

★ **PARIS** ★  
**05.Feb.2019**  
#esupdays27  
#apereoparis19

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# USER CENTERED SERVICES AT THE UNIVERSITY OF EDINBURGH

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**UNIVERSITY OF  
EDINBURGH**  
41,000 STUDENTS  
14,700 STAFF  
3 COLLEGES  
20 SCHOOLS  
3 PROFESSIONAL GROUPS



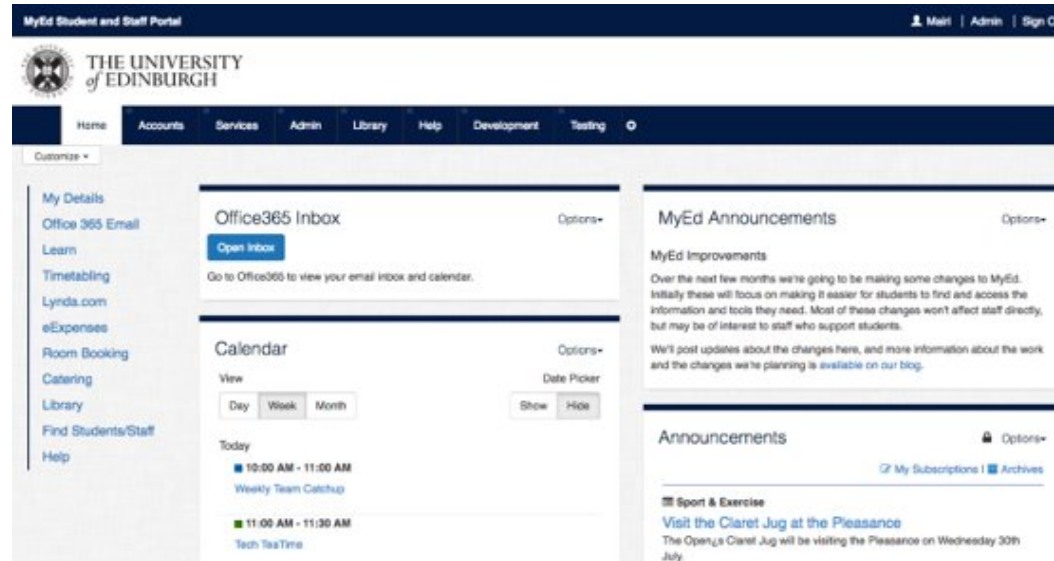
WHAT IS IT? ITS ASPIRATIONS?  
DECOUPLED FRONT END  
USER INSIGHTS; AND PROCESSES  
INFORMATION ARCHITECTURE AND UI  
FUTURE PROVISION

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# USER CENTERED PORTAL

## UPORTAL AT EDINBURGH

- ◆ 2003: We created MyEd, based on **uPortal 2.1.3**
- ◆ ...some upgrades happened
- ◆ 2017: We upgraded to **uPortal 4.3** with the **Respondr** theme
  - A new responsive design in line with University website



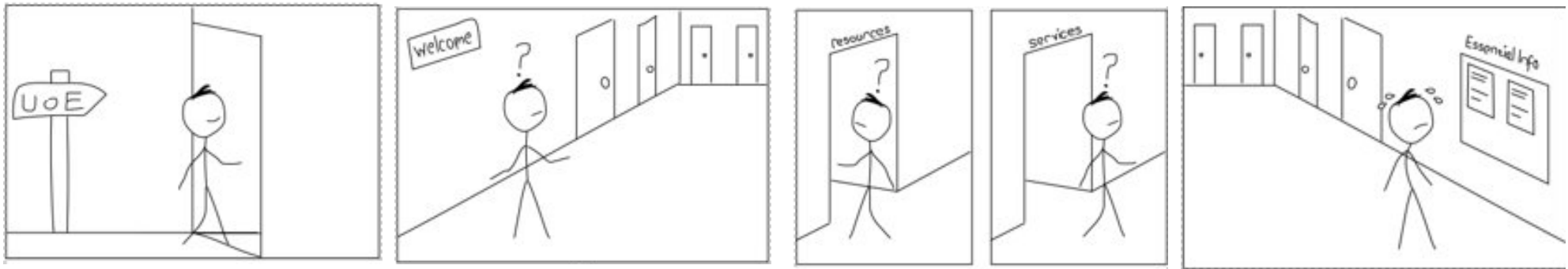
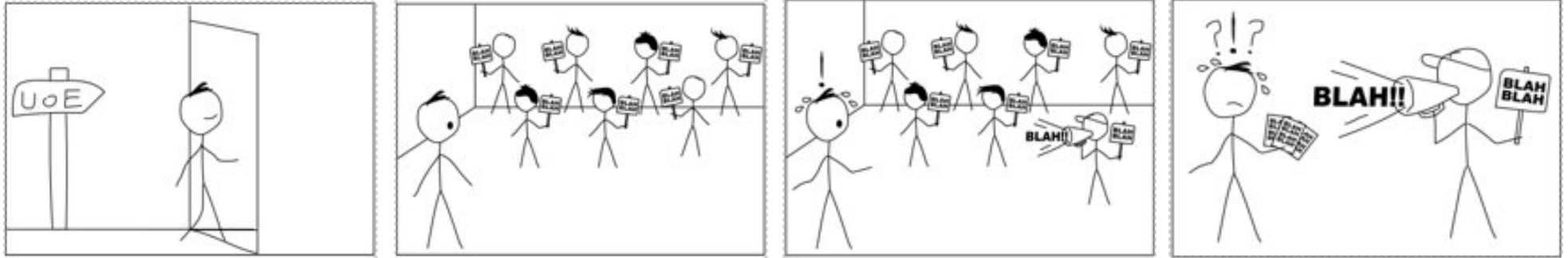
A DIGITAL EXPERIENCE WHICH  
MAKES THE USER FEEL THE  
UNIVERSITY'S ONLINE  
ENVIRONMENT IS CENTERED  
AROUND THEM

MyEd Vision

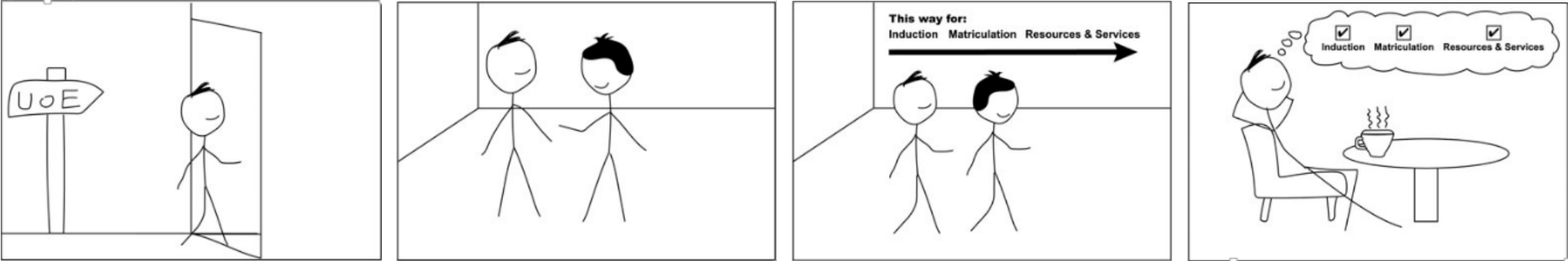
## WHAT WE KNOW – COMMENTS FROM STUDENTS

- ◆ “I can cope with MyEd but it took me a while to get used to it”
- ◆ “It’s very **disorganised**. It’s full of sections with unhelpful headings and most parts aren’t relevant”
- ◆ “The point is **not having all that information over you** when you search for something specific”
- ◆ “It’s been 3 years and **8 times out of 10 I click in the wrong place** in MyEd”

# CURRENT EXPERIENCE



# EXPERIENCE WE'RE WORKING TOWARDS





*PRESENT SERVICES, TASKS, AND  
CONTENT IN THE PORTAL  
ORGANIZED AROUND THE  
STUDENT'S (USER'S) PERSPECTIVE,  
NOT SYSTEMS OR DEPARTMENTS*

User Centered Portal – Proposal

## UCP CONCEPTS

- ◆ Task based

- Visually integrate elements from diverse systems related to a task

- ◆ Contextual content

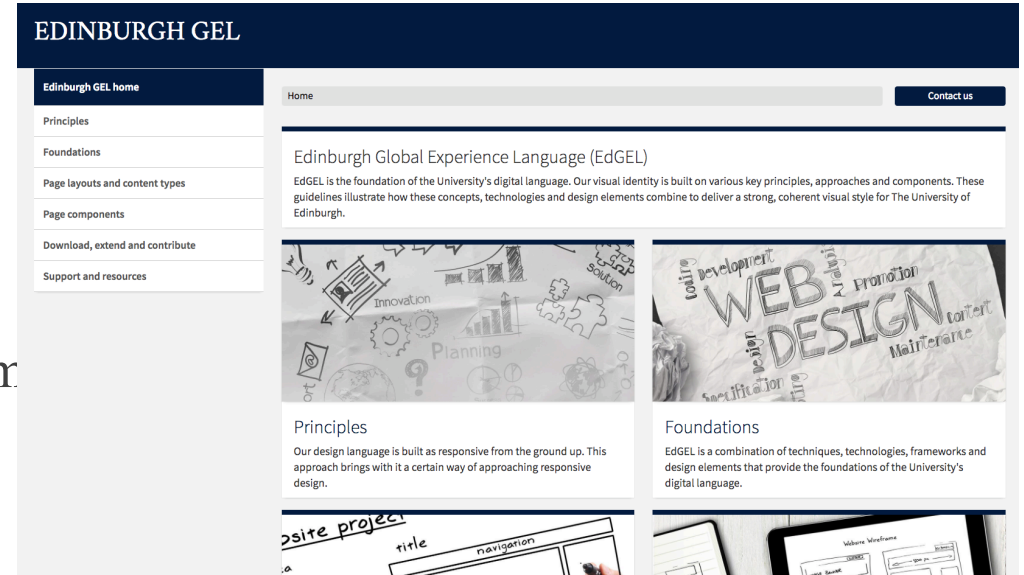
- Show users what they need when they need it

## FIRST STEPS

- ◆ Working towards uPortal5
- ◆ User Research
- ◆ Information Architecture (IA)
  - Content Audit
  - UI
  - Migration Plan

## CONSCIOUS DECOUPLING

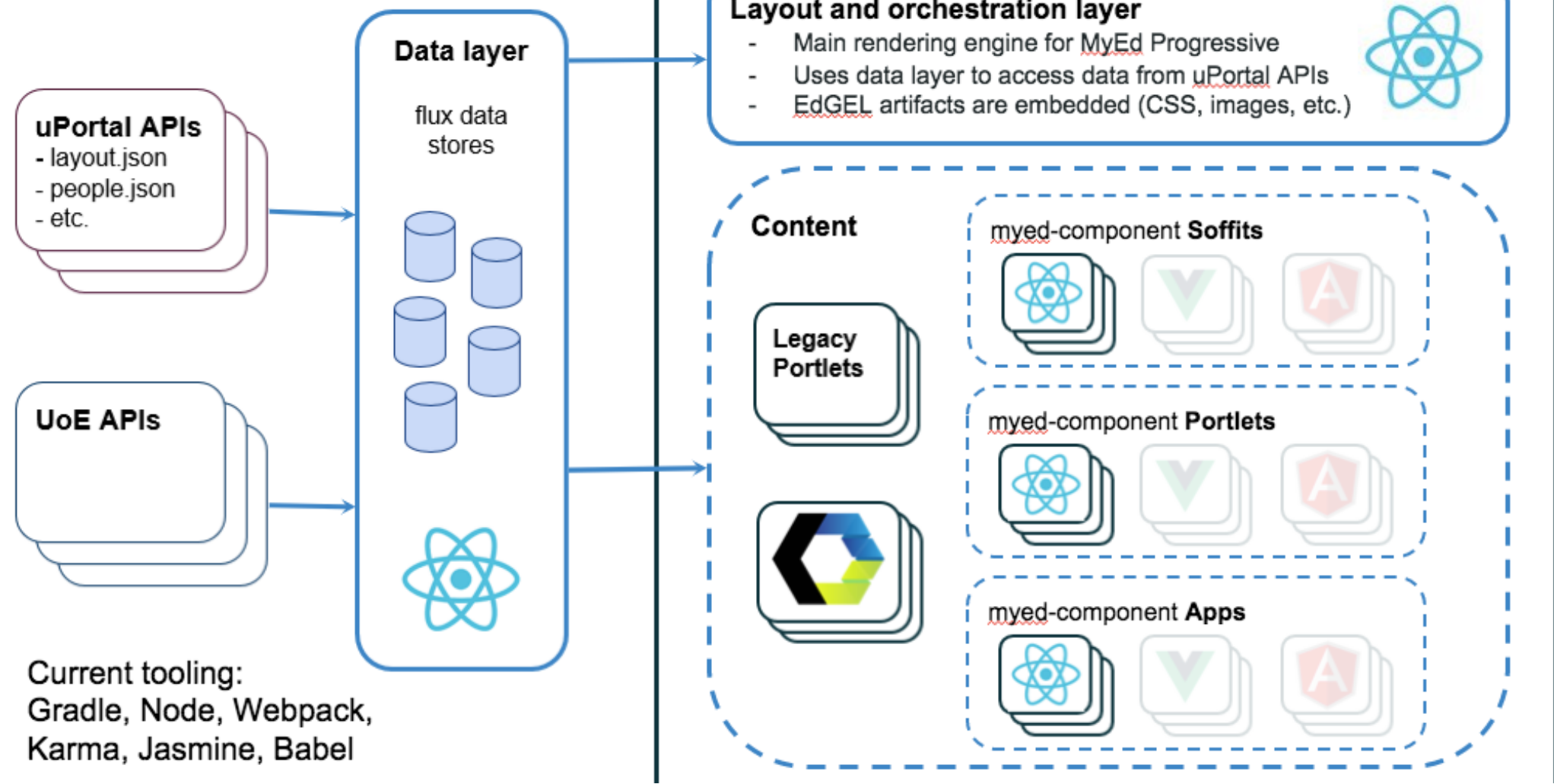
- ◆ Wider University context
  - Break down the monoliths
  - Improve consistency
- ◆ uPortal has powerful set of core sub-systems
  - Rendering engine is very complex
- ◆ We want to use **EdGel**
  - Edinburgh Global Experience Language
  - Provides consistent UI for University web applications and sites
  - Self contained, extensible Bootstrap-based distribution of CSS & JS
  - Not easy to integrate fully with uPortal skin



## OUR APPROACH

- ◆ Technical framework built to decouple the front-end from uPortal
  - But kept to use sub-systems
- ◆ React front-end – **MyEd Progressive**
  - Mobile First
  - **90%** of content accessed via MyEd Progressive
  - Validated top tasks for users
  - Mega menu for accessing tasks
  - Finding content
    - Favourites
    - Searching
  - You might like
    - Contextual data driven to user

# MyEd Progressive

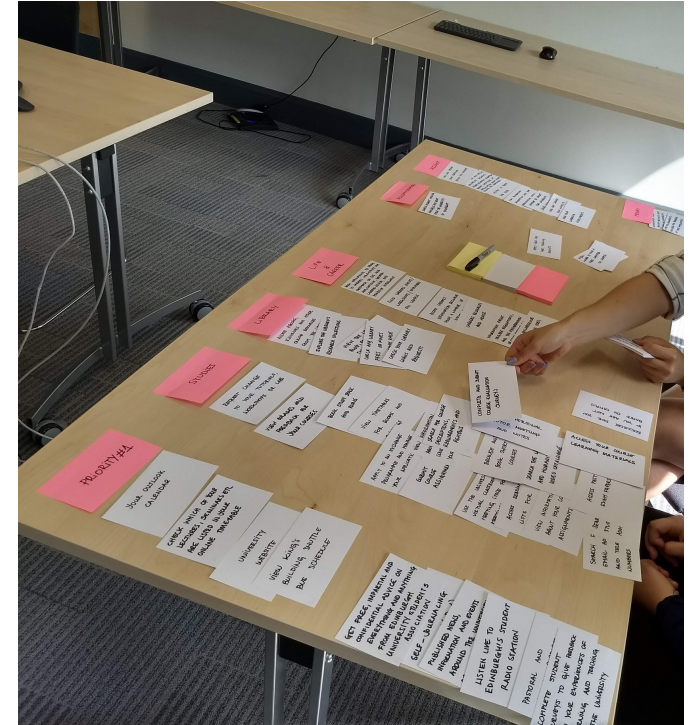
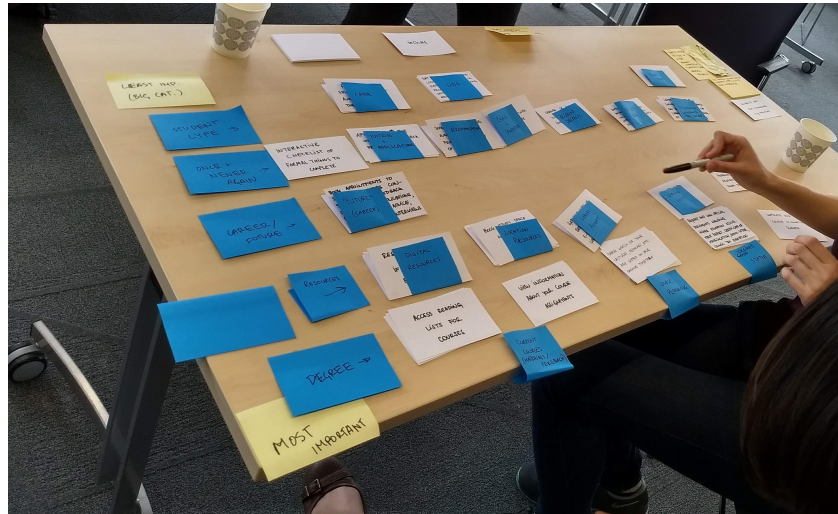


## PRESENTATION AND CONTENT

### ◆ User Research activities

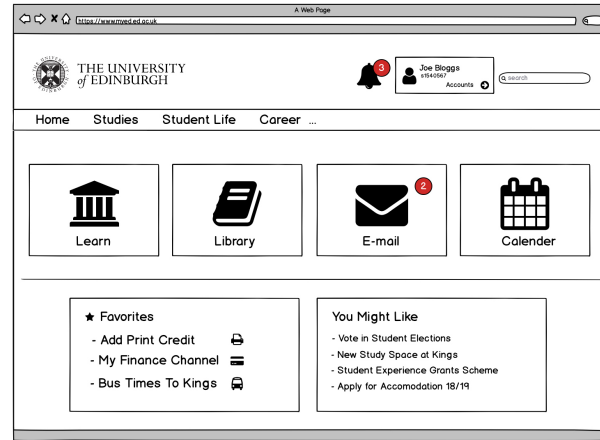
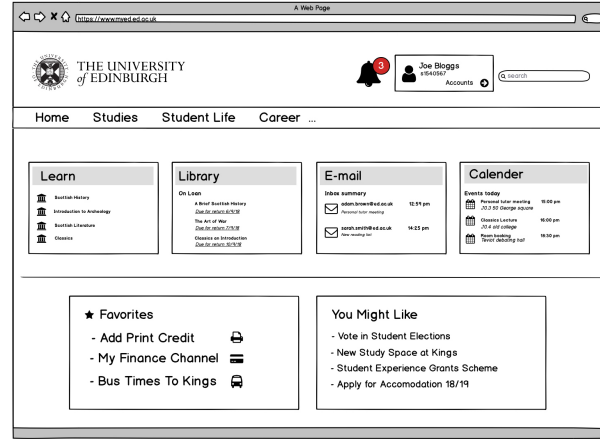
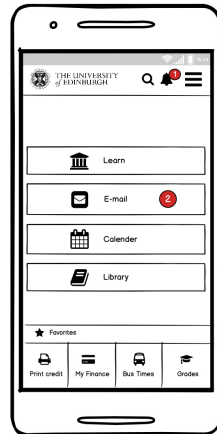
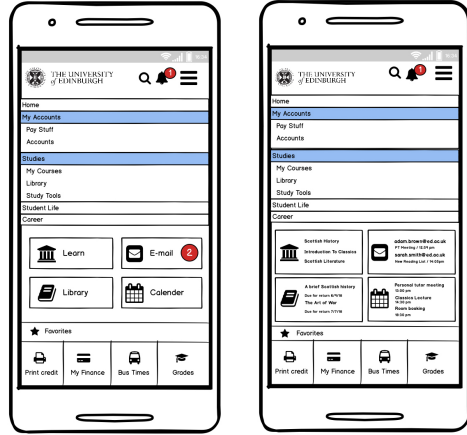
#### □ Physical open card sort activity

- Task based descriptions; not Services!!
- An emerging grouping of tasks and IA layout
- First iterative prototype based on new IA



# USER CENTERED PORTAL

## INITIAL PROTOTYPES





# USABILITY TESTING

- ◆ Usability testing on first prototype; testing:
  - A mobile first approach
  - Content display and interactions
  - 3 levels of content; based on preliminary card-sort analysis



Home

Studies ▾

Learning Resources

- > Learn
- > Moodle
- > Virtual Classroom
- > Study resources
- > Short courses
- > Past papers

Library

- > Library search
- > Library account
- > Research Collections

My courses

- > My courses
- > Timetables
- > Personal tutor
- > Course evaluation questionnaires
- > Tutorial/lab changes
- > Build your programme
- > Degree regulations

Study Spaces

- > Book study spaces and rooms
- > Find a computer
- > Distance Learning

The screenshot shows the 'MyEd Student and Staff Portal' interface. On the left is a sidebar with 'PAGES' and 'NOTES' sections. The main header includes the university logo and navigation tabs: Home, Studies (selected), Accounts, Student Life, and Careers. A search bar is present. A dropdown menu for 'Studies' is open, displaying a card-sort analysis with categories: Learning Resources, Library, My Courses, Study Spaces, and Distance learning. Each category contains a list of links. Below the dropdown, there are sections for 'Print Credit', 'King's Buildings Shuttle Bus', and 'Graduation' with star icons.

# VALIDATING INITIAL CARD SORT ACTIVITIES

## ◆ Closed sort task sort activity

- 1000+ responses
- Validating grouping of tasks and access to services and content
- Validating naming conventions

Overview Analysis Downloads Sharing

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Participants Questionnaire Cards Categories Standardization grid **Similarity matrix** Dendrograms PCA

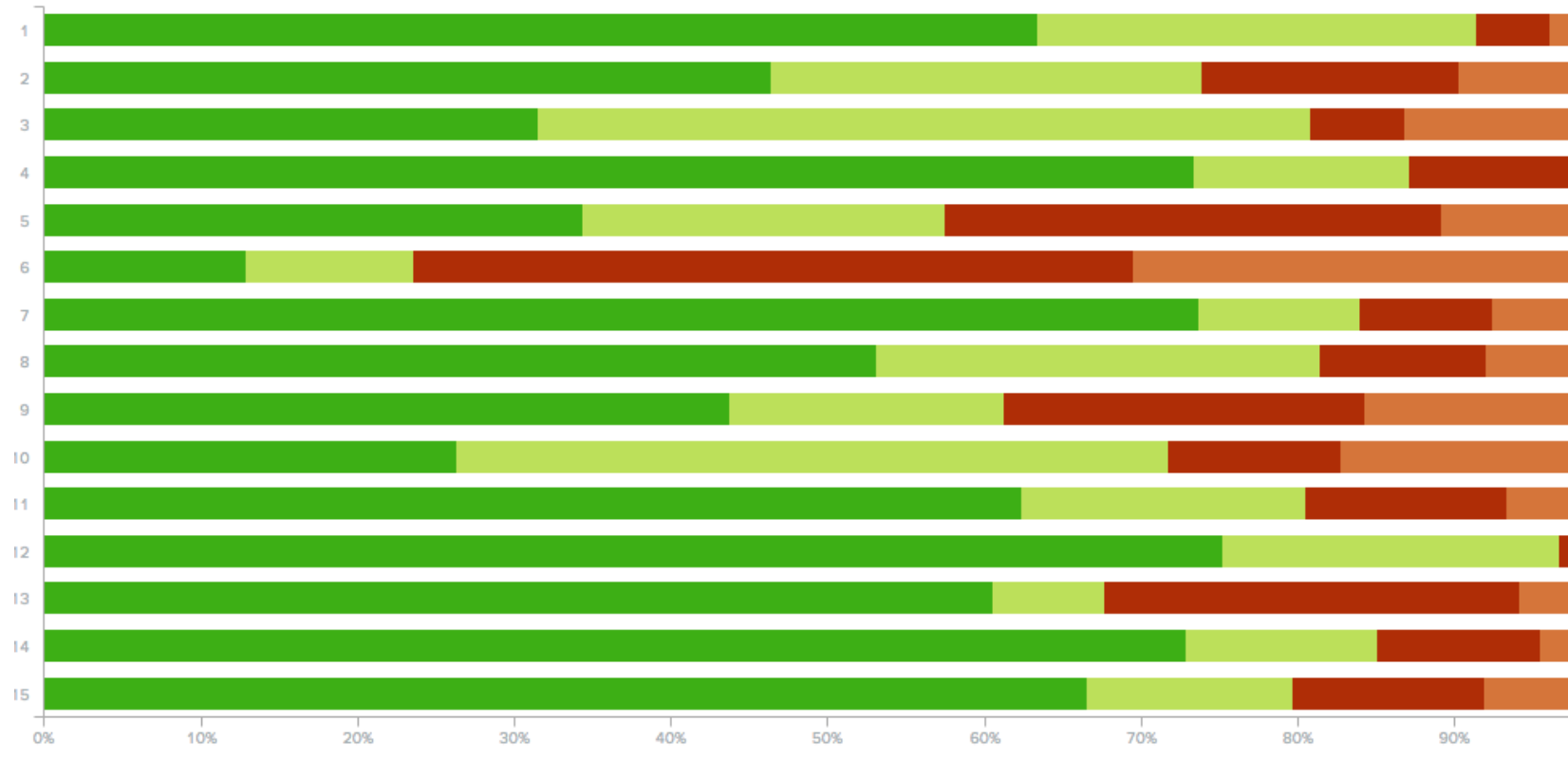
### Similarity matrix ?

Where to start: careers resources

|    |    |    |    |    |   |    |    |    |    |   |   |               |           |                |              |                 |                          |                   |
|----|----|----|----|----|---|----|----|----|----|---|---|---------------|-----------|----------------|--------------|-----------------|--------------------------|-------------------|
| 91 |    |    |    |    |   |    |    |    |    |   | What's on: careers  |               |           |                |              |                 |                          |                   |
| 91 | 89 |    |    |    |   |    |    |    |    |   | Search MyCareerHub for part-time jobs, vacation jobs, internships and graduate jobs |               |           |                |              |                 |                          |                   |
| 88 | 86 | 87 |    |    |   |    |    |    |    | My Career HUB   |   |               |           |                |              |                 |                          |                   |
| 89 | 88 | 88 | 85 |    |   |    |    |    |    | Book an appointment with a Careers consultant                           |   |               |           |                |              |                 |                          |                   |
| 89 | 89 | 88 | 84 | 87 |   |    |    |    |    | Access Careers Information resources from a number of different sources |   |               |           |                |              |                 |                          |                   |
| 11 | 12 | 12 | 12 | 11 | 9 |    |    |    |    |   | What's on: events and training  |               |           |                |              |                 |                          |                   |
| 2  | 3  | 3  | 2  | 3  | 1 | 52 |    |    |    |   | Events & Venues   |               |           |                |              |                 |                          |                   |
| 1  | 2  | 2  | 2  | 2  | 1 | 48 | 71 |    |    |   | EUSA events   |               |           |                |              |                 |                          |                   |
| 2  | 3  | 1  | 2  | 2  | 2 | 41 | 58 | 75 |    |   | EUSA  |               |           |                |              |                 |                          |                   |
| 1  | 2  | 2  | 1  | 2  | 0 | 42 | 60 | 71 | 64 |   |   | Student radio |           |                |              |                 |                          |                   |
| 1  | 2  | 2  | 2  | 2  | 1 | 44 | 63 | 66 | 60 | 65  |   |               | Elections |                |              |                 |                          |                   |
| 2  | 3  | 3  | 2  | 3  | 2 | 38 | 53 | 64 | 58 | 66  | 60  |               |           | The Chaplaincy |              |                 |                          |                   |
| 7  | 7  | 8  | 7  | 9  | 7 | 35 | 43 | 51 | 47 | 47  | 45  | 59            |           |                | Advice Place |                 |                          |                   |
| 3  | 2  | 3  | 2  | 4  | 3 | 28 | 38 | 43 | 38 | 45  | 39  | 56            | 53        |                |              | Student support |                          |                   |
| 1  | 1  | 2  | 1  | 2  | 1 | 23 | 26 | 28 | 27 | 32  | 26  | 40            | 41        | 49             |              |                 | Disability study support |                   |
| 1  | 1  | 2  | 2  | 3  | 1 | 32 | 42 | 45 | 40 | 46  | 46  | 52            | 45        | 48             | 37           |                 |                          | Health and safety |

# TREE TEST RESULTS; FINALISE MENU LAYOUT

by task



# CURRENT MYED PROGRESSIVE: POWERED BY REACT

The screenshot shows a user-centered portal interface. At the top is a dark blue navigation bar with white text and dropdown arrows for 'Home', 'Studies', 'Student Life', 'Accounts', and 'Careers'. Below this is a grid of four main content cards: 'Learn', 'Library', 'Mail', and 'Calendar'. Each card has a title, a 'Launch' button with an external link icon, and a brief description or list of items. The 'Learn' card lists several courses. The 'Library' card includes a search bar and a 'Library Account' summary showing loans, requests, and fines. The 'Mail' card has a 'Launch Office 365' button. The 'Calendar' card has a 'Launch Calendar' button. Below the grid are two more sections: 'Favourites' and 'You Might Like'. 'Favourites' lists 'Change and View PIN', 'Print Credit', and 'King's Buildings Shuttle Bus', each with a star icon. 'You Might Like' features 'Student Experience Grants' and 'Graduation', each with a star icon and a short description.

Home ▾ Studies ▾ Student Life ▾ Accounts ▾ Careers ▾

### Learn [Launch Learn](#)

**Course List**

Please note these are your current academic year's courses only. To see all courses please go to your My Learn tab within Learn.

- Accountancy 1a 2018-2019 Semester 1
- Foundations of Service Management 2018-2019 Semester 2
- Introduction to European Theatre 2018-2019
- Principles of Applied Animal Behaviour (2018-2019)(SS1-FLEX)
- Ross' test course

[Visit the IS Website if you need help with Learn](#)

### Library [Library Account](#)

Search the Library's collections for books, e-books, journal titles, journal articles, databases and more...

Search the Library's DiscoverED service

#### Library Account

Loans **3** Requests **1**

Fines/Fees **£2.00**

### Mail [Launch Office 365](#)

### Calendar [Launch Calendar](#)

### Favourites

- Change and View PIN ★
- Print Credit ★
- King's Buildings Shuttle Bus ★

### You Might Like

- Student Experience Grants ★  
Some text about Student Experience Grants. This is important because it gives students help and support.
- Graduation ★

# MYED MENU - MEGAMENU

The screenshot shows a dark blue navigation bar with dropdown menus for Home, Studies, Student Life, Accounts, and Careers. Below this is a large white megamenu area with several columns of links. On the left, there is a 'Learn' sidebar with a 'Course List' and a 'Visit the IS Website' button. The main megamenu columns are: 'Learn' (Launch Learn), 'Exams' (Locations, Timetable, Regulations), 'Learning Resources' (Self-learning videos Lynda.com, Virtual Classroom, Distance Learning, Pebble Pad, Moodle), 'Library' (Library Home, Research Collections, Research data Repository, Search the Library), and 'Distance Learning'. Below the megamenu are two sections: 'Favourites' with links for 'Change and View PIN', 'Print Credit', and 'King's Buildings Shuttle Bus'; and 'You Might Like' with cards for 'Student Experience Grants' and 'Graduation'.

Home ▾ Studies ▾ Student Life ▾ Accounts ▾ Careers ▾

**Learn**

Course List

Please note these are courses only. To see Learn tab within Learn

Accountancy 1a 2018

Foundations of Service Semester 2

Introduction to European Studies

Principles of Applied (2018-2019)(SS1-FLE)

Ross' test course

Visit the IS Website

**Learn**

- > Launch Learn

**Exams**

- > Locations
- > Timetable
- > Regulations

**Learning Resources**

- > Self-learning videos Lynda.com
- > Virtual Classroom
- > Distance Learning
- > Pebble Pad
- > Moodle

**Library**

- > Library Home
- > Research Collections
- > Research data Repository
- > Search the Library

> Distance Learning

**Favourites**

- Change and View PIN ★
- Print Credit ★
- King's Buildings Shuttle Bus ★

**You Might Like**

- Student Experience Grants ★  
Some text about Student Experience Grants. This is important because it gives students help and support.
- Graduation ★

## FAVOURITES

- ◆ In development
  - Provide users list of favourites on their homepage
    - Removing other customization options
  - Investigating existing APIs used by Favourites and Favourites Carousel portlets
  - Aware of esco-content-menu web component 😊
  - Usability testing planned for this

### Search

[Book study space](#) ☆  
The description of the portlet would be here.

[Card PIN](#) ★  
This is an example of an existing favourite.

[Cashless Catering](#) ☆  
The description of the portlet would be here.

### Example Portlet

 ☆

A paragraph of text with an [unassigned link](#).

A second row of text with a [web link](#)

Alternative method of adding favourites within portlets.

## WHAT'S NEXT

### ◆ **Promote to LIVE**

- Preview opt-in for students and staff Q1 2019
- Full switchover summer 2019

### ◆ **Ongoing service improvements**

- Apply User Experience (UX) processes learnt over past 12 months
- Utilise notifications, where appropriate

### ◆ **Open Apereo 2019**

- Proposal submitted to look further into UX opportunities within the project
  - Insights
  - Methods
- Project update proposal

*PRESENT SERVICES,  
TASKS, AND CONTENT IN  
THE PORTAL ORGANIZED  
AROUND THE  
STUDENT'S (USER'S)  
PERSPECTIVE, NOT  
SYSTEMS  
OR DEPARTMENTS*



WHAT IS IT? ITS ASPIRATIONS?  
CURRENT STATE  
HOW IT IS BEING USED?  
FUTURE PLANS  
GET INVOLVED!

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**FIOSAN** (FORMERLY KNOWN AS NOTIFICATIONS BACKBONE)

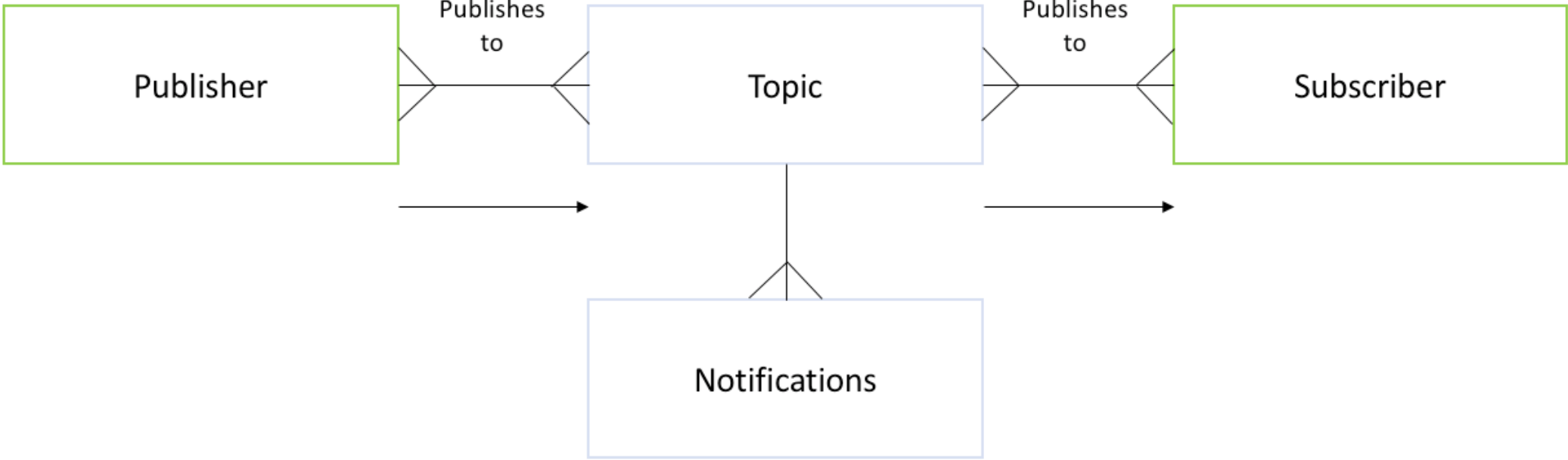
 **apereo incubating**

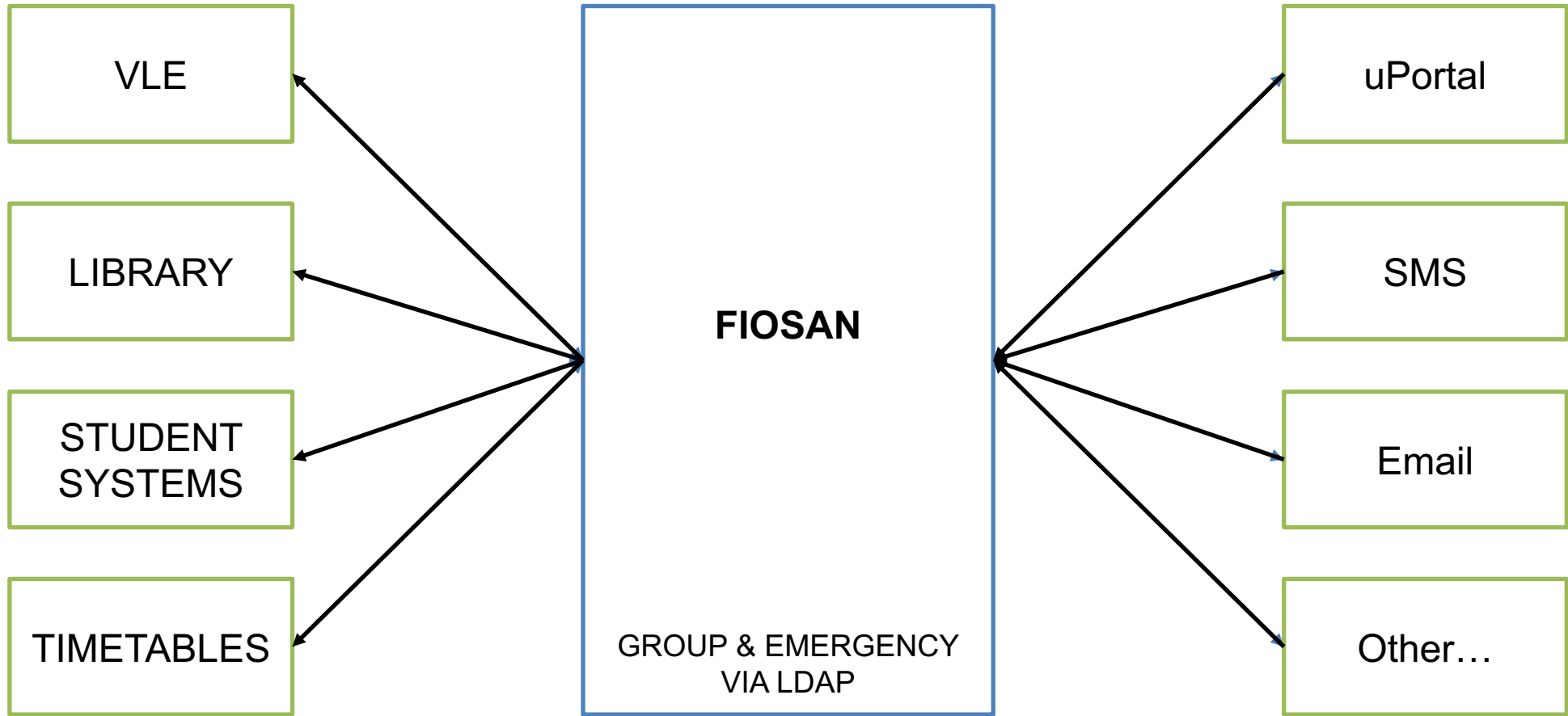
## AIMS OF FIOSAN ~~NOTIFICATIONS BACKBONE~~

- ◆ Transform task-related communications in HE
- ◆ Improve end user experience, integrating with institutional systems/sources of notifications
- ◆ Standardise and simplify key communication processes:
  - Better targeted comms with students and staff
  - Better completion rates for key tasks and activities
  - Cross media communication in emergency cases
  - Potential to track success of approach, leading to better designed communication strategies

## WHAT IS FIOSAN?

- ◆ Cross-system solution for personalized notifications
- ◆ Enable notifications to be created-by and distributed-across multiple systems
- ◆ Provides:
  - High throughput of notification message handling
  - Security mechanism to ensure security and SSL encryption of notifications
  - UI to allow for support and administration of pubs/subs
  - Audit messaging
  - Ability to push a single notification to multiple subscribers





## WHAT IS IT?

- ◆ All components are Java
  - underlying Oracle Database back end.
- ◆ For the components we use the Spring framework, with the following main dependencies/libraries:
  - ◆ **Spring Boot 1.2.x**
    - **Spring-boot-starter-web**
    - **Spring-boot-starter-data-rest**
    - **Spring-boot-starter-data-pa**
  - ◆ **JSON-path**
  - ◆ **Swagger** (at time of writing 1.0.2)
  - ◆ **Oracle JDBC Driver**
  - ◆ **Spring-security-oauth2**
  - ◆ **Spring-cloud-starter-security org.jsoup HTML parser**

<https://notify.ws-apps.is.ed.ac.uk/v2/api-docs?group=notific>[Authorize](#)[Explore](#)[ReDoc](#)

## Notification Backbone JSON API

This service provides the ability for publishers and subscribers to create/edit/delete/view notifications as appropriate.

### notification-controller : Notification Controller

[Show/Hide](#) | [List Operations](#) | [Expand Operations](#)

|        |   |  |
|--------|---|--|
| GET    | /emergencynotifications                 | Get all emergency notifications                              |
| POST   | /notification/                          | Create a new notification                                    |
| DELETE | /notification/{notification-id}         | Delete a notification  |
| GET    | /notification/{notification-id}         | Get a specific notification                                  |
| PUT    | /notification/{notification-id}         | Update notification  |
| GET    | /notifications/publisher/{publisher-id} | Get notifications by publisher                               |
| GET    | /notifications/user/{uun}               | Get notifications by user                                    |
| GET    | /usernotifications/{subscriber-id}      | Get a list of categories containing notifications for a user |

[ BASE URL: / , API VERSION: 2.0 ]



Search

# ED: NOTIFICATION BACKBONE

Subscriptions **Topics** Publishers Subscribers

Subscriptions specify how a subscriber subscribe to a particular topic

Create Topic Subscription

| Subscription Id                      | Topic            | Subscriber Id | Status | Last Updated     | View   |
|--------------------------------------|------------------|---------------|--------|------------------|--------|
| 7985BDACCABA1092E0531C1D<br>A8C03C38 | Card Services    | myed          | A      | 31/10/2018 11:38 | Delete |
| 7985BDACCABB1092E0531C1D<br>A8C03C38 | Careers Service  | myed          | A      | 31/10/2018 11:38 | Delete |
| 7985BD5DA8E51090E0531C1DA<br>8C0EB14 | DTI020 Pilot     | myed          | A      | 31/10/2018 11:38 | Delete |
| 750F7196E81FC894E053191DA8<br>116B6B | Exam             | myed          | A      | 27/11/2018 12:12 | Delete |
| 7985BCF9F90A79A3E0531C1DA<br>8C0A287 | Exam Timetabling | myed          | A      | 31/10/2018 11:38 | Delete |



## CURRENT STATE OF PLAY

- ◆ An Apereo Incubating project
- ◆ Shared at Open Apereo 2018 (as Notifications Backbone)
- ◆ Recently released on GitHub
  - Microservice: <https://github.com/uoeris-apps/notification-ms/>
  - UI: <https://github.com/uoeris-apps/notification-ui>
- ◆ Unicon/State Center Community District already involved
- ◆ Presented at uPortal Winter Summit January '19
- ◆ Looking to understand level of interest within community
  - Assistance in building future sustainability
  - Project roadmap

## INTERESTED PARTIES (SO FAR!)

- ◆ University of Edinburgh
- ◆ Unicon
- ◆ State Center Community College District, CA
- ◆ Cal Poly Pomona, CA
- ◆ Brigham Young University
- ◆ Sorbonne University – to follow up with post uPortal Winter Summit 😊
- ◆ University of South Dakota – to follow up with post uPortal Winter Summit 😊

## POSSIBLE USE CASES

- ◆ Call to action academic and administrative tasks
- ◆ Informational and awareness sharing
- ◆ Multi-channel emergency communications

## HOW IT IS BEING USED AT EDINBURGH

### ◆ Publishers

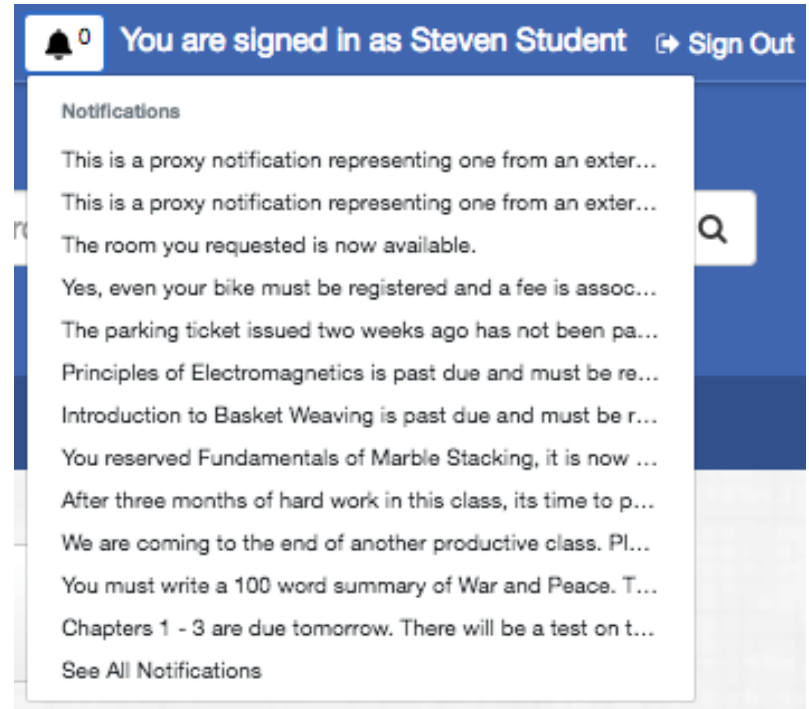
- Exams; availability and changes
- Surveys teams
- Library: item reservations etc. – in development
- Manual & Emergency
- Internally known as ‘Notifications Service’

### ◆ Subscribers

- MyEd/uPortal

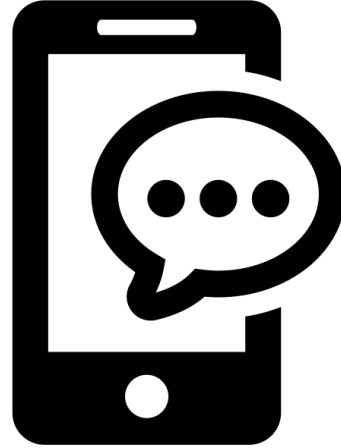
### ◆ User insights

- SMS and email not being explored currently

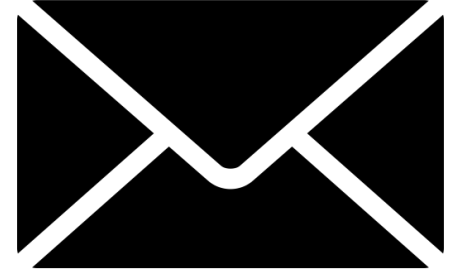


## HOW OTHERS ARE LOOKING TO UTILISE FIOSAN

- ◆ Multi-channel emergency comms (via UI)
  - Email
  - SMS (Twilio)
  - uPortal



Created by Arafat Uddin  
from Noun Project



Created by Rockicon  
from Noun Project

**uPortal**<sup>SM</sup>

## NEXT STEPS

- ◆ Understand interest within community
- ◆ Open up roadmap discussions with interested users
- ◆ Governance
- ◆ Work towards [Incubation Exit Criteria](#)
- ◆ Possible future integrations:
  - Institutional systems
  - Browser notifications
  - PUSH
  - WhatsApp, Facebook
  - More...

## GET INVOLVED

- ◆ Apereo Incubation page: <https://www.apereo.org/projects/fiosan>
  
- ◆ View on GitHub:
  - Microservice: <https://github.com/uoel-is-apps/notification-ms/>
  - UI: <https://github.com/uoel-is-apps/notification-ui>
  
- ◆ Mailing Lists:
  - [fiosan-dev@apereo.org](mailto:fiosan-dev@apereo.org)
  - [fiosan-user@apereo.org](mailto:fiosan-user@apereo.org)

## PROPOSING FIOSAN

### ◆ FIOSAN

□ Pronounced *Fi-san*:

<https://learngaelic.scot/dictionary/index.jsp?abairt=fiosan&slang=both&wholeword=false>

□ Plural or diminutive of Fios ("a wee piece of knowledge") AND a message (in computing)





THANK YOU!  
QUESTIONS?