

Web Presence for Every Mobile UI

Nii Quaynor, AfNOG

at

Digital World Forum, Brussels

September 30, 2009

The next Billion challenge

- Technology development for The Other Billions – Future Internet
- Paradigm shift on access in Africa to mobile phone
- Infrastructure development for The Other Billions – survive fragile networks

Realities

- Networks are fragile and coverage is not total in several African countries
- The UI is principal access instrument of several people in Africa
- There has been focus on developing applications for UIs but there is inadequate recognition of UI as generator of information

Opportunities

- Disrupt/Delay Tolerant Network (DTN) opportunity [RFC 4838]
- Storage network (reliable delivery responsibility of Application Data Units, stored bundles)
- Wireless network – frequency as critical resource (mobile+others)
- Simpler User interface (grandma); ability to repurpose content for UIs
- IPv6 deployment – numbers as critical resource

An Approach

- Consider that Web links don't timeout as quickly as now, some have no time out for link activations which must conclude in RESTful way
- An SMS operation would conclude with same web properties above using mostly server side state of the UI
- Resolving SMS web discovery by unifying behaviors in the two worlds
- SMS and mobile web to update websites

sms.gh.com

- Keywords are registered like domains on a shared short code community e.g. a short code for each operator
- At registration of keyword a URI may be optionally associated as information delegate source
- The index file of the URI contains keys for other content which are accessed by messages to a short code containing the operations and keys and sub-keys as needed to a particular file content

Services (sms view)

- Reverse mobile directory
- add keydom card | uri
- www key
- kook string
- up path string
- News, emergencies, pharmacies, clinics,

[they are all pull operations]

[web users can find same information]

Services (web view)

- Directory structures are the same and the keys are identifying files or directories on path
- Contents are of course repurposed to SMS UI
- User can create the files from web for SMS UI format and SMS users will find you
- Web users can find SMS created content as well

Issues

- State is largely maintained on server side for SMS and vary on web requiring different design styles for the two UIs
- Unique keys or multi-keys or unique key per operator (NB<#,key> is unique)
- Key abbreviation
- Security of source telephone numbers for operations of UI
- Storage of link activations not responded to as in DTN and SMS store
- Relaxing the need for full connectivity all the time **to** guaranteed response to the activation eventually
- Economic model – pay as use, advertizing or combinations but flat fee can work

Conclusion

- For several years many parts of Africa will not have FULL connectivity and disrupt tolerant solutions to Web, SMS access should be sought [motivated by DTN]
- Paying attention to repurposing information to the capacity of the variety of UI is key. The UIs range from plain text SMS UIs, java enabled UIs to Web UIs and all must have access to Web