USER CENTERED SERVICES AT THE UNIVERSITY OF EDINBURGH

Anne-Marie Scott -- Deputy Director, Learning Teaching and Web Services -- University of Edinburgh
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

USER CENTERED PORTAL
• 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”
USER CENTERED PORTAL

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**

**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
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
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
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
USER CENTERED PORTAL

TREE TEST RESULTS; FINALISE MENU LAYOUT
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
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!

FIOSAN (FORMERLY KNOWN AS NOTIFICATIONS BACKBONE)
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
Publisher

Publishes to

Topic

Publishes to

Subscriber

Notifications
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**
  ◆ Liquibase
# 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

<table>
<thead>
<tr>
<th>Method</th>
<th>Endpoint</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GET</strong></td>
<td>/emergencynotifications</td>
<td>Get all emergency notifications</td>
</tr>
<tr>
<td><strong>POST</strong></td>
<td>/notification/</td>
<td>Create a new notification</td>
</tr>
<tr>
<td><strong>DELETE</strong></td>
<td>/notification/{notification-id}</td>
<td>Delete a notification</td>
</tr>
<tr>
<td><strong>GET</strong></td>
<td>/notification/{notification-id}</td>
<td>Get a specific notification</td>
</tr>
<tr>
<td><strong>PUT</strong></td>
<td>/notification/{notification-id}</td>
<td>Update notification</td>
</tr>
<tr>
<td><strong>GET</strong></td>
<td>/notifications/publisher/{publisher-id}</td>
<td>Get notifications by publisher</td>
</tr>
<tr>
<td><strong>GET</strong></td>
<td>/notifications/user/{uun}</td>
<td>Get notifications by user</td>
</tr>
<tr>
<td><strong>GET</strong></td>
<td>/usernotifications/{subscriber-id}</td>
<td>Get a list of categories containing notifications for a user</td>
</tr>
</tbody>
</table>

[BASE URL: /, API VERSION: 2.0]
### ED: NOTIFICATION BACKBONE

Subscriptions specify how a subscriber subscribe to a particular topic

<table>
<thead>
<tr>
<th>Subscription Id</th>
<th>Topic</th>
<th>Subscriber Id</th>
<th>Status</th>
<th>Last Updated</th>
<th>View</th>
</tr>
</thead>
<tbody>
<tr>
<td>796BDACCABA1092E0531C1D8C03C38</td>
<td>Card Services</td>
<td>myed</td>
<td>A</td>
<td>31/10/2018 11:38</td>
<td>Delete</td>
</tr>
<tr>
<td>796BDACCABB1092E0531C1D8C03C38</td>
<td>Careers Service</td>
<td>myed</td>
<td>A</td>
<td>31/10/2018 11:38</td>
<td>Delete</td>
</tr>
<tr>
<td>796BD5DA8E51090E0531C1DA8C0E314</td>
<td>DT1020 Pilot</td>
<td>myed</td>
<td>A</td>
<td>31/10/2018 11:38</td>
<td>Delete</td>
</tr>
<tr>
<td>7507196E81FC894E05313191DA8116B6B</td>
<td>Exam</td>
<td>myed</td>
<td>A</td>
<td>27/11/2018 12:12</td>
<td>Delete</td>
</tr>
<tr>
<td>7968BCF9F9A79A3E0531C1DA8C0A83D</td>
<td>Exam Timetabling</td>
<td>myed</td>
<td>A</td>
<td>31/10/2018 11:38</td>
<td>Delete</td>
</tr>
</tbody>
</table>
CURRENT STATE OF PLAY

◆ An Apereo Incubating project
◆ Shared at Open Apereo 2018 (as Notifications Backbone)
◆ Recently released on GitHub
  - Microservice: https://github.com/uoe-is-apps/notifications-ms/
  - UI: https://github.com/uoe-is-apps/notifications-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
FIOSAN - NOTIFICATIONS

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
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…
FIOSAN - NOTIFICATIONS

GET INVOLVED

- Apereo Incubation page: https://www.apereo.org/projects/fiosan

- View on GitHub:
  - Microservice: https://github.com/uoe-is-apps/notification-ms/
  - UI: https://github.com/uoe-is-apps/notification-ui

- Mailing Lists:
  - fiosan-dev@apereo.org
  - fiosan-user@apereo.org
PROPOSING FIOSAN

- FIOSAN
  - Pronounced *Fi-san*:
    - [https://learn-gaelic.scot/dictionary/index.jsp?abairt=fiosan&slang=both&wholeword=false](https://learn-gaelic.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?