE CANTO

The main motivation we have at Modelo University that makes us be involved in this topic is to develop the scales of the future internet users as we call them here, the NextGens. To prepare them for the use management and control of internet technology. That is the first motivation centered in our school to get engaged.

I'm from the technical environment to promote digital inclusion and multilingual internet. That is an understanding that in my country is perhaps not so strong in different characters because we also use the Latin script. But in Mexico there are 18 indigenous etnias that use the entire critics and the accents differently that will change the meaning of words.

So having their digital identity, not to lose it overtime in a couple of generations and that comes from the studies made on cultural topics where the intention is to keep this type of knowledge. So, the main motivations were to align education with global movements to be on the edge of developments and there was also institutional commitment to be at the forefront.

The main challenges we faced in the process is that there isn't actually not so much technical documentation in Spanish and that is a barrier for the university faculty to teach. We also had challenges in the identification where UA fits within the existing curricular. So, we wanted to build this curriculum in an integrated manner.

GERALDO FERREIRA

Good question, then, how is Modelo University progressing in offering new content on UA and how students are responding to this content.

JORGE CANTO

Yes, the next slide please. We started with the UA days in 2023 initially as participants and later on as presenters. The faculty, the students, then where never to understand what it was about. It was the first time that they heard the terminology. We conducted training courses with the support Geraldo gave us and we integrated the curriculum that was work conducted with the faculty and the professors and the students.

The students are like a faculty, whatever to understand it, be better because for them the inclusion process is a bit clearer and they understand what it means in terms of the technological gap. Yeah, people wondered actually why we had not done this earlier.

The faculty that the teachers are still a little bit reluctant. They wonder why we're going to do this, why we're going to get into this complexity see the system works. So, the interaction between the professor is the teachers and the students was very good because they whenever to look forward and find technically suitable solutions. And those are the engagements in these topics. These are the corridor talks in the universities.

GERALDO FERREIRA

Thank you, thank you very much, Jorge. Let's move on the next panel member, please.

So, Mr. Devesh Tyagi from NIXI, National Internet Exchange of India. So, let me talk about Devesh's biography. Dr. Devesh Tyagi is currently heading the NIXI, the National Internet Exchange of India, and he has over 32 years of experience in the IT and ESDM sector.

He has actively engaged in promoting the sector and has contributed significantly with innovation and product development in the country of India, right? Prior to joining STPI, Dr. Tyagi served as the National Informatics Center's, the NIC in several capacities. Dr. Tyagi holds a doctorate from SHUATS,

Allahabad. Welcome, Dr. Devesh. First, I'd like to ask you to make us a short introduction before we start with the questions.

DEVESH TYAGI

Thank you. Good morning, all. I would like to welcome everybody present here online as well to this session. I am currently working as a CEO of National Internet Exchange of India. We are basically, working in three primary domains.

One is that we are allocating .in domains as ccTLD. Another operation which we do is that we are working as a national internet registry for allocating IPv4 and IPv6 addresses. And the last pillar which we are currently supporting is that we are establishing exchange points across the country.

We have progressed very well. We are currently managing around 4 million .in domains. We had allocated around 11.5 million IPv4 addresses and around 15.6 billion IPv6 addresses. We had established I would say around 78 exchange points across the country and working on the principles of internet for all. We had established most of them in smaller cities because we feel that the services which we give to our citizens in metro should be available to them across the country in the farthest regions.

So, another thing which we had started working is on Universal Acceptance and we are primarily focusing on adoption of all the Indian languages across the digital ecosystem across the country. Thank you.

GERALDO FERREIRA

Thank you, Dr. Tyagi. So, let me ask you some questions. Why are IDNs and UA important for India? And what are the efforts being done in India to enable them? And what's the progress on the UA and IDN implementation?

DEVESH TYAGI

Thank you. Thank you for your question. Basically, you may be aware that India is currently a very diverse linguistic country in the world currently, and we are having 22 official languages, thousands of dialects, and the large population that does not use English online.

So, this introduction of IDN through Universal Acceptance has allowed domain names in native scripts, such as Hindi, Tamil, Bengali, etc. While this Universal Acceptance is ensuring that the domain names and email addresses that connects across all the application, browser and email systems that we have put in place.

And I would like to share with you that I would like to give some statistics that India provides all the IDNs in all 22 official languages across 11 scripts and 15 TLDs. Two over 0.3 million IDNs has been registered till date and it definitely reflects because we started almost two, three years back so this progress is very heartening for us. And it is reflecting growing adoption of multiple lingual domain across the country.

We are having a number of language families. Primarily, I would like to mention Indo-Irean, Dravidian, Tibeto-Burman, and Munda. We are having two major families of the script. That is primarily one is Brahmi and another is Perso-Arabic. And Brahmi we write from left to right and for Perso-Arabic we write right to left.

19 languages uses 11 derivatives of the Brahmi script whereas three languages, Urdu, Sindhi, and Kashmiri uses Perso-Arabic derivation. So, you can yourself see the diverse nature of our Universal Acceptance that we had put in place.

And what this means for our country, that we are able to provide internet access in local languages because you see it is said that next set of the users will be coming from the non-English speaking regions. And we feel that through this adoption of Universal Acceptance, we will be able to add another 500 million people from our region. This has given a greater digital participation of the rural communities as well because primarily in rural communities in India, they speak or they are comfortable in their own native languages.

We had also seen that it is driving the local language content and digital economy in the country. You see, almost 65% of the total content across the globe is in English, and there is hardly other languages that have not been represented in the total way that could have been represented. And what we have done is that IDNs and UN directly supports because you see that our Honorable Prime Minister has launched Digital India Mission way back in 2015.

And after that, India has progressed very well in digital infrastructure.

We feel that our country is a vast country and to give services to every citizen, we have to use the technology. And through an internet is one of the major constituents of that particular technology. So, we are able to serve all the citizens. I would like to share with you that all the major services or all the government services are currently given to the citizens in the online mode and UDN or IDN which we had adopted is playing a major role in that.

We had created a digital public infrastructure that is accessible to all. I'd also share that all the e-governance services are in local languages, and we had also ensured the industry participation in digital economy through providing the support to MSME to onboard them on our digital platform.

And a few things I would like to mention is that this helps us in our motive of equity first. We feel that no one should be left behind in the digital revolution that we have undertaken. It also enables us for the cultural preservation that it supports Indian identity by enabling Indian scripts online. We want to have a say in the global role that Indian UA perhaps gives worldwide adoption or encourages worldwide adoption for IDN internet.

We had also seen that adopting UA will give an economic impact for us, that additional 500 million internal users which will be able to currently onboard will definitely give us the boost in terms of job creation and growth in India digital economy. It also gives us cyber

security benefits since the native language adoption majorly invokes the user awareness and the engagement that will have the privacy, by privacy point of view, user will come online.

GERALDO FERREIRA

Thank you, Dr. Devesh. So, I think we are running out of time. So, let's wrap our session. Maybe if you have any questions on the chat.

SEDA AKBULUT

There is no question in the Q&A pod. Let's see if there are hands in the room. I see one hand from Nitin, please.

NITIN WALIA

Thank you, Seda. Nitin Walia for the record. So, I think the agenda for today's session was talking about the issues of adoption, which we all are facing. And I think my expectation from the session was we were going to hear some of the issues and some of the solutions. So, this question can be taken by any of the speakers.

We have been talking about Universal Acceptance, its issues, billion-dollar opportunity, connecting people from almost last one decade and there are significant awareness which has been done in last one decade. There are documents available, UA Days are happening and finally when the gear was being changed from awareness to adoption, the expectation was to see where the challenges are coming in terms of adoption and how we can overcome them.

So, in my view, or in fact, in your view here, what is the single biggest barrier which is preventing UA from moving from awareness to actual implementation at scale? So, anyone of you, if you have any thought on that, happy to listen to that. Thank you.

DEVESH TYAGI

Can I reply? So, as you are aware that Universal Acceptance primarily depends on two things. One is that there should not be any digital divide. Another thing is the awareness of the users. So currently we are working through Digital India program to bridge that digital divide and when the awareness will reach to all the citizens, I would say that across the country. And then they should know that their services are available in their own native language.

And one of the initiatives which we have taken in this regard is about Mera Gaon Meri Dharohar. Because you have to see, first of all, increase the content, the digital content, in those languages on the internet. That it is available and it is reaching to the particular community for which it is meant. And through these efforts, in case we are able to reach, not only the outreach, but also the content across the globe, I think it will definitely make things easier, and this is what I feel currently are the challenges.

GERALDO FERREIRA

Okay. Thank you, Dr. Devesh. Thank you, team, for the question. Would you like to comment?

RONALD SCHWÄRZLER

Yes, a very short personal view of this thing, Ronald Schwärzler, for the record. Universal Acceptance is not so much a European or a North American thing. It is more visible and seeable in the Arabic, in the Asian Chinese, et cetera, world. Where are the main developers sitting? It's in the U.S. or in Europe, yeah?

So, the ones who make systems UA ready are not really that much affected by Universal Acceptance not working. It's my personal opinion if the main software development company were sitting in Asia, we're sitting in the Arabic world, where you, for example, write from right to left. No one in Europe is interested in presenting, not no one, very little interested in presenting a form that you can input your text from right to left.

My company has blocked emails, for example, that are Chinese script, because no one in our company can read Chinese. So, if we get an email in Chinese, it is supposed to be spam and blocked by the email server before it even is delivered to an account. I think the awareness for this problem that more than half of the internet population is faced with is not there in the world where the main software is done. I think this is simply one of the reasons why it's not developing that fast. It's becoming better and better, but it's not of a major concern.

GERALDO FERREIRA

Okay. Thank you, Ronald. Well, for the sake of time --

SEDA AKBULUT

We have one last question.

VALERIIA FILINOVYCH

Thank you for the opportunity. Valeriia Filinovych for the record. It's not the exact on adoption, my issue, but I need to know the answer. So do you think Universal Acceptance could evolve into a broader interdisciplinary topic, involving not only technical education, but also policy and governance aspects of the multilingual internet? Thank you.

DEVESH TYAGI

So basically, in our country, we are aware of this, that we have to come up with the policies and other things. And for that, certain initiative has already been taken. Like almost all the websites under government of India is mandated that there has to be multilingual. And all the states currently, they are making their services and the websites available to the citizens in their native language, in English, and in Hindi. So, these initiatives are being taken and policies are being put in place. I think this will definitely be a paving way for further adoption of Universal Acceptance

SEDA AKBULUT

We are over time, so I'm checking with our technical team.

GERALDO FERREIRA

Because we have a problem with translation. Yeah, yeah. So, thank you very much everybody and it was a wonderful session and thank you. Bye.

SEDA AKBULUT

Thank you, all participants, for your attention. Have a great day ahead. This meeting is adjourned. You can stop the recording please.

[END OF TRANSCRIPTION]