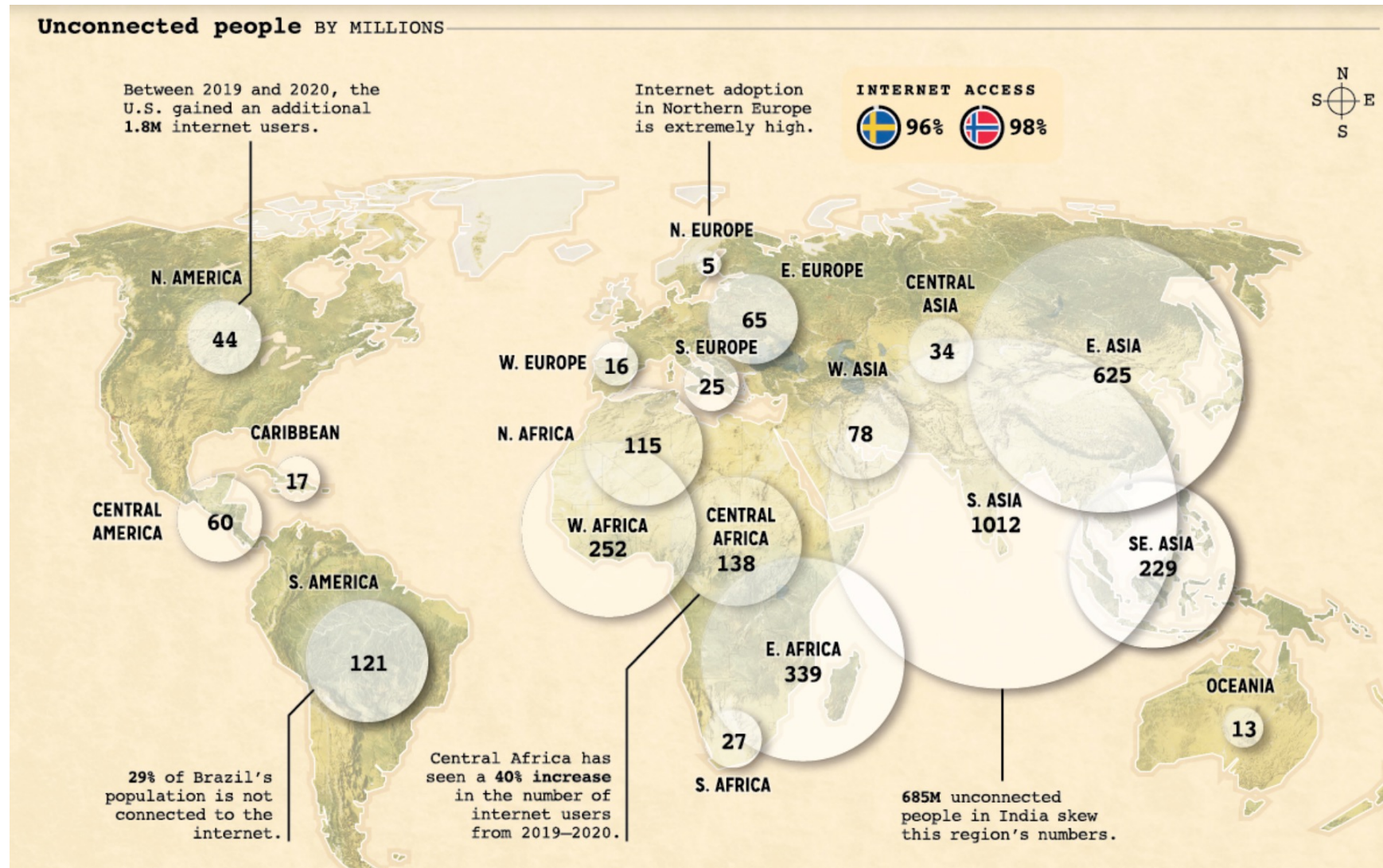# Local Language and Internet Inclusion with a Thai Case Study
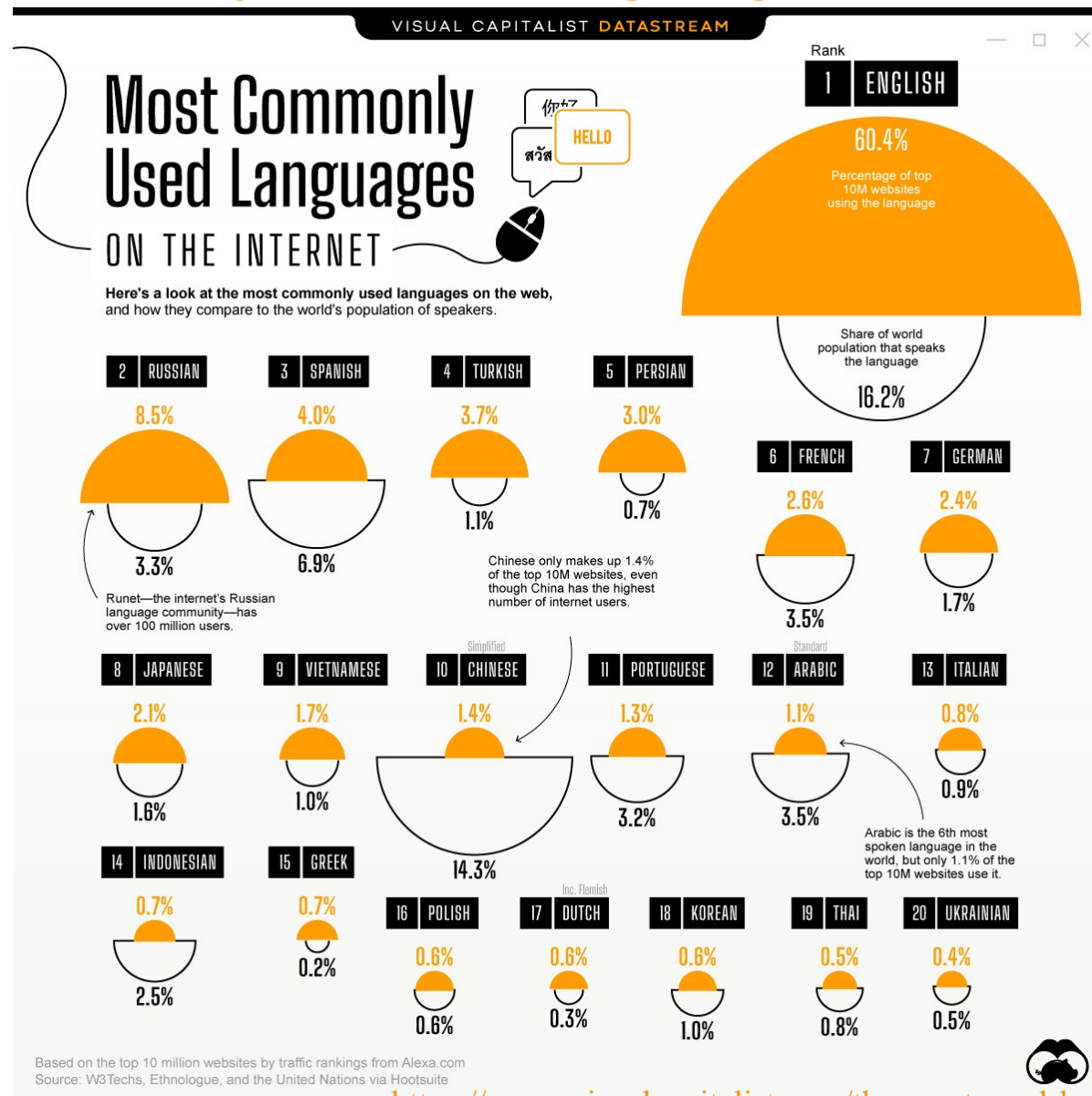
13 September 2021 @ AP* Retreat

Pensri Arunwatanamongkol

THNIC

Next Billion Internet Users

Unconnected people BY MILLIONS

Between 2019 and 2020, the U.S. gained an additional 1.8M internet users.

Internet adoption in Northern Europe is extremely high.

INTERNET ACCESS 🇸🇪 96% 🇳🇴 98%

N. AMERICA 44

N. EUROPE 5

E. EUROPE 65

CENTRAL ASIA 34

E. ASIA 625

W. EUROPE 16

S. EUROPE 25

W. ASIA 78

CARIBBEAN 17

N. AFRICA 115

CENTRAL AMERICA 60

W. AFRICA 252

CENTRAL AFRICA 138

S. ASIA 1012

SE. ASIA 229

S. AMERICA 121

E. AFRICA 339

OCEANIA 13

29% of Brazil's population is not connected to the internet.

Central Africa has seen a 40% increase in the number of internet users from 2019–2020.

27 S. AFRICA

685M unconnected people in India skew this region's numbers.

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https://www.visualcapitalist.com/the-next-billion-internet-users-worldwide/

Most Commonly Used Languages on the Internet

Domain Names and Email Addresses

Now possible to have domain names and email addresses in local languages

- Internationalized Domain Names (IDNs) : รู้จัก.ไทย
- Email Address Internationalization (EAI)
- UTF8 format by Unicode used for IDNs and EAI

Internationalized Email Addresses (EAI):

• ASCII@ASCII (new and long TLD)	ekrem@misal.istanbul
• ASCII@IDN	marc@société.org
• Unicode@ASCII	测试@example.com
• **Unicode@IDN**	เพ็ญศรี@คน.ไทย
• Unicode@IDN; right-to-left scripts	ايميل@مثال.موقع

Accept	Validate	Process	Store	Display

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Social Relevancies

- Enable global users to experience the social and economic power of the Internet.

- Promote digital inclusivity for different user groups based on their interests, business, culture, language, and script.

- Support cultural and linguistic diversity online through domain names and email addresses in local languages and scripts (e.g., Arabic, Chinese, Cyrillic, Devanagari, Japanese, Thai).

- Helps get the next billion people online.

UA-Readiness in the Technology Stack

Applications and Websites

- Wikipedia.org, ICANN.org, Amazon.com, custom websites globally

- PowerPoint, Google Docs, Safari, Acrobat, custom apps

Social Media and Search Engines

- Chrome, Bing, Safari, Firefox, local (e.g., Chinese) browsers

- Facebook, Instagram, Skype, Twitter, WeChat, WhatsApp, Viber and Line

Programming Languages and Frameworks

- JavaScript, Java, Swift, C#, PHP, Python

- Angular, Spring, .NET core, J2EE, WordPress, SAP, Oracle

Platforms, Operating Systems and System Tools

- iOS, Windows, Linux, Android, App Stores

- Active Directory, OpenLDAP, OpenSSL, Ping, Telnet

Standards and Best Practices

- IETF RFCs, W3C HTML, Unicode CLDR, WHATWG

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UA-Readiness in Email Stack

- **Components of email systems**

  - ✓ Mail User Agent (MUA)

  - ✓ Mail Submission Agent (MSA)

  - ✓ Mail Transfer Agent (MTA)

  - ✓ Mail Delivery Agents (MDA)

  - ✓ Mail Service Provider (MSP)
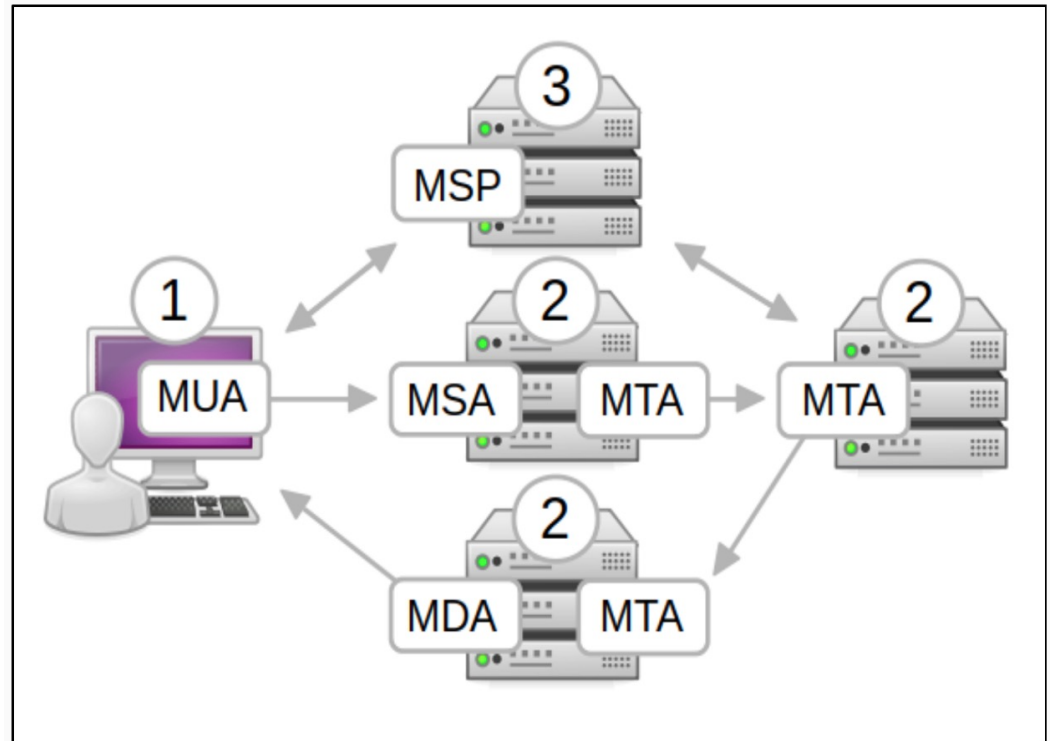
Thai Case Study

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Thai IDN Positioning

.ไทย IDN number
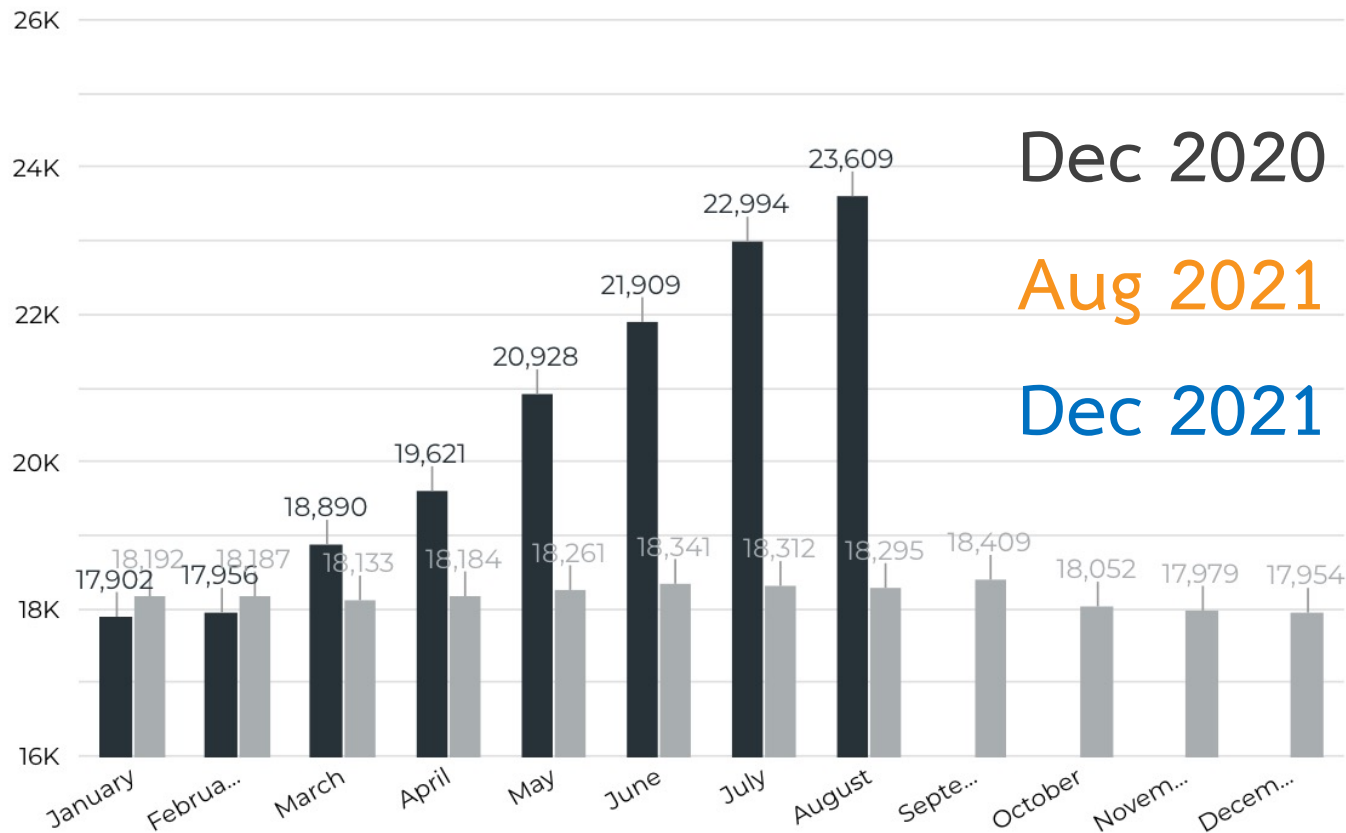
Dec 2020	17,954	
Aug 2021	23,609	31%
Dec 2021	30,000	50%

Right Timing
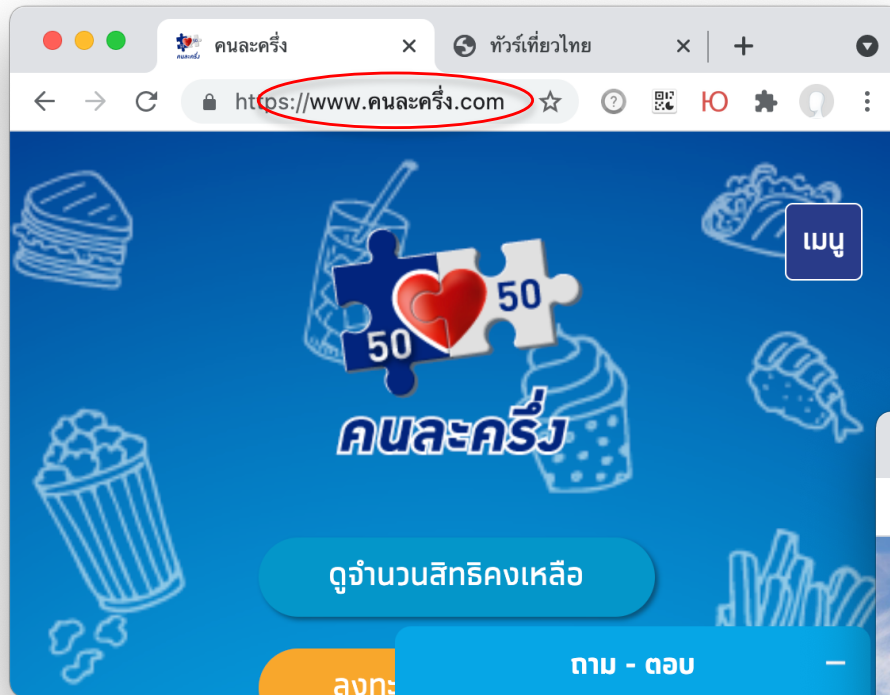
คนละครึ่ง.com

ทัวร์เที่ยวไทย.ไทย
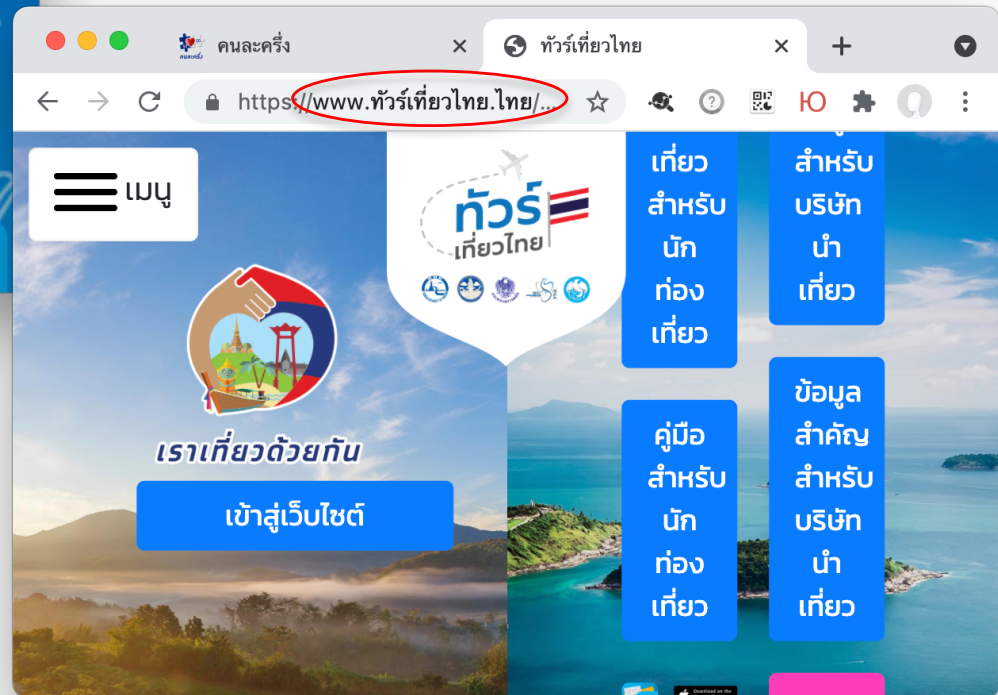
Issues and Challenges

Lack of specific policy support

Limited resources for UA /Few UA-ready libraries/open sources

Technical materials in English

Ecosystem

U-label vs A-label
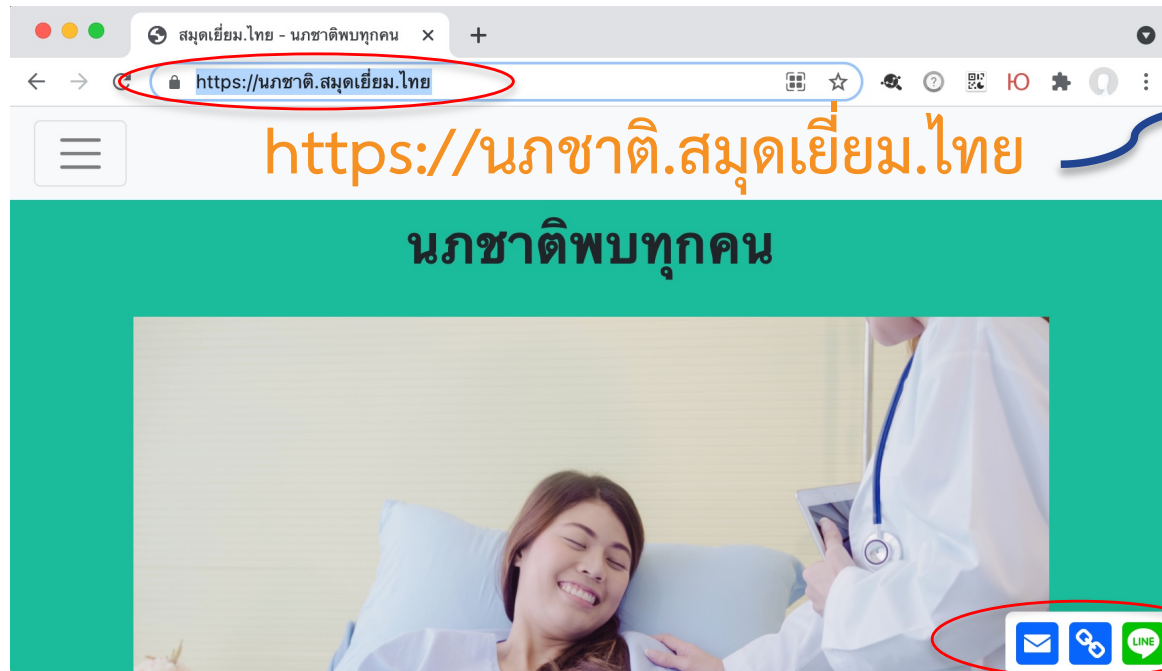
https://xn–b3cwk2azgn.xn–l3czbda8byeva7e2d.xn–o3cw4h

https://นภชาติ.สมุดเยี่ยม.ไทย

https://นภชาติ.สมุดเยี่ยม.ไทย
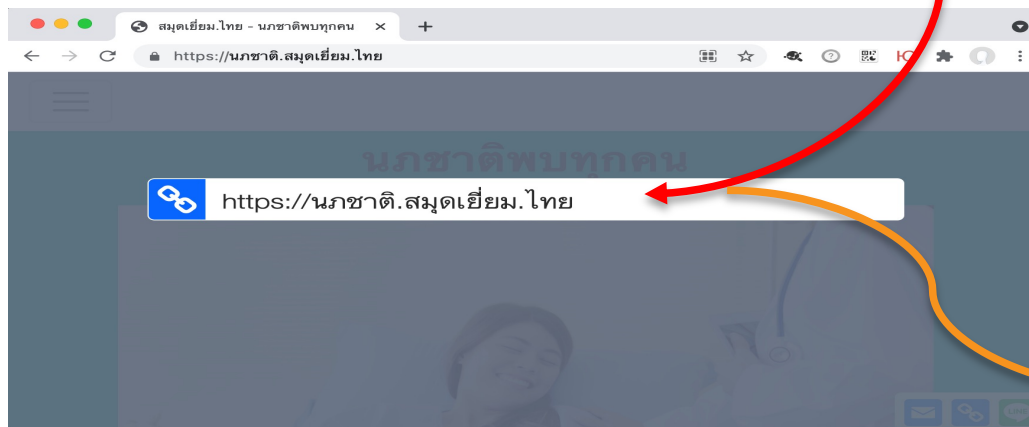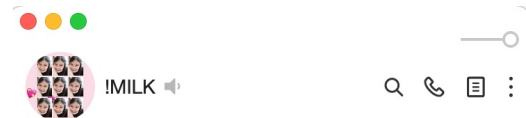
Ecosystem
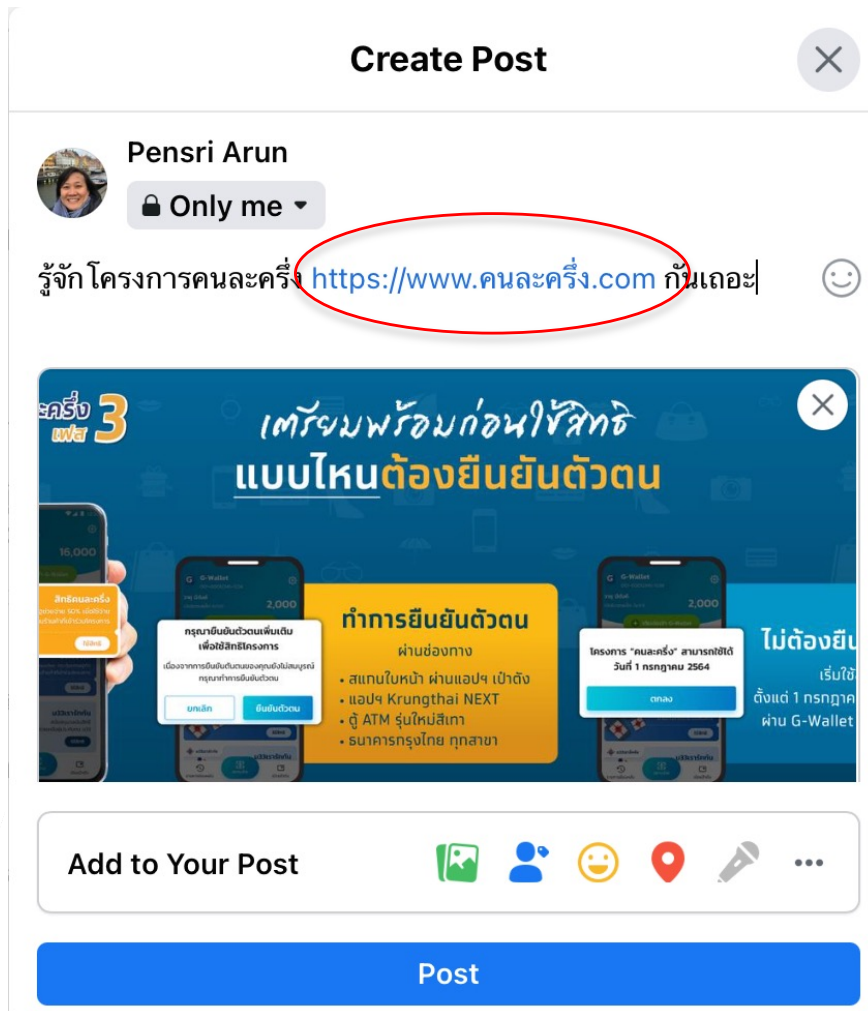
Users expect a U-label on their posts!
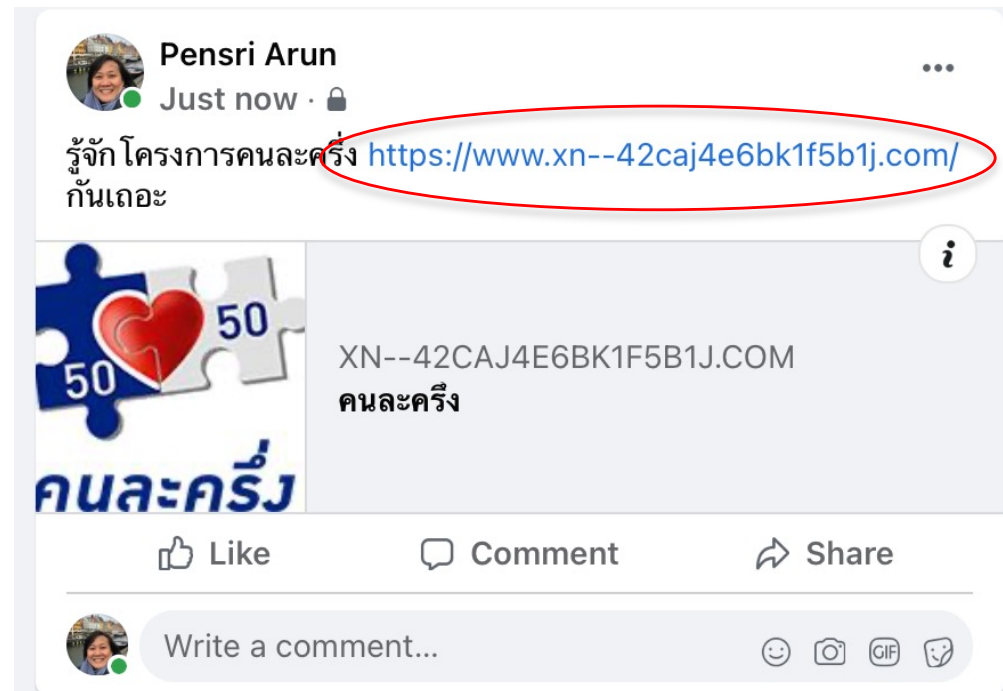
Efforts to Promote UA Adoption via Thailand UA Local Initiative under THNIC Academy

Thailand UA Local Initiative – Recent Activities

Develop EAI training materials in local language

- A series of video clips
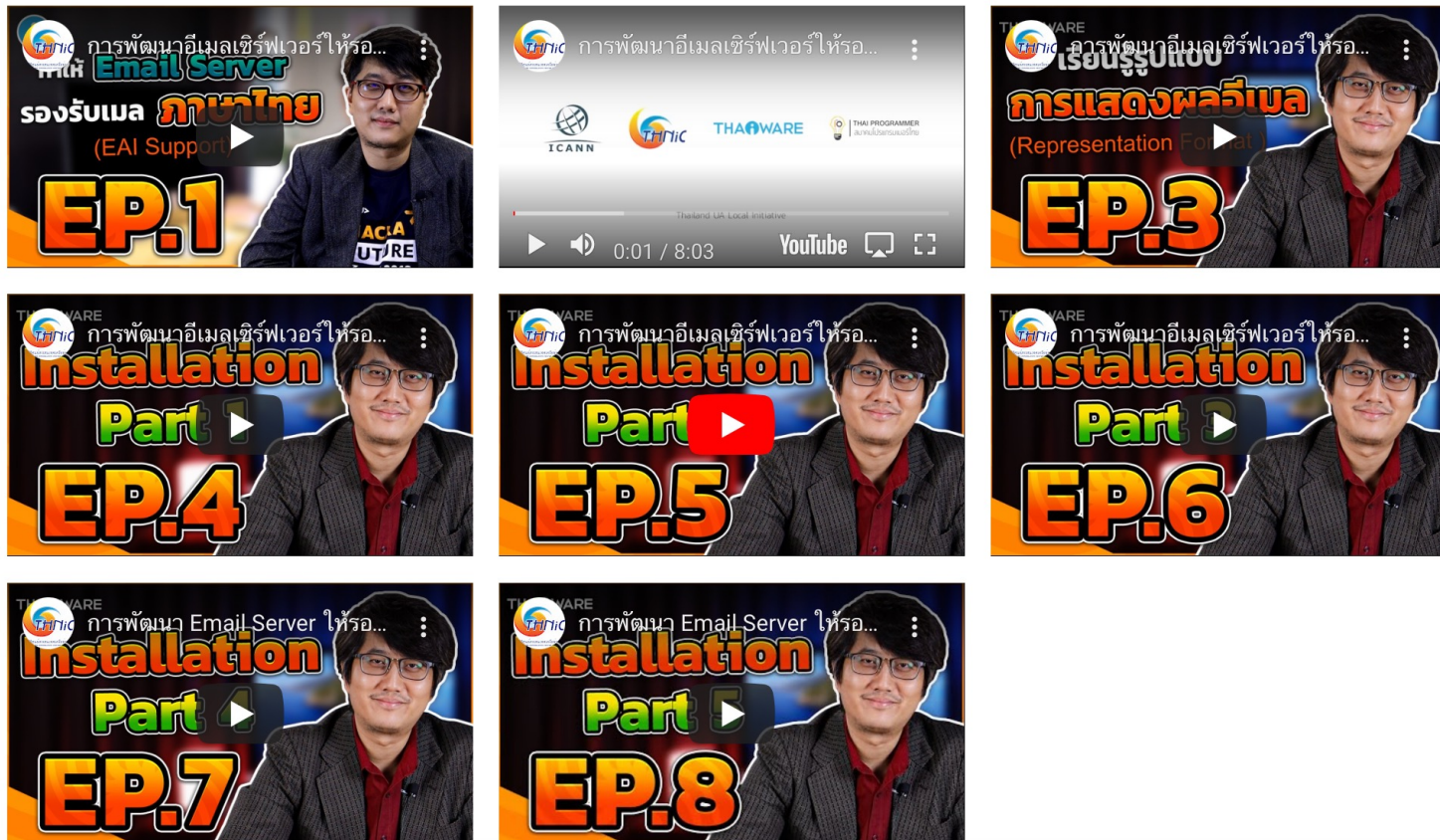
Thailand UA Local Initiative – Recent Activities

Organize webinars, trainings, and hackathons:

- 17 March: online workshop, *Setting up an Email Server with EAI Support*.

- 5-6 June: hackathon to setup EAI email servers

- 12 June: online workshop, *UA for Web Developers*

- 21 August: online workshop, *UA for Programmers Using JAVA*
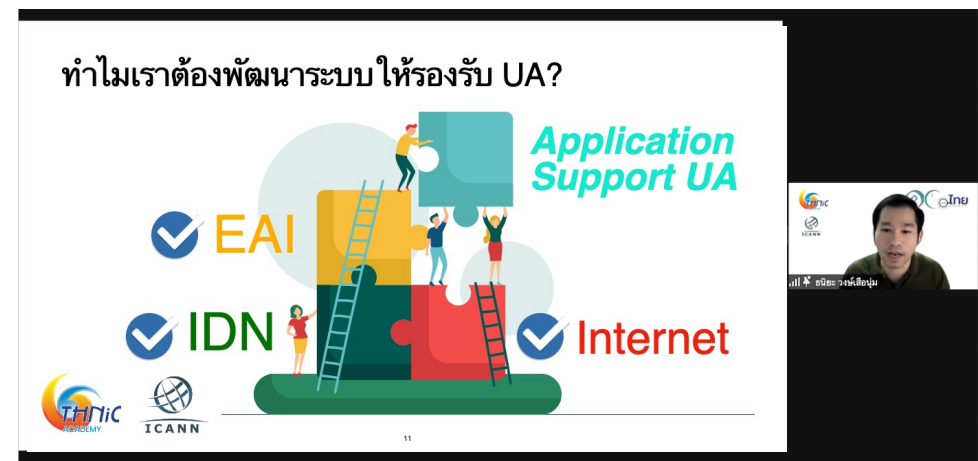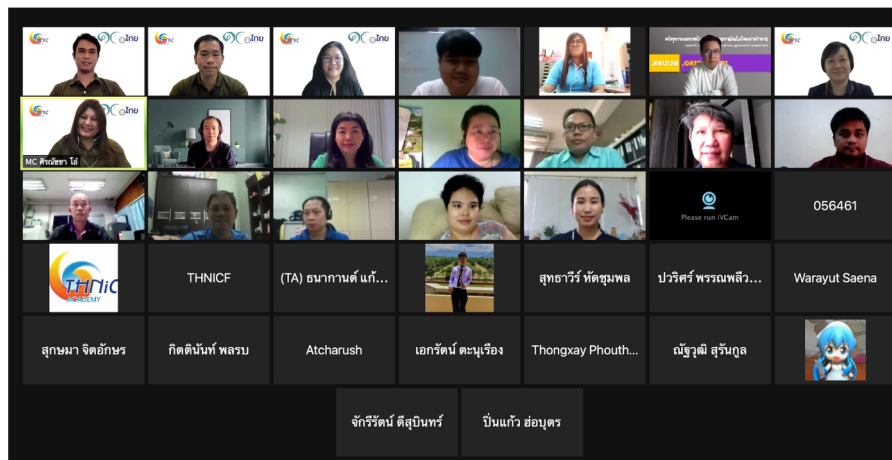
Thailand UA Local Initiative – Recent Activities

Maintain and enhance local Thai online resources:

- EAI technical content updated and maintained in both Thai and English at https://wiki.thnic.or.th/
- Website https://รู้จัก.ไทย or https://knows.in.th/
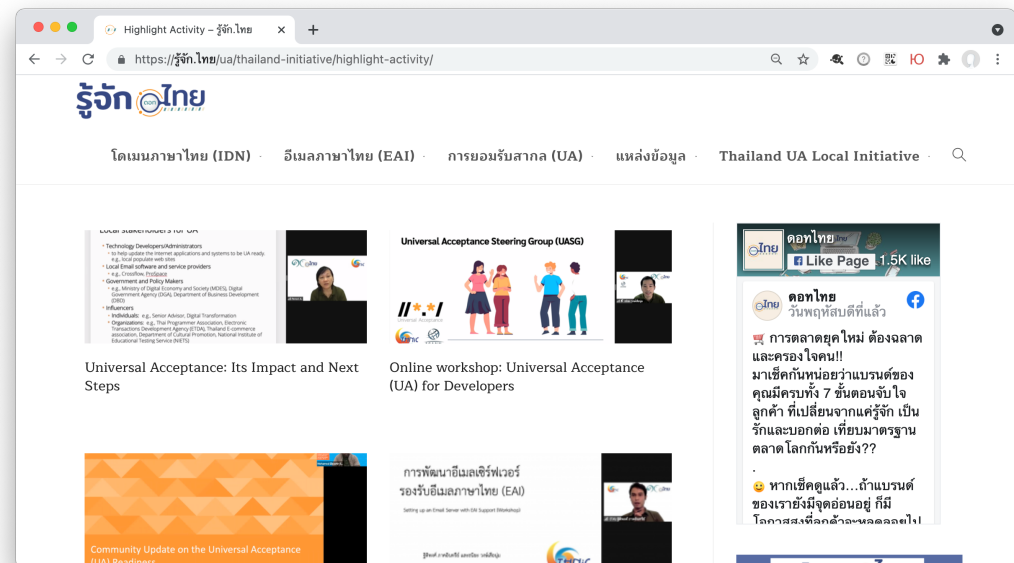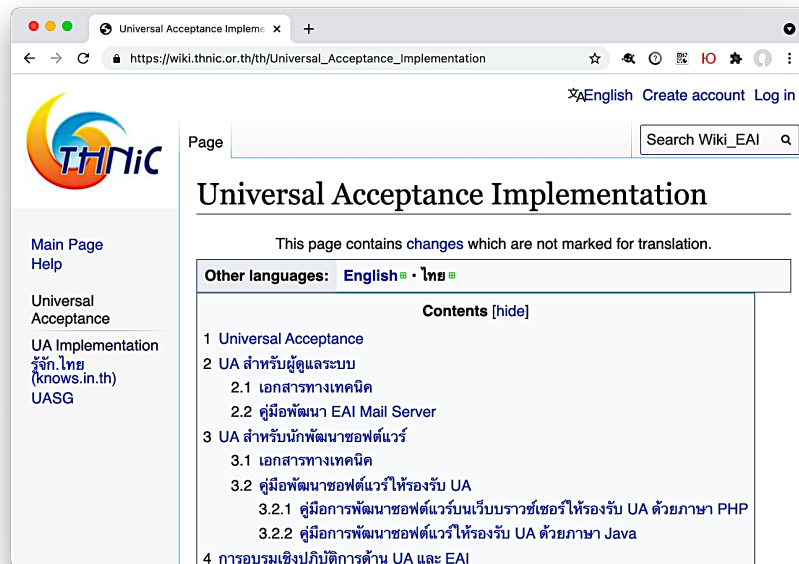
Thailand UA Local Initiative – Recent Activities

Communicate to stakeholders and outreach:

- Consider using IDNs as a secure and reliable part of e-commerce and other electronic transactions as an identity.
- Coremail and THNIC Case Study (UASG013F): *Supporting a Culturally and Linguistically Diverse Internet Through Email Address Internationalization (EAI).*
- Open talk on the Clubhouse platform to create awareness of IDNs.

Email Address Internationalization (EAI) Case Study: Coremail and THNIC

(UASG013F)

EAI as an Identity

Authentication System to Support EAI

คน.ไทย EAI

2,600 Accounts

@คน.ไทย

Future Activities

- Organize webinars, trainings, and hackathons:
  - UA GitHub pull request hackathon
- Maintain and enhance local Thai online resources
- Communicate to stakeholders and outreach

Q&A

More information about Universal Acceptance **//*.*/** :
https://uasg.tech/

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

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