

Opportunities and Challenges in T4D

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What is T4D?

It's Not All the
Same

My Uganda Experience



Opportunity:
(Almost) No
Legacy



Implications

(Almost) all greenfield
implementations

Nothing to leverage (no data, no
ids, etc)

Can use appropriate tools

Lots of open source available

Challenge: Lack of Infrastructure

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GENERATING SET

MODEL	GEP110
SERIAL NUMBER	E3002A001
YEAR OF MANUFACTURE	1989
RATED POWER - PRIME	110 kVA 88 kW 0.8 COS φ
RATED VOLTAGE	415/240 V
PHASE	3
RATED FREQUENCY	50 Hz
RATED CURRENT	153 A
RATED R.P.M.	1500
MAXIMUM ALTITUDE	162.5 m
MAXIMUM AMBIENT TEMPERATURE	30 °C
ALTERNATOR CONNECTION	STAR
RATING ISO 8528-3	PR 50/8 TLD 875
ALTERNATOR ENCLOSURE	IP23
INSULATION CLASS	H
EXCITATION VOLTAGE	26.8 V
EXCITATION CURRENT	3.1 A
A.V.R.	R230

* GENERATOR SET IS DESIGNED TO OPERATE IN AMBIENT TEMPERATURES UP TO 40°C AND AT HIGHER ALTITUDES. ** BASE LOADS. FAILURE RATE LOW AT HIGHER ALTITUDES.



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Implications

Partially-connected applications

Lower power devices

Resilient hardware design

Small memory footprint

Lots of mobile devices

Challenge: General Lack of Literacy



English

Structure

8-9-2010

Where is the water?

Here is the water.

What is in this?

AKINAKI NINAPU
KELUN NYIPERO
KADJINUNO (1-2)

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	32	33	34	35
36	37	38	39	40		

SHARP OBJECTS

AKINAKI NINAPU
KELUN NYIPERO
KADJINUNO (1-2)

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	32	33	34	35
36	37	38	39	40		









Implications

Design for widely varied user groups; kids still learn fast

Business models around use and equipment

Computer skills often self-taught

University preparation still requires additional support

Potential is amazing

Opportunities: Smallish Things Matter





Implications

Simplest things that could
possibly work actually does

Much easier to make a difference

Serendipity is your friend

Visible information is power

Feedback is too

However, it is a
system





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“Western” way is
not always the
best way

Empowering People



Questions?

<http://www.thoughtworks.com>

<http://rebeccaparsons.com>