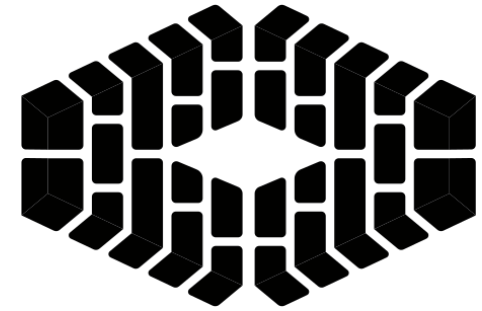# How to make your app "*China-ready*"

GREAT WALL CONNECT

ALI FAROOQI

- Software Engineer based in Hong Kong
- HKU Graduate (Computer Science, 2020)
- Co-founder of **Great Wall Connect**
  - Helping companies bring their digital products into and out of Mainland China
- Focused on cloud infrastructure, IoT, and cross-border software solutions
- Built an IoT solution for German machine manufacturer that worked globally, including in mainland China
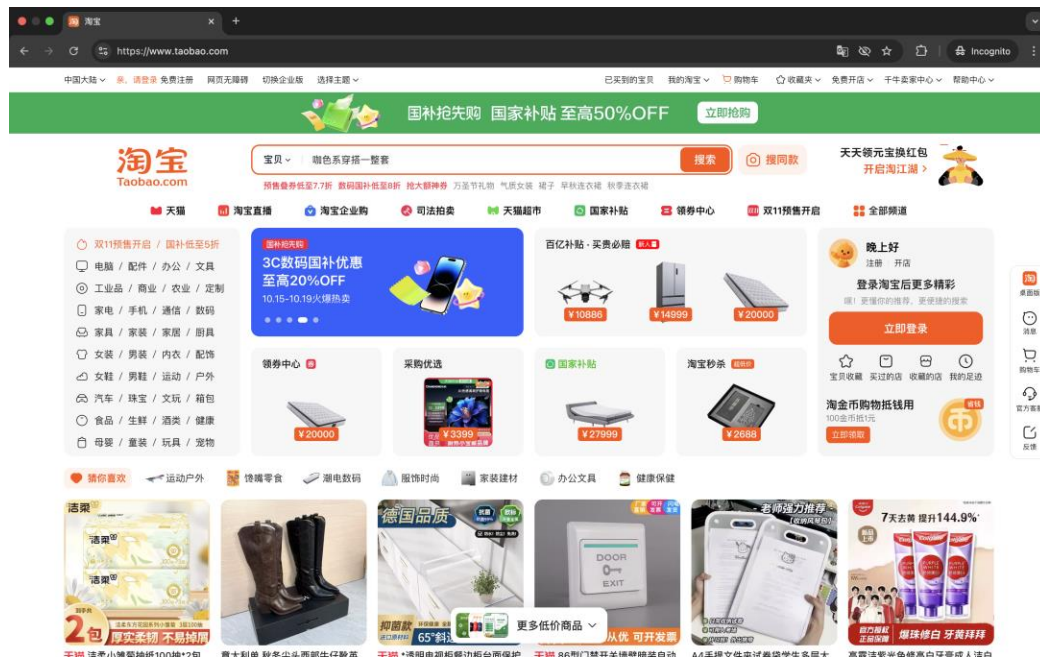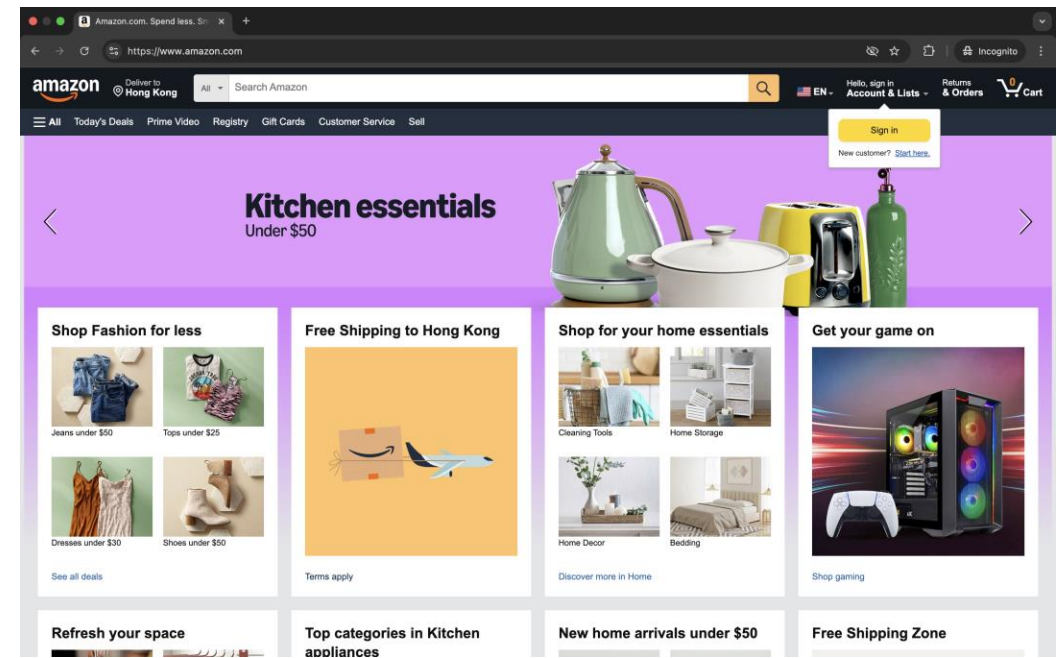
Agenda

1. Historical Context

2. UI/UX

3. Challenges - The Great Firewall

4. Localization

5. Compliance & Licenses

6. Developer's Best practices
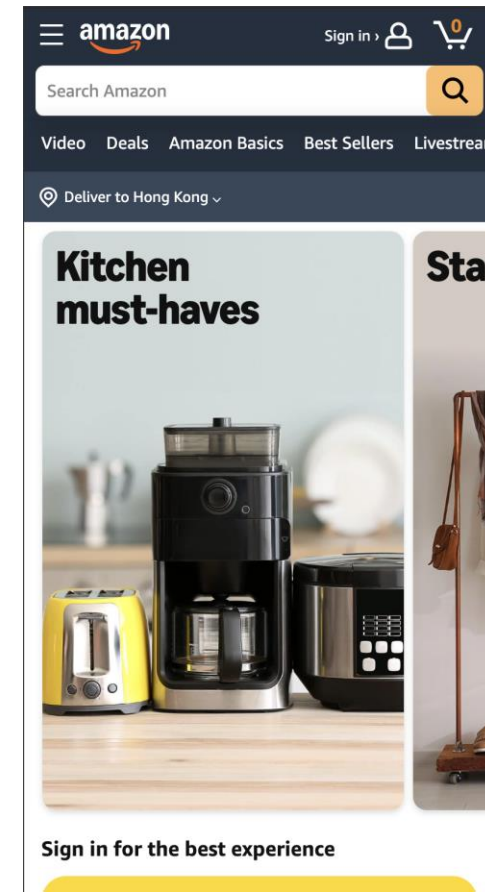
What differences do you see?

Taobao

Amazon

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Taobao

Amazon

Why is the internet in China different?

- China's internet adoption lagged the West by nearly a decade.

- When mass adoption began, smartphones were already mainstream.

- **Result:** China skipped the desktop web era → went mobile-first head-on.

- This shaped how apps, UX, and infrastructure evolved.

Share of the population using the Internet

Share of the population who used the Internet[1] in the last three months.

United States
United Kingdom
Canada
Germany
France
China
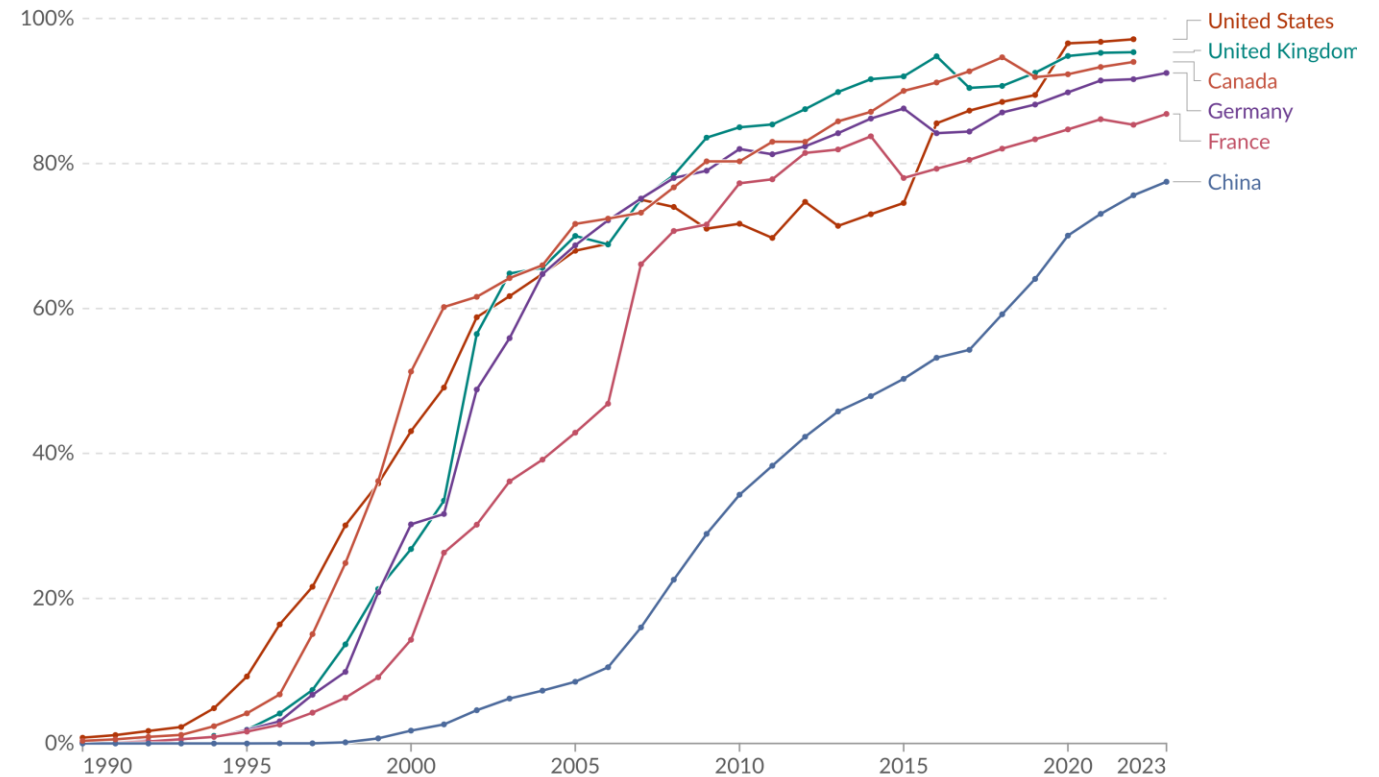
Data source: International Telecommunication Union (ITU), via World Bank (2025)

OurWorldinData.org/internet | CC BY

1. **Internet user** An internet user is defined by the International Telecommunication Union as anyone who has accessed the internet from any location in the last three months.
This can be from any type of device, including a computer, mobile phone, personal digital assistant, games machine, digital TV, and other technological devices.

Source

Different Internet, Different Users

- **Super-app mentality:** Users expect everything in one place (chat, pay, shop).
  - o **Mini-program ecosystem** with lightweight apps within super apps like WeChat.
- **Social-first UX:** Discovery happens through people, not search engines.
- High trust in platforms, **low trust in websites**.
- **Visual intensity:** Bold colors, dense layouts, animations = "*energy*."
- Speed & integration > simplicity & minimalism.

Technical Challenges

When the Cloud Hits the Great Wall

- **Regulatory walls:** ICP, data residency, real-name systems

- **Network latency:** Slow cross-border traffic due to the Great Firewall

- **APIs & dependencies:** Many global services blocked or unreliable

- **App distribution:** Google Play ≠ China

- **Monitoring & analytics:** Different SDKs and privacy norms

Strategies for Localization

"Localization isn't just text, it's infrastructure, performance, and compliance."

- **Translate** the interface to Chinese

- **Host locally** (Mainland / hybrid with CDN acceleration)

- Replace **global services** with **local equivalents**

- **Adapt UX** for local expectations

- Optimize performance for **mobile-first users**

- Ensure **compliance** with Chinese data and content laws
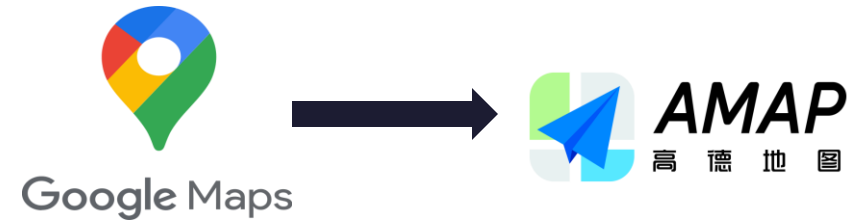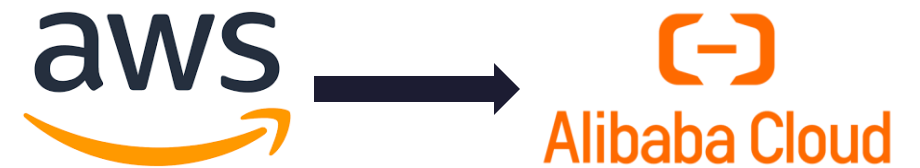
Direct Connect

- Dedicated, **private network** (tunnel) connections that bypass the public internet.

- Officially **compliant** and highly **stable**.

- Predictable **low latency** and **bandwidth**.

- Provides a reliable backbone for the Proxy and CDN layers.

- Available for major cloud providers:
    - Alibaba Cloud Express Connect
    - Tencent Cloud Direct Connect
    - AWS Direct Connect (via partners)

- Expensive, time-consuming & requires **ICP license**

ICP License

- Required for ANY server hosting in mainland China

- Issued by **MIIT (Ministry of Industry and Information Technology)**

- Two types based on your app's purpose:
  - **ICP Filing (备案):** Non-commercial apps (info sites, portfolios)
  - **ICP Commercial License (许可证):** Revenue-generating apps (SaaS, e-commerce, subscriptions)

- Mobile apps & mini-programs now require separate ICP filings called **Mobile App Filing (APP备案)**
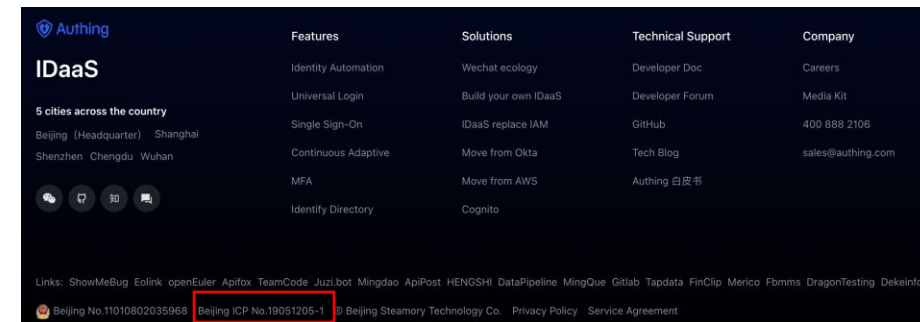
Multi-Level Protection Scheme (MLPS)

- **Cybersecurity Law (2017)** - applies to ALL network operators

- Mandatory **cybersecurity compliance** for all systems handling Chinese user data

- Required for ICP license holders handling **user data**

- **Levels 1 - 4** based on data sensitivity and system impact
    - **Level 2** is the most common

- Mitigates **legal liability** of the company

Developer Tooling & Best Practices

- **Cloud-native mindset:** portable, scalable, compliant

- **Host your own Docker registry** (e.g. Aliyun Container Registry)

- **CDN acceleration:** Alibaba Cloud, Tencent Cloud, Baishan, ChinaCache

- **Hybrid cloud deployment:** AWS Global + China CDN or Aliyun

- **API design:** region-based routing & failover

- **Frontend tips:** self-host fonts, avoid blocked domains, async loading

- **Monitoring & analytics:** Umeng, Sensors Data, or custom metrics

- **Dev workflow:** simulate China network conditions with VPN throttling

Key Takeaways

- China's internet evolved differently. It's **mobile-first**, **super-app** driven.

- Internationally-hosted software platforms don't usually work in China due to interference of the Great Firewall

- UX, infrastructure & compliance are as important as language localization

- Build **cloud-native** and portable systems.

- Make sure your systems are **compliant**.

- Self-host where possible (Docker registry, CI/CD, fonts)

Q&A
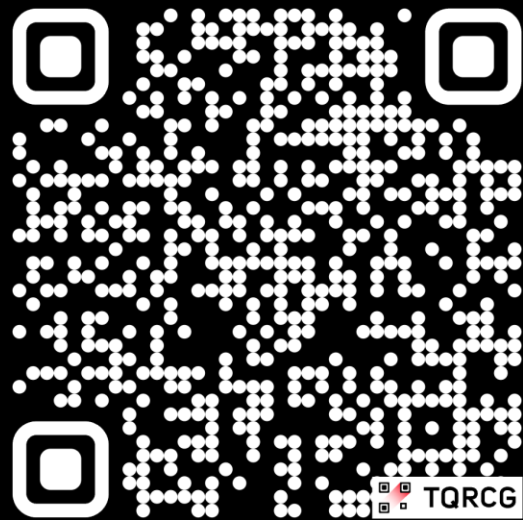
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