# ASEbase (version 00.01 beta)

Updated 2020-03-03 11:55:31

NB: Much of this document is in note form until design is firmed up. Many of the later additions may not be entirely coherent as, while I'm continually getting more proficient at JavaScript and PHP, I'm gradually losing the ability to speak English.

Contents

Introduction

What is ASEbase?

While it's very much in preparation at the moment, the idea behind ASEbase is to draw together as much of our data as possible and present it in a way that all of us can access related information, rather than have hundreds of spreadsheets in different directories that can't easily be cross-referenced to each other.

This should make version control problems and issues with standard terminologies a thing of the past, make viewing related data much easier, and (should we want to) enable us to make certain parts of our data more widely accessible.

It will inevitably require a few changes in the way things are done, some of which might seem a bit more 'clunky' than current procedures, but hopefully the advantages of being able to immediately access and correlate different datasets will make this worthwhile.

If you have any complaints / suggestions / comments please let me know and I'll do my best to accommodate them, time and budgets permitting (m.hopkinson@ucl.ac.uk).

Splash Screen

Once you log in to the database, you will be confronted by the User Index screen. At the top left you should see your login ID. Below this are three buttons available from all pages:

- **Help:** This will open a popup window with a brief help file relating to your current page
- **Logout:** This logs you out of the database, and performs a basic clean up if you've locked records etc

The left hand part of the main screen lists all the available pages (those that aren't bold are not currently available), and these are reflected in the menu bar above so you don't need to keep returning here.

The right hand part of the screen initially gives a list of recent changes to the database in descending date/time order, with sections containing Notes and Acknowledgements below.

Notes

- **Date formats**
  All dates are in ISO format (YYYY-MM-DD). ASEbase is built in MySQL, which by default uses this format, and it's also the only format that can be usefully sorted. I'm hoping people will get used to it, but if not we can convert the display format if necessary.
- **Auto-complete v. Dropdowns**
  Which would people prefer? For limited options I find dropdowns pretty quick, and you can at least see all the available options without guessing, but they get a bit unwieldy for fields that have a lot of choices. As I'm working on things I'm trying to add functions to auto-complete fields that will show the available options if you click the field label, so you get the best of both worlds, but I hadn't thought of that initially so it's not there for many of them yet.
- **Browsers**
  All web browsers do slightly different things in terms of displaying a page, but also in how strict they are at following code. I'm doing the initial testing of pages in Firefox, so would recommend using that browser where possible. Internet Explorer is particularly bad at keeping up with general standards but also at going out on a limb with its own innovations not supported by other browsers - I'd suggest not using IE if at all possible (and not just for ASEbase).

Projects & Reports

Project List

Recent projects are listed down the left hand pane, selecting a project from that list will bring up the relevant details. Projects that are currently at the tendering stage have a grey background, those that are ongoing white, and closed projects have a blue background. Lost tenders are indicated by the text being struck through.

You can filter the list by typing in the boxes at the top or page through the list to find other projects. Initially the last 50 projects will be listed in reverse numeric order - filtering the records will re-query the data, so projects that don't at first appear in the list will be included by filtering. Apart from the summary / synopsis field which anyone can edit, only project managers and admin staff will be able to edit project details.

The ✖ button will download a csv file of all pending or open projects. The ᔆᶜ button allows you to enter a site code and check whether it has been used previously.

The 🄲 button at the bottom of the 'Inv. Req.' tab allows you to raise an invoice request against the selected project (see page 96).

Figure 1.   Project register

General

Project Code: Automatically incremented. Legacy 'P' projects should have a total of 4 characters, eg P043 not P43.

Town / Village: Used in searches. If the database can find an associated region/county, that field will be updated. If it finds more than one a popup will let you choose. This uses OS data which I'm guessing is pretty good, but does have limits. If it ever chooses the wrong county please let me know so I can update it. It will also record the administrative district which can again be used in searches.

Project Title: This will be returned in web searches etc

Charge Rate: Commercial / Salary Only

Ordinary / PP: Defaults to Ordinary, if it's a 'P' project please change to 'P Project' in the dropdown.

Fund Account: <mark>xxx</mark>.

Invoicing: <mark>xxx</mark>.

Project Manager: Whoever is in overall charge of the project

Director/Supervisor: Whoever is responsible for running/writing up the project

Office: Dropdown – Sussex / Essex / London. Used to create separate finance reports and track project progress

Status: Tendering / Lost Tender / Ongoing / Complete / Closed. <mark>Close function to add</mark>. If changed to Lost Tender a popup form will ask for details, which will be saved when you close the popup, and if changed to Ongoing a record of the date will be made. The status of a project controls whether and what people can timesheet against it, so it's important that this is updated.

Site Code: Please ensure the site code is entered as early as possible after a project is won. Various components of the database rely on this information being present.

Easting and **Northing**: Must be full Ordnance Survey coordinates - the Lat/Lon will be calculated automatically. When these are changed or entered the Map tab will be selected so we at least get a visual check as to where those coordinates are to prevent spurious data being uploaded to the ASE website (see Map, below). You can also set the Easting and Northing by dragging the map marker.

Region: Project county/region or country. Dropdown list of counties and countries, alphabetical, but the most common will be listed first

Curator: This is populated by a list of all contacts that have a county council association. When you select a region the list of available options will be filtered according to that county/region (in prep as not much contact data yet entered)

Latitude and **Longitude**: Calculated automatically when you enter OS easting/northing pair, or when you drag the map marker (see Map, below)

Synopsis: Basic OASIS / HER / web description, to be returned in web searches and/or included in HER export etc.

The rest of the data is split between the following tabs:

Types/Clients

Types: allows you to specify one or more project type by choosing the relevant entry from the dropdown list.

Clients: allows you to specify one or more clients.

Agents: allows you to specify one or more agent.

Refs/Periods

References: include things like Postcode, Parish etc. Choose the type from the dropdown and enter a value in the corresponding input field. If you think other types might be useful, let me know and I'll add them to the list.

Periods: allows you to specify one or more periods for which evidence was encountered by choosing the relevant entry from the dropdown list.

Map

If Easting and Northing are entered in the top section, the map will show a marker over the project location. If it's not quite right you can drag the marker to re-position it and the OS and Lat/Lon coordinates will be updated accordingly. If no coordinates have been entered the marker will be over the office but again can be dragged into position and coordinates will be calculated. You can use the 'Move Marker to...' button to roughly set its location, but coordinates will only be calculated when you fine tune it by dragging.

Geomatics

If any survey jobs are recorded in the database they will be listed here. This is purely for information and cannot be edited on this page - to edit the data use the Survey Tracking form (see page 70).

Tasks

Project tracking related info. This draws information from notifications (see Notifications (very in prep), page 88).

Finance (in prep)

Quick breakdown of time spent, expenses etc. More detailed information will be available via Project Accounts (see page 101). To raise an invoice against a project, click the 🔲 button (see page 96 for further details).

Figure 2.   Finance tab (in prep)

Inv. Req. (invoice requests)

Site Data

Quantification of databased site archive - should give a basic overview of site data entered to date and numbers for archive quantification table in reports. This looks up site data such as context, drawing and photo registers, as well as information entered by specialists to show quantification graphs and totals. Clicking a graph will open the relevant register in a new tab.

Figure 3.   Site data quantification

Docs

This tab will list all reports associated with the current project, along with those from earlier projects with the same site code so you can quickly see if previous work has been done. These are listed in reverse report number order with those relating to the current project highlighted.

Figure 4.   Documents tab, project 4953

Archive (in prep)

If recorded, this tab gives the archive store location of the assemblage (box and shelf), which when clicked will open the archive search form at the relevant site code for more detailed information. The lower part of the tab shows various notification dates, deed transfer requests etc and allows the data to be edited.

Figure 5.   Archive tab

Notes

This tab lets you see and add to any project notes. There should always be a blank note ready to be filled in, followed by any existing notes (listed with the most recent first). When you add a note you can optionally include a member of staff it's directed towards by selecting from the FAO dropdown. If the FAO field is completed then that staff member will be notified of the new note when they next log into the database. *Send email as well?*

Project Search
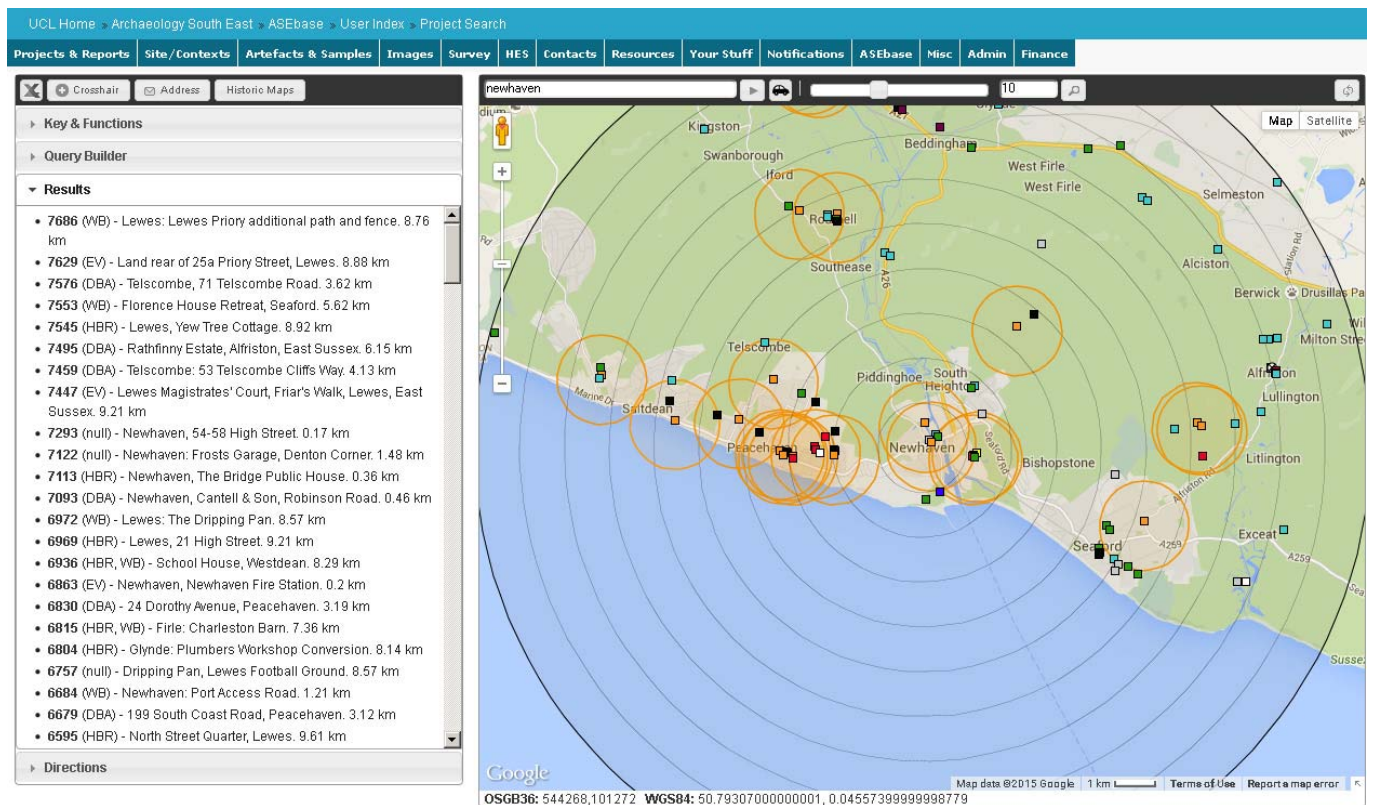
Geographical Search

Searches are based on the centre of the map, as marked by the blue crosshair which will remain fixed to the map centre if you pan/zoom (this can be turned on/off with the 'Crosshair' button). You can pan and zoom normally to set the search point, or use the text entry box to specify a place then hit the return key or click the ⚑ button. The text box accepts:

- Easting Northing pair (full OS) eg "512001,153888"
- A project number preceded by # eg "#6518" - only works if project coordinates have already been entered in the Projects List form
- Place name or postcode, eg "Long Lane, Southwark"

Once centred, select a search radius (km) by typing in the radius box or using the slider (0 will return all database records regardless of map centre, but may take a while) and click the search button.

Markers will show the different projects as indicated in the project types key. Desk Based Assessments will also show a 1km circle around the centre point (I know they don't always have a 1km search radius, but it gives an indication...).

Figure 6.   Search form showing ASE projects in a 10 kilometre radius

Clicking a project point should tell you what that project is and provide a link to further info, though until the database is in full use that further information may be limited.

The different project types can be turned on or off using the check boxes in the key. The 'Toggle' button will invert the current selection, so if you were only interested in one type of project, hit toggle to turn everything off - then check the relevant box.

Radiating distance indicators are shown from the search point at 1 km intervals (50 metre intervals if your search radius is 500 metres or less, 100 metre intervals if it's 1k m or less).

The projects will also be listed in the results section of the left hand pane, clicking an entry here will again provide further details.

Clicking the 'Address' button will return Google's address data for the map centre point.

To get driving directions to the map centre click the 🚗 button, which will take you from Portslade or Braintree depending on which is your usual office. Directions will be listed in the Directions section of the left hand pane.

The ↻ button, at the top right of the map, will clear results data and re-centre the map (again, based on your usual office).

Non ASE Data

Statutory Designations

NB: This data is provided as a quick check mechanism, and my intention is to regularly update the information or find official data we can link to, but please use a service such as magic.gov.uk to ensure you have the most up to date details of designated sites.

You can also plot basic statutory designation point data on the map by clicking the relevant button in the Statutory Designations box. Once the database has searched records a message will appear in the grey box beneath the buttons letting you know how many results it found, but please be patient if you're loading Listed Buildings, there's a lot of information for it to check!

Because of the vast number of records, searches for Scheduled Monuments, Listed Buildings and Parks & Gardens are limited to a 10 km radius from the map centre point.

To remove icons from the map click the relevant trash button.
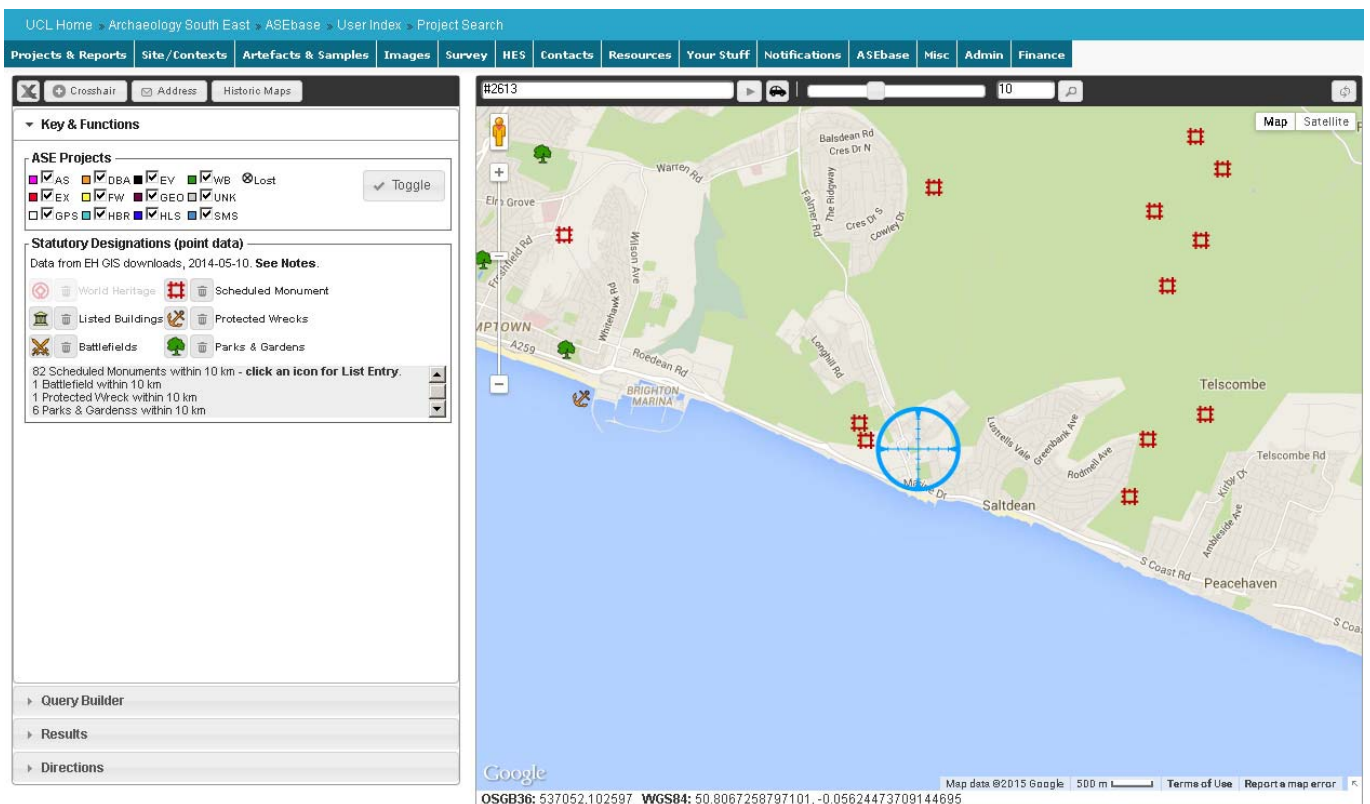
Figure 7.   Search form displaying statutory designation data

Historic Maps

I'm currently building a map coverage library for historic maps we have local copies of, so at the moment this is in prep. Clicking the Historic Maps button, however, will open a dialogue box with a variety of map types to display. Clicking a button here will show polygons indicating the area covered by each map (or at least the ones I've added to the library). These will be coloured randomly, and the associated list item below the buttons will be in the same colour. Clicking a list item will highlight the relevant map polygon, clicking the light bulb turns that polygon off, and clicking the button with four arrows will zoom to its extents. Once I've developed it a bit more this will be searchable in the same way as projects and designated sites
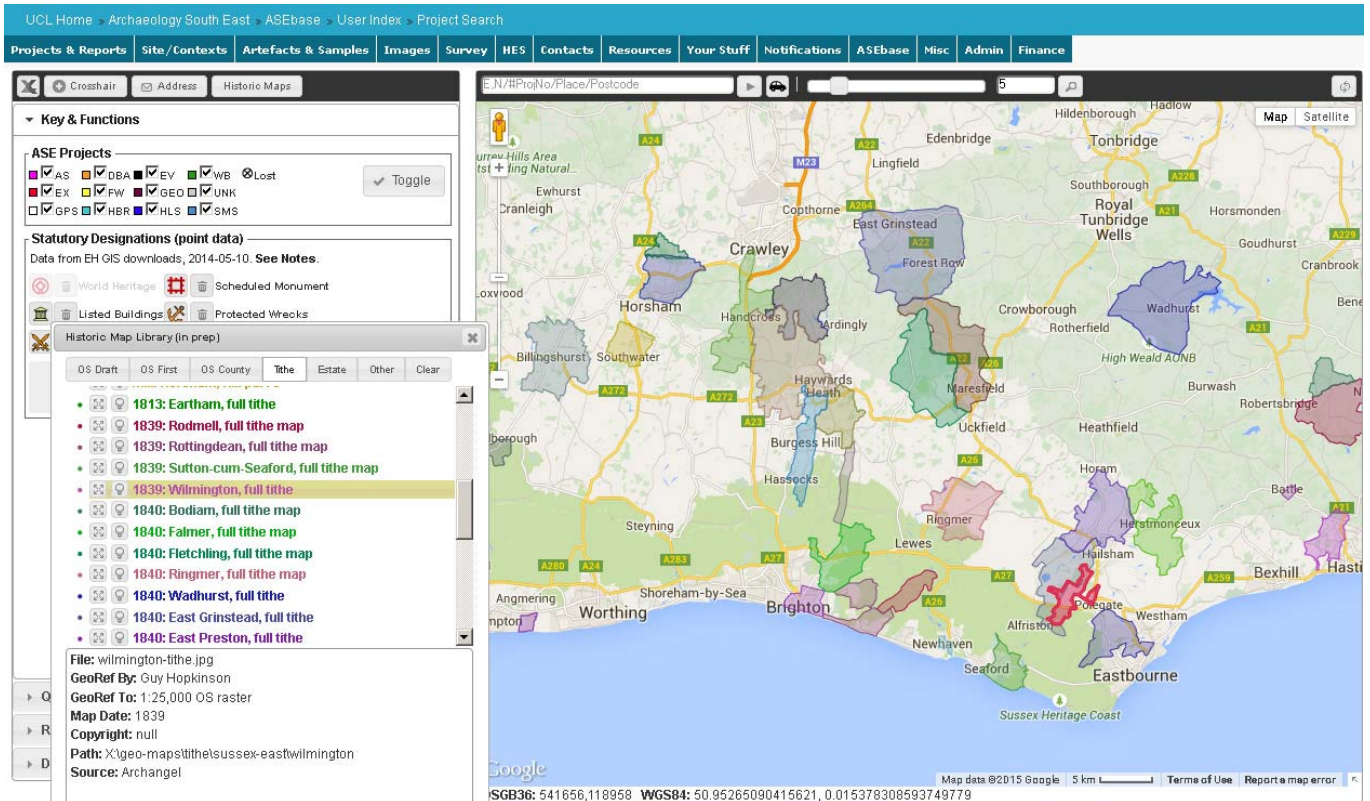
Figure 8.   Search form displaying tithe map coverage

Query Builder

The Query Builder section of the left hand pane allows you to create your own basic queries based on one or more database fields. At the simplest level a query might be something like (Field) **Manager** (Operation) **Equals** (Search Value) **Paul Mason**, which will list all Paul's projects and, if they have coordinates, plot them on the map.

More complex queries can be created by adding more criteria, specifying whether you want this to be an additional criteria (And) or an alternative (Or). So if you had already set the manager criteria, you could select And, and in the new row that appears specify (Field) **Status** (Operation) **Equals** (Search Value) **open**.
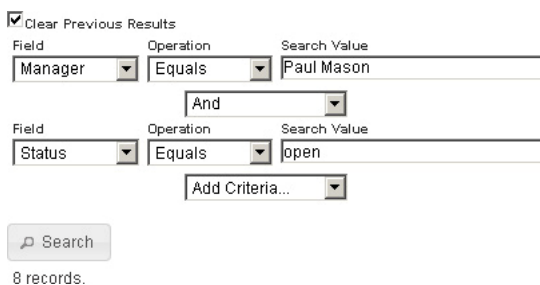
Figure 9.   Query Builder criteria

Reports List

This is a replacement for the spreadsheet based report number database which should prevent previous issues of duplicate report numbers, and also link report data to general site data such as the archive quantification so it will be easier to see any associated work required (see Figure 10). It will also track report progress and which pdf reports have been or are waiting to be uploaded to the ASE web site.

Clicking the ✚ button will look up the next report number and assign it to a blank entry ready for you to complete the relevant details. The report deadline and editor fields can only be changed by management.

Initially the report status will be set to 'in prep' - once you've completed the draft report, change this to 'editing' so that post-ex management know the report is ready to be edited (the change will automatically show on the Report Tracker form). Some details previously on the spreadsheet are no longer shown, as things like grid reference, client etc can be drawn from the project data rather than being recorded multiple times.

Existing reports are listed at the left of the page where they can be filtered and sorted, or their details shown by clicking the relevant row.

Figure 10.   Reports form

PX Instruction Tracker

Figure 11.   PX Instruction Tracker

Figure 12.   PX Instruction Timeline

Reports Calendar

Once we start using the Reports List, this will show a calendar view of all report deadlines to aid post-ex management.

Site/Contexts

Introduction

As a prerequisite for entering context data, there should first be at least a minimal entry for the relevant project in the Project List form (see Project List, page 6). This should include a Site Code, towards the top right of the form next to Status.

Figure 13.   Refs/Periods section of project register form

Before entering any site or context records you should establish what survey data is available, as much of the initial record creation can be automated by processing this data. If there is no survey data available you can generate empty context records via the Context Register form (see Context Register below).

Trench Register

The Trench Register lists all trenches associated with the site code you enter at the top left (or will be pre-populated if you arrive here by following the prompt from uploading trench survey data). It is designed to reflect the current Trench Record pro-forma, along with a list of related contexts for each trench at the right hand side.

Ideally the Trench Register should be generated by uploading the relevant survey data before you enter any contexts. This should be created by the site surveyor and stored in *Project \ WIP \ Geomatics \ Survey \ Exported levels*. Enter your site code and click the ⚑ button, then copy and paste the survey data into the text field and click Process. The data you copy must be in the format Point ID, Easting, Northing, Height, Context - eg:

Point ID	Easting	Northing	Elevation	Context
TR01A.1	495057.9	106988.2	27.07	1/001
TR01A.2	495058.3	106988.8	26.65	1/003
TR01B.1	495091.2	107024.6	27.99	1/001
TR01B.2	495090.5	107023.9	27.44	1/003
TR02A.1	495145.4	107025.2	30.98	2/001
TR02A.2	495144.6	107025.3	30.47	2/003
TR02B.1	495110	107034	29.07	2/001
TR02B.2	495110.4	107033.8	28.93	2/003

There is no need to enter any further trench information unless it will be used in analysis or incorporated in a report, but in order to export an ordered context table to include in a field report, you must check the 'Archaeology' field for each trench where archaeology was encountered – this will be used to group context records for inclusion in the body of a report or an appendix depending on whether archaeology was present or not (see Export CSV (in prep – feedback from Jim / Dan), page 20). If anyone can think of a failsafe way to automatically work out if archaeology is present or not then please let me know – off the top of my head I can't.

The Google Map at the bottom of the form plots each trench alignment, and is included to provide quick visual feedback so you can immediately see if there were any obvious data problems (typos, missing contexts etc. – if it doesn't look right you'll have to go back to the spreadsheet data and check it).

Figure 14. Extract of trench register form showing calculated dimensions and orientations, and map view of survey data

Context: Minimum Data (in prep)

This is designed as a quick way of getting the minimum data into ASEbase, dependant on project type.

Select the relevant tab and enter your site code, then hit the ▶ button. If contexts already exist they will load, if not you can create new contexts using the ✚ button. You can then tab through the fields adding data. When you reach the end of one row the database will save the record (if it has been edited) and jump to the next row.

Greyed out fields are non-obligatory, but if you want to use them you can click their column title to enable them. If you're only entering one or two specific fields you can also disable all other fields, after which tabbing through will only take you to the relevant fields.

The 'Preferred Field Terms' pane will change depending on which field you're currently in, and what has been entered in previous fields for the same context, so if the context type is 'fill' and you click/tab to the Interpretation field it will list the terms as shown in Figure 15. These are suggestions as to what should be entered. You can type in the field or click one of the items to apply it to the current context, or if necessary type something different. If a preferred term is applicable, however, please use it.

The '? Int' field is a qualifier to your interpretation. If the interpretation is pretty certain you can leave it blank, but if it's a bit dodgy enter 'y' in this field.

Dimensions must all be numeric. If you want to record a dimension as trench extent, enter 0. Both Thickness and mOD fields should generally just have one value, though for layers you may need to enter a range. If so, enter the minimum and maximum values separated by a '-' and the database will pop the maximum value in the max field.
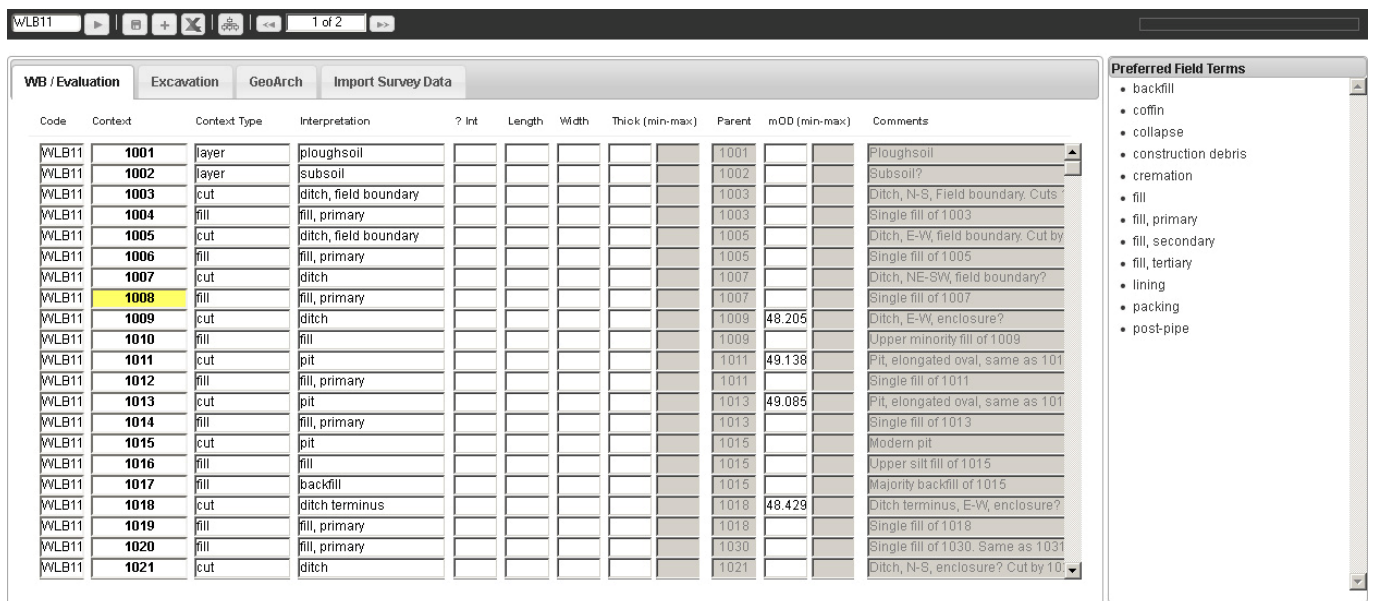
Figure 15.   Minimum data form, Watching Brief / Evaluation fields

Context Register

To load an existing register enter a site code in the box and hit the ▶ button. This will display the basic register with details such as type, area, photos etc.

If you need to add contexts or start a new register you can then do so by clicking the ✚ button in the left hand toolbar and entering the first and last context numbers at the prompts. New contexts will only be created if they don't already exist in the register so if you need to fill in gaps a pre-existing register (e.g. in imported survey data) you can just enter the first and last numbers and any existing records will remain unchanged.

As you assign subgroups, groups, land uses and periods the database will keep running lists of the entries that you've made. These can be called up or hidden by clicking the ⓈⒼⓁⓅ button.

View Mode

Initially contexts will be listed in view mode - clicking an entry in the list will populate the right hand pane with the relevant details, where the information can be edited. If you leave view mode click the 🗑 button to return.

Figure 16, below, shows a partially completed context record, the selected context will be highlighted in gold - related contexts (those sharing the same parent) will be highlighted in khaki. Initial context records can be created in various ways, e.g. importing survey data will generate rudimentary records for cuts (and topsoil and natural if trench survey data is imported) and if a finds specialist has entered data before you generate contexts those contexts will already exist. However contexts are generated a minimum of site code and context number will be pre-filled. Coordinates, type and dimensions may also be generated automatically if the record has been created via survey data or finds entry.
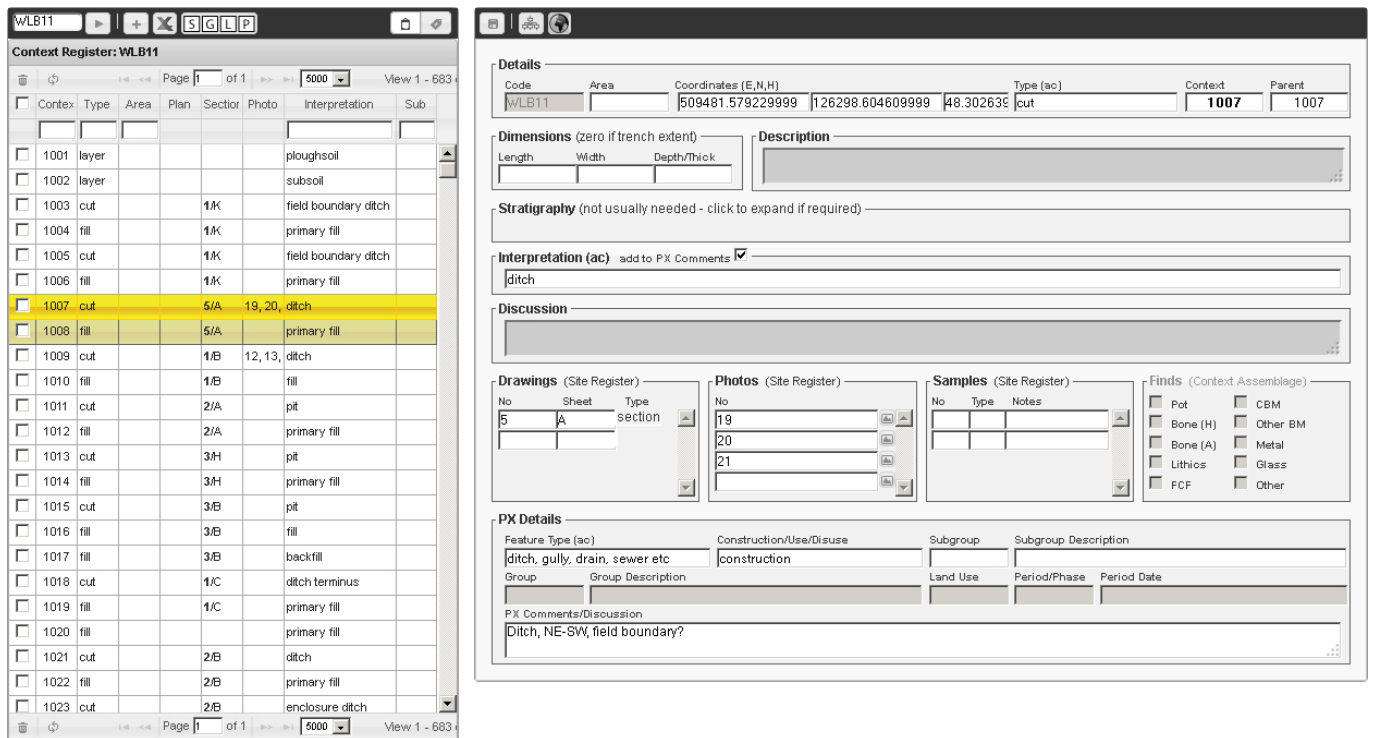
Figure 16.   Context register form in view mode, context 1007 selected, associated contexts (children/siblings/parent) highlighted

Tag Mode

This is designed to help batch edit contexts, and is called by clicking the 🏷 button. It might be slightly over-complicating things though?
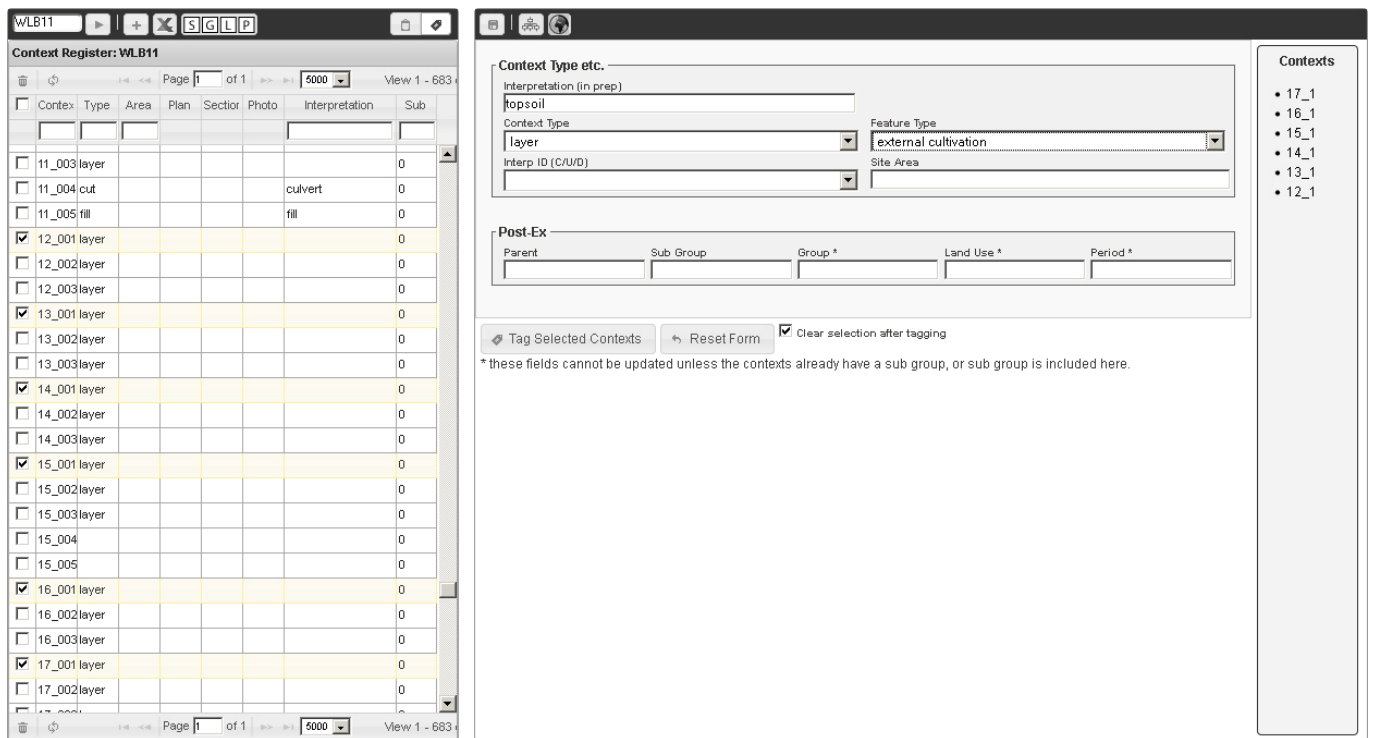
Figure 17.   Tag mode

In this mode the right hand pane will show basic details such as context type, feature type etc. By clicking multiple contexts in the register (or shift selecting) and then selecting one or more entries in the right hand pane you can assign the same details to all the selected contexts. To select or deselect all contexts click the checkbox at the top of the left hand column.

Export CSV (in prep – feedback from Jim / Dan)

Once context details are entered or loaded, the ✖ button allows you to download a csv file of the data. Initially a form will pop up with all available fields listed down the left hand side - the right hand side will be blank. To use a pre-defined export you can click 'Context Table', 'Context Register' or 'Land Use Table', or you can drag fields from the left to right hand side to create your own export or add fields to one of the pre-defined lists.

If 'Split by area / trench & archaeology' is checked, the data will be listed in area / trench and then context order with breaks between areas / trenches - trenches that have the archaeology field checked on the trench register (see

Trench Register, page 17) will be listed first, trenches without archaeology will be grouped into one table at the bottom of the csv file.

Once fields have been dropped onto the right hand pane they can be re-ordered by dragging a list item up or down if needed, then just click 'Export' to download a csv file of the data you've chosen which can be printed or copied and pasted into a report etc.

Context Details

The context details form has been designed, as far as possible, to look similar to the existing context record sheet to hopefully make data entry more intuitive (though **only information that will either be exported to a report, used in analysis, or incorporated in an archive should be entered**). It's also worth filling in Parent Context details before spending time on other fields, as we can automatically populate some of the data for contexts that are the only child of a parent, e.g. dimensions, coordinates, strat.

Most of it should be self-explanatory, but there are a couple of points worth mentioning:

- **Coordinates** - we can grab most of these from the survey data, so they shouldn't need entering manually.
- **Dimensions** - these only need entering for watching briefs and evaluations, as excavation reports don't include dimensions in the context appendix. Hopefully we'll be able to pull most of these from the survey data in future.
- **Stratigraphy** - not usually needed, but anything entered here will be reflected in the matrix, and any relationships created in the matrix (see page 37) will appear here.
- **Interpretation -** this is populated from a pre-defined list but until a comprehensive list is available you can enter your own term. Try to keep as succinct as possible.
- **Finds** - this section is purely for information, and tells you which find types are associated with the context (based on data various specialists have entered to date). A tick here doesn't necessarily mean the finds data for that artefact type is complete. If spot dates have been entered a coloured bar at the right will denote the spot date period (see also Show/Hide & Search, page 38).
- **Group / Land Use / Period** - these can't be entered until the context has been assigned to a subgroup.

The Drawings, Photos and Samples sections all have 'Site Register' next to the title. Clicking this currently just opens a popup window with the relevant register, but in future will allow data entry.

The Finds section shows checkboxes for various categories of finds. These are non-editable, and will be ticked if any data relating to that finds type has been entered. If there is any finds data you can click 'Context Assemblage' to view details, see Figure 18 below (currently just a basic list but further details will be available in future by clicking a row in the table).

xxx	Type ▲	ID1	ID2	Cour	DateMin	DateMa:	Notes	Re:	Intr
	pottery	RWCG	Post-conquest	1	43	70		☐	☐
	pottery	OXIDF	Post-conquest	4	43	70	pink/buff generally non-sandy matirx	☐	☐
	pottery	FLIN2	Tempered wares	1				☐	☐
	pottery	SAND1	Post-conquest	14	43	70		☐	☐
	pottery	SAND1	Post-conquest	1	43	70	partial rim	☐	☐
	pottery	SAND1	Post-conquest	1	43	70	bead to slightly everted rim	☐	☐
	pottery	SAND1	Post-conquest	1	43	70	With carinated shoulder	☐	☐
	pottery	FLIN4	Tempered wares	26			most appear to be from same vessel	☐	☐
	sample	bulk		40			Sim to <20>	☐	☐

Figure 18. Context finds assemblage data (as spot dates have been entered a graph shows date ranges and quantity of finds – in this case all have the same date range)

Saving Information

Context data changes will be automatically saved if you navigate to a different context, but if at any point you want to force a save you can hit the 🖫 button at the top left of the context details panel.

If you attempt to leave the form and changes have not been saved, you will be asked whether you really want to leave – click 'Stay on Page' and hit save to keep your changes, or 'Leave Page' to abandon them.

Context > Land Use

General

This is essentially a view of the context data entered through the Context Register form, but allows inline editing of some data. To load site data enter a site code in the box and hit the ▶ button.
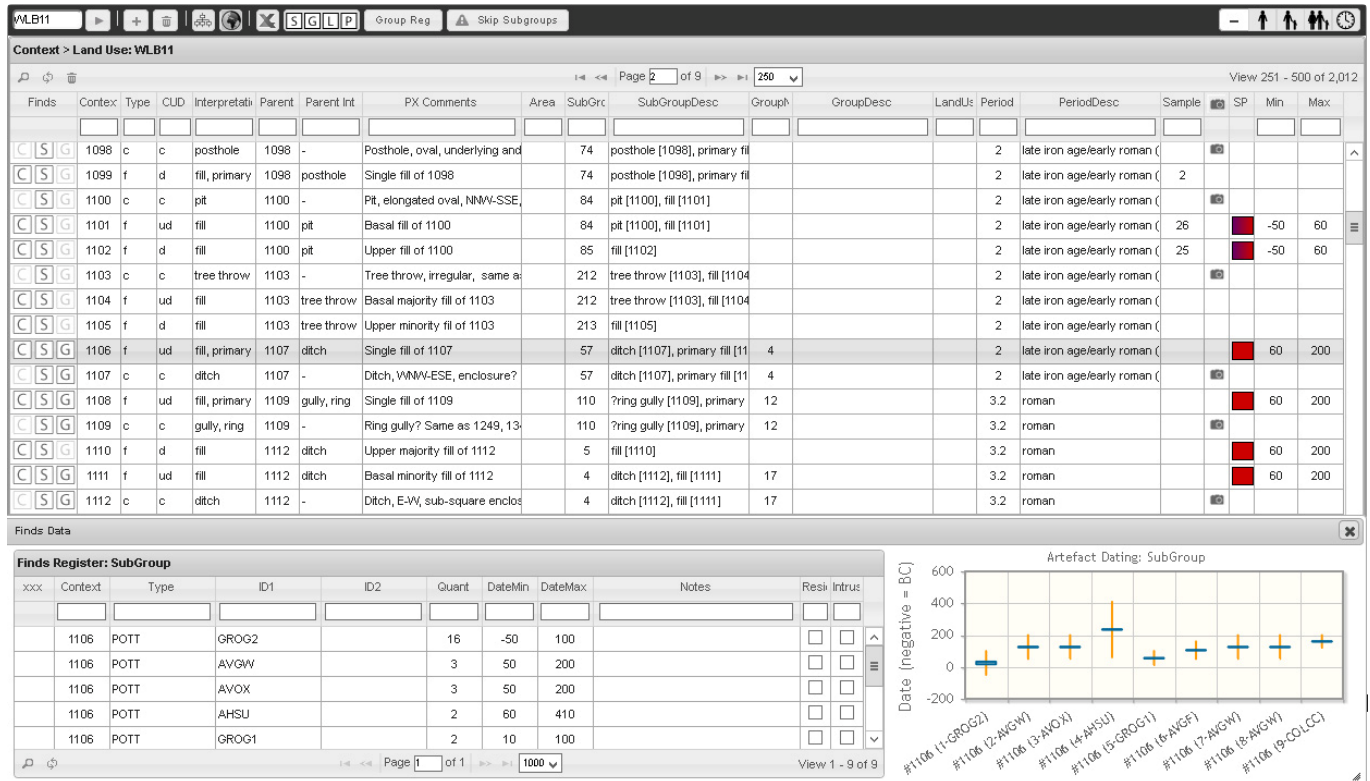
Figure 19.   Context > Land Use form showing loaded site data and finds information for subgroup 57

If anything needs editing, clicking the context line of the table will convert it to a series of input fields. After editing the information hit 'Return' or click a different line to save your changes - pressing 'Esc' will cancel the edit.

If you click one of the buttons on the right hand side of the black toolbar then when you select one context related contexts will be highlighted, either by parent, sub group, group or period.

If the context has been linked to one or more photos, these will viewable via the small camera icon. Hovering over this should display the relevant photos.

If finds data has been entered by the relevant specialists the last three columns will show spot date information using the same key as the context matrix (see Show/Hide & Search, page 38). The first of these, 'SP', shows the probable (subjective) spot date allocated to the overall context. The next two columns show the probable numeric date range. Hovering over the period colour will display any spot dates comments.

Again, if finds data has been entered you can view the basic information (type, quantity etc) by hovering over either the C, S or G icons which show the results by context, subgroup or group. If any of these are spot dated a graph will also be visible displaying the spread of date ranges. The orange bar indicates the date range of each find/assemblage, while the height of the blue rectangle gives an indication of relative quantities (by count). If the graph is too small to be meaningful, click it to view a larger version.
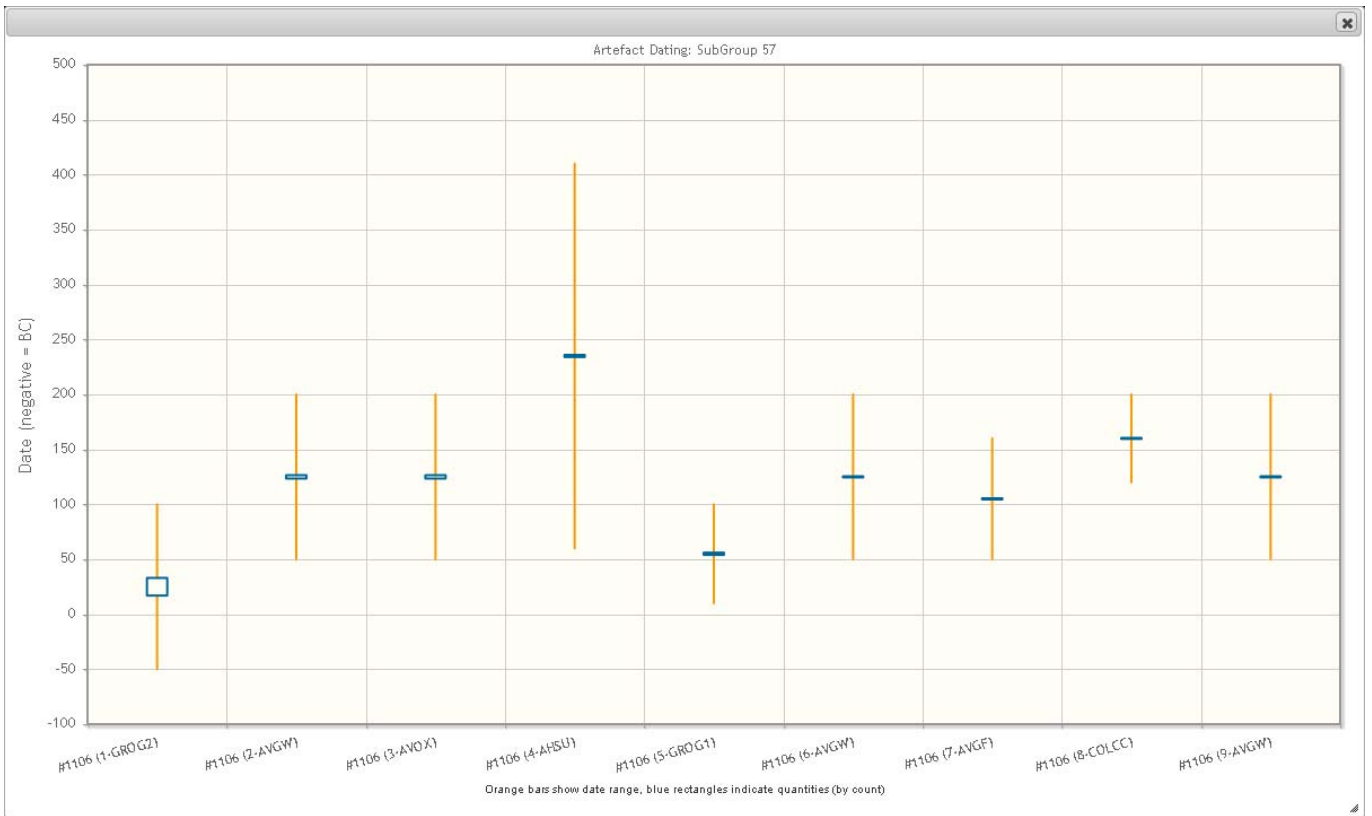
Figure 20.   Expanded version of graph shown in Figure 19. Numbers after a # denote context number, text in brackets shows artefact ID1

Print/Save

I had set up a print facility, but have scrapped it in favour of downloading and printing a csv which allows much more flexibility. If you click the ✖ button a csv file of the current data is downloaded which can be opened in Excel etc and printed (to change once Context Register export complete).

Finds

Currently in prep.

Data Map (in prep)

Currently being re-coded to allow multiple outlines for each context, and also lines as well as outlines.

This form is designed to help analysis and check data before putting it into GIS to create report/publication figures or to use with projects that aren't going to be taken to full GIS, and my intention is that it will eventually give the basic syntax and/or allow you to save queries to use in GIS. It plots various bits of data over a simplified Google Map, which can be faded in or out using the slider at the top right.

If called by hitting the 🌐 button on the Context Register, Context > Land Use or Artefact forms it will automatically load context outlines and pre-ex survey (providing the survey data has been processed), otherwise you'll need to enter a site code (or multiple codes separated by commas) before you can load any data. For landscape-wide queries I reckon a county selection would be appropriate where you could select one or more counties.

The map will show any uploaded geographic data, and clicking a context will allow you to edit the basic context information.

Survey

This lists all elements of potentially uploaded survey data, with options to change the display colour and line weight.

Geophysics

In prep

Artefacts

Finds Markers

These will be plotted by artefact coordinates if they've been recorded, but if not will use the context centre easting and northing (with a little randomness added to reduce the number of markers on top of each other). Once you hit the Load Finds button markers will appear on the map, and the period checkboxes will show which periods are represented (Figure 21). Checking or un-checking these will toggle marker visibility.

A filter dropdown will also appear, populated by the artefact types the database has found. Selecting an option here will turn off all the period markers and just show those relating to that artefact type, still coloured by spot date, and if there are entries in the ID1 field, a second dropdown will appear allowing further filtering (Figure 22). Same goes for ID2 once you select an ID1.

If artefact joins have been recorded, clicking the show joins / refits checkbox will draw a line between linked artefacts/contexts (whether or not those artefacts are displayed at the time, Figure 23).

Figure 21.   Initial key view after loading artefacts   Figure 22.   Filtering by type

Figure 23.   Finds over context outlines, joins / refits shown by red lines

Finds Charts

The Charts section is very much in preparation, but lets you pop graphs on the map, currently either by artefact date or type. At the moment this is done by context, but subgroup might be better and avoid graphs being placed on top of each other *(offset if coords already used?)*. You can choose between three sizes of pie chart or to scale the charts by the size of assemblage – if you choose the last option you'll also get the chance to specify a minimum chart size, otherwise tiny assemblages won't be visible. If the chart is by date then the same key as the periods applies, if by type a separate key will appear.
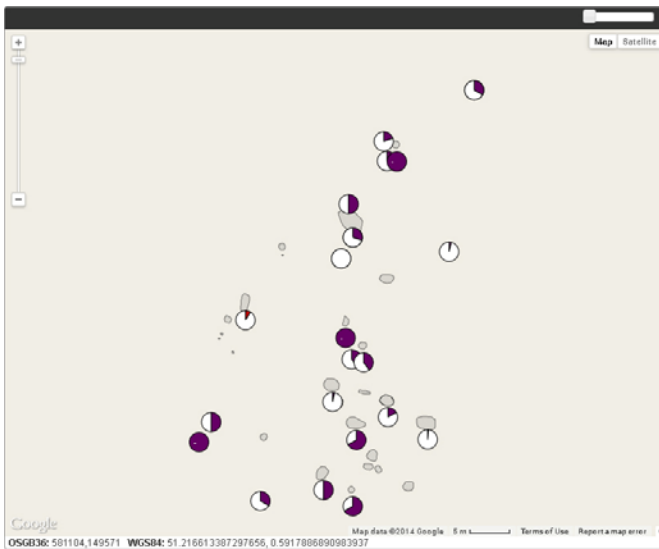
Figure 24.   Medium sized charts showing artefact date (unfortunately almost all dated finds here are Iron Age, so not very informative!)
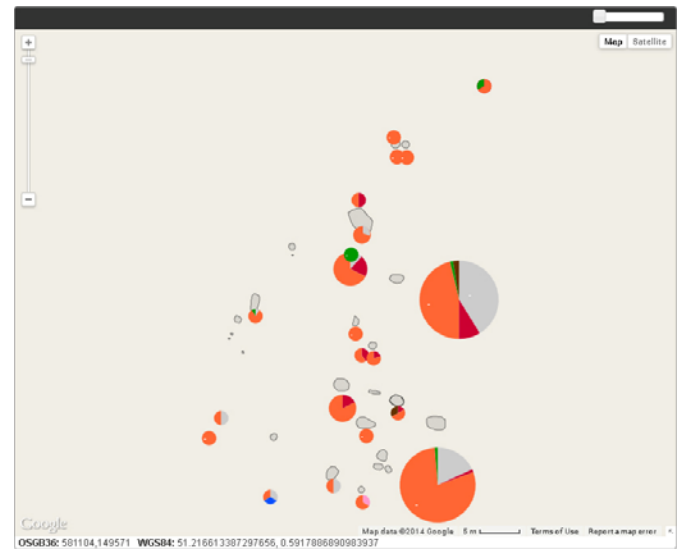
Figure 25.   Charts scaled by assemblage size showing artefact type

Contexts, Groups & Land Use

Once contexts are loaded the Contexts, Groups, Land Use and Phases sections will be populated. Clicking an item in any of these lists will highlight all/any related items on the map.

Phases

The phases section is divided into two parts; 'Draw from matrix' and 'Draw from Phase'.

Matrix

If there is a site matrix within ASEbase, 'Draw from matrix' will colour the survey data according to the matrix phase divisions, so you should be able to use this to view provisional phases etc. If a context is moved on the matrix its colour will change according to the matrix phase it falls in (Figure 26 and Figure 27).
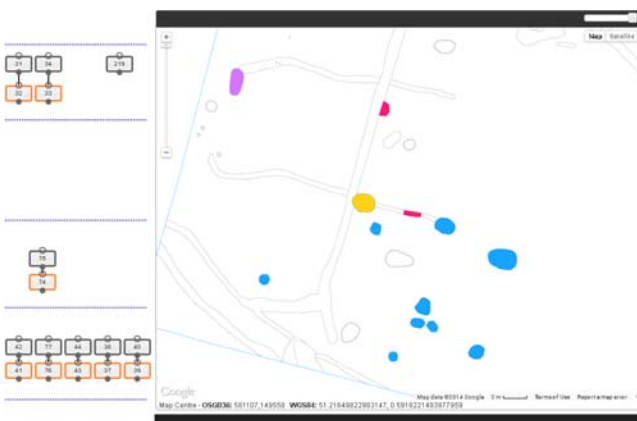
Figure 26.   Survey data drawn by matrix phase
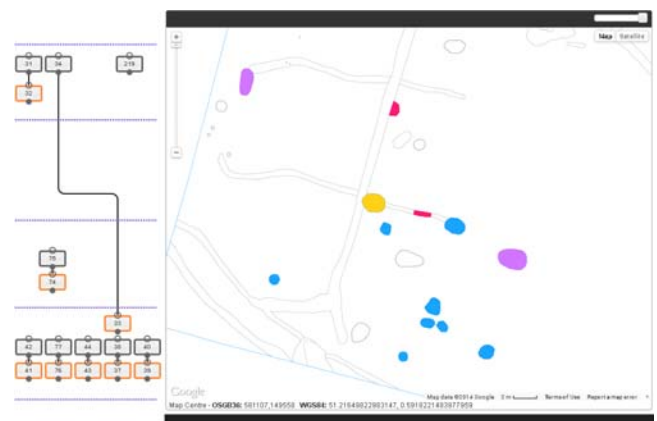
Figure 27.   As Figure 26, but context 33 moved on the matrix

Phase

If contexts have been assigned to phases the 'Draw from Phase' section will list all phases for the selected site(s) currently in the database, each with a colour box next to it. Initially the boxes will all be black, but clicking a colour will allow you to change it and draw all phase elements in the selected colour (Figure 28). Any colour you select will be saved, so if you revisit the form they should be pre-defined.

Figure 28.   Contexts coloured by phase

Spot Dates

Probable Date Ranges

If spot date information has been entered, this will list all the probable ranges recorded by period range along with minimum and maximum dates within each period. Clicking an item in the list will shade all relevant contexts (based on the fill's parent) the colour shown to the left of the date range. Clicking it again will remove shading.
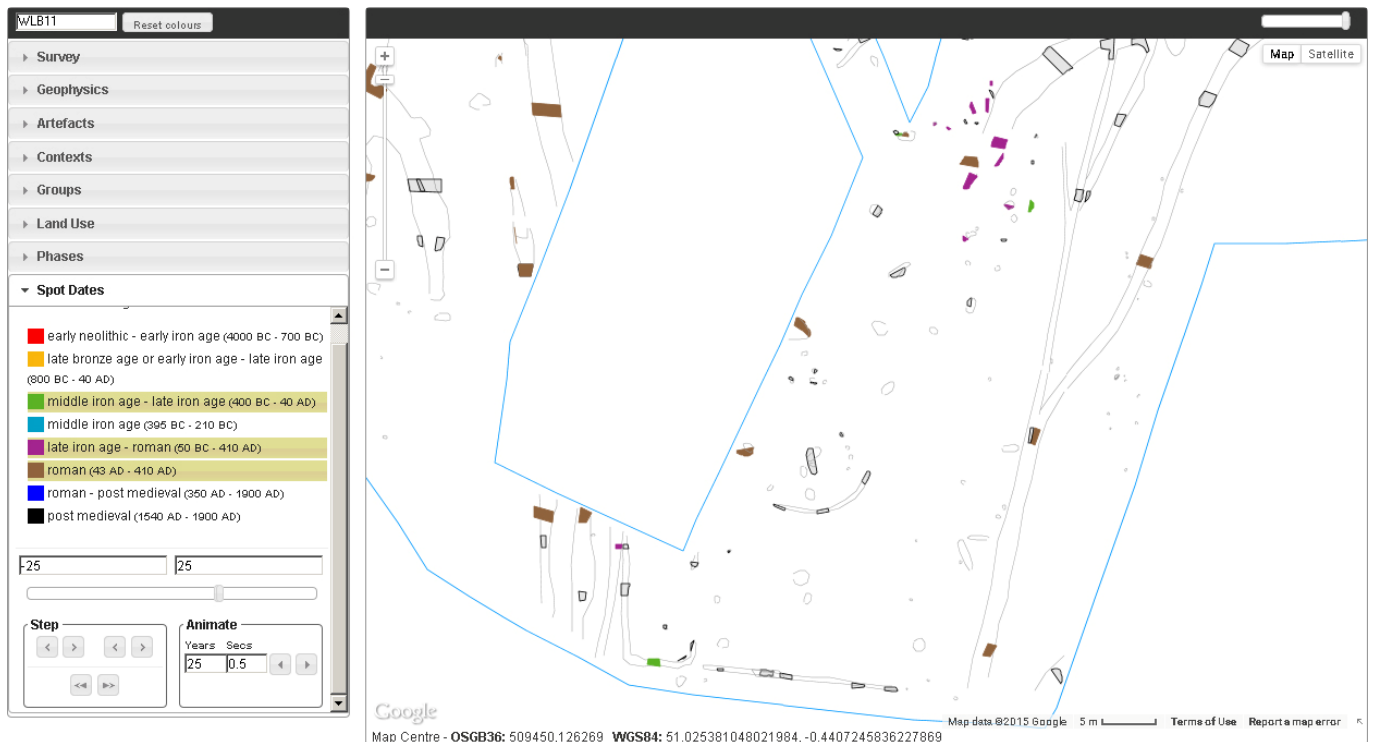
Figure 29.   Contexts coloured by spot date

You can select multiple list items, but be aware that some parents may have more than one spot date range in their associated fills and the colours are displayed in the order you select them.

Step-through / Animation

The lower section of the Spot Dates panel shows two input boxes and a slider, which are initially set to the minimum and maximum dates in the finds assemblage. By moving the slider handles or changing the values in the input boxes you can specify a date range to highlight on the map.

The two sets of < and > buttons allow you to change the start or end dates in increments (value set in the Years box) while the << and >> buttons will apply the increment to both ends of the range.

The two play buttons in the Animate area will animate the spot data on the map either backwards or forwards.
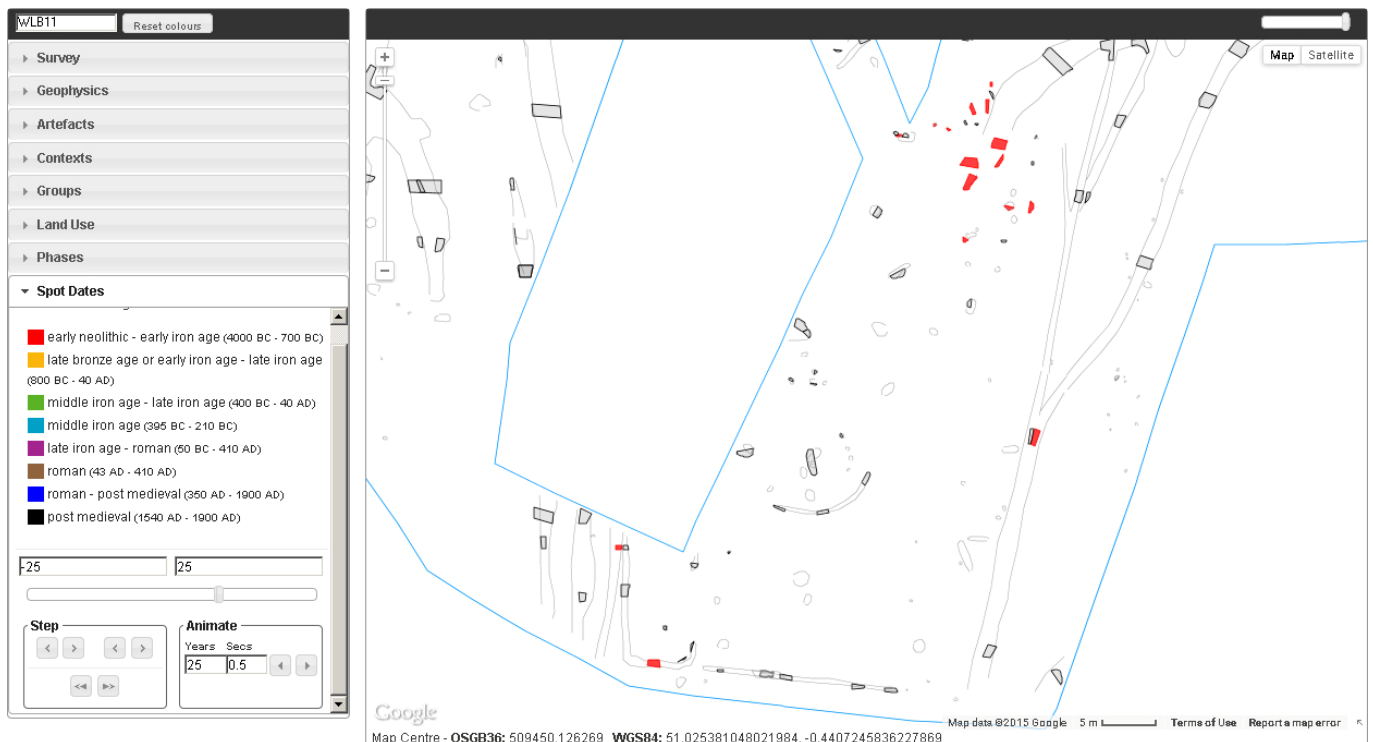
Figure 30.   Frame during animation, here showing contexts with spot dates between 25 BC and 25 AD

Distance / Area Measurement

The ruler button ⊞ at the top of the Google Map allows you to measure distance and areas. To start measuring, click the ruler, then click points on the map. After two points have been set a distance measurement will be shown to the right of the button. If more points are added the cumulative distance will be shown, along with the area encompassed by the points. Any point can be dragged into a new position and the measurements will be updated accordingly. Clicking a point will remove it from the measurement line.

To turn measurement off click the ruler again.

At the moment clicking on a context to set a point is not possible, so you may have to click next to it then drag the point into position.

Data Map / Matrix

General

The idea behind the Data Map / Matrix is to provide a flexible way of drawing up a matrix and a means of accessing/editing the underlying data (context, photos, finds etc), and integrating this with site survey data and/or digitised hand drawn plans. It's not designed to create the matrix for you - drawing up a matrix should be part of the interpretative process, but it can do some of the tidying up for you. The information entered in creating the context matrix can be cascaded down, with manual refinements at each step, to create subgroup and group matrices, and finally land use diagrams.

It will also provide a means of disseminating our site data to a wider audience.

The page opens with two blank areas, one on the left that will load map data (see GML import for information on how to extract and upload data from CAD survey drawings), and a second area to the right which is where the matrix is built. The bottom right corner of the map area has a drag handle that allows you to resize the two panes.

When you enter a site code in the top left input field and hit Enter, the database will search for relevant map data (pre-ex survey data, context polygons etc) and the context register. If only context register data is found the map area will be removed and the matrix expanded to fill the available space. In this case you can change the height of the matrix area by dragging its bottom border up or down.

The toolbox at the right of the screen will list all contexts found in the register. If a context has been placed on the matrix it will have a small circle next to it - you can click a context in this list to jump to its position on the matrix. If it hasn't yet been positioned you can drag it onto the matrix and drop it in the desired position, after which you can move it around if needed. If ⛏ drop parent & children mode is selected, whole context families will be dropped in one go. Entering '#matrix' in the Contexts filter box will filter the list to show only those contexts not yet placed on the matrix, while '#map' will filter to show contexts with missing map polygons.

Double clicking a positioned context will open an information window providing basic context data, a simplified representation of any stratigraphic relationships, and a list of any linked photographs.
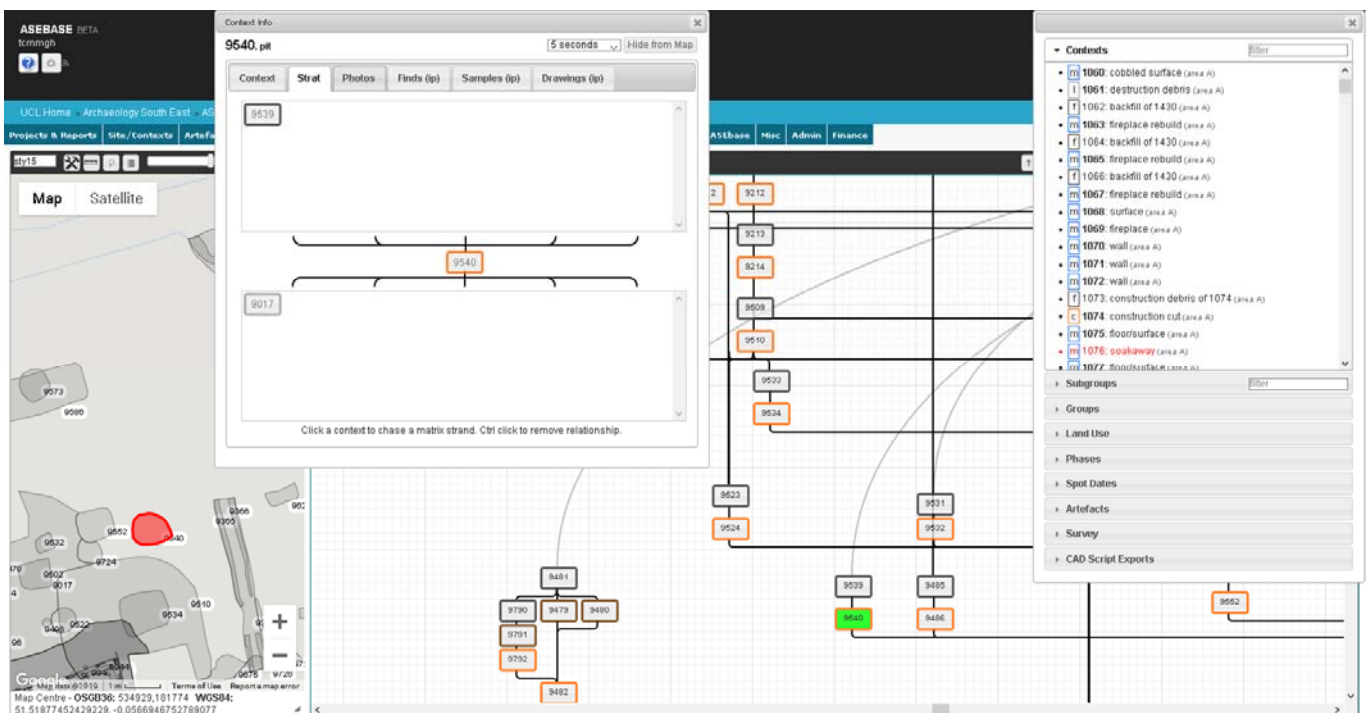
Figure 31.   Context matrix - info window showing simplified stratigraphy, map showing context location

Data Map

This shows simple polygons defining contexts, along with any pre-excavation survey that has been extracted from CAD drawings. A cut-down background Google map can be faded in and out using the slider above it, and the colour and line weight of different elements can be changed using the Survey section of the toolbox accordion.

The ruler button ▭ above the Google map allows you to measure distance and areas. To start measuring, click the ruler, then click points on the map. After two points have been set a distance measurement will be shown to the right of the button. If more points are added the cumulative distance will be shown, along with the area encompassed by the points (it assumes a closure point). Any point can be dragged into a new position and the measurements will be updated accordingly. Clicking a point will remove it from the measurement line.

To turn measurement off click the ruler again.

At the moment clicking on a context to set a point is not possible, so you may have to click next to it then drag the point into position.

Context labels can be turned on and off using the ▱ button, though these will only be visible at maximum zoom level. On complicated sites they will also slow down zooming and panning the map.

Clicking a context on the map will open the info window and (if placed on the matrix) pan to the relevant matrix position. On complicated stratigraphy it won't always be possible to click the desired context if others are overlying it, in which case you can temporarily hide a clicked feature using the Hide from Map button in the info window. Alternatively you can isolate a portion of the matrix to hide all contexts outside the selected area by holding down the 'i' key while you drag over part of the matrix, or by using the Matrix Overview (see below). Click the ▱ Reset Map button to see all contexts again.

Missing Polygons

The database expects to find a polygon for all cuts and structures. While it doesn't necessarily mean there is an error in the polygon data, if a context outline is not found for a cut or structure its entry in the context list of the toolbox accordion will be shown in red. It's worth running through this list and checking any red entries to make sure there shouldn't be an associated polygon as this can highlight typos in the CAD attributes.

Matrix

Matrix key-strokes

i   Isolate: drag a region over the matrix to only show contexts on the data map that fall within it
m   Move: drag over the matrix to select multiple items to move
h   Highlight: drag over the matrix to highlight multiple features on the data map <mark>TO DO</mark>

Adding Contexts

As well as dragging individual contexts onto the matrix, you can dump contexts onto it in bulk. To do this, click the Dump Contexts button ▱ (or at the top of the contexts list), and a popup window will open. Here you can specify a context range, an area, a trench or 'all', then click a point on the matrix where you would like the dump to start.

The database will loop through contexts within the specified range, initially placing 'self-parent' contexts on the matrix, moving left after each one. It will then process any contexts that have a parent specified, placing them at the same left position as their parent and moving the parent down to accommodate the new context before adding the remaining contexts.

If stratigraphic relationships have already been entered, the code will then arrange each parent strand according to the stratigraphy and draw the relationships between contexts. Any contexts without relationships will need to be ordered manually. It's therefore probably good practice to make sure stratigraphy has been entered before you dump the contexts, thereby saving a load of manual moving.

Finally you can use the Parent Positions button to move various strands lower down the matrix if it knows one parent is above another[1]. Ideally the code behind this would simply loop repeatedly until no more moves were necessary, but if the data contains any stratigraphic loops this would result in an infinite code loop. Instead it tells you how many moves were made each time you click the button. You can keep clicking the button and as long as there are no strat loops it will eventually reach zero.
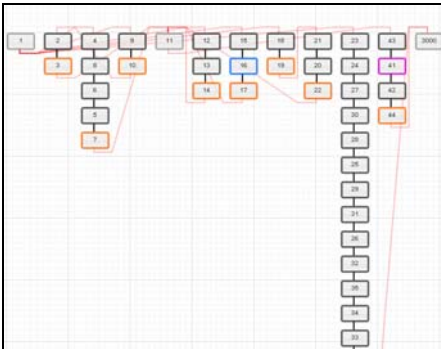
Figure 32.   Initial Dump   Figure 33.   Parents Auto-Positioned   Figure 34.   Manually tidied
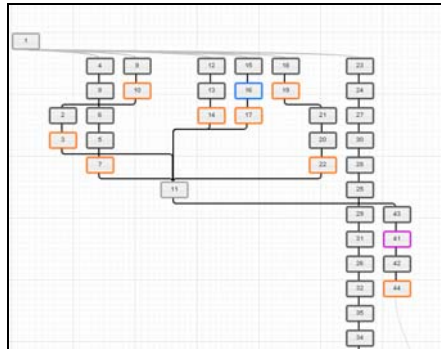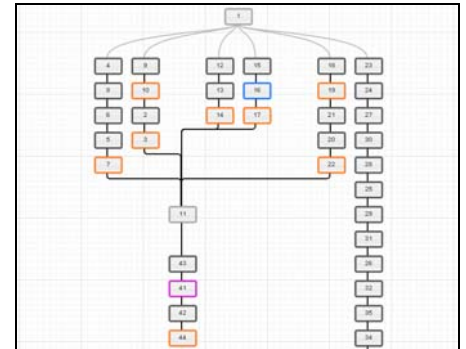
Moving Contexts

To move an individual context just click and drag it to its new location – any relationships will temporarily disappear, but be redrawn once you release it. If you want to take a context off the matrix then double click it to bring up the info window, then on the Strat tab Ctrl click its box in the middle of the tab.

To move multiple contexts, hold down the 'm' key (or shift) and either click each context you want to move or click and drag a rectangle over multiple contexts – their fills will turn black to show they have been added to the selection. Once you've selected all the contexts you want to move, release the shift key and either use the arrow keys or drag one of them – the rest will follow. Already selected contexts can be removed from the batch by holding the shift key down and clicking them again. The array of contexts to be move is cleared when you drop them in position.

To move a parent strand, double click one of the contexts in the strand to bring its data up in the context info popup, then use the buttons at the bottom of the Context tab to move the strand as a single unit.

You can also use 'nudge mode' to move multiple contexts, but *please treat this with caution if you're moving things up or left, as you may cause parts of your matrix to collide*. In nudge mode (called by clicking the ⊹ button) you will see red lines extending left and down from your mouse position. Clicking one of your keyboard arrow keys will move all contexts to the right of and below your mouse position in steps of 50 pixels. In this way you can shift your entire matrix by placing the mouse at the top left corner and clicking ⇩ or ⇨, or you can just move parts of it.

Relationships

The quickest way to enter your stratigraphic relationships is probably to tab through the list in the Context Stratigraphy section of the toolbox accordion. This shows each of your contexts with an input field next to it listing any contexts that it is stratigraphically above. Typing in here will create relationships, or delete them if you remove a number. Contexts entered here should be comma separated if you're entering more than one. As soon as you tab out of an input field any changes you have made will be shown on the matrix.

Alternatively you can click a context and a small plug appears at the bottom. This can then be dragged and dropped on another context stratigraphically below it to create a relationship. This will store a record in the database indicating that the first context is above the second, and draw a line between the two contexts. Relationships between a context and topsoil/subsoil or a context and natural are shown as grey Bezier curves. All

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[1] This only changes their vertical position at the moment, though with a bit of thought I might come up with a way of moving them left or right, but the potential for collisions is pretty high.

other relationships are shown as horizontal and vertical black lines unless the lower context is at a higher point in the matrix. In this case it will be drawn as a red diagonal line.

To remove a relationship go to the Strat tab of the info window again, and Ctrl click the relevant context. You can also chase a matrix strand from here by clicking contexts in the above or below boxes.

Context Types

The border/fill of each context indicates its type:

`1`	**Cut**	`5`	**Skeleton**
`3`	**Fill**	`4`	**Unknown / Unassigned**
`2`	**Layer**	`9`	**Void**
`6`	**Masonry / Other Construction**		

Matrix Tools

The top right of the screen holds various matrix related tools:

- ↑ **Animate Matrix Up**: see below.
- ↓ **Animate Matrix Down**: see below.
- ⛁ **Matrix Overview**: see below.
- ⚿ **Only Children**: if parent/child information has previously been entered this will add a relationship between all contexts that only have one child/parent
- **Toggle Parent & Children Mode**: drop context families in one go.
- **Dump Contexts**: drop many contexts in one go, not suitable for complex strat. See above.
- **Toggle Nudge Mode**: move swathes of contexts using keyboard arrows. See above.
- **Find…**: you'll be prompted to enter a context/subgroup/group number depending on which matrix type you are working on - if it has been placed on the matrix it will be highlighted in a lurid green for 10 seconds and the matrix area will scroll to its position.
- **Grid Opacity**: changes visibility of background grid (dark / light / off).
- ↘ **Toggle Relationships**: show or hide relationships. When hidden, only relationships for the context you click will be visible.
- ✎ **Toggle Same As**: show or hide same as lines.
- ⊕ **Topsoil Stubs**: show topsoil relationships as stubs.
- ⊙ **Natural Stubs**: show natural relationships as stubs.
- ▤ **PX Comments**: this toggles the visibility of post-ex comments - anything entered in the px comments box of a context record will appear in a small box beneath the relevant context. If you've placed contexts close together the text may overlap, but if you hover over the box the text will be shown.
- ◇ **Samples**: this will grey out any un-sampled contexts and show sample numbers attached to those that were sampled.
- ♟ **Spot Dates**: this will look up the probable spot date range of each context and colour code the context boxes accordingly. It will also add a box beneath each context showing the numeric spot date range (artefacts flagged as intrusive or residual will be ignored). Clicking the button again will toggle the spot date information on and off.
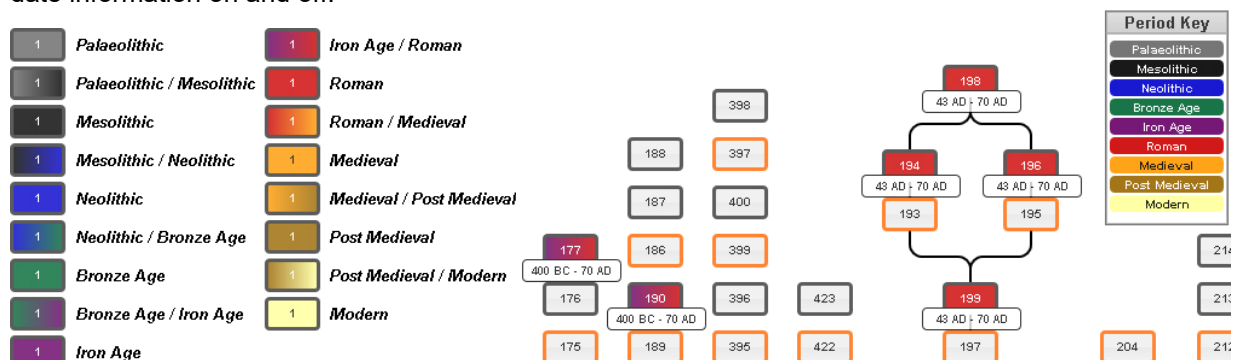
- **CUD**: this will toggle the visibility of a context's construction/use/disuse data.
- **Colour Contexts**: colours contexts according to phase & lists any that are outside their phase boundary.
- **Child Units**: subgroup matrix only. Show/hide contexts in subgroup.
- **Subgroup/Group Mode**: in Subgroup Mode you can click and drag a rectangle encompassing a number of contexts, after which you will be asked for a subgroup number. Any context that has its top left corner within the rectangle will be assigned to the subgroup/group you specify. Contexts that have previously been assigned to a subgroup will appear slightly faded with their subgroup number shown below, and a running list of used subgroup numbers should appear at the top of your screen.
- **Backup**: creates a backup of context positions which can be restored from the last toolbox section.

Matrix Overview & Animation

The matrix overview button will open a popup showing a simplified overview of your matrix, but without relationships to avoid cluttering the image. It may well be slightly distorted as it is forced into a fixed height and width box, but should give a general impression of your matrix.
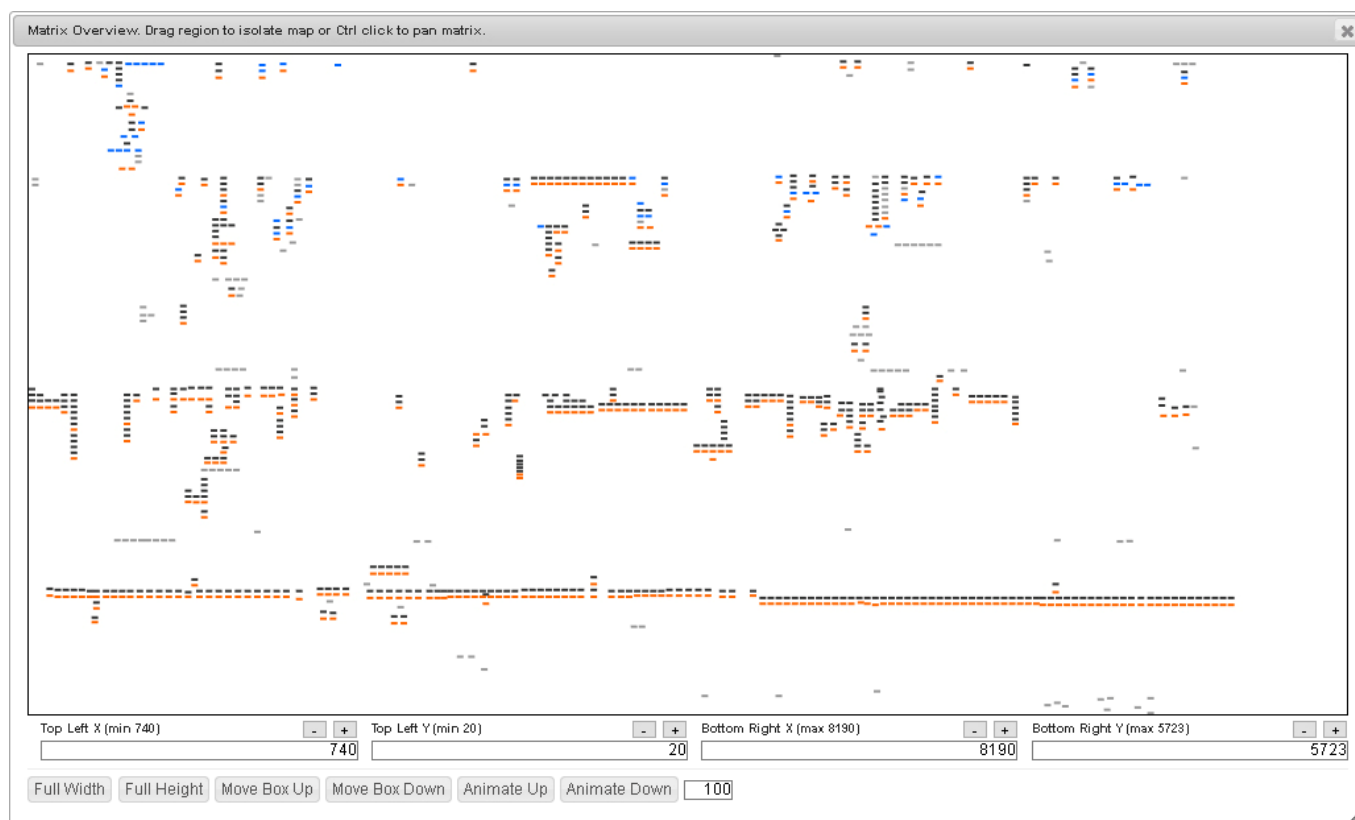
Figure 35.   Matrix Overview

Pan Matrix

Ctrl clicking a point on the overview will close the popup and pan the matrix to that position.

Isolate Matrix

Dragging over a section of the overview will isolate features on the data map within that region. When you let go of the mouse button it draws a box over that area. You can use the buttons or input fields at the bottom of the popup to change its dimensions, move it up or down, or set it to full width/height.

Animate Matrix

Once you have isolated part of the matrix you can animate the contexts shown on the data map. For example, if you were to drag over a region near the top left of the overview, you could then click the Full Width button, then click Animate Down.

The region box will slowly move down the overview, and only features within it will be visible on the map. The delay between each step in its movement is controlled by the number in the input field next to the Animate Down button - the larger the number the longer the delay. In theory this is a millisecond delay, but if there are loads of contexts in your matrix your processor speed may mean there is little difference in smaller numbers. While it is moving the two animate buttons on the toolbar will be replaced by a stop button, so if needed you can close the overview and stop / resume it from there.

An overlay will also be drawn on the matrix itself to illustrate the region currently shown on the data map.

Temporary Phasing (draw from matrix)

Positions on the matrix are defined by pixel coordinates, the top left corner being 0,0 (so basically eastings and southings, which can take a bit of getting your head round if you're used to OS grid coordinates!). When you move your mouse over the matrix these coordinates are shown in the toolbar.

If you've not yet phased your site, you can specify temporary regions of the matrix using the 'southings' as though they were phases, in order to see on the data map what that would look like.

In the Phases section of the toolbox accordion enter numbers in the To and From fields to define a region, e.g. entering 0 and 250 would define an area starting at the top left of your matrix and extending 250 pixels down. As soon as you tab out of the To field, an overlay box of the corresponding colour will be drawn on the matrix covering that area, and contexts with a top left corner within it shaded on the data map.

Once regions have been defined you can turn them on or off using the Show checkbox. Click the Reset Map button to remove colours, or Apply Colours to put them back. (To do: Remove Brackets button).
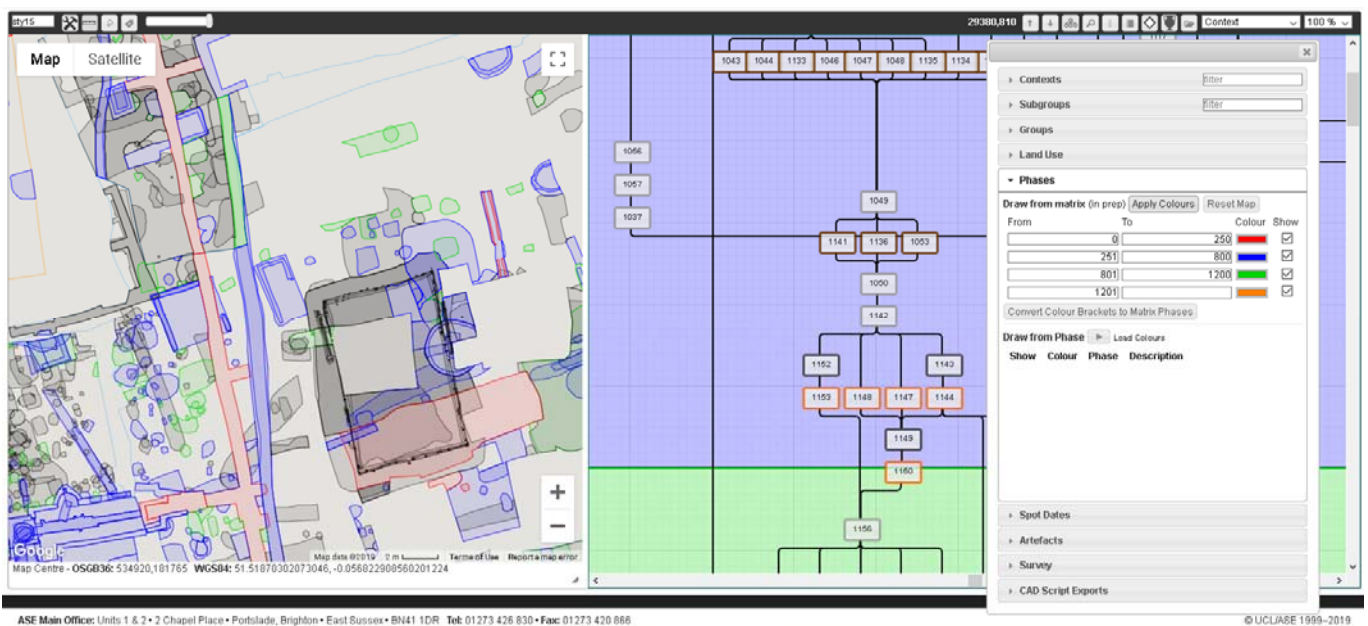
Figure 36.   Draw from matrix

Phasing

Once temporary phases have been established (see above) these can be converted to actual phase brackets by clicking the Convert Colour Brackets to Matrix Phases button. When a site is subsequently loaded, the phases will be shown in the accordion and can be applied to the matrix (see Figure 37).

Clicking the Update Context Phases button will tag all contexts on the matrix that fall within a phase with the relevant information. If contexts are later moved to a new phase bracket, or the extent of phases changed, simply click the button again. Once contexts have been updated you can use the Phase Map button to colour the map according to phase.

Tweaks to the extent of a phase can be made by changing the values in the From px and To px input fields.
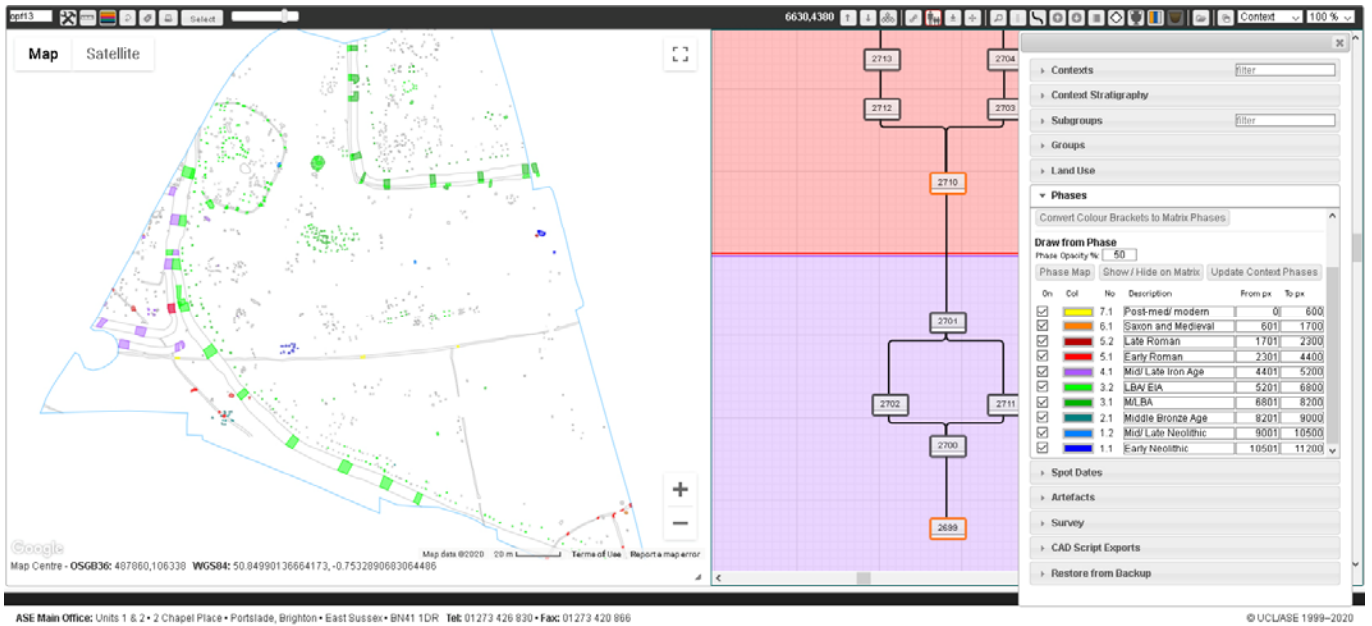
Figure 37.   Partially phased context matrix

Context Matrix

Overview

Please note - at the moment the matrix facility is in development and there are issues that I need to address with some browsers – testing is currently being carried out in Firefox

The idea behind the context matrix is to provide a flexible way of drawing up a matrix and a means of accessing/editing the underlying data (context, photos, finds etc). It's not designed to create the matrix for you - drawing up a matrix should be part of the interpretative process - but there are parts of the process that could be facilitated given a bit of time and thought. I've not done too much on it as yet as it wasn't part of the original ASEbase spec, and whether or not it is developed further depends entirely on feedback. In theory, however, the information entered in creating the context matrix could be cascaded down, with manual refinements at each step, to create subgroup and group matrices, and finally land use diagrams.

As it needs all available space, the matrix opens up in a new blank window (called by hitting the 🔱 button on Context Register or Context > Land Use forms). To place a context on the matrix simply drag it from the top left box onto the body of the page, at which point its position will be saved - you can move them around afterwards if needed. Each context has a 'socket' at the top and a 'plug' at the bottom which are used to create relationships (if there are already relationships entered, either here or via the strat section of the context register form, these will be displayed as lines joining the contexts).
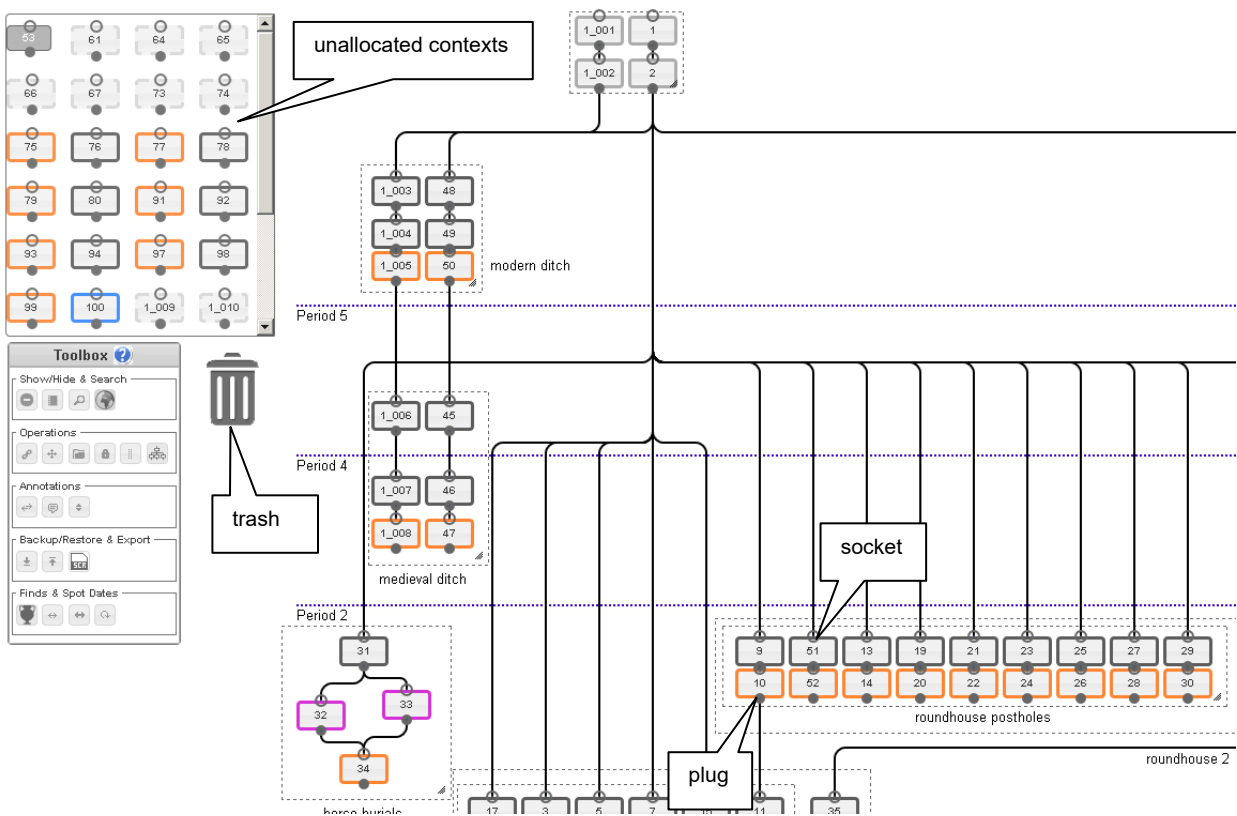
Figure 38.   Context matrix

The border/fill of each context indicates its type:

Cut			*Skeleton*	
Fill			*Unknown / Unassigned*	
Layer			*Void*	
Masonry / Other Construction				

There are two boxes at the left of the screen that should follow you around as you scroll about your matrix:

- **Unallocated Contexts**: a list of all contexts in the register that have yet to be placed on the matrix
- **Toolbox**: options for adding comments, shifting the entire matrix, hiding/showing plugs and sockets etc.

Moving Contexts

To move an individual context just click and drag it to its new location – any relationships will be maintained and the lines between them will drag with the context box. If you want to take a context off the matrix then drag it to the trash and it should disappear.

To move multiple contexts, hold down shift and either click each context you want to move or click and drag a rectangle over multiple contexts – their fills will turn black to show they have been added to the selection. Once you've selected all the contexts you want to move, release the shift key and drag one of them – the rest will follow. Already selected contexts can be removed from the batch by holding the shift key down and clicking them again. I need to work on the multiple move thing a bit...

Relationships

To create a stratigraphic relationship drag the plug from the bottom of one context to the socket at the top of another - this will store a record in the database indicating that the first context is above the second, which will appear in the strat box of the context details, and draw a line between the two contexts. New relationships are indicated by a blue line - they will be black next time the page is opened or refreshed. If you click the line between two contexts you will be offered the chance to delete that relationship.

Toolbox

Show/Hide & Search

- ⊖ **Plugs & Sockets**: this toggles the visibility of relationship plugs and sockets.
- ▤ **PX Comments**: this toggles the visibility of post-ex comments - anything entered in the px comments box of a context record will appear in a small box beneath the relevant context. If you've placed contexts close together the text may overlap, but if you hover over the box the text will be shown.
- 🔎 **Find Context**: you'll be prompted to enter a context number - if it has been placed on the matrix it will be highlighted in a lurid green for 10 seconds and the screen will scroll to its approximate position (I hope 10 seconds is long enough for you to spot it).
- 🌐 **Show Map (in prep)**: this button opens a small popup map which, if the context survey data has been entered (see **Error! Reference source not found.**, page **Error! Bookmark not defined.**), will display rudimentary context outlines. If you click a context box in the matrix and that context exists in the survey data the relevant outline is highlighted on the map. If you click a context on the map and that context has been placed on the matrix, the matrix will scroll to the relevant context in the same way the **Find Context** function works.
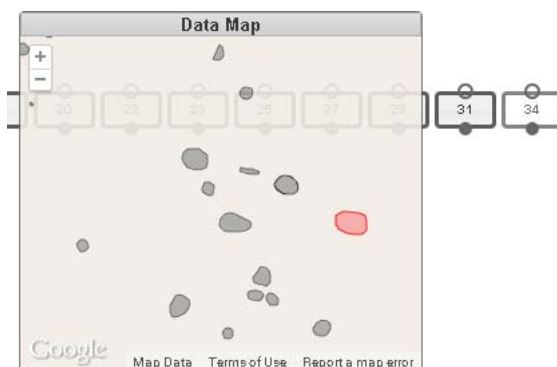
Figure 39.   Matrix popup map, context 33 selected.

- ▦ **Toggle Grid Opacity**: changes visibility of background grid (dark / light / off).

- X **Change Relationship Style**: switches between horizontal & vertical or diagonal relationships.

Operations

- **Only Children**: if parent/child information has previously been entered this will add a relationship between all contexts that only have one child/parent. If parent info has not been entered it will also add parent details to any cuts on the matrix and their lowest fills.
- **Shift Entire Matrix**: if you start running out of space you can shift the whole matrix by clicking this button - a crosshair will appear centre screen which can be dragged to move the matrix (in prep - you might need to refresh if the results aren't immediately apparent).
- **Apply Levels**: in prep - apply level/spot date information to the vertical position of contexts, but needs some thought...
- **Switch Subgroup Mode On/Off**: in Subgroup Mode you can click and drag a rectangle encompassing a number of contexts, after which you will be asked for a subgroup number. Any context that falls partially within the rectangle will be assigned to the subgroup you specify. Contexts that have previously been assigned to a subgroup will appear slightly faded with their subgroup number shown below, and a running list of used subgroup numbers should appear at the top right of your screen.
- **Lock/Unlock**: in prep - the idea being to prevent other users messing around with what you've done.
- **Subgroup Matrix**: opens the subgroup matrix in a new tab.
- X **Apply Period**: in prep

Annotations

- **Related Box**: add an annotation to show that contexts are related - when clicked a box will appear at the centre of the screen that can be dragged and resized to encompass contexts that are associated with each other. This is purely visual, and if you move individual contexts you will have to move the box as well.
- **Add Annotation**: add a text annotation - when clicked a dialog box appears asking for the comment text, once entered this will appear wherever you last clicked on the screen and can then be dragged to the appropriate position. Again, this isn't linked to anything and will have to be moved independently if you move contexts associated with the annotation, but if you shift drag to select contexts to move will be picked up.
- **Add Period Division**: this adds a dividing line to show a period which is saved when subsequently dragged into position - it will run from the left-most context to the far side of the right-most context. When dragged you will be asked if you want to move earlier contexts with it – click 'Period only' to just move the division or 'Period & earlier contexts' to move contexts below its current position as well. It's worth backing up before using this if you're not familiar with its operation. If you want to change the name of a period double click it and you'll be prompted to enter a new name.
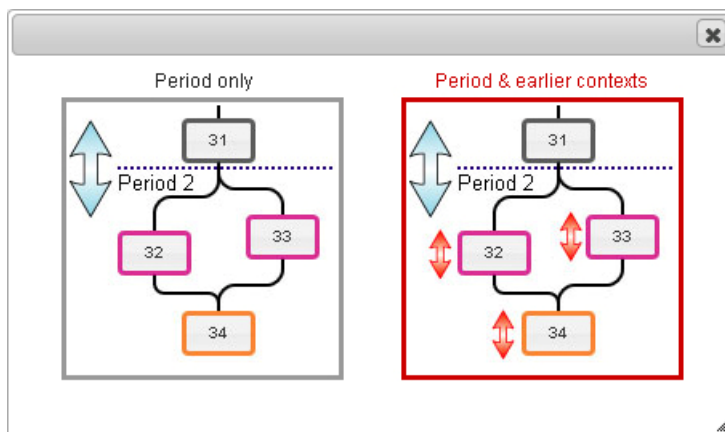
Backup/Restore & Export

- **Backup**: downloads a csv file containing information on context matrix positions which can be used to restore the matrix to an earlier state.
- **Restore**: in prep – for now if you give me a backup file I can restore it, but once coded it will let you restore an earlier version yourself.
- **Export CAD Script**: You can use this button to create an AutoCAD script file which will draw the matrix in CAD. Once you've downloaded the file, type 'script' in the AutoCAD command bar then navigate to the downloaded file and double click it. A drawing of the matrix should then appear (Figure 40 and Figure 41). This could be improved (jumps etc), but at the moment I don't know if it's wanted or not so not taken any further.
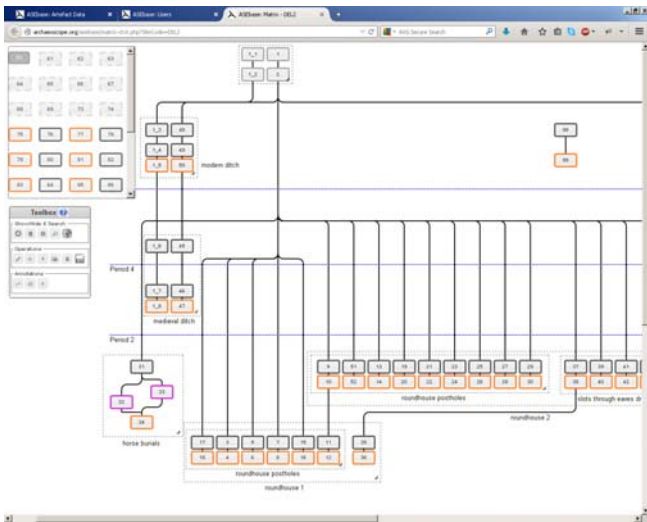
Figure 40. Web matrix
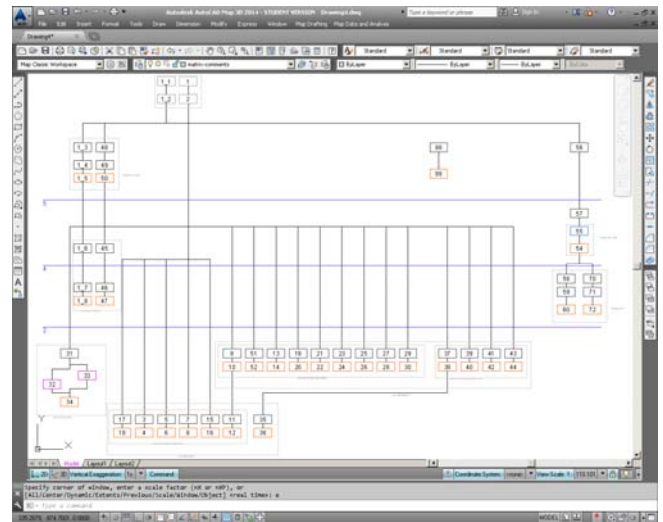
Figure 41. CAD matrix generated from downloaded script

Finds & Spot Dates

- **X Load Artefact Data**: this is probably temporary while I'm working on things.
- **X Probable Date Range**: this will look up the probable spot date range of each context and colour code the context boxes accordingly. It will also add a box beneath each context showing the numeric spot date range (artefacts flagged as intrusive or residual will be ignored). Clicking the button again will toggle the spot date information on and off.
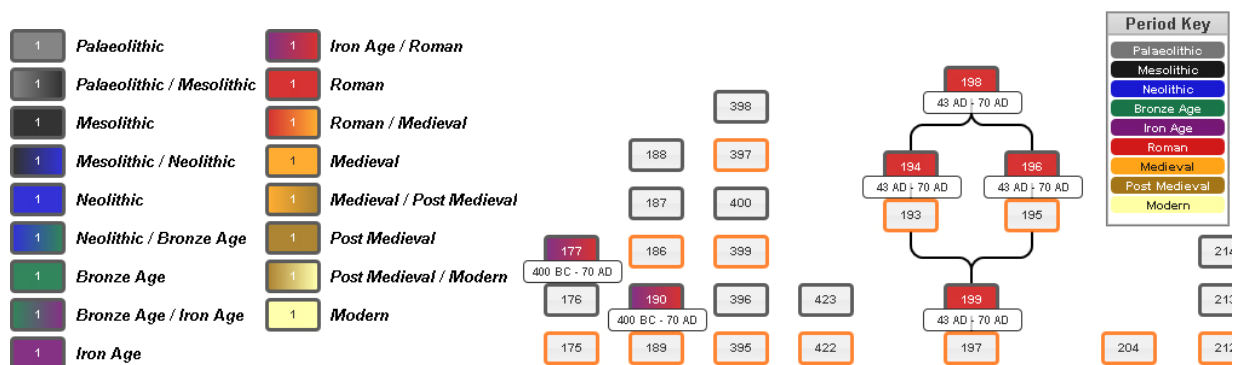
Figure 42.   Matrix spot dates

- **X Full Date Range**: this will look up the full date ranges of all artefacts recorded from each context and colour code the context boxes accordingly. It will also add a box beneath each context showing the numeric spot date range (artefacts flagged as intrusive or residual will be ignored). Clicking the button again will toggle the spot date information on and off.
- **X Refresh Spot Data**: the first time you show either probable or full date ranges the database looks up the information and stores it to avoid having to re-query the data. Clicking this button will clear the stored spot date information and force it to re-query, so any changes made since you first loaded the data will be included.
-

Context Popup

Double clicking a context opens a form with tabs showing context, photos, finds, samples and drawing data (currently only the first two have been coded).

Context

Context data can be viewed / edited here. Any changes will be saved when the form is closed (group, period & land use in prep).

Figure 43.   Context details available within matrix

Photos

If a link between photo and context exists, this displays thumbnails (if the image has been uploaded) and brief details of each linked image. Further photos can be linked to the current context by typing the photo numbers in the input field (in prep).
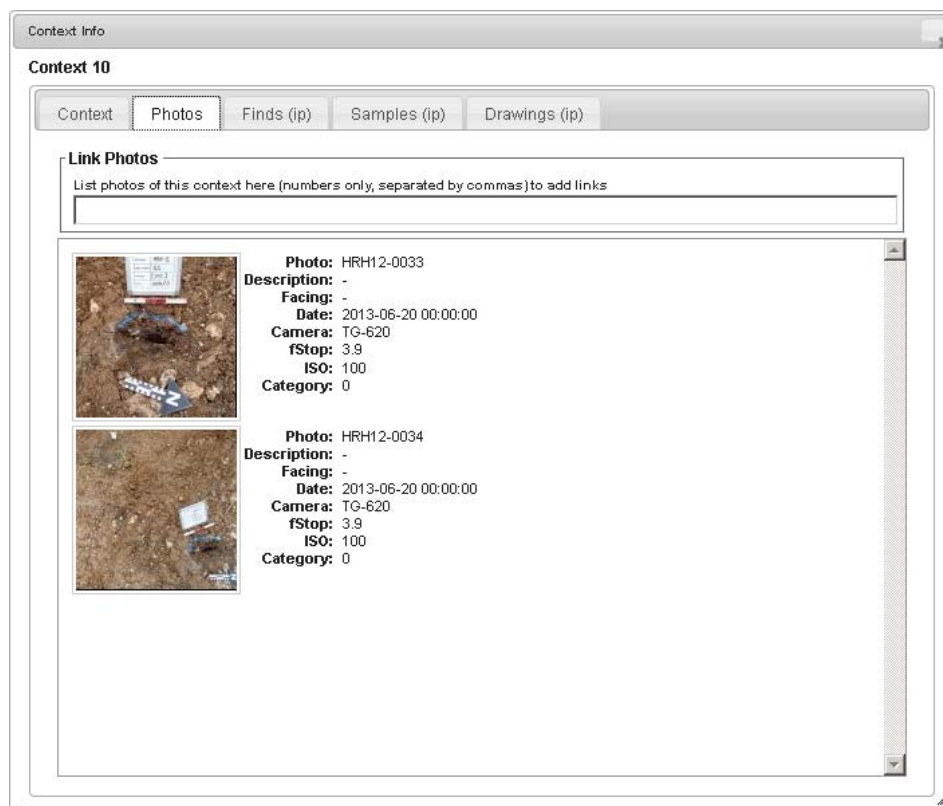
Figure 44.   Photo details available within matrix

Finds

in prep

Samples

in prep

Drawings

in prep

General

Snaps & Scrolling

In order to keep contexts and their relationships relatively tidy and aligned, scrolling of the main screen and unallocated contexts box on both the x and y axis are constrained to 10 pixel increments, and contexts are dragged in increments of 10 pixels. As a result when you stop scrolling the matrix and unallocated contexts box may jump slightly.

To enable infinite scrolling there is a small box off screen at the bottom right which gets pushed further right or down when you scroll. If you have a very high resolution monitor or zoom out a lot it might be visible (or stop working) - if so please let me know.

To do:
 • Artefact refits/conjoining sherds – connect contexts with conjoining artefacts, hard coded for WLB11

Subgroup Matrix (in prep)

Overview

Once a context matrix has been prepared and sub-grouped, the database can work out the relationships between different subgroups based on the context stratigraphy. You can therefore create a rudimentary subgroup matrix by clicking the ⛭ button on the context matrix page.

Initially this uses the Context Matrix x and y positions of each context to place the subgroups on the page, so at first the subgroups may appear quite spread out, but they can be dragged into position to tidy things up and make grouping easier. Stratigraphic relationships cannot be edited here as they should already have been established on the context matrix.
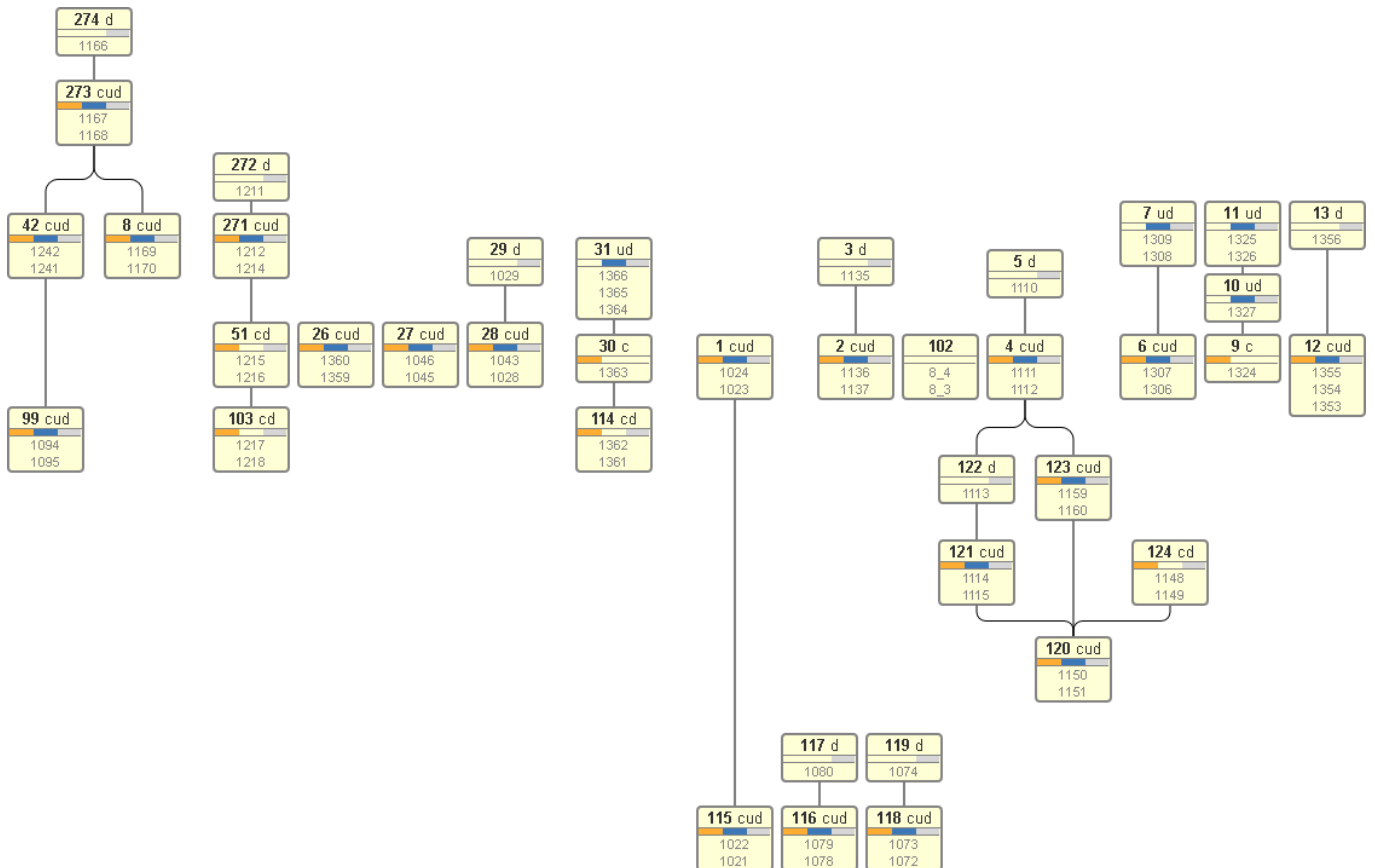
Figure 45.   Basic subgroup matrix, expanded to show contexts

Each subgroup is represented by a box with the subgroup number and an indication of whether it includes contexts related to construction, use or disuse (also shown by coloured bars beneath the subgroup number, which I hope will be visible if you zoom out). Below this is a simple list of contexts within that subgroup. Hovering over a subgroup will display its number, C/U/D and description.

To do:
- ~~Find Subgroup~~
- Map – show all contexts in subgroup when clicked, scroll to SG if map clicked
- Group Mode – same as subgroup mode on ctxt matrix
- Backup/Restore
- Export to CAD
- Dates

Group Matrix (in prep)
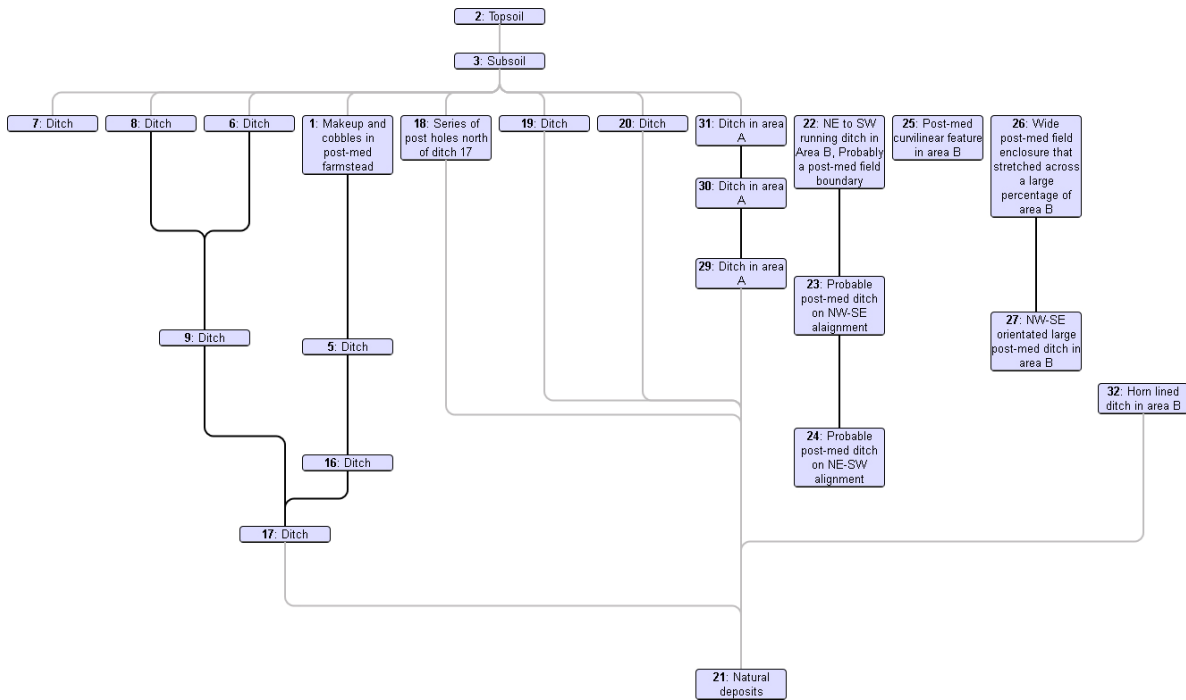
Figure 46.   Partial group matrix
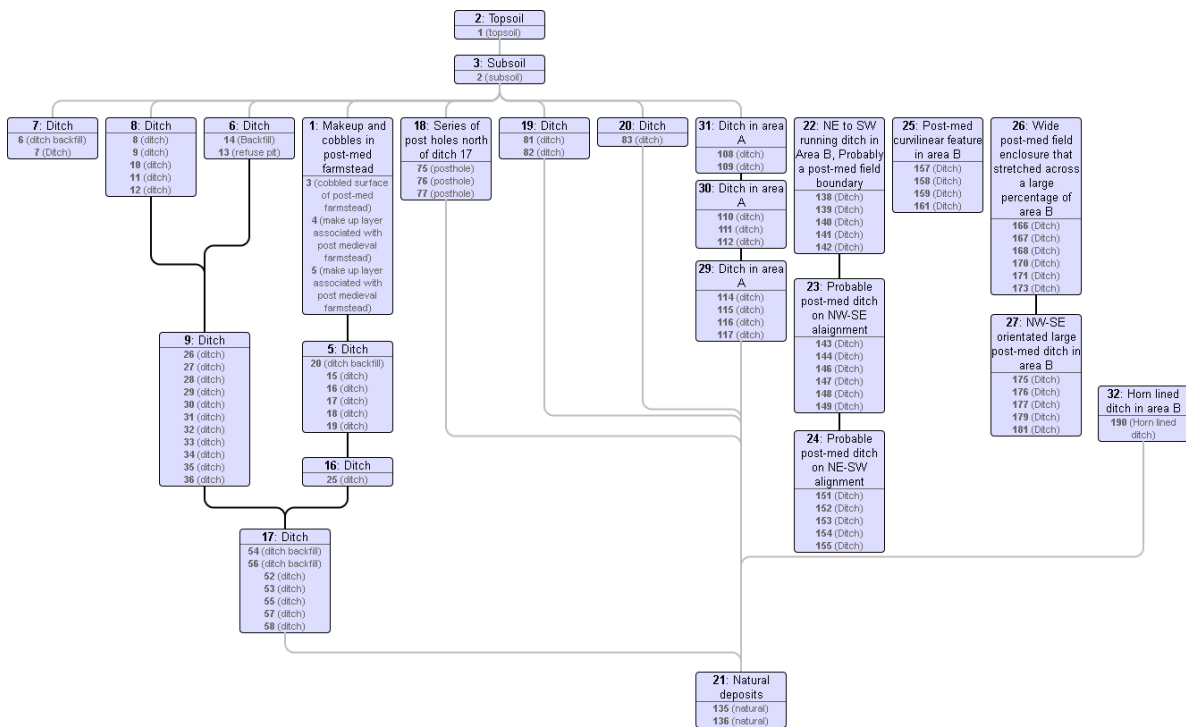
Figure 47.   Partial group matrix, expanded to show sub groups

Land Use Diagram (in prep)

In prep

Artefacts & Samples

Finds Deposition (in prep)

As finds and samples are brought back from site we are recording the paper finds deposition forms in the database. Although the information on the paper forms is often a bit 'fuzzy', this lets us easily see roughly what's been brought back and when, and feeds into the various Tracker forms (project, report, enviro and geoarch, see <mark>XXX</mark>).

The list on the left shows all previously entered records, and clicking a row will display the relevant data in the right hand section.

If no record has been selected you can start entering new information straight away, otherwise you'll need to click the 'New' button to clear the form.

The Finds section is completely free text and should be pretty self explanatory. The Enviro section is slightly more specific, and amalgamates information from the wood and enviro parts of the paper record. The enviro quantity must be numeric, and container and type are restricted to dropdown fields. As you enter a row of data in either section, a new blank row will appear below it in case there are multiple depositions to record.

Although probably not necessary in the long run, for the time being there are also two checkboxes in the General Details section at the top of the form; 'Env?' And 'Geo?'. Please check the relevant box(es) if environmental or geoarch samples are included in the deposition record.

Any wood brought back from site should be recorded in the Enviro section by choosing 'wood' from the type dropdown.
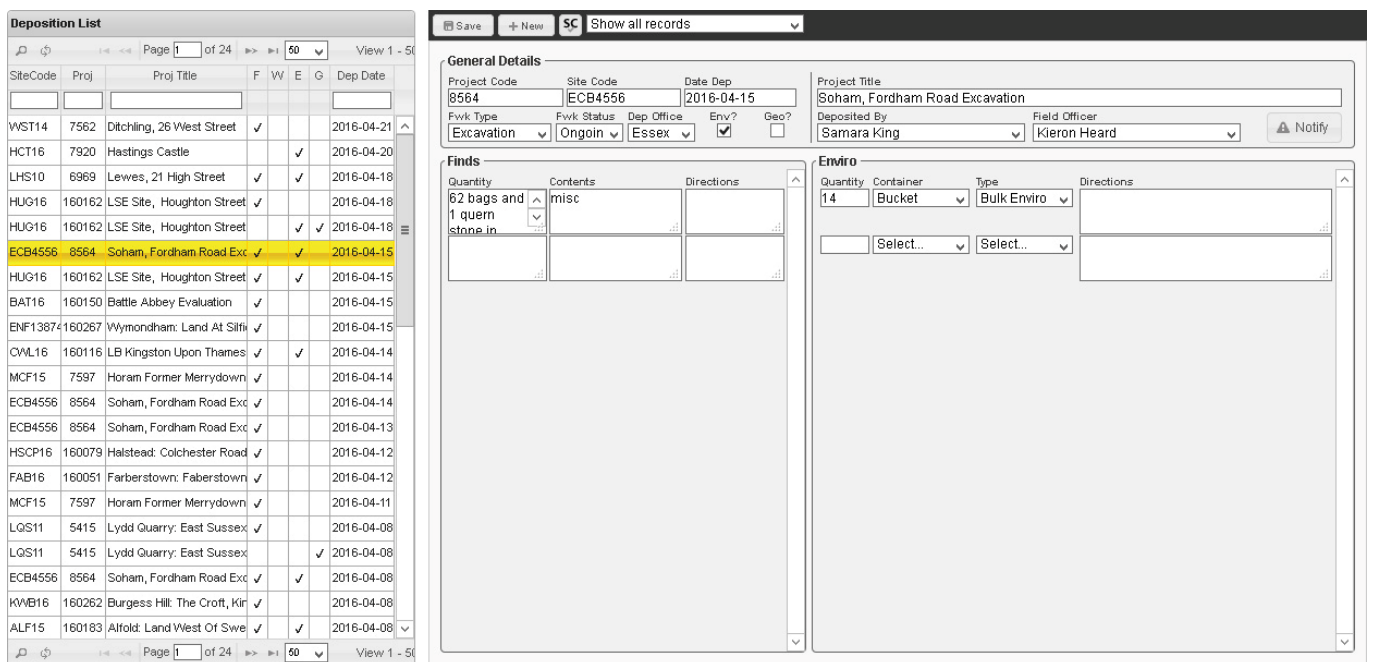
Figure 48.   Deposition form

Site Quantification (in prep)

Although a full and accurate quantification can be created from the specialist data, this can only be done once all the finds have been processed and analysed and we need an initial quantification to help with post-ex tracking, resource allocation, archive location etc.

This form lists the potential bulk artefact types we want to quantify at the right, where new data can be added, and existing data in tabular form to the left. All the artefact types are recorded by a code, e.g. POTT for pottery. See xxx for further details on artefact codes. Registered finds quantification should be completed using the Artefact List form (see Registered Finds, below).

Ctxt	LITH		POTT		CBM		STON		SLAG		META		BONA		CTP		FCLA		GLAS		PLST	
	C	W	C	W	C	W	C	W	C	W	C	W	C	W	C	W	C	W	C	W	C	W
1438			2	8																		
1443			2	8																		
1454			406	2786																		
1464			114	660			1	66														
1472					1	6																
1475			54	208																		
1491			115	562													11	553				
	19	224	3817	30812	29	593	28	1904	6	738	1	6	52	10	1	16	228	3791				
⊟ FW																						
1L			1	4																		
1M			1	78															1			
1P			1	4																		
1S	1	2																				
1T							1	20														
1U							1	22														
1V																						
	101	1446	4277	34145	54	1515	40	2222	11	806	4	62	55	24	10	28	236	3835	36	374	4	160

Figure 49. Quantification form (in prep)

Because of the way ASE deals with projects and reports, quantifications are broken down by a combination of site code, project, and work phase/type (e.g. field-walking, evaluation etc). Existing quantifications can be viewed by entering a site code and clicking the ▶ button. The results can be restricted by also entering a specific project number and/or fieldwork phase. If you're entering new data you will have to supply a site code, project number and fieldwork phase as, if a context doesn't already exist in the database, the quant form will create a new record for that context and to do so all three are required.

When you enter a site code then leave the field, the database will look up any projects that are listed against that site code and display them in a popup window (Figure 50). If you just want to view all data for a site code you can close this, but if you want to add new information, click the relevant line to automatically set the project number and fieldwork phase. The relevant data should load automatically, and you can edit that information by clicking a row and adding to or changing the data displayed at the right hand side.

To enter data for a new context, enter the context number in the top box at the right hand side then fill in the relevant artefact

Figure 50.   Related projects

counts and weights. Once complete you can click the save button to save the information, or if you need to enter another context it will save the data automatically when you change the context number.

- Count and Weight must be numeric. If you enter '<2' this will be changed to '0' (we can still export this as <2 for reports etc). Anything else non numeric will be flagged.
- If you make a typo in a context number then double clicking the relevant row will let you edit it (in prep).

- If you inadvertently enter counts against the wrong material, use the small trash button to the left of the row to remove that data.
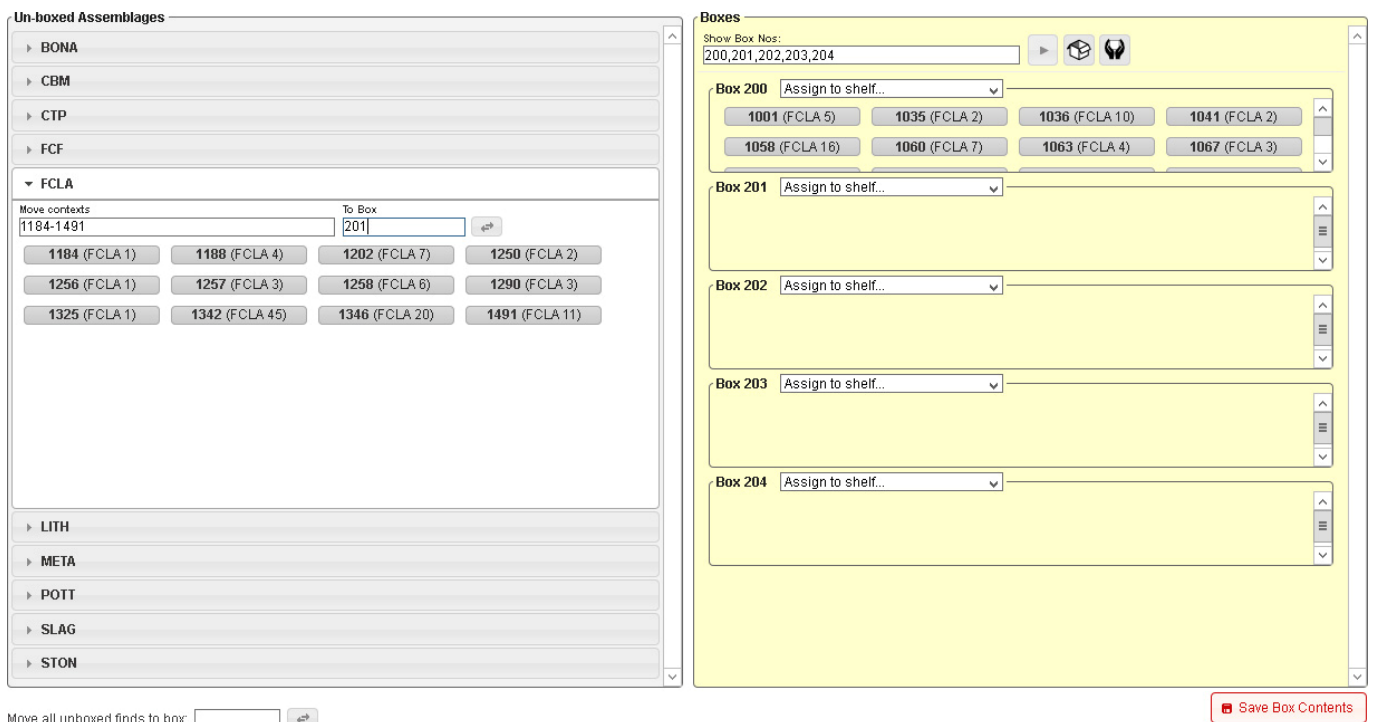
The quant table will break the data up by fieldwork phase (Figure 49, above, shows excavation contexts in the upper half, fieldwalking 'contexts' in the lower half). At the bottom of each fieldwork phase is a summary showing totals of count and weight, and at the bottom of the entire grid the overall totals are shown. The data associated with different phases of work can be expanded or collapsed by clicking the +/- button in the respective header row.

To export the data (e.g. to include in a spreadsheet) click the X button. This will open a popup window with a basic table of the data. Clicking anywhere in this table will select the whole thing and you can then copy it and paste to Excel, Word etc.

Boxing Up

This is the first stage in being able to track an assemblage location, and involves specifying which box an assemblage is initially placed in after quantification. It's called by clicking the button at the top right of the Quant form. This will open a popup window and list all unboxed assemblages by material at the left hand side (Figure 51). Each assemblage is shown with its context number, then material type and count in brackets.

Unless assemblages from that site have already been boxed up the right hand side will initially just show the 'Show Box Nos' field and the three buttons. Otherwise it will list the currently used boxes and show what's in them.

Figure 51.   Boxing up popup form.

You can add existing boxes to those displayed by entering their numbers in the Show Box Nos field and hitting Enter (comma separated list if you want to add many boxes). If you need a new box number, click the button and the database will grab the next number available and add a new box area to the list.

Once boxes are displayed you can move assemblages individually by dragging and dropping them onto a box, or in bulk by typing either 'all' or a context range in the relevant 'Move contexts' field and then entering a box number in the 'To Box' field and clicking the move button.

If an assemblage is too large to fit in one box it can be split between boxes by double clicking and entering the box numbers it's being put in, separated by commas.

Artefact Data Structure

All basic artefact data (beyond the stages of deposition form and bulk quantification) are recorded in a single table, with extra detail in separate tables according to the artefact type.

This generic data includes Context, Site Code, Artefact Type, Identity1, Identity2, Count, Weight, Condition and Notes fields. By having all the information in one table we will be able to quickly get a general overview of an assemblage, while still being able to separate data for different specialist tables etc. The two Identity fields will therefore hold different information depending on the artefact type:

Material	Expansion	Identity1	Identity2
AGGR	Aggregate		
AMBE	Amber		
ANTL	Antler		
BONA	Bone - Animal	Species	Bone
BONH	Bone - Human		
CBM	Building Material, Ceramic	Fabric	Form
OBM	Building Material, Other		
CERO	Ceramic Object	Material	Object
COMP	Composite		
CORA	Coral		
CTP	Clay Tobacco Pipe	Type	Form
FIBR	Fibre		
FCFL	Fire cracked flint		
FCLA	Fired Clay or Daub		
GLAS	Glass	Type	Form
IVOR	Ivory	-	Object
LEAT	Leather	-	Object
LITH	Lithic	Type (flint/chert etc)	Form (flake/blade etc)
META	Metal	Metal Type	Object
PLST	Plastic		
POTT	Pottery	Fabric	Form
RESI	Resin		
SHEL	Shell	-	Species
SLAG	Slag		
STON	Stone	Stone Type	Object
TORT	Tortoise Shell		
WAX	Wax		
WOOD	Wood	Species	Object

Table 1.   Materials List

Site	RNo	Type	Identity1	Identity2	Count	Weight	Cond	DateMin	DateMax	Notes
HRH12		BONA	COW	CRAN	1		M			
HRH12		CBM	T1	ROOF TILE	1	4	A	1200	1600	coarse moulding sand. Med? medieval/early post-medieval roof tile
LHH05	79	CERO	LOOMWEIGHT	T	1	1040		1050	1150	
LHH05	715	CERO	CLAY	CLAY PIPE (SMOKING)				1800	1850	Fluted deco with crude moulded leaf-pattern on seam
LHH05	782	GLAS	WINDOW		1	0				V. poor condition
LHH05		GLAS	INK BOTTLE	C	1	62		1900	1999	External screw thread with traces of Fe cap
LHH05		FCLA	3B	WE	1	216				end of two pieces of wattle -branches cut diagonally
LHH05	72	META	COPPER	CATERPILLAR BROOCH	1	8		1150	1225	Equal-armed caterpillar brooch; possible gilt; ring-and-dot deco; crude; pin missing
LHH05		META	LEAD	OFFCUT	1	10				
LHH05		META	IRON	Strip	1	6				Tapering, curving strip
MAS08		POTT	CTOX	1	1	100				Footring flagon base, canterbury oxid ware
HRH12		SHEL	OYSTER SHELL	Ostrea edulis	31	522				minor parasitic activity
HRH12		SLAG	Smithing		1	109				Worn, quite dense, aerated & rusty
LHH05	670	STON		QUERN	1	838		1100	1150	Lower Greensand; ?upper stone
LHH05	704	STON	RAGSTONE	Hone	1	8		1225	1275	Norwegian ragstone

Registered Finds

The combination of site code, project and fieldwork phase works in the same way as the Site Quantification form (see above). Existing information can be viewed with just a site code, but to add new data all three fields must be complete.

To enter new records, fill in the three fields above and click Load. Any existing records will be shown, and clicking the + button at the upper left of the data grid will open a new record popup form.

Most of the fields should be self explanatory

Figure 52.   Reg Find popup form

Artefact Data (in prep)

This is designed to allow entering / editing / viewing of artefact and sample data by context. When initially loaded the form will have a blank context register at the left hand side and various tabs for each artefact category at the right.

To view or edit finds data, enter a site code in the top left toolbar and click the ▶ button – a simplified context register should appear listing context number, type, interpretation and subgroup if they've already been entered into the database – if they haven't you can use the ➕ button to add empty context records (Context Register, page 18). Clicking a context in this list will display basic context information in the upper part of the right hand pane, along with a breakdown of artefact quantities by type and (if there are any associated spot dates) a bar showing the spot date range. If you select a finds category tab the relevant artefacts will be listed in the lower part of the right hand pane where they can be edited or added to.
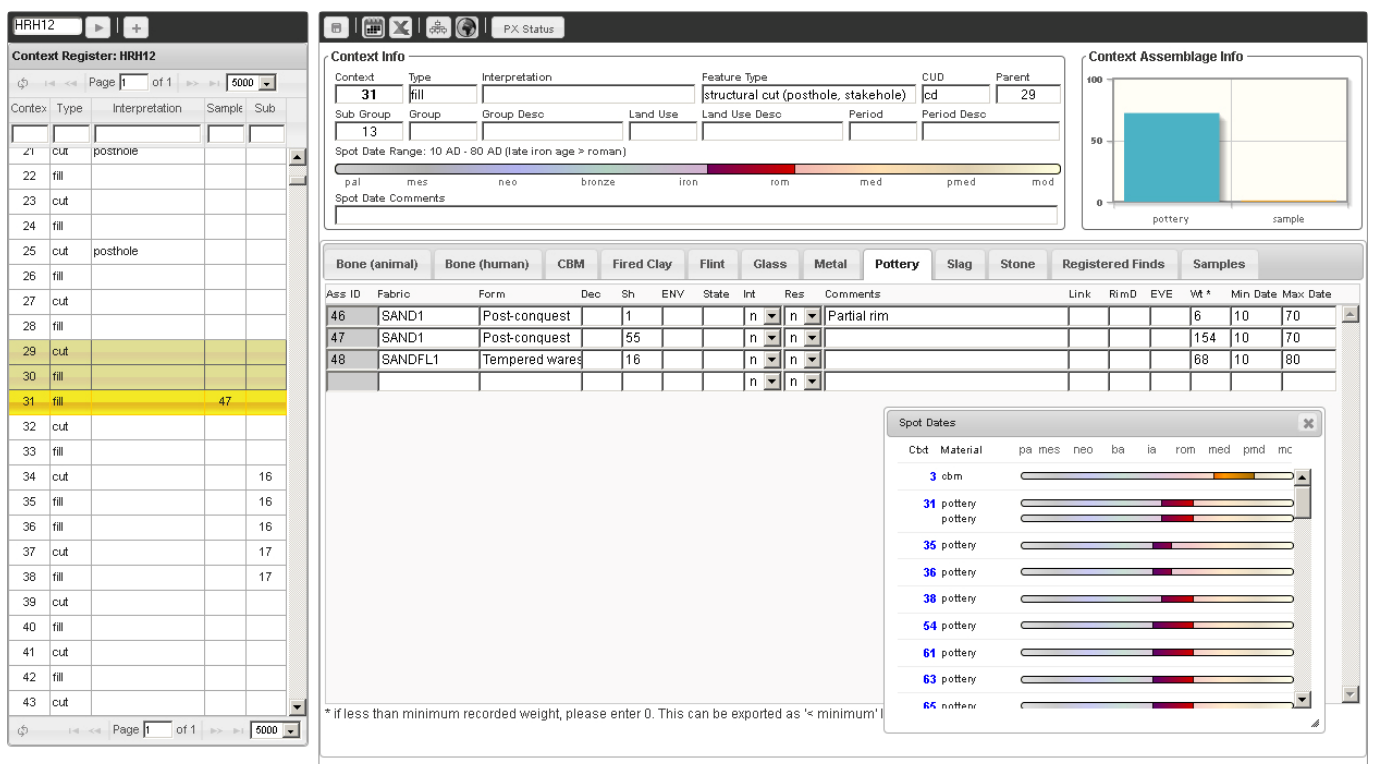
Figure 53.   Artefact Data form with site code HRH12 loaded, context 31 selected, and spot dates form open

The right hand toolbar has several buttons, these being 🔲 Save, 🖩 Spot Dates, ✖ Export, ⚒ Matrix, 🌐 Data Map and 'PX Status'.

- 🔲 When adding or editing artefact or sample data the Save button will save any changes to the current assemblage. Usually you will only need to use this to force a save, as selecting a different context from the left hand list will save any changes anyway. The button will turn red when changes are made and revert to grey once they're saved.

- 🖩 The Spot Dates button simply brings up a list of all contexts with spot dates, showing the material used and the assigned date (Figure 53). I'm hoping this will make it easy to quickly check if a context has conflicting spot dates (eg. something should be flagged as residual or intrusive). Hovering over the date range bar will show specific dates and clicking the list item will bring up that record.

- ✖ The Export button will download a csv file of the information, either as raw data or a quantification table, and can be filtered by artefact type or used to generate an overall site quantification.

- ⚒ For information about the Matrix, see Context Matrix (page 37)

- For information about the Data Map see page 25.

For now ignore the PX Status button, I need to talk to Jim, Dan and Louise about this.

General

Ass ID: within the database each sub-assemblage is given its own ID, shown in the grey 'Ass ID' field. This is primarily for internal purposes, but we could use it as a wider sub-assemblage identifier, or to flag things that need drawing/photographing etc.

Weights: the weight field is numeric, so if something is less than the minimum weight recorded you should enter zero – when tables are produced etc this can be converted to '< minimum'.

Dates: this is also a numeric field, so you can't enter 'BC' or 'AD'. For BC dates please use a negative number.

Pottery

In prep

C14 Register

In prep

Figure 54. C14 register

Archive Location

This form allows you to search for archive components and also record when you move things around.

Searching & Moving

A simple site code search will display the location of individual context assemblages and the location of any boxes they are stored in. The example below shows a search for WAG16 material, some of which is with staff members, some in an un-numbered box, and some has been discarded.

Figure 55.   Archive Location Form, showing search results for WAG16

Items or can be moved between people (or to the skip) individually by dragging and dropping or in bulk by dragging the material title. Clicking a box will show its contents in the Box Contents area, and you can return things to the box by dropping them there.

If you're moving a box to a shelf, choose a store plan from the dropdown menu, then drag the box to the relevant shelf (see Figure 56).

Old Data

The recording of an assemblage location is based on the site quantification data, so for projects that pre-date ASEbase quantifications you will still be able to move boxes around but the information for individual assemblages won't be available. Data for these projects is stored in a rudimentary form based on the old archive location spreadsheet, and any information retrieved from this will be shown in red. It can be viewed by clicking the button, but only the site code, contents and notes fields can be edited.

Users

While anyone can use the form to search for material only specific users can move things around, each having a user area displayed in the lower part of the page. Clicking the button will open a popup showing possible users at the left and current users at the right. If you are in the current user list you will be able to add or remove users by dragging people between the two lists. The possible users are drawn from current staff along with any contacts in the database who are flagged as external specialists.

Figure 56.   Store plan showing shelves containing material from WLB11

Archive Status

In prep

Skeletons

In prep

Inventory

Select elements of the skeleton by clicking individual bones, text groups, or 'select all' button. Remove by clicking again.

Figure 57.   Skeleton form, incomplete

Figure 58.   Skeleton QCS11 116 loaded, bones showing pathology in green

Images (in prep)

Drawing Register

If you enter a site code in the top left box and hit the ▶ button (or if you've arrived here from the Site Data section of the Projects List) any drawing data will be listed in the left hand section.

Clicking a row here will enable editing of that row, and if the raw scan of the relevant drawing sheet has been uploaded this will be displayed to the right. The drawing can be zoomed using the + and – buttons, or panned by dragging.

New drawings can be added to the register by clicking the Add Drawings button. This will open a popup asking for a sheet number/letter, first drawing number and last drawing number. Fill in the three fields and click OK. The drawing entries will be created, and if needed you can then add further sheets.

The default drawing type is section, but can be edited if needed. To link a drawing with a context enter the context number in the relevant Contexts field (multiple contexts should be comma or + separated). Clicking a new line in the register or hitting Return will save that record. Hitting Esc will cancel your edits.
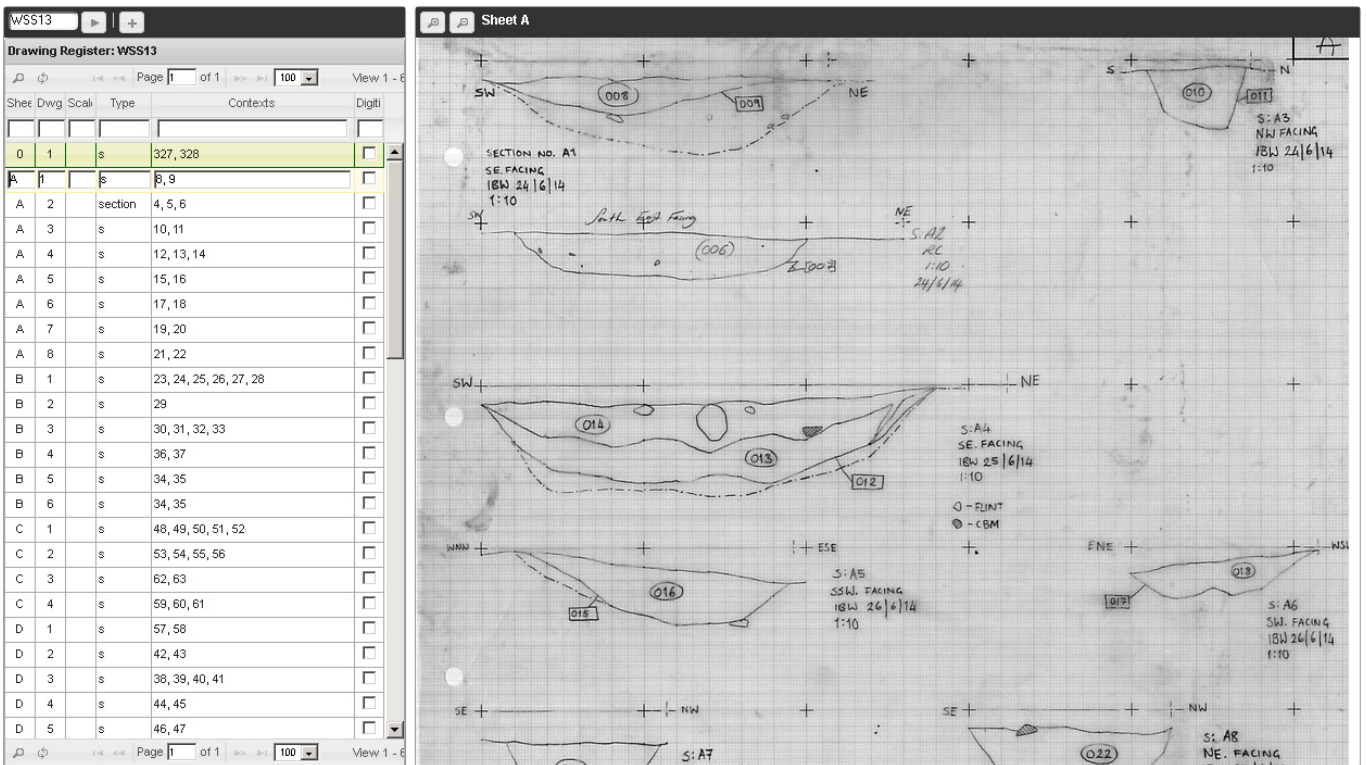
Figure 59.   Drawing register

Photo Register (Access)

To create the initial digital photo register, please use the **ASEbase-Photos** Access database. You should grab a copy of this and PhotoResize.exe from **Unit\ASEbase** and copy it to your local drive (**C:\ASEbase**) before opening it - this will cut down unnecessary server traffic, allow the original to be edited if changes need making, and prevent different versions of Office updating references which would make it unusable in earlier versions.

The Access database will open at a form that lets you read in a directory of photos. If files have previously been read in you can load them into the subform by entering the relevant site code at the top of the form (for projects without a site code please use the project number). Any data entered will be available through ASEbase.
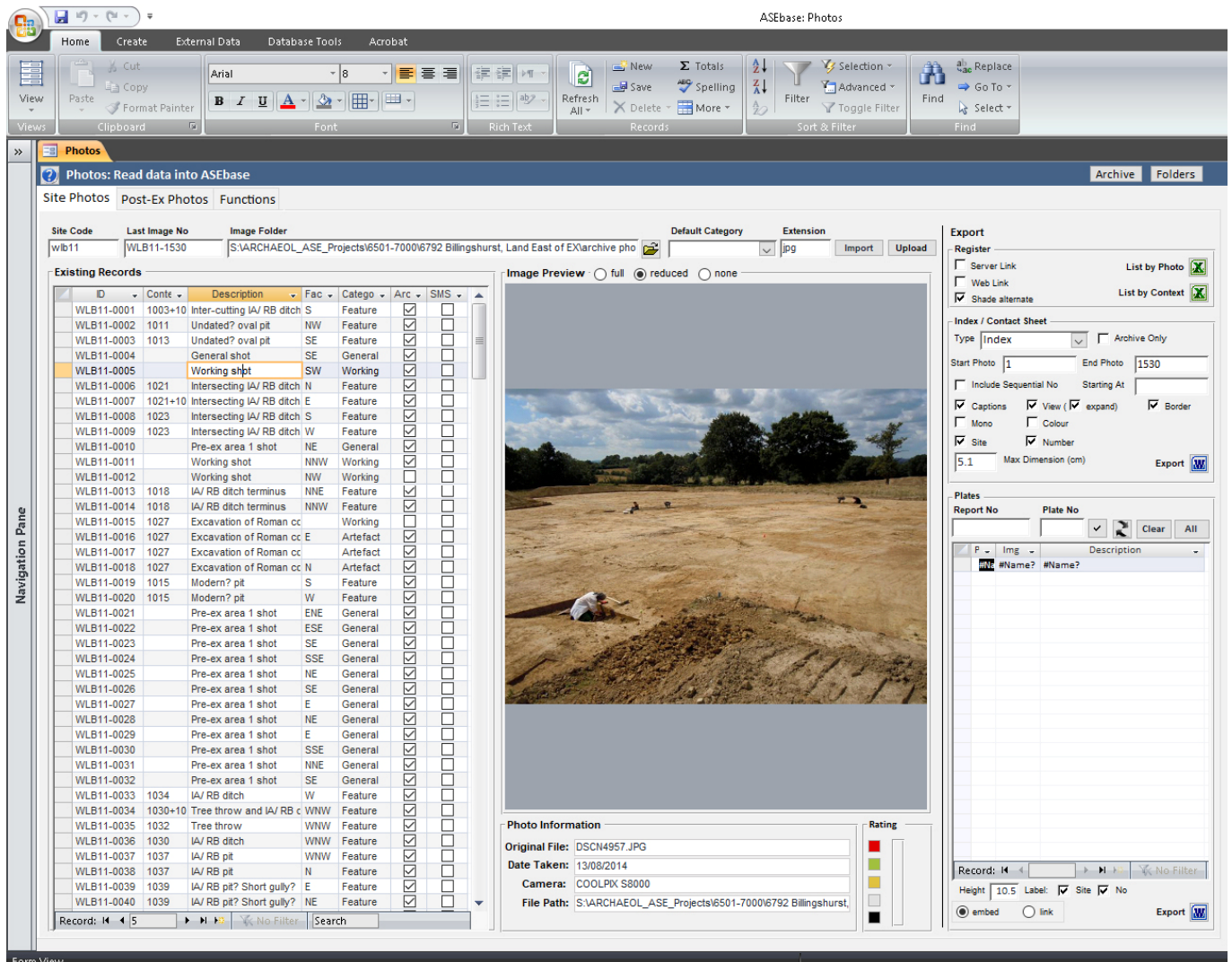
Figure 60.   Partially completed photo register, Microsoft Access database linked to ASEbase tables

Read a batch of images

This reads images downloaded from a digital camera in the order they were taken (based on the camera assigned file names).

The process is:

- Enter a site code (if there is no site code use the project number, and for images not associated with a specific project enter 'ASE' in the site code)
- If records already exist the last image number will be shown, and previous records listed in the left hand subform

- Select the folder that holds the images - you can do this by typing a path or using the Browse button to navigate to the relevant directory
- Optional: if most images are of one particular category, choose a Default Category. This will be applied to all images but can be changed individually once they've been imported.
- The target extension is 'jpg' by default; this specifies which type of files will be read/renamed, change if necessary
- Click 'Import'

The database will then create a new folder in the specified directory called 'databased' and run through all the photos grabbing details such as date taken, camera used etc, renaming the files based on site code and an incremental number, and moving each one to the 'databased' folder as it is processed. Once all the images have been read and renamed a command prompt style window will open while smaller versions of the photos are created (these are used in photo indexes and online). Please wait until this window closes.

If you later need to add more images, drop them in the same folder as the previous photos and repeat the process – the new images will be read and moved to the databased folder.

RAW files?

Load a previous batch of images

If images have been read in previously these can be loaded into the subform by simply entering the site code and then leaving that field. The subform will then list all images that have the same code assigned to them. Select an entry to preview the image (if 'full' or 'reduced' are checked, checking 'none' will reduce server traffic and speed things up if you don't need to see the images). Double-clicking the image ID will open the file in your default image viewer/editor.

Adding information

Once records have been created you can add further information such as description or context numbers. These details can then be included in a photo index, plates document or register and will be available via ASEbase.

General

The Existing Records list lets you add contexts, description (to use as a caption or in searches), camera direction and image category. **In most cases (for non Historic Building data) the Contexts, Facing & Category fields are all that needs filling in (see below)**. Description should only be filled in if a specific description is required, as a rudimentary description can always be created automatically from the context data (ie if you've entered a context number the database can look up its interpretation and create a caption such as 'Ditch 235'). For camera direction enter 'n', 'wsw' etc - the database can always expand the entry later if needed. If contexts are entered ASEbase assumes the photo is 'Feature' category and adds the relevant data, but this can be changed if needed. This field is primarily designed to help when it comes to archiving (most archives won't want loads of working shots, so if these are flagged we can automatically exclude them).

To link an image to context records type context numbers in the Contexts field (**numbers only**, separated by spaces, commas or '+'). Evaluation contexts should be entered in the format 1/003 etc. Once you leave that field the database will use what you've typed by splitting it into individual contexts, prefixing each one with the site code and popping entries in the table that links photos and contexts (*lnk_Ctxt_Phot*). It will also create records in the relevant context register if they don't already exist.

The Archive tick box will default to ticked, but for any images which don't need to be archived (e.g. duplicates, poor quality etc) please untick this box. Archiving digital images is expensive, so if we can cut down on the number of files we deposit it can make a massive difference.

The SMS (Social Media Suitable) tick box will by default be blank. If you have a particularly good photo that might be suitable for promotional material or social media posts, please tick this box. This makes it much easier for us to find appropriate images from the thousands we have stored in various subdirectories on the server.

Double-clicking the image ID will open the file in your default image viewer/editor.

Uploading to ASEbase

Once the smaller versions of your photos have been created you can upload them to ASEbase so they will be available in the Photo Register, Context > Land Use pages etc.

If you click the Upload button, the database will run through the images checking if they have previously been uploaded and copying any that haven't to a folder on your C drive. This will be a dated subdirectory in C:\UploadPhotos. Once they have been copied there, go to Dwg & Photo > Photo Register in ASEbase, and click the Upload Panel button (third button from the left) and drag the images onto the grey area. They will be given a green tick once they have uploaded, but this can take a while for large batches so please do not close the upload panel until the last image has a green tick.

Once they've all uploaded, delete the files from your C drive.

Rating

To rate an image click one of the buttons in the Rating section - black if it's crap, red if it's amazing. Images that have previously been rated will show a bar and the current rating. In the interests of democracy, anyone can have one vote per image and the displayed rating is an average of all votes cast. The number of votes will be shown at the top of the rating section marked by a '#'. The list of photos against each context on the Context > Land Use form is ordered by the image rating and we can also use this field in selecting web / publicity images.

Register

Export a photo register in the form of a spreadsheet. This currently gives you the option of creating spreadsheets in two formats:

- **List by Photo**: Creates a standard photo register
- **List by Context**: Creates a list of contexts with associated photo data

The available options are:

- **Server Link**: If this is checked then a column will be added that provides a quick link to open the image from the file on the ASE server - for internal use.
- **Web Link**: It might be handy to have the option of a web link, so if the spreadsheet was being sent to external specialists (and the photos were uploaded) they could click this cell to see an online image.
- **Shade Alternate**: If checked then the code will run through all entries in the spreadsheet and shade alternate rows to make it easier to read.

At the moment registers are saved to the path entered in the Image folder field, so a message box appears if this is blank - should probably prompt for location.

Index / Contact Sheet

Creates a 'contact sheet' word document to include in a report or deposit with an archive. Available options are:

- **Type**: 'Index' creates a document to include in a report, 3 images to each row, A4 portrait. 'Contact Sheet' creates an A4 landscape document to include with an archive
- **Captions**: Labels an image with the Description field
- **View**: Adds view to end of caption, taken from 'facing' field (expand converts 'n' to 'north' etc)
- **Border**: Whether or not to add a border to each image
- **Mono**: Add Mono equivalent to caption
- **Colour**: Add Colour equivalent to caption
- **Site**: Include site code as prefix to image number
- **Number**: Include image number

- **Max Dimension**: Default is 5.1cm for an Index, 4cm for a Contact Sheet, but this can be changed if you want smaller images

Once you click the export button Word will fire up, pop the images into a template document and scale them, then run through the images adding labels and archive numbers. If you suffer from epilepsy please don't watch it in action! If there are a lot of images then now is the time to go for lunch, a walk, or a chat.

Plates (in prep)

This only really applies to HBR I think, as site reports seem to have plates embedded in figures. To create a plates list type a report number in the Report No box and hit enter. Any previously entered records will be displayed, along with the next plate number. Once you've read or loaded an image dataset, an image can be added to the plates list by double clicking the description field in the Existing Records list, or selecting the relevant entry and hitting the Add plate button. It will be assigned the plate number shown in the Plate No box (by default the next number in the sequence, but this can be changed if needed, and the list will be re-numbered).

If you want to change a plate number afterwards, simply select the number in the list and change it - if needed the list will be re-numbered and sorted accordingly.

To delete a plate select the row and hit the 'Delete' key or click the 'Delete' button on the Access Home tab. This will remove the entry, but you will then have to click the 'Refresh/Renumber' button to update subsequent plate numbers once you've finished deleting records.

To produce a Word document of the plates specify a maximum height (10.5cm will allow two plates per page whether they are landscape or portrait), specify how the archive number should be displayed, and hit the Export plates button. Word will fire up, insert the images into a template document, scale them to the given maximum height value, and label them with the relevant description entry and archive number. If there are a lot of plates then go for a cup of tea.

If at any time you want to reset the list, clicking 'Clear' will remove all plate entries.

Upload photos to web server

Once images have been read they can be uploaded to the web server by hitting the 'Upload' button, though this may take some time.

Generally this probably won't be needed, but if they are uploaded we can make them accessible to external specialists or the general public.

Post-Excavation Artefact Photos (in prep – to discuss)

As post-ex artefact photo files are often named using their Registered Find number, we can use this to automatically link an artefact photo with the relevant finds record, and so search images based on artefact data such as material, date etc.

Any image uploaded with a file name starting with '#' is assumed to be an artefact photo, and if we have multiple photos of the same registered find they should be named '#1-1.jpg', '#1-2.jpg' etc, where the first number is the find number and the second the image number.

When the database encounters a # file it will pull the artefact number from the file name, and, if it can find a matching artefact number and site code, will create a record linking the image to that artefact. At the same time it will grab the context number and link to that as well.

As finds data is currently in prep (and photos might be taken before finds data has been entered anyway), it will store temporary records to use later if it can't find a matching artefact.

To Do

- Add a function to change folder name / directory structure and update records accordingly? Several batches seem to have been read into the database in folders called 'New Folder' or 'xxx Copy' etc, and if these are renamed later it will break links to the images.

- If file already has the name it should be renamed with, ignore but still read data.

- ~~Export register as Word document for archives?~~

- Send all photos to plates list for HBR stuff that is primarily a photo record

Photo Register (web)

<mark>In prep</mark>

Photo	Contexts	Description	Facin	Catego	Camera	Uplc	Date	Original
67	1072	IA/ RB enclosure ditch	N	Feature	TG-630	√	2014-08-28	P8280162
68	1078	IA/ RB enclosure ditch	NW	Feature	TG-630	√	2014-08-29	P8290164
69	1081	Very heavily truncated IA/ RB field bou	E	Feature	TG-630	√	2014-08-29	P8290166
70	1081	Very heavily truncated IA/ RB field bou	E	Feature	TG-630	√	2014-08-29	P8290167
71	1083	Very heavily truncated IA/ RB field bou	N	Feature	TG-630	√	2014-08-29	P8290170
72	1075	IA/ RB pit?/short gully?	W	Feature	TG-630	√	2014-08-29	P8290172
73	1075	IA/ RB pit?/short gully?	W	Feature	TG-630	√	2014-08-29	P8290174
74	1075	IA/ RB pit?/short gully?	S	Feature	TG-630	√	2014-08-29	P8290175
75	1087, 1122	IA/ RB enclosure ditch and underlying	WNW	Feature	TG-630	√	2014-08-29	P8290180
76	1087, 1122	IA/ RB enclosure ditch and underlying	WNW	Feature	TG-630	√	2014-08-29	P8290181
77	1087	IA/ RB enclosure ditch	ESE	Feature	TG-630	√	2014-08-29	P8290182
78	1090	IA/ RB pit	SSW	Feature	TG-630	√	2014-09-01	P9010184
79	1090	IA/ RB pit	SSW	Feature	TG-630	√	2014-09-01	P9010185
80	1088	IA/ RB? posthole	W	Feature	TG-630	√	2014-09-01	P9010186
81	1098	IA/ RB? posthole	N	Feature	TG-630	√	2014-09-01	P9010189
82	1098	IA/ RB? posthole	N	Feature	TG-630	√	2014-09-01	P9010190
83	1098, 1100	IA/ RB pit?/gully? cutting underlying po	N	Feature	TG-630	√	2014-09-01	P9010191
84	1098, 1100	IA/ RB pit?/gully? cutting underlying po	N	Feature	TG-630	√	2014-09-01	P9010192
85	1103	IA/ RB pit?/short gully?	NNE	Feature	TG-630	√	2014-09-02	P9020194
86	1103	IA/ RB pit?/short gully?	ESE	Feature	TG-630	√	2014-09-02	P9020196
87	1112, 1115	Intercutting IA/ RB gully and ditch	E	Feature	TG-630	√	2014-09-02	P9020198
88	1116	IA/ RB field boundary ditch	W	Feature	TG-630	√	2014-09-02	P9020199

Figure 61.   Web photo register

Photo Search

Once images have been read into ASEbase they can be queried via this form, which allows you to specify either one or a combination of search criteria.

For general searches you can specify

- **Category**: the image category assigned to the photo (eg. Feature, Working etc)

- **Office**: Essex, London or Sussex – originating office of the project

- **Site Code**: self explanatory

- **Description Contains**: free text, if an image description includes the word / phrase entered it will be displayed

- **Context Interpretation**: this lists all context interpretations that currently have linked images

- **Min Rating**: only display images with a rating equal to or greater than the selection

- **Max Results**: maximum number of images to display (the thumbnails are generated on the fly, so queries with loads of results may take a while to load in the preview pane)

- **Order By**: you can choose to order the results by rating (highest first), context number or date taken

For artefact specific searches you can currently specify

- **Artefact Type**: bone, pot, metal etc

- **ArtefactID1**: this will change depending on artefact type and what related records the database holds, eg if you choose Artefact Type = metal, ArtefactID1 will let you specify copper, lead, iron etc.

Once you've entered your criteria and hit the Search button, any relevant images will be displayed as thumbnails in the preview pane. Hovering over a thumbnail will tell you where it is located on the server (Figure 62) and clicking it will show a larger version. If you view a larger version and there's more than one image in your results you can run a slide show of the pictures by clicking the play button at bottom left, or scroll through the images using the previous and next buttons. The slideshow delay can be specified in the search criteria, but only *before* searching.
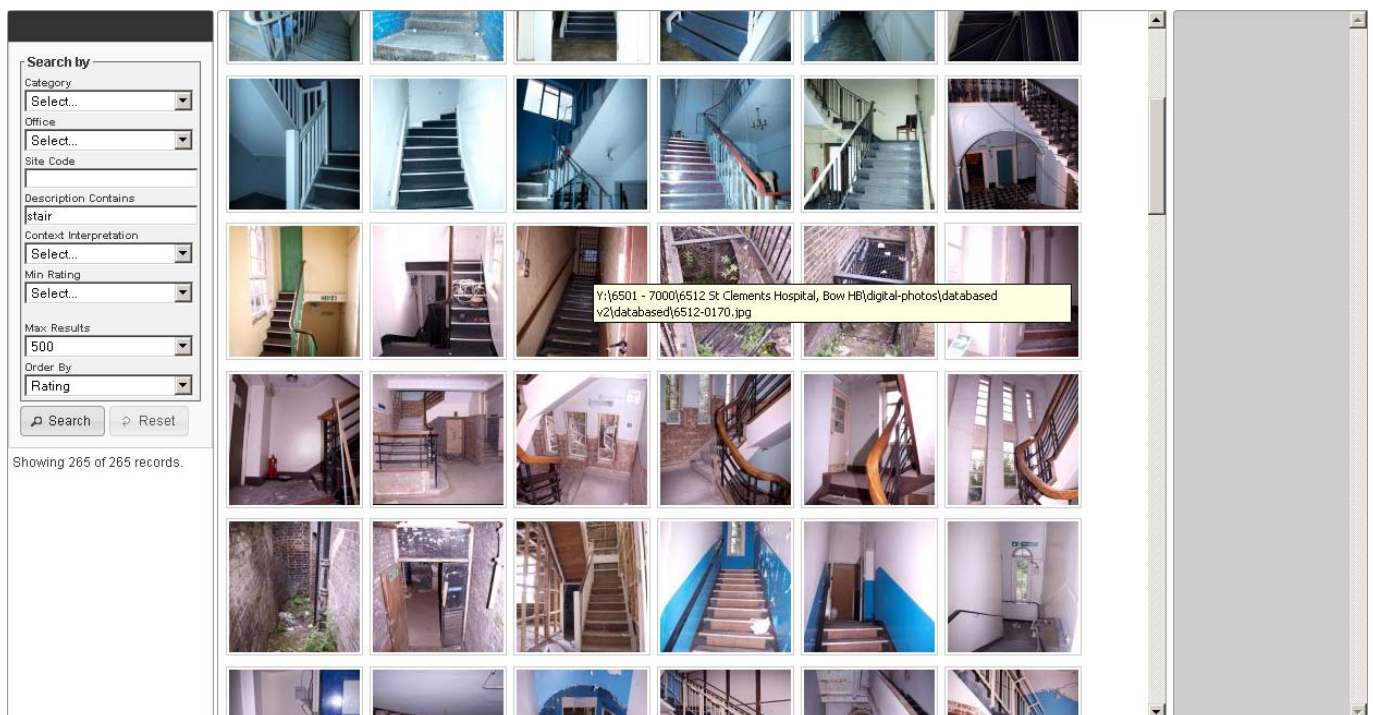
Figure 62.   Photo search form after searching for images with 'stair' in the photo description

~~The thin grey panel at the right of the screen is a 'discard' area. Quite often we'll want to keep photos for publicity material etc that don't want to be included in the digital archive that is eventually deposited, so each image has a flag to indicate whether or not it's to go into the archive (default is yes). Any image that has previously been flagged as not to archive will appear in this panel. I thought this might be useful when it comes to sorting out images for the archive. You could enter a site code and sort by context number, in which case duplicate photos of the same context should appear next to each other. Any that don't warrant being included in the archive can then be dragged onto this panel, and their archive flag will be changed accordingly (see Figure 63).~~
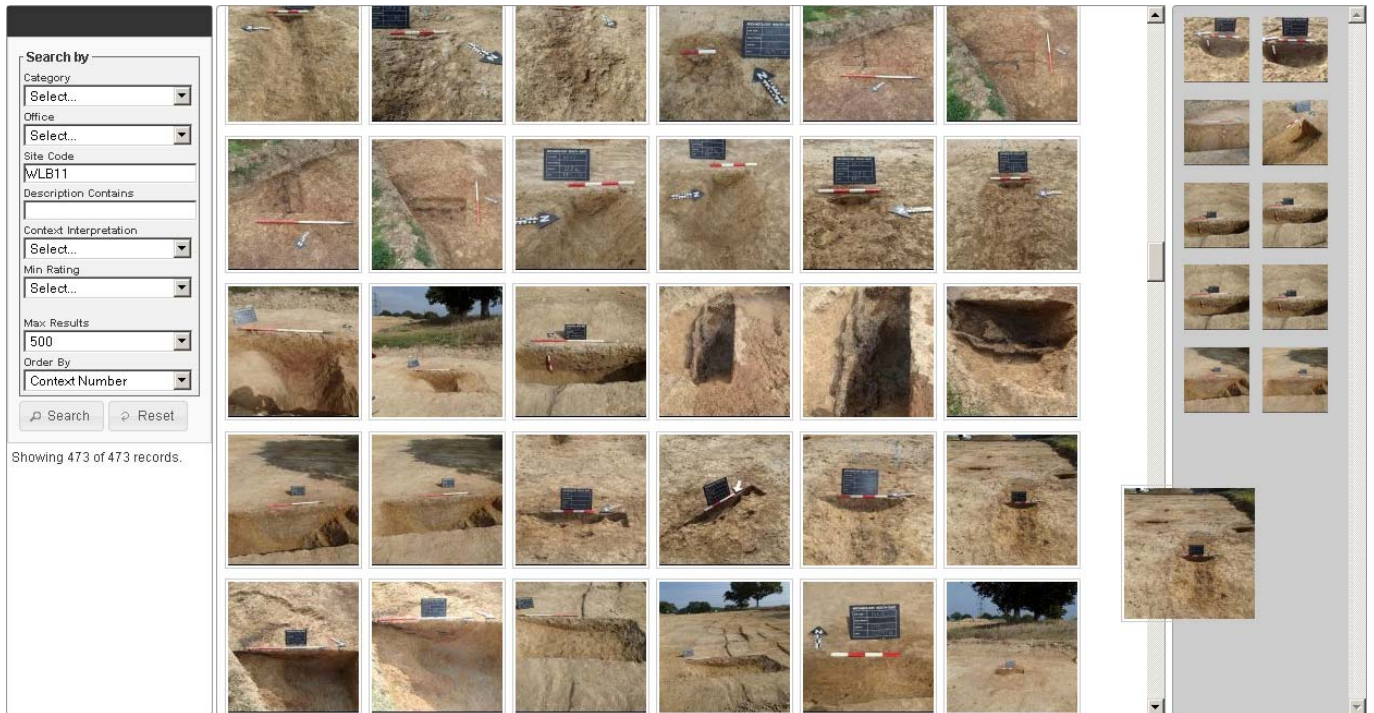
Figure 63.   Site code WLB11 ordered by context number, duplicate images dragged onto the 'discard' panel (the image between the two panels is in the process of being dragged)

If you want to save a list of images returned in your search, clicking the ✖ button will download a csv file which can be opened in Excel. If you copy the information in a 'path' cell and paste it into the address bar of Windows Explorer that image will be opened.

To Do

- Allow multiple site codes.

- Add more artefact fields (once finds data has been progressed)

Drawing Office Management (in prep)

This is split into two panes, the upper one listing Illustration Deadline Tasks derived from PX Instruction notifications, the lower showing a timeline of drawing office staff and their commitments (see Staff Schedule (in prep), page 92 for further details).

The task deadlines are split into three tabs; unallocated tasks waiting to be assigned/grabbed, those that have already been allocated (in case things need re-assigning due to leave, sickness etc), and completed tasks (not yet done). All three tabs use the same formatting and data columns. Most columns should be self explanatory, but the key ones are:

- **Dwg Deadline**: The deadline decided by PX Management for the illustrations to be complete by.
- **TP**: Task Priority, as defined by the drawing office by dragging an item in the list up or down.
- **RP**: Report Priority, as defined by PX Management.

The project field is colour coded according to project type, following the PX Instruction Tracker. Drawing deadlines are coloured according to how far away they are - as a deadline approaches the intensity of orange increases, and if it is exceeded the background will change to dark grey.

While the urgency of a task can usually be seen by the Report Priority field, occasionally a report may be sent for editing before the illustrations are complete. Obviously drawings for these reports should be the greatest priority and if this occurs the whole row will be highlighted yellow.

If you want to grab a task (or indeed assign it to someone else), clicking the relevant row will open a popup dialogue, and from there the Assign To field can be changed. At that point the task will be removed from the unallocated tab and will appear on the relevant person's to do list and calendar etc.
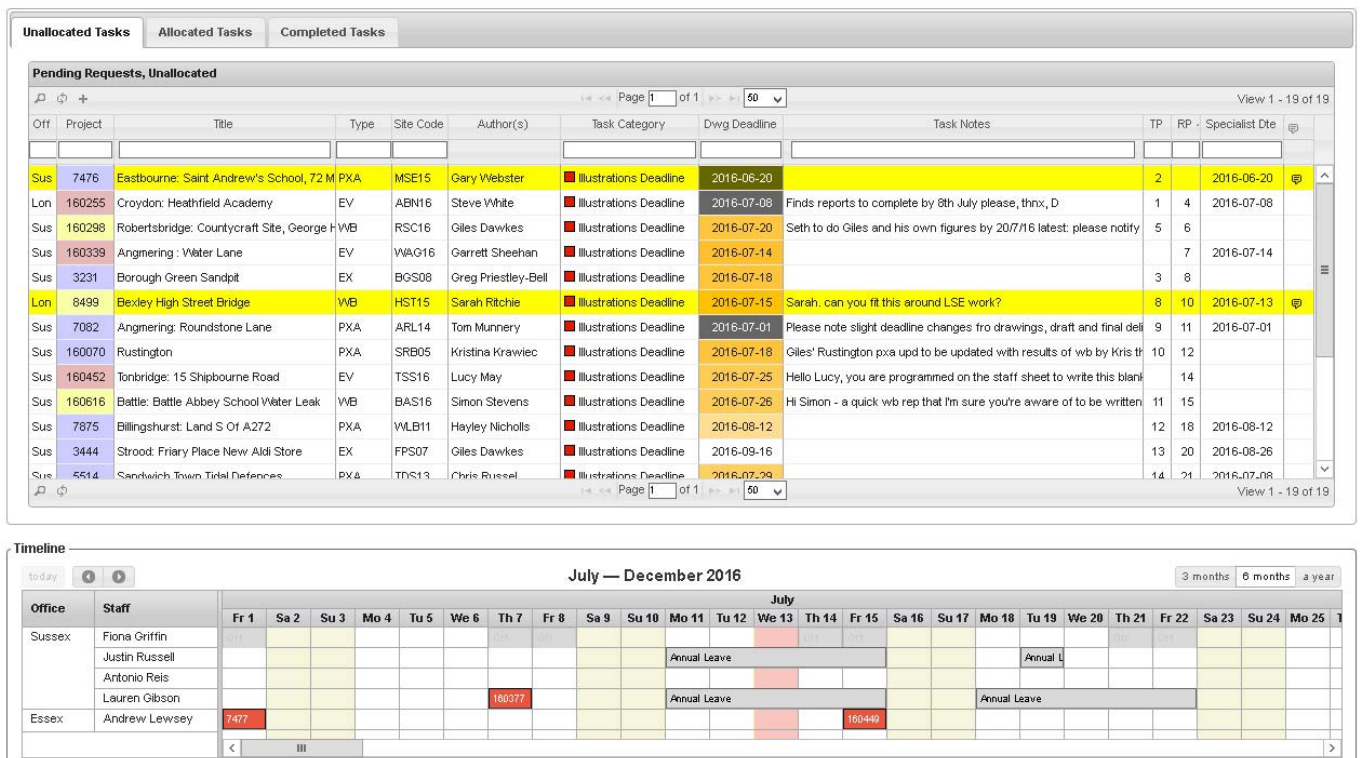
Figure 64.   Drawing Office Management form

Survey

Survey Tracking

As this page is designed for field use, it will appear differently when viewed on a desktop or mobile device. The mobile version is slightly cut down and has less formatting. I've tried to make as many things as possible drop-down menus or simple buttons to make field data entry easier.

A list of recent jobs is shown (5 on a mobile, more on a desktop) and clicking one of these will bring up the relevant data to view or edit, or you can just go ahead and start entering new job details. The list is initially sorted in date order.

You can page through records in the list using the ⏮ ◄◄ Page 2 of 7 ►► ⏭ buttons and change the number of records with the dropdown. If it's in the way you can collapse it by hitting the ● icon.

You can also filter the records by typing part of a job name or part of a surveyor's name in the empty text boxes at the top of the relevant column, or change the sort order by clicking the column titles.

Toolbar Buttons

▣ *Save*: Hit at any time to save job details - there's a second save button at the bottom of the screen to avoid having to scroll up when you've entered a job.

✚ *New Job*: When the form first opens you can start adding a new job, but if you've already viewed a previous job from the list use this to reset the form and add a new one.

🗑 *Delete*: You can delete an existing job by selecting it from the list and hitting this button. The job in question will remain in the list but struck through until you reload the list or refresh the page (this avoids unnecessary server traffic, but the job will be deleted immediately).

Project Details

Date: The date is entered by clicking the input box then using the datepicker that appears (stored in ISO format, i.e. YYYY-MM-DD).

Project: The project field is a dropdown menu populated by projects in the database that are either at the Pending, Ongoing, or Reporting stage (it should just be Ongoing, but until the database is more widely adopted I thought an overlap might be safer in case things don't get updated frequently - the page will load quicker once it's set to Ongoing only). It includes the project name to help avoid errors, but only the project code is stored. **There must be a project entry with a minimum of project code, name and status for projects to be listed here**.

Surveyor: Surveyor should default to yourself - if it needs changing the options are a list of all ASE staff held in the database.

Job Details

Job Name: Job name should be entered automatically once you've added a date and project, and comprises a combination of project number and ISO date (YYYYMMDD). It can be amended if needed though.

Pole Height: This is a number field, and should be self-evident.

Start & End ID: enter the first and last point IDs for the current job.

Codelist: This will show codelists currently in operation - select the one you've used.

Instrument: This will list all survey instruments currently stored in the database - select the one you've used.

Survey Types / Codes / Auto-Logging: These are all yes/no fields - click a button in the group to toggle between yes and no (no is the default, the button will turn from grey to yellow when 'yes').

- *Station Control*
- *Stakeout*
- *Archaeology*
- *Topo*
- *Grid/Drawing Points*
- *Free Codes*
- *Smart Codes*
- *Auto-Logging*

Data

Data Location: Select where the data is stored - populated by pre-defined list.

Backup Location: Select where the data is backed up - populated by the same pre-defined list.

Processed By: Dropdown to select member of staff.

Problems/Comments

Problems: These are all yes/no fields - click a button in the group to toggle between yes and no (no is the default, the button will turn from grey to yellow when 'yes').

- *Satellites*
- *SmartNet*
- *Mobile*
- *Tree cover*
- *Shite weather*
- *Hardware*

Comments: Free text field to add anything you want, or elaborate on problems etc.

Trenches/Areas

Free text field(s) to record which trenches/areas have been surveyed. Defaults to number but can be text. New fields will appear if you use the two that are initially visible.

Survey Control(s)

Again, if you use both the initial rows visible, new rows will appear.

STN ID: ID of station (text)

STN Height: Height of station (number)

BS ID: ID of backsight (text)

BS Height: Height of backsight (number)

Record Lock

If you view a job and fields are red, it means someone else has the job open. While this doesn't prevent you making changes, be aware that any changes you make might be over-written by whoever already has the job open. A job is flagged as 'unlocked' when whoever has viewed it navigates to another page or logs out - if they close the form without doing either of the above it will remain highlighted, so please log out when you're done if possible, it's the only way the database can keep track of things.

Mobile

Figure 65.   Mobile version of survey tracking form
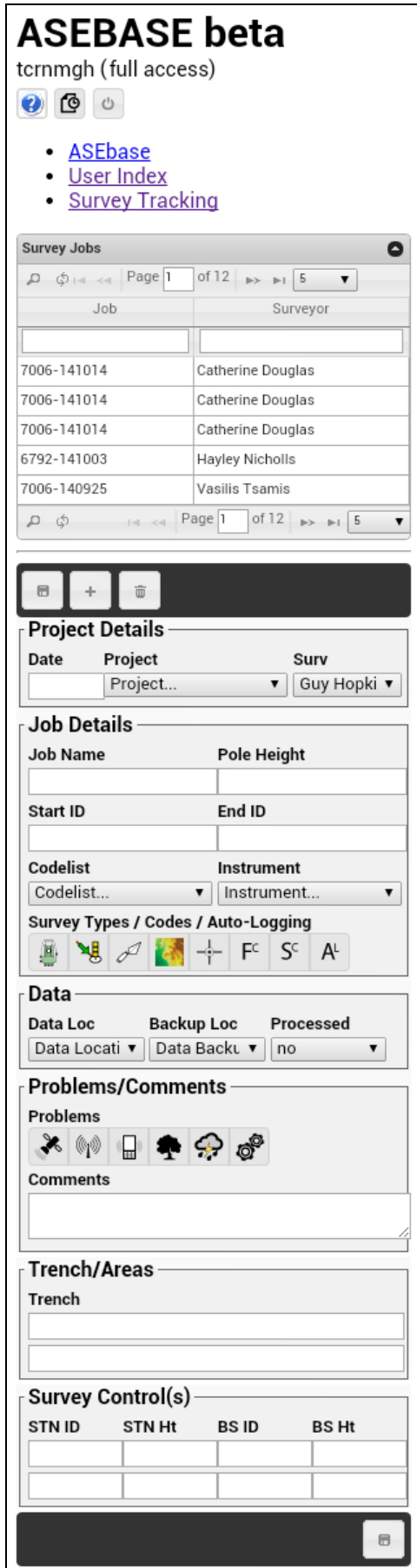
When viewed on a mobile device the form has the same functionality, but a slightly different layout. The main difference is that the list of recent jobs is initially collapsed (on the assumption you're probably adding a job if viewing it on a mobile) and is restricted to the last five jobs. It also appears above the data entry area and has fewer visible columns.

The image to the left shows the recent jobs list expanded – clicking the black circle containing an arrow toggles between expanded and collapsed.

Survey Control Panel

Survey Kit (ASE & Hired In)

This provides an editable list of all ASE survey kit and a list of hired instruments. Instruments listed here will be automatically available on the Survey Tracking and Survey Deployment forms (depending on retirement and hire period dates).

Codelists

In prep

Survey Deployment

This is a management form for tracking and allocating survey kit use, and is primarily concerned with statistics and future planning.

The upper part of the screen shows a calendar with instruments available in the defined period (which can be changed using the date range boxes). Instruments can be assigned to a project by typing in the relevant date/instrument box, records being saved automatically **once you leave that field**. It also uses data saved when an entry is made in the Survey Tracking form (page 70), so if a job is entered there a relevant entry should be visible here.

The remainder of the form shows a series of graphs illustrating summary and breakdown equipment use over the specified period.
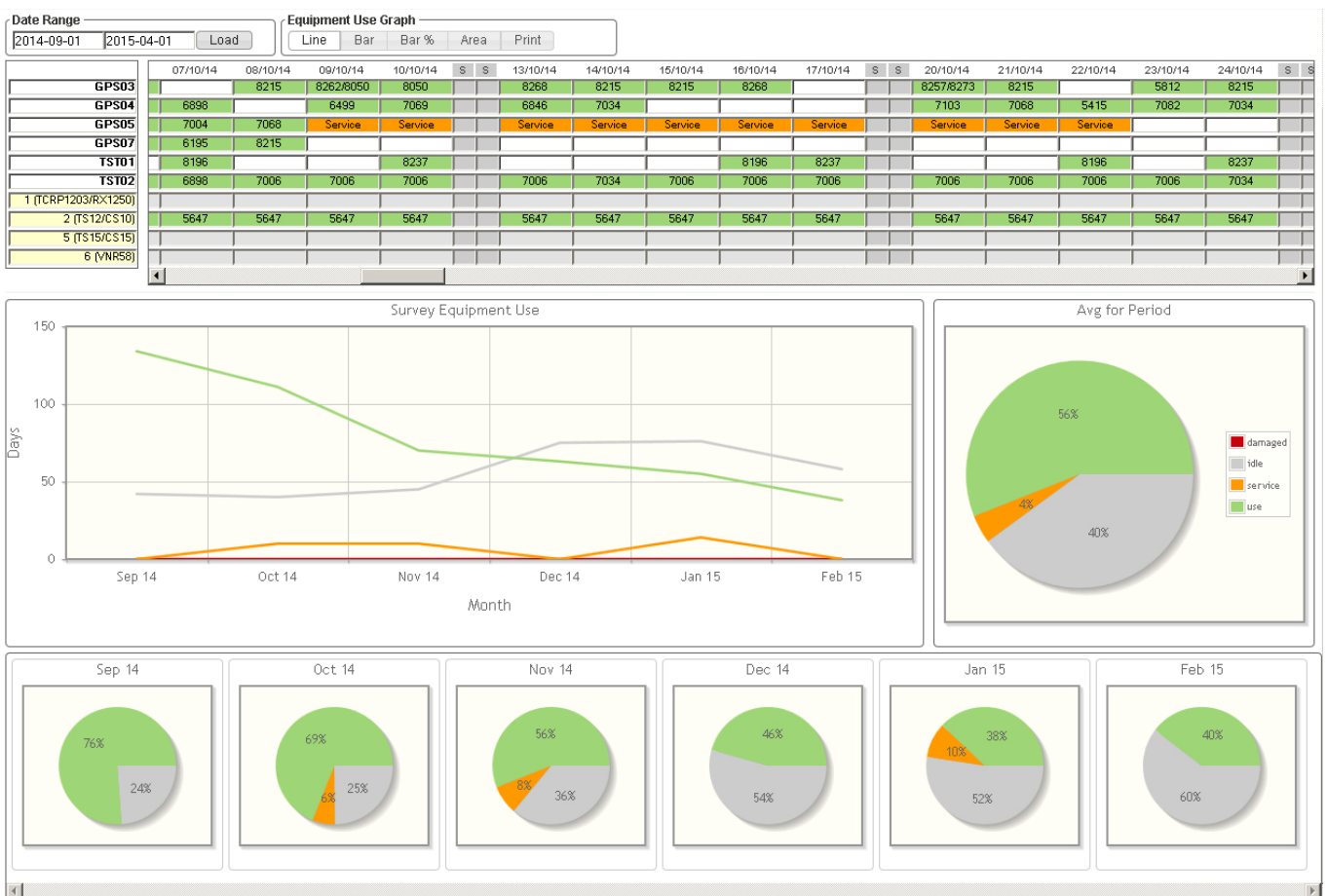
Figure 66.   Survey deployment form

The form draws data from:

- **Adm_Closure**: Bank holidays, UCL concessionary days etc to exclude closure days from statistics and shade calendar
- **Survey_Inst**: ASE owned survey kit – Instrument name, date purchased / retired etc
- **Survey_Hire**: Hired survey kit – hire period etc
- **Survey_Dep**: Survey instrument deployment data – Instrument, date, project

HES

GeoNotes (mobile)

General

This is designed to allow basic tagged location data to be collected on walkover surveys etc, and the accuracy will be dependent on the mobile device being used. It allows you to log points, lines, tracks and photo locations. **If the job warrants a proper survey please organise one – this is just a fall back**.

Limits

Beyond the fact that GPS is affected by the view of the sky and satellite availability, all mobile devices will also have different capabilities, so please test the page on whichever device you're planning to use before relying on it in the field. In addition some devices (including the office issue Samsung Young) do not support altitude measurements, and even when it thinks it has high accuracy it may still obtain a spurious location fix, but that should be immediately apparent on the map screen. As a guide, however, the bar at the top of the screen will give an idea of the accuracy of any point (see below).

Operation

The form has two basic modes, individual point and tracking. Initially the map will be centred over the ASE Sussex office, from where you can hit 'Track' to start recording a path, or 'Position' to locate and record a single point. Depending on what you're doing an array of the following buttons will be available:

- *Track*
- *Position*
- *Load Markers*
- *Manual Marker*
- *Photo point*
- *Point*
- *Line point*

Track

Hitting the track button will start the tracking process, and the device will log readings at short intervals *if there is a significant change in your position*. These will not be immediately sent to ASEbase - that only happens when you hit the button again, at which point tracking stops and you'll be given the opportunity to save all the points from that track. *Phone memory*. As a result there will be a limit to the number of points you can record in a single track (to be determined, tested to 5500 points so far).

If you want to record an individual point mid-track, save the track as it is, hit the position button and save your single point, then start tracking again. If you save both tracks with the same note text we can join them together later.

Position

Once you hit the position button the device will try to obtain a location fix, and once it has one the map will shift to that location. At that point three buttons will appear allowing you to save a photo, point or line. The only difference between point and line is the pre-filled note type - hitting either of these will open a dialogue box where you can add a description then save the data. The three buttons will vanish once you've stored the point so you must hit position again to record a new one - the map will pan back to ASE, so wait for it to get a fix.

Photo is slightly different. When you hit this a red circle will appear on the map marking the photo location, along with a standard Google marker which is used to set the orientation of the photo. Drag the Google marker and then

drop it where the centre of the view is, and you'll be asked if you want to use that bearing. If you dropped it in the wrong place click cancel and move it again, otherwise click OK and that bearing will be entered in the form that then pops up. Add any further data and click save. The two previous markers will disappear to be replaced by a single photo location marker.

Manual Marker

If you want to pre-define markers, such as a point from an AP to aim for while in the field or the GPS is not sufficiently accurate but you can tell where you are from the map, this can be done by adding a manual marker. When you click this button the usual save marker dialogue appears with the easting and northing set to the map centre point, but these can be edited if necessary. As a manually added marker has no accuracy or altitude information, these will be set to -999.

Save in the usual way, and a red circle will be added to the map at the relevant point.

Load Markers

The only other function of the mobile version is loading previously stored points, which is currently just by date range. Hit the 'Load Markers' button and choose start and end dates, then hit 'Load' and they should appear on the map, which will zoom to accommodate them.

Accuracy

The bar at the top gives an indication of accuracy, and is divided into ten metre units, so the length of the bar indicates the degree of error in metres. When accuracy is high the bar will be shortest (and green) and when it's low it will be longer, progressing through yellow, orange and red as it gets worse. Clicking the accuracy bar also toggles an element of the map that displays the approximate accuracy circle, but the more elements there are on the map the slower it will respond, so by default this is turned off.

Navigation

After a point has been added manually, you can use the device to navigate to it by clicking the relevant marker. If you confirm that you want to navigate there then the GPS will kick in, and you'll be given distance and bearings to the point which will update each time a new fix is obtained.
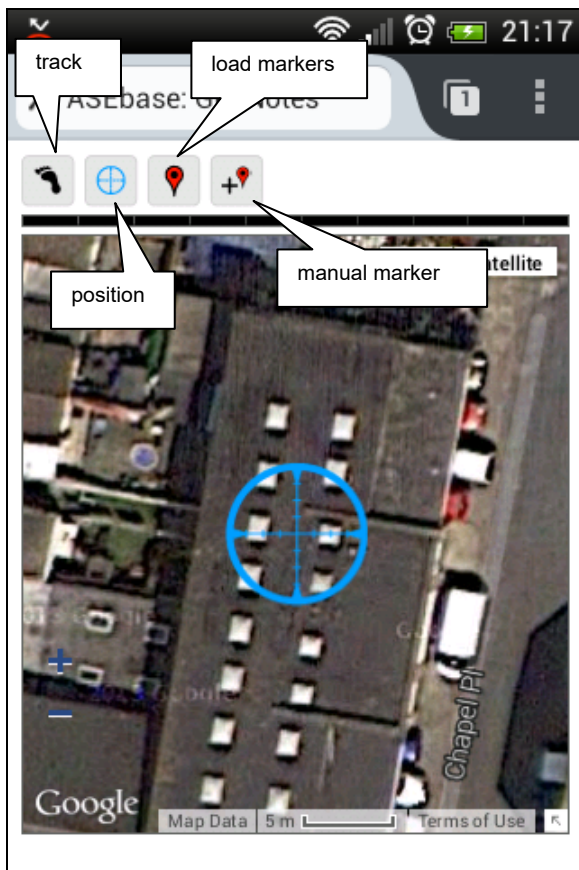
Figure 67.   Initial view of GeoNotes (Mobile) form
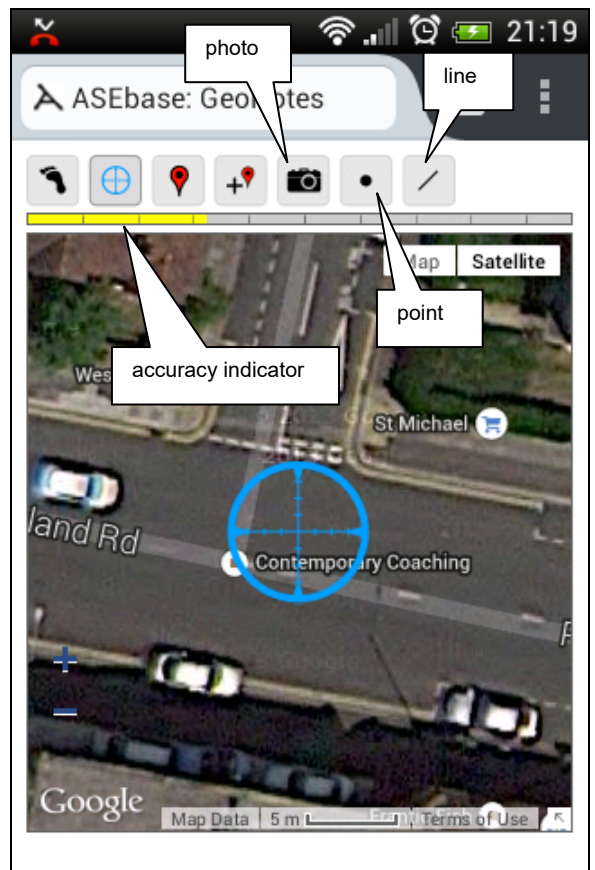
Figure 68.   Buttons appear after a position fix
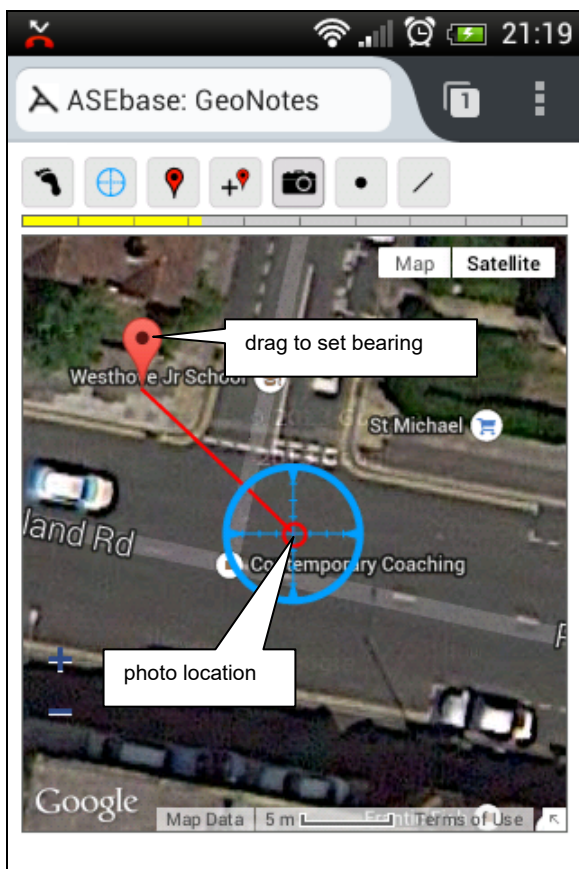
Figure 69.   Setting the bearing of a photo
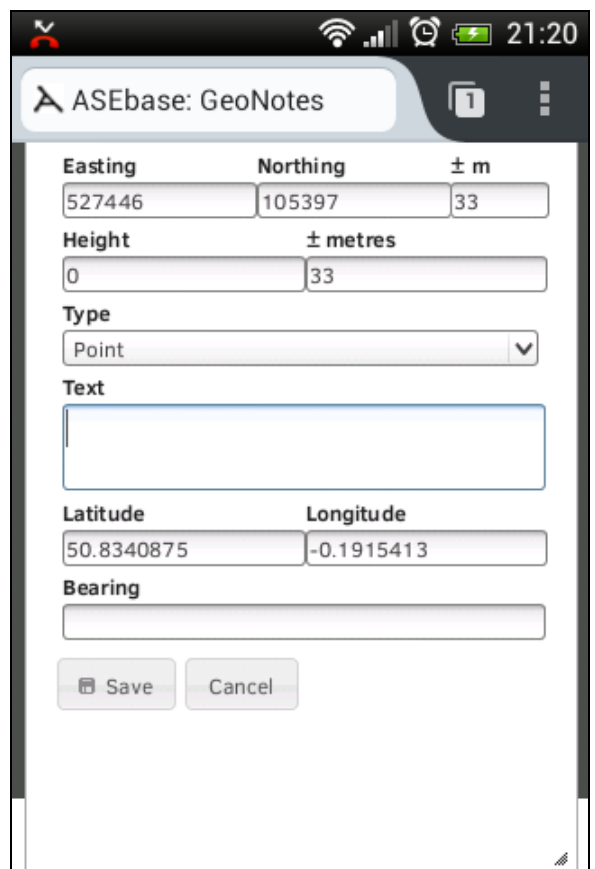
Figure 70.   Saving a note
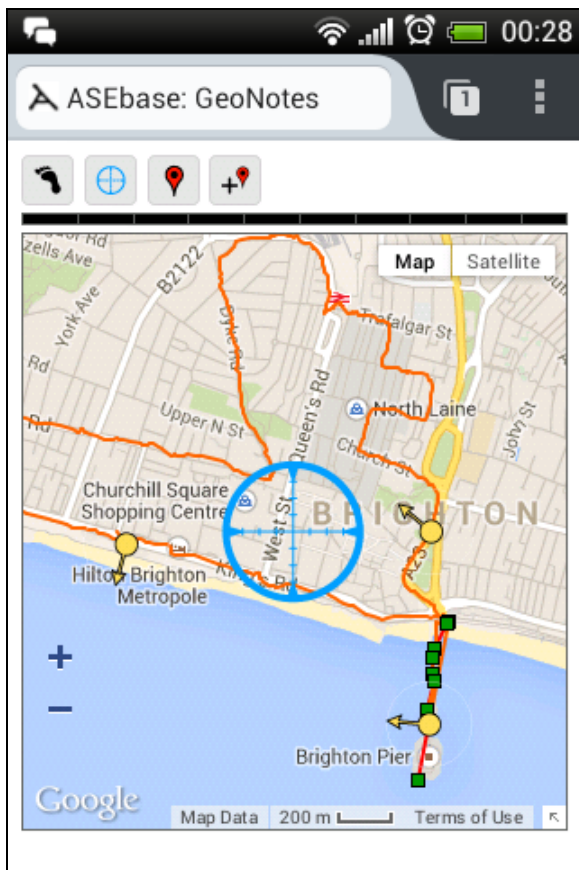
Figure 71.   Previous markers loaded
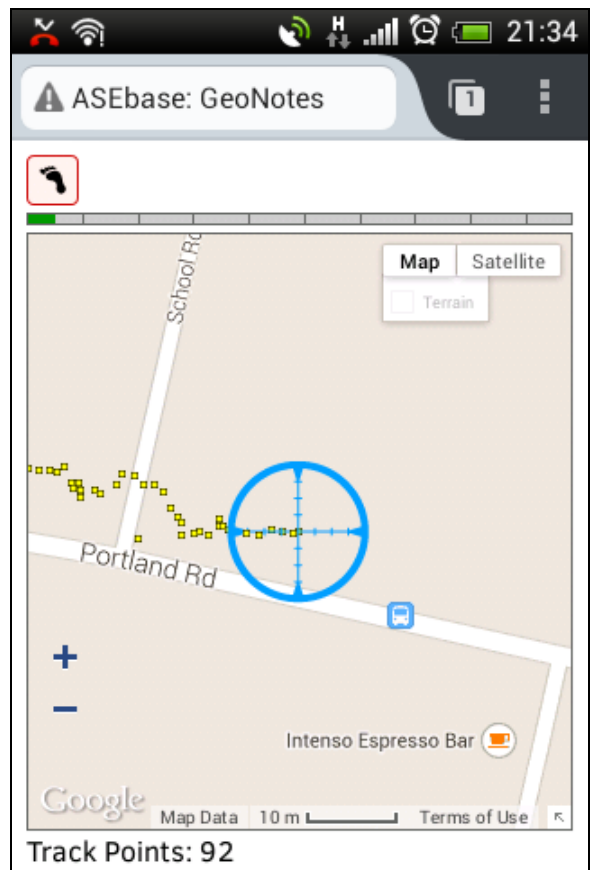
Figure 72.   Tracking markers follow position

To Do

- Set User so points can be filtered by whoever recorded them

- Add filters to Load Markers function, so you can specify which point types to load

- Desktop version with more functionality

- ~~Manually add markers for pre-known points or if position not accurate~~

- ~~Find facility to locate existing point with distance and bearing~~ (in prep)

GeoNotes (Office)

The desktop version of this form is very much in prep, but allows you to load points logged in the field and display them on a Google Map. Currently the only criteria available are date range, but I'm adding more...

Points will also be listed in the left hand results pane, and clicking an entry here will centre the map on that location.
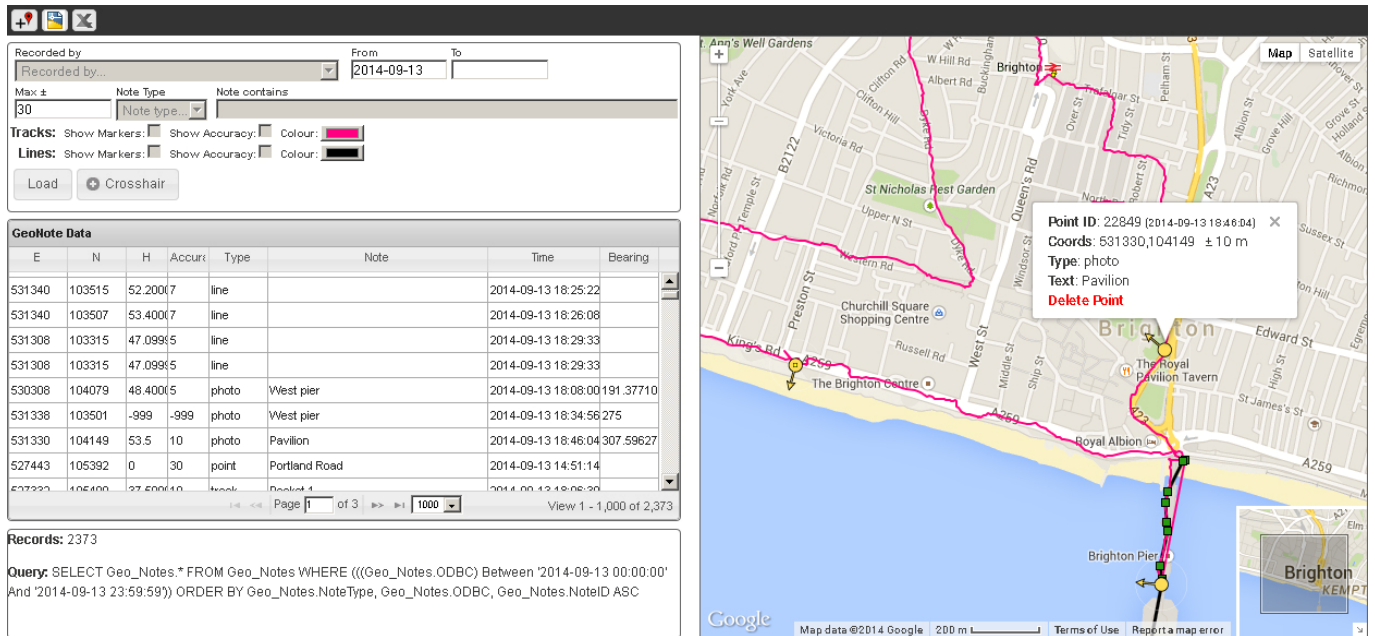
Figure 73.   GeoNotes (Office) form with loaded data

To Do

- Delete point

- Manually adding markers

- Export AutoCAD script allowing plotting of selected points, lines, photo locations etc

- Export Excel spreadsheet of selected data

Archiving, Dissemination etc.

General

Some of the proposed procedures differ slightly from the current workflow, most notably tasks that at the moment are undertaken at the archiving stage such as captioning photos etc, which under ASEbase would be shifted to post-ex or even during fieldwork.

The reason for this is two-fold: if the information is entered up front then it's there and available to use during post-ex analysis, but also it makes much more sense for someone who's actually been on site to complete this information rather than have an archives manager plough through records months or even years down the line. It might add a little more time to post-ex, but in the long run should save time.

Much of the information in ASEbase will be metadata which might seem irrelevant at the time, but with increased digital deposition and the requirements placed on us by the likes of ADS I think it's worth entering this as we go rather than, as with photo captions, trying to make sense of things and collate all the metadata at a later date.

Project/Report Tracking

Archiving

Dissemination

General

Anything that we put into ASEbase can be made more widely available, either through the ASE website, or perhaps by creating RSS feeds that people could subscribe to which would notify them of newly available reports etc. Unfortunately we can't currently do this while the ASE website is managed through the UCL silva system as this is currently overloaded, but it is due to be revamped in the near future.

Within ASE

External Specialists

Within UCL. Pathology image database?

General researchers

Wider public

Contacts

General

Contacts are listed down the left hand side in alphabetical order with brief details of work phone numbers and emails, associations and type. The list can be filtered by any combination of these fields, so typing 'east sussex' in the association field should filter the list to all those contacts associated with East Sussex County Council.

Clicking a row in the list will populate the full details panel to allow editing of the record. *By default staff personal phone, email and address details are only visible to management unless they are explicitly shared.*

Types & Associations

Types: Contact types are currently archive, client, company, county council, museum, service provider, specialist, staff or university. If more than one category applies you can enter more than one type.

Associations: Any contact can be associated with one or more other contacts, eg an individual with a company – this allows quick filtering of contacts in the association field as with East Sussex County Council above, or listing all records associated with a particular company.

Staff

For staff members (anyone assigned the contact type 'staff') further fields will appear at the bottom of the details panel:

Position: This is the job title rather than grade

Area: to add. Management, fieldwork, HES etc. Used to group people on Staff Schedule

Office: Sussex, Essex or London

TCRN: Initial part of the employee's tcrn ID, used by ASEbase as a login ID

Employee No: Used by finance

Start Date & Leave Date: If a leave date is entered this employee will no longer appear in dropdown lists

Work Days: Yes/No fields to specify usual work days, defaults to all

Contracted Hours: Usual hours per week, used in calculating TOIL on timesheet entry. Default value is 37.

Grade & Charge Out rates etc: This should record the history of an employee's grades and rates along with associated dates. If any retrospective financial reports are run we will need to know what grade people where at the relevant time, so any changes should be recorded as a new entry rather than over-writing an existing one. If someone is seconded for a fixed period the secondment start and end dates can be entered, along with a start date and details in advance for when the secondment ends.

Resources

ASE Library

This is simply a dump of the library spreadsheet (data exported 27th Aug 2013), but allows quick searching by typing in the column headers.

To improve and make updateable...

Web Resources

A list of useful web resources divided into categories.

To improve and make updateable...

Research Questions

Introduction

We are currently in the process of compiling a database of research questions, from both external frameworks/publications and our own reports. The idea behind this is to make a searchable dataset to help find existing research questions that might be relevant to your project, and to stimulate thought in formulating new questions.

Those that have so far been compiled in the database have been categorised by broad themes, based on those used by UCL <mark>xxx</mark>, and also by applicable period(s) and region(s).

Searching RQs

Entering RQs

Your Stuff

Timesheet

Data Entry

Initially you should see an empty task list at the top of the form with an empty timesheet preview beneath. The Timesheet For field should default to yourself, and for most users will be locked (it's there to allow admin to enter timesheet data for casual staff). By default it will set the Week Commencing field to the current week - change if needed (if you accidentally pick a date that isn't a Monday, the database will use the Monday of that week).

If you've already entered any data for the week it will be listed in the Timesheet Tasks section and the preview will be built from the existing data. There should be at least one blank row in the Timesheet Tasks section for you to add new information - more will appear as they are needed.

Once an entry has been made you can repeat it to the following day using the ± button or delete it with the 🗑 button. The timesheet preview is updated whenever you hit the Save button.

Project Code / Admin / Leave etc

This is an auto-complete field to try and maintain consistency and avoid typos etc. It is populated by a list of all tendering and open projects along with Admin options:

- **Admin**: Admin tasks, please also complete the Description field
- **BH**: Bank Holiday
- **CPD**: CPD / Training
- **Down**: Down Time
- **Leave**: Annual Leave
- **UPL**: Unpaid Leave
- **MPC**: Maternity, Paternity or Compassionate Leave
- **Primary Purpose**
- **Sick**: obvious really
- **Toil**: Agreed TOIL
- ***TBC**: if you really need to make an entry against a project that doesn't have a number, use 'TBC', but this should be a last resort and will need changing before submitting your timesheet*

The auto-complete can be overwritten if needed, for example if you've worked on a closed project. Generally, however, you shouldn't be putting time against a closed project, and if it was closed in a previous financial year you won't be able to. Unless you're absolutely sure that it's the correct code speak to your manager, check for other projects with the same site code, or check that a new phase of the same site hasn't been given a new project code.

If you know the site code but not the project number, Sitecode > Project lets you enter a site code and find related projects.

Task

This is a dropdown with the following options (leave blank for Admin, Leave etc):

- Consultancy (con)
- Desk Based / Heritage Assessment (dba)
- Fieldwork (fwk)
- Historic Buildings (hbr)
- Management (man)
- Management, HES (mhe)
- Management, PX (pxm)
- Post Excavation (px), please also complete the Description field
- Research and Development (rnd)
- Tender (ten)

If default task is set this will be automatically used for project work, but can be changed.

Figure 74.   Timesheet form

Description

Another auto-complete field, only necessary if the task is Admin or PX.   The following PX options are currently available:

- Animal Bone Report
- Archiving
- Fieldwork Report
- Finds Processing
- Finds Report
- Human Bone Report
- Illustration
- Lithics Report
- Pottery Report
- Sample Processing
- *More to add...*

It will also include any admin task descriptions you've previously used - if you enter a new admin description it will be listed as an option next time you load the form.

Filter by Admin / PX?

Date

Task date in ISO format (YYYY-MM-DD)

Total Hrs

Enter the full hours spent - any TOIL will be split from what you enter

Notes

Optional field in case you want it for keeping track of things or to record TOIL approver etc

Saving & Submitting

Any additions or alterations you make can be saved by hitting the Save button. This simply stores what you've entered and rebuilds the preview to help you check things. The information won't go to finance until you choose to submit it, so you can return to the form whenever you like to add or change things.

Once your week's timesheet is complete, please check the preview and submit it as soon as possible. Once submitted finance and/or management will process the data, and you won't be able to make any further changes to entries for that week unless it is queried.

If you've made any changes and navigate away from the page without saving them, the database will check you really want to leave the page.

Expenses

New / Pending Claims

The page defaults to a blank claim form if you have no pending expenses waiting to be submitted, though if you've already entered items on a pending claim these will be listed in the main body of the page ready for new items to be added or the claim sent to admin for processing.

After adding items to a claim either click Save to store the data to submit later, or Submit to send it to admin. If you have items saved and it's getting close to the three month limit, the database will warn you when you log in.

Figure 75.   Partially completed expense claim

Previous Claims

The right hand side of the page list your previous claims with check boxes to indicate their status. Clicking a row here will bring up the claim data if you need to check anything in your past records. Click 'Return' to go back to your current claim.

Projects List

At the moment this just lists projects you've worked on (drawn from timesheet data) along with the hours / days you've spent on each project. We can make it do more if people want it to...

Calendar

Calendar view of staff location data for relevant person – if we go ahead with staff location. At the moment it just displays timesheet data.

Personal Details

View / update personal details and specify what can be seen by non admin staff

File Upload

Files uploaded by relevant person and options for processing

Notifications (very in prep)

Introduction

We are currently aiming to achieve ISO accreditation, part of which requires an easily accessible audit trail. For this reason (and other management related issues) many of the previous email notifications are going to be routed through the database instead.

Notifications Menu

The Notifications item on the menu bar simply alerts you to any new notifications as they arrive and allows you to quickly see a brief summary of the new ones. After that they can be found under Your Stuff > To Do List / Notifications.

To Do List / Notifications

The notifications form displays notifications by status, i.e. whether they are pending or complete, and also lists notifications you have sent to other people. Pending tasks can be viewed in two ways – PX Instruction View or Task View.

Task View

This is a very simple list showing, where applicable, Project, Deadline, Category, Notes and Priority. You can change a task's priority by dragging it up or down in the list (please only do this when the list is unfiltered).

PX Instruction View

This lists all your tasks in a view similar to the PX Instruction Tracker form (see page 15). If a task has not been derived from a PX instruction the information shown will be fairly limited, but for those that have come from an instruction it will list details such as report type, site code, author(s) etc.

Figure 76.   To Do List / Notifications – PX Instruction View

This view has two priority columns; TP (Task Priority) shows the task priority as defined by you, RP (Report Priority) shows the PX Instruction priority as defined by management.

Clicking a task will open a popup window showing the full task details and allows you to flag things as started, complete etc. If there's a related PX Instruction you can also view the full instruction from there without having to go to the PX Tracker form.

ASEbase

ASEbase Users

List of current users and access levels, plus list of user requests so new users can be added.

ASEbase ERM (Database Model)

Irrelevant to most people but essential to anyone taking over if I drop dead. This is a partially dynamic entity relationship model (ERM) derived from database queries that interrogate the database itself, generating lists of tables, fields within those tables, and relationships between them. It excludes lookup tables and those that are either temporary or experimental. The queries may take a little while to run – please be patient!

Each table is depicted by a draggable box containing a list of fields within that table. Primary keys are shown in underlined red, other key fields in green. Relationships between tables are shown by lines joining them.

At the top left of the screen a floating box shows a list of all tables represented in the diagram (this can be collapsed / expanded by clicking it's header). Clicking a table in this list will take you to the relevant position on the diagram and highlight the selected table for a few seconds. The fields connected to a relationship between tables will be shown in the Relationship Info area of the Table List if a relationship line is clicked.

If you click the heading of a table, related fields in linked tables will be highlighted. While any of the tables can be moved around by anyone, any move will only be saved if you have management privileges. I'm currently trying to organise it so it all makes sense.
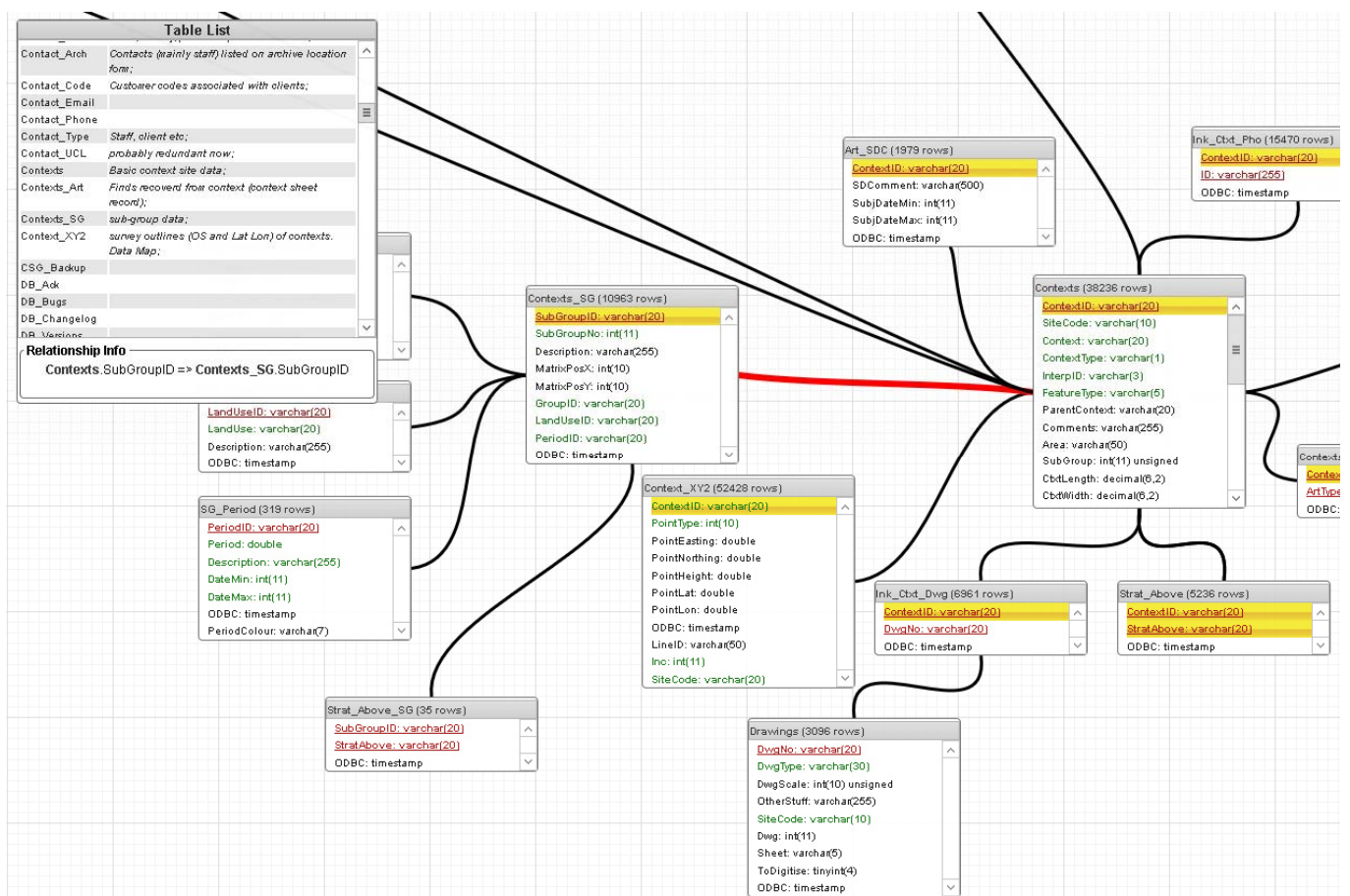
Figure 77. Extract from ERM. Contexts table with links to related tables highlighted. Expanded Table List at top left.

Misc

Currently just a place to store links to work in progress

Admin

Dashboard

In prep. Alerts to tasks that need doing (eg invoice processing, expense claims etc) and links to common procedures.

Timesheet Records

Timesheet Approval

Expenses Processing

Staff Schedule (in prep)

General

This is in prep, and as I'm not sure how keen people are to switch from the current spreadsheet to a database version I've only coded enough to demonstrate what we could do...

If we do go down this line, it looks up data from a variety of sources, including bank holidays / UCL closure days, leave and TOIL records, contract periods and usual working week days, as well as project specific tasks created via the form itself. All these are displayed on a timeline organised by office, staff work area and staff name.
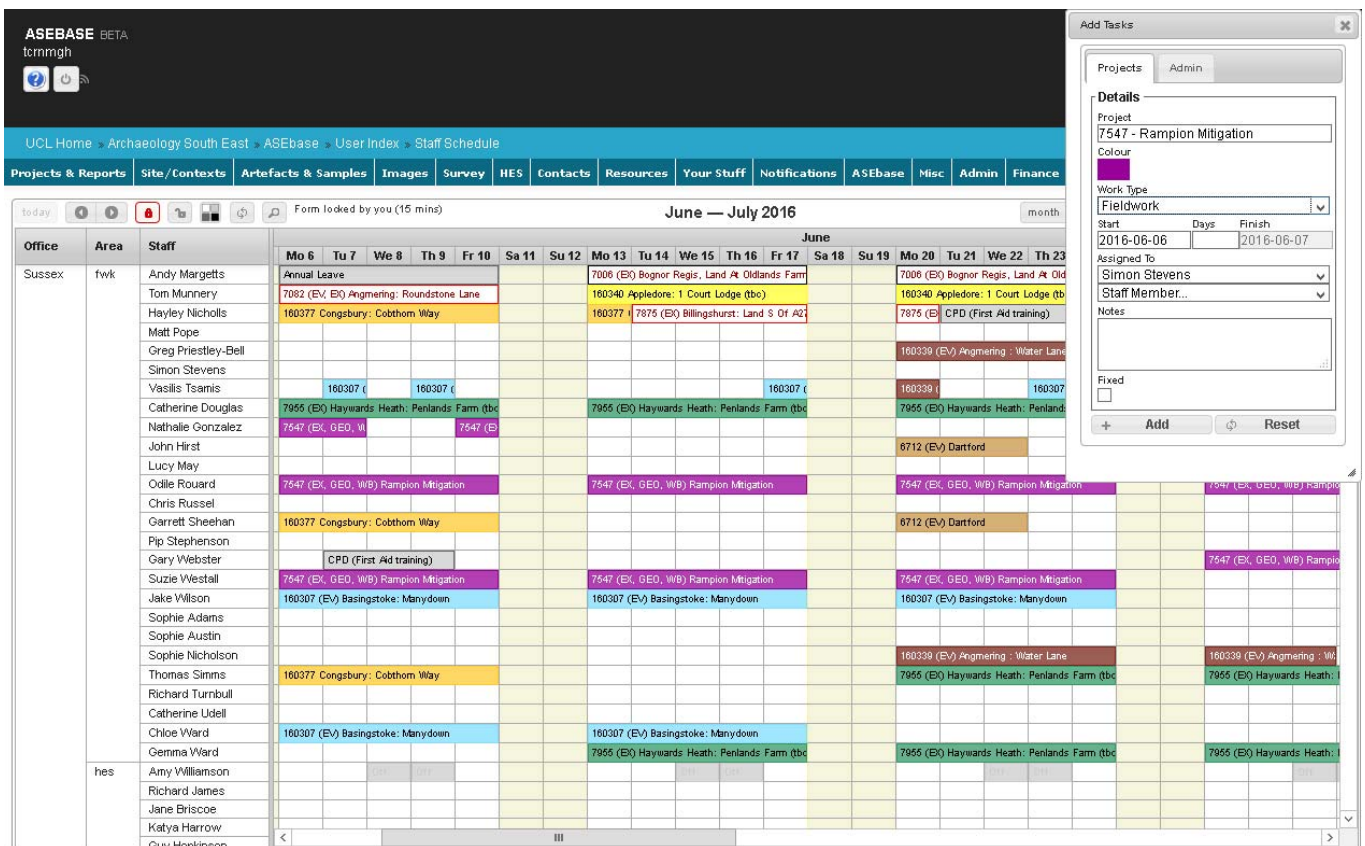
Figure 78.   Staff Schedule

Display

If a project colour is selected, each fieldwork task relating to that project will be shaded with that colour – the database looks at the 'darkness' of the background colour and chooses black or white text accordingly (I may have to tweak the threshold). Otherwise white background with black text and border. Hovering over an event will display title, project type etc – we can bring in more such as PM etc if wanted.

- Post-excavation tasks will always be un-shaded with red text and border.
- Leave, TOIL and usual non work days are shown shaded grey. Bank Holidays / closure days a slightly darker grey.
- Other events, such as meetings, conference attendance etc will be white with black text and no border.

New Tasks (management only)

Tasks can be assigned to a specific staff member by clicking (or clicking and dragging over a date range) against that person. If it's not already visible, the Add Tasks popup will open with the selected date range and staff member pre-filled. If you enter a project number then click the Add button it will shade the relevant cells and store an entry in the database. If the task needs to be applied to more than one staff member you can select several people using the Assigned To dropdowns. Any data entered here will be shown on each user's individual calendar along with any relevant deadlines etc, and can also be shown elsewhere if needed.

Task Editing (management only)

Events can only be edited ff you have management permissions, in which case the Management Tools should be visible at the top left of the screen.

Lock / release etc to set up – idea being anyone can view the page, but only management can edit. If being edited already database to send message to person editing to say who wants to edit it. If unlocked, maybe automatically re-lock after certain period (after warning editor with option to extend time).

Events can be edited visually by clicking and dragging. The entire event can be dragged to a new date slot, either with the same staff member or assigned to someone else. The duration of an event can be changed by dragging either its start or end point.

When you start dragging an event a trash area will appear at the top left of the screen – drop it here to delete it completely (in prep).

Project Highlight (management only)

Maybe useful to enter a project number, then that project will be shaded a bright colour and all others greyed out?

Pending Tasks (management only)

Events generated through costings etc shown in a pending tasks popup ready to be assigned to a member of staff by dragging and dropping.

If task created, break into separate units if spanning weekend, day off etc

General Statistics

Dom (and others) – I need to know what you need. Currently in prep, this opens with an initial view showing number and location of Open Projects, and a heatmap illustrating where we are busiest (Figure 79). Individual project markers can be toggled on and off by clicking the relevant meter. If you change the map background, or show markers, it may be necessary to change the heatmap gradient colours by clicking the Change Gradient button on the map.
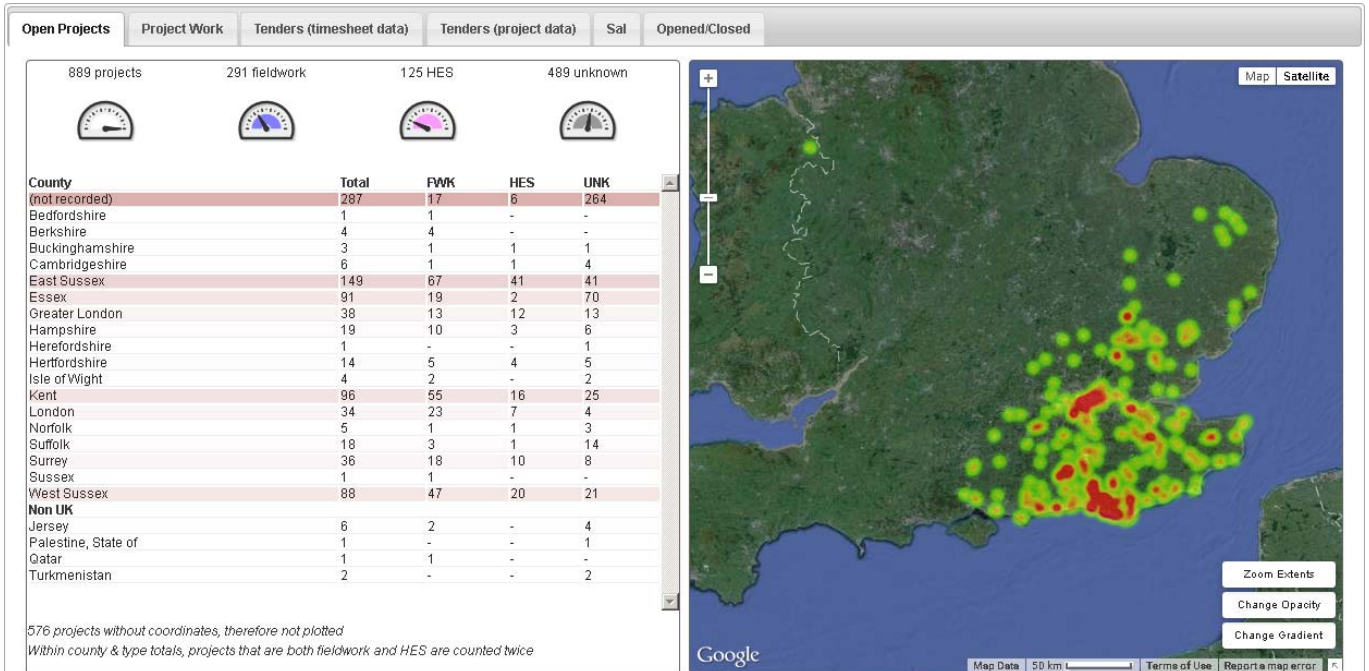
Figure 79.   Open projects (as at date viewed)

The second tab shows a breakdown of time spent on project work drawn from timesheet data (Figure 80). This groups time by month and task (e.g. fieldwork, management, tender, HBR etc.) and clicking an element of the graph will display the exact details in the Info area at the top right. If elements of the bars are small, you can zoom in on an area by dragging a box over it - double clicking will reset the zoom level.
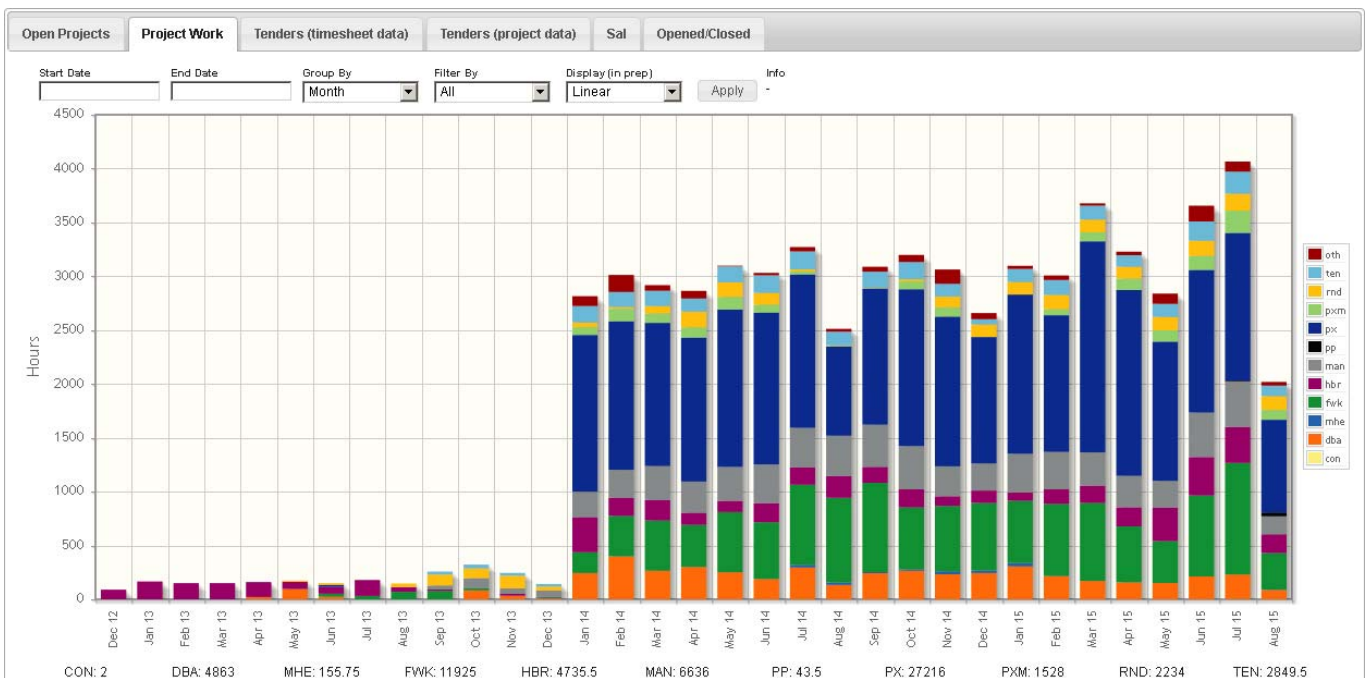
Figure 80.   Project time breakdown

The next two tabs both show tenders and their outcomes, the first drawn from timesheet data, the second from project data (Figure 81). The graph drawn from project data allows you to turn elements on or off by clicking the corresponding element in the key.
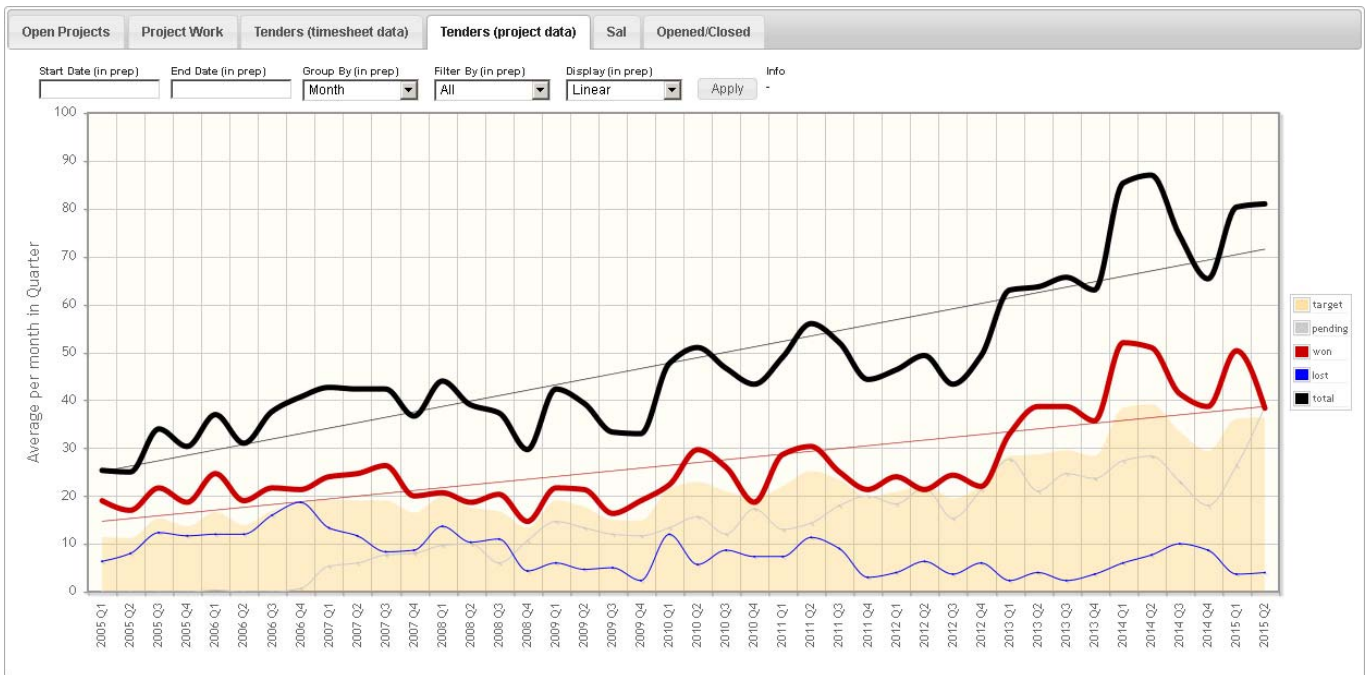
Figure 81.   Tenders and outcomes, project data

Finance

Project Invoices

From the Projects List form you can click the [⌕] button at the bottom of the Inv. Req. tab to raise an invoice against the selected project. This will open a popup window more or less replicating the current invoice request template (Figure 82). The Project Name and Number fields should be pre-populated, and if the project client field has been completed the client should also be pre-selected. If a client contact has been entered as a project reference, or the client has an address stored, the address field will also be pre-populated (in the figure below no Client Contact has been entered, so the first address line is blank waiting for a name).

Figure 82.   Invoice raising form

Each invoice line must be within the same financial quarter, so when you specify a date range the database will check that the dates fall within the same quarterly range. The value field, along with the three totals at the bottom of the form, will be calculated based on the numbers you enter in the Qty and Unit Price fields. If necessary change the VAT rate to re-calculate VAT and gross total.

Once completed, click the 'Submit' button to send the request to Admin for processing.

Purchase Ledger

In prep

Importing & Processing UCL data

Importing accounts data

A bespoke report has been created by UCL finance that provides us with accounts data, which can be downloaded from Axiom. Once downloaded the data may need a little tidying up as return characters are sometimes embedded in the spreadsheet cells. To do this click the second tab (AP Transaction Report) and select the whole of column I. Hit Ctrl+h to bring up the find and replace dialogue, and in the Find what box hit Ctrl+j - you should see a tiny flashing dot in the box. Enter a space in the Replace with box and click Replace All.

Once cleaned, both the Transaction Report and AP Transaction Report tabs need to be uploaded to ASEbase. Click the top left of one of the tabs to select it all, then copy.

In ASEbase navigate to Finance > UCL Accounts and click the last tab (Import UCL Reports). Paste the spreadsheet data into the text field and then click the Parse button. The database will then process the data in batches. Repeat the process with the second spreadsheet tab.

If you then click the UCL Transactions Processing tab you should see a summary of the data divided into Purchase Invoices, Other Transactions, and Sales Invoices tabs.

Processing accounts data

General

When a row in one of the grids (Purchase Invoices, Other Transactions or Sales Invoices) is selected the database will show a list of all the relevant records from the UCL data in the bottom left area of the page, along with net and gross totals. At the same time it will check the data in our Purchase Ledger.

If it finds a matching record (based on invoice *and* PO number, or an iExpense reference) it will use that information to build the ASE Transaction shown on the right hand side of the page. The button at the bottom right will read 'Accept Trans'. If it does not find a matching record in the Purchase Ledger it will use the UCL data and attempt to assign an expense type to each component of the transaction. The button at the bottom right will read 'New Trans'.

The expense type for each component should be checked and any missing types selected from the dropdown. Purchase Invoices should automatically include any VAT records as these are included in the UCL data. Expenses and purchase card transactions, however, will not show any VAT data unless a matching Purchase Ledger record is found, and will otherwise need to be added manually.

If a component needs splitting between projects (or overheads) type a / in the Project field and a popup will open allowing this to be done (see Splitting a transaction component, page 98).

In the case of purchase card transactions, the ASE Transaction will include an additional Supplier field at the end of each component (see Figure 83). This will need to be completed for each row before the transaction is added to the ASE accounts.

When the data is complete and checked, click the New Trans/Accept Trans button to create a record in our accounts data. The page will then remove the current transaction from the top left grid and automatically load the next record.

If the totals for the UCL and ASE data are different, you will be asked if you are sure you want to add or accept the transaction.

Purchase Invoices, iExpenses & Purchase Card

The Purchase Invoices tab lists purchase invoices, iExpenses and purchase card transactions (the UCL system records the latter as if they are iExpenses). For purchase invoices and iExpenses, the last column of the grid on this tab shows a cross or tick to indicate the payment status of each transaction - only those with a tick should be processed. Due to a quirk in the UCL system, however, purchase card transactions are never flagged as paid and these will need processing despite showing a cross in this column.

Figure 83.   Example purchase card transaction

Splitting a transaction component

To split a component between projects, type a / in the Project field for the relevant record. A popup will open showing the overall debit and credit values along with VAT. Enter the projects and their share of the cost (either in days or as a percentage) and then click the relevant Split button. The calculated values will be displayed, and if correct click Apply. The initial row in the ASE Transaction will be replaced by individual rows for each project or overhead that has been used in the split. If you want to enter specific values rather than days or percentages, you can do so and then click the Split Days button.

Figure 84.   Splitting a component

Importing payroll data

The payroll import uses a standard report from Axiom, and is imported by copying the entire worksheet. Then navigate to Finance > Payroll and click the + button at the top left of the grid. Paste the data into the popup that appears and click the Import button. (In future I shall move this to UCL Accounts page so that everything is in one place).

Processing payroll data

On the Finance > UCL Accounts page, click the Payroll tab. This will show a list of payroll transactions at the left that are drawn from the bespoke report. If you click one of the Monthly Salary lines then the right hand panel will show the corresponding payroll data. If it all looks correct, click the Accept check box in the last column of the grid to add the data to our accounts. If there is anyone listed who shouldn't be there, uncheck the xxx checkbox in the payroll report data first.

Clicking other salary transactions, e.g. accruals and suspense corrections, will result in two dropdown fields appearing at the right hand side of the screen. The contract type and relevant office will need completing before these can be accepted.

Staff Hours

General

This is designed to give an overview of timesheet data, which can be filtered by period, project, employee etc. The default display is to group records by month, project, staff member and type of work (A,B,T hours etc) but this can be changed by using the various filter options.

Initially records will be colour coded by their timesheet status, i.e. whether the data is pending submission (grey text), has been submitted (orange background), or has been approved (black text). Alternatively you can shade records according to staff grade or base office by selecting options from the shading dropdown.

Temporary staff records will be shown in italics, permanent staff in normal font.

Timesheet Reminders

If start and end dates are entered you will be alerted to any missing timesheet submissions by a popup window listing those employees that have previously submitted timesheets but who's data is not up to date. If they've not been reminded within the past five days, a checkbox will be ticked - if they have recently been reminded they will still be listed but the checkbox will be blank.

If you want to send email reminders, clicking the 'Chase' button will send messages to all ticked staff members listing the periods for which they haven't submitted their data. If you don't want to send reminders just click the close box.

	Period	Code	Project	Employee	Task	Hours	Chg Out	Cost
±	Jun-15	7505	Fareham, Coldeast Hospital Site	Hayley Nicholls	B-Hours	7.50	24.32	182.43
±	Jun-15	7519	Richmond	Hayley Nicholls	A-Hours	2.50	24.32	60.81
±	Jun-15	7543	Land South of Chalkers Lane, Hurstpierpoint	Hayley Nicholls	A-Hours	7.50	24.32	182.43
±	Jun-15	7570	Pease Pottage	Hayley Nicholls	B-Hours	9.50	24.32	231.08
±	Jun-15	7626	Preston Farm, Lavant	Hayley Nicholls	A-Hours	4.00	24.32	97.30
±	Jun-15	7632	Ferring	Hayley Nicholls	A-Hours	12.50	24.32	304.05
±	Jun-15	6845	Covent Garden: 38 King Street	Steve White	B-Hours	15.00	24.32	364.86
±	Jun-15	7297	Spelthorne, Ashford Hospital WB	Steve White	A-Hours	16.00	24.32	389.19
±	Jun-15	7330	London, 154 Bayswater Road	Steve White	A-Hours	29.50	24.32	717.57
±	Jun-15	7555	PCA sub Spring 2015	Steve White	A-Hours	39.50	24.32	960.81
±	Jun-15	8196	Elsenham, Land off Hall Road	Steve White	B-Hours	22.50	24.32	547.30
±	Jun-15	5514	Sandwich Town Tidal Defences	Mary-Ann Day	A-Hours	1.00	20.68	20.68
±	Jun-15	7605	Bury St Edmunds, Tayfen Road	Mary-Ann Day	A-Hours	0.25	20.68	5.17
±	Jun-15	8375	Wyvern Farm, Stanway	Mary-Ann Day	A-Hours	0.25	20.68	5.17
±	Jun-15	8240	title to add	Samantha Emery	A-Hours	0.50	20.68	10.34
±	Jun-15	8406	title to add	Samantha Emery	A-Hours	0.75	20.68	15.51
±	Jun-15	P090	ASE Database	Samantha Emery	Hours	0.50	16.76	8.38

Staff Non-Project Hours

	Period	xxx	Employee	Task	Hours
±	Jun-15	Admin	Darryl Palmer		32.00
±	Jun-15	Sick	Darryl Palmer		9.00
±	Jun-15	Admin	Dan Swift		10.50
±	Jun-15	Toil	Dan Swift		2.00
±	Jun-15	Admin	Jim Stevenson		19.25
±	Jun-15	Admin	Jim Stevenson	pxm	4.75
±	Jun-15	Toil	Jim Stevenson		1.00
±	Jun-15	Admin	Neil Griffin		43.25
±	Jun-15	Leave	Dylan Hopkinson	pp	22.50
±	Jun-15	Admin	Guy Hopkinson		9.25
±	Jun-15	Admin	Hayley Nicholls		0.50
±	Jun-15	Leave	Hayley Nicholls		3.50
±	Jun-15	Leave	Steve White		29.00
±	Jun-15	Admin	Mary-Ann Day		58.50
±	Jun-15	Admin	Samantha Emery		83.50
±	Jun-15	Leave	Samantha Emery		25.75

Figure 85. Staff hours form, records shaded by timesheet status

Rates & Budgets

In prep

Project Accounts

An overview of the latest financial status of each project which will show expenses, staff hours and income, each split by category.

Project: 5647. Total Costs: £57,333.76. Total Income: £205,540.00. Current Balance: **£148,206.24**

Expenses

Cost	£
Consumables	951.23
Vehicle Hire / Travel / Fuel	977.89
Subsistence & Accommodation	984.27
On site materials	-
Specialist Services	1,200.00
xxx	
xxx	
xxx	
Other	-
Transfers	-
Total:	**4,113.39**

Staff Time

Work	hrs	£
Consultancy	-	-
DBA	-	-
EIA	-	-
Fieldwork	1,252.25	35,844.77
HBR	-	-
Management	150.75	7,955.84
Post-Ex	305.75	8,557.42
RnD	3.00	85.14
Tender	-	-
Other	27.25	777.20
Totals:	**1,743.50**	**53,220.37**

Income

Type	£
Consultancy	-
Desk Based Assessment	-
Evaluation	-
Excavation	205,540.00
Historic Building	-
Mitigation	-
Multiple	-
Primary Purpose	-
Watching Brief	-
Transfers	-
Corrections	-
Total:	**205,540.00**

Expenses Breakdown

Description	Rec/Sup	Particulars	Amount	VAT
Consumabl	R L Plastics Ltd	Buckets and Lid	770.40	20.0
Consumabl	Kristina Krawied	SIM Card top-up	6.00	0.00
Consumabl	Giles Dawkes	Diary	7.59	0.00
Consumabl	Giles Dawkes	Plant Tags	20.00	0.00

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Staff Time Breakdown

Employee	Task	Hours	Chg Ou	Cost
Darryl Palmer	man	124.50	52.03	6,477.36
Darryl Palmer	man	26.00	50.00	1,300.00
Darryl Palmer	px	0.50	52.03	26.01
Jim Stevenson	pxm	4.50	38.51	173.31

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Income Breakdown

Description	Rec/Sup	Debit	Credit	VAT
Invoice: EX	Bovis Homes	0.00	21850.00	0.00
Invoice: EX	Bovis Homes	0.00	1500.00	0.00
Invoice: EX	Bovis Homes	0.00	89285.00	0.00
Invoice: EX	Bovis Homes	0.00	92905.00	0.00

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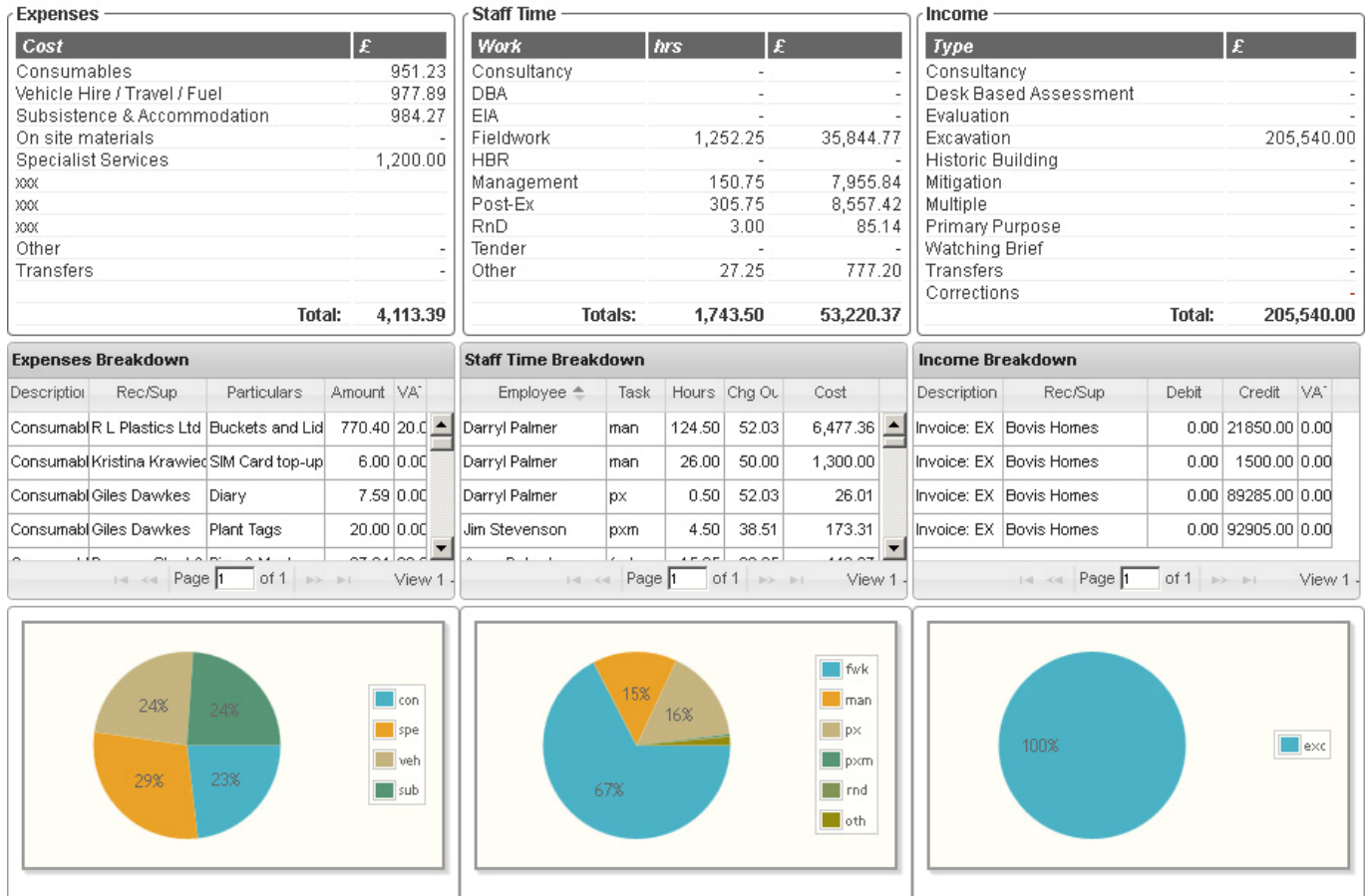Figure 86.   Project Finances (partial data as timesheet & expenses info not fully entered)

Timesheet Breakdowns

In prep

Finance Dashboard

This will provide a quick view of various tasks that need completing, such as new invoice requests, missing timesheets and ongoing projects where there is no customer code associated with the relevant client.

Invoice Requests

If new invoices have been raised but not processed, this will show how many are waiting to be entered. Clicking the notification will open a popup window showing the invoice details. From here you can enter an invoice number and save the invoice to accounts, and/or print a copy of the request. If there are multiple requests you can page through them with the next and previous buttons.

Timesheets

If people who have previously submitted timesheets have not done so recently (and have not been reminded recently), they will be counted here. Clicking the notification will open a popup window listing the relevant staff members, each with a check box next to their name.

If you want to send email reminders, clicking the 'Chase' button will email anyone who's name is checked.

Customer Codes

This notifies you of how many clients for ongoing projects do not yet have a customer code. Clicking the notification will open a popup window listing those clients, along with a data entry field to add a customer code. If you enter a code then leave that field, the database will automatically save that code.