
In House Personalisation – The Choices

HESCA

17th February 2011

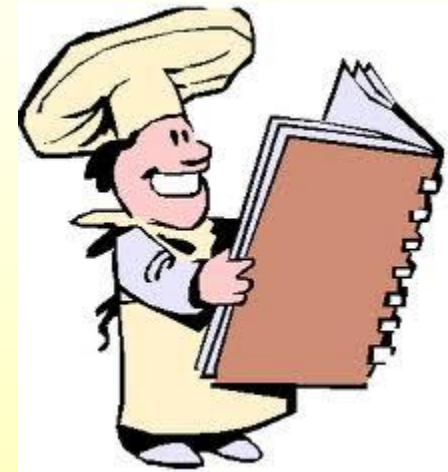
Agenda

1. Current Situation
2. Alternative Approaches
3. In House Personalisation Equipment
4. Conclusion

Current Situation

Recipe for Personalisation

- What is personalisation? (you might think it's obvious but it's worth spelling out)
 - Take a blank card
 - Add some empty physical attributes – chip, magstripe
 - Initialise those attributes ready to take data/information
 - Mix in applications relevant to intended cardholder
 - Get cardholder data from somewhere
 - Stir cardholder data to relevant applications
 - Print card with relevant photo/information
 - Serve into cardholder's hand
 - Garnish with other relevant material
- Ingredients (vary according to taste)
 - Photo
 - Chip(s)
 - Magstripe
 - Barcode
 - Printing – individual details, expiry date
 - Individual applications
 - Biometric



Current Practice & What is Changing

- Current Practice
 - Most HEIs with card schemes personalise majority of cards in bulk by bureau at start of academic year
 - Some HEIs also have replacement cards made/personalised by bureau on 1-3 day turnround
 - Some HEIs make replacement cards in house
 - A few HEIs make all cards in house
- What is Changing
 - More HEIs starting at least partial card schemes
 - Many HEIs migrating from magstripe/barcode technology to chip/RFID
 - More applications residing on cards
 - Cashless payment spreading
 - Attendance Monitoring receiving more attention

Alternative Approaches

Photo Enrolment

- Allow students to upload own photos
 - Upload facility through Student central portal
 - Basic editing of photograph before uploading
 - Ability to upload alternative photographs
 - Summary description of acceptable photograph with examples
 - Fine (£10) if inappropriate
- Take student photos at time of enrolment
 - Time intensive
 - Ensures identity
 - Ensures photo quality



Personalise In House?

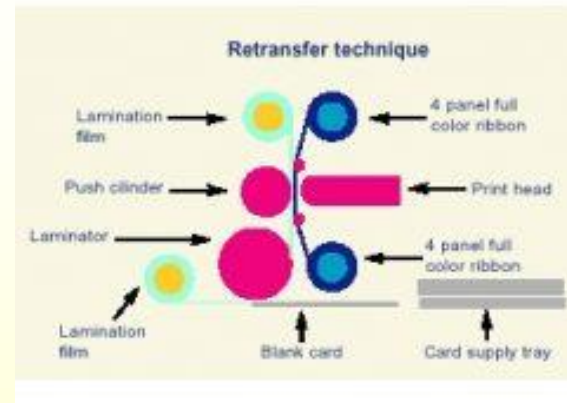
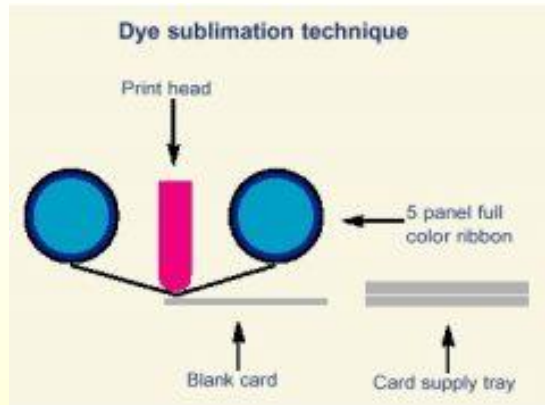
- Why not?

- Volume
 - Elapsed time to print
- Cost
 - Number of printers required; only utilised for a short period of time
 - Consumables: 10s of pence/card
- Quality: matching in house to bureau
- Trained people required at busiest time of year – distraction from prime role
- Other people are better at it
- Collateral material automatically included
- It takes away the pain

- Why?

- Immediate; as needed - replacement cards, visitors
- Print on surface of card – single/double sided
- Flexibility, especially complicated variable permissions
- Central bank of printers or decentralise across campus
- Confidentiality/security – match card to person
- Collateral material – less automatic but more up to date; no postal charges
- Mature market, several manufacturers
- Easy to buy & install, plug & play
- Answer cardholder questions
- Permanent Installation, or Rental of Hardware & Software Systems

Dye Sublimation or Re-Transfer*



Dye Sublimation

- Colour infuses plastic
- Less vulnerable to fading & distortion over time
- Quality is very good
- Print on pre-printed cards
- Heavily reliant on quality of artwork

Re-Transfer

- Good consistency of printing
- Extremely high quality
- Can increase card life
- Print on blank whites
- More expensive printers & consumables

- Blank Whites
 - Lowest cost for cards
 - Greatest flexibility
 - Highest desk top printer costs
 - Highest consumable costs
- Pre-printed Cards
 - Litho or digitally printed 'blanks'
 - Far better print quality than desk-top
 - Speeds up desktop printing
 - Lowest desk top printer costs
 - Lower consumable costs
 - Require stock-holding

Personalisation Equipment

Personalisation Equipment

DNP Dai Nippon Printing Co., Ltd.

Datacard

evOLIS

FARGO

MAGICARD



- All manufacturers offer a range of equipment
- Ranges from low to high speed/capacity
- Often sell through system integrators
- Could be re-transfer or dye sublimation
- Dye sublimation printers start at <£1000; Re-transfer >£2000

- CIM COMBI 500

- Full colour dye sublimation thermal transfer or monochrome resin – single side printing
- 300dpi resolution
- 150 cards/hour colour
- Capacity: 120 cards input hopper
- Encoding options
 - Magnetic stripe (ISO)
 - Contact or contactless chip encoding



- DNP CX330
 - Re-transfer
 - 300dpi resolution – near photographic quality
 - 29 seconds/card
 - Capacity: 300 cards input hopper; 100 cards output
 - Encoding options
 - Magnetic stripe (ISO)
 - Contact or contactless chip encoding



- Datacard SP55 Plus
 - One- or two-sided edge-to-edge printing
 - Full-colour or monochrome; dye sublimation
 - 300 dpi, 256 shades
 - Printing “tolerant” of contactless
 - Up to 190 cards/hour (full colour, 1-sided)
 - Up to 155 cards/hour (full colour, 2-sided)
 - Capacity: Input hopper - 100 cards, Output hopper - 40 cards
 - Dual high & low coercivity magstripe encoding
 - Contact/contactless all-in-one reader



- Evolis Dualys Mifare
 - 300dpi
 - Capacity: Feeder 100 cards, Output 100 cards
 - Colour dye sublimation & monochrome thermal transfer
 - Edge-to-edge & dual-sided printing
 - Colour 1 side: 150 cards/hour
 - Colour 2 sides: 125 cards/hour
 - Magnetic, smart contact & contactless encoding



Fargo (HID)



- Fargo DTC4500

- Capacity: Input 200 cards, output 100 cards
- Dye-Sublimation/Resin Thermal Transfer
- 300dpi resolution
- Magstripe, contact & contactless encoding
- Print Speed* (not including encoding): 7 seconds/card (K); 12 seconds/card (KO*); 24 seconds/card (YMCKO); 31 seconds/card (YMCKOK)



* Indicates ribbon type & no of ribbon panels printed, where Y=Yellow, M=Magenta, C=Cyan, K=Resin Black, O=Overlay, B=Dye Sublimation Black

Magicard

MAGICARD

- Magicard Prima 3e
 - Retransfer
 - Speed 30-40 seconds/card
 - Capacity: Input 300 cards, output 100 cards
 - Full colour printing
 - Magstripe, contact & contactless encoding, supporting MIFARE, DESFire, HID iCLASS, Legic



- Zebra QuikCard P100i
 - Colour dye sublimation or monochrome thermal transfer printing
 - Single-card feed - 35 seconds per card full colour
 - 300 dpi print resolution
 - Magnetic encoder, 3 track HiCo/LoCo
 - Smart Card Contact Encoder: ISO 7816 (EMV compliant)
 - Smart Card Contactless Encoder: MIFARE



Comparison of Printers (Health Warning)

Printer	Dye Sub/ Re-Trans	Full Colour/ Hour	Input Capacity	£*
DNP CX330	RT	120	300	4775
Datacard SP55 Plus	DS	190	100	1149
Evolis Dualis Mifare	DS	150	100	1899
Fargo DTC4500	DS	120	200	1535
Magocard Prima 3e	RT	90	300	2703
Zebra QuikCard P100i	DS	100	1	623

Conclusion

Top Tips (for In House Personalisation)

1. Ensure barcodes are printed black on a white background for best readability
2. Keep card design simple, less requirement to reproduce card if displayed values change
3. Distinguish between card categories, e.g. Staff/Students
4. Get unpersonalised cards produced in advance thus reducing time to personalise cards as student data not available typically before mid September
5. Don't over feed hopper with too many cards - this can cause printer jams with 2 cards feeding into the printer at same time
6. Be careful of allowing suppliers of card applications to encode your cards instead of your preferred bureau as they could trap you into paying inflated prices for each card, unless you produce cards in house
7. Never buy just one personalisation device
8. All new students should get their cards at enrolment pre-encoded

Other Considerations

- What data input feeds personalisation system & how?
 - Card scheme specific
 - Application specific
 - Individual
- Hardware capability – better, faster, cheaper
 - Datacard SD 260/360
 - Zebra ZXP Series 3
- Biometrics
- NFC
- HESCA Starter Pack

Thank you

Trevor Crotch-Harvey
Director, Fenbrook Consulting

0117 970 1773

trevor@fenbrook.com

FENBROOK CONSULTING