



Paris Dec 2015

# Jisc Learning Analytics

Michael Webb – Director of Technology and Analytics

## About Jisc...

## What we do

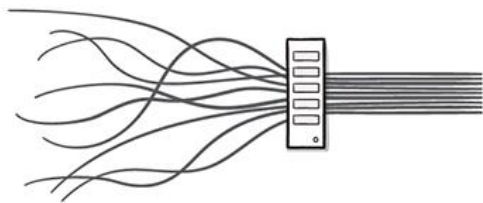
Jisc are the **national IT solution provider** for UK Universities and Colleges.

We:

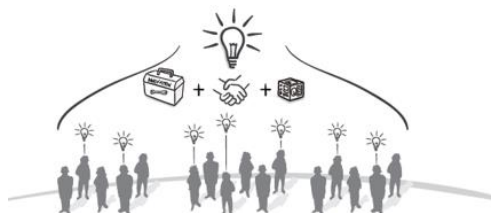
- Operate **shared digital infrastructure and services**
  - Negotiate **sector-wide** deals
  - Provide **trusted advice and practical assistance**
-

## Our co-design challenges

Research at risk (R@R)



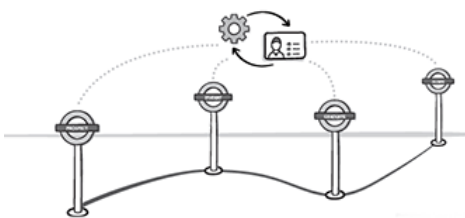
16-18 Digital Learning



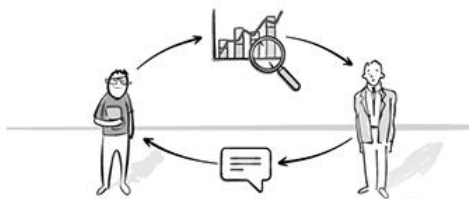
Digital learning & capabilities



Prospect to alumnus (P2A)



Learning analytics



Business intelligence



Hosting platform

Sign in with **Jisc**



Hosting platform

## About Learning Analytics...

# What are we aiming to do with **Learning Analytics**?

A new national service for the UK.

Apply **big data techniques** such as machine based learning and data mining to help learners and institutions **meet their goals**:

- » Improving retention (current project)
- » Improving achievement (current project)
- » Improving employability (current project)
- » Personalised learning (future project)

# Jisc's Learning Analytics Project

Three **core** strands:


Learning  
Analytics Service

Toolkit

Community

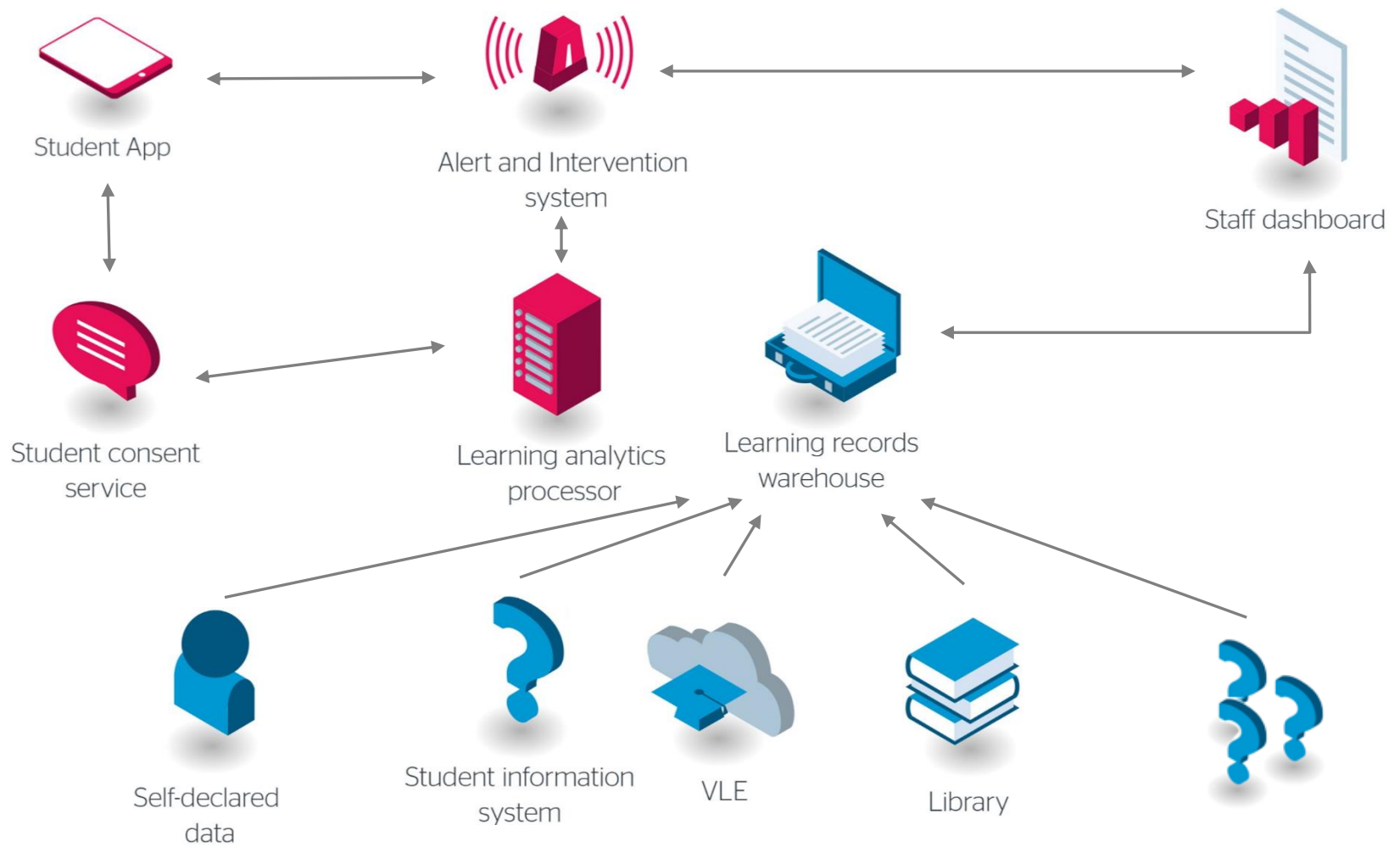
Jisc Learning Analytics

# Jisc's Learning Analytics Service Walkthrough

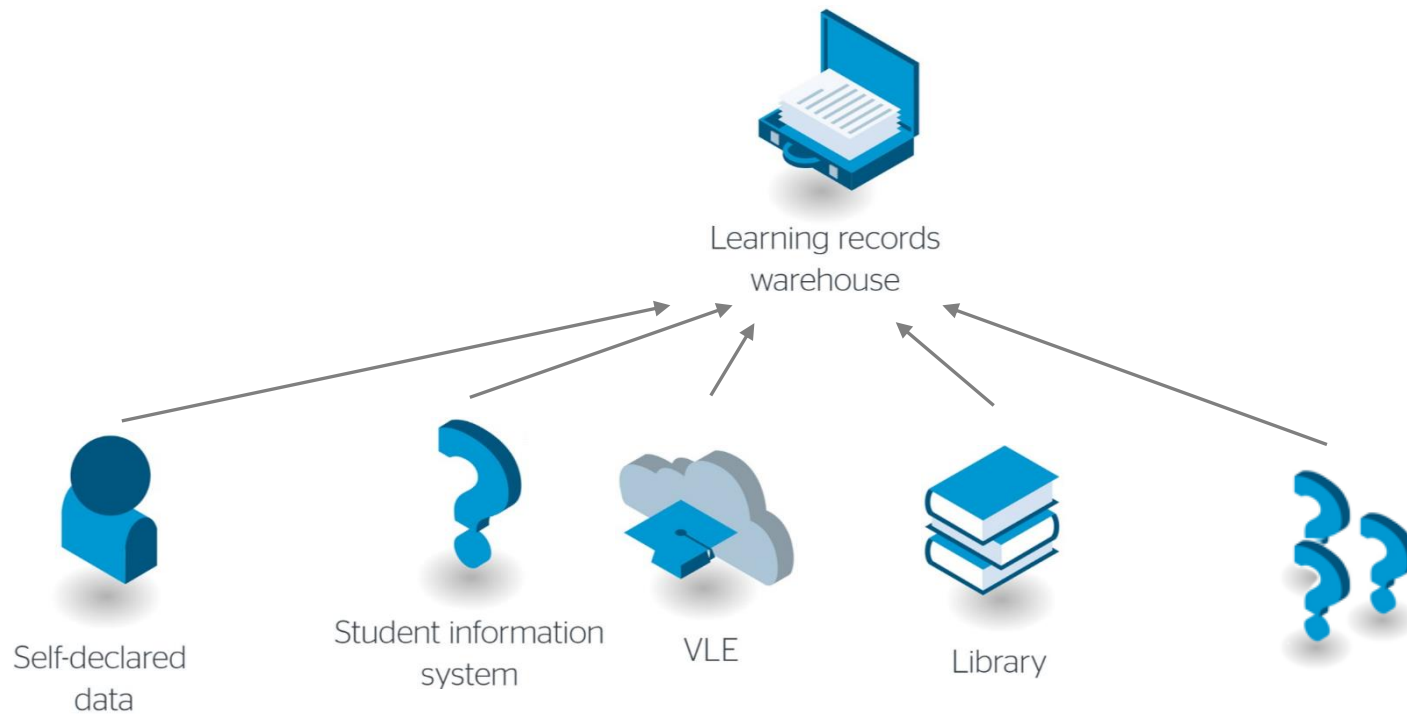


Learning  
Analytics Service





## Unique **Big Data** set for research/business intelligence



## Our project partners



Blackboard



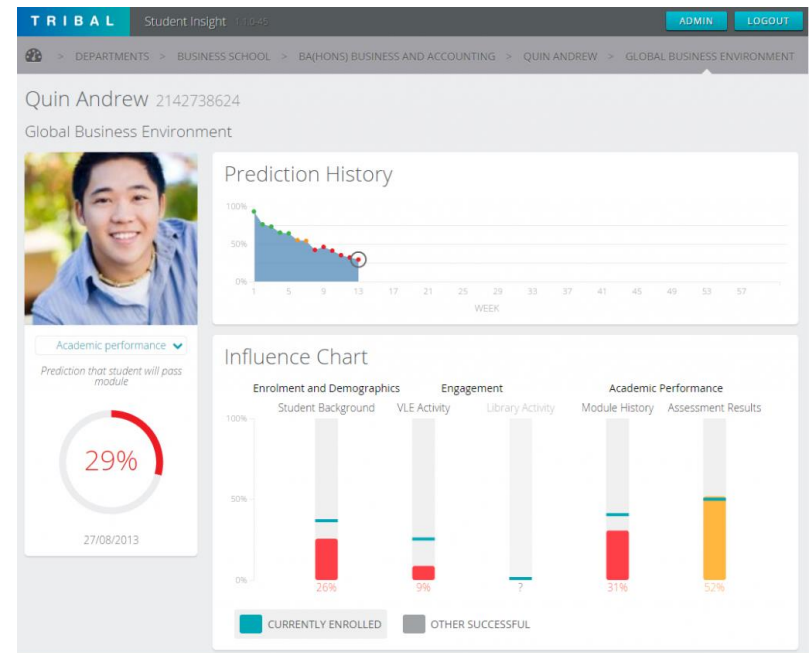
## A user perspective...

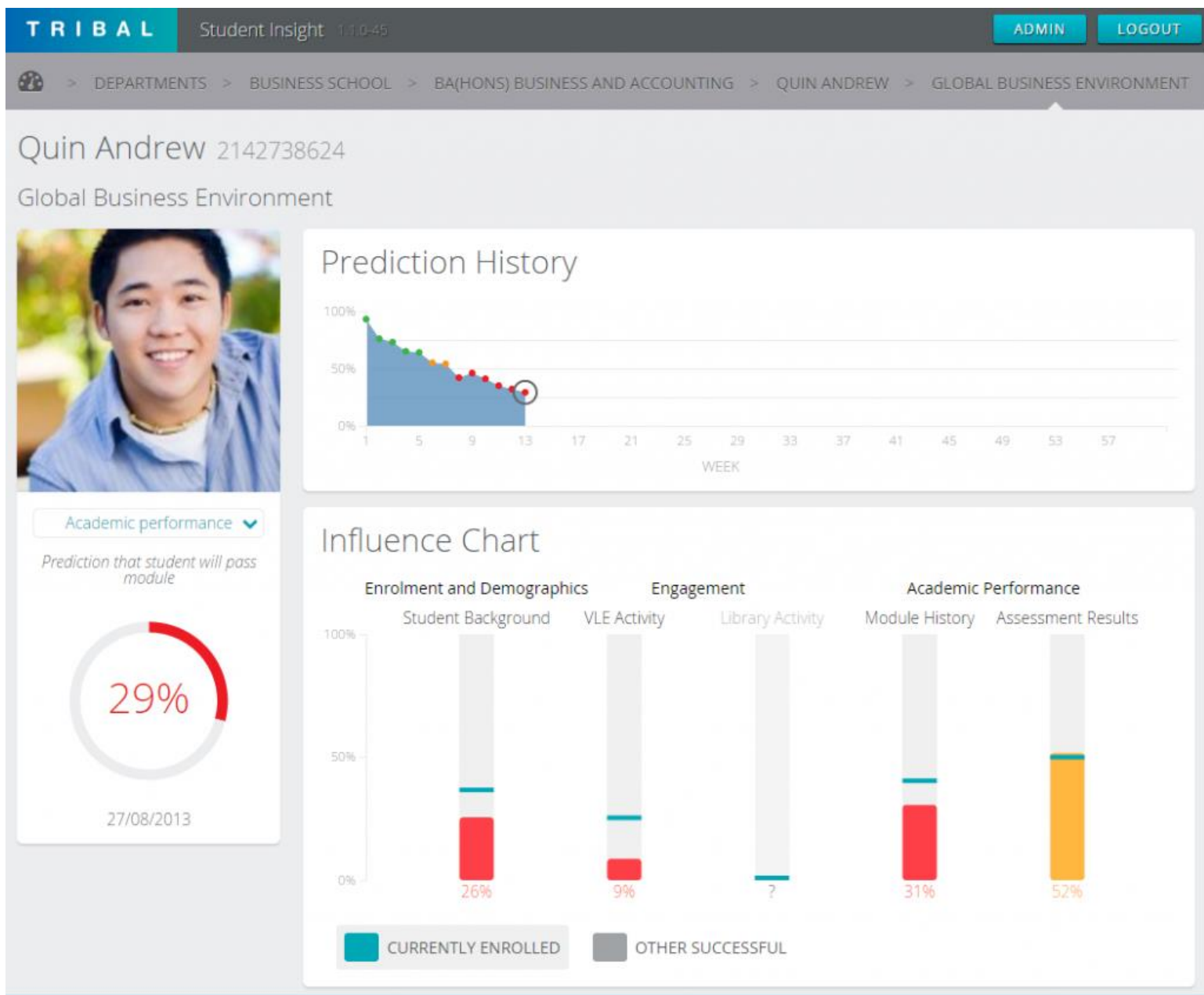
# Dashboards

Visual tools to allow lecturers, module leaders, senior staff and support staff to view:

- » Student engagement
- » Cohort comparisons
- » etc...

Based on either commercial tools from **Tribal** (Student Insight) or open source tools from **Unicon/Marist** (OpenDashBoard)



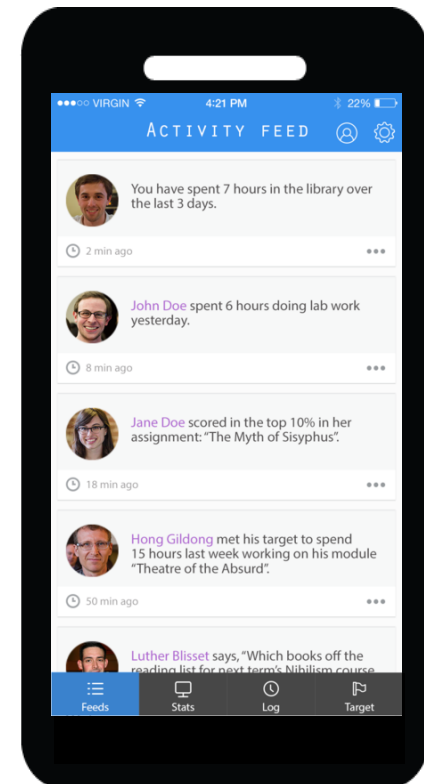


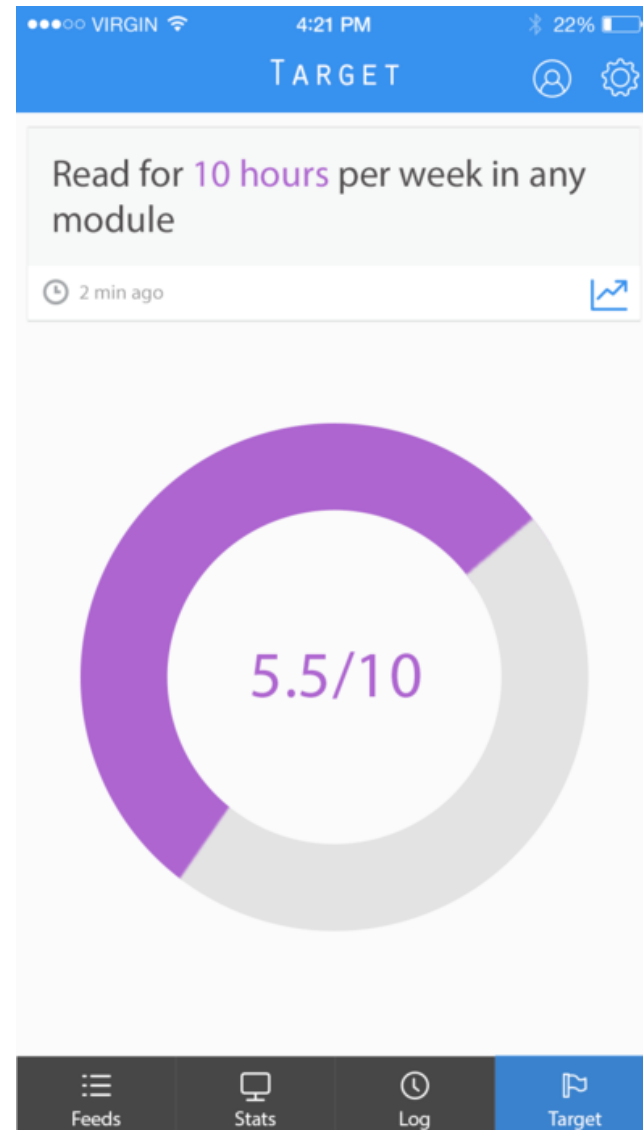
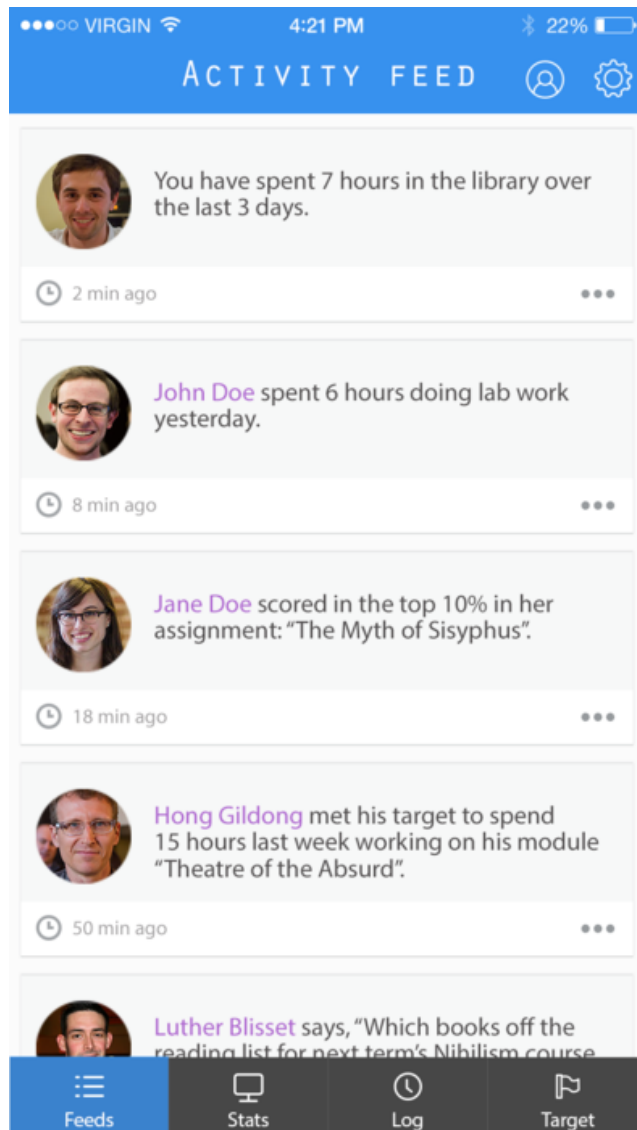
# Student App

First version will include:

- » Overall engagement
- » Comparisons
- » Self declared data
- » Consent management

Bespoke development by **Therapy Box**



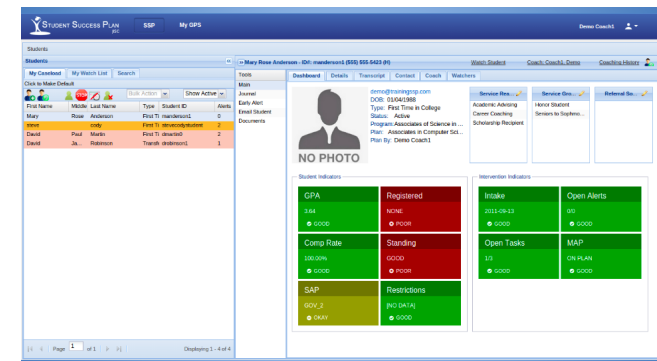




# Alert and Intervention System

Tools to allow management of interactions with students once risk has been identified:

- » Case management
- » Intervention management
- » Data fed back into model
- » etc...



Based on open source tools from **Unicon/Marist**  
(Student Success Plan)

 **SSP** My GPS Demo Coach1 

Students

Students

My Caseload My Watch List Search

Click to Make Default

Bulk Action Show Active

| First Name | Middle | Last Name | Type     | Student ID       | Alerts |
|------------|--------|-----------|----------|------------------|--------|
| Mary       | Rose   | Anderson  | First Ti | manderson1       | 0      |
| steve      |        | cody      | First Ti | stevecodystudent | 2      |
| David      | Paul   | Martin    | First Ti | dmartin0         | 2      |
| David      | Ja...  | Robinson  | Transf   | drobinson1       | 1      |

Tools

Main

Journal

Early Alert

Email Student

Documents

» Mary Rose Anderson - ID#: manderson1 (555) 555-5423 (H)

Watch Student Coach: Coach1, Demo Coaching History 

Dashboard Details Transcript Contact Coach Watchers

  
NO PHOTO

[demo@trainingsp.com](mailto:demo@trainingsp.com)  
DOB: 01/04/1988  
Type: First Time in College  
Status: Active  
Program: Associates of Science in ...  
Plan: Associates in Computer Sci...  
Plan By: Demo Coach1

Service Rea... 

Academic Advising  
Career Coaching  
Scholarship Recipient

Service Gro... 

Honor Student  
Seniors to Sophmo...

Referral So... 

Student Indicators

GPA  
3.64  
GOOD

Registered  
NONE  
POOR

Comp Rate  
100.00%  
GOOD

Standing  
GOOD  
POOR

SAP  
GOV\_2  
OKAY

Restrictions  
[NO DATA]  
GOOD

Intervention Indicators

Intake  
2011-09-13  
GOOD

Open Alerts  
0/0  
GOOD

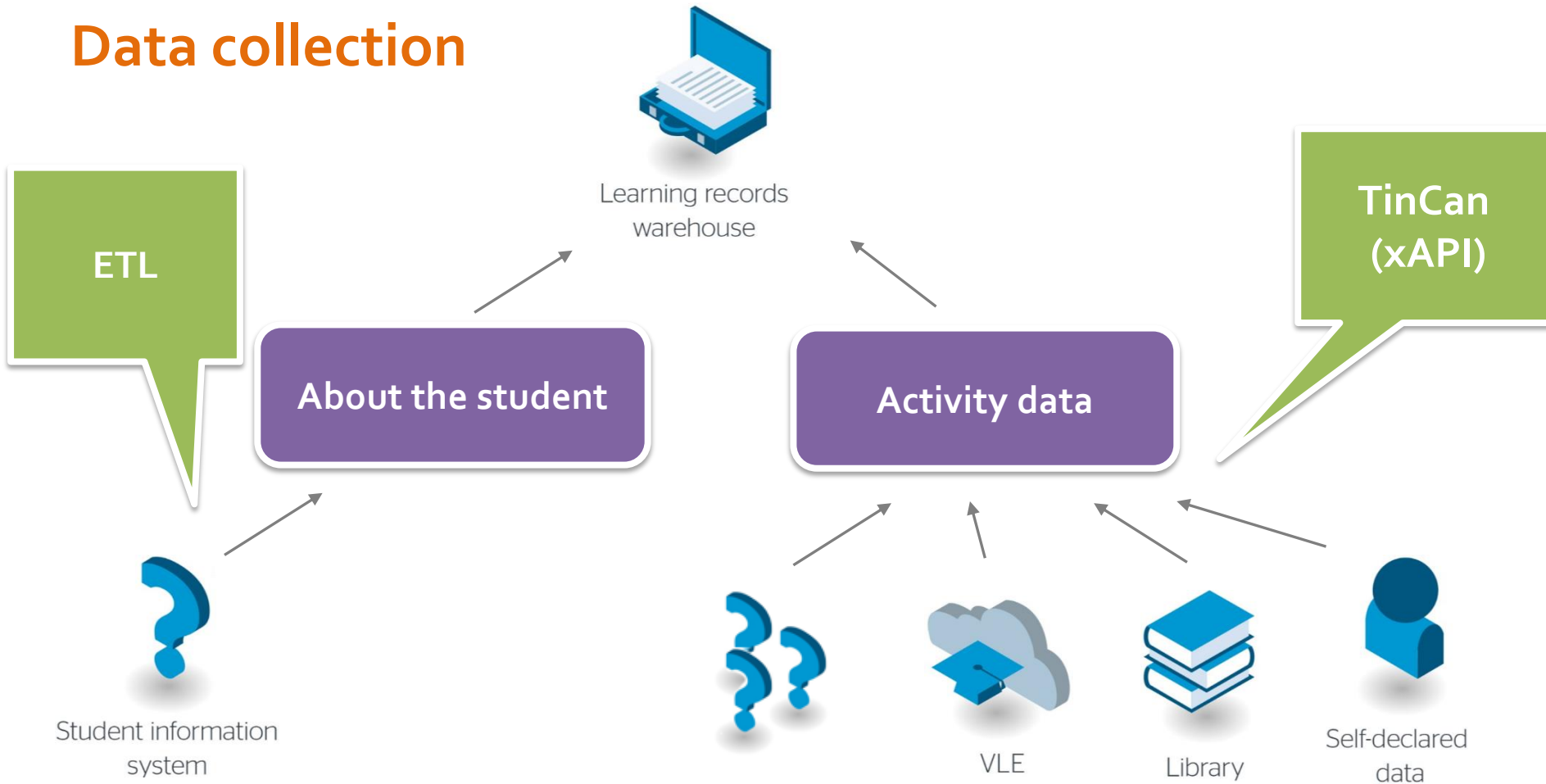
Open Tasks  
1/3  
GOOD

MAP  
ON PLAN  
GOOD

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**How's the data collected?**

## Data collection



# About the student data

## Personal (demographic) data

Birthdate, gender etc.

## Course data

mode of study, level etc.

## Grade data

Assignment, module etc.



(aligned with **UK Higher Education Statistics Agency** standard data set)

## Activity data via Tin Can API

- People learn from interactions with other people, content, and beyond.
- These actions can happen anywhere and signal an event where learning could occur.
- When an activity needs to be recorded, the application sends secure statements in the form of “Actor, verb, object” or “I did this” to the [Learning Record Store \(LRS.\)](https://lrs.jisc.ac.uk/)



from: <http://tincanapi.com/>

## Gartner Ed Tech Hype Cycle 2015

***Business Impact:*** The xAPI has the potential to have a very big impact, especially in terms of how we understand, analyze and act on student learning. It allows us to capture the full range of learning activities, no matter where they happen, which will allow us to design better learning experiences and take action to address learning problems.

(<http://www.gartner.com/document/3090218> )

## Activity Data (trivial!) examples

| Actor   | Action    | Object           | Result |
|---------|-----------|------------------|--------|
| Michael | Accessed  | VLE              |        |
| Kim     | Added     | Module Comment   |        |
| Sally   | Completed | Basic Maths Test | 85.0   |

<https://registry.tincanapi.com>



## 'Recipes' are key

- 'Recipes' are a shared way of describing activities..
- So the data from '**accessing a course**' is the same whether Moodle or Blackboard is used.
- The same holds for..
  - 'Attend a lecture'
  - 'Borrow a book'
  - ...



# Jisc Learning Analytics Toolkit

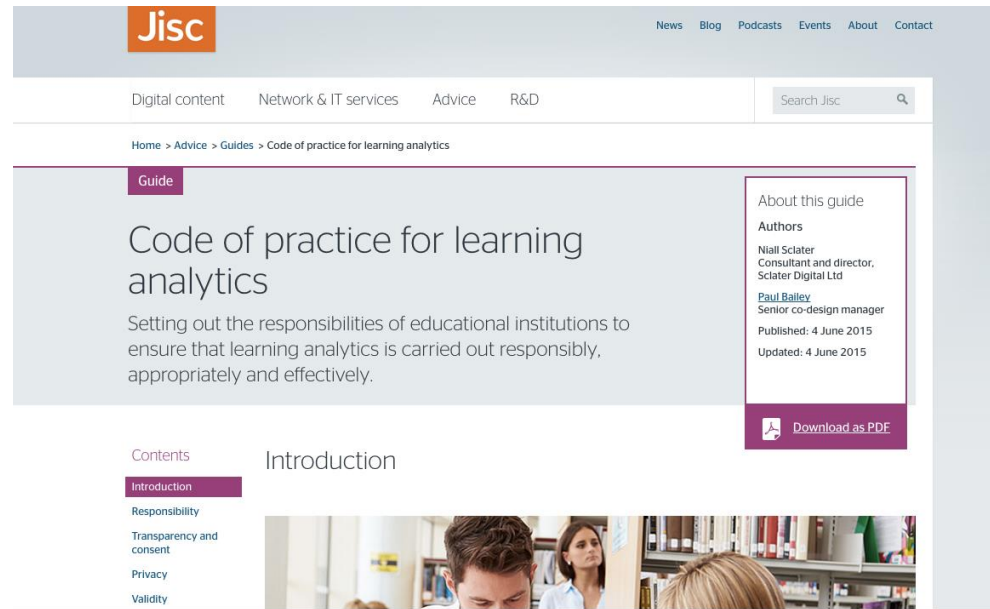


Toolkit

## Discovery ...

The **learning analytics discovery service** is a way of investigating your institution's **readiness** for learning analytics. The process will investigate strategic, technical, process and data readiness, providing recommendations for action before moving on to deploy a learning analytics solution.

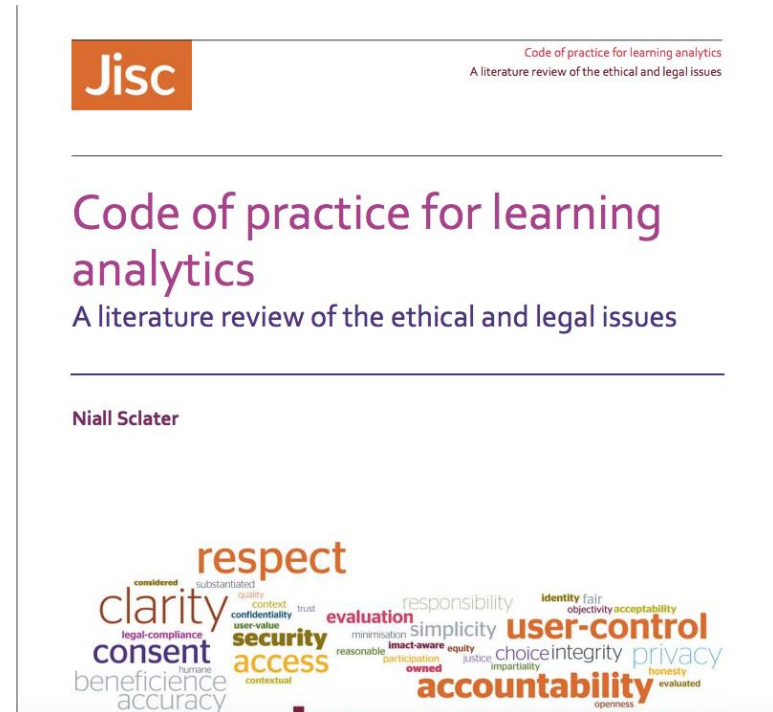
# Code of Practice



<http://www.jisc.ac.uk/guides/code-of-practice-for-learning-analytics>

## More detail

Literature review – basis  
for the code of practice



[http://repository.jisc.ac.uk/5661/1/Learning\\_Analytics\\_A-\\_Literature\\_Review.pdf](http://repository.jisc.ac.uk/5661/1/Learning_Analytics_A-_Literature_Review.pdf)

## Code of Practice

Privacy

Transparency and consent

Validity

Minimising adverse impacts

Access

Enabling positive  
interventions

Responsibility

# Community



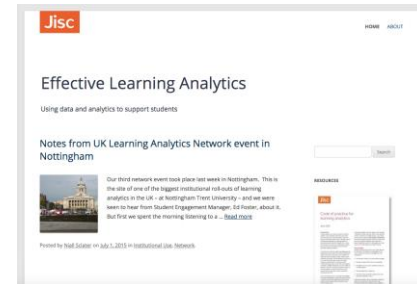
Community

# Project Blog, mailing list and network events

**Blog:** <http://analytics.jiscinvolve.org>

**Courses and Information:**  
<http://courses.alpha.jisc.ac.uk>

**Mailing:** [analytics@jiscmail.ac.uk](mailto:analytics@jiscmail.ac.uk)



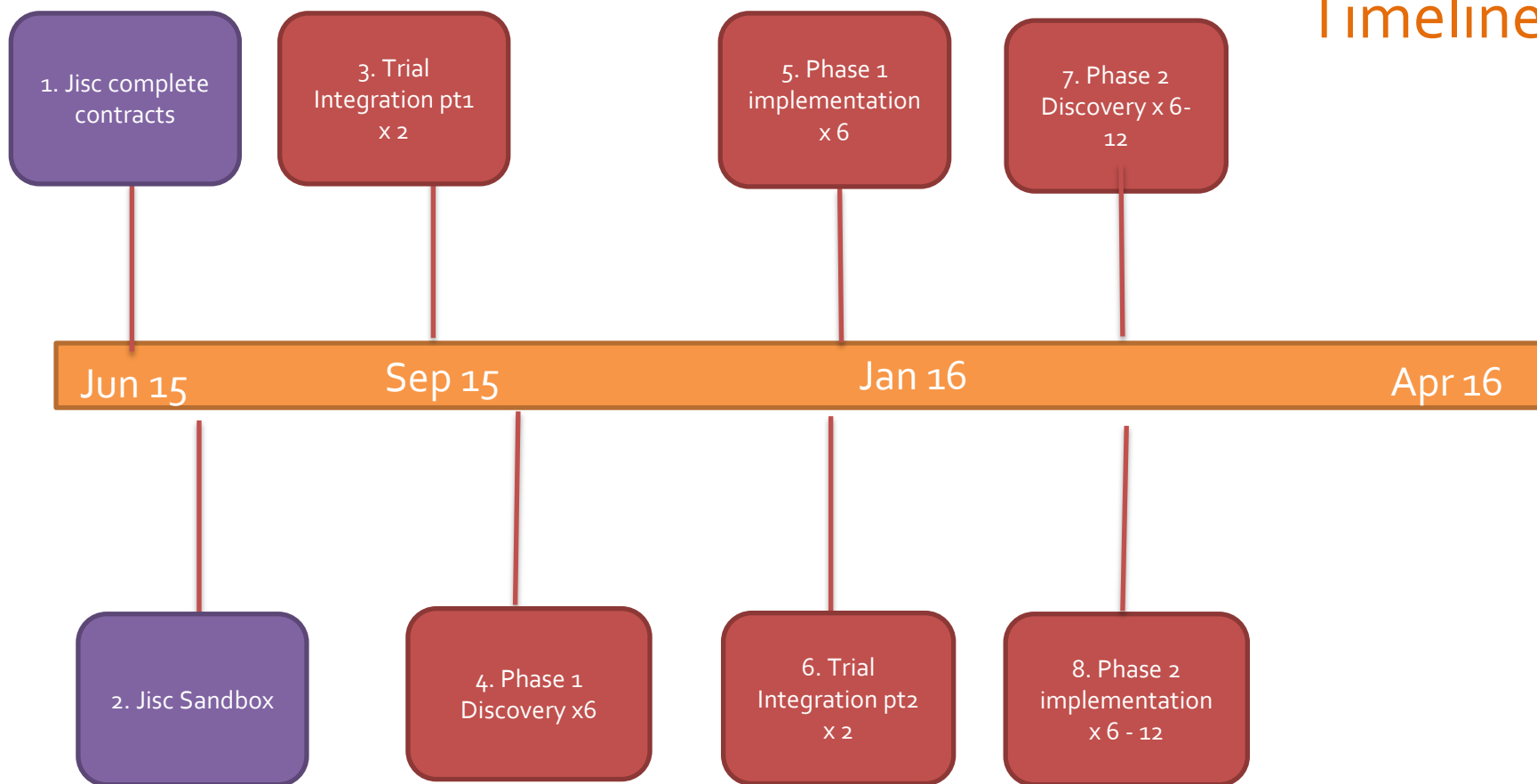


Project plan...



Toolkit

## Timeline



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