idXtra

idxtra.com

one card • multiple uses

# Improving Student Retention Through Smart Card Technology

Tuesday 27th March 2012

idXtra

idxtra.com

Tony Walsh

Enzo Frangiamore

Paul Canal

Mike Ward – SGM College

Ian Webber – Bromley College

# About IDXtra Ltd

At IDXtra we specialise in delivering integrated smart ID card solutions to colleges, schools and local authorities.

Our ethos is simple:

***"one card for many applications"***

Formed on 28th March 2002, we supply ID card systems, electronic registration, database consultancy, access control, cashless payment systems. Tomorrow is our tenth anniversary!

Our products are fully integrated and scalable - building blocks that you can add to again and again as your requirements change.

An IDXtra solution will enhance security for your staff, students and visitors, whilst providing 100% accurate management information.

# Two of our Customers…

*…that have very well established Smart ID Card systems:*

Bromley OF FURTHER & HIGHER EDUCATION COLLEGE
incorporating Orpington College

1959 2009
Celebrating 50 years of education

Sir George Monoux College

Sir George Monoux (alderman of London) erected the Almshouses, associated school and feast ball for the poor of Walthamstow on a former parcel of the St. Mary's Churchyard in 1527 in Walthamstow Village.

# Harrow College

Enzo Frangiamore: Ex Head of IT

Harrow COLLEGE

Two Campuses: Harrow Weald & Harrow on the Hill.

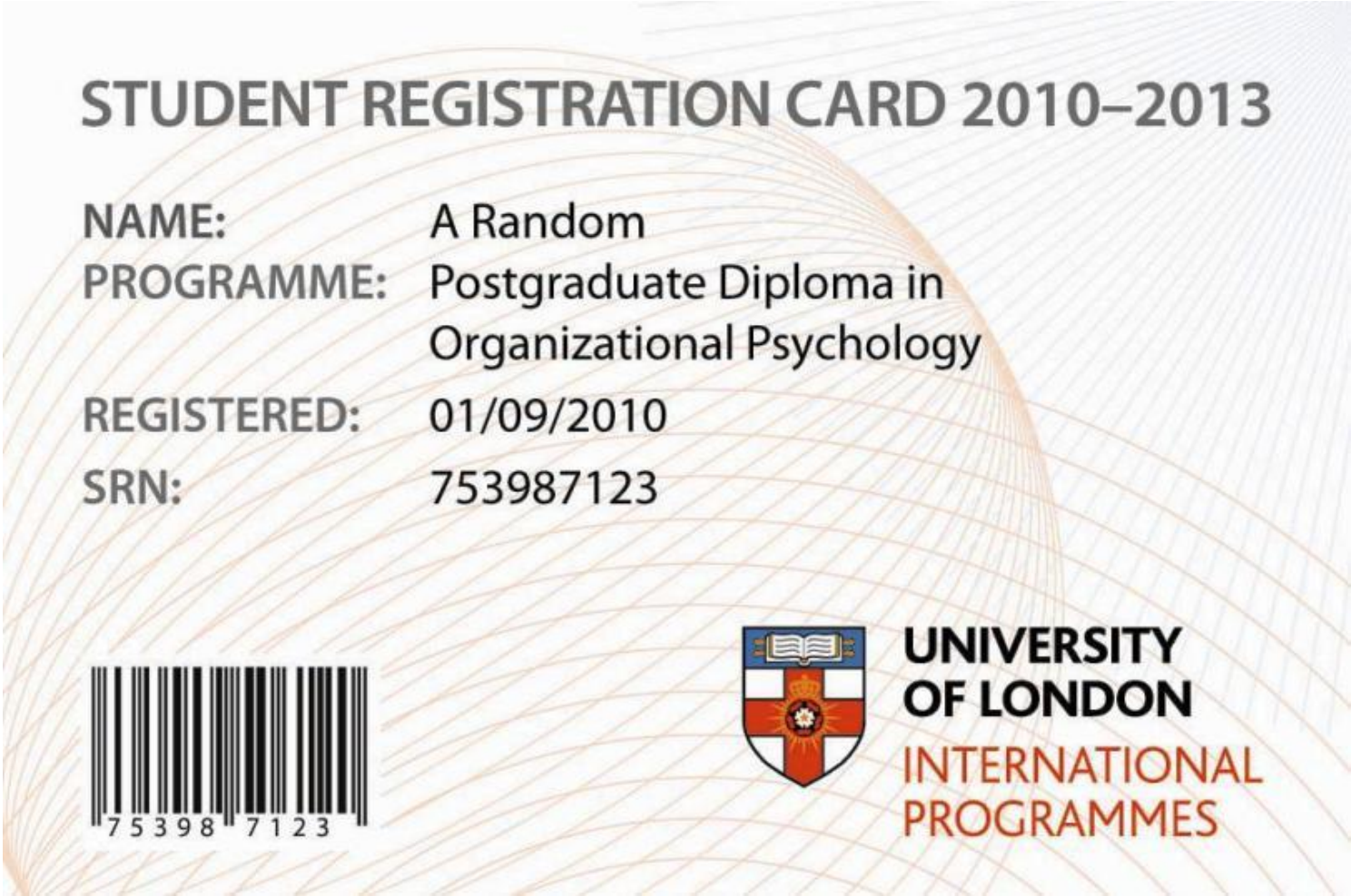
- Smart ID Cards for Staff
- Plastic ID Cards for Students
- 8 x Card Printers and Software
- Copier & Printer Control
- Access Control

# Smart Cards

Smart cards may have a contact chip  or a contactless chip, or both.  They may have more than one of both.

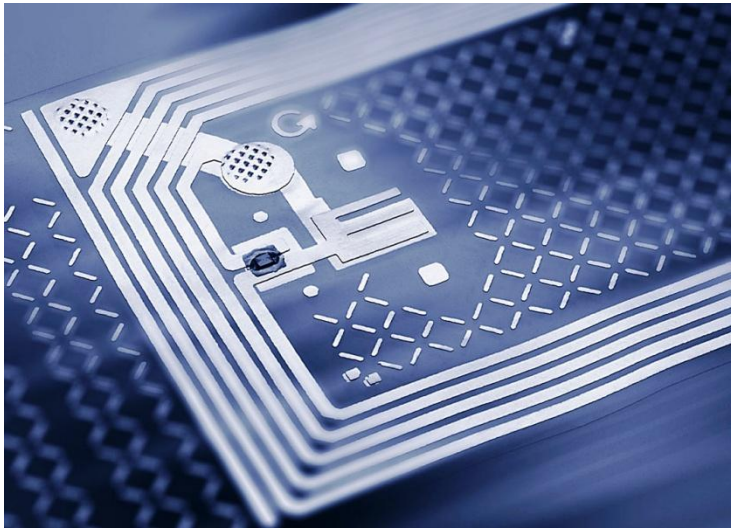
# Smart Cards

Smart cards may also contain other media such as a magnetic stripe, signature panel, barcode, guilloche pattern or security hologram.



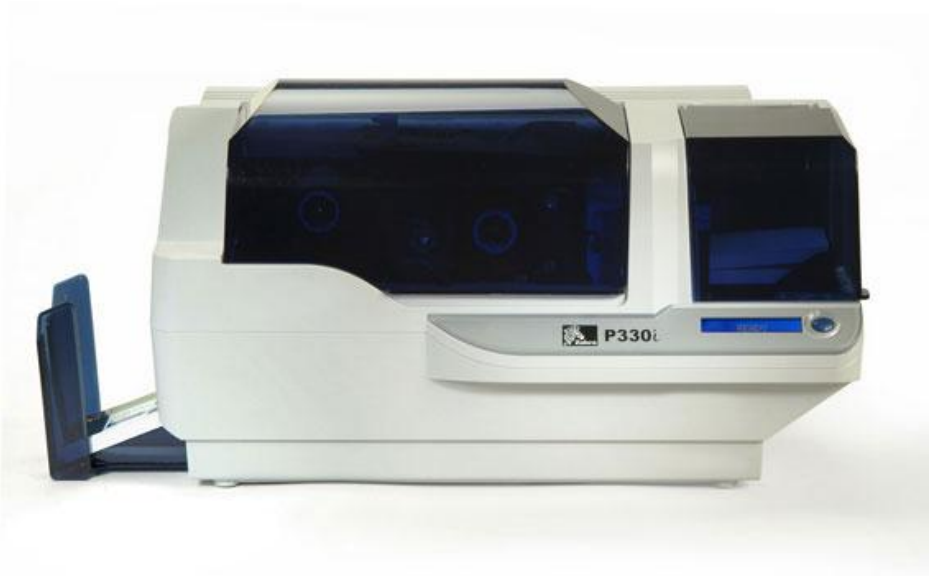
# Smart Cards

Smart cards are now produced in huge quantities and the cost has fallen as a result. Therefore the return on investment for most smart card projects has been reduced. Systems often recover their own cost within the first year!



# Card Printers

Do you use one of these?



# Access Control

# Copier Print control and payment

# Cashless catering

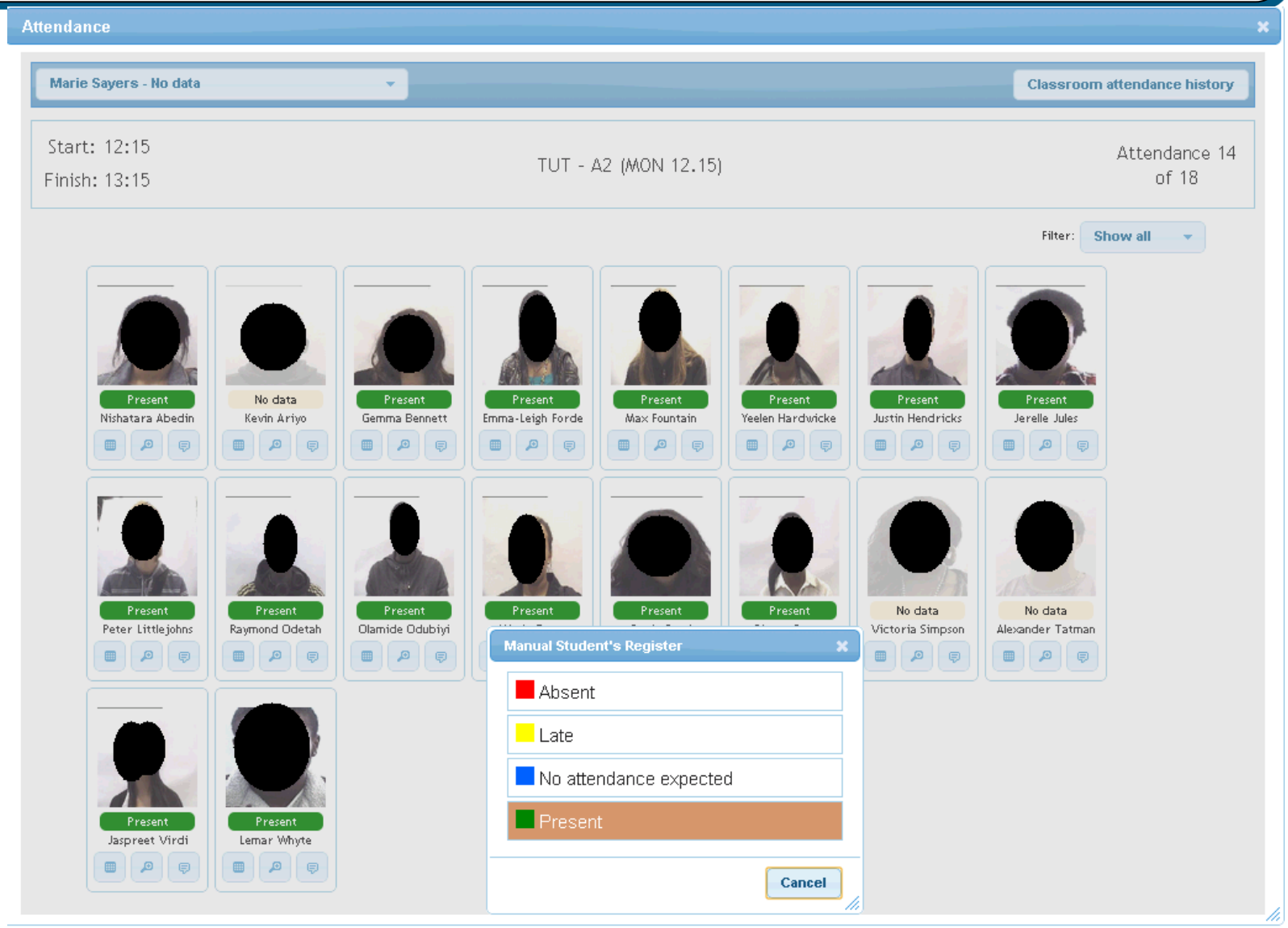
# Web Payments

# Self Service Kiosks

# PC login

# Student voting

# Electronic Attendance

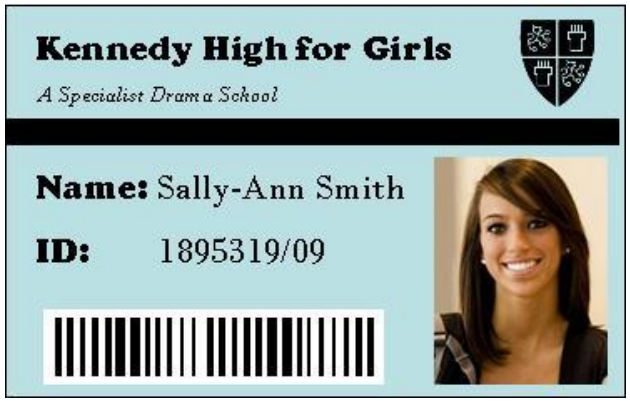


# Vending Machines

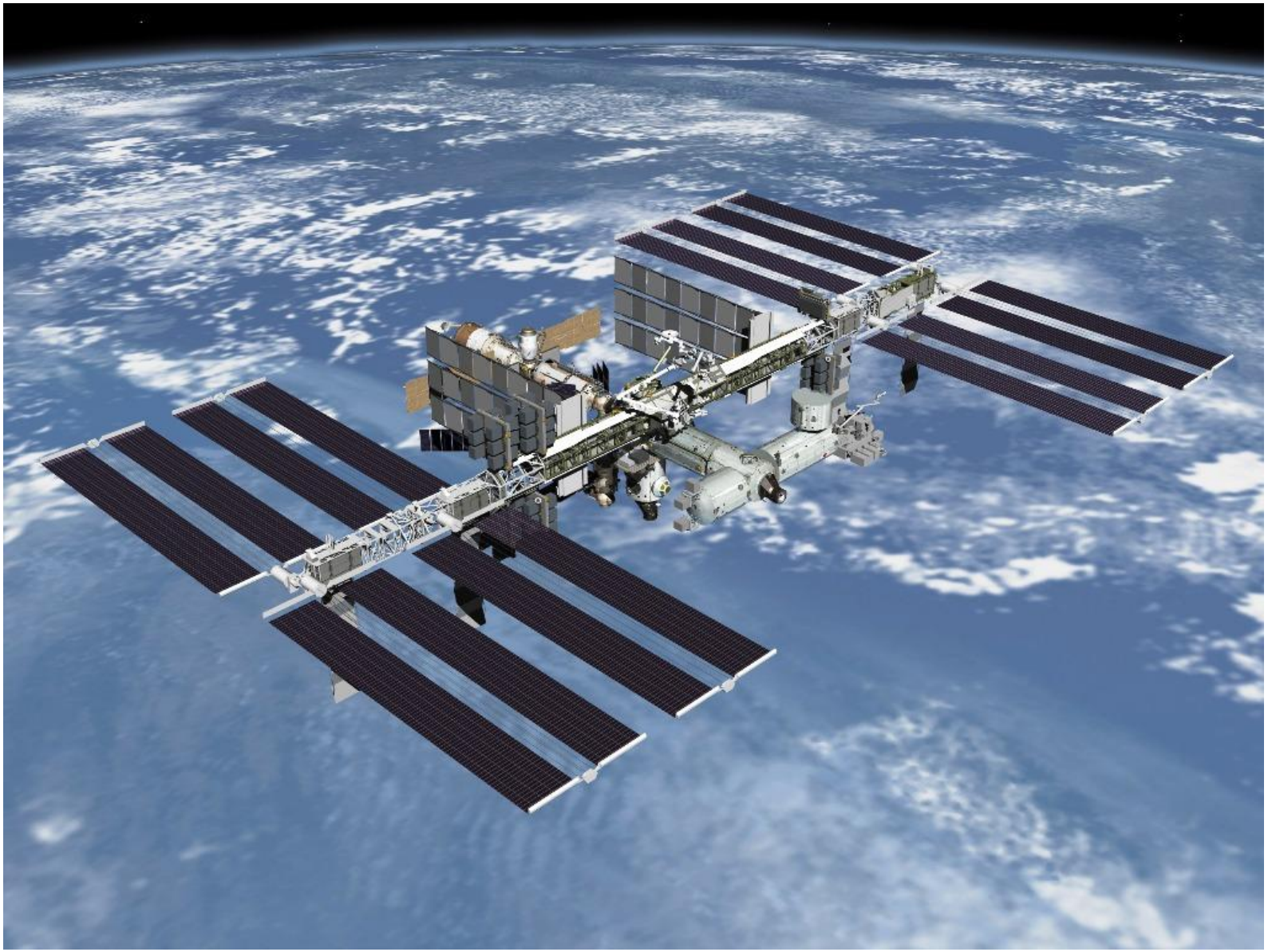
# Library Card

# Disparate Systems

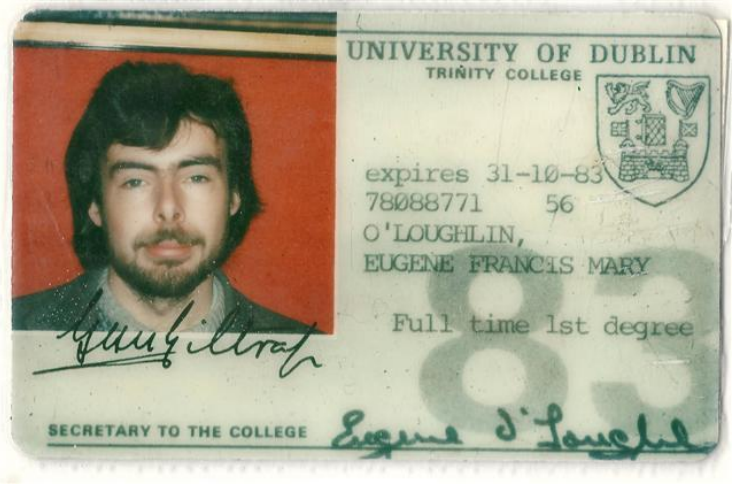
They do work but…



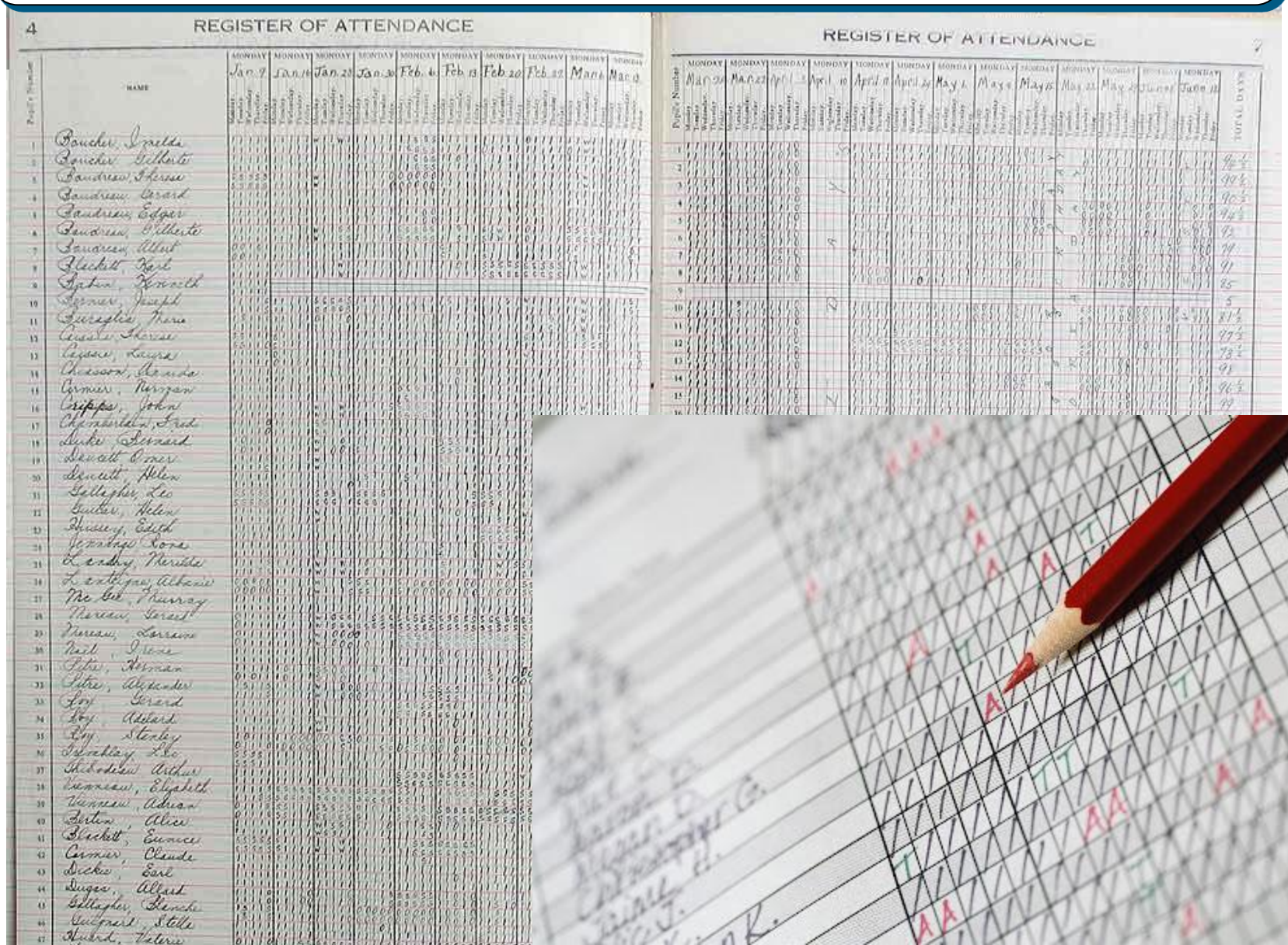
# The Information Age



# Do you remember when?



# Do you remember when?

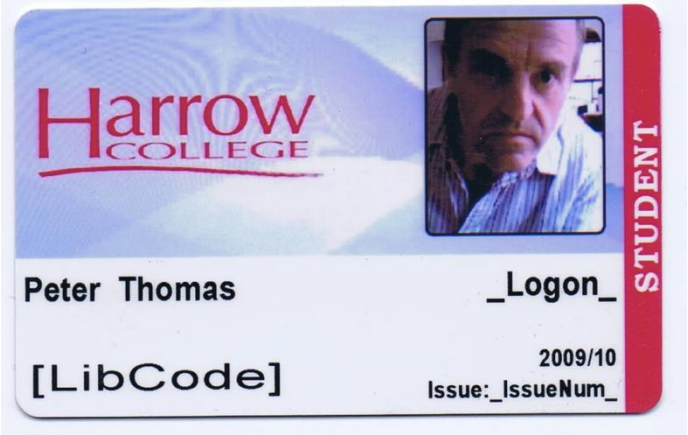


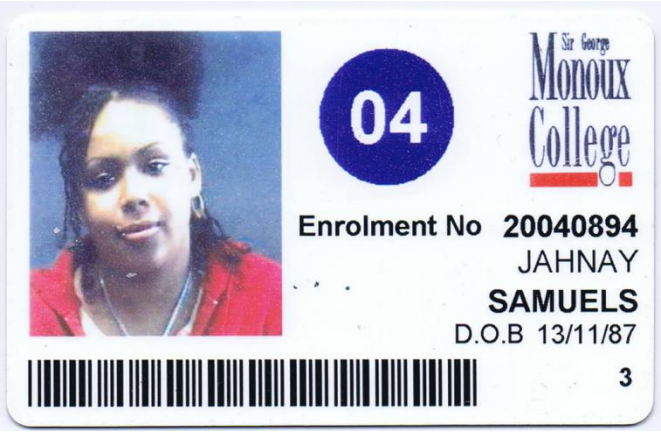
# When Phones were just Phones!

These handsets won't be used for "wave pay" or any other kind of sophisticated payments!

# Sample Customer Cards

# Sample Customer Cards





# Card Printing

## How does it all start?

### Enrolment

- Look Up Student in MIS
- Take Picture
- Print Card

# Event Marker Pro

**With Event Marker Pro EMA/bursary disputes are nipped in the bud!**

The system massively reduces the chances of unmarked registers because students are motivated to swipe themselves into each lesson.

Accuracy of registers is greatly improved!

Students' registration swipes are captured even if the lecturer hasn't opened the register.

Room changes and cover are easily accommodated, either before or after registration without missing any marks.

# Event Marker: The System

**Each room requires…**

**Event Marker Pro**
client software

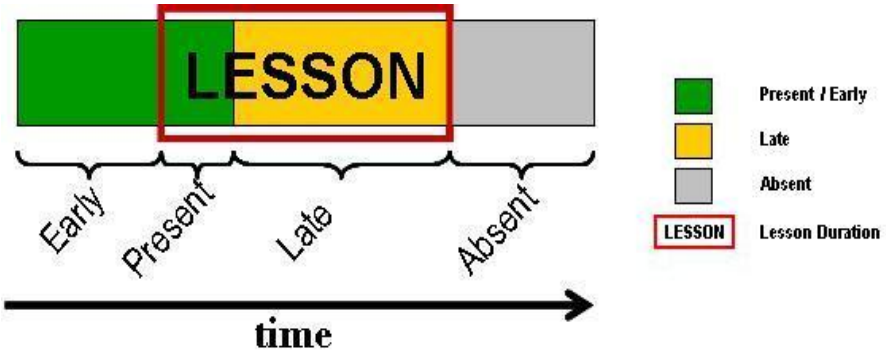
**Network Link**

USB
**card reader**

**PC**
(with audio/speakers)

Event Marker Pro communicates with a central server to gather timetabling data which it associates with rooms within a college.

# Event Marker: The Time Window




The **red outline** represents the duration of a lesson.
**Students should aim to arrive in the areas indicated in green.**

**Early (green banner)**… swiping 15 minutes before lesson up to lesson start.

**Present (green banner)**… swiping at lesson start up to 10 minutes after start.

**Late (yellow banner)**… swiping 10 minutes after lesson start up to end of lesson.

**Absent (grey banner)** … no swipes recorded before or during lesson.

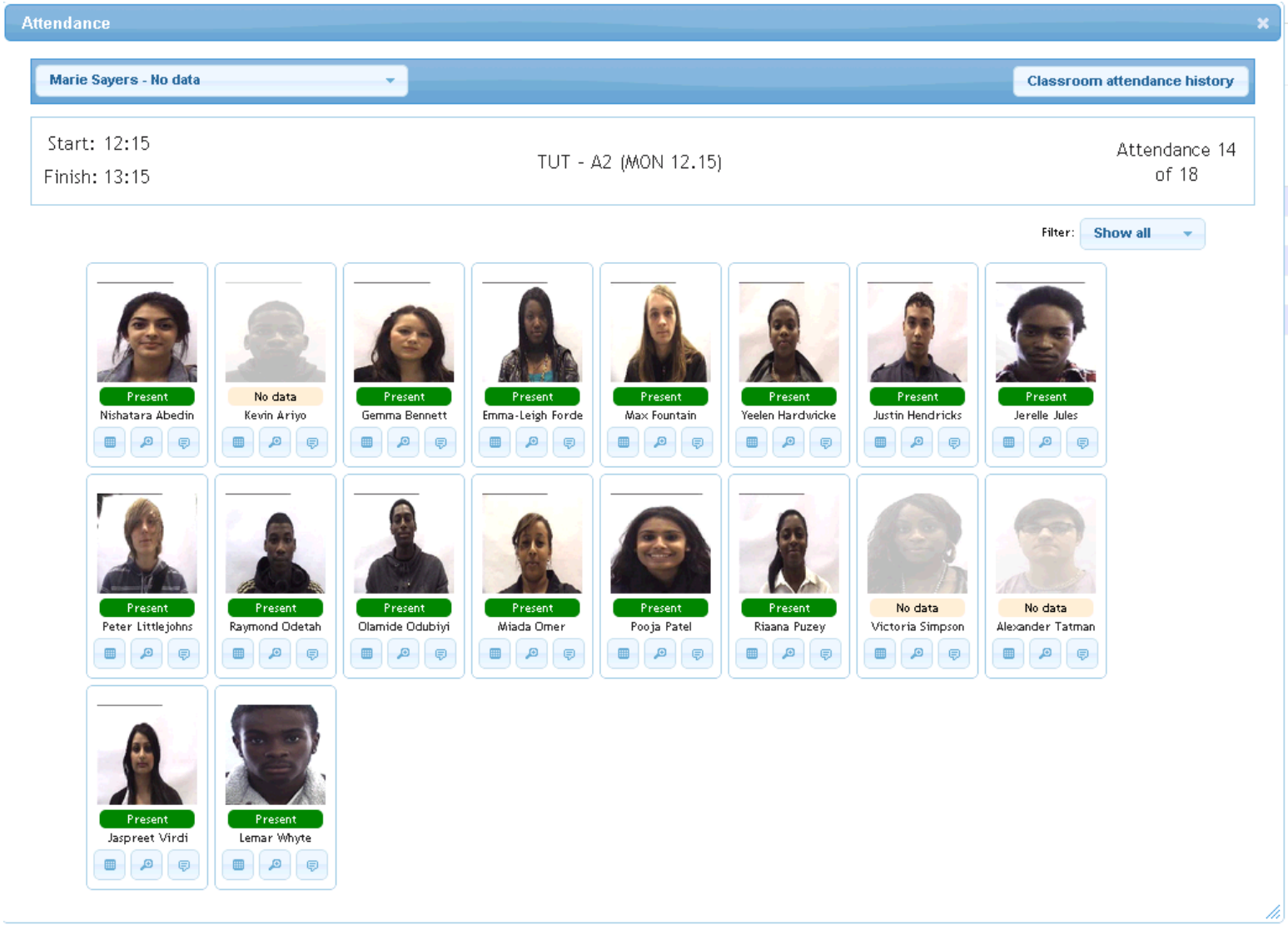
NB. All times are configurable.

idXtra
idxtra.com

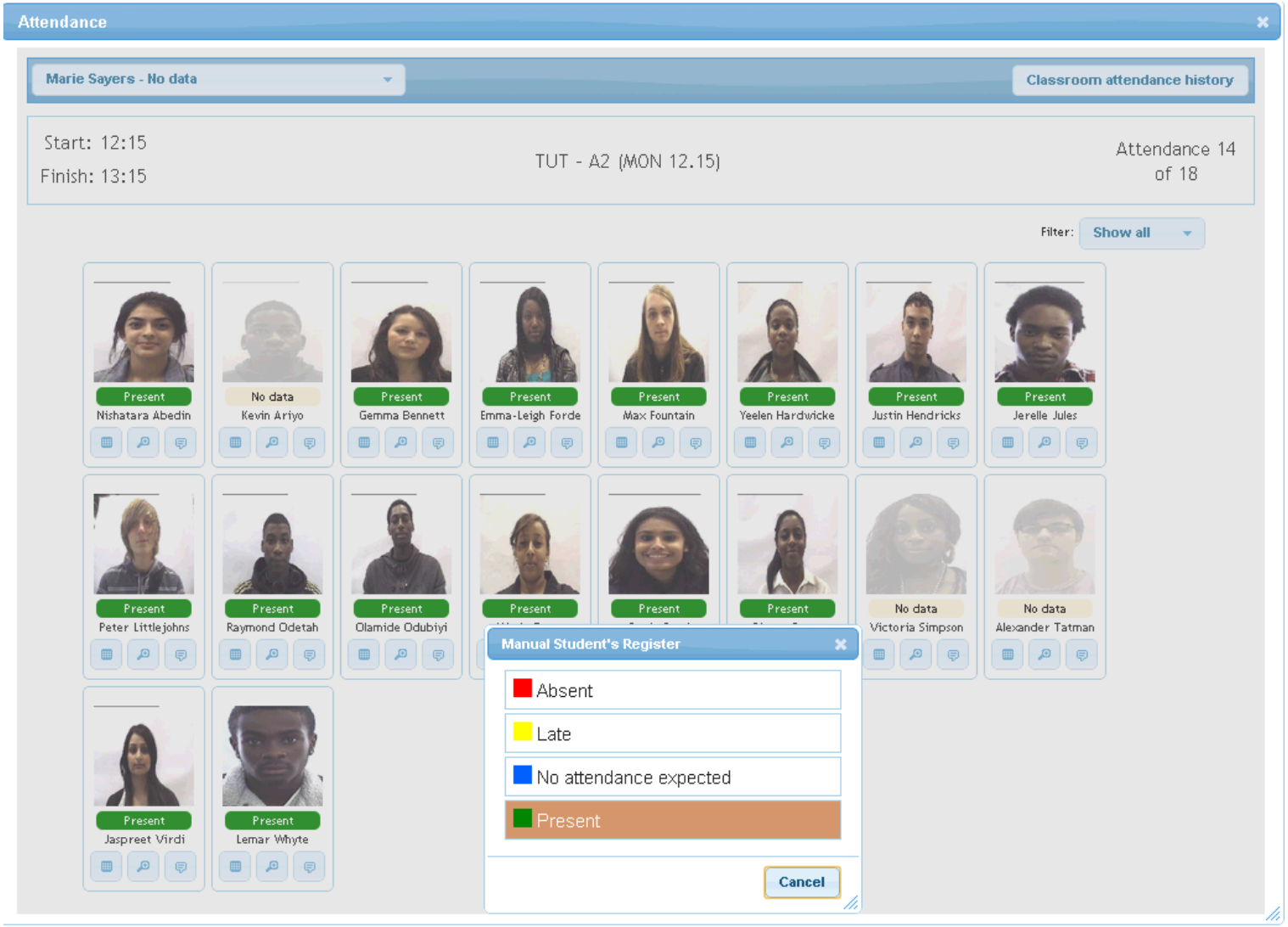
# Event Marker Features

- **Dynamic display of attendance…** a register with photographic images of the students expected for a class is displayed on screen changing from grey to full colour as they arrive and swipe in.
- **Fast login…** When a teacher swipes their card in a classroom, the system automatically logs in and displays the appropriate register. If no register exists to be taken in that room at that time, options to take other classes or move a class to this room are presented.
- **Silent operation…** records attendance via student swipes with absolutely no action needed by the tutor. This means that latecomers need not disrupt the teaching of a lesson. Even timetabling errors can be resolved afterwards, with student attendance then being allocated to the correct room and activity - so lessons can be devoted entirely to learning!
- **Display of timetables…** Staff can view both staff and students' timetables (given the appropriate rights). Even from within a live register the tutor can see a student's previous attendance on a week by week basis. This can be a very helpful pastoral tool in spotting poor attendance or bad timekeeping. If problems are identified early on they can be dealt with much more effectively.

# Dynamic Display of Attendance



# Manual Marking of Attendance



# Event Marker Benefits

Increased teaching time and reduced start-of-lesson administration.

Check attendance and add comments as necessary.

Rapid ROI (return on investment) due to the substantial saving of staff time.

High quality management information available to staff - in the classroom & staff room.

Empower students to register themselves for lessons.

Register quickly with just one swipe per class.

Take control of their own attendance & punctuality and increase the likelihood of bursary payments and success.

View daily timetables and outstanding assignments at access points around the college.

Improved flow of bursary payments to students, creating student loyalty & reducing complaints.

Simple and accurate data to reflect real-time attendance.

A range of add-on software modules such as enrolment ID card printing to enhance college processes.

... and much more

# Event Marker Summary

*…a system that allows students to swipe their own ID cards on a simple card reader pad inside each classroom.*

*By communicating with a central server and MIS to gather timetabling data, it displays live attendance data in class.*

## *So for…*

- Self registering – with one easy swipe per class
- Maximised teaching time
- **And** simple generated attendance reports

## *…choose Event Marker Pro!*

# System Integration

**Database Integration:**

Event Marker Pro has its own SQL database but passes data freely in and out from and to other databases. The system links with several popular MIS databases such as ProSolution from Compass and Capita's Unit-e. It is extremely flexible in that it can import and export data through an API or read & write data directly to tables.

**Oyster Card / Travel Card Integration:**

Event Marker Pro accepts Oyster cards by reading card serial numbers. Each card needs to be associated with its owner within the Event Marker Pro system, so that the system recognises the card as that user's active credential. This is quite a quick process that can be performed by administrators and staff with the appropriate rights.

**Smart Card Integration:**

Event Marker Pro accepts all the most popular types of proximity smart cards. Including; MiFare 1K, MiFare 4K, DESFire, iClass, ISO Prox, DUO Prox, etc. In many cases the (card number - student name) association can be imported from existing systems to save doing this within Event Marker Pro.

# Access Control

**Access Control Integration:**

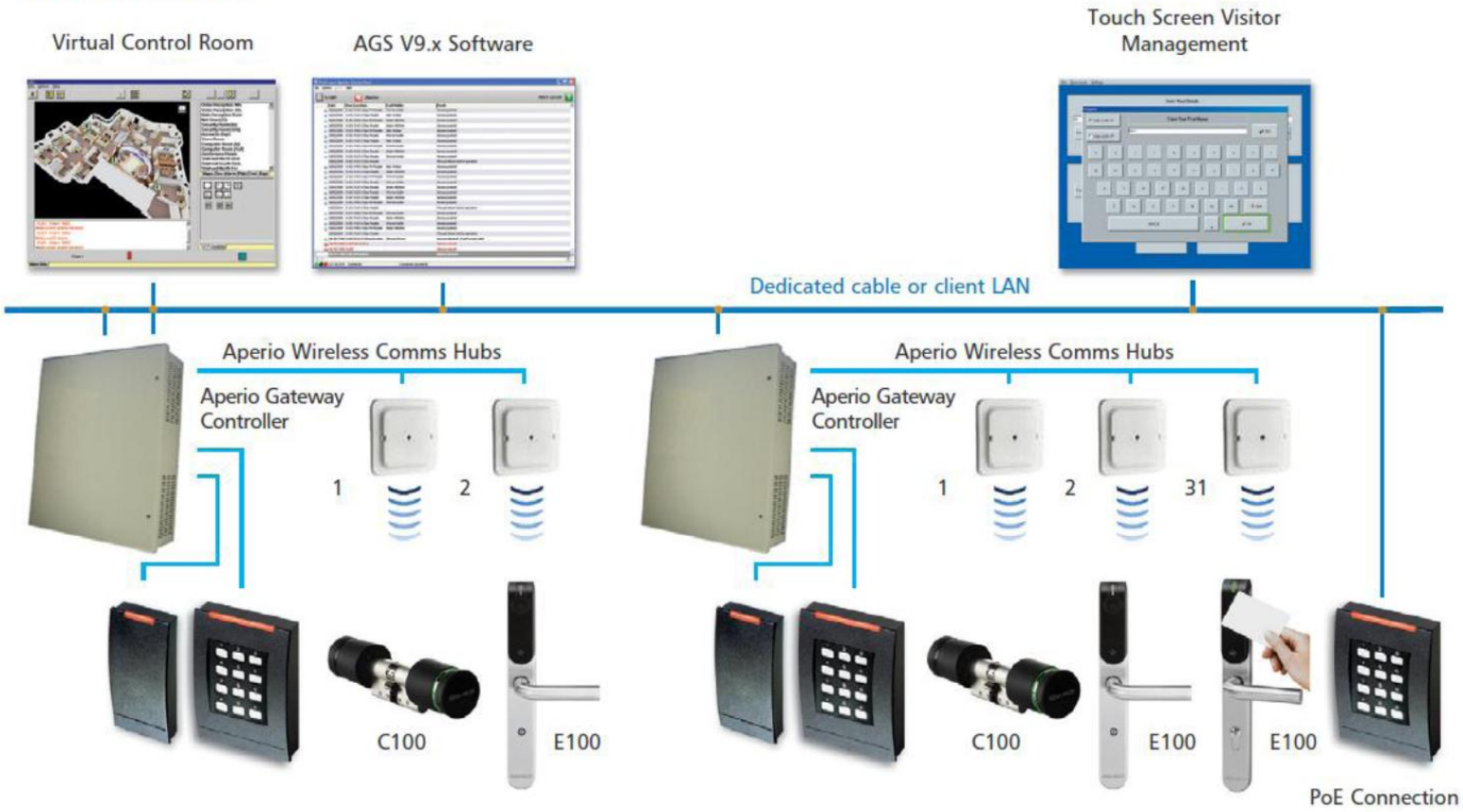
Event Marker Pro can be linked seamlessly to our PLAN access control system, so that door controls double up as registration readers. Event Marker Pro is capable of accepting swipe card data from a variety of other access control systems. An installation can be comprised of both access control readers and simple desktop USB card readers.

Event Marker Pro has been designed from the ground up to be extremely flexible. In most cases capital expenditure can be kept to a minimum by utilising existing infrastructure and DBMS. The system is highly scalable, suited to both very large institutions and small colleges.

In both the small and large models, the system provides a very simple method of registration for students. It also provides an easy way of checking their own attendance, outstanding assignments and their timetables.

# Aperio

## Schematic



# Cashless Catering

**key**
Operates and controls the identity of the users in the core system providing them with Identity tokens or keys usually Mifare based cards or fobs, keys can be created printed and assigned in this module, working in conjunction with a Biometric solution (BioStore) the system offers the complete Identity management solution for the modern education.

**import**
Import manager works with the facilities master MIS system providing a daily dynamically scheduled import of staff and students to the Gladstone transact suite of solutions. The import provides the retail solution with up to date staff and student information and photos.

**payment**
Offering staff and students a greater degree of flexibility and providing the ability to view their purchases, balances and if necessary the ability to top up student accounts on line. The system imports and exports retail information to a variety of market leading e-Payment gateways, Gladstone has recently deployed its chip & pin kiosk into an FHE facility, allowing students and staff the ability to pay by card or cash at the facility if necessary.

**data**
Is designed to import and export data to and from a variety of peripheral systems, providing the flexibility to share Identity information with associated systems for example library solutions. The module can be provisioned to provide regular tailored exports to a pre-defined program e.g. Active Directory or in a flat file format for use with other operating systems.

# Cashless Catering

**meal**
A pre-order system where students and staff select and pay for their meal earlier in the day known as "grab & go" collecting their food at a later time. The system can be configured to accept account, cash or split tender payments. The system can also configured to operate concurrently across an institution or complete campus.

**registration**
A registration solution specifically designed for use with younger & SEN pupils. The students are able to register themselves at a teacher's PC, whiteboard or tablet during AM & PM sessions. The marks are then dynamically written back into the schools MIS system (SIMS & Facility), thus reducing the time taken to complete the school registration & absence process. The system can be run in conjunction with the meal manager module.

**retail**
An expansion of the catering system allowing the use of multiple cost centres, price points and varied account types. It offers the modern facility the ability to retail and market goods and services outside of the normal scope. The system has already been adopted in FHE establishments for the retail of books, stationery and print control.

**report**
A comprehensive reporting engine designed to offer the school a wide variety of reports containing both preconfigured and individual created reporting options. The reports can be viewed instantly at any terminal with the correct permissions, stored by user or exported in number recognised formats.

# Print Copy Control

idXtra
idxtra.com

## Problems Solved with PaperCut Software:

### Wasteful printing and large documents tie up our printers

You can set an upper document size to stop unusually large print jobs. Other filters include a maximum number of copies, color and duplex printing. There is even a filter to stop "double submitted" jobs caused by accidently clicking the Print icon twice.

### Users don't like change

PaperCut is designed to be phased into production. You can implement silent monitoring as a first phase, then add quotas and printer rules, and introduce user pays printing when the processes are well established. Our Implementation Guide will show you how to roll out PaperCut without disrupting the workflow of your staff and students.

### "Guest" account users and wireless users are anonymous on the network

Anonymous users can be authenticated for printing using the PaperCut client software, a hold/release queue or PaperCut's user web tools.

### Print management systems are too expensive

Our special educational pricing won't break your budget because you won't pay extra for the number of servers, workstations, printers or operating systems on your network. Your savings from reduced consumption or from offsetting printing costs with user pays printing means that PaperCut is software that truly pays for itself!

*PaperCut - Save your budget while you save the environment*

Set Per Page Costs for Users

Pays for Itself

# Print Copy Control

idXtra
idxtra.com

## We want a system that integrates with our current internet sites and policies

You can tailor the end-user web interface to look like part of your internet. If you want to further extend PaperCut or provide additional integration with your systems, you can use the full set of APIs included as standard with PaperCut, fully documented with example source code.

## Deploying software on workstations is difficult and time consuming

PaperCut does not require software on each workstation. There is optional client software, but if you decide to use it, you can run it using the "zero-install" method that launches the software from the PaperCut server.

## We don't have a large staff to install and administer a print management system

PaperCut is self maintaining with features like automatic synchronization with users, groups and printers, automatic configuration of new user accounts, and automatic periodic quotas. Users can add value to their own accounts with "top up cards" or by using the optional payment gateway for credit card payments using online systems like PayPal. Browser-based one-click reports and scheduled automatic email reports make it easy to monitor and report activity.

## The IT department appears "reactive" to problems rather than "proactive"

PaperCut automatically tracks printer errors and can be configured to send email or SMS messages to admin or helpdesk staff when a printer requires attention.

Designed for Education

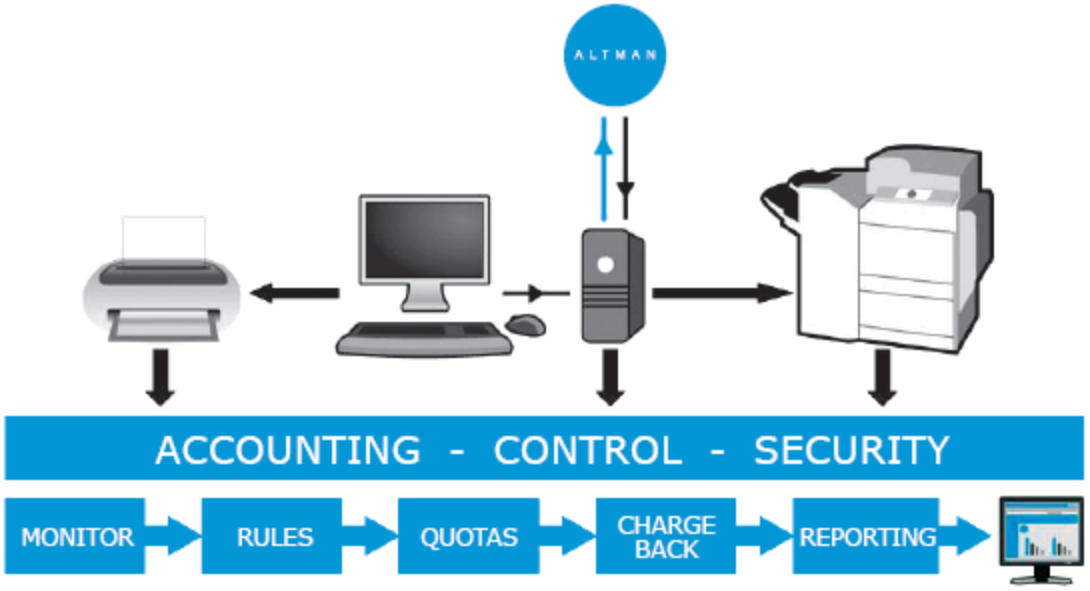
Self Maintaining

# Print Copy Control

Pcounter
one solution

## ACCOUNTING - WHO PRINTED WHAT, WHEN, WHERE AND HOW MUCH?

All users' print activity is recorded showing the date/time, user, cost-centre, document, work-station, printer, paper size, page count, byte size, colour/mono/duplex characteristics and cost of the job. Network and locally attached printers can be monitored as well as photocopiers, MFDs, plotters and high volume print room devices.



# Print Copy Control

Pcounter
one solution

## CONTROL - COSTS, RULES, QUOTAS, MESSAGING AND CHARGE-BACK

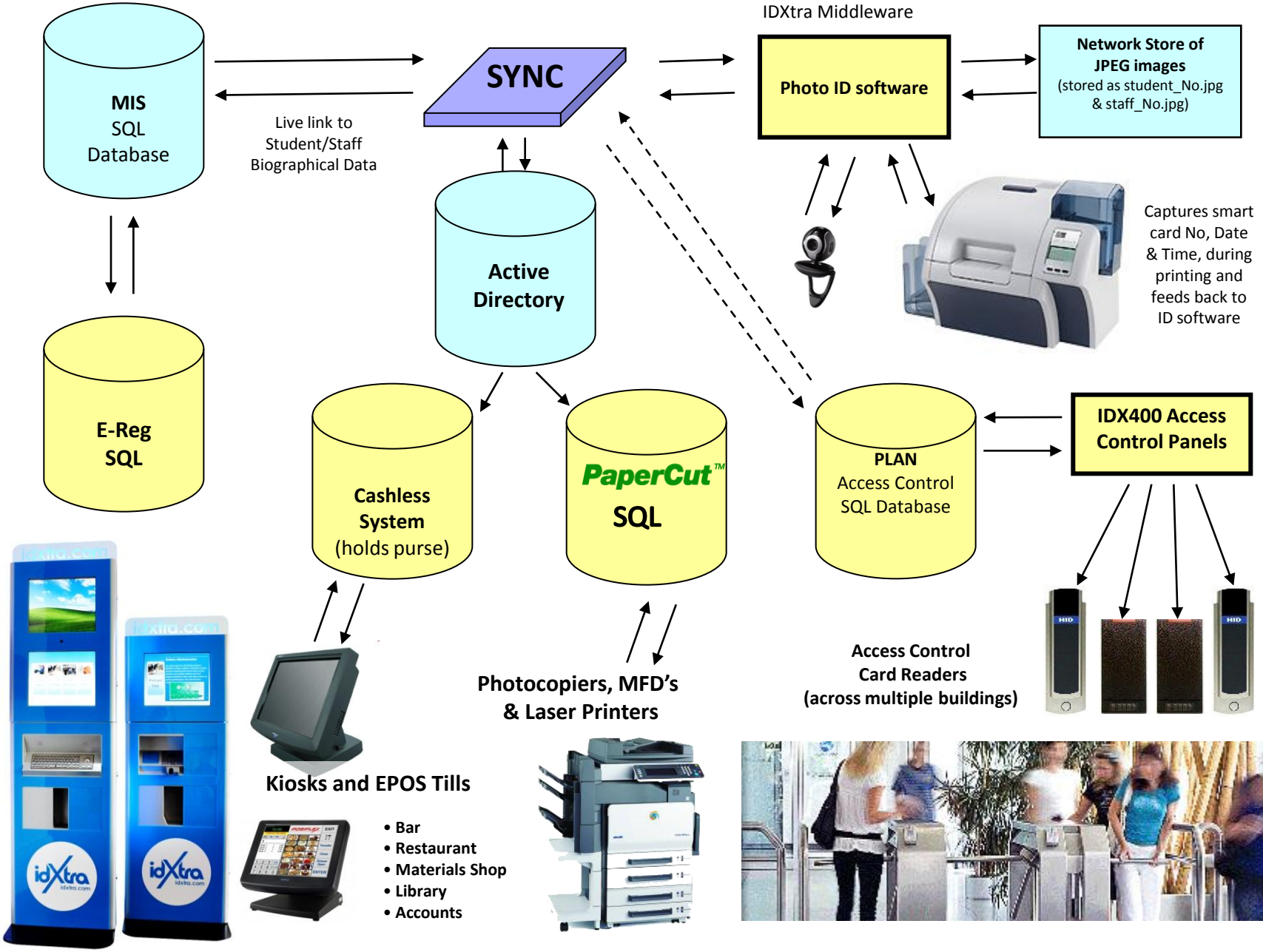
Costs can be set per device, per paper size with differential costs for duplex and colour. Rules can be configured to restrict what users can print. Print "credit" can be assigned to users by using quotas/limits based on value. Balance checking allows users to check their own account balances. A Popup prompt enables users to allocate print costs to a cost-centre, department or client-code if required. The Popup messaging option is able to be customised to seek user confirmation, confirm page count/cost before a job is sent to print or jobs can be sent when a rule has been triggered based on criteria set. With the use of freeform text and system variables it is easy to configure to include user, printer, document and account balance.

## REPORTING

The core accounting process captures all network print activity – add-on components enable local printers and photocopiers to be monitored too. From the central log of transactions, reports can be produced to provide analysis across any scale of enterprise providing analysis of:

- user activity & potential misuse
- device under/over utilisation
- cost-centre/department grouping
- client output for external billing

# Fully Integrated Solution



# Benefits to the Learner

**Preparation for Professional Life:**

- Proof of identity & guarding that identity
- Ease of access to college facilities
- Convenience of fast easy payments
- Management of and visibility of their own budgets
- Responsible for their own punctuality at college and at lessons
- Strong sense of belonging - part of the “college community”
- Personal Security – a feeling of being safe!

# Benefits to the Staff

- A reduction of administration tasks
- Increase in useful teaching time – approx 5 mins per lesson
- A combination of less hassle with better management information
- Greater visibility of attendance and punctuality
- Greater transparency of and access to information
- Staff can challenge for ID, see who is who and identify intruders

# Benefits to the College

All smart card applications are driven from the college's core systems: MIS, HR and AD. Information flows from the centre to the peripherals.
The peripheral systems are merely management tools.

The proof of the pudding is in the improved retention rates and therefore the improved success rates. Below is detailed information supplied by SGM College:

| Year | Achievement | Retention | Success |
|---|---|---|---|
| 09 / 10 | 89.60% | 91.50% | 82% |
| 10 / 11 | 89.50% | **94.60%** | **84.70%** |
| 11 / 12 | N/A | **96.30%** | N/A |

# The Future

•The Learner's viewpoint: what do your customers expect?

• Keeping up with the Jones'.  Can you afford NOT to have a smart card system?  Or a "worse" one then your neighbouring colleges?

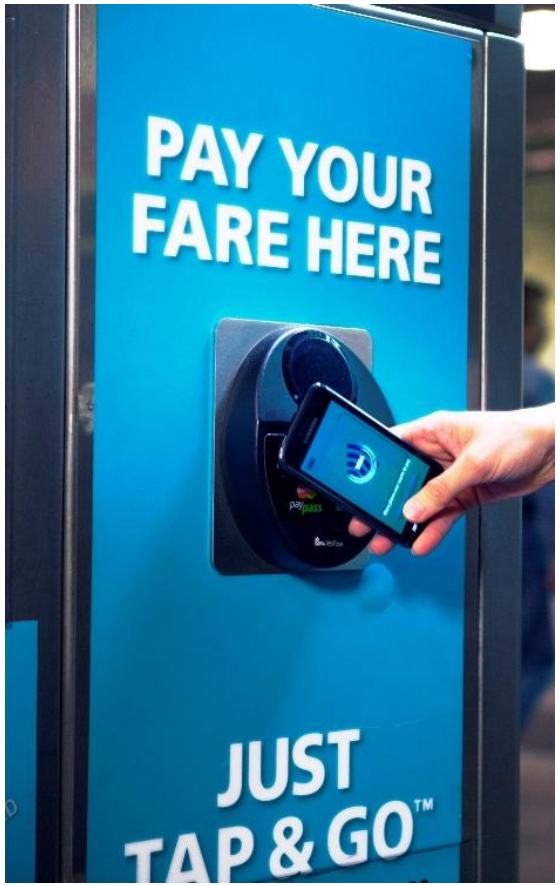
• What the future holds: open loop payments, NFC, M2M, location tracking, card and mobile phone convergence?

# The Future

- How far away is this?

# The Future

- Using your mobile phone or bank card to pay for services in college?



# Thank You

Would your college benefit from a review of current systems and future “Smart Card” opportunities?

We would like to offer a free consultation to today’s attendees.

For further information please visit us outside.

Any Questions?