

How to get these #&! fonts on devices

- Peter
 - What are the problems people have with getting fonts on a device
- Emily
- Craig
 - Dr ??? pointed out that the way people expect to see the writing system in eastern india is different from that in Burma
 - People would like to load their own unicode font on their phone
 - Had a hard time understanding how difficult it is to switch the character style. People want to be able to see that on every device
- Emily
 - Similar problem in Africa where they use Nastaliq.
- Karthik
 - Yeah nastaliq is also an issue in Pakistan/etc. People refuse to consider Naskh as "correct"
- Emily
 - Also ijami. Readers read 3x faster with the right style
- Bob
 - We did a user study with Kufic and Naskh, people could still comprehend but people had a strong preference.
- Peter
 - Don't need to go as far as Africa or Asia.
 - Andrew Glass and I visited a Puyallup
 - They had a font, but it was a challenge to distribute the font.
 - Would it be possible for them to give msft the font to ship on windows.
 - On one hand it would be great to accomodate them. But that can't scale. Can't have hudnreds of language communities
 - Challenge is in two parts. One is a distribution challenge. How can people discover and obtain fonts. Second is for builtin device things like the system fonts.
- Emily
 - Also distinct problems of a desktop computer vs a cellphone
- Manish
 - Also there are security issues. One is just the attack surface, and one is that fonts liv ebetween the device and the user and control what the user sees.
- Peter
 - (anecdote about *controlling* a device via a font)
 - This is one reason why device mfgs want to avoid device UI fonts to be controlled
- Craig
 - Two examples of a font being a fundamental barrier

- Cherokee nation. We were able to give Noto Cherokee to the Android team. They shipped it with a keyboard. Cherokee use grew dramatically
 - Similar story with Adlam. 70M people speak languages that can use it. Android shipped it and the users were extremely excited.
 - On the other end: I've been installing some fonts that Steven? Morrie? has been sending out and they sometimes break my latin text on my device
- Craig
 - Perhaps we test the heck out of them?
- Peter
 - There are font validation tools. Whether they are reliable can they catch potential issues? Sometimes it's a vuln in the text stack. Then there's also the challenge of ... can I convince the security people that "we are confident in our validator". In Windows when we do threat modeling, we have to treat fonts as untrusted 3p data
- Alex
 - At some point you can't even trust the OS right
- Manish
 - Yeah but it's a matter of degrees
- Bob
 - Web fonts work
- Manish
 - Yep! That is a model that can work
- Bob
 - Providers could do a lot of auto install stuff.
- Peter
 - What I have long wished for distribution is that there would be a way to package up a set of resources that were the essentials for supporting a particular language (font, keyboard, etc). The moment they add the language in their prefs it can autoinstall. We already do that for Windows.
- Craig
 - Is it realistic in more remote areas to expect phones to autoupdate.
- Peter
 - In India in the past people wouldn't even have their update account since the phone seller would set up the phone for them.
- Helena
 - Bete ... use case for PUA fonts before something is encoded
 - (missed)
- Craig
 - Introducing hacked fonts
- Manish
 - Mongolians were sending around images composed by a keyboard app. Works well
 - Of course no indexing/searching. But that's broken for PUA too
- Emily

- Better expectations too. "This is pure visual static media".
- Helena
 - JamraPatel does this right?
- Craig
 - Yes
- Helena
 - For Adlam?
- Craig
 - I don't know. But they did for Bete.
 - People prefer avoiding phone calls because of cost
 - Additional anecdote: Took the secretary of state of the Cherokee nation to yell at AT&T to get things preinstalled on Android devices
- Peter
 - Different vendors also have different models
 - With Apple: they control everything
 - With android/windows: Other device mfgs can build their own things.
- Craig
 - Gave a talk "2007: the year everything changed" where UTF8 increased etc. Due to Android. Everyone expects these devices to be able to do these things
- Emily
 - (missed, about customization)
- Peter
 - Another alternative is rather than relying on the SMS messenger app. A 3p messaging app. Which can potentially bundle its own fonts, handle its own text display, keyboard entry. Limited to an app, but it works well
 - In the situations where the script is not encoded .. the "silver lining" is that people aren't generating PUA content
- Bob
 - n.b. the PUA problem is more about temporary band aids vs the
- Craig
 - ... i'm used to reading almost anything in latin because i'm exposed to many fonts
 - but in indic it's not always the case.
 - There are VSes about using alternate shapes/etc
- Manish
 - VSes are okay if everyone agrees on the default but if fonts don't agree and VSes force a model then people may type something that looks right to them but will look wrong to someone else
- Karthik
 - (missed)
- Jeanette
 - Could we standardize approval of the fonts
- Peter
 - So some generic eval process that people could use?
- Bob

- Varies wildly between OS/vendor
- Craig
 - talking about FontForge being blocked
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