

Infrastructure Design

Phonebook administration guide

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1.1	04/09/2014	Added policy management and assignment
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1 Phonebook administration guide

1.1 Introduction

The phonebook website is a Ruby on Rails web application to manage the data required for the provisioning of directory records suitable for synchronisation to an offsite, out-sourced telephony provider.

1.2 Key stakeholders

The key users of the system are the IT Support and infrastructure teams.

1.3 Usage within London Business School

The target audience for this document is the infrastructure team who will be responsible for backend administration of the site data.

The document does not describe details of the flow of data into and out of the website database which is documented elsewhere.

1.4 Aim of this document

The aim of this document is to describe the administrative functions available and how to perform key operations.

This document does not describe management of actual extension records or any of the data flow and external processing of the site data as this is documented elsewhere.

2

Authentication and authorisation

All insert, update and delete operations must be performed by an authenticated user.

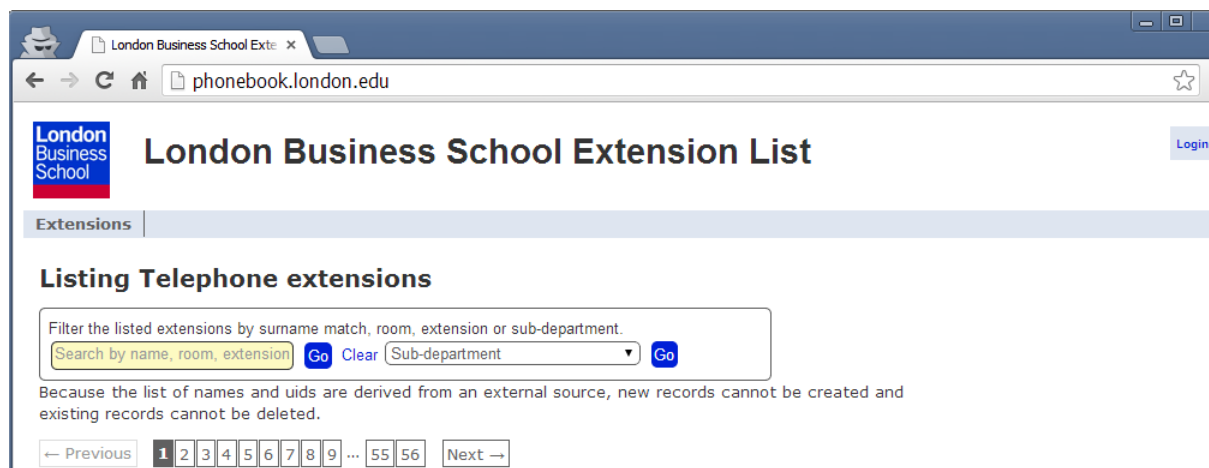
The website does not allow administrative functions to be performed by authenticated users who are given the admin role through the users_roles table. Members of the edit role can update extension details for users (from the phones table) but cannot add, update or delete any other type of record.

The website uses an LBS Active Directory server as the provider of an LDAP service against which authentication can be performed.

Although can view sections such as sub-departments or rooms by typing the correct URL and may even be able to display the edit form, submitting the form will have no effect and will result in an 'Access denied' message being displayed.

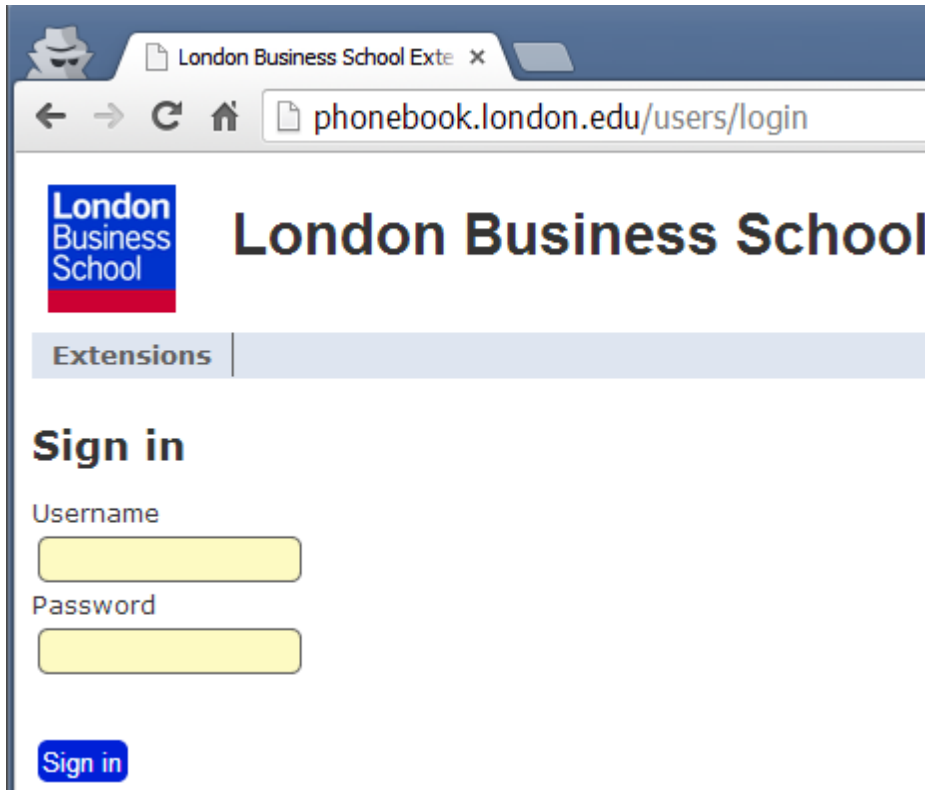
2.1 Login

To access any of the administrative functions, click the 'Login' link at the top-right of the phonebook site,



The screenshot shows a web browser window with the address bar displaying 'phonebook.london.edu'. The page title is 'London Business School Extension List'. In the top right corner, there is a 'Login' button. Below the title, there is a section titled 'Listing Telephone extensions'. This section contains a search filter box with the text 'Filter the listed extensions by surname match, room, extension or sub-department.' Inside the box, there is a text input field with the placeholder 'Search by name, room, extension', a 'Go' button, a 'Clear' button, a dropdown menu with 'Sub-department' selected, and another 'Go' button. Below the search box, a note states: 'Because the list of names and uids are derived from an external source, new records cannot be created and existing records cannot be deleted.' At the bottom of the section, there is a pagination bar with 'Previous' and 'Next' buttons, and a series of numbered links: 1, 2, 3, 4, 5, 6, 7, 8, 9, ..., 55, 56.

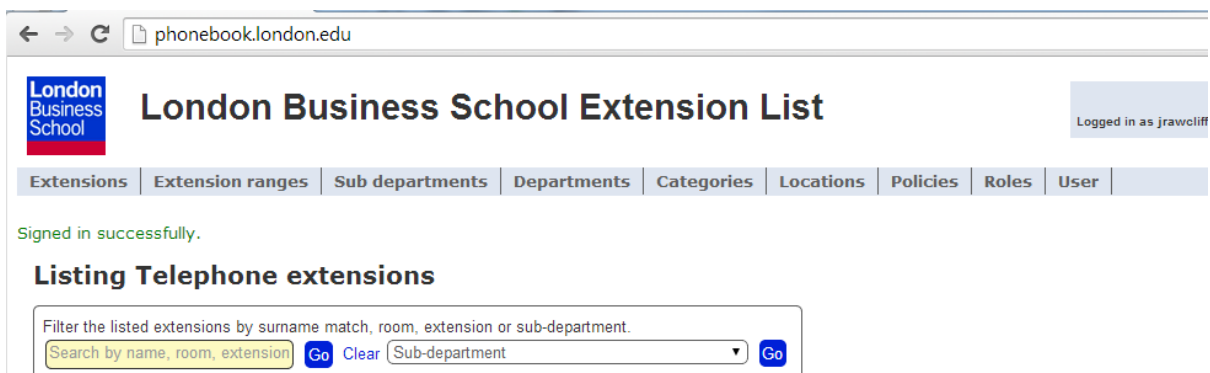
This will display the following form,



The screenshot shows a web browser window with the address bar displaying `phonebook.london.edu/users/login`. The page features the London Business School logo and the title "London Business School". Below the title is a navigation bar with the word "Extensions" highlighted. The main content area is titled "Sign in" and contains two input fields: "Username" and "Password". A blue "Sign in" button is located below the password field.

Sign in using Active Directory credentials. Upon first login, no permissions will be granted, not even to manage extension records.

Success login will redirect back to the extension list page with a brief message to indicate successful login, text showing the name of the logged in user along with a navigation bar showing the full range of permitted management operations.



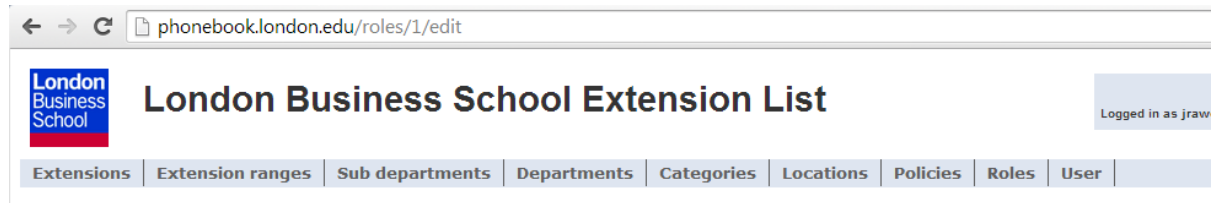
The screenshot shows the "London Business School Extension List" page. The address bar displays `phonebook.london.edu`. The page features the London Business School logo and the title "London Business School Extension List". A navigation bar at the top includes links for "Extensions", "Extension ranges", "Sub departments", "Departments", "Categories", "Locations", "Policies", "Roles", and "User". A message "Signed in successfully." is displayed. Below the message is a section titled "Listing Telephone extensions". A search filter is provided: "Filter the listed extensions by surname match, room, extension or sub-department." Below this is a search input field with a "Go" button and a "Clear" button. The search input field contains the text "Search by name, room, extension" and a dropdown menu showing "Sub-department".

To logout, click the 'Logout link next to the name of the logged in user.

3

Role management

The Roles management section of the phonebook site is accessed by clicking on the 'Roles' navigation link at the top of the page,



This will then display a list of known roles,



Listing roles

[New Role](#)

Warning: Be very, very careful when messing around with the roles.

Role name changes have been disabled for because changing them will prevent access to users belonging to that role.

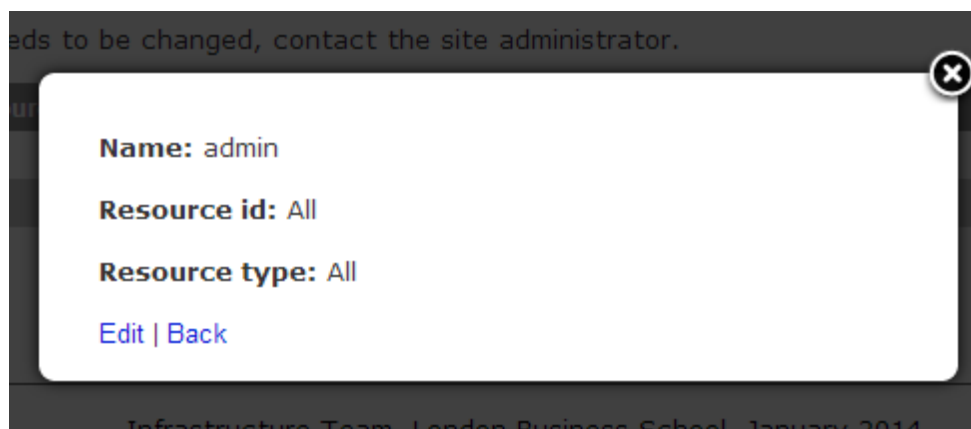
If you really feel that a role name needs to be changed, contact the site administrator.

Name		Resource id	Resource type	
admin		All		
editor		All		
editor		All	Phone	

[New Role](#)

The 'Resource Id' and 'Resource type' columns are not currently used and can be disregarded.

Click on the name of the role for a modal popup of the role's details,



Click the edit link to bring up the edit form for the role (the edit icon to the right of the Role name can also be used to display the edit form).

The Users multiple select element will show all users that have not yet been assigned to a role; a user may only be assigned to a single role.

To add a user to the role, simply highlight the users to be added (use CTRL-click to select the second and subsequent users) and press the 'Update role' button; the Resource fields should be left blank.

Editing Role

The name field is disabled to prevent blocking access to users of that role.

Account details

Name
admin

Resource

Resource type

Users
dbirch

Update Role

[Show](#) | [Back](#)

Note that the form displays a warning about changing the name of a role. This is because the controllers for the different sections of the site include specific references to the names of the roles when granting access. This is a notoriously difficult activity to achieve without complex coding which is not justified on a simple site such as this.

The name element of the role is disabled to prevent changes being made. To make sure that name changes are not applied, the name field has been excluded from the list of permitted fields in the roles controller. A Rails test should be written to confirm this behaviour.

There's currently no way of removing a user from a role, but this can be achieved by updating or removing the user's record from the users_roles database table.

4

Categories

Departments are categorised in one of 3 ways,

- Faculty,
- Staff,
- Non-human

Extensions	Extension ranges	Sub departments	Departments	Categories	Locations
----------------------------	----------------------------------	---------------------------------	-----------------------------	----------------------------	---------------------------

Listing categories

[New Category](#)

Name		
Faculty		
Non-person		
Staff		

Management of the categories is very straightforward.

Click the 'New category' link to bring up the form for a new category,

Extensions	Extension ranges	Sub departments	Departments
----------------------------	----------------------------------	---------------------------------	-----------------------------

New Category

Account details

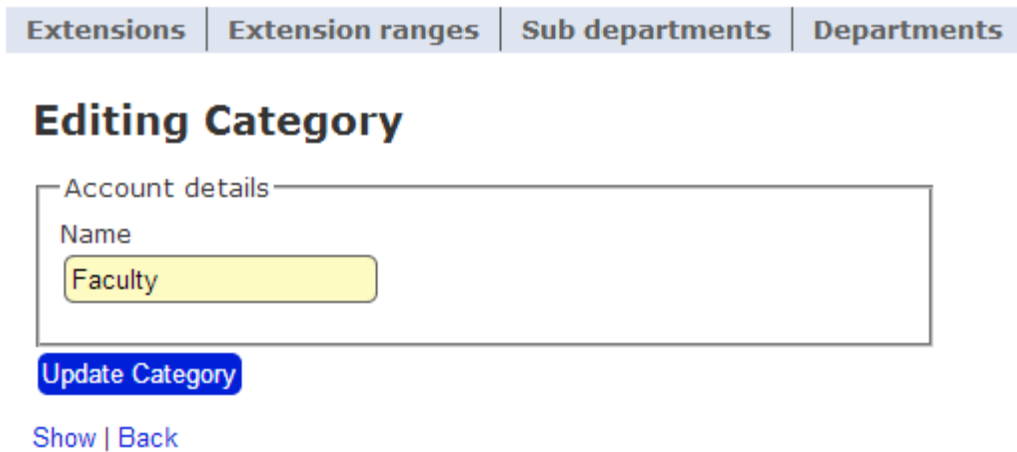
Name

Create Category

[Back](#)

And enter a name for the category. Press 'Create Category' to save the new entry.

Click the 'Edit' icon to display the form to edit the name of an existing category,



Extensions | Extension ranges | Sub departments | Departments

Editing Category

Account details

Name

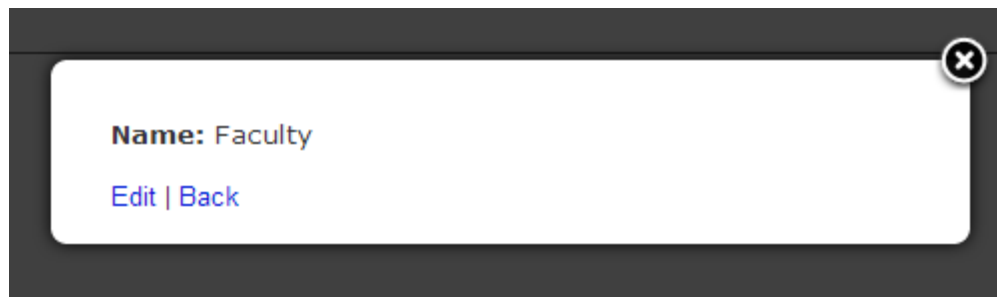
Faculty

Update Category

Show | Back

Press 'Update Category' to save the details.

The 'Show' link shows the category details in a modal popup.



Press 'Esc' or click the 'X' icon to clear the display.

4.1 Deleting categories

Removing a category is achieved by clicking the delete icon on the right-hand side of the index list.

A confirmation prompt will be displayed.



The behaviour of the application with regard to what effect removal of a category record will have on any foreign key references elsewhere in the database is undefined and subject to discussion and inclusion in a later release of the application.

5

Departments

Departments are one of the most difficult areas for management of general data for the School to manage and, initially at least, the phonebook website is providing an authoritative source of departmental information which can be flowed to other applications particularly SchoolDB (EAD database) where the department is stored as a free text field.

































5.1 Viewing departments

Click on the 'Departments' navigation link to show a list of departments,

Extensions	Extension ranges	Sub departments	Departments	Categories	Locations	Roles
------------	------------------	-----------------	-------------	------------	-----------	-------

Listing departments

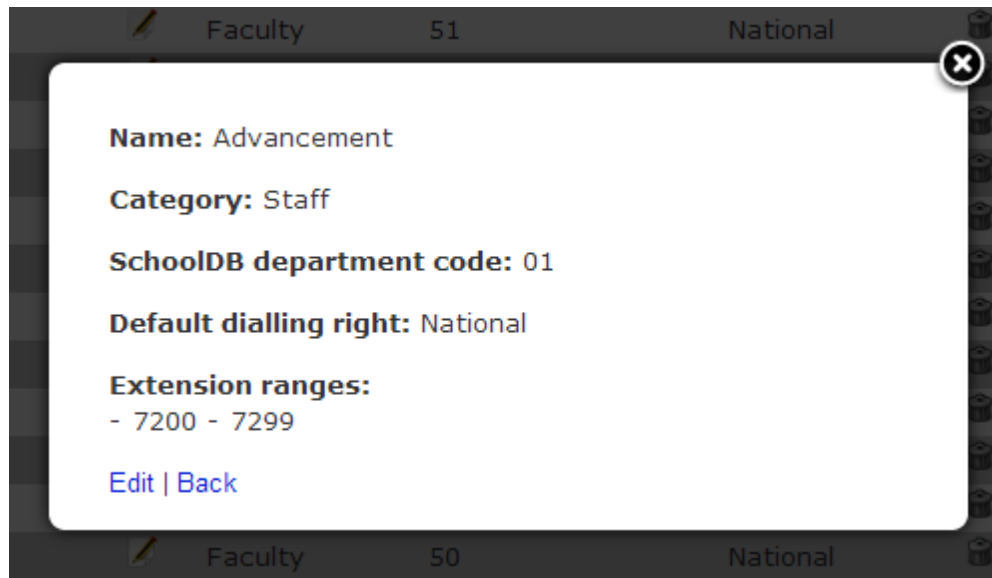
[New Department](#)

Name		Category	Department code	Dialling right	
Accounting		Faculty	51	National	
Advancement		Staff	01	National	
Central Admin		Staff	02	National	
Degree Programs		Staff	03	National	
Economics		Faculty	52	National	
Executive Education		Staff	04	National	
Finance		Faculty	53	National	
Management Science & Operations		Faculty	54	National	
Marketing		Faculty	55	National	
Operations		Staff	05	National	
Organisational Behaviour		Faculty	56	National	
Others		Faculty	50	National	
Research & Faculty		Staff	06	National	
Strategy & Entrepreneurship		Faculty	57	National	
Telecoms		Non-person	91	National	
Tenants		Non-person	92	National	

This list displays the basic department details,

- Name
- Category – Staff, faculty or non-human
- Departmental code – combines with sub-department code to form unique identifier
- Default dialling right – applied to a telephone extension if not overridden on an individual basis.

The detail can also be displayed in a modal dialog box by clicking on the department name,



A modal dialog box with a dark grey header and footer. The header contains 'Faculty', '51', and 'National'. The footer contains 'Faculty', '50', and 'National'. The main content area is white and contains the following text:

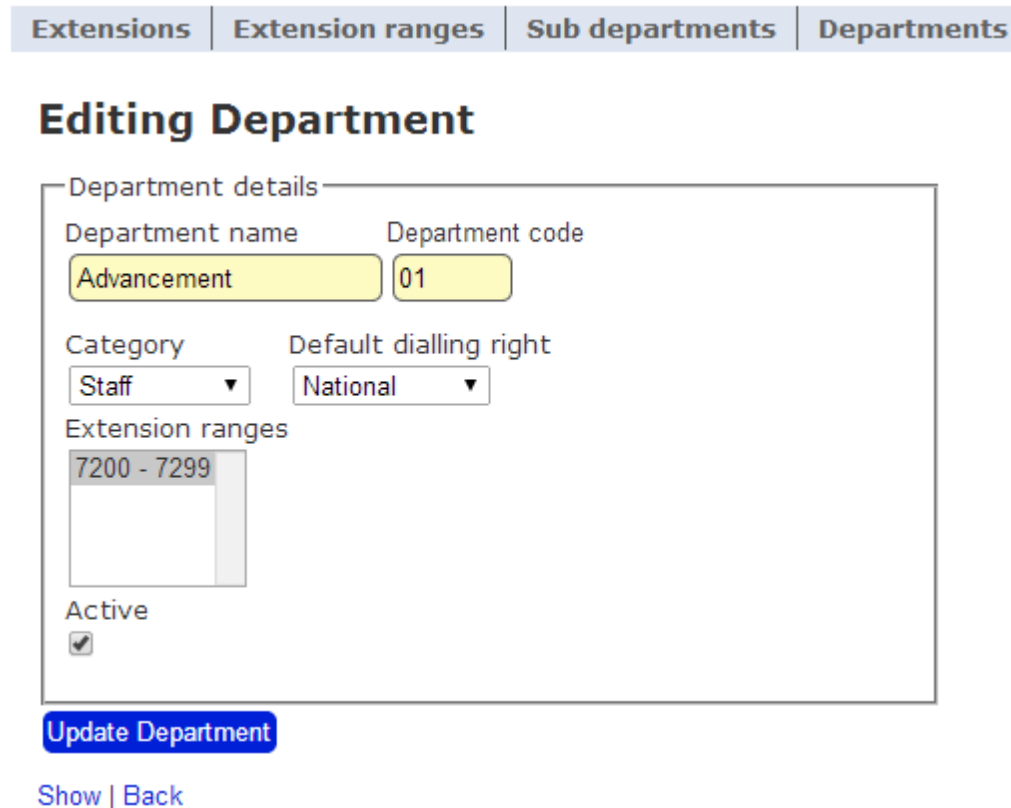
Name: Advancement
Category: Staff
SchoolDB department code: 01
Default dialling right: National
Extension ranges:
 - 7200 - 7299

At the bottom left of the dialog, there are two links: [Edit](#) | [Back](#). A close button (X) is in the top right corner.

This view also shows extension ranges that have been allocated to the department.

5.2 Editing departments

Press the 'Edit' link or icon to bring up the form to edit the details of the department,



The form is titled 'Editing Department' and has a tabbed interface with four tabs: 'Extensions', 'Extension ranges', 'Sub departments', and 'Departments'. The 'Departments' tab is selected.

The form is titled 'Department details' and contains the following fields:

- Department name:** A text input field containing 'Advancement'.
- Department code:** A text input field containing '01'.
- Category:** A dropdown menu with 'Staff' selected.
- Default dialling right:** A dropdown menu with 'National' selected.
- Extension ranges:** A text input field containing '7200 - 7299'.
- Active:** A checkbox that is checked.

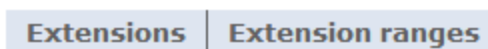
At the bottom of the form, there is a blue button labeled 'Update Department' and a link labeled [Show](#) | [Back](#).

The department name and code are strings which can make enforcing uniqueness difficult. Category and default dialling right are dropdown lists from their respective tables.

The Extension ranges list shows ranges currently allocated to a department as selected, along with any other ranges that have not assigned to another department. Selecting an extension range is not mandatory.

Create new department

Creating a new department is simply a matter of pressing the new department link on the departments index page,



Listing departments

[New Department](#)

Name

[Accounting](#)

[Advancement](#)

[Central Admin](#)

The new department form is shown below,

New Department

Department details

Department name

Department ncode

Category

Staff ▼

Extension ranges

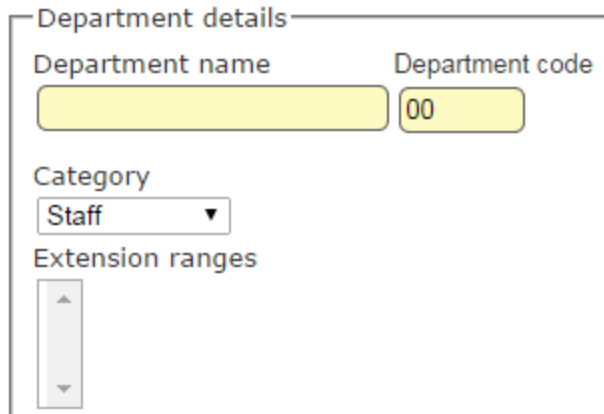
6050 - 6099 ▲▼

Active
☒

Create Department

The category field is required, but extension ranges can only be assigned when available; it is not a required field and can be assigned to a department using the extension range form.

New Department



The form is titled "Department details" and contains the following fields:

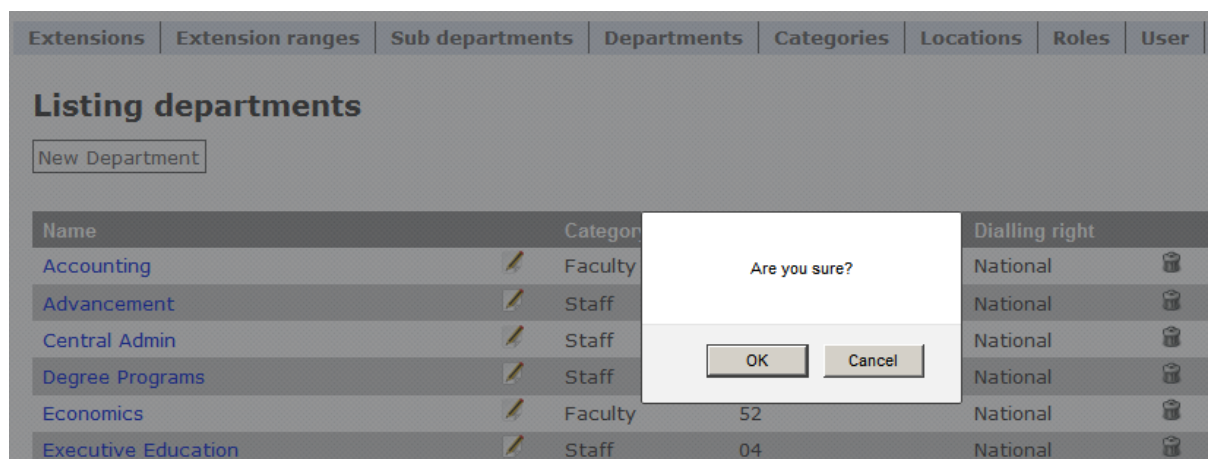
- Department name:** A text input field with a yellow background.
- Department code:** A text input field containing the value "00" with a yellow background.
- Category:** A dropdown menu with "Staff" selected.
- Extension ranges:** A vertical scrollbar indicating a list of available ranges, currently empty.

The above diagram shows that no extension ranges are available but this will not prevent the form from being submitted.

5.3 Deleting a department

The delete icon at the right-hand side of the index page can be used to delete a department.

The user will be prompted for confirmation of the removal request,



The screenshot shows the "Listing departments" page with a navigation bar at the top containing links: Extensions, Extension ranges, Sub departments, Departments, Categories, Locations, Roles, and User. Below the navigation bar is a "New Department" button. The main content area displays a table of departments. A confirmation dialog box is overlaid on the table, asking "Are you sure?" with "OK" and "Cancel" buttons.

Name	Category	Dialling right
Accounting	Faculty	National
Advancement	Staff	National
Central Admin	Staff	National
Degree Programs	Staff	National
Economics	Faculty	National
Executive Education	Staff	National

Removal of a department will also remove the association to any extension ranges that have been assigned.

The behaviour of the application with regard to what effect removal of a department will have on any foreign key references elsewhere in the database is undefined and subject to discussion and inclusion in a later release of the application.

6

Sub-departments















Sub-departments represent the various grouping and teams within departments.

6.1 Listing sub-departments

A list of current sub-departments can be found by clicking the 'Sub-departments' link in the navigation link.

Listing Sub-departments

[← Previous](#)
1 2 3
[Next →](#)
[New sub department](#)

Sub department		Department	Code	Extension range	
Advance Central		Advancement	01	7200 - 7299	
Alumni, Dev, Giving		Advancement	03	7200 - 7299	
Career Services		Advancement	08	7200 - 7299	
Steward, Ops		Advancement	02	7200 - 7299	
B2C		Central Admin	04	7000 - 7049 7100 - 7149	
Dean's Office		Central Admin	01	7000 - 7049 7100 - 7149	
Human Resources		Central Admin	02	7000 - 7049 7100 - 7149	

Use the pagination links to move forward and backward through the list.

Click on the name of the sub-department to view the details in a modal dialog,

Name: Human Resources

Department: Central Admin

SchoolDB sub-department code: 02

Extension range: 7000 - 7049
7100 - 7149

Policies

Policy	Default
Archiving	Global
Client	Global
Client version	Global
Conferencing	Global
Dial plan	Global
External access	Global
Location	Global
Mobility	Global
Persistent chat	Global
Pin	Global
Voice	Global

[Edit](#) | [Back](#)

6.2 Editing sub-departments

To edit a sub-department, click the 'Edit' link in the modal dialog or click the edit icon to the right of the name on the index page. The following form will be displayed,

Editing Sub-department

Sub-department details

Sub department name
Sub department code

Human Resources
02

Department

Central Admin
▼

Preferred extension range

Preferred range
▼

Policies

Policy	Global	Internal	UK Geo	National	International	Unrestricted
Voice	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Global	Staff	Test			
Client version	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>			
Conferencing	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>			
Dial plan	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>			
External access	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>			
Mobility	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>			
Pin	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>			
	Global					
Archiving	<input checked="" type="radio"/>					
Client	<input checked="" type="radio"/>					
Location	<input checked="" type="radio"/>					
Persistent chat	<input checked="" type="radio"/>					

Update Sub department

The Sub-department name and code fields are strings.

The Department is a required field selected from the dropdown list.

The preferred extension range is an optional override from the departmental extension range list,

Preferred extension range

Preferred range ▼

Preferred range
7000 - 7049
7100 - 7149

so that the extension numbers available for this sub-department will only be drawn from this list rather than whole range for the department.

The policies section lists those currently configured with the telephony provider and the selections are the defaults given when a sub-department is initially assigned to an extension record; they can be modified an individual basis.

Changing the sub-department policy settings will apply an update to all extension (phones) records where accounts that had the previous policy setting will pick up the new value.

Consider the following sub-department defaults,

Policies						
Policy	Global	Internal	UK Geo	National	International	Unrestricted
Voice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Global	Staff	Test			
Client version	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>			
Conferencing	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>			
Dial plan	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>			
External access	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>			
Mobility	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>			
Pin	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>			
	Global					
Archiving	<input checked="" type="radio"/>					
Client	<input checked="" type="radio"/>					
Location	<input checked="" type="radio"/>					
Persistent chat	<input checked="" type="radio"/>					

Assigning an account to the IT & Library sub-department will initially show the following,

Account details

Firstname	Surname	Username
<input type="text" value="Eli"/>	<input type="text" value="Amir"/>	<input type="text" value="eamir"/>

Sub department Extension

Location

Policies

Policy	Global	Internal	UK Geo	National
Voice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
	Global	Staff	Test	
Client version	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Conferencing	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
Dial plan	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
External access	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
Mobility	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Pin	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
	Global			
Archiving	<input checked="" type="radio"/>			
Client	<input checked="" type="radio"/>			
Location	<input checked="" type="radio"/>			
Persistent chat	<input checked="" type="radio"/>			

with a subsequent update to be,

Policy	Global	Internal	UK Geo	National
Voice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
	Global	Staff	Test	
Client version	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Conferencing	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
Dial plan	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
External access	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
Mobility	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Pin	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	

An update to the default sub-department policy of,

Policy	Global	Internal	UK Geo
Voice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Global	Staff	Test
Client version	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Conferencing	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Dial plan	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
External access	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Mobility	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Pin	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

Will have the following effect on the individual account,

Policy	Global	Internal	UK Geo
Voice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Global	Staff	Test
Client version	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Conferencing	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Dial plan	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
External access	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Mobility	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Pin	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

An individual account policy setting that does not match the sub-department default will not be affected if that default policy setting is changed.

Any (and all) updates to extension accounts as a result of a sub-departmental policy change are recorded in the activity log, immediately before the record for the sub-department itself.

6.3 Creating new sub-departments

A new sub-department can be created using the 'New sub-department' link next to the pagination links,

Listing Sub-departments

The following form will be displayed.

New Sub-department

Sub-department details

Sub department name
Sub department code

Department

Operations

Preferred extension range

Preferred range

Policies

Policy	Global	Internal	UK Geo	National	International	Unrestricted
Voice	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Global	Staff	Test			
Client version	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>			
Conferencing	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>			
Dial plan	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>			
External access	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>			
Mobility	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>			
Pin	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>			
	Global					
Archiving	<input checked="" type="radio"/>					
Client	<input checked="" type="radio"/>					
Location	<input checked="" type="radio"/>					
Persistent chat	<input checked="" type="radio"/>					

Create Sub department

The sub-department name and code fields are free text; the department is selected from the dropdown list.

The preferred extension range is optional and only available when editing an existing sub-department although a request has been submitted to have this field populated dynamically when a department is selected. The policy buttons should reflect appropriate defaults for members of the sub-department. The list of policies is hard-coded into the form to match the policy table id values that represent the policy name populated in the Lync portal.

When finished press the 'Create Sub department' button to add the new entry.







6.4 Deleting sub-departments

Deleting a sub-department is simply a matter of clicking the delete icon on the right-hand side of the index page.

A confirmation of the action will be requested,

Listing Sub-departments

← Previous **1** 2 3 Next → [New sub department](#)

Sub department		Department		ion range
Advance Central		Advancement		- 7299
Alumni, Dev, Giving		Advancement		- 7299
Career Services		Advancement		- 7299
Steward, Ops		Advancement		- 7299
B2C		Central Admin	04	7000 - 7049 7100 - 7149
Dean's Office		Central Admin	01	7000 - 7049 7100 - 7149

Are you sure?

The behaviour of the application with regard to what effect removal of a sub-department will have on any foreign key references elsewhere in the database is undefined and subject to discussion and inclusion in a later release of the application.

7

Extension ranges

Extension ranges represent contiguous blocks of extensions that can be assigned.

A by-product of the extension range notion is the need to maintain sets of extension records as a lookup reference when deciding which extensions have already been assigned to telephones.

Do not confuse this lookup table with the 'Extensions' navigation menu item which is used to maintain the extension records assigned to telephones. The contents of the extensions lookup table is managed silently by the `extension_ranges` controller.

Managing individual extension details is described in the phonebook user guide.















7.1 Viewing extension ranges

Current extension ranges can be viewed by clicking on the 'Extension ranges' link in the navigation menu,

Extensions	Extension ranges	Sub departments	Departments	Categories	Locations	Roles
------------	------------------	-----------------	-------------	------------	-----------	-------

Extension ranges

[< Previous](#)
1 2
[Next >](#)
[New Extension range](#)

Extension range		Department	
0 - 0		Telecoms	
5000 - 5099		Tenants	
5900 - 5999		Telecoms	
6010 - 6049		Telecoms	
6050 - 6099		None	
6200 - 6399		Telecoms	
6400 - 6599		Telecoms	

The pagination links can be used to list the remaining `extension_range` items.

Clicking on the extension range first and last numbers will display a modal dialog box with the extension range details,

Telecoms

First extension: 7100

Last extension: 7149

Department: Central Admin

[Edit](#) | [Back](#)

Executive Education

7.2 Editing extension ranges

Clicking on the 'Edit' link or the edit icon to the right of the extension range link will display a form which can be used to edit the details,

Editing extension range

Department details

First extension
7100

Last extension
7149

Department
Central Admin ▼

[Update Extension range](#)

The first and last extension fields are free text fields, the department is optional and selected from the dropdown list. The extension range may also be assigned to a department through the departments controller.

Changing the first or last value for an extension range does not currently change the records in the extensions table and won't be reflected in the extensions available when editing individual phone records.

7.3 Creating extension ranges

The extension range pagination links have a link to create a new extension range,

Extension ranges

← Previous **1** 2 Next → New Extension range

A new extension range can be created by completing the form details,

New extension range

Department details

First extension

Last extension

Department

Create Extension range

The first and last extension fields are free text fields, the department is optional and selected from the dropdown list. The extension range may also be assigned to a department through the departments controller.

Creating a new extension range triggers a private controller action to create extension records between the first and last values submitted for the range.

7.4 Deleting extension ranges

An extension range may be deleted by clicking the delete icon on the right-hand side of the extension range index page.

Extension ranges

← Previous **1** 2 Next → New Extension range

Extension range		Department	
0 - 0		Telecoms	
5000 - 5099		Tenants	
5900 - 5999		Telecoms	
6010 - 6049		Telecoms	
6050 - 6099		None	
6200 - 6399		Telecoms	
6400 - 6599		Telecoms	

Are you sure?

Confirmation of the removal will be requested before proceeding.

Deleting an extension range will trigger a controller action to remove the associated records from the extensions table.

Currently no check is made whether there are phone records that have an extension reference (via the extensions table) between the first and last value of the extension.

The behaviour of the application with regard to what effect removal of an extension range will have on any foreign key references elsewhere in the database is undefined and subject to discussion and inclusion in a later release of the application.

Policies

The policies menu link will display a list of the currently supported Lync policy types with a sub-menu¹ linking to lists of the policies available for each type.

It is not expected that there will much need for frequent policy operations.

Extensions

Extension ranges

Sub departments

Departments

Categories

Locations

Policies

Roles

User

Archiving

Client

Client version

Conference

Dial plan

External access

Location

Mobility

Persist chat

Pin

Voice

Listing policy types

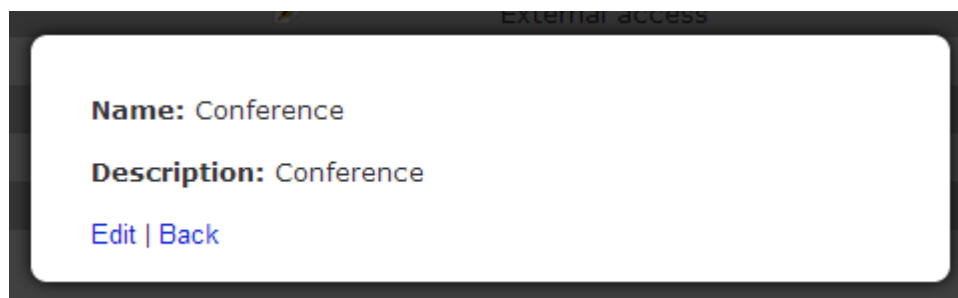
New PolicyType

Name		Description	
Archiving		Archiving	
Client		Client	
Client version		Client version	
Conference		Conference	
Dial plan		Dial plan	
External access		External access	
Location		Location	
Mobility		Mobility	
Persist chat		Persist chat	
Pin		Pin	
Voice		Voice	

The policy types are provided more to provide a consistent database model structure so that individual policies can maintain a foreign key reference to a types table; the data in the Lync portal is inconsistent and difficult to map directly on to a simple database model.

Viewing policy types

Simply click on the name of a policy type for a modal dialog displaying the details,



Press escape to close the popup.

Editing policy types

Either clicking the edit icon near the policy type name or the Edit link in the modal dialog will bring up the policy type edit page,

¹ In Ruby on Rails terms, this involves using a separate layout, `app/views/layouts/policies_layout.html.erb`

Archiving	Client	Client version	Conference	Dial plan	External access	Location	Mobility	Persist chat	Pin	Voice
-----------	--------	----------------	------------	-----------	-----------------	----------	----------	--------------	-----	-------

Editing policy type

Policy type details

Name

Description

Update Policy type

Show| Back

This is a very simple form with a unique name and a simple description. Press the update button to save any changes.

Creating policy types

Creating a new policy type is simply a matter of pressing the 'New policy type' button on the index page

New policy_type

Policy type details

Name

Description

Create Policy type

Press the 'Create policy type' button when complete. A manual update will be required to the policies layout template to have the new policy type included in the menu. It will also require a new Rails '*scaffold*' (model, view, controller and other items) before any policies of that type can be defined.

Extensions	Extension ranges	Sub de
Archiving	Client	Client version
	Conference	

policy_type was successfully created.

Name: Instant messaging

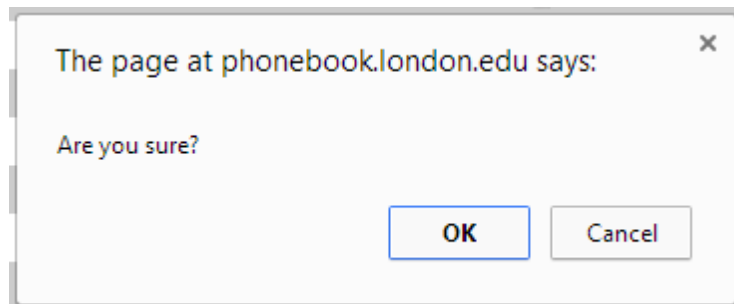
Description: IM policy

[Edit](#) | [Back](#)

Press the back link to return to the main list.

Deleting policy types

To delete a policy type simply press the delete icon on the right-hand side and a confirmation prompt will be displayed.



Press OK to confirm and a message will be displayed on the index page.

Extensions	Extension ranges	Sub departments
Archiving	Client	Client version
	Conference	Dial plan

policy_type was successfully destroyed.

Listing policy types

Policy tables

There is some uncertainty around exactly how to best represent policy details within the extension management website but the specific policy tables and controller elements all have the same structure but are not really intended to be used to manage actual policies.

The simplest method of adding a new policy is by executing a SQL query along the lines of,

```
set identity_insert pin_policies on
insert into pin_policies (id, name, policy_type_id, description,
lync_policy_name, created_at, updated_at) Values
```

```
('5', 'Universal', 10, 'Universal PIN policy', 'PIN-Universal', Getdate(),  
Getdate())  
set identity_insert pin_policies off
```

The `policy_type_id` column needs to match the `id` column of that type from the `policy_types` table.

Most importantly, the `lync_policy_name` must match the policy name that has been added to the Lync portal as it will be used by the provisioning code when specifying the level of service available to an account.

Creating a new policy by whatever means will require manual updates to the following:

- policy layout template in `app/views/layouts`
- the sub-department form in `app/views/sub_departments/_form.html.erb`
- the phones form in `app/views/phones/_form.html.erb`

8

Locations

Locations represent rooms, offices, lecture theatres and all other spaces around the school as identified by the Estates team in the Operations department.

The location information maintained by the School is somewhat haphazard and prone to inconsistencies and has been arranged for the benefit of inclusion in the phonebook website in a manner that makes most sense for synchronising into Active Directory and hence into the outsourced telephony service.

8.1 Viewing location records

The recognised locations may be viewed from the 'Locations' navigation link on the website,

[Extensions](#)
[Extension ranges](#)
[Sub departments](#)
[Departments](#)
[Categories](#)
[Locations](#)
[Roles](#)

Listing rooms

Filter the listed rooms by name match, public name or building.

1 2 3 4 5 6 7 8 9 ... 55 56

Public name		Building	Building floor	Room status	
A101		A Wing	1	Public	
A102		A Wing	1	Public	
A103		A Wing	1	Public	
A104		A Wing	1	Public	
A105		A Wing	1	Public	
A106		A Wing	1	Public	

Clicking on the public name link displays a modal dialog with details of the locations,

9 ... 55 56 Next → New room

Name: A102

Public name: A102

Room status: Public

Building: A Wing

Building floor: 1

[Edit](#) | [Back](#)

Telephone extensions are usually applied to locations with a public status.

8.2 Editing locations

Clicking the 'Edit' link or the edit icon will display the form to modify the details of a location.

Since a room is unlikely to move between floors or buildings this actions is unlikely to be used very often.

Editing room

Room details

Name	Public name
<input type="text" value="A102"/>	<input type="text" value="A102"/>
Building	
<input type="text" value="A Wing"/>	
Building floor	Room status
<input type="text" value="1"/>	<input type="text" value="Public"/>

Update Room

Press the 'Update room' button to save the changes.

8.3 New locations

A new location can be added using the 'New room' link next to the pagination list on the index [page,

Listing rooms

Filter the listed rooms by name match, public name or building.

← Previous
1
2
3
4
5
6
7
8
9
...
55
56
Next →
New room

This will display the form for entering a new location with a default status of 'Public.

New room

Room details

Name	Public name
<input type="text" value="LBS room"/>	<input type="text" value="Public room name"/>
Building	
<input type="text" value="Building"/>	
Building floor	Room status
<input type="text" value="LG2"/>	<input type="text" value="Public"/>

Enter the relevant details and press 'Create room' to save the location. The room will immediately be available in the Location search field on the Extensions update form.

8.4 Deleting locations

Deleting a location is simply a matter of clicking the delete icon at the right-hand side of the index list; a confirmation prompt will be displayed.

Listing rooms

Filter the listed rooms by name match, public name or building.

← Previous 1 2 3 4 5 6 7 8 9 ... 55 56 Next →

Public name	Building	Build	
A101	A Wing	1	
A102	A Wing	1	
A103	A Wing	1	
A104	A Wing	1	

Are you sure?

The behaviour of the application with regard to what effect removal of a location record will have on any foreign key references elsewhere in the database is undefined and subject to discussion and inclusion in a later release of the application.

8.5 Searching locations

Because of the number of locations in use a simple search form has been added to the locations section, similar to that used by the Extensions page, allowing simple text or building-based queries to be run.

Listing rooms

Filter the listed rooms by name match, public name or building.

8.6 Search by building

The search form contains a dropdown select list of all know buildings with locations,

ame or building.

Building
 17 Linhope Street
 18 Park Road
 18-20 Huntsworth Mews
 2-4 Huntsworth Mews
 22 Park Road
 26-30 Park Road
36 Linhope Street
 6-16 Huntsworth Mews
 A Wing
 B Wing
 C Wing
 D Wing
 E Wing
 House 36
 House 38
 House 40
 House 42
 No.1 - Dean's House
 No.26 - Laing House

Selecting a building an pressing the 'Go' button

Listing rooms

Filter the listed rooms by name match, public name or building.

Type room name 36 Linhope Street

← Previous **1** 2 Next →

Public name		Building	Building floor	Room status	
Lin36-101		36 Linhope Street	1	Public	
Lin36-1st-Office		36 Linhope Street	1	Public	
Lin36-201		36 Linhope Street	2	Public	
Lin36-2nd-Office		36 Linhope Street	2	Public	

Notice how that pagination links are displayed when more than one page of results are returned. Any previous paginated selection will be cleared by the search.

The results are also ordered by room status with Public locations listed first.

To clear the building selection, either select 'Building' at the top of the list and press the adjacent 'Go' button or press the 'Go' button next to the search text box.

8.7 Search by name

To search for a location by name type the name into the text box on the left and press the 'Go' button.

Listing rooms

Filter the listed rooms by name match, public name or building.

LG02 Building

Public name		Building	Building floor	Room status	
BLG02		B Wing	G	Public	
CLG01		C Wing	G	Public	
ELG02		E Wing	G	Public	
Hse01-LG02		No.1 - Dean's House	G	Public	

The search query wraps a SQL wildcard character on either side of the search text and the search is performed against the name and public_name column of the locations table. Be warned that the names in the table are not the most obvious or friendly although efforts have been made to improve their utility compared to the raw data maintained by the Estates department.

To clear the search, press the 'Clear' link followed by either of the 'Go' buttons.

Unmanaged data

The following tables in the phonebook database do not currently have a management function on the website because the information contained in the tables is unlikely to ever need changing, or at least if it does it can easily be added directly into the database.

- buildings – Sainsbury, Taunton, Plowden, A wing, etc,
- building_floors – LG2, LG, G, 1, 2, 3, 4, 5, 6.
- room_statuses – public or hidden.

Models have to exist for these tables, but it would be a simple activity to create website sections (Views and Controllers) to enable these functions. The most difficult question regards how to link to them from the navigation menu.

10

Activity logging

An important feature of the phonebook website is the recording of all insert, update and delete operations carried out through the site.

This information is stored in the `activity_logs` table in a format based largely on the Papertrail rubygem (we don't actually require the table versioning that it provides) and is applied to each controller that is accessible through the website.

Results		Messages					
	id	item_type	item_id	act_action	updated_by	activity	act_tstamp
1	1	Session	0	create	jrawcliffe	Successful login for jrawcliffe	2014-02-07 20:43:51.167
2	2	Session	0	destroy	jrawcliffe	Logging out : jrawcliffe	2014-02-07 20:46:17.757
3	3	Session	0	destroy	jrawcliffe	Logging out : jrawcliffe	2014-02-10 11:01:31.020
4	4	Session	0	create	jrawcliffe	Successful login for jrawcliffe	2014-02-10 11:01:49.673
5	5	Phone	1856176	update	jrawcliffe	id: 1856176 Aharon Cohen Mohliver sub_department: ...	2014-02-10 11:02:01.083
6	6	Session	0	destroy	jrawcliffe	Logging out : jrawcliffe	2014-02-10 11:03:44.297
7	7	Session	0	create	ehawkes	Successful login for ehawkes	2014-02-10 11:24:55.400
8	8	Phone	1654876	update	ehawkes	id: 1654876 Muhammd Ajmal sub_department: Learnin...	2014-02-10 11:34:01.607
9	9	Phone	1654876	update	ehawkes	id: 1654876 Muhammd Ajmal sub_department: ExecEd ...	2014-02-10 11:34:34.890
10	10	Session	0	create	ehawkes	Successful login for ehawkes	2014-02-11 13:06:10.820
11	11	Session	0	create	jrawcliffe	Successful login for jrawcliffe	2014-02-11 13:18:45.153
12	12	Session	0	destroy	jrawcliffe	Logging out : jrawcliffe	2014-02-11 22:44:33.573
13	13	Session	0	create	jrawcliffe	Successful login for jrawcliffe	2014-03-17 12:04:28.557
14	14	Session	0	create	ehawkes	Successful login for ehawkes	2014-03-17 15:58:50.797
15	15	ExtensionRange	74	create	ehawkes	id: 74 first_extension: 7600 last_extension: 7799 Depart...	2014-03-17 16:02:35.727

An log record is created for all insert, update and delete operations. The `item_type` entries for 'Session' are in reference to login and logout.

The log includes the name of the user performing the action and the timestamp of when it was attempted. There is no guarantee that the action listed in the log was actually completed, but it would not have thrown a fatal error.

Currently the only way to inspect the logs is by using SQL Server Management Studio to interrogate the `activity_logs` table.

11

Development requirements

11.1 Development platform

The following elements need to be provided to support ongoing development of the administration interface.

- Ruby on Rails 4 hosting platform
- Preferably a MS SQL Server database. Although MySQL can be used for development, it should not be used to prepare data for incorporation into test or production instances.
- A git repository, <http://git.london.edu/Phoenbook.git>, to store the application source and all changes.

11.2 Issue tracking and enhancements

Any problems with site functionality or requests for improvements or additional features should be logged via <http://casetracker.london.edu/> against the 'telephone directory management' project.

12

Application roadmap

The following additional administration functions are in consideration for future releases:

- A view and controller for better user management.
- Improved error handling – routing to controller root rather than application root_url
- Automated testing using Rails' built-in capabilities.
- Use of foreign keys constraints across database table, although the 'Rails way' is that this should be handled through the model.
- Reporting – request volumes and user activity.
- A sub-menu for location information
- See the casetracker.london.edu issues and enhancements for further details.

Appendix 1

The following diagram shows the database schema ,

