



University of Bedfordshire

Student Engagement

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Systems Development Manager

The University

- An Access University
- c19000 students, high proportion international
- 5 campus sites in total, main ones at Luton and Bedford

Vision and Values

Vision

- The University of Bedfordshire's vision is of a world where all are able to benefit from transformational educational experiences.

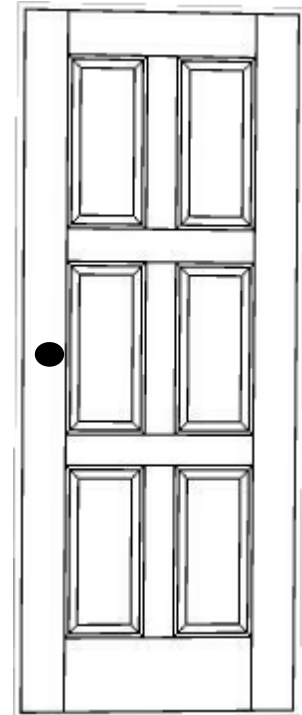
Values

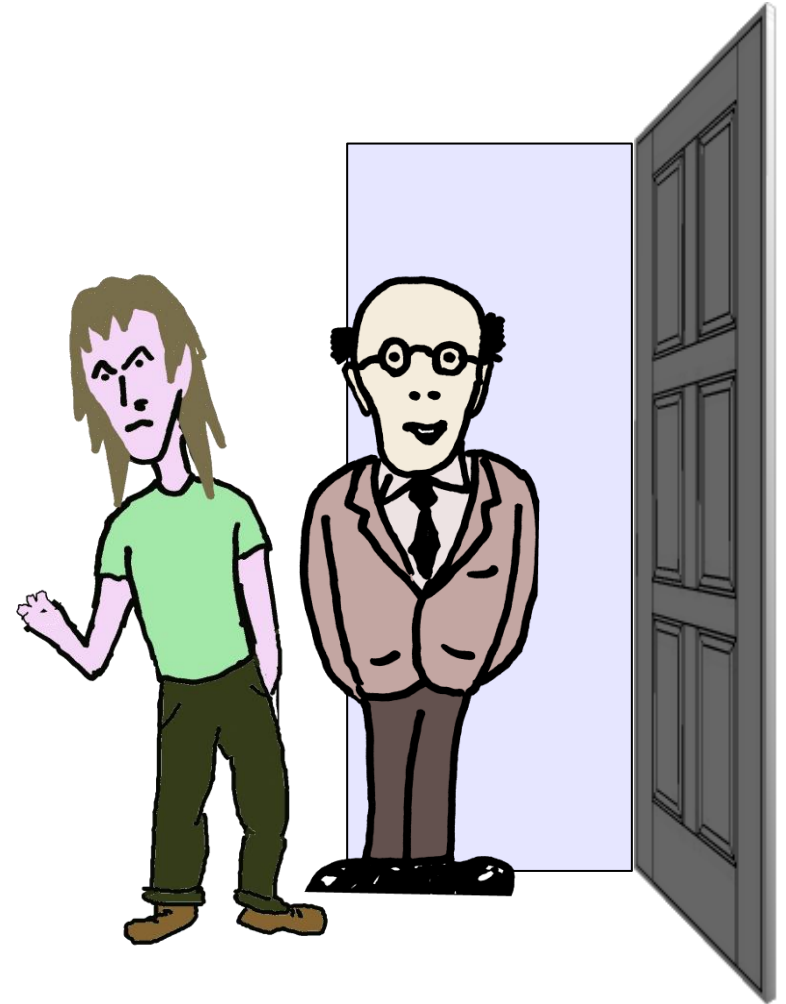
- **ASPIRE** - Access, Scholarship, Partnership, Innovation, Respect and Employability.

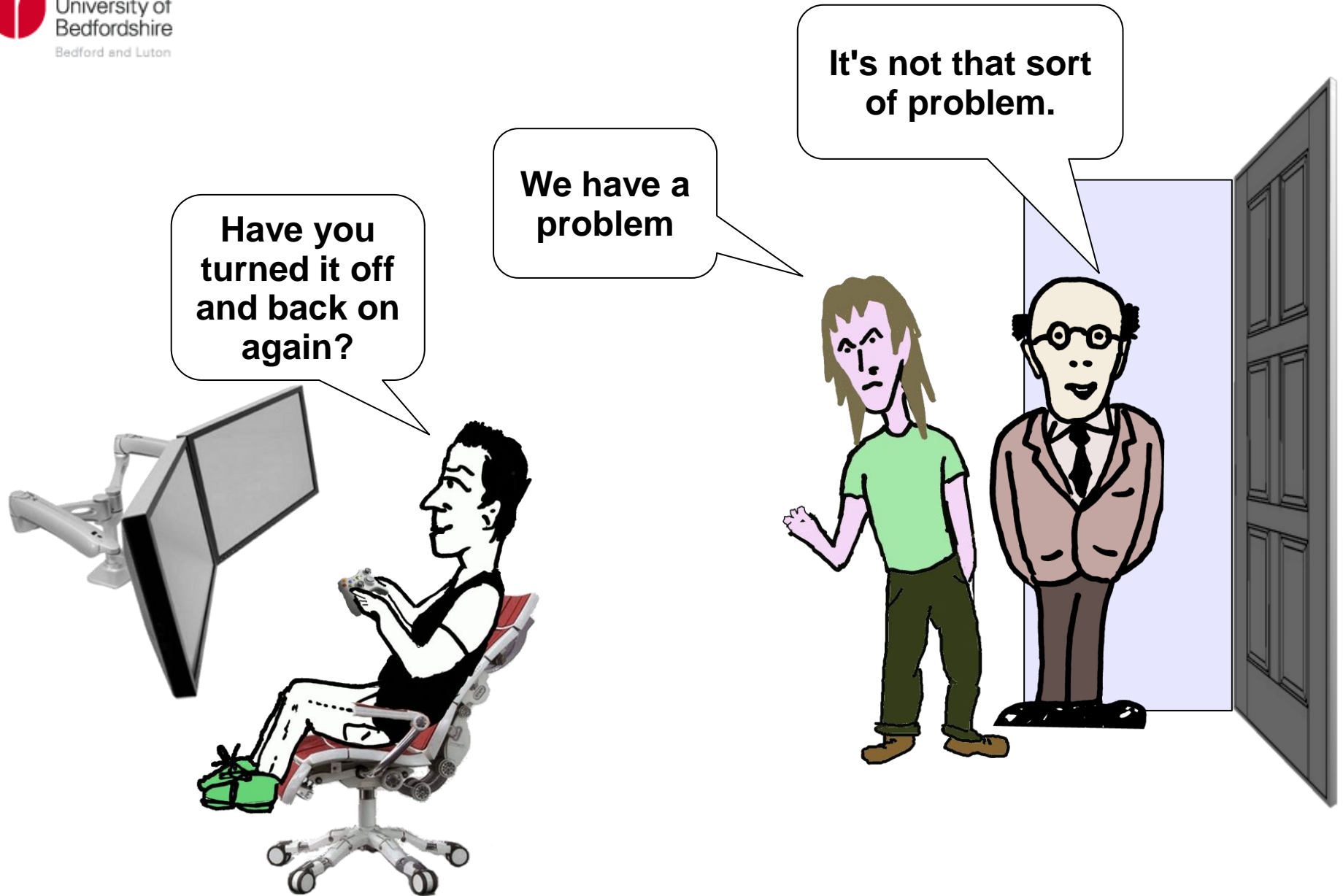
BI Strategy

- In two strands
 - “Traditional” reporting, KPIs – Enterprise Reporting project
 - Student Engagement

The Requirements Phase

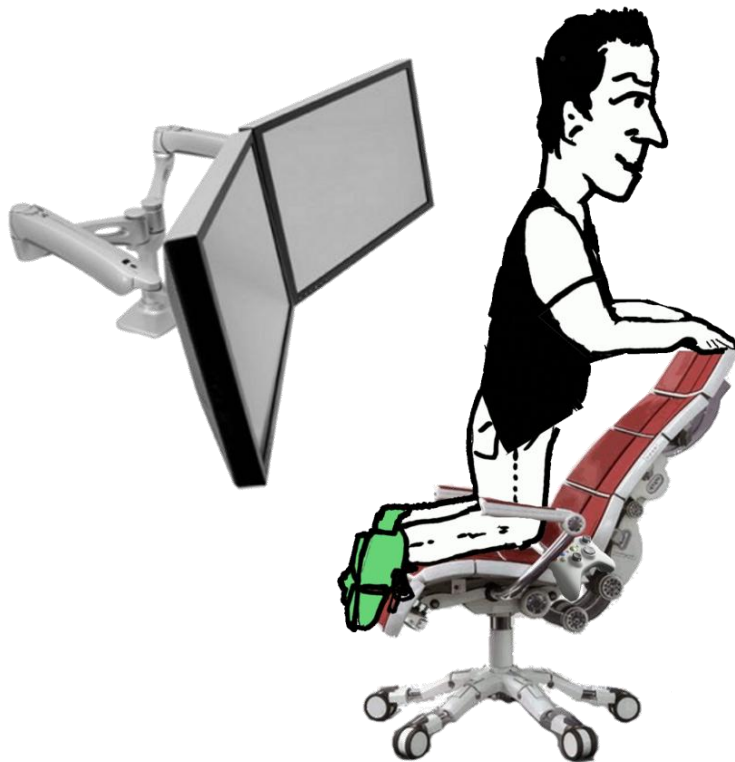






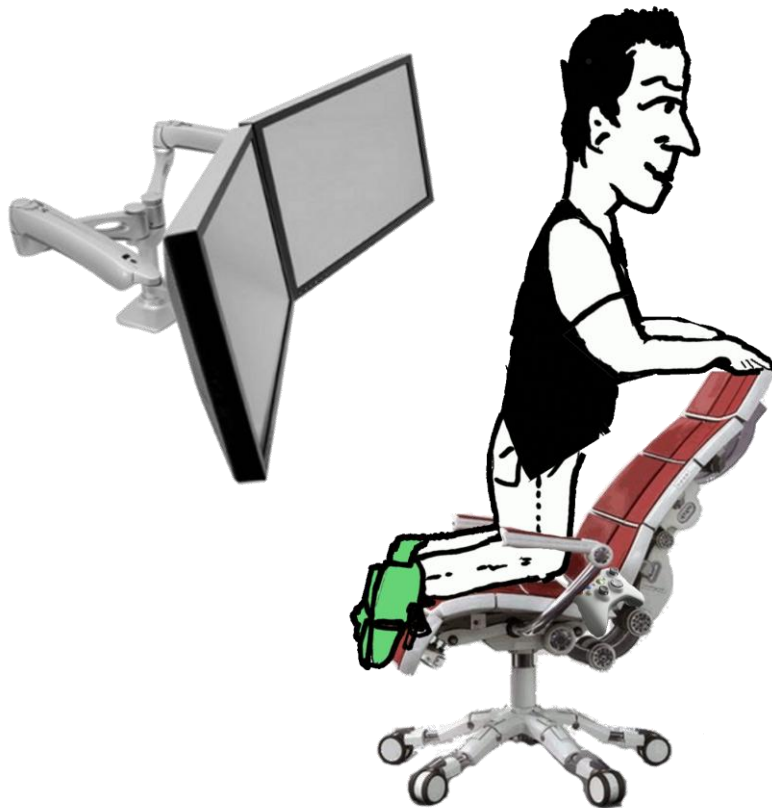
**We need a way of
identifying students who
are starting to dis-engage**

**So we can talk to them and
help them get back on track
before it is too late**



**But we don't want
to add to any
administration**

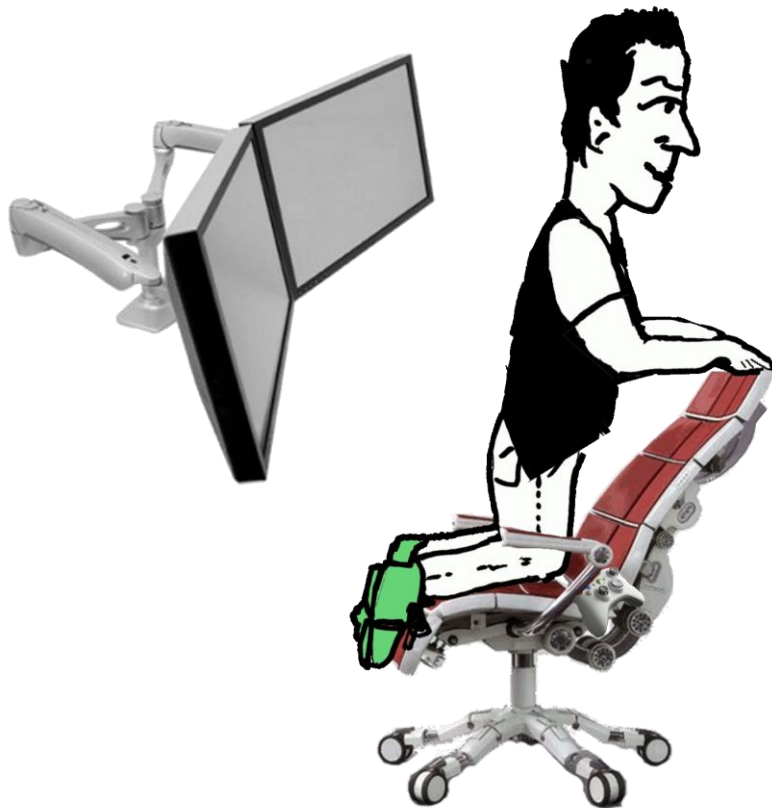
**And we think it has
something to with things
like logging in to BREO
and the network.**



**And not handing in
assignments**

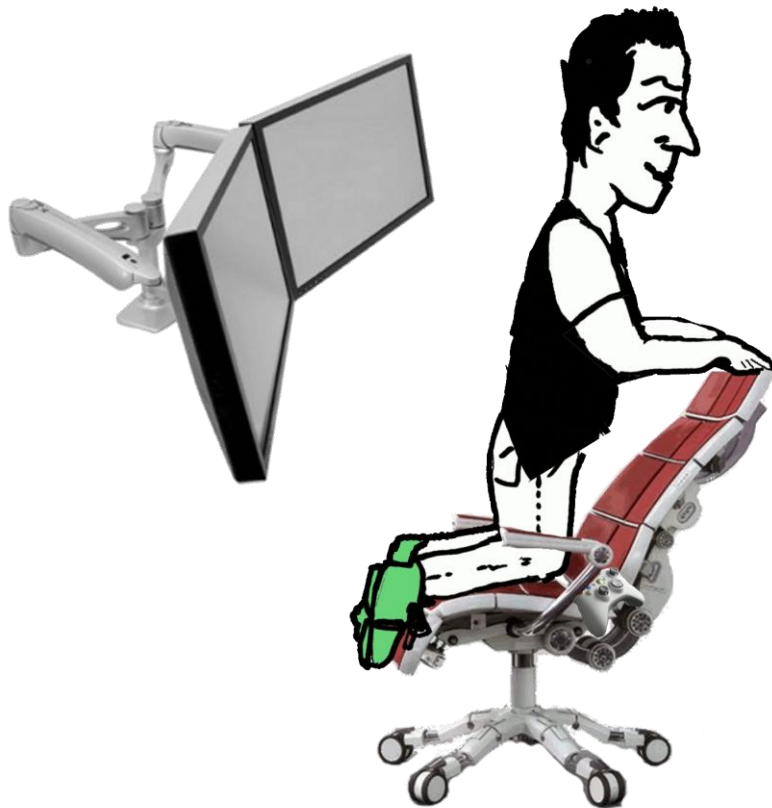
**And attending
lectures**

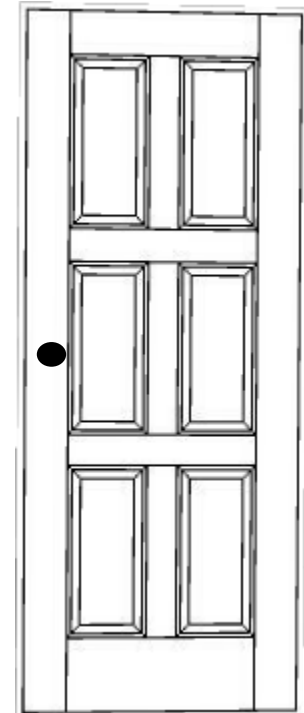
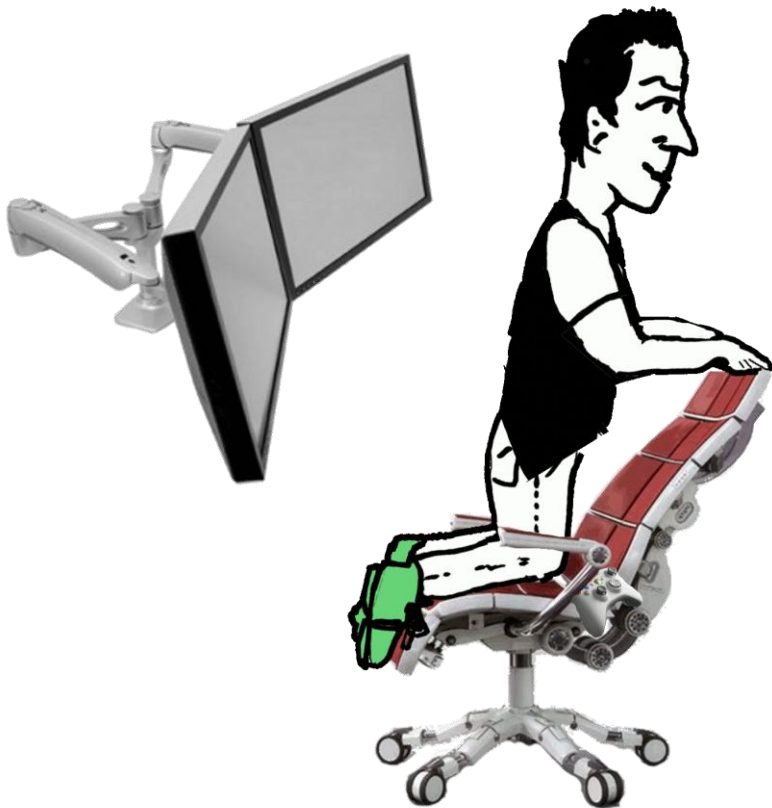
**And going to the
library**



And some of these
things are more
important than others

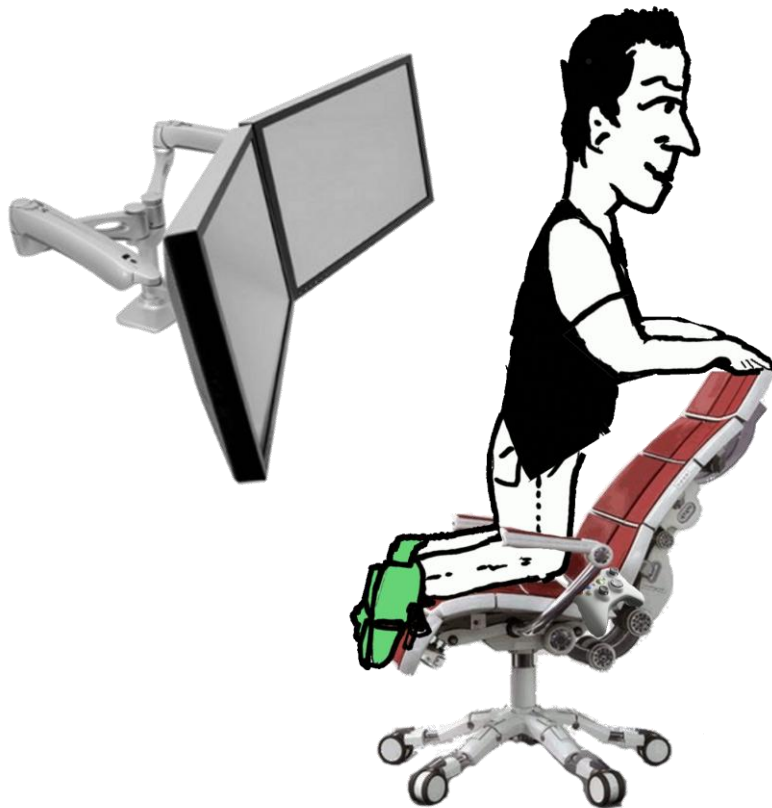
And what happened a
few days ago is less
relevant than what
happened yesterday





Oh, and we don't know
what a good engagement
would look like

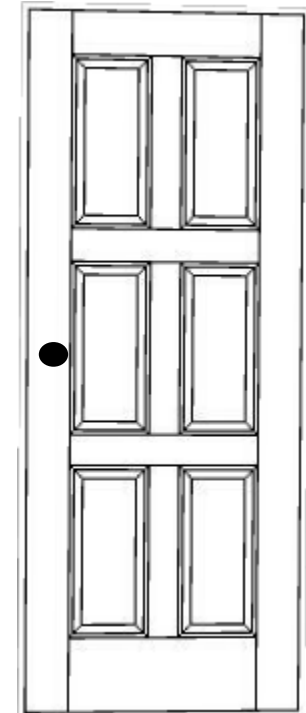
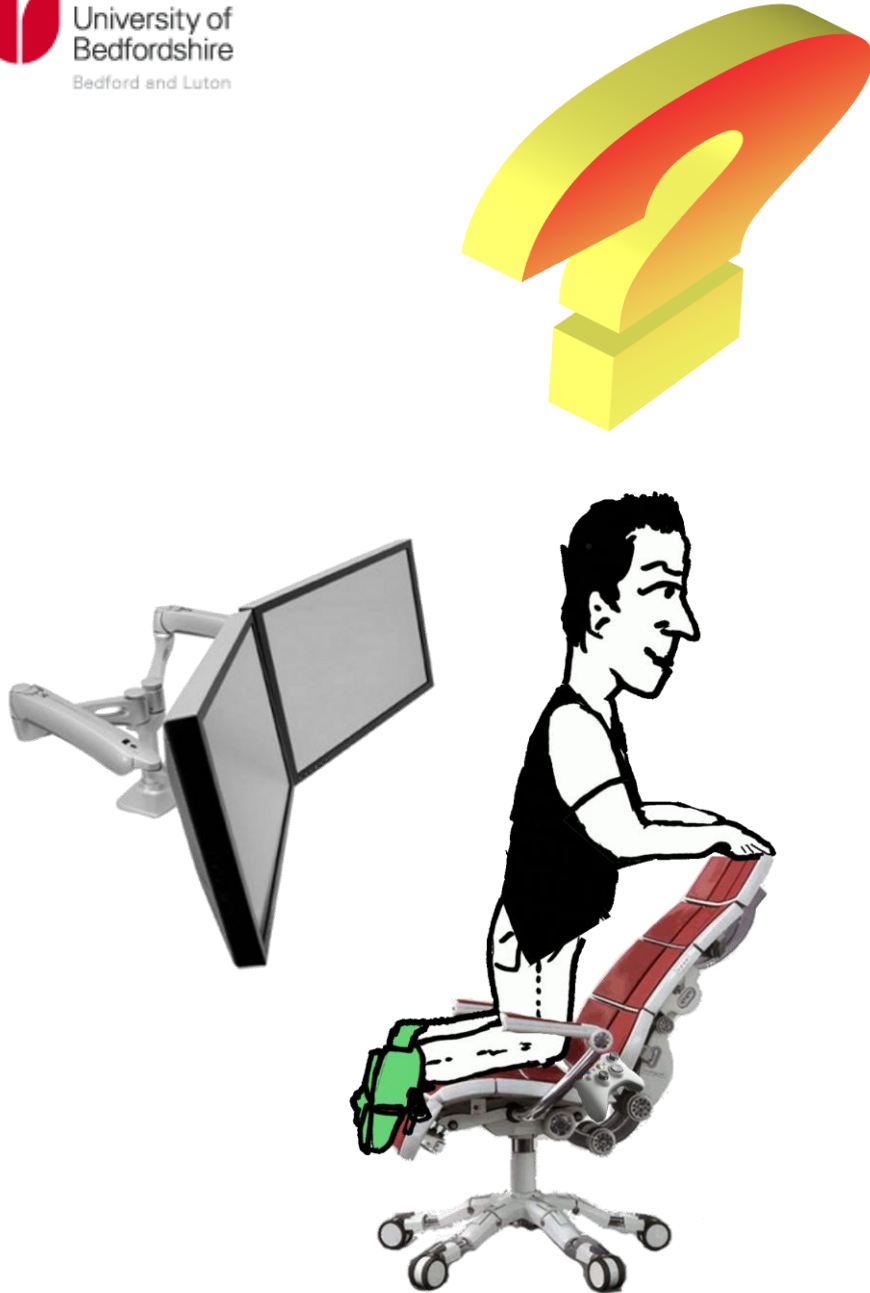
Except that his will
be different to mine





**In fact all courses
will be different**





What could it look like?

- Seems to be mostly about managing risk
- Good idea to tackle the most significant risks first




Course

CIS214 - COMPUTING AND INFORMATION SYSTEMS 4 YEAR DEGREE

Go

Student Indicators

| Student ^ | Year of Study ^ | Overall Indicator ^ |
|------------|-----------------|---|
| [REDACTED] | 1 |  |
| [REDACTED] | 1 |  |
| [REDACTED] | 2 |  |
| [REDACTED] | 1 |  |
| [REDACTED] | 1 |  |
| [REDACTED] | 1 |  |
| [REDACTED] | 1 |  |
| [REDACTED] | 1 |  |
| [REDACTED] | 1 |  |
| [REDACTED] | 1 |  |
| [REDACTED] | 1 |  |
| [REDACTED] | 1 |  |
| [REDACTED] | 1 |  |
| [REDACTED] | 1 |  |
| [REDACTED] | 2 |  |
| [REDACTED] | 1 |  |
| [REDACTED] | 3 |  |
| [REDACTED] | 1 |  |
| [REDACTED] | 2 |  |
| [REDACTED] | 1 |  |

OK, but

- How do we actually determine the risk?



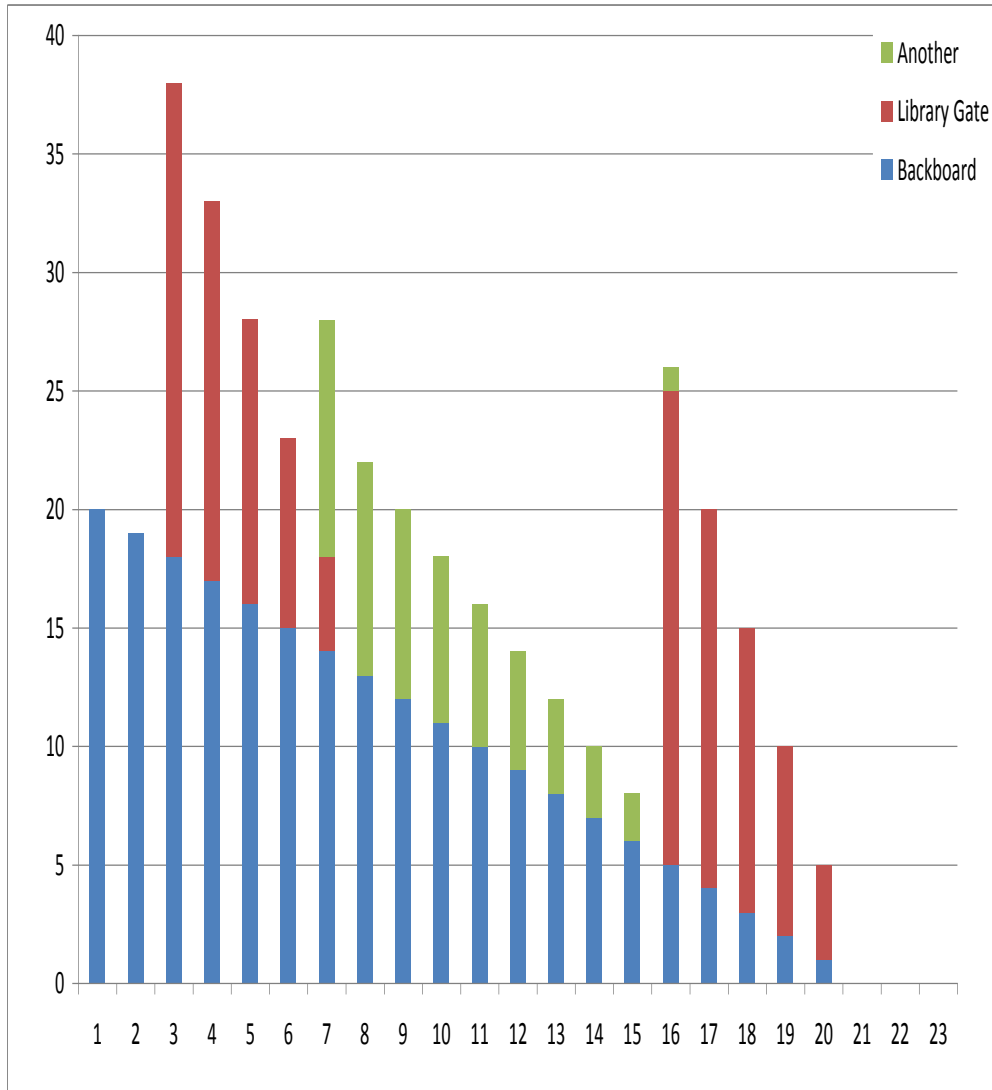




decay

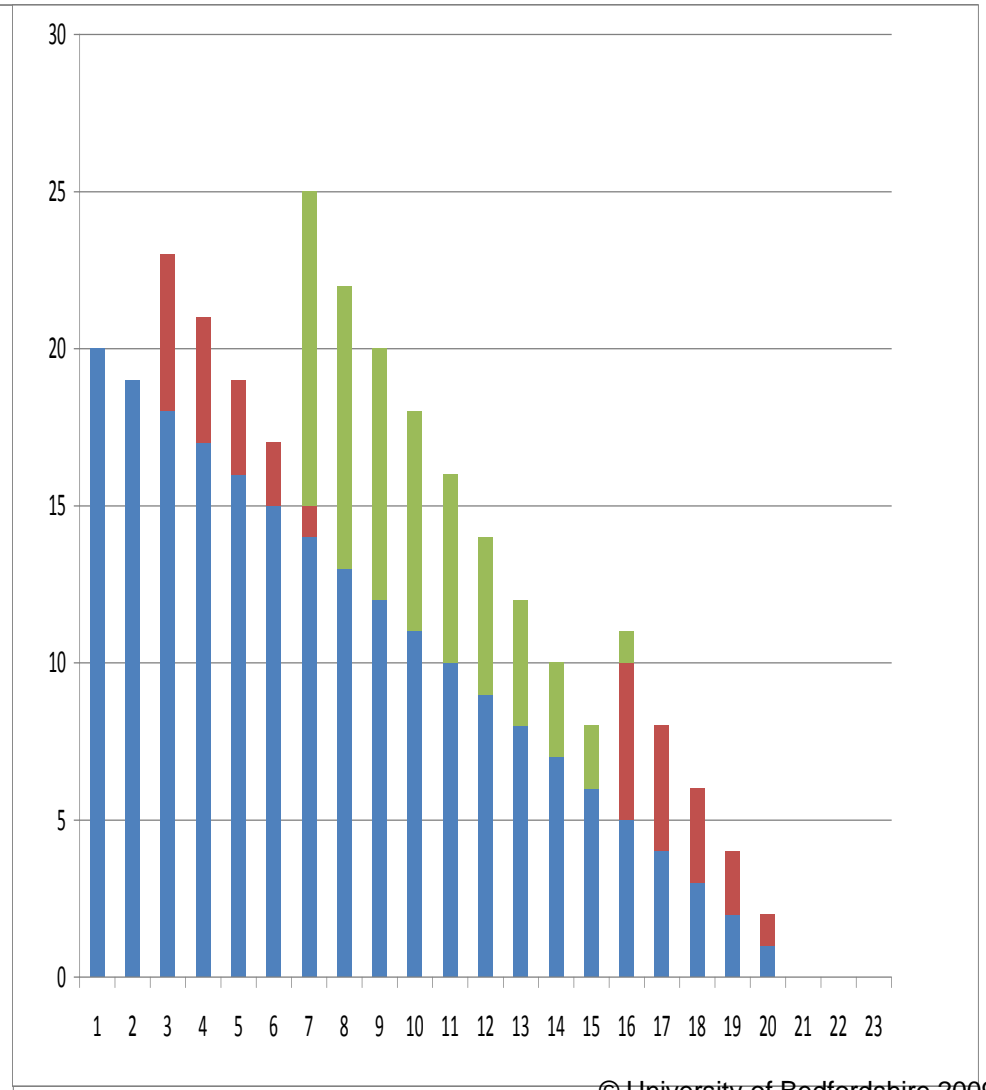
Library gate
Blackboard

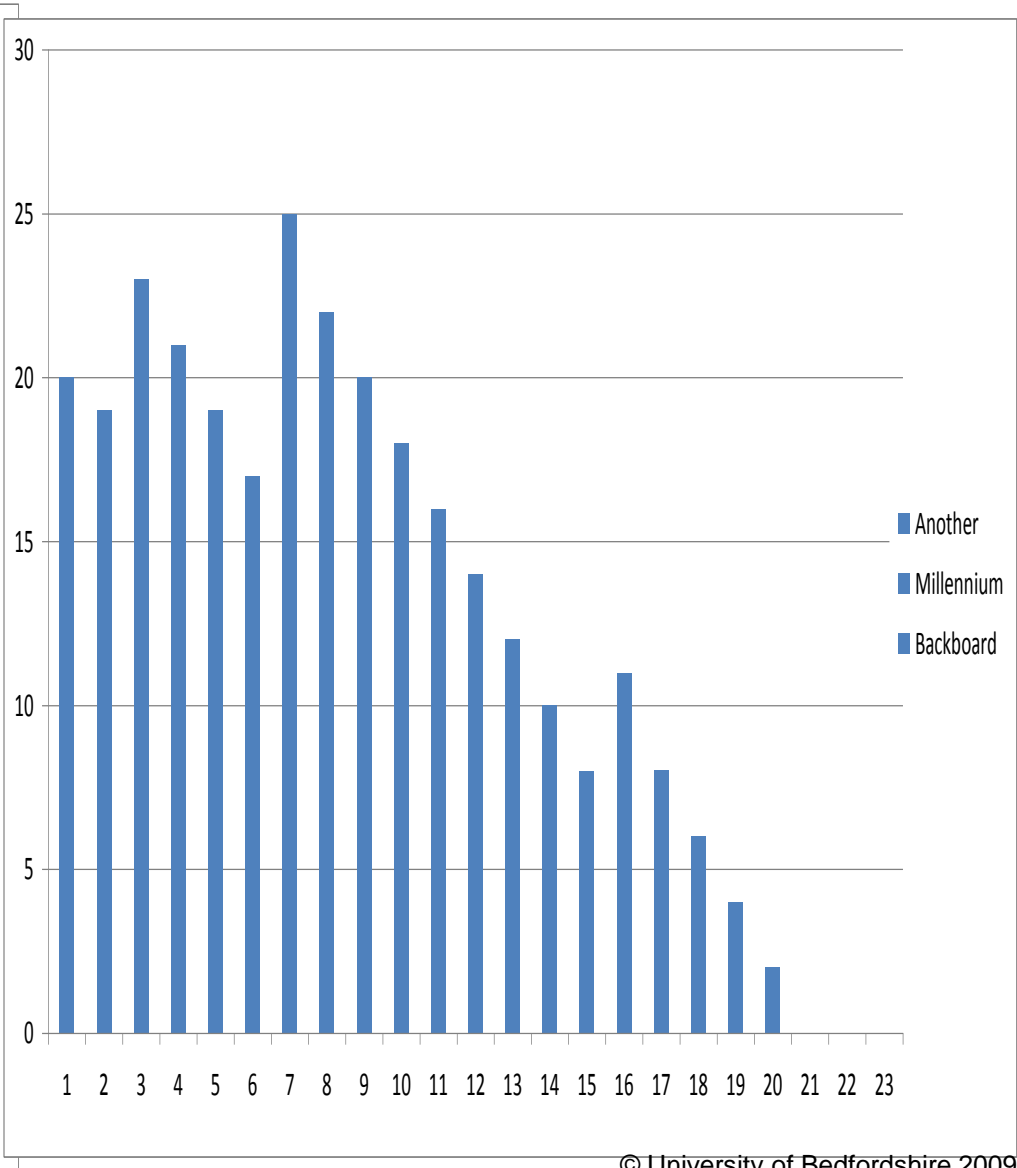
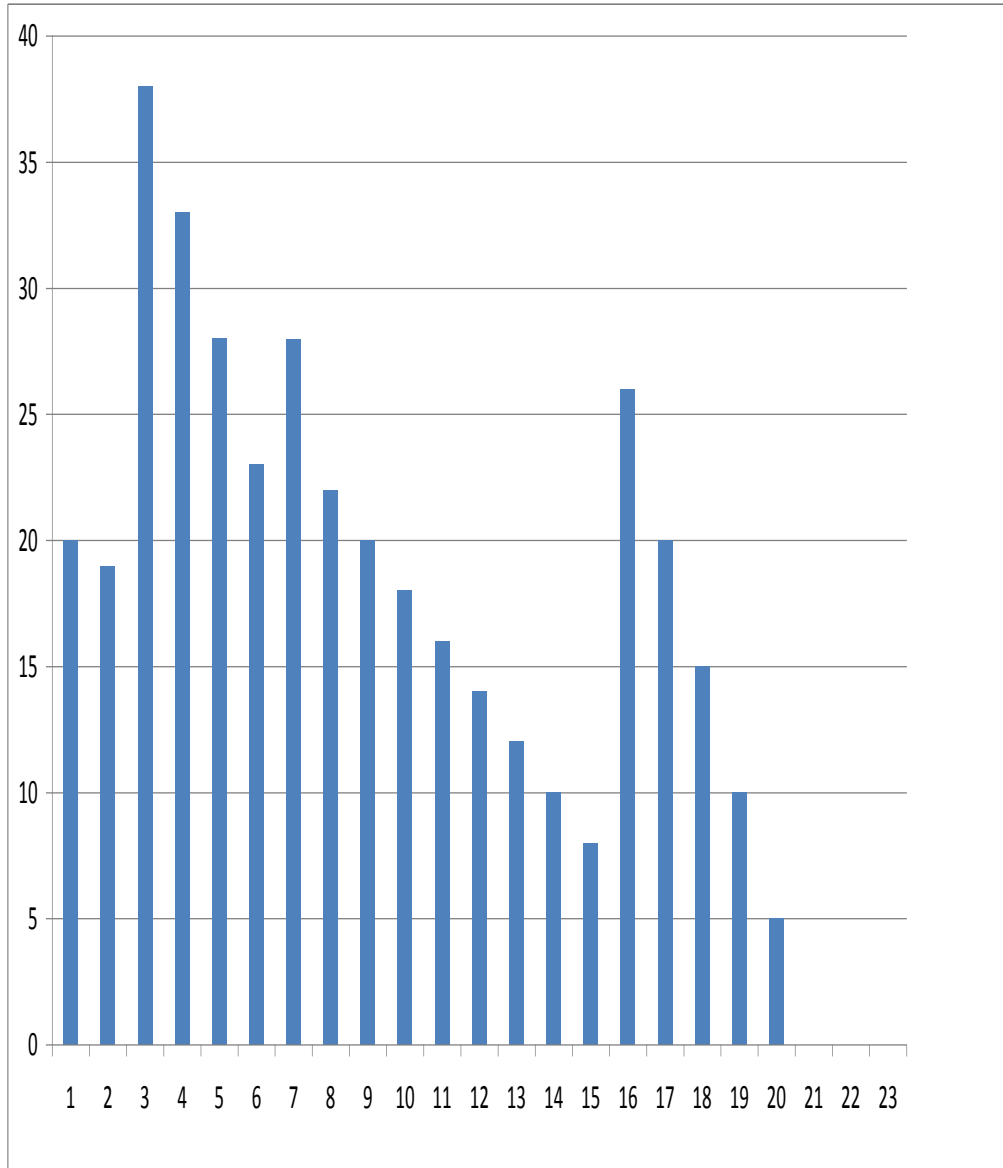
impact = 10 decay = 5
impact = 20 decay = 20



Library gate
Blackboard

impact = 5 decay = 5
impact = 20 decay = 20







Background process

- Impact and decay parameter values are set at course+year level
- Missing an event (example assignment submission) is set as a negative impact
- Every night a calculation is made for each individual student, so that we have a rolling 30 day window
- Comparison between courses will be meaningless unless they use the same parameter values
- However ... we do keep the original event data for future analysis and could be recalculated
- Note: Recalculation from raw data would take the system a long time so would not be an ad-hoc report

Schedule

- Proof of Concept – Nov 2008
- Main project started Apr 2009
- Data Capture started Sept 2009
- Live Nov 2009



| Student Number | Student Name | Disability | Personal Tutor | Year of Study | Mode of Attendance | Percentage Overall Score | Colour Indicator | Status | Progression Code | Home or OSeas |
|----------------|--------------|------------|----------------|---------------|--------------------|--------------------------|------------------|--------|------------------|---------------|
| | | | | 3 | PT | 10.47 | | C | REF | Home |
| | | | | 2 | FT | 0.00 | | NR | AWD | Home |
| | | | | 3 | FT | 9.53 | | C | PP | Home |
| | | | | 3 | FT | 8.09 | | C | PP | Home |
| | | | | 1 | FT | 0.00 | | NR | RY | Home |
| | | | | 2 | FT | 5.71 | | C | PR | Home |
| | | | | 3 | FT | 16.19 | | C | PP | Home |
| | | | | 2 | FT | 13.33 | | C | PP | Home |
| | | | | 1 | FT | 7.62 | | C | | Home |
| | | | | 1 | FT | 7.62 | | C | | Home |
| | | | | 1 | FT | 4.77 | | C | | Home |
| | | | | 1 | FT | 2.86 | | C | | Home |
| | | | | 3 | PT | 11.90 | | C | PP | Home |
| | | | | 3 | PT | 4.76 | | C | REF | Home |
| | | | | 3 | FT | 5.72 | | C | PP | Home |
| | | | | 3 | FT | 15.23 | | C | PP | Home |
| | | | | 3 | FT | 15.71 | | C | | Home |
| | | | | 3 | FT | 4.76 | | C | PP | Home |
| | | | | 3 | FT | 4.76 | | C | PP | Home |
| | | | | 2 | FT | 21.90 | | C | PP | Home |
| | | | | 1 | FT | 2.86 | | C | RY | Overseas |
| | | | | 2 | FT | 17.62 | | C | PP | Home |
| | | | | 2 | PT | 3.81 | | C | RY | Home |
| | | | | 1 | FT | 3.81 | | C | | Home |
| | | | | 2 | FT | 10.01 | | C | PP | Overseas |

Records 1 - 25

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Daily Student Engagement Matrix

Student Number
Student Name
Course Desc Computing and Information Systems 3 year degree
Route Desc BUSINESS INFORMATION SYSTEMS
Year of Study 2
Disability NO DISABILITY
Mode of Attendance FT
Status C
Progression Code PP
Home or Overseas Home

| Event | Daily Event Flag | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 08-02 | 07-02 | 06-02 | 05-02 | 04-02 | 03-02 | 02-02 | 01-02 | 31-01 | 30-01 | 29-01 | 28-01 | 27-01 | 26-01 | 25-01 | 24-01 | 23-01 | 22-01 | 21-01 | 20-01 | 19-01 | 18-01 | 17-01 | 16-01 | 15-01 | 14-01 | 13-01 | 12-01 | 11-01 | 10-01 |
| Ass rec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VLE | | █ | █ | █ | █ | █ | | | | | █ | █ | | █ | █ | █ | | █ | █ | | █ | | | | | █ | █ | █ | | █ |
| e:Vision | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Novell | | | | █ | █ | █ | █ | █ | | | █ | █ | | █ | █ | | | | █ | █ | | | | | | | | █ | | |
| Millennium | | | | | | | █ | | | | | | | | █ | | | | | | | █ | █ | | | | | | | █ |
| Exam | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Teaching | | | | | █ | | | | | | | | | █ | | | | | | █ | | | | | | | | | █ | |
| Teach area | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bus. Pod | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Library | | | | █ | | █ | █ | | | | █ | | | █ | █ | | | | | █ | █ | █ | █ | | | | | | █ | █ |
| Butt field | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Comm. room | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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[Student Engagement](#)

[Single Student](#)

Student Contact Details

| Image | Student Number | Surname | Forename | Preferred Name | Personal Email | UoB Email | Telephone 1 | Telephone 2 |
|---|----------------|---------|----------|----------------|----------------|-----------|-------------|-------------|
|  | | | | | | | | |

Student Home Address

| Student Number | Surname | Forename | Preferred Name | Home Address 1 | Home Address 2 | Home Address 3 | Home Address 4 | Home Address 5 | Home Post Code |
|----------------|---------|----------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | | | | STREET | | | | | |

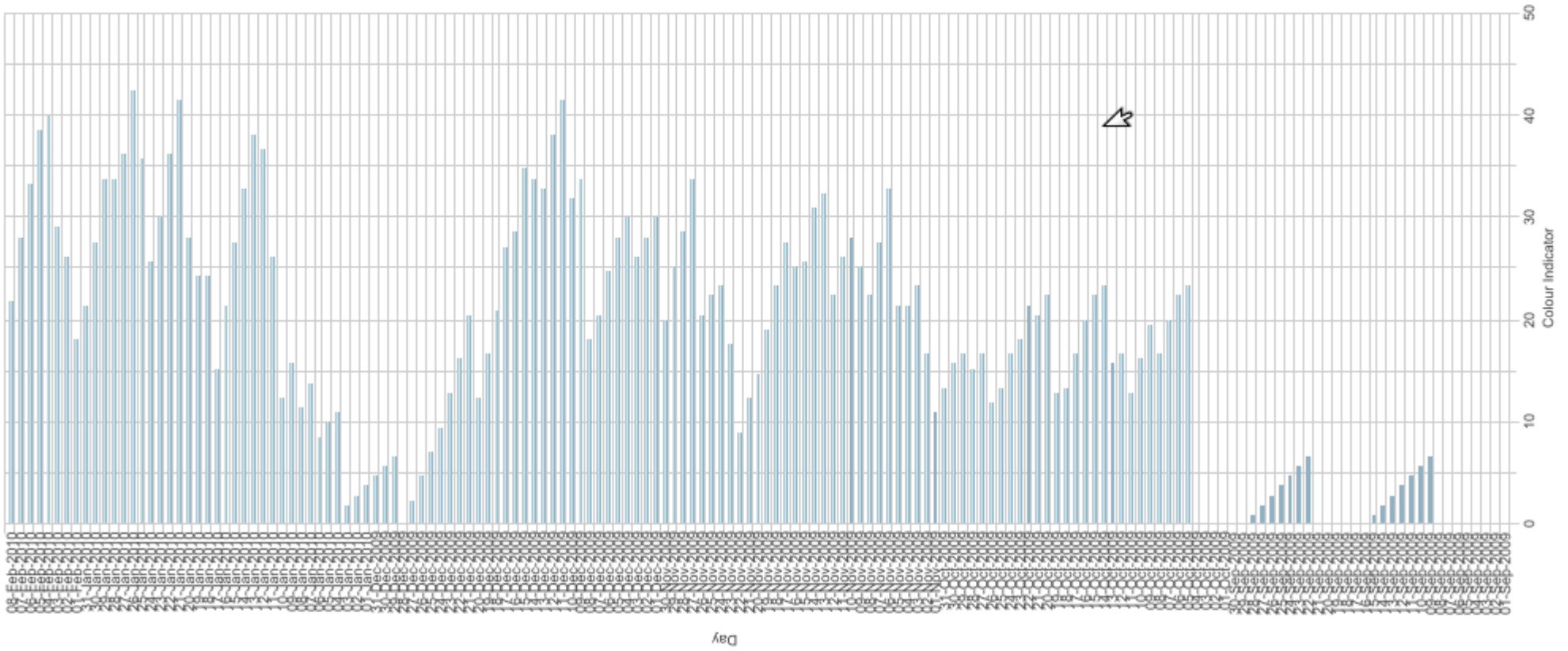
Student Local Address

| Student Number | Local Address 1 | Local Address 2 | Local Address 3 | Local Address 4 | Local Address 5 | Local Post Code |
|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | | | | | | |

Student Modules

| Student Number | Student Name | Field | Module Code | Assignment | Module Tutor | Module Credit |
|----------------|--------------|---------------------------------|-------------|--------------|--------------|---------------|
| | | Business Systems | BSS001-2 | BSS001-2-001 | VONG | 30.00 |
| | | | | BSS001-2-002 | VONG | 30.00 |
| | | | | BSS001-2-003 | VONG | 30.00 |
| | | | CIS007-2 | CIS007-2-001 | NBESSIS | 30.00 |
| | | | | CIS007-2-002 | NBESSIS | 30.00 |
| | | Computing & Information Systems | CIS015-2 | CIS015-2-001 | AMANSOUR | 30.00 |
| | | | | CIS015-2-002 | AMANSOUR | 30.00 |
| | | | | CIS020-2-001 | NBESSIS | 30.00 |
| | | | CIS020-2 | CIS020-2-002 | NBESSIS | 30.00 |





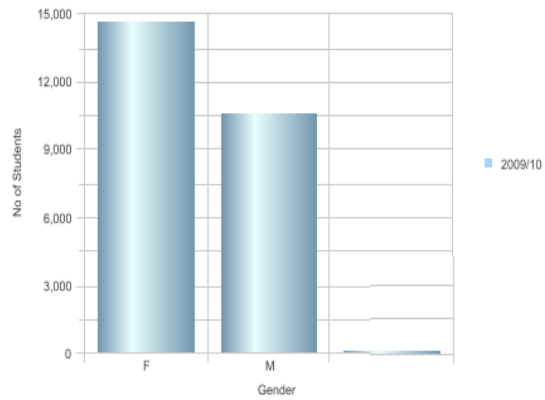
| | | |
|-------------|-------|--|
| 17-Dec-2009 | 27.14 | |
| 16-Dec-2009 | 28.57 | |
| 15-Dec-2009 | 34.76 | |
| 14-Dec-2009 | 33.81 | |
| 13-Dec-2009 | 32.85 | |
| 12-Dec-2009 | 38.09 | |
| 11-Dec-2009 | 41.43 | |
| 10-Dec-2009 | 31.91 | |
| 09-Dec-2009 | 33.81 | |
| 08-Dec-2009 | 18.09 | |
| 07-Dec-2009 | 20.47 | |
| 06-Dec-2009 | 24.77 | |
| 05-Dec-2009 | 28.09 | |
| 04-Dec-2009 | 30.00 | |
| 03-Dec-2009 | 26.19 | |
| 02-Dec-2009 | 28.09 | |
| 01-Dec-2009 | 30.00 | |
| 30-Nov-2009 | 20.00 | |
| 29-Nov-2009 | 25.24 | |
| 28-Nov-2009 | 28.57 | |
| 27-Nov-2009 | 33.81 | |
| 26-Nov-2009 | 20.47 | |
| 25-Nov-2009 | 22.38 | |
| 24-Nov-2009 | 23.33 | |
| 23-Nov-2009 | 17.62 | |
| 22-Nov-2009 | 9.05 | |
| 21-Nov-2009 | 12.39 | |
| 20-Nov-2009 | 14.76 | |
| 19-Nov-2009 | 19.05 | |
| 18-Nov-2009 | 23.33 | |
| 17-Nov-2009 | 27.62 | |
| 16-Nov-2009 | 25.24 | |
| 15-Nov-2009 | 25.72 | |
| 14-Nov-2009 | 30.95 | |
| 13-Nov-2009 | 32.38 | |
| 12-Nov-2009 | 22.38 | |
| 11-Nov-2009 | 26.19 | |
| 10-Nov-2009 | 28.09 | |
| 09-Nov-2009 | 25.24 | |
| 08-Nov-2009 | 22.38 | |
| 07-Nov-2009 | 27.62 | |
| 06-Nov-2009 | 32.85 | |
| 05-Nov-2009 | 21.43 | |
| 04-Nov-2009 | 21.43 | |
| 03-Nov-2009 | 23.33 | |
| 02-Nov-2009 | 16.67 | |
| 01-Nov-2009 | 10.95 | |
| 31-Oct-2009 | 13.33 | |
| 30-Oct-2009 | 15.71 | |
| 29-Oct-2009 | 16.67 | |
| 28-Oct-2009 | 15.24 | |
| 27-Oct-2009 | 16.67 | |
| 26-Oct-2009 | 11.91 | |
| 25-Oct-2009 | 13.33 | |
| 24-Oct-2009 | 16.67 | |

Student Engagement

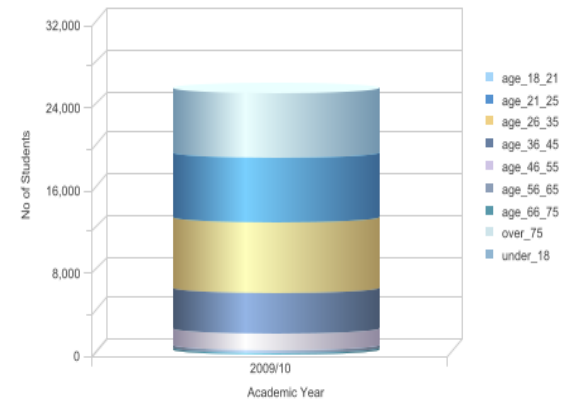
- Student Profiles
- Modified Student Profiles
- Students by Personal Tutor
- Single Student
- Student History
- Student Analysis

Gender breakdown

| Gender | No of Students 2009/10 |
|--------------------|------------------------|
| F | 14669 |
| M | 10599 |
| | 104 |
| Grand Total | 25372 |



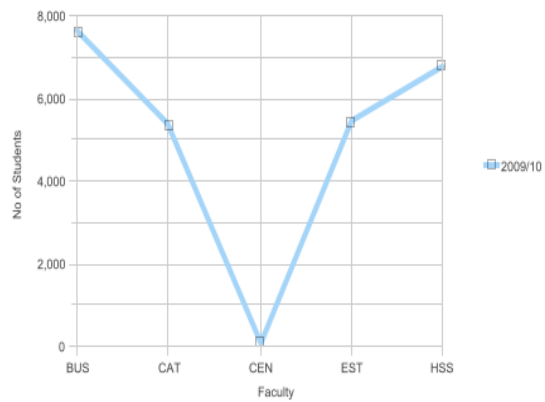
Age Band Analysis



| Age Band | No of Students 2009/10 |
|--------------------|------------------------|
| age_18_21 | 6325 |
| age_21_25 | 6184 |
| age_26_35 | 6828 |
| age_36_45 | 4006 |
| age_46_55 | 1636 |
| age_56_65 | 315 |
| age_66_75 | 22 |
| over_75 | 17 |
| under_18 | 39 |
| Grand Total | 25372 |

No of students by faculty

| Faculty | No of Students 2009/10 |
|--------------------|------------------------|
| BUS | 7622 |
| CAT | 5383 |
| CEN | 107 |
| EST | 5447 |
| HSS | 6813 |
| Grand Total | 25372 |



What's not in

- Fee payment
 - There is already an established process for fee collection
 - Fees aren't always in the control of the student
 - If sanctions are applied, this would result in reduced activity as system access inhibited

Does it meet requirements?

| Requirement | Response |
|---|---|
| We need a way of identifying students who are starting to disengage | We can see a drop in engagement 'score', and by comparative assessment against peer within a cohort, assess relative risk |
| So we can talk to them and help them get back on track before it is too late | We explicitly do not automate contact with the student – this is about the personal touch. The system identifies a risk, and there is a subsequent process for personal tutors to make contact. |
| But we don't want to add to any administration | We don't require any data input except for setting up parameter values. We will reduce administration by automating some reports currently provided manually. |
| And we think it has something to with things like logging in to BREO and the network. | We use this as an input |
| ...and not handing in assignments | There is a class of "missed event" which is used for late assignments but could also be used for other critical events. |
| ... and attending lectures | We capture this where our attendance monitoring is used |
| ...and going to the library | Both the entrance gate and the Library system |
| ... and some of these things are more important than others | Impact parameter can be set at different level for each event type |
| ... and what happened a few days ago is less relevant than what happened yesterday | The decay parameter controls this |

Does it meet requirements?

| Requirement | Response |
|--|--|
| Oh, and we don't know what a good engagement would look like | By using a comparative technique this doesn't matter as long as the comparison is within a cohort of students on the same course of study. |
| Except that his will be different to mine | That's fine – just tune the parameters to suit your course |
| Extensibility | To add an event type from a new system we just need a feed which supplies a student number and a date, then give that even an event id. The rest is automatic. |
| | |
| | |
| | |
| | |
| | |
| | |

Border Agency

- Policy agreed in principle
 - Slight addition to system:
 - Creation of interview record based on activity
- Easily extended

Take up

- Presentation to Heads; c 70 attendees
- Faculties active
- Licence limitation

The Future

- Adding a feed is extremely easy
 - Further reporting
 - Available to the individual?
-
- The power of BI - analysis of interaction patterns

Is Everyone Happy?







Thank you

Any Questions?