NFC: Issues, lesson and future research

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Overview

- Studies

- Arising issues & lessons

- Sample applications

Studies

- NFC Field trial
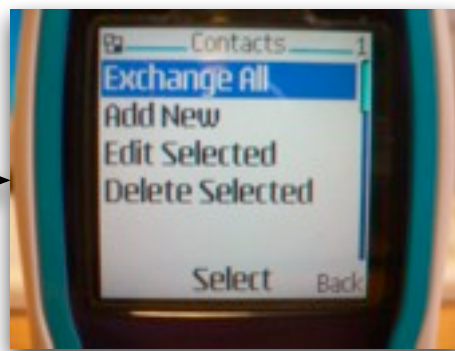- NFC vs. 2D Barcodes (Lab)
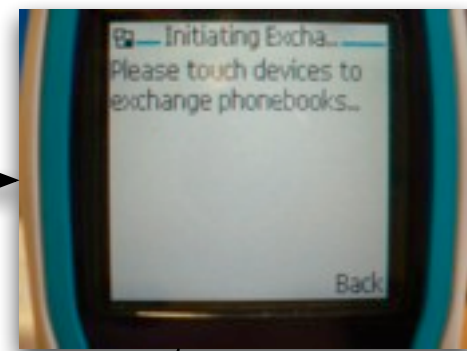- NFC vs. Bluetooth (In situ)

Field trial (60u, 1200t, 9d)

NFC vs. 2D Barcodes
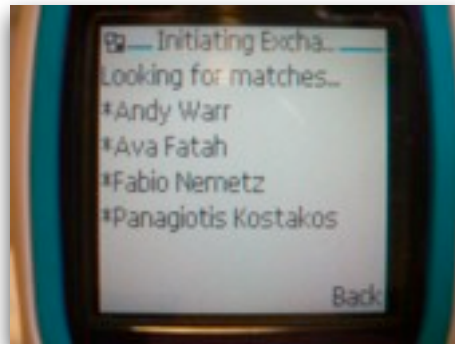
NFC vs. Bluetooth

Issues

- Usability while NFCing (keypad, screen)
  - Lights & vibration very useful
  - Limited mobility
  - Training can be very useful
- Social awkwardness
  - Nature of place is important

Issues

- The 3220 Phone is limited!

  - Series 40 - J2ME: No access to local files or camera

- Midlet Auto-launch: useful, but insecure (?)

  - Binary SMS trigger

- Battery levels: Keep your phone charged

- Cannot truly emulate tag (?)

Lessons

- NFC & touch: yes! - but
  - Not alone in public
  - Yes for face-to-face
  - More engaging than Bluetooth
  - More efficient than 2D barcodes
  - Need to see better phones with NFC

Future research

- Multi-user NFC
  - Touching others
  - Being touched

Ongoing applications

- Phone book

- Tag-o-scope

- Photo sending

- Proxy attack / play with me

Tag-o-scope

Probe everyday things for hidden information

Children, gaming, messaging

Favourite items

Photo sending

People take 1000's of photographs, but don't share

Link everyday objects to people, trigger photo sending
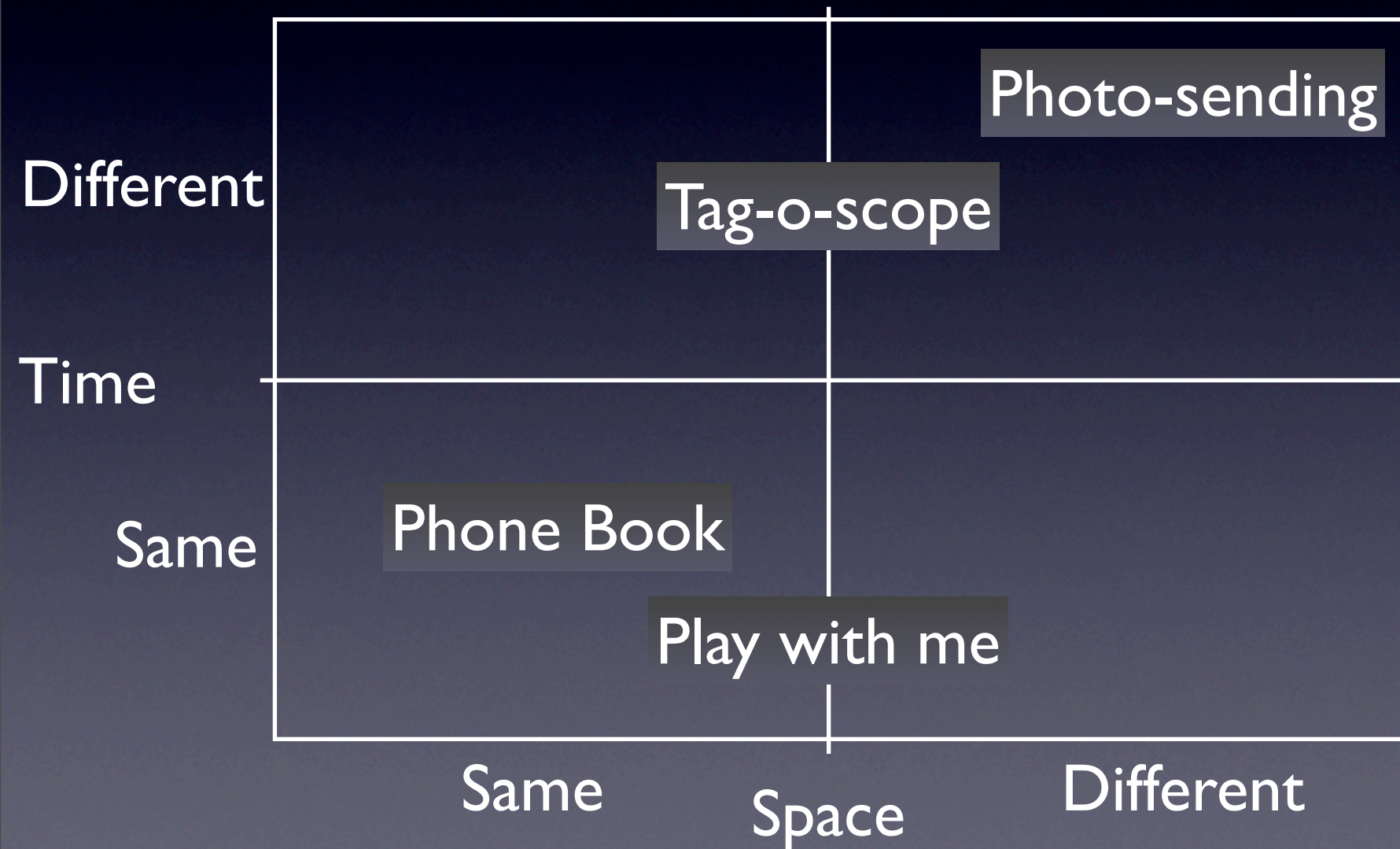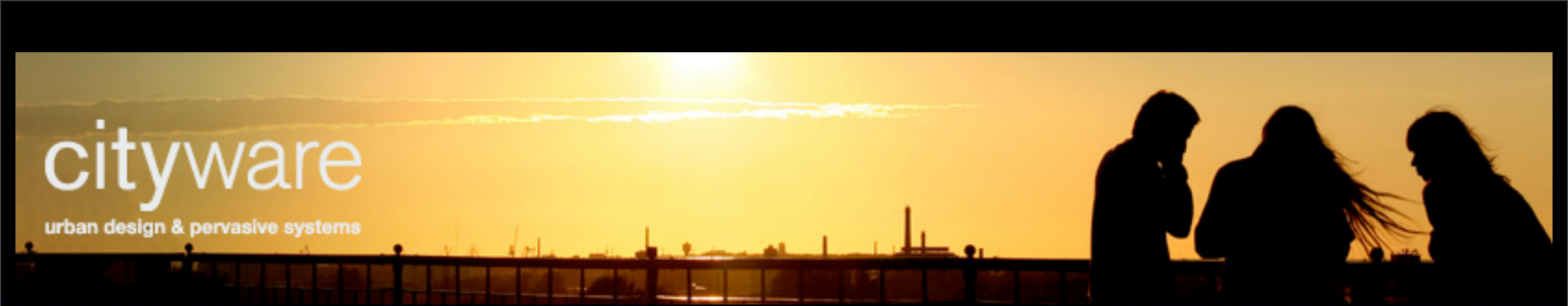
Proxy attack
Play with me

Multi-user NFC

Users are connected wirelessly

Transmit "digital touch"

Ongoing apps

Thank you

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http :// www. cityware. org. uk