



# 10 THINGS YOU NEED TO KNOW WHEN DEVELOPING FLUID APPLICATIONS. NUMBER 7 WILL AMAZE YOU!

SESSION 4506  
9 OCTOBER 2018

# DISCLAIMER

Number 7 may not actually amaze you. We cannot accept responsibility for any disappointment caused.

# PRESENTER



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**THE UNIVERSITY  
OF CAMBRIDGE**



**UNIVERSITY OF  
CAMBRIDGE**

EMEA ALLIANCE 9-10 OCTOBER 2018

# CAMBRIDGE IN NUMBERS



**31** autonomous Colleges and over **100** departments

About **26,000** students and **11,000** staff



**98** Nobel prizes

**83** boat race wins (vs **80** for Oxford)



**1** highly aggressive swan, nicknamed "Mr ASBO" \*

\* <https://www.cambridge-news.co.uk/news/cambridge-news/swan-mr-asbo-river-cam-14746714>



# A BRIEF HISTORY

**1209** University of Cambridge founded when scholars run away from Oxford.

**1210 – 2003** Lots of famous stuff happens. Isaac Newton discovers gravity, Charles Babbage develops the Difference Engine, and Crick & Watson reveal the structure of DNA.

**2004** Campus Solutions 8.0 introduced as Cambridge Student Information System (CamSIS).

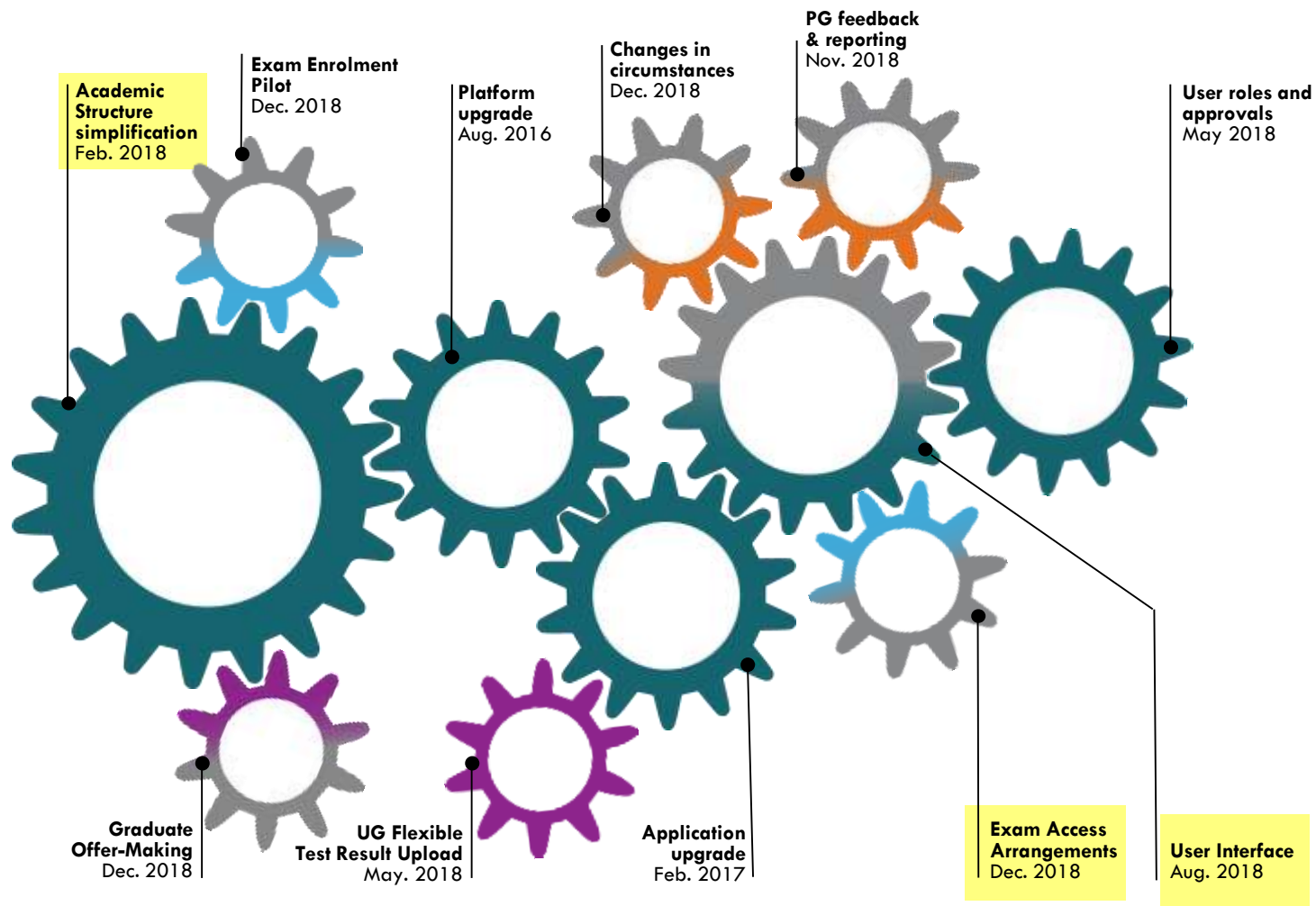




# THE UNIVERSITY & ORACLE

Oracle 12c  
Campus Solutions 9.2 Image10  
PeopleTools 8.55.25

# BACKGROUND





# BACKGROUND

**2017** Fluid functionality given to small cohort of administrative users

**2018** Custom Fluid self-service given to all students and alumni  
Fluid homepages given to all other users

## Today's session:

A look at what we learned while developing Fluid Self-Service, and what we're doing in ongoing projects

### Your new CamSIS homepage

CamSIS is Cambridge's central system for handling official student data. From this new homepage you can carry out tasks such as managing your personal and academic record, view results, request transcripts and apply for graduation. [Help and support](#)

### Personal



### Academic



### Exams



### Results



### Graduation



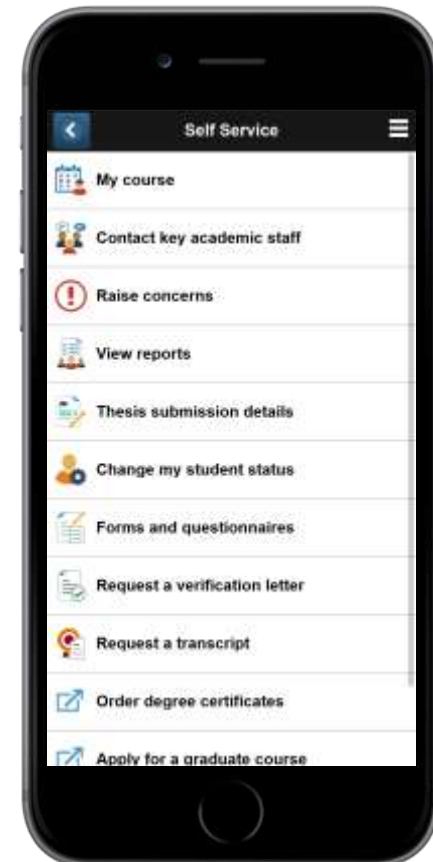
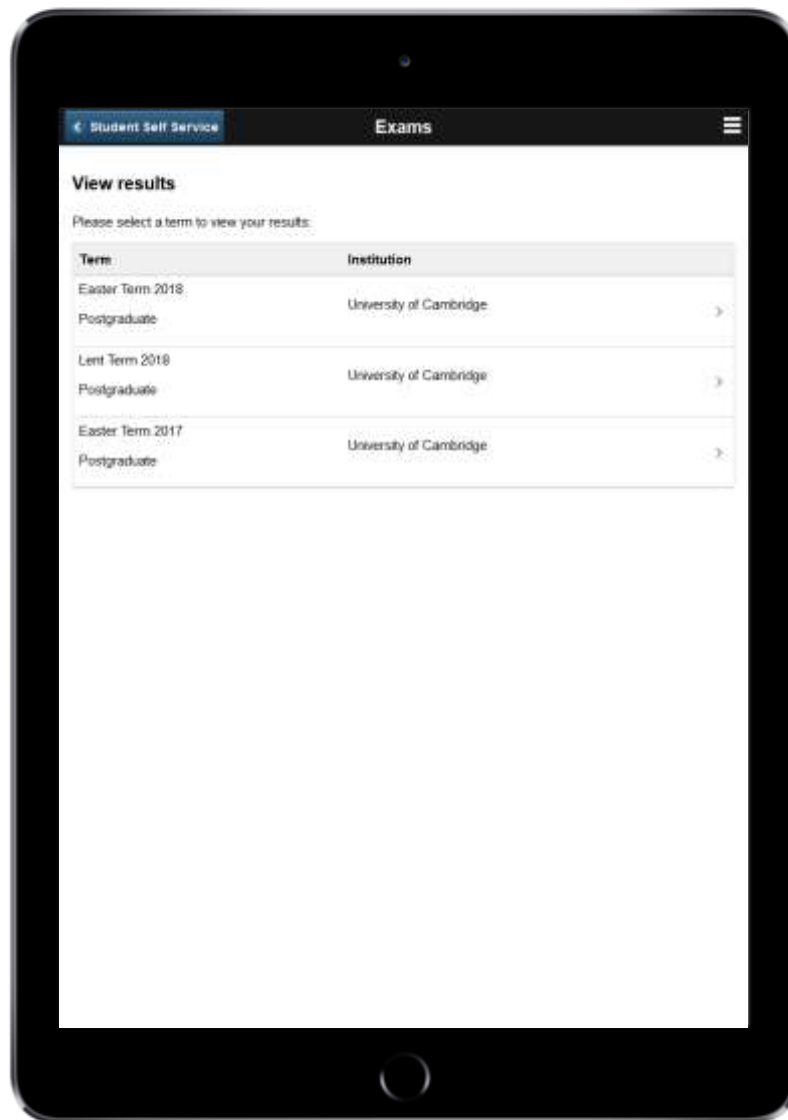
### Tasks



1 To Do's

### Give us feedback





✕ Exit

# Enrol in an exam

Next >



**Merlin Snell**  
302992052 / eg455  
Selwyn College

Programme (not selected)  
Subject (not selected)  
Term (not selected)

**1 Introduction**  
In Progress

**2 Select career**  
Not Started

**3 Select subject area**  
Not Started

**4 Select term**  
Not Started

**5 Select exams**  
Not Started

**6 Complete exam enrolment**  
Not Started

## Step 1 of 6: Introduction

Exam enrolment should take less than 10 minutes.

Use the buttons in the black header or the numbered sections to the left to navigate through each page. **Do not** use your browser navigation buttons.

A 'How-To' video is available to watch (requires [Flash Player](#)) that demonstrates the steps required to complete exam enrolment.

When you are ready to start, please navigate to the next page.

MacBook Pro



# SAFE HARBO(U)R STATEMENT



We hope that what follows is interesting, and maybe even useful.

Some of what you are about to see is already in our production system, while some things are still a work-in-progress. Although the techniques here have worked well for us, we cannot guarantee that they will work for you.

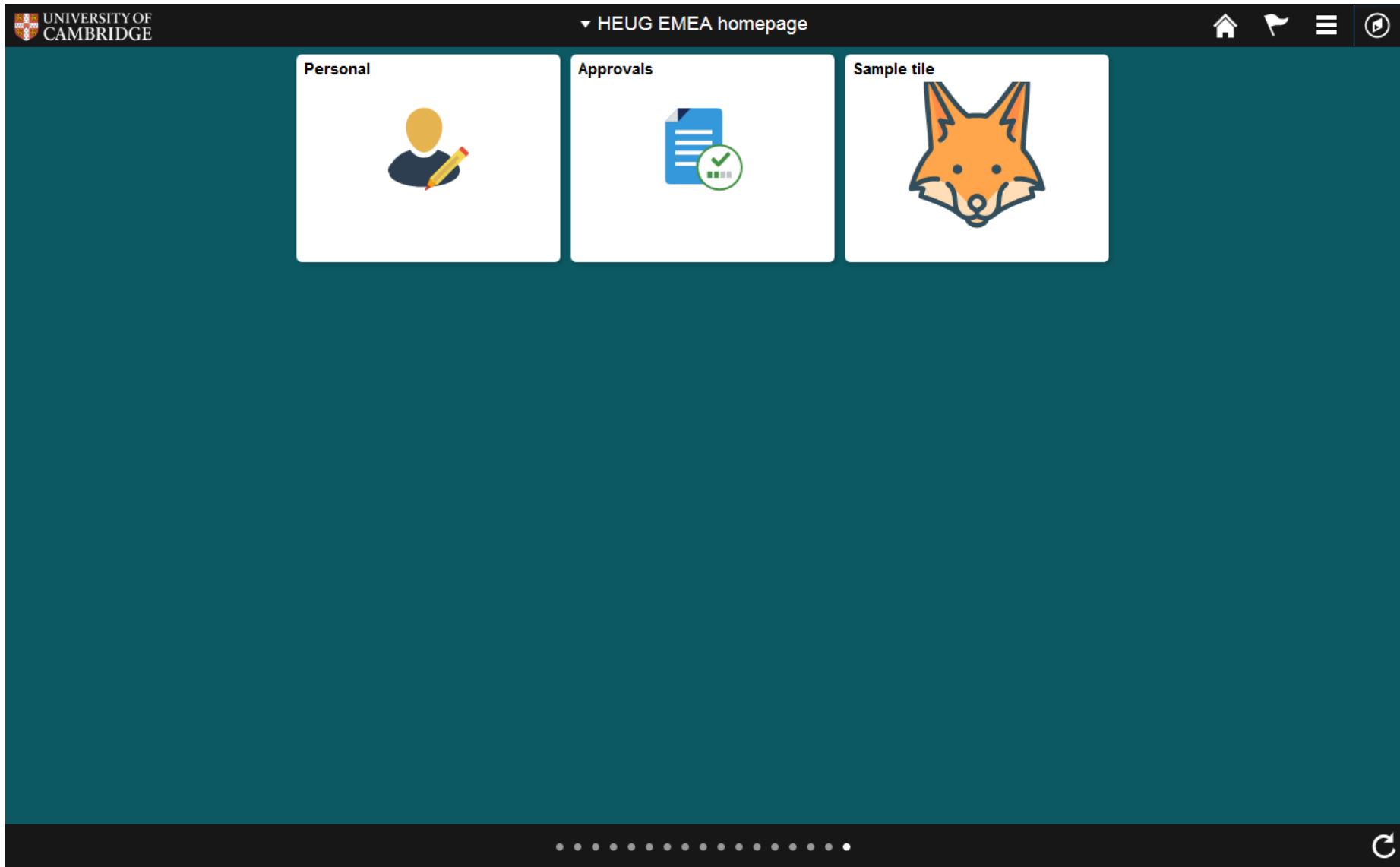
Take everything with a pinch of salt.

# 1. HOW TO PUT IMAGES ON TILES

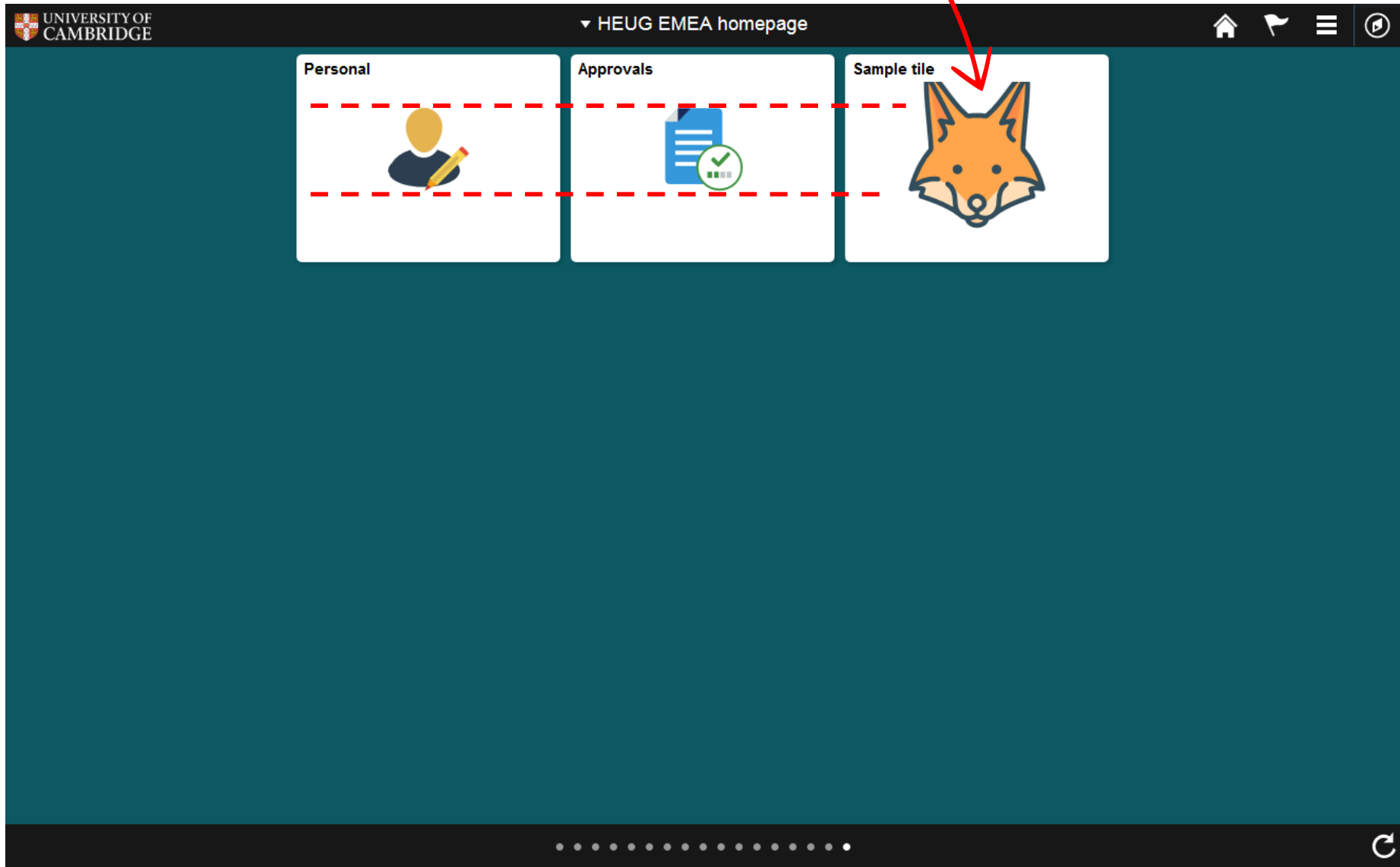
---



## 1. HOW TO PUT IMAGES ON TILES



Poor Mr Fox!





## Icon Sizing

This chart shows the scaling of icons:





















Identified icons that are repeating				
Tiles	Navbar	Phone	Left panel	Transaction pages
80px	48px	24px	20px	16px
 Alert.svg	 Alert.svg	 Alert_24px.svg	 Alert_20px.svg	 Alert_Gray.svg
 JobOpenings.svg	 JobOpenings.svg	 Job Openings_24px.svg	 Job Openings_20px.svg	 Job Openings_Gray.svg
 Company directory.svg	 Company directory.svg	 Company Directory_24px.svg	 Company Directory_20px.svg	 Company Directory_Gray.svg
 Info.svg	 Info.svg	 Info_24px.svg	 Info_20px.svg	 Info_Graysvg

Figure 13: Scaling of icons

# SIZING TILE ICONS

Two options:

1. Edit the SVG file...

- (a) ...in a vector editor of your choice (Illustrator, Inkscape, etc)...

- (b) ...by changing the `viewBox` property of the `<svg>` tag...



# SIZING TILE ICONS

Two options:

1. Edit the SVG file...

(a) ...in a vector editor of your choice (Illustrator, Inkscape, etc)...

(b) ...by changing the `viewBox` property of the `<svg>` tag...

2. ...or enforce a `max-height` on the `<img>` on tiles through CSS

```
.nuitile .ps_box-grouplet img.ps_process,  
.pst_rc-general .ps_box-grouplet img.ps_process {  
    max-height: 80px;  
}
```

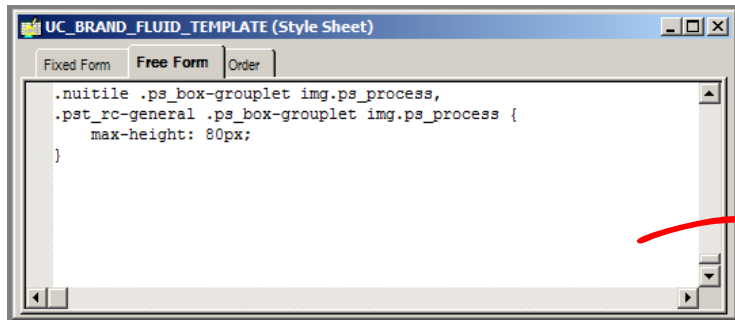


# INJECTING CUSTOM CSS

(At least) two options:

1. Add a global override stylesheet to your theme...
2. ...or add a stylesheet using Event Mapping and PeopleCode

## 1. Create a freeform stylesheet



## 2. Add as a global override in your theme

University of Cambridge Development

Navigation: Favourites | Main Menu | PeopleTools | Portal | Branding | Assemble Themes

Services: Main Menu | Adviser Self Service | CamSIS for Academics | Student Self Service | Graduate Applicant Self Service | Extended Self Service

Links: New Window | Help | Personalise Page

### Assemble Themes

Specify the properties of branding theme. All style sheets should be available locally in every system, except those marked for a specific node only.

Name: UC\_THEME\_FLUID Save As

\*Description: UC Theme for Fluid

Description: UC Theme for Fluid

Owner ID: PPT PeopleTools

\*Homepage Header: UC\_HEADER\_FLUID UC Header - Fluid

Homepage Footer: DEFAULT\_FOOTER Default Footer

Target Page Header:

Macro Set: UC\_DEFAULT\_MACROSET\_855

#### Classic Components

Theme Style Sheet: UC\_BRAND\_CLASSIC\_TEMPLTE\_FLUID UC Fluid Classic CSS

##### Skin Style Sheets

*Name	*Description
1	

#### Fluid Components

##### Theme Style Sheet Mappings

*Node	*Style Sheet	*Theme Style Sheet	Active
1			<input type="checkbox"/>

Add Theme Style Sheet Mapping

Global Override Style Sheet: UC\_BRAND\_FLUID\_TEMPLATE UC Fluid CSS

Buttons: Save | Return to Search | Previous in List | Next in List | Add | Update/Display

## 3. Enjoy consistently-sized icons

## 1. HOW TO PUT IMAGES ON TILES

The screenshot shows the 'Branding System Options' page in the University of Cambridge PeopleTools environment. The page is titled 'Branding System Options' and has a red circle around the 'Default Branding Theme' dropdown menu, which is currently set to 'DEFAULT\_THEME\_TANGERINE'. Below this, there are sections for 'Classic Components', 'Additional Style Sheet Objects', 'Additional JavaScript Objects', 'Fluid Components', and 'PeopleTools Options'. The 'Classic Components' section includes a 'Theme Style Type' dropdown set to 'Tangerine (PT8.53 default)' and a 'Default Style Sheet Name' text field containing 'UC\_PSSSTYLEDEF\_TANGERINE'. The 'Additional Style Sheet Objects' and 'Additional JavaScript Objects' sections each have a table with columns for 'Style Sheet Name' and 'JavaScript Name' respectively, and buttons for adding and removing items. The 'Fluid Components' section has a 'Default Style Sheet Name' text field. The 'PeopleTools Options' section is currently collapsed. A 'Save' button is located at the bottom of the page.

Default theme is in  
Branding System Options...

## 1. HOW TO PUT IMAGES ON TILES

Favourites ▾ | Main Menu ▾ > PeopleTools ▾ > Portal ▾ > Branding ▾ > Branding System Options

UNIVERSITY OF CAMBRIDGE Development

Main Menu Adviser Self Service CamSIS for Academics Student Self Service Graduate Applicant Self Service Extended Self Service

New Window | Help | Personalise Page ▾

### Branding System Options

\*Default Branding Theme: **DEFAULT\_THEME\_TANGERINE** ▾  
Default Custom Tabs:

**Classic Components**

Specify the default style sheet and additional style sheets and JavaScript files for classic core homepage tabs and content reference templates.

\*Theme Style Type: Tangerine (PT8.53 default) ▾  
\*Default Style Sheet Name: UC\_PSSTYLEDEF\_TANGERINE

**Additional Style Sheet Objects**

Select a row in the grid and then use the Move Up or Move Down buttons to change the row

Style Sheet Name:

**Additional JavaScript Objects**

Select a row in the grid and then use the Move Up or Move Down buttons to change the row

JavaScript Name:

**Fluid Components**

Specify the default style sheet for fluid components.

Default Style Sheet Name:

**PeopleTools Options**

Default theme is in  
Branding System Options...

Favourites ▾ | Main Menu ▾ > PeopleTools ▾ > Portal ▾ > Branding ▾ > Assign Themes

UNIVERSITY OF CAMBRIDGE Development

Main Menu Adviser Self Service CamSIS for Academics Student Self Service Graduate Applicant Self Service Extended Self Service

New Window | Help | Personalise Page ▾

### Assign Branding Themes

Select registry specific branding options and defaults. These values will override the system default options.

Portal Name: EMPLOYEE

**Assign Registry Themes** Find | View All | First 1 of 1 Last

\*Effective Date: 01/01/2018     
\*Description: Default Theme  
\*Default Theme: UC\_DEFAULT\_THEME\_TANGERINE  Default Theme - Tangerine  
Custom Tabs:    
Default Fluid Homepage:   
Owner ID:

**Assign User Attribute Themes**

Assign a different theme by user attribute. When a user has two or more listed attributes, the theme with the lower priority number applies. When a user has none of the listed attributes, the registry default theme applies. You may bypass user attribute based assignments and simply assign a default theme to all users of the current registry.

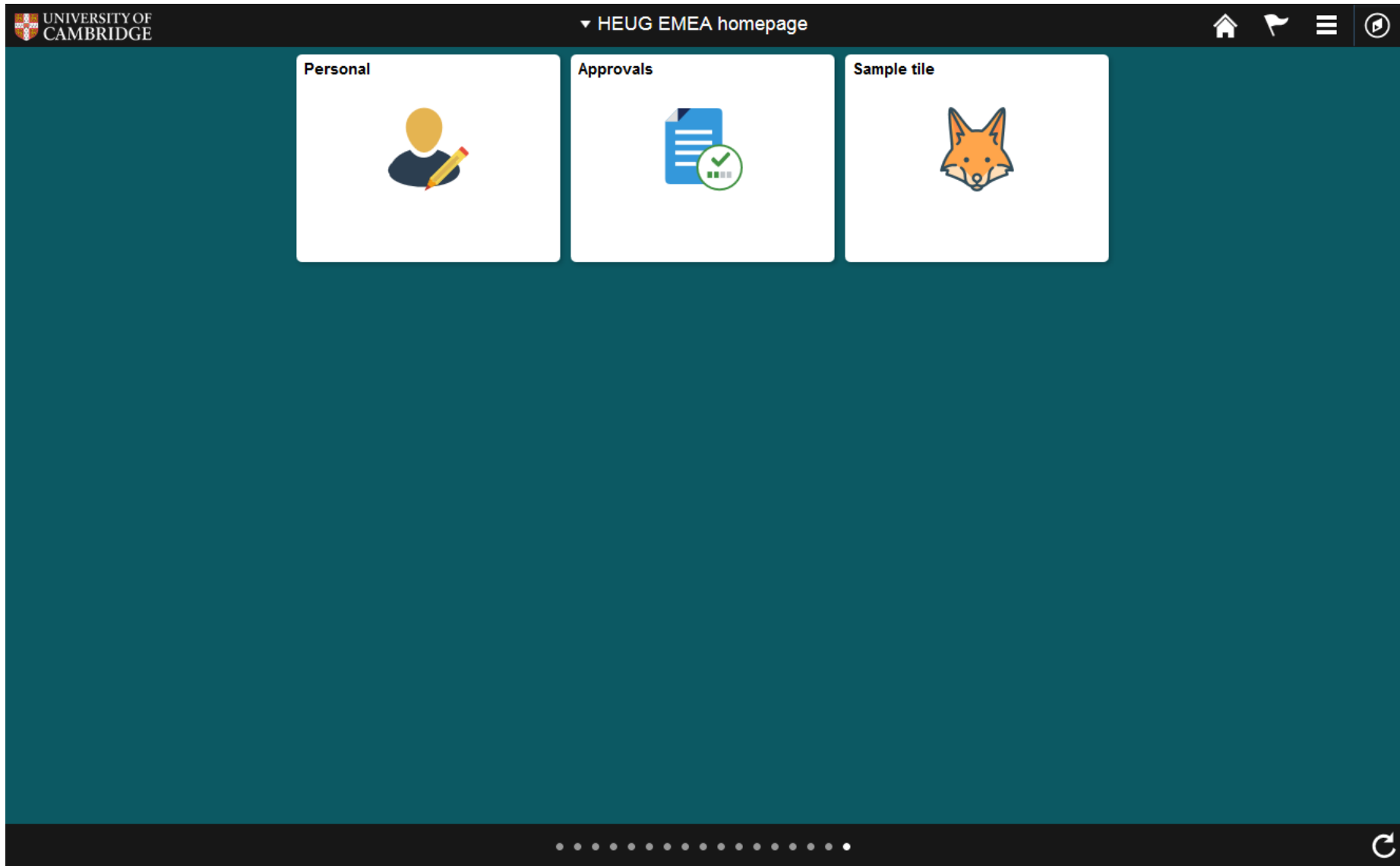
**User Attribute Based Theme Assignments** Find | View All | First 1-6 of 6 Last

Attribute	Theme	Custom Tabs & Fluid Homepages
*Priority #	*Attribute Type	*Attribute Value
1	50	Role ▾ UC_UI_ACADEMICS <input type="button" value="Find"/> <input type="button" value="+"/> <input type="button" value="-"/>
2	70	Role ▾ UC PeopleSoft User <input type="button" value="Find"/> <input type="button" value="+"/> <input type="button" value="-"/>
3	80	Role ▾ Online Non Student Registrant <input type="button" value="Find"/> <input type="button" value="+"/> <input type="button" value="-"/>
4	90	Role ▾ UC Current Student <input type="button" value="Find"/> <input type="button" value="+"/> <input type="button" value="-"/>
5	100	Role ▾ UC Alumni Raven4Life <input type="button" value="Find"/> <input type="button" value="+"/> <input type="button" value="-"/>
6	110	Role ▾ UC Alumni Authorised <input type="button" value="Find"/> <input type="button" value="+"/> <input type="button" value="-"/>

...unless you override themes  
based on role



## 1. HOW TO PUT IMAGES ON TILES



## 2. HOW TO MANAGE IMAGES ON TILES

---



# HOW TO CREATE TILES

Two options:

1. With the tile wizard



## 2. HOW TO MANAGE IMAGES ON TILES

[← Assign Themes](#)

# Tile List

All

29

Applicant Self Service

1

PeopleSoft Applications

1

Tiles for Messages

6

Tiles for Student Information

8

Tiles for Navigation

13

Data Type

All

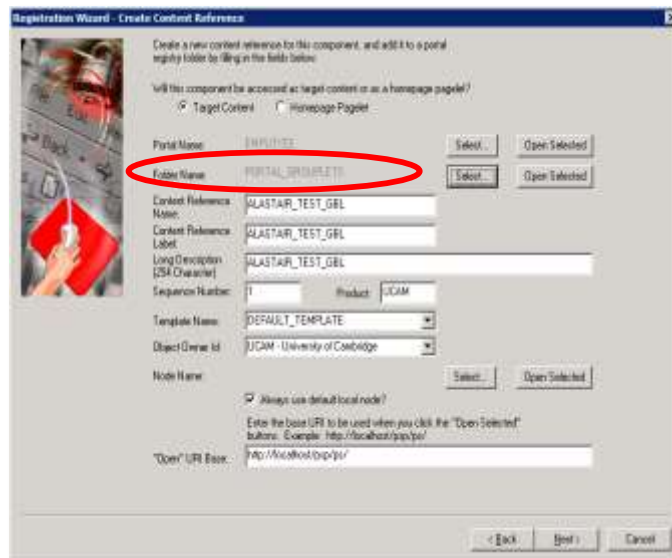
Create a new Tile

Image	Tile Name	Title	Data Type	Published	Object Owner ID		
	ADMISSIONS	Admissions	APPCCLASS	Yes	Recruiting and Admissions		
	SAMPLE_TILE	Another sample tile	FREE_TEXT	Yes			
	UC_ALL_CUR_STUDENTS	Stats on Active Students	PIVOTGRID	Yes	UCAMB (Fluid)		
	UC_ALL_NEWS	System News	FREE_TEXT	Yes	UCAMB (Fluid)		
	UC_ALL_STU_STATUS	Student status changes	NAVCOLL	Yes	UCAMB (Fluid)		
	UC_ALL_SUPV_RPTS	Supervision Reports Tracking	PIVOTGRID	Yes	UCAMB (Fluid)		
	UC_CAO_ADM_NAV	CAO Admissions	NAVCOLL	Yes	UCAMB (Fluid)		
	UC_CAO_SUBJMOD_NAV	Subject Moderation	NAVCOLL	Yes	UCAMB (Fluid)		
	UC_COL_NO_ADVISERS	Missing College Advisers	PIVOTGRID	Yes	UCAMB (Fluid)		
	UC_COL_STU_FIN_NAV	Student Financials	NAVCOLL	Yes	UCAMB (Fluid)		
	UC_COL_TUT_NAV	Tutorial Navigation Links	NAVCOLL	Yes	UCAMB (Fluid)		
	UC_COL_UGADM_NAV	College UG Admissions	NAVCOLL	Yes	UCAMB (Fluid)		
	UC_DEP_CLIN_PLCMT_NAV	Clinical Placements	NAVCOLL	Yes	UCAMB (Fluid)		
	UC DEP DC NAV	Dep/Fac	NAVCOLL	Yes	UCAMB (Fluid)		

# HOW TO CREATE TILES

Two options:

1. With the tile wizard
2. Manually
  - For a new component, you can register it in [Fluid Structure Content](#) > [Fluid Pages](#) ([PORTAL\\_GROUPLETS](#)) or any subfolder



# HOW TO CREATE TILES

Two options:

1. With the tile wizard
2. Manually
  - For a new component, you can register it in [Fluid Structure Content > Fluid Pages \(PORTAL\\_GROUPLETS\)](#) or any subfolder
  - For an existing component, either:
    - manually add a content reference link in [Fluid Structure Content > Fluid Pages](#)



## 2. HOW TO MANAGE IMAGES ON TILES

Favourites ▾ | Main Menu ▾ > PeopleTools ▾ > Portal ▾ > Structure and Content

**UNIVERSITY OF CAMBRIDGE** Development

Main Menu | Adviser Self Service | CamSIS for Academics | Student Self Service | Graduate Applicant Self Service | Extended Self Service

New Window | Help | Personalise Page ▾

[Root](#) > [Fluid Structure Content](#) > Fluid Pages

### Structure and Content

\* Click the folder label to view the child folders and content references for that folder  
\* Click the "Edit" link to edit the folder definition

**Folders** Personalise | Find | View All | First 1-20 of 20 Last

Label	Edit	Sequence number	
Adviser Self Service	Edit	0	
Analytics	Edit	0	
PeopleSoft Applications	Edit	0	
Student Self Service	Edit	0	
Update Manager	Edit	0	
Tiles for CamSIS Team	Edit	10	
Tiles for Messages	Edit	10	
Tiles for Navigation	Edit	10	
Tiles for Student Information	Edit	10	
Fluid WorkCentre	Edit	900	
Fluid Discussions	Edit	1500	
General Self Service	Edit	2000	
Student Self Service	Edit	2200	
Applicant Self Service	Edit	2300	
CR Administrator Self Service	Edit	2400	
Adviser Self Service	Edit	2500	
Form and Approval Builder	Edit	9970	
Common Architecture	Edit	9980	
PeopleSoft Common Architecture	Edit	9990	
Developer Homepage	Edit	9995	

Add Folder

\* Click the "Edit" link to edit the content reference definition

**Content References** Personalise | Find | View All | First 1 of 1 Last

Node Name

Add Content Reference **Add Content Reference Link**

# HOW TO CREATE TILES

Two options:

1. With the tile wizard

2. Manually

- For a new component, you can register it in Fluid Structure Content > Fluid Pages ([PORTAL\\_GROUPLETS](#)) or any subfolder
- For an existing component, either:
  - manually add a content reference link in [Fluid Structure Content > Fluid Pages](#)
  - create a link from the 'Fluid Attributes' tab of your existing Content Reference – tile is created on Save

## 2. HOW TO MANAGE IMAGES ON TILES

Favourites

Main Menu





PeopleTools

Portal

Structure and Content

UNIVERSITY OF CAMBRIDGE

Development




Main Menu

Adviser Self Service

CamSIS for Academics

Student Self Service

Graduate Applicant Self Service



Extended Self Service

Help | Personalise Page

General

Security

Fluid Attributes

[Root](#) > [Community](#) > [Personal Information](#) >

Tile Information

Image Name

Display InCur Window

Height1

Width1

Refresh Timer0

☐ Interactive

☐ Disable Main Hotspot

☐ Autosize

☐ Resizable

Event Name

Dynamic Tile Content

URL TypeNone

Tile Repository

Select a folder below to create a link to the Tile Repository. If the folder selection is disabled, this Tile is already available in the Tile Repository.

Folder


Folder Label


Include In Repository

☒ Homepage

☒ Dashboard

☒ NavBar

 Save


 Notify

[General](#) | [Security](#) | [Fluid Attributes](#)

# TILE WIZARD

Useful for creating navigation collections automatically, as well as tiles with custom HTML (e.g. “Message of the day”)....

## **Your new CamSIS homepage**

CamSIS is Cambridge's central system for handling official student data. From this new homepage you can carry out tasks such as managing your personal and academic record, view results, request transcripts and apply for graduation. [Help and support](#) 

# TILE WIZARD

Useful for creating navigation collections automatically, as well as tiles with custom HTML (e.g. “Message of the day”)....

The screenshot displays the 'Tile Wizard' interface, specifically the 'Data Source Information' step. On the left, a preview of the tile content is shown, titled 'Your new CamSIS homepage'. The main area is a form with a progress bar at the top indicating five steps: 1. Tile Basic Information, 2. Data Source Information (current step), 3. Target Page Information, 4. Tile Display Properties, and 5. Review and Submit. The form includes a 'Data Type' dropdown set to 'Free Text' and a large text area containing HTML code for a paragraph about CamSIS and a link to 'Help and support'. Navigation buttons 'Previous', 'Save', and 'Next' are located at the bottom right of the form.

**Your new CamSIS homepage**  
CamSIS is Cambridge's central system for handling official student data. From this new homepage you can carry out tasks such as managing your personal and academic record, view results, request transcripts and apply for graduation. [Help and support](#)

**Tile Data Source**

1 Tile Basic Information 2 **Data Source Information** 3 Target Page Information 4 Tile Display Properties 5 Review and Submit

Previous Save Next

**Data Source Information**

\*Data Type Free Text

\*Free Text

```
<p style="text-align:left;color:#000;">CamSIS is  
Cambridge's central system for handling official  
student data. From this new homepage you can carry  
out tasks such as managing your personal and  
academic record, view results, request transcripts  
and apply for graduation. <a  
href="https://www.camsis.cam.ac.uk/new-features"  
target="_blank">Help and support   
</a></p>
```

# TILE WIZARD

...or custom JavaScript



[Home](#)

Tile Data Source

[1](#) [2](#) [3](#) [4](#) [5](#)

Tile Basic Information Data Source Information Target Page Information Tile Display Properties Review and Submit

Previous Save Next

Data Source Information

\*Data Type

Free Text

\*Free Text

```
<!-- Display the countdown timer in an element -->
<p id="image"><br/><strong>Countdown to Christmas...</strong></p>
<p id="christmas"></p>

<script>
// Set the date we're counting down to
var countDownDate = new Date("Dec 25, 2018 00:00:00").getTime();

// Update the count down every 1 second
var x = setInterval(function() {

    // Get todays date and time
    var now = new Date().getTime();

    // Find the distance between now an the count down date
    var distance = countDownDate - now;
```

# DYNAMIC TILES WITH JAVASCRIPT

Quick Tip!

If you include JavaScript in your tile, add an event listener and wrap the code in the callback function:

```
<script>
document.addEventListener("DOMContentLoaded", function(event) {
    // do stuff here
});
</script>
```



# DON'T GET STUNG!

The way you create your tile  
will affect the way you maintain it in future!



CamSIS Login | University of Cambridge

https://camsis.cam.ac.uk/psp/adminodev/EMPLOYEE/SA/?cmd=logout

UNIVERSITY OF CAMBRIDGE

Home / CamSIS Home / CamSIS Login

# CamSIS

**Non-Raven Login - to access CamSIS with your Raven password, [click here](#)**

User-id:

Password:

**Sign In**

[Set Trace Flags](#)

**Always** quit your web browser when you have finished accessing services that require authentication. Do not disclose your CamSIS password to anyone and only enter it on web pages with URLs that start https://camsis.cam.ac.uk/. Please report attempts to obtain your password by other means. CamSIS necessarily uses cookies to manage your authentication ([details](#)).

See [help on CamSIS accounts](#) if your CamSIS account isn't working, or if you don't have a CamSIS account but need one.

**Help**

- University A-Z
- Contact the University
- Freedom of information
- Terms and conditions

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- Privacy policy
- Accessibility

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Waiting for camsis.cam.ac.uk...






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**Research at Cambridge**

## 2. HOW TO MANAGE IMAGES ON TILES

Favourites ▾ | Main Menu ▾ > PeopleTools ▾ > Portal ▾ > Structure and Content

 UNIVERSITY OF CAMBRIDGE **Development**    

Main Menu Adviser Self Service CamSIS for Academics Student Self Service Graduate Applicant Self Service 


Extended Self Service

[Help](#) | [Personalise Page](#)

General Security **Fluid Attributes**

[Root](#) > [PeopleTools](#) > [Utilities](#) > [CamSIS Utilities](#) :


**Tile Information**

Image Name   ☐ Interactive

Display In  ☐ Disable Main Hotspot

Height  ☐ Autosize

Width  ☐ Resizable


Refresh Timer  Event Name  

**Dynamic Tile Content**

URL Type

**Tile Repository**



Select a folder below to create a link to the Tile Repository. If the folder selection is disabled, this Tile is already available in the Tile Repository.

Folder  

Folder Label Tiles for CamSIS Team  
[View Definition](#)

**Include In Repository**

☒ Homepage  
☒ Dashboard  
☒ NavBar

 Save  Notify

[General](#) | [Security](#) | [Fluid Attributes](#)

[← Assign Themes](#)

# Tile Layout Properties

1

2

3

4

5

[Tile Basic Information](#)[Data Source Information](#)[Target Page Information](#)**Tile Display Properties**[Review and Submit](#)

PreviousSaveNext

### Tile Layout Properties

Tile Height

1

Tile Width

1

Image

UC\_HEDGEHOG

Tile Refresh Timer (Seconds)

Disable Main Hotspot

No

Event Name

Display In

Cur Window

Interactive

No

Tile Autosize

No

Tile Resizable

No

### Tile Repository

Homepage

Yes

NavBar

No

Dashboard

No

...but should have changed this

CamSIS Login | University of Cambridge

https://camsis.cam.ac.uk/psp/adminodev/EMPLOYEE/SA/?cmd=logout

UNIVERSITY OF CAMBRIDGE

Home / CamSIS Home / CamSIS Login

# CamSIS

**Non-Raven Login - to access CamSIS with your Raven password, [click here](#)**

User-id:

Password:

**Sign In**

[Set Trace Flags](#)

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**Help**

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**Research at Cambridge**

# FOR YOUR REFERENCE...

Do not set an image in the Tile Wizard or in the CREF Fluid Attributes.	The Oracle default image shows on the homepage (obviously)	
Set an image in the Tile Wizard, then remove the image from the CREF Fluid Attributes.	The Oracle default image flashes before image set in Tile Wizard shows.	The image remains set in the Tile Wizard.
Set image 1 in Tile Wizard, set image 2 in the CREF Fluid Attributes.	Image 2 flashes before image 1 from Tile Wizard shows.	Different images remain set in Tile Wizard and Fluid Attributes.
Do not set an image in the Tile Wizard. Set an image in the CREF Fluid Attributes.	Image set in CREF Fluid Attributes flashes before Oracle default image shows.	The Tile Wizard does not "know" that the image has been set in the CREF Fluid Attributes.
Set image 1 in the CREF Fluid Attributes, and then set image 2 in the Tile Wizard	Image 2 shows straight away, and remains there.	CREF Fluid Attributes have been updated and match the image set in the Tile Wizard.

# TAKE-HOME MESSAGE



**If you create a tile with the Tile Wizard, you need to edit its image in the tile wizard. \***

**Tile Wizard is great for creating “special” tiles and navigation collections, though for “normal” navigational tiles, it may be better to create these manually.**

\* But labels can be updated through both the Tile Wizard and Structure and Content without a problem.

# WHERE HAS THE FLUID ATTRIBUTES TAB GONE?!

Quick Tip!

“Real” Content References for components have “Fluid Attributes”...

General Security **Fluid Attributes**


[Root](#) > [Records and Enrolment](#) > [Change in Circumstances](#) >

### Content Ref Administration

Name UC\_LTWA\_ADMIN\_FL\_GBL

\*Label

...while links do not

Content References							
				Personalise   Find   View All      	First 2-10 of 10 Last		
Link	Node Name	Label	Edit	Sequence number	Create Link	Number of links	
<input checked="" type="checkbox"/>	LOCAL_NODE	Administer LTWA applications	Edit	0	Create Link	0	

General Security **Fluid Attributes**

[Root](#) > [Fluid Structure Content](#) > [Fluid Pages](#) > [Tiles for Student Information](#) >

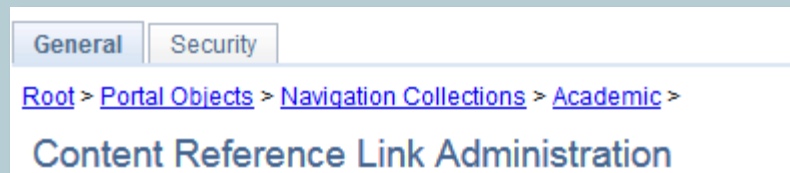
### Content Reference Link Administration



# WHERE HAS THE FLUID ATTRIBUTES TAB GONE?!

Quick Tip!

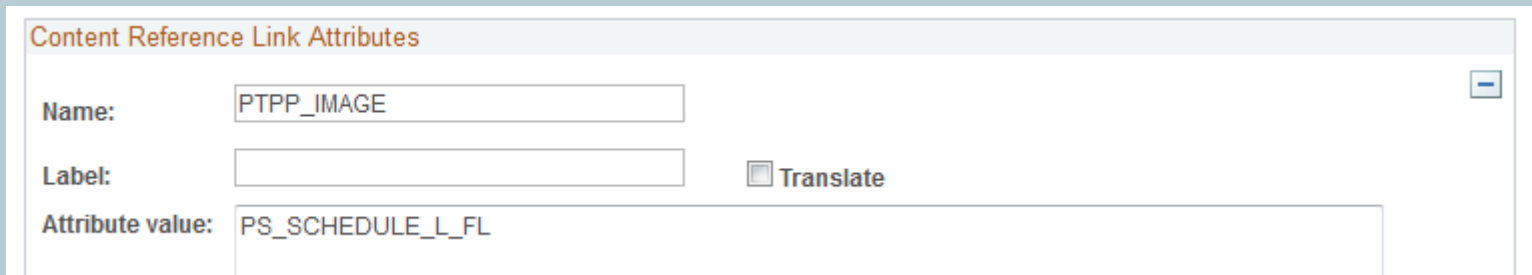
...although links in Navigation Collections *can* have image attributes:



General Security

[Root](#) > [Portal Objects](#) > [Navigation Collections](#) > [Academic](#) >

Content Reference Link Administration



Content Reference Link Attributes

Name:

Label:  ☐ Translate

Attribute value:

# 3. HOW TO STYLE PAGE CONTROLS

---



# HOW TO STYLE PAGE CONTROLS

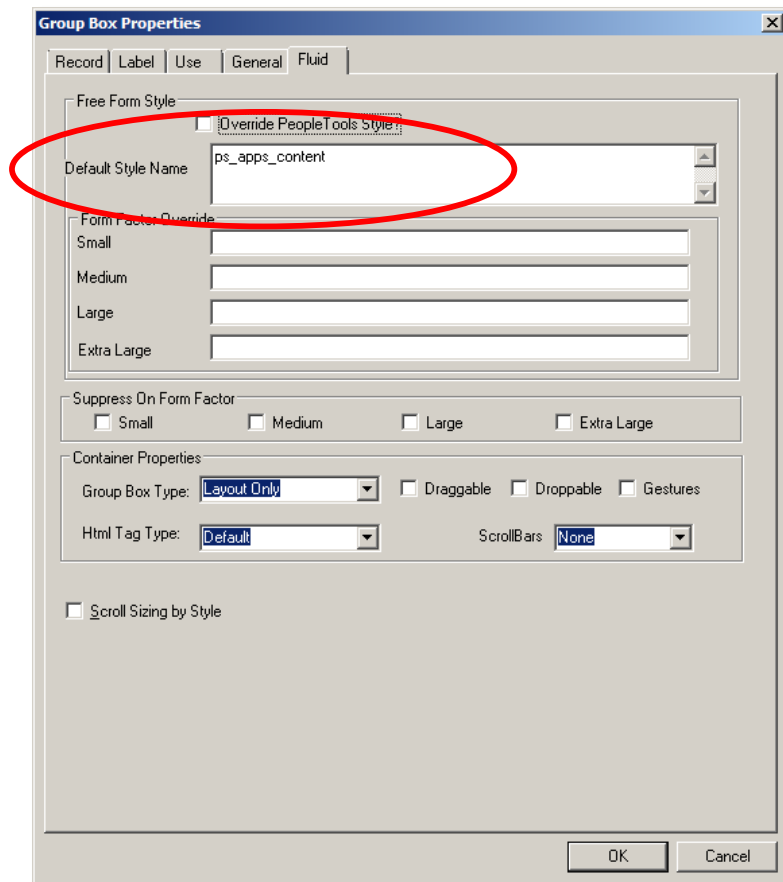
The image shows a screenshot of a software interface titled "Edit Email". The dialog box has a title bar with "Cancel", "Edit Email", and "Save" buttons. The main content area contains the following elements:

- "Type External" label and text.
- "\*Email" label and a text input field containing "awa21@cam.ac.uk".
- A checkbox labeled "Preferred" which is currently unchecked.

Red arrows point from the text "These are page controls" to the "Cancel", "Type", "Email", and "Preferred" elements. Another red arrow points from the text "Ditto..." to the "Save" button.

# HOW TO STYLE PAGE CONTROLS

Through properties:



Through code:

```
AddStyleSheet(StyleSheet.MY_SHEET);  
  
&fld1.AddFFClass("my_class");
```

# PROPERTIES VS CODE

## PROPERTIES

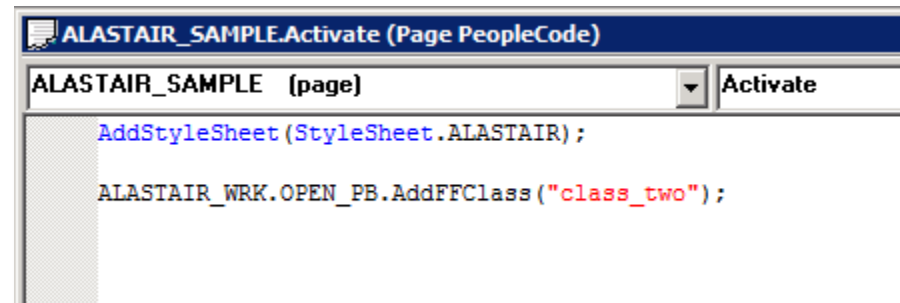
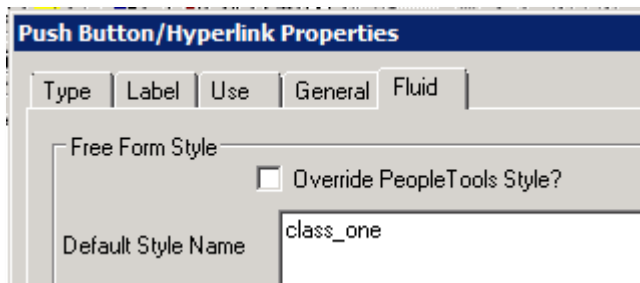
- ✓ Immediately obvious where styling is set.
- ✓ Multiple instances of same field on the page requiring different styling? (Quite unlikely.)
- ✗ Not picked up with “Find in...”

```
SELECT * FROM PSPNLFIELDXT  
WHERE FFSTYLELONG LIKE '%my_class%';
```

## CODE

- ✓ Conditional formatting / visibility based on logic in component, (e.g. hiding or colouring a field on error)

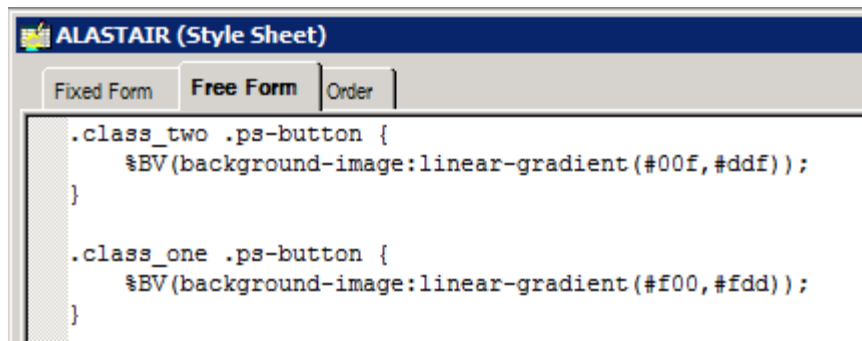
# DO PROPERTIES OR CODE TAKE PRIORITY?



Both methods append classes to the HTML:

```
<div class="ps_box-button class one class two"
      id="win3divALASTAIR_WRK_OPEN_PB">
```

# DO PROPERTIES OR CODE TAKE PRIORITY?



Order of classes in CSS does not matter...

...but the order of classes in your stylesheet – and the order in which you load the stylesheets – determines which class takes priority.

**Specified later = Higher priority**

# WHERE HAS `<INSERT-NAME-OF-FIELD-HERE>` GONE?!

You can use `psc_hidden` (or `ps_hidden`) to completely remove an element from the DOM \*

If you want to remove an element (or conditionally format an element) based on form-factor, then you can use **either properties or code** to add the `psc_hidden` class...

...but beware that elements may *also* be suppressed on certain form factors using the check boxes in properties.



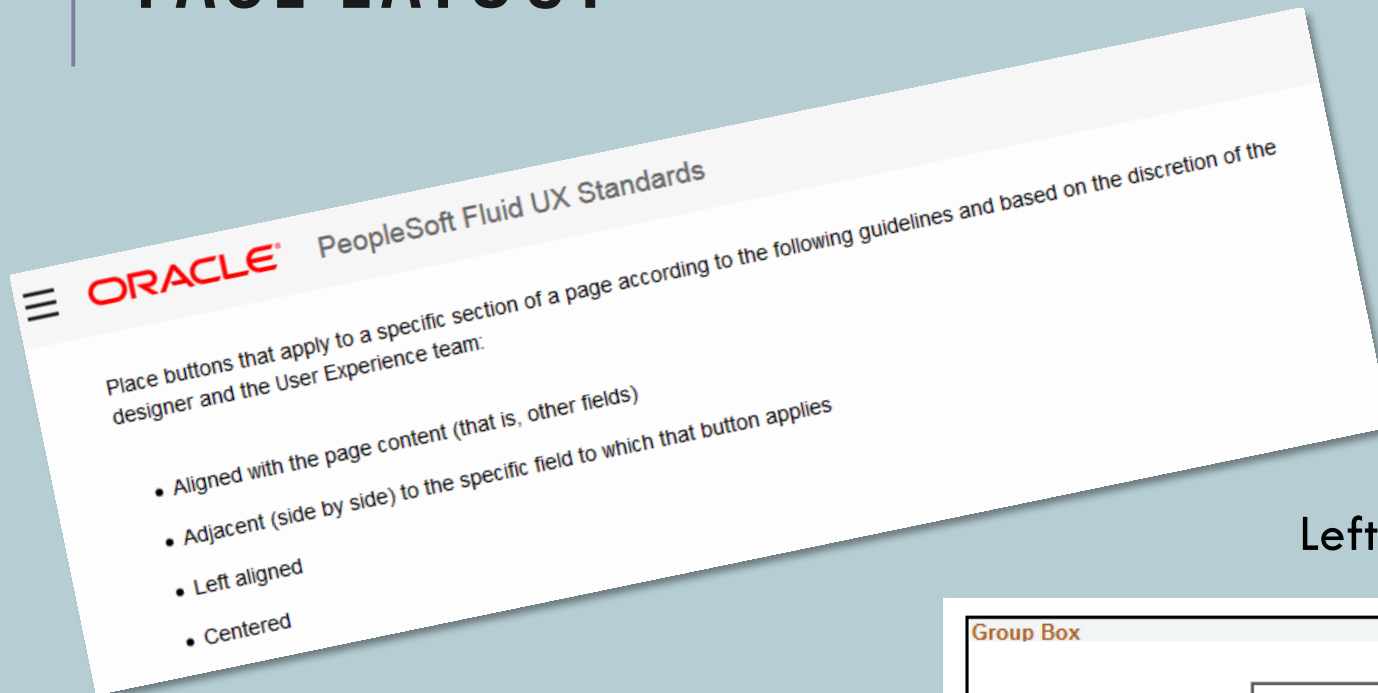
**Discuss standards in your team.**

\* Sets `{display: none;}` vs `psc_invisible` which sets `{visibility: hidden;}`



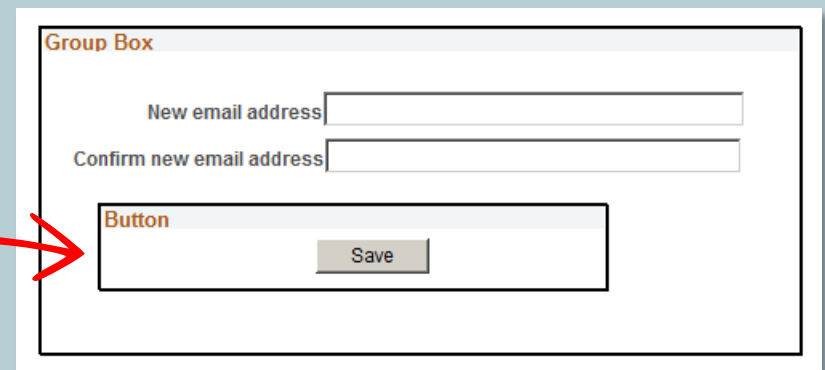
# PAGE LAYOUT

Quick Tip!



Left-aligned buttons:

psc\_label\_filler







The diagram shows a 'Group Box' containing two text input fields: 'New email address' and 'Confirm new email address'. Below these fields is a 'Button' container. Inside this container, the 'Save' button is left-aligned with the 'Confirm new email address' field. A red arrow points from the text 'psc\_label\_filler' to the 'Button' container.


# PAGE LAYOUT

Quick Tip!


[Student Self Service](#)


Personal








USN  
300792320


 Personal details

 Contact details

 Awards and bursaries

 Change password

 **Change log in email**

 Useful information

### Change log in email

If you need to update the email address which you use to log in with, please use the form below:

\*New email address

\*Confirm new email address

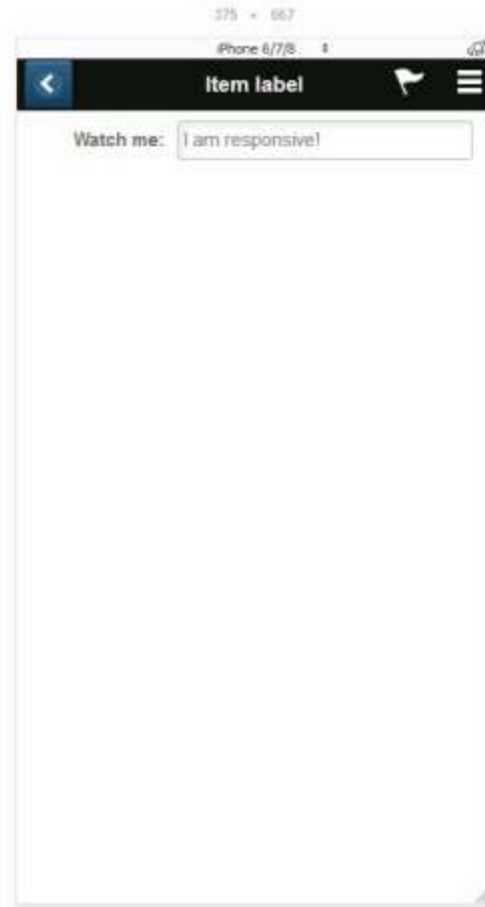
Save

# RESPONSIVE PAGE DESIGN

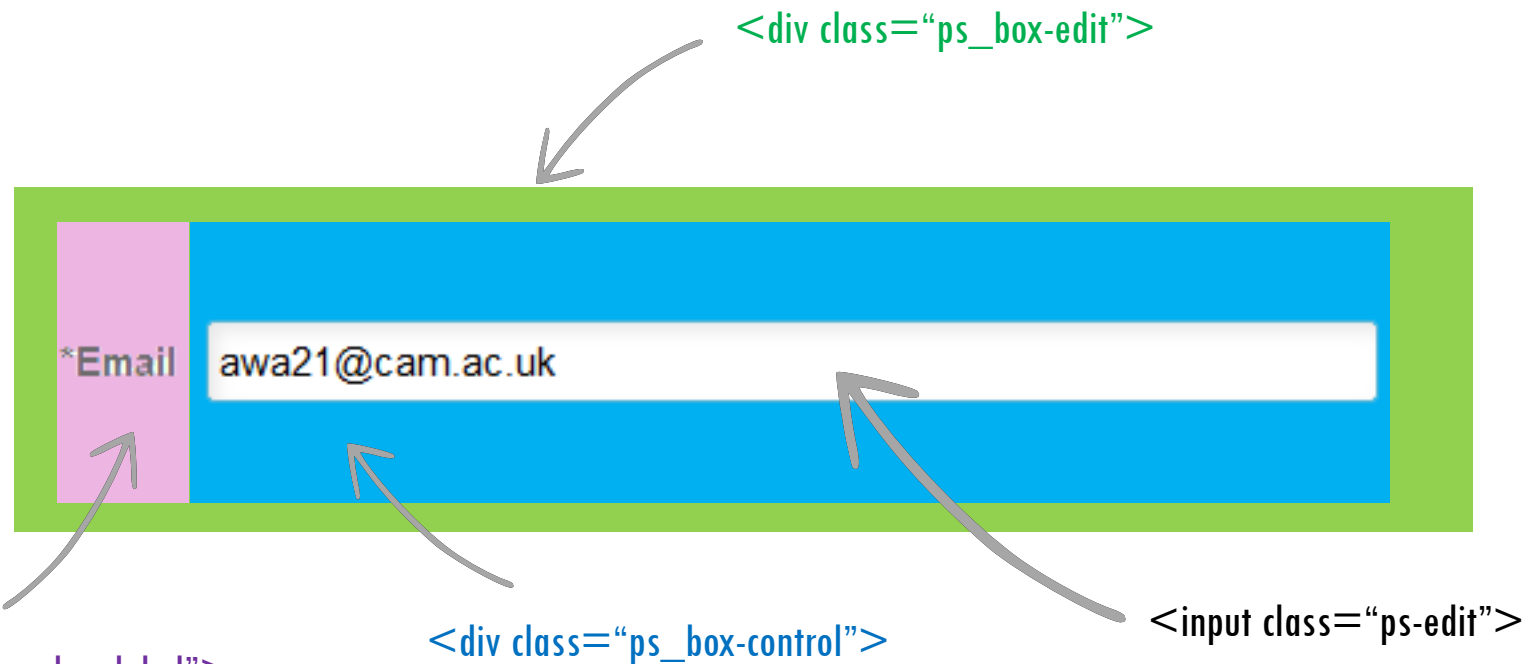
Oracle provide `px-`, `em-` and `pct-`-based helper classes in the delivered stylesheets. None of these are responsive.

Could use `vw` units for a truly “fluid” experience...

### 3. HOW TO STYLE PAGE CONTROLS



# RESPONSIVE PAGE DESIGN



# RESPONSIVE PAGE DESIGN

Need to specifically target edit boxes:

```
.uc_width-60vw > .ps_box-control > .ps-edit {width: 60vw;}
```



**We get responsive controls, without needing to explicitly set different widths in px / em for different form factors.**

# 4. HOW TO JAZZ UP YOUR GRIDS

---



# ADD IMAGES TO GRIDS

## Student's contact details



+		
Preferred?	Contact details	
✓	 0718-687-529	>
✓	 catherine.horton@example.com	>
	 catherine.horton@anotherexample.com	>

Image column  
and IRef field

Pseudo selectors

psc\_show-actionable



# ADD IMAGES TO GRIDS

UC_LTWA_WRK (Record)						
Record Fields		Record Type				
Num	Field Name	Type	Len	Format	Short Name	Long Name
1	OPEN_PB	Char	1	Upper	Open	Open
2	DUMMY_CHEVRON	Char	1	Upper	Actions	Actions
3	SCC_PREFERRED_ICN	IRef			Preferred	Preferred

Invisible  
edit box column

Invisible  
edit box column

Visible  
edit box column

Student contact details						
	Contact Number	Preferred	Preferred?	Contact type	Contact details	
1						
2						

(psc\_show-actionable)

Invisible  
edit box column

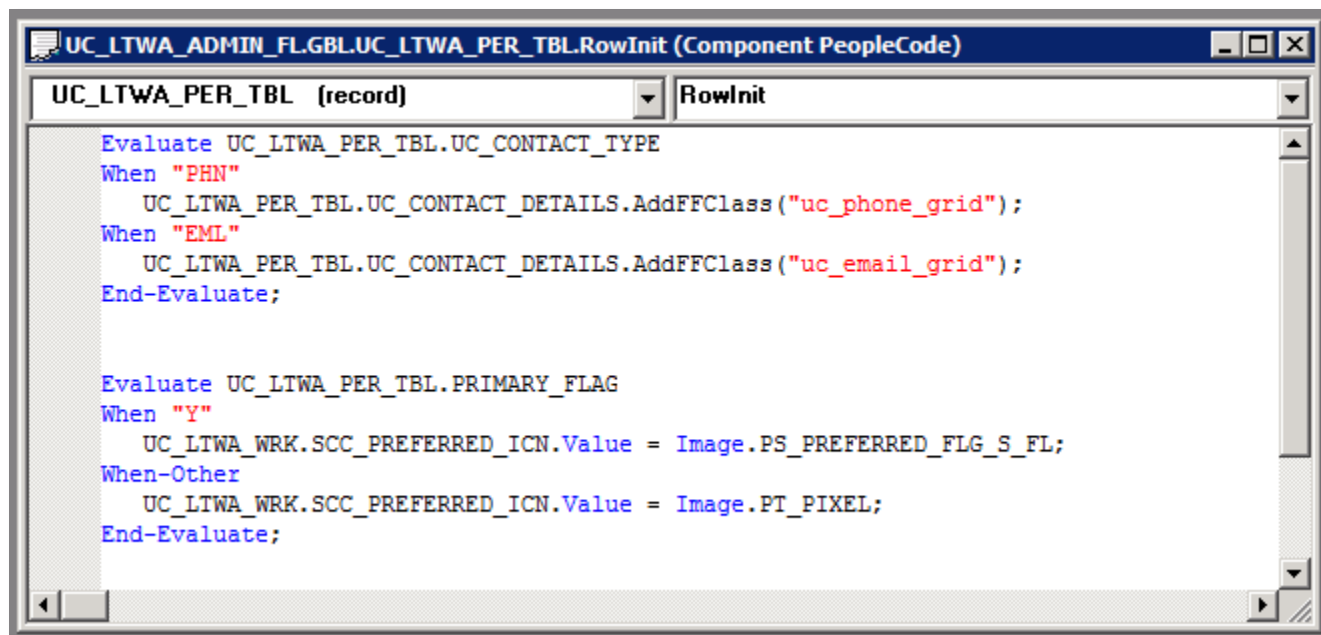
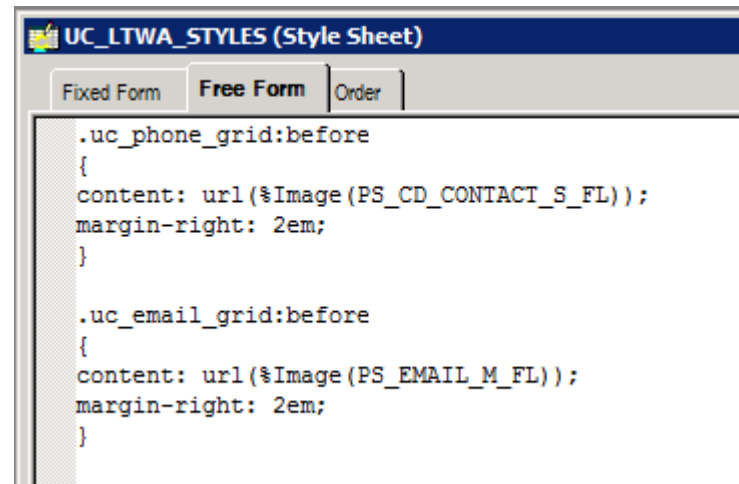
Image column  
UC\_LTWA\_WRK.  
SCC\_PREFERRED\_ICN

Push button  
UC\_LTWA\_WRK.  
OPEN\_PB

Edit box column  
UC\_LTWA\_WRK.  
DUMMY\_CHEVRON  
(psc\_more)

- ✓ Enable when page is display only
- ✓ Execute PC on Row/Group Click

# ADD IMAGES TO GRIDS



# DON'T GET STUNG!

Properties for a grid group box apply up until the next group box.

A whole group box can be suppressed through properties (rather than using code or making individual columns individual) but the next group box will be visible.



Quick Tip!

## 5. HOW TO LAUNCH ACTIVITY GUIDES

---



# HOW TO LAUNCH ACTIVITY GUIDES

Quick Tip!

We generate a URL – either on a button `FieldChange` event, or on `PageActivate` if we come via a Navigation Collection:

```
&sAgTemplateId = "UC_LTWA";

&url = GenerateComponentContentURL(%Portal, %Node,
MenuName.NUI_FRAMEWORK, %Market, Component.PT_AGSTARTPAGE_NUI,
Page.PT_AGSTARTPAGE_NUI, "");

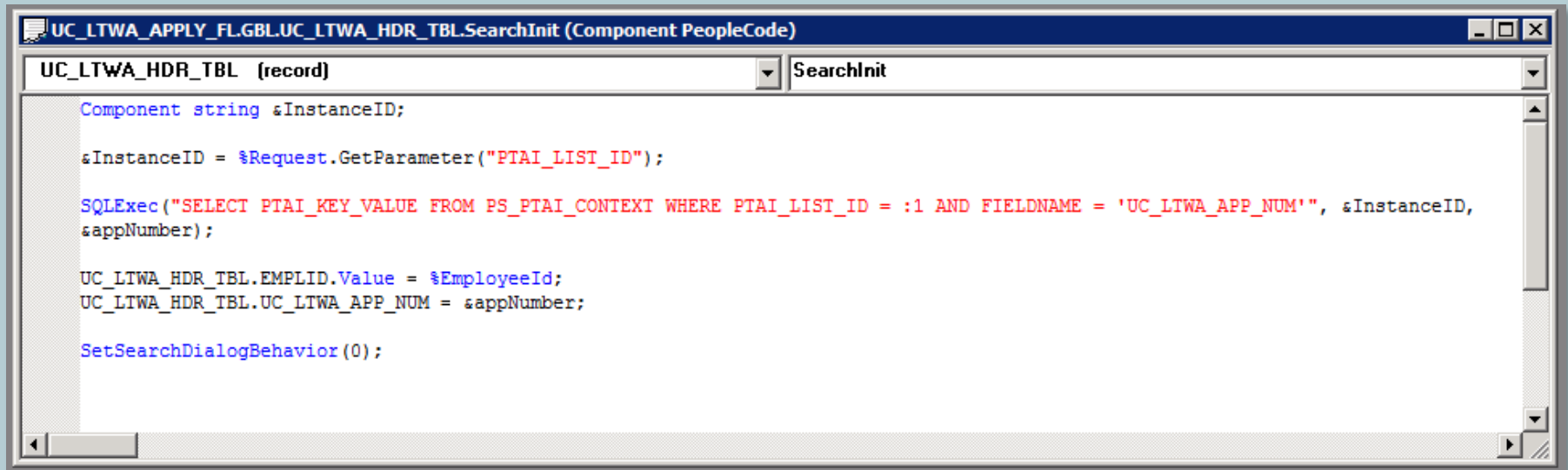
&url = &url | "&" | "CONTEXTIDPARAMS=" | "TEMPLATE_ID" | ":" |
&sAgTemplateId | "&CONTEXTIDPARAMS=EMPLID" | ":" | %EmployeeId
| "&AJAXTransfer=y&fmode=1";

%Response.RedirectURL(&url);
```

# HOW TO LAUNCH ACTIVITY GUIDES

Quick Tip!

Once we are in the Activity Guide, we can use the query string parameters to get the Instance ID, and access e.g. context data:



```
UC_LTWA_APPLY_FL.GBLUC_LTWA_HDR_TBL.SearchInit (Component PeopleCode)

UC_LTWA_HDR_TBL (record) SearchInit

Component string &InstanceID;

&InstanceID = %Request.GetParameter("PTAI_LIST_ID");

SQLExec("SELECT PTAI_KEY_VALUE FROM PS_PTAI_CONTEXT WHERE PTAI_LIST_ID = :1 AND FIELDNAME = 'UC_LTWA_APP_NUM'", &InstanceID,
&appNumber);

UC_LTWA_HDR_TBL.EMPLID.Value = %EmployeeId;
UC_LTWA_HDR_TBL.UC_LTWA_APP_NUM = &appNumber;

SetSearchDialogBehavior(0);
```

## 6. HOW TO CREATE A RESPONSIVE CUSTOM HEADER

---



# GOAL

Hide this on mobile


Content on the right

✕ Exit

Enrol in an exam

Next >

☰



**Merlin Snell**  
302992052 / eg455  
Selwyn College

Programme  
Subject  
Term

(not selected)  
(not selected)  
(not selected)

1

**Introduction**  
In Progress

2

**Select career**  
Not Started

3

**Select subject area**  
Not Started

4

**Select term**  
Not Started

5

**Select exams**  
Not Started

6

**Complete exam enrolment**  
Not Started

## Step 1 of 6: Introduction

Exam enrolment should take less than 10 minutes.

Use the buttons in the black header or the numbered sections to the left to navigate through each page. **Do not** use your browser navigation buttons.

A 'How-To' [video](#) is available to watch (requires [Flash Player](#)) that demonstrates the steps required to complete exam enrolment.

When you are ready to start, please navigate to the next page.



# GOAL

The screenshot shows a mobile app interface for 'Enrol in an exam'. At the top is a dark header bar with a close button (X), the title 'Enrol in an exam', and navigation arrows (back and forward) and a menu icon (three horizontal lines). Below the header is a progress bar labeled 'Step 4 of 6'. The main content area has a light gray background and contains a table with exam details. The table has three rows: 'Programme' with value 'Undergraduate', 'Subject' with value 'Medical and Veterinary Sciences Tripos Part IB', and 'Term' with value 'Easter Term 2019'. Below the table is a section titled 'Select term' with instructions: 'Select the term for the period when the exam takes place, then navigate to the next page.' Below the instructions is an information icon (i) followed by the text: 'If more than one term is displayed you may need to enrol in exams for each term.' At the bottom is a table with a single row for 'Easter Term 2019'. To the left of this row is a blue button with two white vertical bars (||) and a green toggle switch.

Programme	Undergraduate
Subject	Medical and Veterinary Sciences Tripos Part IB
Term	Easter Term 2019

**Select term**

Select the term for the period when the exam takes place, then navigate to the next page.

**i** If more than one term is displayed you may need to enrol in exams for each term.

Term
<input checked="" type="checkbox"/> Easter Term 2019

We want this to "flex"

# GOAL

Delivered Activity Guide header:

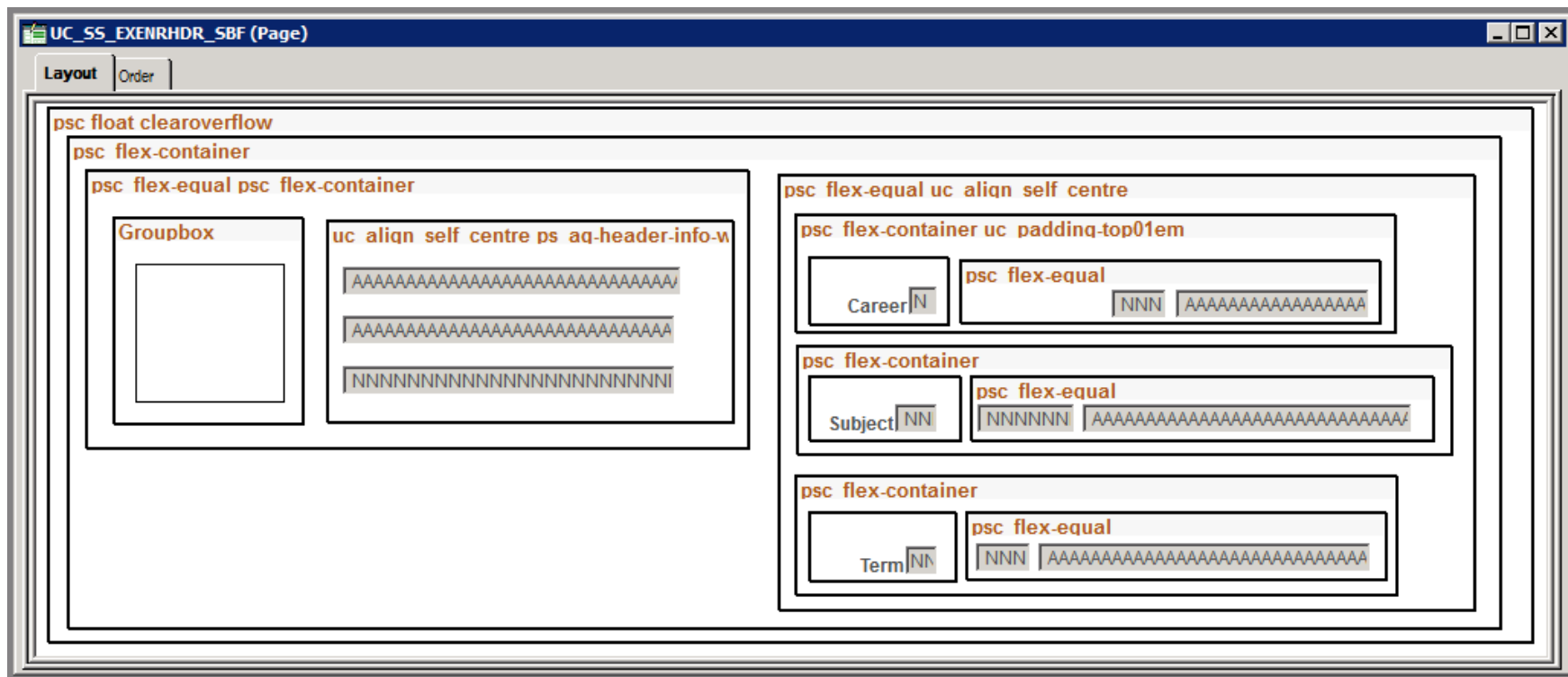
- ✗ limited to 3 rows of context data
- ✗ data only available on the left
- ✗ grey bar appears across screen even when no context data
- ✗ data is still available on mobile (but is redundant for our use-case)

# A RESPONSIVE CUSTOM HEADER

Hide delivered header with JavaScript:

```
var hideActivityGuideHeader = function() {  
  
    document.querySelector('[id$="PT_AG_LAYOUT_PT_AG_GROUPB  
OX3"]').className += " psc_inactive psc_invisible  
psc_hidden";  
  
};
```

## A RESPONSIVE CUSTOM HEADER



## Subpage with `psc_float-clearoverflow` class

# 7. HOW TO SPICE UP YOUR HOMEPAGES (CONDITIONALLY)

---

It'll amaze you!

(Or maybe not.)

## 7. HOW TO SPICE UP YOUR HOMEPAGES (CONDITIONALLY)



# BACKGROUND IMAGE ON A SINGLE HOMEPAGE

Changing the background colour is trivial...

## 7. HOW TO SPICE UP YOUR HOMEPAGES (CONDITIONALLY)

Favourites | Main Menu | PeopleTools | Portal | Branding | Theme Macro Set

UNIVERSITY OF CAMBRIDGE Development

Main Menu | Adviser Self Service | CamSIS for Academics | Student Self Service | Graduate Applicant Self Serv | Extended Self Service

New Window | Help | Personalise Page

Macro

Macro Set UC\_DEFAULT\_MACROSET\_855

Description UC Macroset for Fluid

**Macro List** Personalise | Find | View 10 | First 126-182 of 182 Last

Macro Name	Macro Content	Description		
126 PT_HOMEPAGE_BACKGROUND	#0C5963	Homepage/Dashboard background	+	-
127 PT_HOMEPAGE_BANNER_BORDER_COLOR	#171717	Homepage/Dashboard Banner border color differ	+	-
128 PT_HOMEPAGE_FOOTER_BACKGROUND	#171717	Homepage/Dashboard Footer background	+	-
129 PT_HOMEPAGE_FOOTER_BACKGROUND_COLOR	transparent	Homepage/Dashboard Footer background color	+	-
130 PT_HOMEPAGE_REFRESH_IMAGE	PTNUI_REFRESH_ICN	Homepage/Dashboard Refresh button icon image	+	-
131 PT_HOMEPAGE_REFRESH_IMAGE_CSS		Homepage/Dashboard Refresh button icon image	+	-
132 PT_HOMEPAGE_REFRESH_IMAGE_SCALE	1.25	Homepage/Dashboard Refresh button image sca	+	-
133 PT_HOMEPAGE_REFRESH_SIDE_ADJUST	-0.27em	Homepage/Dashboard Refresh button right (or le)	+	-



# BACKGROUND IMAGE ON A SINGLE HOMEPAGE

...though we can also use JavaScript:

```
var wrapper = document.getElementById("PT_WRAPPER");  
wrapper.setAttribute("style", "background-color: #0C5963;");
```

To affect a single homepage, we target `PT_SCROLLAREA_ROW`

# BACKGROUND IMAGE ON A SINGLE HOMEPAGE

Upload image and create theme macro:

181	UC_TECH_HP_BACKGROUND_COLOR	#343637	Technical homepage background colour	+	-
182	UC_TECH_HP_BACKGROUND_IMAGE	UC_DEVELOPER_HOMEPAGE	Technical homepage background image	+	-

Create Freeform StyleSheet to set background image:

```

/* Set distinctive background colour for homepage, for use on mobile */
.uc_tech_hp_background_color {
    background: $UC_TECH_HP_BACKGROUND_COLOR; /* grey colour specified in our macro set */
}

/* Set background image for homepage, on larger form factors only */
.uc_tech_hp_background_image {
    background: $UC_TECH_HP_BACKGROUND_COLOR; /* grey colour specified in our macro set */
    background-image: url($Image($UC_TECH_HP_BACKGROUND_IMAGE));
    background-repeat: no-repeat;
    background-size: contain;
    background-position: bottom center;
}

```

# BACKGROUND IMAGE ON A SINGLE HOMEPAGE

Create JavaScript (HTML definition) to apply `.uc_tech_hp_background_image` class to `PT_SCROLLAREA_ROW` element for `UC_TECHNICAL_HOMEPAGE` only:

```
var setBackground = function(bSetImage) {
    var bFoundHomepage = false;
    var arrayHomepages = document.querySelectorAll("div[id*='PTNUI_LP_PAGE_row'].ps_box-scrollarea-row");

    for (var i = 0; (i < arrayHomepages.length) && (bFoundHomepage == false); i++) {
        var arraySpans = arrayHomepages[i].querySelectorAll("span[id*='PTNUI_LP_PAGE_PTNUI_LP_NAME']");
        for (var j = 0; (j < arraySpans.length); j++) {
            if (arraySpans[j].innerHTML == "SA.EMPLOYEE.UC_TECHNICAL_HOMEPAGE") {
                bFoundHomepage = true;
                if (bSetImage == true) {
                    arrayHomepages[i].classList.add("uc_tech_hp_background_image");
                } else {
                    arrayHomepages[i].classList.add("uc_tech_hp_background_color");
                }
            }; /* end-if bSetImage */
        }; /* end-if arraySpans */
    }; /* end-for arraySpans */
}; /* end-for arrayHomepages */
```

# BACKGROUND IMAGE ON A SINGLE HOMEPAGE

Create Application Package to inject CSS and JavaScript only if the user has the appropriate Permission List:

```
import PT_RCF:ServiceInterface;

class SetDeveloperHomepage extends PT_RCF:ServiceInterface
  method execute();
end-class;

method execute
  /* Extends/implements PT_RCF:ServiceInterface.execute */

  Local array of string &PermissionLists = %PermissionLists;
  Local integer &i;

  For &i = 1 To &PermissionLists.Len
    If &PermissionLists [&i] = "UC_TECH_PTTOOLS" Then
      AddStyleSheet(StyleSheet.UC_DEVELOPER_HOMEPAGE_CSS);
      AddJavaScript(HTML.UC_DEVELOPER_HOMEPAGE_JS);
      If %Request.BrowserDeviceFormFactor <> %FormFactor_Small Then
        AddOnLoadScript("setBackground(true)");
      Else
        AddOnLoadScript("setBackground(false)");
      End-If; /* end-if %Request.BrowserDeviceFormFactor = %FormFactor_Small */
      Break;
    End-If; /* end-if &PermissionLists [&i] = "UC_TECH_PTTOOLS" */
  End-For;
end-method;
```

wait until page  
has been loaded

useful environment variable

no image on mobile

# BACKGROUND IMAGE ON A SINGLE HOMEPAGE

Link the Application Package to [PT\\_LANDINGPAGE\\_GBL](#) PostProcess using Event Mapping:

The screenshot shows the University of Cambridge Development portal. The top navigation bar includes links for Favourites, Main Menu, PeopleTools, Portal, Related Content Service, and Manage Related Content Service. The University of Cambridge logo and the word "Development" are on the left, and home, flag, and menu icons are on the right. Below the navigation bar, there are tabs for Main Menu, Adviser Self Service, CamSIS for Academics, Student Self Service, and Graduate Applicant Self Service. The "Event Mapping" tab is selected, and the "Configure Event Mapping" page is displayed. The page includes a description of the configuration and a table for mapping external application classes to component level events.

**Configure Event Mapping**

Configure the external Application Class with the Component Level or Component Record Level event. It can be configured to be executed as Pre Process or Post Process.

[Content Reference](#) [Fluid Homepage](#)

**Component Level Event Mapping**

Map the external Application Class to Component Level Event.

[Personalise](#) | [Find](#) | [View All](#) | [First](#) | [1 of 1](#) | [Last](#)

Enable	Event Name	Select	Service ID	Processing Sequence		
<input checked="" type="checkbox"/>	Post Build		UC_DEVELOPER_HOMEPAGE_RCS	PostProcess		

# DON'T GET STUNG!

Once a user has accessed a homepage, any further global changes you make (e.g. to homepage name) will not be visible to that user, as the homepage will be considered "personalized".

Check the Tools tables:

**PSPRUHDEFN**

**PSPRUHTAB** (names of personal homepages)

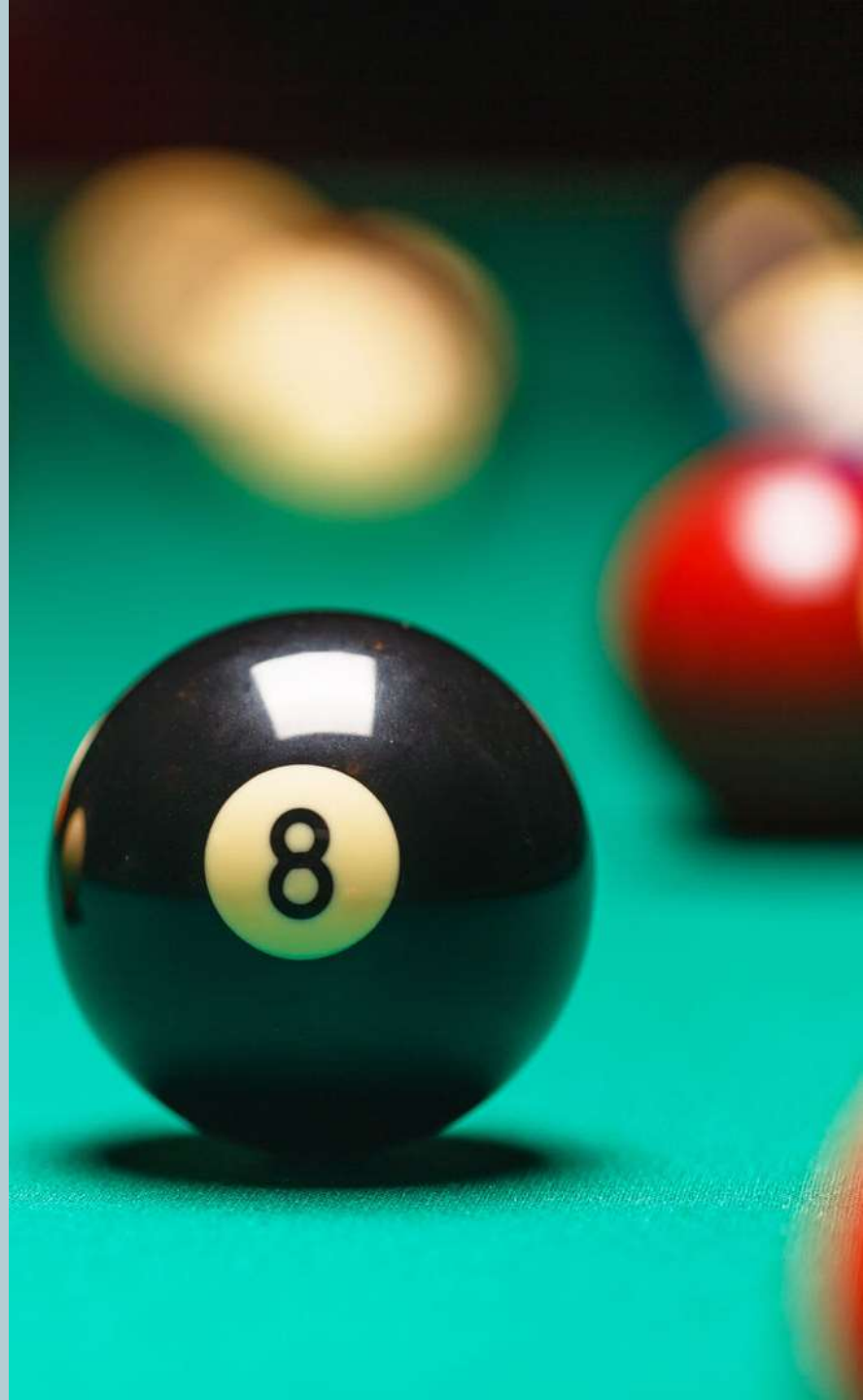
**PSPRUHTABPGLT** (position of tiles on personal homepages)



Quick Tip!

## 8. HOW TO OVERRIDE THE “BACK” BUTTON

---



# OVERRIDE THE “BACK” BUTTON

Quick Tip!

To launch an Activity Guide from a Navigation Collection, using `%Response.RedirectURL()` on `PageActivate` \*

This risks creating an “infinite loop” when we exit...

`SSR_MANAGE_CLASSES_JS` contains two useful functions, `goBackToHomepage()` and `removeCompPageFromHistoryStack()` which we can call from Component `PostBuild`:

```
AddJavaScript(HTML.SSR_MANAGE_CLASSES_JS);  
AddOnLoadScript("goBackToHomepage();");
```

\* Oracle advise against redirecting from inside the Activity Guide fluid wrapper, and a Navigation Collection is really just a type of Activity Guide...



Quick Tip!

## 9. HOW TO WORK WITH PAGE TITLES

---



# HOW TO WORK WITH PAGE TITLES

Quick Tip!

2.

1.

3.

Component properties

Search Results

Books

ISBN Number 9780590541787

Author Pullman, Philip

Year 1995

Title Main Northern Lights

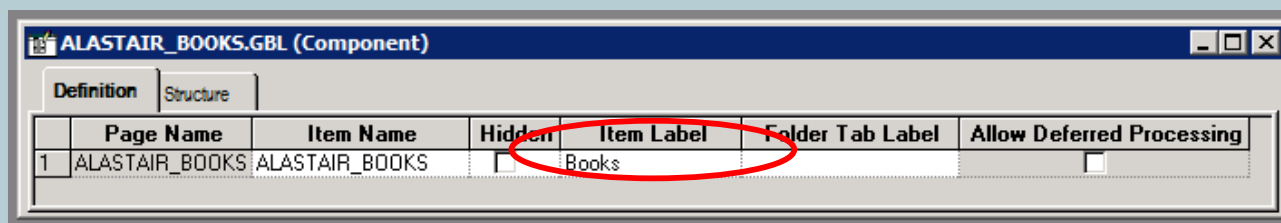
Publisher Scholastic

	ISBN Number	Unique Identifier		
1	9780590541787	003	+	-
2	9780590541787	019	+	-

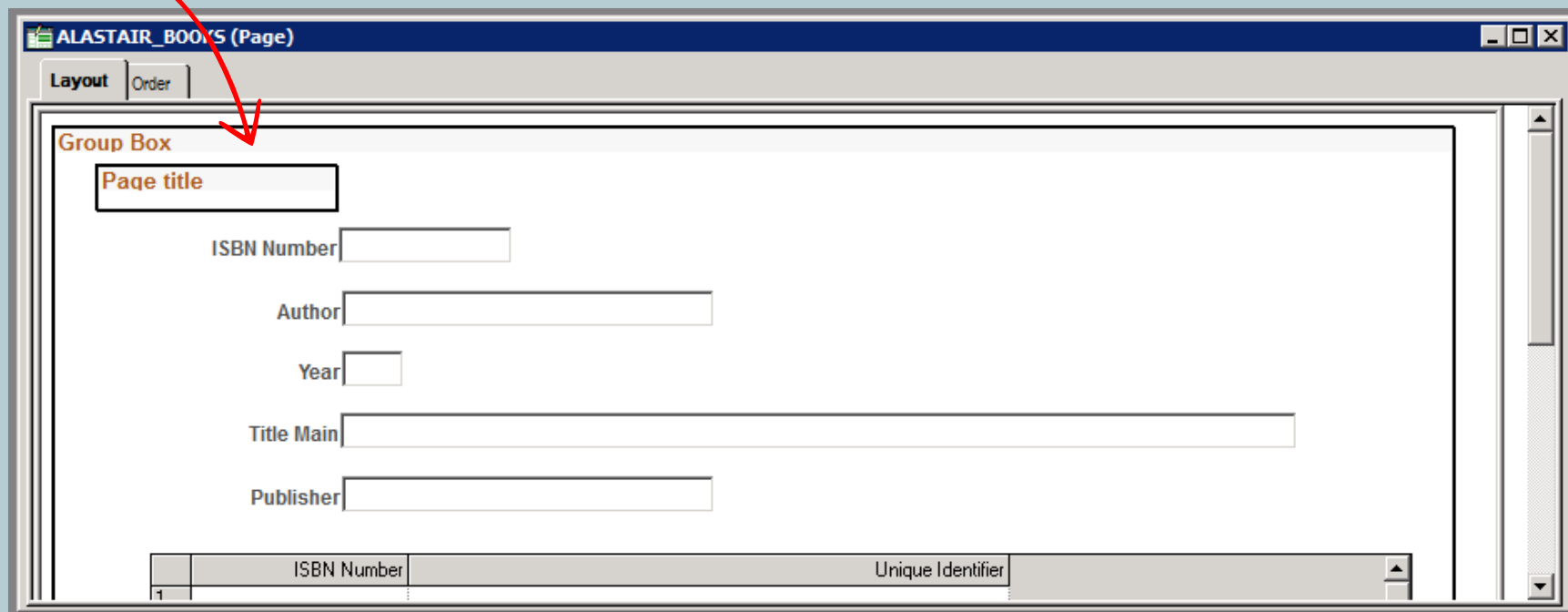
# HOW TO WORK WITH PAGE TITLES

Quick Tip!

Group Box Type:  
Page Title



	Page Name	Item Name	Hidden	Item Label	Folder Tab Label	Allow Deferred Processing
1	ALASTAIR_BOOKS	ALASTAIR_BOOKS		Books		<input type="checkbox"/>



ALASTAIR\_BOOKS (Page)

Layout Order

Group Box

Page title

ISBN Number

Author

Year

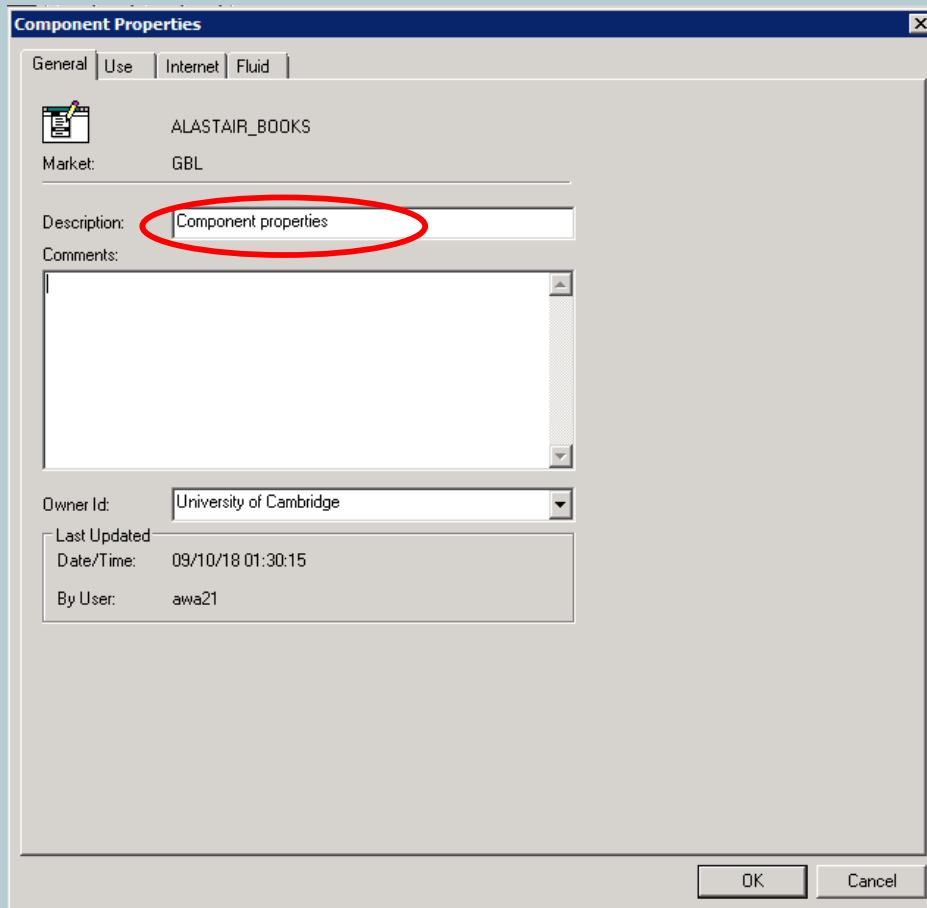
Title Main

Publisher

	ISBN Number	Unique Identifier
1		

# HOW TO WORK WITH PAGE TITLES

Quick Tip!



**Component Properties**

General | Use | Internet | Fluid

ALASTAIR\_BOOKS

Market: GBL

Description: **Component properties**

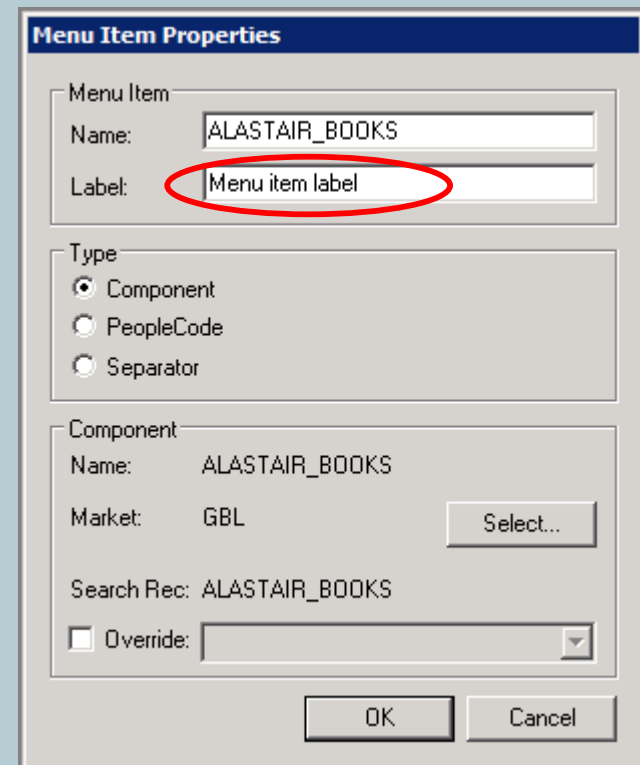
Comments:

Owner Id: University of Cambridge

Last Updated: 09/10/18 01:30:15

By User: awa21

OK Cancel



**Menu Item Properties**

Menu Item

Name: ALASTAIR\_BOOKS

Label: **Menu item label**

Type

☒ Component

☐ PeopleCode

☐ Separator

Component

Name: ALASTAIR\_BOOKS

Market: GBL Select...

Search Rec: ALASTAIR\_BOOKS

☐ Override:

OK Cancel

# HOW TO WORK WITH PAGE TITLES

Quick Tip!

Banner title also comes from Component's Item Label value...

...but *can* be overwritten (or generated dynamically) using PeopleCode:

```
(create PT_PAGE_UTILS:Banner()).SetPageTitle("My Title");
```

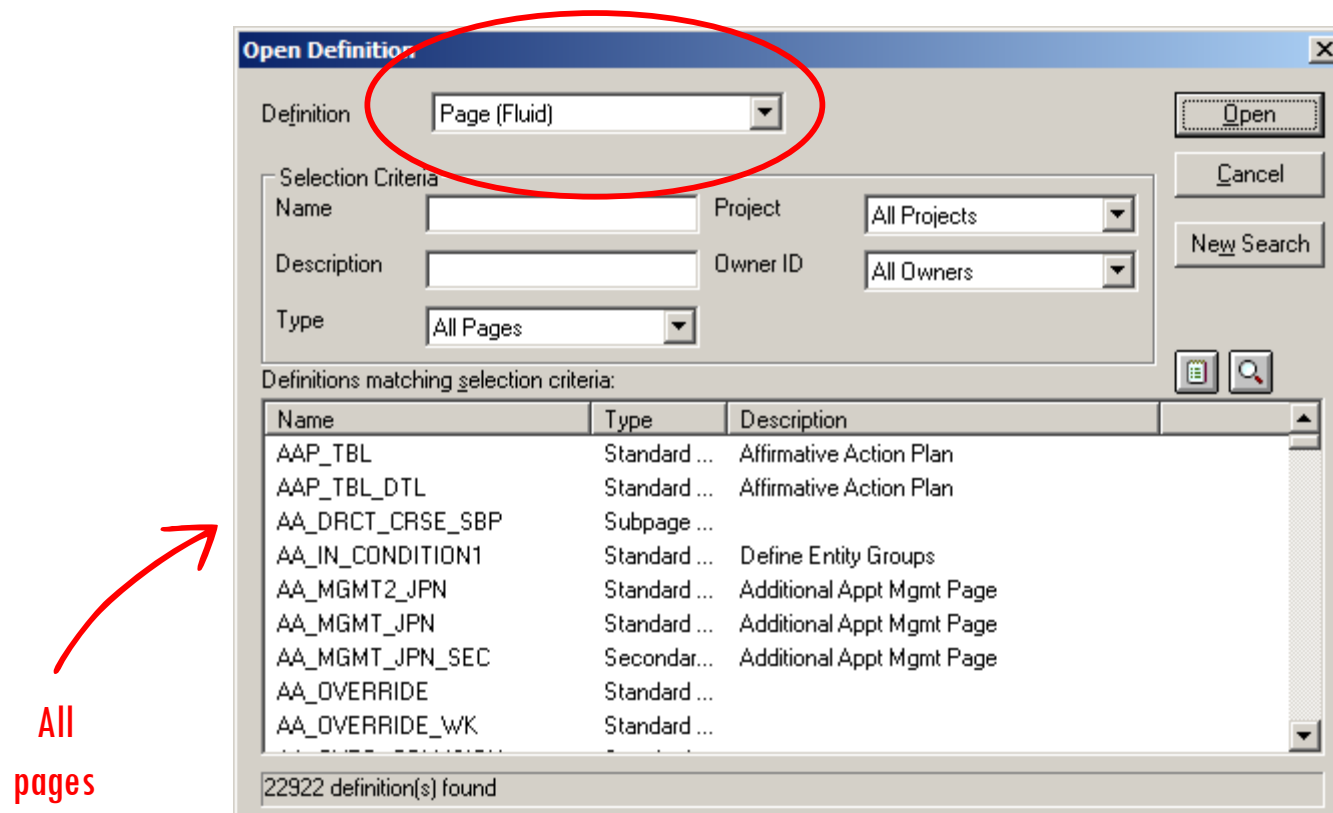
# 10. HOW TO FIND STUFF

---



# USEFUL RESOURCES

- Use delivered Fluid pages for inspiration



To find pages with the 'Fluid' checkbox ticked:

```
SELECT * FROM PSPNLDEFN WHERE BITAND(PNLUSE, 16384) > 0;
```



# USEFUL RESOURCES

- Use delivered Fluid pages for inspiration
- Consult delivered CSS for more inspiration ([PSSTYLEDEF\\_FMODE](#))
- Check *PeopleSoft CSS Guide for PeopleSoft Fluid User Interface* (<https://support.oracle.com/epmos/faces/DocumentDisplay?id=1909955.1>)
- MDN for comprehensive CSS and JavaScript documentation (<https://developer.mozilla.org/en-US/>)
- CSS Tricks (<https://css-tricks.com/>)
- PeopleSoft blogs
  - Sasank's PeopleSoft Log (<https://pe0ples0ft.blogspot.com/>)
  - PeopleSoft Mods (<http://www.peoplesoftmods.com/>)
  - CY2 Fluid blog (<https://cy2.nl/blog/>)

# BEFORE WE GO...

Other presentations by Cambridge speakers:

Tuesday 2.40pm – 3.30pm (session 4508)

*Meeting GDPR requirements in Campus Solutions*

Wednesday 9.00am – 9.50am (session 4516)

*Fluid Approvals and Page Composer*

Wednesday 1.30pm – 2.20pm (session 4504)

*If at first you don't succeed, re-implementing your Academic Structure*

# BEFORE WE GO...

All Alliance presentations – including this one – will be available for download from the Conference Site

Information from today's presentation being added this week to [www.peopleblog.co.uk](http://www.peopleblog.co.uk)



**Alastair Appleton**

Developer (Student Systems)

University of Cambridge

[awa21@cam.ac.uk](mailto:awa21@cam.ac.uk)



This is a goose, not a swan. He is not at all aggressive.

# THANK YOU!

ANY QUESTIONS?