Field-tested interfaces for the next billion.
There is a huge contrast between the experience of digital technology in Silicon Valley, and the experience in emerging markets.
But these are the markets that we should be paying attention to, because they're the people who will be using our products in huge numbers in the coming years.
the next billion
the next billion
Europe

80% connected

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USA
75% connected

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Canada
88% connected

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Australia
85% connected
The next billion will connect from cities like Lagos, São Paulo, New Delhi, & Nairobi.

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Mexico & Brazil
50% connected

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South Asia

24% connected
Sub-Saharan Africa

22% connected

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Availability of cheap smartphones has increased.
Cost of cellular data has decreased.
In Nigeria, 300MB of mobile data costs around 500 Naira. (USD $1.40)
Access to the internet is opening up new worlds of knowledge, communication, and opportunity for many people.
But the barrier to entry still exists.

Many people can afford only a few megabytes of data here and there, have low-cost, low-specced smartphones, unreliable electricity sources to charge them, and some are learning to use digital interfaces for the first time in their lives.
What can we do to keep lowering the barriers?
Field Intelligence
We provide life-saving delivery systems as a service.
We try to take on big public health problems in Nigeria, Kenya and beyond, and to prove that they can be solved with the right technology, the right design, and the right market-shaping approaches.
Our approach is on solving problems on the ground, collecting insights in the field, being in touch with real users and real problems in hard places.
It’s made challenging by poor infrastructure, unreliable power and connectivity, fragmented processes, and constant states of emergency.
How do we begin to approach these problems in our products?

Poor connectivity, a resource-constrained environment, and a user base with a large portion of novice users – the scale of these challenges are hard to grasp when working in a European or American context.
The context
The context

⇨ Hardware
⇨ Power
⇨ Network
Typical hardware

Mobile & touch devices vastly outnumber desktops & laptops.
During one trial, we found that:

- many people had never used laptops before
- input methods being separate from the screen was a source of confusion
- they were harder to carry around and charge
- connectivity was via 3G anyway
Mobile devices are king
Guinea Connect Maladies épidémiques

Guinea Connect Rapport Lepre

Guinea Connect Rapport Paludisme

Guinea Connect Rapport Tuberculose
Android, almost always

- Huawei
- Lenovo
- Tecno
- Motorola
- LG
- Samsung (if you're fancy)
- Apple (if you're *reeeereally* fancy)
Device condition

- scratched up screens
- cracked screens
- low resolution screens
- glare protection films
- rugged cases
Power

Finding *a working power source* can be difficult. Even if you have electricity, *power outages are frequent.*
Charging can be slow

- A diesel generator takes around two hours to charge a smartphone.
- Solar power takes 4-5 hours to charge a smartphone.
 Phones are often turned off.

To save battery and data, people often turn off their phones.
Network Connectivity is *never* guaranteed.
Network

remote and rural areas have very little cellular coverage.
even in built-up areas and cities, network coverage is often poor, and often flaky.
broadband internet / wifi is uncommon.
buying mobile data is still expensive for many people.
Slimmed-down browsing

Opera Mini is the lightest browser in terms of data usage and system requirements. Make sure it's part of your testing process.
UX framework
UX framework

↪ Discoverability
↪ Affordance
↪ Destructive actions
↪ Maps
↪ Animations
↪ Gestures
↪ Offline work
↪ Consistency
↪ Borrowing conventions

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Where's it at?

If elements are offscreen, they're not discoverable. Where possible, use only the visible area of the screen as your canvas, especially if the user needs to take action on the screen.
Rather than having a long form...
Try splitting it over several steps.
Avoid concealed elements in general.
Rather than using select tags...
Try out other, more visible, options – like radio buttons.
Good affordance is vital

- make the buttons and actions bigger, clickier, more obvious.
- clearly label things.
- combine icons with labels.
What does this do?
People often tap on everything, just to see what it does. It's usually a good idea to build in confirmation dialogues for destructive actions.
Don't rely on maps being widely understood.
Try using written directions instead of or in addition to maps.
Animations

Animations can be very illuminating, or they can confuse the hell out of users. Be mindful about where and how you use them.
Animations in form elements = 😐
Animations to describe a spatial model = 💚
Gesture-based navigation takes time to learn.

Gestures like swiping and pulling are very unintuitive to a novice tech user. People do learn them, once introduced to the concept – but it's safer to use gestures as shortcuts to actions that are also accessible by other means.
It's vital to make your product **offline-friendly**.
Offline-friendly

Your app should be reliable and work as much as possible independently from an internet connection. Build in graceful degradations for users without a stable network connection.
Latency

Even when you do have a connection, it can be *slooooolllllllllllllllloooow.*
Optimise for responsive UIs

- Don't tie UI elements to long-running operations such as network requests.
- Don’t block navigation.
- Loading indicators (spinners, progress bars) should be inline.
Consistency is key

A consistent UI helps people learn and memorise, and has particular advantages for low-literate or non-literate people learning via rote memorisation.
Make it fun

There's no need to be boring. Inserting personality into your app makes it fun to use and encouraging to learn. Introducing elements of gamification incentivises people to return to your app.
Gamification elements give people clear feedback when they're on the right path.
Steal!
Or borrow...

If in doubt, emulate the navigation patterns and UI patterns common to widely-used apps.

↩ Facebook

↩ Whatsapp

↩ Gmail
First steps
First steps to including emerging markets

☞ Test on low-end devices
☞ Engage locally
Test on low-end devices with limited connections
Engage with local tech ecosystems
Engage with local tech ecosystems

If you want to bring your product to a new market, engage with local tech ecosystem in collecting insights right from base level. Engage in a meaningful way, including them in strategies and policies.
Be curious, have empathy.
But do the research.
African tech consumers are demanding and informed.
They want clear and reliable mobile solutions.
The same things matter

 ↪ Communication
 ↪ Connection
 ↪ Information
 ↪ Opportunity
Strip everything back to the essentials.
Know your users.
Be resourceful.
“The next billion” is the future of the internet.
Listen to their voices.
Thank you.