

A Billion Phones and Even More People

Optimizing the web for the next billion

Keerthana Krishnan

- Baker Hughes, a GE Company Baker Hughes, a GE Company
- Full Stack Web Developer
- Based in Cochin, India

Why do we need performance?

Fast applications = Happy users

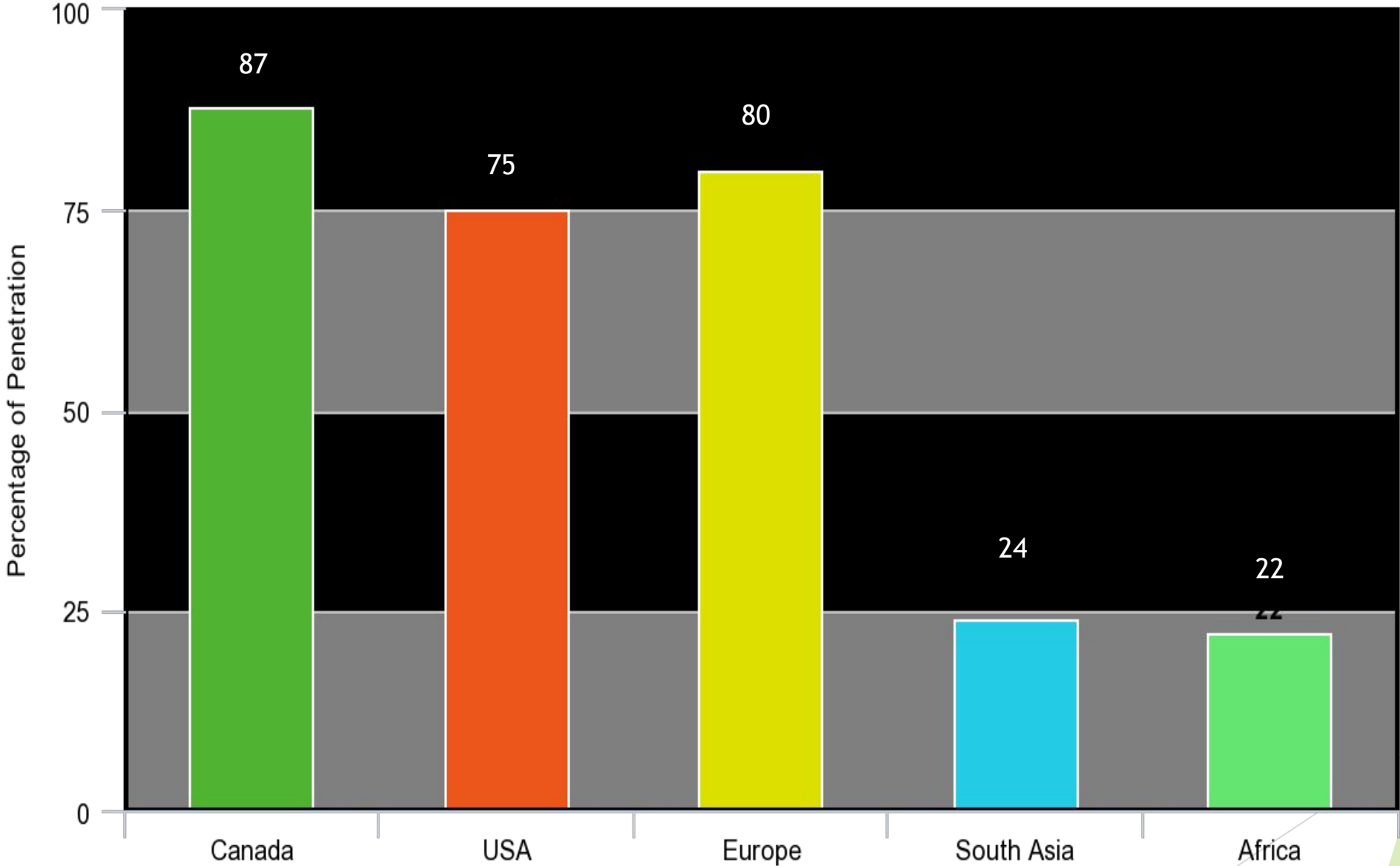
Where do users come from?

China - 1400M

India - 1300M - (45%p) - 627M users

USA - 325M - (84%p) - 275M users

Data last collected in 2016



Source: World Bank

Why do we need this?

- ▶ Market saturation of technical products in the first world
- ▶ Larger number of users getting access to the internet
- ▶ Basically, access to larger number of people who use your services

Finding the right balance

Performance <-> Accessibility <-> User Experience

The background features abstract, overlapping geometric shapes in various shades of green, ranging from light lime to dark forest green. These shapes are primarily located on the right side of the slide, creating a modern, layered effect.

Story #1 - Internationalization

The easiest barrier

The Uber logo is centered on a white background. It consists of the word "Uber" in a white, lowercase, sans-serif font, set against a solid black rectangular background. The background of the entire image features abstract, overlapping green geometric shapes in various shades of green, creating a modern and dynamic feel.

Uber

G

Germany | Deutsch

Greece | ελληνικά

Ghana | English

Guatemala | Español

H

Hong Kong | 香港中文版

Hungary | Magyar

I

India | हिन्दी

Israel | עברית | Русский

Ireland | English

Italy | Italiano

J

Japan | 日本語 | 简体中文

Jordan | العربية

K

Kenya | English

Korea, Republic of (South Korea) | 한국어 | 简体中文

L

Lebanon | العربية

Lithuania | Lietuvių | Русский

Case #1 - Uber

- ▶ Imagine a user in India/ Ghana/ Kenya/ Nigeria for Uber who is NOT a native English speaker
- ▶ Enabling native languages improves access to users from diverse regions

Improving internationalization

- ▶ Use HTML lang code -
`<html lang="en-US"> ... </html>`
- ▶ Use universal icons/ images/ sounds
(non-written/ language agnostic
communications)

Story #2 - Handling real world devices

Going beyond the iPhone

A family of mobile devices



grandpa

mom

dad

Hardware is created UNEQUAL

- ▶ Can your website handle the sizes and shapes?
- ▶ Cracked screens, cramped spaces - places where your CSS quick fixes come to die

Mobiles with less than 2GB RAM

vs.

your website built with the latest &
coolest JS frameworks

=

LOADING.GIF

(for a long time)

Story #3 - Oh no, the Wi-fi!

Handling a narrow bandwidth

WiFi in India - A closer look

- ▶ Wifi definition - 10 Mbps to 300 Mbps
- ▶ Actual average connection speed - 3.465 Mbps

Source :

<https://www.webworldwide.io/country/india>

How does your website perform in 3G, 2G, H+, ...

If loading > 2s, user interest plummets



Test your website on CRAPPY
phones with SLOW speeds!!

Have a fall back for bad specs

How can I simplify my website?

- ▶ Min. number of downloads on first click
- ▶ Pre-loading parts of the websites
- ▶ Optimizing video usage
- ▶ Use svg(s) - get Drasnered today!

Bonus point for UX!

Adding a little extra for your users

☰ Gmail Search mail


Compose

Inbox

- Starred
- Snoozed
- Important
- Sent
- Drafts
- Categories
- Social 4
- Updates 19
- Forums 1
- Promotions 8
- [Gmail]
- [Imap]/Sent
- China Stuff
- Notes
- Personal

1-50 of 4,823

31



Welcome

Your favorite email has a fresh new look.

Next

spread the original email f... 10:25 AM

go.com Cash deposits ... Apr 24

5 minutes to answer ou... Apr 24

all Honorof has invited y... Apr 24

comments to Huawei P... Apr 24

lle @ . View this email o... Apr 24

- You're Invited Modern i... Apr 23

(which should be easier ... Apr 23

funny) - Disclaimer: Ple... Apr 22

new early. There's free i... Apr 20

15 - Tom's Guide Hello P... Apr 20

Reminder: Charles Schwab would like 2 minutes of your time - Charles Schwab Sc... Apr 20

Hello! Reminder that our second troop meeting of the month is this Saturday - No ... Apr 20

Lisa, Rachel, Betsy 3

Create a demo mode!

- ▶ Have a help setting that explains the major moving parts
- ▶ Use Arrows, icons and more to help users navigate your product

In summary ...

- ▶ Internationalization of your website
- ▶ Optimize for non standard aspect ratios
- ▶ Fall backs for slow internet

Q&A

Yes, 5 mins more to breaktime!

@keerthanak17



Thank you!

That's all I have today 😊