

ICANN 75
ANNUAL GENERAL
KUALA LUMPUR



Universal Acceptance Steering Group (UASG)

ICANN75 Prep Week | 08 September 2022
Universal Acceptance Community Update



Universal Acceptance

Session Overview

Universal Acceptance (UA) Overview

Updates from the UASG, Overview of UA Sessions at ICANN75

Updates from UA Working Groups

- Measurement WG
- Technology WG
- Email Address Internationalization (EAI) WG
- Communications WG

Questions and Answers (Q&A)

Universal Acceptance (UA)

UA Vision

All domain names and email addresses work in all software applications.

Impact

UA provides the gateway to the next billion Internet users.

UA promotes consumer choice, improves competition, and provides broader access to end users.

The Universal Acceptance Steering Group (UASG) was formed in 2015 as a community initiative to address UA, and advocate and encourage relevant stakeholders to make their systems and applications UA-ready.

UA Scope and Categories Impacted

1) Domain Names (including Internationalized Domain Names):

- New short top-level ASCII domain names: example.sky
- New long top-level ASCII domain names: example.engineering
- Internationalized Domain Names (IDNs): คน.ไทย

2) Email Addresses (including Email Address Internationalization):

- ASCII@ASCII (new and long TLD): ekrem@misal.istanbul
- ASCII@IDN: marc@société.org
- Unicode@ASCII: 测试@example.com
- Unicode@IDN: अजय@डाटा.भारत
- Unicode@IDN; right-to-left scripts: ای-میل@مثال.موقع



Accept



Validate



Process



Store



Display

UASG Working Groups (WG)

UASG WG	Role
Technology WG	Oversees remediation work on standards, programming languages, tools, and development platforms.
Email Address Internationalization (EAI) WG	Oversees engagement with email software and service providers to make them EAI-ready.
Measurement WG	Identifies UA-readiness gaps in tools and technologies.
Communications WG	Develops communication strategy and oversees its execution in collaboration with other working groups.
Local Initiatives WG	Conducts national and regional UA awareness, training, and stakeholder engagements.
UA Ambassadors	Organizes training and outreach at national and regional levels.

UASG Updates

- * **FY22 UA-Readiness Report**: provides an overview of the state of UA in FY22.
- * **FY23 UASG Action Plan**: the operating plan for the UASG for FY23.
- * **UA Day (16 Feb. 2023)**: multiple events to be organized by institutions and groups across the world to raise UA awareness.

ICANN75 Universal Acceptance Meetings

1. Sun, 18 Sep. Fellows and NextGen with GAC and UASG
2. Mon, 19 Sep. Tech Day – UA Roadmap for Registries and Registrars
3. Tue, 20 Sep. Driving Local Change for UA Adoption Globally
4. Wed, 21 Sep. ccNSO and Universal Acceptance
5. Thu, 22 Sep. Planning for UA Day

Updates from UA Working Groups (WGs)



UA Measurement WG



UA Measurement WG

- The UA Measurement WG plans, oversees, and directs the gap analysis efforts of the UASG for various frameworks and technologies and reports on UA-readiness progress.
- **Published:**
 - [UASG036](#) UA-Readiness of Browsers
 - [UASG035](#) UA-Readiness of Social Media Platforms
 - [UASG032](#) UA-Readiness of Content Management Systems
- **Ongoing Tasks:**
 - UA-Readiness of Popular Webhosting Tools
 - UA-Readiness of Identity Platforms
 - UA Curriculum for the Academia >> Join ICANN75 session on [Driving Local Change for Universal Acceptance \(UA\) Adoption Globally](#)



UA Measurement WG - Ongoing Task 1

UA-Readiness of Popular Web Hosting Tools

Objectives:

- * To develop a test method to assess the web hosting tools which ISPs offer their customers.
- * To assess the UA-readiness of three webhosting tools: cPanel and Plesk (commercial), ISPConfig (open-source). All popular in many regions.

Initial results:

- * None of the “Web Hosting Tools” (cPanel, Plesk and ISPConfig) are in compliance with the UASG’s defined objectives, since a number of underlying services are not ready to support native scripts.
- * Plesk has the highest chance of providing a full native script experience.
- * More details to be published soon at <https://uasg.tech/>.

UA Measurement WG - Ongoing Task 2

UA-Readiness of Popular Identity Platforms

Objectives:

- * Develop a test method and evaluate the OAuth standard and design structure that the identity products integrate into.
- * To assess the UA-readiness of three identity platforms that use OAuth' standards:
 - * Two from commercial source: Okta and Auth0
 - * One from open-source: Apache Syncope



UA Measurement WG – Next Projects

Analyze impact of the use of HTML5 email field

- * Scope: Collect data and identify how to address HTML5 email field for accepting globally inclusive email addresses as identifiers.
- * Websites using HTML5 type DEFAULT as input are not UA-ready, as it causes the browser not to allow Unicode characters before @ symbol (UASG039).
- * To support EAI using HTML5, programmers have to either write their own code for input email validation or use existing IDN libraries.
- * Engagement with WHATWG and W3C for supporting EAI in HTML5 to help resolve this issue (UASG040).



UA Measurement WG – Next Projects

Characterize how much the Android platform limits acceptance of IDNs in web browsing because they stay compatible with Chrome on Android, which uses an outdated IDN spec (IDNA2003).

- * Scope: Identify the UA-related constraints on applications running on the Android platform.
- * okhttp is a very popular HTTP client in the Java and Android environments. However, it refused to support IDNA2008 (UASG037).
- * Identify how many Android app projects will make decisions like okhttp and reject UA because it conflicts with Chrome on Android.



UA Technology WG



UA Technology WG

- The UA Technology WG focuses on the remediation of existing UA gaps in programming languages, tools, development platforms and standards, as well as the development of technical trainings. The group engages with technology enablers and technology developers as primary stakeholders.
- Recently published:
 - [UASG 037](#) Remediation of Programming Languages - Phase 3
 - [UASG 039](#) UA-Readiness of Top 2,000 Global Websites
 - [UASG 040](#) UA-Readiness Evaluation of Standards and Best Practices
 - Showcasing programming language solutions with [UA-ready code snippets](#) and reporting bugs.
- Ongoing tasks:
 - Identifying the big picture and challenges in adopting UA
 - Remediation of UA gaps for 2,000 websites

Summary of Programming Language Evaluation

This 3rd phase ([UASG037](#)) extends the testing of UA-readiness levels of programming languages to include mobile platforms as well.

- * iOS demonstrates some compliance with EAI and IDNA2008.
- * Android: None of the tested libraries are IDNA2008 compliant.
- * PHP on Linux: UA compliance is generally good.
- * PHP on Windows: Core .NET framework is IDNA2008 compliant.
- * Reported 15 bugs. 3 out of 4 code fixes have been merged upstream by the maintainers. 1 pending.



Programming Languages and Frameworks for Mobile Platforms

LANGUAGE	LIB NAME	PLATFORM
Swift	MessageUI	iOS
Swift	URLSession	iOS
Swift	Alamofire	iOS
Swift	IDNA-Cocoa	iOS
Kotlin	okHttp	Android
Kotlin	URLConnection	Android
Kotlin	Retrofit	Android
Kotlin	fuel	Android
Kotlin	Volley	Android
Kotlin	Apache HttpClient	Android
Kotlin	Jakarta Mail	Android
Kotlin	Email Intent	Android

Legend

UASG037

UA-ready

UA-ready but
developer needs to
be careful

Not UA-ready

Remediation of Websites

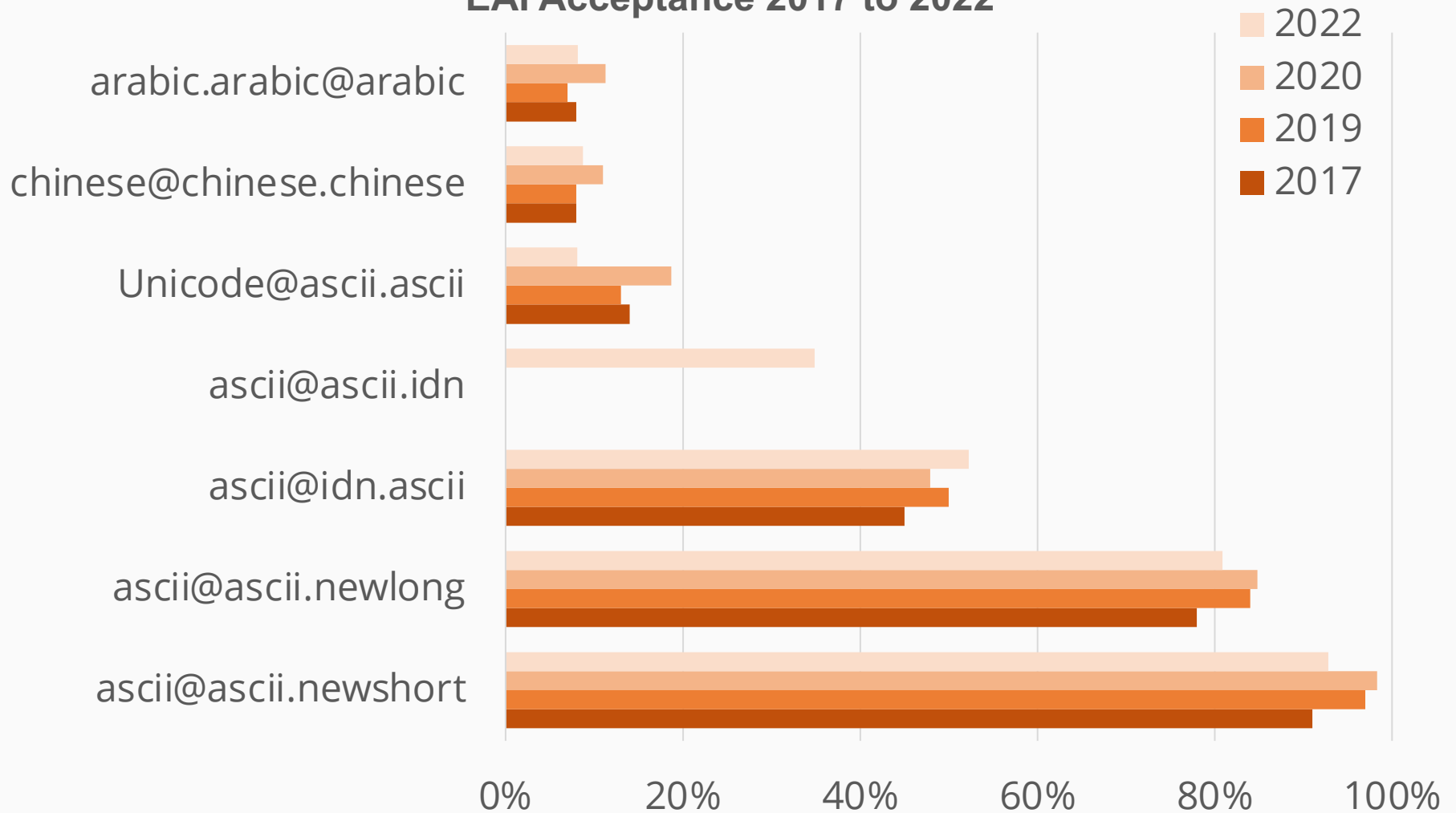
Year	Websites Tested	Scope	Report
2022 Jan	2,010	UA Test and Outreach	UASG039
2020 Apr	1,000	UA Test	UASG027
2019 Aug	1,000	UA Test	UASG025
2017 Sep	750	UA Test	UASG017

- * Remediation of UA gaps for 2,000 websites:
 - * Ongoing task as a follow up of UASG039.
 - * Objective: To resolve the email or EAI acceptance issues documented in the test results (UASG039) by reaching out to the tested website owners to report UA issues so that they can be addressed.
- * The feedback to website owners is provided via multiple channels with multiple contacts.
- * Given that there has been limited progress over time, we are exploring additional interventions.

Email Acceptance of Top Websites Globally

[UASG039](#)

EAI Acceptance 2017 to 2022



Programming Languages Solutions

Functional minimal running prototypes with the libraries and programming languages were developed as example code and best practice for developers to follow in their work.

Programming languages	Java	Java Script	Python3
Libraries	commons-validator	nodemailer	idna
	guava	idna-uts46	email-validator
	lcu	validator	smtplib
	jakartamail		

- * Two different Minimal Viable Products (“MVPs”) were developed, each making use of a different main library: One for domain names using IDNA-related libraries, and the other one uses EAI-related libraries.
- * Code samples that support UA are public and free for any developers on GitHub. <https://github.com/icann/universal-acceptance>
- * Non-UA-ready libraries are being reported on the public bug tracker and support is provided while addressing the UA shortcomings.

UA Technology WG – Ongoing Tasks

Identifying the big picture and challenges in adopting UA

- Objective: To understand from a practical perspective, the impediments and challenges we have faced in closing the UA gap over the past few years.
- For this, we are trying a two-pronged approach:
 - Consultations with UA experts within the ICANN community.
 - Based on consultations, conduct surveys with developers, managements, and governments.



UA Email Address Internationalization (EAI) WG



UA EAI WG Focus

- EAI support enables email addresses in different languages and scripts and allows sending and receiving of such emails. (RFC6530-RFC6533)
- The EAI WG does not focus on specific languages and writing scripts.
- The EAI WG focuses on technology gaps, remediation, and training materials for email software and service providers.
 - At minimum, all email agents must be configured to send and receive internationalized email addresses.
 - We are trying to ensure that all aspects of the modern email experience deliver full UA-readiness.



Ongoing Task 1- EAI-Readiness Self-Certification Guide

Objective: To increase EAI adoption, define a product category for EAI-supporting email systems, tools, and utilities, so that purchasers can demand EAI, and vendors can supply EAI.

IT and procurement managers use these scores to quantify the EAI level they are willing to buy.

Vendors use the specific, granular tests in the guide to measure and score their own products. Motivated vendors can improve their products to earn the top score and win competitive advantage.

Ongoing work related to EAI Self-Certification Guide:

1. User acceptance tests and input by the community on the draft guide.
2. Building a self-certification tool to generate EAI-readiness score.
3. Helping early EAI providers perform self-certification using the guide.
4. A quick guide for IT and procurement managers.

Defining EAI-Readiness Levels

The self certification guide provides Silver, Gold, and Platinum scores for individual attributes. These scores replace the old Level 1 and Level 2 concepts.

Level	Functionality
Platinum	<ol style="list-style-type: none">1. Meets all Gold requirements +2. Supports all UASG best practices guidelines3. Hosting functionality for EAI mailboxes is enabled by default4. Extra features improving user experience5. Documentation about how to set up, use, and administer Platinum-level features
Gold	<ol style="list-style-type: none">1. Meets all Silver requirements +2. Hosting functionality for EAI mailboxes is [available but] not enabled [by default]3. Marketing materials and public messaging promote EAI systems and features4. Documentation clearly explains how to set up and use Gold-level features5. Functionality which processes email addresses but does not process email messages, for example address books, can create and store Unicode email addresses
Silver	<ol style="list-style-type: none">1. Email tool or system enables its users to process email messages from EAI mailboxes but does not host such mailboxes.2. Mail User Agent (MUA) “displays” messages from EAI mailboxes3. Servers can send to and receive from EAI mailboxes4. Functionality which processes email addresses but does not process email messages (e.g., address books), but cannot create or store Unicode email addresses

Ongoing Task 2– Technical Engagement

EAI Technical Education and Awareness to the Developers' Network

Scope of the work:

One of the major challenges for UA adoption is a lack of awareness among software developers developing and deploying end user applications and services.

This work aims to interact with software developers on popular developer networks and discussion forums (e.g., StackOverflow, GitHub) to provide solutions to existing EAI questions, as well as create UA and EAI awareness.

The decisions software developers will make at the micro-level make a big difference for UA support (e.g., we have found existing advice on RegExes which isn't compliant even to the pre-EAI RFCs – developers who follow such advice have no chance to become UA-ready).

Ongoing Task 2– Technical Engagement (cont.)

Tasks that are in progress:

* Some examples we published in the technical community:

No	Question	Forum
1	non-latin email address validation	Stackoverflow
2	Validating email addresses using jQuery and regex	Stackoverflow
3	Properly validating e-mail addresses	Reddit
4	Is my new gTLD causing it to get filtered as spam?	Serverfault

* Two blog posts were written by a developer on important aspects of UA:

* [Universal Acceptance of Domain Names and E-mail Addresses - What is the issue?](#)

* [What is the ultimate goal of the Domain Name and Email ID Validation?](#)

* A list of “Frequently Asked Questions” were identified and will be answered.

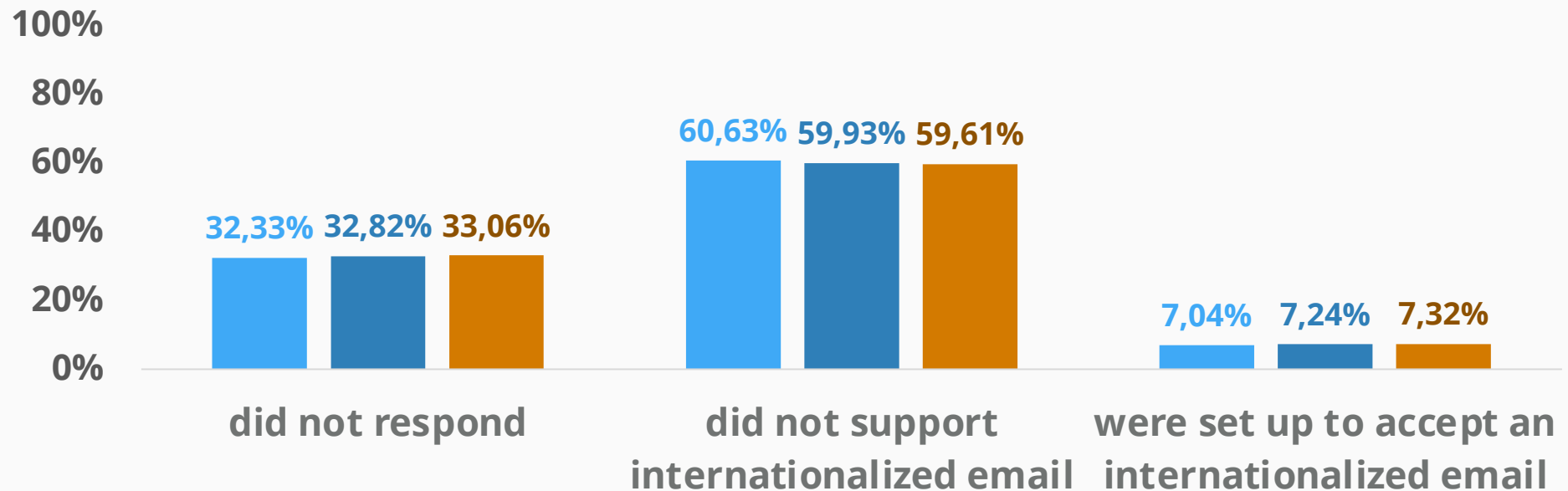
Call to action for community: Review and upvote the answer/blogs if you agree.

Recurring Survey - EAI in Deployed Mail Servers

A total of 2,506,329 IP addresses tested from 35,521,173 mail servers on gTLDs.

Tested IP Addresses

■ '21 Q4 ■ '22 Q1 ■ '22 Q2



- EAI Support Survey Tool code available for ccTLDs: <https://github.com/icann/eai-survey-tool>.
- Test your email server for EAI support: <https://uasg.tech/eai-check/>

UA Communications WG



UA Communications WG

- The Communications Working Group develops the communication strategy for the UASG and oversees its execution in collaboration with other WGs.
- Completed works:
 - Published [UASG038](#), UA messaging in 6 UN languages
 - Published a [Case Study](#) on a GitHub UA Hackathon
 - Engaged in regional IGFs: [Africa IGF 2022](#)
 - UA outreach
- Ongoing work:
 - UA explainer videos
 - Paid social media campaign
 - Global IGF 2022



UA Messaging on Why UA Matters – UASG038

Social Relevancy: Consumer Choice and Multilingualism

- New TLDs represent cultures, brands, geographies, and special interests (e.g., .ไทย, .AFRICA, .SPORT).
- The Internet population is over 4.5 billion active users, and at least one billion more are expected to come online by 2023.

Business Opportunities: A Competitive Advantage

- A UASG study in 2017, found that the Universal Acceptance of domain names is a \$9.8+ billion opportunity, which is a conservative estimate.

Career Opportunities: A Competitive differentiator

- A strong understanding of UA is the new competitive differentiator every developer should have in their skill set, which does not require learning a new category of coding.

GitHub UA Hackathon Case Study

- Thai Network Information Center (THNIC) Foundation organized the country's first-ever GitHub hackathon focused on UA.
- The hackathon aimed to promote open-source code improvements on GitHub repositories, using the [UASG033](#) resource, in support of IDNs and new gTLDs using Thai characters (like คน.ไทย), as well as Thai email addresses based on those domains.
- 37 developers competed to modify [40 popular, public Github repositories](#) to be UA-ready.
- The event resulted in the successful merging of one of the pull requests into the [GitHub origin repository](#) as well as the good practice of supporting developers in their journeys toward UA proficiency.
- More details are on <https://uasg.tech/case-studies/>

Africa Internet Governance Forum (IGF) 2022

#WS16 Meaningful Access to the Internet in Local Languages with Universal Acceptance (UA)

Key takeaways:

- * UA requires a joint effort by all of us! Every stakeholder has a role in UA.
- * Governments should incentivize the adoption of UA-ready tools and systems and include UA requirements in their procurement policies.
- * TLD registries, registrars, resellers, and local domain name organizations should review their systems to become UA-ready.
- * Academia should include UA in their research, study, and curriculum for subjects like computer science and software engineering.

UA Awareness and Outreach

- * Some activities conducted by UA Ambassadors and Local Initiatives during May-July 2022:
 - * India - Workshops on EAI Technical Capacity Building
 - * China – Introduction of UA to Sun Yat-sen University students with Coremail
 - * Thailand Botnoi Chatbot Marahackathon to develop a UA-ready chatbot
- * LAC Domain Name Week – Virtual - “Universal Acceptance and LAC Region: Why it Matters?” – April 2022
- * Middle East DNS Forum – Virtual - Can More Universal Acceptance of Domain Names Contribute to the Growth of Internationalized Domain Names (IDNs)? – May 2022
- * Africa IGF 2022 – Malawi - Meaningful Access to the Internet in Local Languages with Universal Acceptance (UA) - July 2022
- * Upcoming: Global IGF 2022 - Ethiopia - [Role of Community to Achieve Universal Acceptance](#) - 29 November 2022.

Ongoing Tasks

Statement of Work (SOW) for three explainer videos:

1. Introduction to UA and why it is important
2. Configuring email systems to support EAI
3. How to make UA-ready applications

* Each will be 5 minutes in length and in English with subtitles in six UN official languages.

* Objective: To develop and produce videos to explain UA issues in a short, meaningful, educational, and engaging way that is based on UASG training materials.

Get Involved

Get Involved!

For more information, visit <https://uasg.tech> or email info@uasg.tech.

Join the UA Discuss email alias: <https://uasg.tech/subscribe>

Register to participate in UA working groups <https://uasg.tech/join/>.

Follow, share, like, and engage with the UASG on social media.

Use the UASG hashtag in relevant posts: [#Internet4All](#)

 Twitter: [@UASGTech](https://twitter.com/UASGTech)

 LinkedIn: <https://www.linkedin.com/company/uasgtech/>

 Facebook: <https://www.facebook.com/uasgtech/>

Report a problem if you find an application or webpage that is not UA-ready: <https://uasg.tech/global-support-center/>

спасибо 谢谢
GRACIAS 谢谢

THANK YOU

ありがとうございました MERCI

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