

Property Search Development Roadmap

Created on 20 April 2017, by Ken Birch. Update 18 August 2017 KB.

Functions and Concepts

General Concepts

PSE: Property Search Enhance; the enhancement of the current Proplog system.

Entities, Objects and Constructs: Entities are the collection of data-structures, function methods and temporal paradigms that encapsulate a virtualisation. Objects are the instantiation of Entities into the real world of data. Constructs are the loose aggregation of data-structures and functions, interlinked by data and position based dependencies, without due regard to isolation or timing. Entities have Life Histories.

Purchase Order: the PSE 'Purchase Order' entity corresponds to the Proplog 'Search' construct, and the PSE 'Purchase Order Item' entity corresponds to the Proplog 'Search-Item' construct. Purchase-Order-Items generally relate to a single Company Product. Purchase-Order-Item entities are contained in Purchase-Order entities in a many to one relationship. The term 'Purchase' is often used to refer to the 'Purchase Order' entity, as is 'Purchase-Item' to refer to the 'Purchase Order Item' entity.

Report Request: the PSE 'Report Request' entity corresponds to the Proplog 'Search-Item' for a manual search carried out by a 'Searcher', leading to a Search-Report. A Report-Request entity is contained in a Purchase-Order-Item entity, and a Purchase-Order-Item entity may contain a Report-Request entity or not, in a one to one or none relationship. The term 'Request' is often used to refer to the 'Report Request' entity.

Source Model Object Pattern: This design pattern takes static Source data and passes it through a selectable Model to produce an entity Object. This allows for the disassociation of the entity Object from the Source data, and to a lesser extent the entity Object from the Model; it also allows for the use of the 'Entity Life History' paradigm and design analysis on the derived Objects.

Model Object Pattern: This design pattern is similar to the 'Source Model Object' pattern except that the source data is contained in the Model and/or is provided by an external process.

Workflows, Paths and State-Machines: a Workflow is the possible Paths through a State-Machine. To this end there are 'Main Paths', 'Side Paths' and 'Deviant Paths'. A Main-Path is the normal method of working in a system, whereas a Side-Path is a little used but necessary change to the normal working (e.g. change Searcher midway); but a Deviant-Path is a stop to the working of a system, requiring unusual steps to be taken (e.g. cancelation). A State-Machine is the accumulation of the process steps available in a system, with step precursors, prerequisites and possible future destination steps; often described by use of workflow diagrams or flow-charts.

Masks, Questionnaires and Searcher Tasks: A Report-Request may be split into a number of Searcher-Tasks for different personnel (e.g. Outworker, Office-Staff and Checker), differentiated by their 'Masks'. Data-entry 'Questionnaires' are composed of Questionnaire-Items (Q-Items), each of which is assigned binary 'Mask' bits. Each 'Searcher Task' has a number of 'Mask' bits assigned to it. This allows the 'Q-Items' to be included or not for a specific 'Task', so apportioning data-entry work to be done by the 'Task' enactor. A 'Mask' value of '0' applies to all 'Q-Items' and all 'Tasks'. This 'Mask' facility can be considered to be an expanded version of Proplog's controlling 'Question: QU_Remote' field.

Product Check-Lists: each Product has a Check-List associated with it, through a process of overridden default selections, with reference to the available Products and relevant Council/Provider. The checklist provides a

Workflow for the product's generation, as well as the derivation of Searcher-Tasks needed to be completed in the creation process.

Report-Model Item Types: Report-Model Questionnaire-Item types default to (at present) the 'Proplog' constraints, but they could also be 'Section-Header' text or pagination breaks or pre-defined questions not requiring options e.g. 3-state 'yes/no/unanswered' or hierarchical constructs allowing for drill-down responses (e.g. '3.9' questions).

Enhancements

A Proplog Search can only contain a single Manual-Search report, whereas a PSE Purchase can contain multiple Manual-Searches (Report-Requests).

A Proplog Search does not handle Side or Deviant paths well if at all, whereas a PSE Purchase is designed to handle Side paths and provide useful support for Deviant paths.

In a Proplog Search it can be difficult to understand who did what and when, whereas a PSE Purchase has a full event-log built in.

In a Proplog Search it can be difficult to add extra information for communication between personnel via a multitude of Notes fields in various tables, whereas a PSE Purchase has a Blog facility to allow simple communication of extra information, with hot-links from questionnaire-items.

The change from 'autonom' key-fields for Proplog Search-ID and Search-Item-ID, to the PSE 'GUID' key-fields for Purchase-ID and Request-ID, allows for merging of independent systems without problems. These can be spatially distributed, or part of a fail-over system; or just Live, Test and Dev databases.

The Proplog system uses elderly coding concepts, and has been extensively modified over the last 11 years, leading to badly designed data-structures, and bad maintenance problems. The PSE system uses modern coding techniques to provide prompt implementation of changes with the ability to pre-test code modules prior to incorporation into the code-base. The PSE system has been designed as a whole to present competitive advantages coupled with flexible extensible functioning.

The PSE system has been constructed with Users in mind, reducing mouse-clicks to a minimum to speed working, whilst presenting a modern inviting user-interface; leading to intuitive use and simplified learning. The extensive involvement of Stakeholders in the construction of this project ensures that the produced web-site is both useful and supports business objectives with a good return on investment.

The PSE system enables Report-Requests to be split into a number of Search-Tasks utilising 'Masks', allowing a number of paradigm models to be supported. To this end, paradigm model 'A' is the same as a Proplog search, where a Searcher does the majority of the data-entry and then an office staff member completes the data-entry and then checks the entire response set. Paradigm model 'B' uses the multiple search-task facility to enable additional outworkers to be assigned to different parts of the data-entry, and a staff member to be assigned to provide part of the response-set data-entry obtained electronically, whilst a separate staff-member is assigned to check all the data-entry responses. Paradigm model 'C' is similar to 'B' except that the data-entry may need to be repeated for different Data-Providers, as well as the need to merge Requests into a single Report.

The PSE system with a minor design change would allow Report-Requests to be shared between different Purchases as they are independent Entities. This has not been part of the Main-Path design, but under the present system a Request-Entity can be cloned between Purchases.

Menu Structure

Public

Display Menu items of Home, and Log-control.

Searcher Outworkers

Display Menu items of Home, My Task List, Synchronise, and Log-control.

Office Staff

Display Menu items of Home, Office Task List, Booking, Reports, and Log-control.

Checker/Compilers

Display Menu items of Home, Office Task List+, Booking, Reports, Workflow, and Log-control.

Property-Search Administrators

Display Main Menu items of Home, Office Task List+, Find Searches, Booking+, Reports+, Workflow+ and Log-control.

Sub-Menu items: Admin Search Tasks, Interworking, Event Log, User Editor, and Log-off.

IT + Directors

Display Main Menu items of Home, Office Task List+, Find Searches, Booking+, Reports+, Workflow+ and Log-control.

Sub-Menu: Admin Search Tasks, Interworking, Event Log, User Editor+, Model Editor, Checklist Editor and Log-off.

Admin Sub-menu dropdown incorporates 'Admin Search Tasks' and 'Interworking' links for simplicity of use.

Web-Pages

IT staff and Directors have all permissions by default.

Log-in/Log-out/My details/My Credentials

Standard MVC User control sub-pages, with the auto Register pages removed.

Home

a. Public or not-logged in: advert, with off-site links.

b. Office Staff logged-in without any PS-Permissions: same as Public plus greyed-out menu items.

c. Searcher Outworker logged-in: Advert plus find previous own searches completed, showing list with master-slave details; find criteria to include partial Address data. Allow child page display of selected search details with questions and responses similar to Q-Landing.

d. Office Staff logged-in with PS-Permission: Advert plus find previous searches completed from simple criteria, including partial Address data, showing list with master-slave details. Allow child page display of selected search details with questions and responses similar to Q-Landing.

e. Office Staff logged-in with PSAdmin-Permission: Advert plus find previous searches completed from complex criteria, showing list with master-slave details; including links to related functionality. Allow child page display of selected search details with questions and responses similar to Q-Landing.

Searcher Task List (My Task List/Office Task List/Admin Search Tasks)

Same page just the options and functions change depending on log-in type and permissions.

Generally this page will show a display of filtered items, with direct links to Landing and Questionnaire.

a. Outworker: filter on Data-Provider, with defeat for current selection.

b. Office with PS-Permission: Master-Slave display of selected item details and metrics, filter as 'a', and on search-task type (my/office/checker). 3 views: 'My Searches' (masked), 'Office Searches' (masked), and 'Check Searches' (Mask 0).

c. Office with PSAdmin-Permission: Master-Slave display of selected item details and metrics, filter as 'b', plus on Office, Searcher, dates, and status. Master-Slave display also to selected item Event-Log. With selected Task, action links to Re-Assign Tasks, edit Appointments, edit Blogs, edit Status, and Print Draft. Jump to Landing with user-defined Mask.

Questionnaire Landing

Show Header with Navigational or Feedback message.

Details

Show short Task details with zoom-all button, zoom contains Blog entry. Short Task details contain first-line address, post-code, appointment date and time, due date, and top 2 lines of Blog (without scroll-bars). Zoomed Task details are as short but the Appointment can be edited if the user has 'PSEdit-Permission', and the Blog expands to 8 lines

with scroll-bars; in addition a Blog entry text box and update button, as well as all the other details as deemed necessary.

Actions

Show User Preferences, as it is for PoC.

Show Mini-Workflow, clipped to logged-in user type.

Show Synchronisation status (future place-marker). V1.x

Show download link(s) to Plan(s) (future place-marker). V1.0

Responses

Show Questionnaire 'Edit' links.

Show or hide, Register data-entry controls. Short-cut 'No Entry required' action buttons; 'LLC-None', hide if any, 'Planning-None', hide if any, 'Building-None', hide if any, 'Zoom All' link to previous PoC 'Details' sub-page.

Show Questionnaire Item responses metrics, with zoom button to display list respecting user-prefs, with direct links to Q-Item Editor sub-page.

Variations

a. Outworker Searcher: Zoomed Task details contain Blog entry function, Mini-Workflow contains 'Booked', 'Start', 'Finish', 'Done', and 'Confirm' controls; the 'Booked' and 'Confirm' controls are for information only.

b. Office Searcher: same as 'a'.

c. Office Checker: same as 'a', except the 'Confirm' control is active. (if mask = 0)

d. Administrator: Zoomed Task details contain Blog entry function, with editing, also editing of Appointment. Mini-Workflow contains all controls active.

Questionnaire Response Editor (sub-page or selected Request)

Mainly as is for Poc, with the addition of links for targeted Blog entry pop-up.

Add support for Question Item Type handling; initially Master-Slave hierarchy (3.9), and plain text display and entry.

Add support for Q.Responses 'Raw' editor, with Con29-Alert check-box, if PSAdmin-Permission or PSEdit-Permission. (if mask = 0)

Booking Appointments (sub-page or selected Request)

In 'Landing' details Zoom pop-up and Task-List selected details.

1. View PSE and Proplog side-by-side.

2. Update PSE from Proplog, in 'Landing' pop-up.

3. Edit and update both PSE and Proplog, if PSAdmin-Permission or PSEdit-Permission; link to sub-page.

Report Viewer for selected Request

The Report-Model can be used to transform the response data to a viewable draft report, which can be printed by users with the PSAdmin-Permission. (?)

Workflow Control for selected Purchase/Request

This is for the 'Mini-Workflow' augmented for multiple 'Searcher Tasks'. The previous 'Upload' function has been returned to the Interworking web-page. A single Purchase can have multiple Requests, and each Request can have multiple Search-Tasks. Each state or step is traffic-light colour-coded; Red for not entered, Yellow for next state in workflow, and Green for a state that has been or is being enacted. Some of these steps form simple handshake communication between active parties.

Paradigm Model 'A', 'B' and 'C'

Basic Search-Task mini-workflow: 'Booked', 'Start', 'Finish', 'Done', 'Confirm' and 'Locked'; these are per Search-Task or for very simple Searches.

Booked: controlled by Admin staff, gives the go-ahead for the Searcher to begin.

Start: controlled by the Searcher, acknowledging the start of the manual search process.

Finish: controlled by the Searcher, besides informing others that the Questionnaire is complete, for their part, also checks that all Q-Items have a response.

Done: controlled by the searcher, informing administrators that they have completed their work, as far as they consider reasonable; this bypasses the Q-responses checks. The Searcher's responses are stored as a snap-shot in PIX as XML data.

Confirm: controlled by Office staff, signalling initial checks are ok.

Compile: controlled by Office staff, signalling all checks and changes are completed ready for Report generation.

Locked: controlled by Office staff, to hide this Search-Task from Listings. The Request Details, Responses and Blog are stored as a snap-shot in PIX as XML data. The Request object is thinned to remove the now redundant Question-Option records.

The 'Booked', 'Start' and 'Done', 'Confirm' states form simple handshaking for transfer of ownership of the Search-Task process.

Paradigm Model 'B' and 'C'

Additional stages are required for more complex searches. 'Initialise', 'Waiting', 'Check' and 'Remove'; these are generally per-Purchase or per-Request.

Initialise: used when creating complex searches, involving either multiple Request entities or sequential re-runs of Search-Tasks.

Waiting: occurs when data-entry from external sources is required.

Check: used in more complex searches with multiple Search-Tasks.

Remove: part of the ELH archive/delete process.

Paradigm Model 'C'

Additional stages are required for more complex searches or with multiple reports. 'Reassign' and 'Merge', these are generally per-Purchase.

Re-assign: used when sequential re-runs of Search-Tasks involve different personnel.

Merge: used when merging two or more Search-Tasks or Request entity Objects into a single report.

Re-Do: used when; not known?

Proof of Concept/Interworking Control

This page has been superseded by the 'Interworking' web-page, based on the 'Workflow-Splash' web-page.

The 'Proof of Concept' page has been renamed 'PoC – Beta', and will display the data in more detail with the display of the Event-Log for selected Searches. The PoC selected item functions are now for housekeeping to remove elderly Searches, if required.

Workflow Splash

This is the new Interworking Control web-page, but it is designed to handle large Search volumes as required by the Version 1.0 release; it can display the status of 200 Searches per screen. It has superseded the 'Alpha/PoC Interworking Control' web-page, although functionally they are similar.

Import Process

Initial: Copy Search information from Proplog Live to Proplog Test (Alpha and Beta only) (can be by-passed)

Pass 1: Create 'Purchase Entity' and add 'Extra' records, from Proplog|Search.

Pass 2: Create 'Purchase-Item Entities' and add 'Extra' records, from Proplog|SearchItem.

Pass 3: For each 'Purchase-Item' find Checklist-ID and Model-ID; create 'Request Entity' if required and copy Checklist-Extra data to Purchase-Item Extra records.

Pass 4: For each 'Request', via 'Model', create 'Questionnaire' and 'Response' table records. Add default Register data-entry records.

Pass 5: For each 'Request', via 'Checklist', create 'Search-Task' records.

Update Proplog-Search and Proplog-SearchItem record status fields.

Export process

This is a repeatable process to cater for User finger-trouble, and misunderstanding of the new PSE processes and Workflow paradigm.

Delete any previous Proplog responses.

Copy Request Entity responses to the Proplog-Answer table and Proplog-Register tables.

Update Proplog-Search and Proplog-SearchItem record status fields.

Development Road-Map

Main-Path: required for correct functioning of the system. (MP)

Side-Path: part of the overall design, but not required for this stage of the implementation. (SP)

Deviant-Path: nice to have feature, to help or improve operations. (DP)

V1-Alpha: Test production release. (V1A) All done 5th May 2017.

V1-Beta: Pre production release. (V1B) Due 30th May 2017.

V1.0: initial release, interworking. (V1) Due 30th June 2017 postponed to end of August.

V1.x: initial release upgrade. (V1x) [V1.0 30 Aug, V1.1 30 Sept, V1.2 30 Oct, V1.3 30 Nov]

V2.0: interim releases, cross-over. (V2) [30 March 2017]

V3.0: final release, dump Proplog. (V3) [30 Dec 2018]

Hold: not required yet. (Hold)

Drop: not wanted, ever. (Drop)

	Path	Version	Linked/Progress
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Concepts

Product Checklists

Simple	MP	V1A	*/done
Multiple Tasks	SP	V1x	**
Complex Workflow	SP	V2	+
Total Workflow	DP	V3	++

Question Types

Proplog clone	MP	V1A	done
Augmented (display, text entry, numeric entry, date entry)	SP	V1x	
Augmented (2-state, 3-state)	SP	V1x	
Complex (Master-Slave)	SP	V1x	
Complex (Hierarchical)	DP	V2	

Enhancements

Multiple Requests per Purchase	SP	V2	+
Event-Log, tied to Purchases and Users	MP	V1A	done
Purchase Blog	MP	V1.0	done

General Development

Duplicate Code-Base: Dev to Release	MP	V1.0	
Duplicate Database: Dev to Test	MP	V1B	done
Duplicate Database: Test to Live (live to dev actually)	MP	V1.0	done
Define PSE – Proplog Interworking (to reflect Proplog terms)	MP	V1.0	%
Reference Admin MVC code, prepend with 'PSAdmin'	MP	V1A	done
Define Details (show, import, zoom)	MP	V1A / 1.1	done, partial
Paradigm Model 'A' (single task)	MP	V1A	*/done
Paradigm Model 'B' (multiple tasks)	SP	V1x	**
Paradigm Model 'C' (complex tasks)	DP	V2	+
Remove 'Register' links from menu and login	MP	V1A	done
Define User permissions and logged-in menu structure	MP	V1.1	
Searcher-Task table: change Primary key to SearchTaskGUID	MP	V1B	done
Modify 'Proplog:StdText' to include DP-ID field	SP	V1B	done, needs data updating

Investigate

Source data for question options.	MP	V1x	
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Web-Pages

Home

Public Advert	MP	V1A	done (minimal)
Simple Find (outworker, office)	MP	V1	done
Master-Slave Find	SP	V1	done (admin only)
Pop-out Found details+ responses	DP	V1	done
Find previous search, filter on partial 'Address' field	SP	V1	done
Design 'Find Search' using Proplog ideas	SP	V1.1	prototype
Add Proplog data to 'Find Search'	MP	V1x	

Task-List

Simple (outworker)	MP	V1A	done
Master-Slave Details (office, 3 views)	MP	V1B/1.1	done but needs work
Add 3-days before appointment filter to Searcher's view	MP	V1.1	

Q-Landing

Details	MP	V1A	done
Details Zoom	MP	V1	done
Zoomed Blog Entry/Edit	SP	V1	done
Zoomed Appointment pop-out edit/update	SP	V1.1	partial
Register handler	MP	V1A	done
Responses metrics	SP	V1	done
Responses Zoom to list	SP	V1	done
Link to Plan(s)	MP	V1.1	done but needs testing
Register editor/create drop-down selectors	SP	V1.1	JR date problem
Register Data-Entry, operational issues	MP	V1B	done
Searcher's responses, save snap-shot on 'Done'	MP	V1x	to PIX as XML
Request responses, save snap-shot+ on 'Locked'	MP	V1x	to PIX as XML

Q-Edit

Question type handling	SP	V1x	
Targeted Blog entry pop-up	SP	V1	done
Master-Slave construct (3.9)	SP	V1x	
Hierarchy	DP	V2	
Raw editor + Con29 Alert	SP	V1.x	
Add 'PSE-Confirm' field to 'DefAnsLACombos' table	SP	V1B	done, needs data updating

Report Viewer

Sub-page or direct	MP	V1x	
'Per-Search-Draft' quick print	SP	V1B	done, needs print styles

Workflow Control

Simple	MP	V1A	*/done
Multiple Search-Tasks	MP	V1x	**
Multiple Requests	SP	V2	+
Complex	DP	V3	++

Admin Search Tasks

Admin M-S Details and Event-Log plus filters	MP	V1A/1.1	done, but needs more
Admin action links to edit 'Blog' and to 'Print' (report)	SP	V1	done
Admin editors Appointment, and define mask	DP	V1.1	

Interworking

Master-Slave Event-Log	MP	V1A	done
Add 'are you sure' to prevent double-clicks	SP	V1B	done
Tie-in between PSE and Proplog status events	MP	V1B/1.0	done
Add 'Default LLC Register' entries on Import	MP	V1B	done
Update 'Splash' to working version	MP	V1B	%, done
Add Dates to Search-Progress display filter	SP	V1.1	done, date fields to use?

User Editor/Control

Update from Prototype, adding Searcher/PSG insert/sync	SP	V1.1	needed
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Miscellaneous

Event-Log Viewer, filter on Purchase, User and dates	SP	V1B/1.0	done
Synchronise Proplog Test/Dev/Live model/source data	MP	V1.0	first pass sync done
Searcher Log-in's and Company e-mail addresses, discuss	MP	HOLD	ignore for now

Future Work

Page Code

Pick-up purchases from web-service	MP	V2	
Implement PDW data-entry	SP	V1x	
Implement Map outlining	SP	HOLD	
Synchronise Files across devices	MP	V1x	
Synchronise Tasks across devices	SP	V1x	
Synchronise Data across devices	SP	V1x	

Model Data

Purchase-Check-List, add product variations, multiple tasks.	SP	V2	
Report-Model, add product deviation support via masking.	SP	V2	

Object Data

Entity Life Histories: Hide, Reduce, Archive and Delete.	MP	V2	
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Investigate

Product variations and PCL-Model.	DP	HOLD	
Replacing/Updating Customer-Facing web-site	SP	V1x	

Extra Functions

General Development

System Search-Date (insurance purposes) sync	SP	V1x	
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Interworking

Q-Landing

Radon-Gas Landmark web-service integration	MP	V1C/1.0	done, prototype
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Extract of Outstanding V1.B/C work

Duplicate PS Code-Base: Dev to Release	MP	V1.0	
Define PSE – Proplog Interworking (to reflect Proplog terms)	MP	V1.0	%
Define Details (show, import, zoom)	MP	V1A/1.1	done, partial
Define User permissions and logged-in menu structure	MP	V1C/1.1	
Master-Slave Details (office, 3 views)	MP	V1B/1.1	done but needs work
Zoomed Appointment pop-out edit/update	SP	V1C/1.1	partial
Admin M-S Details and Event-Log plus filters	MP	V1A/1.1	done, but needs more
Add 'PSE-Confirm' field to 'DefAnsLACombos' table	SP	V1B	done, needs data updating
Modify 'Proplog:StdText' to include DP-ID field	SP	V1B	done, needs data updating
Radon-Gas Landmark web-service integration	MP	V1C/1.0	done, prototype

Extract of V1.0 work to do

Synchronise Proplog Test/Dev/Live model/source data	MP	V1.0	first pass sync done
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Extract of V1.1 work to do

Design 'Find Search' using Proplog ideas (home page)	SP	V1.1	Partial
Link to Plan(s)	MP	V1.1	done, needs testing 'live'
Register editor/create drop-down selectors	SP	V1.1	JR date problem
Admin action links to edit 'Blog' and to 'Print' (report)	SP	V1.1	done, print needs CSS
Admin editors Appointment and define mask	DP	V1.1	
Add 3-days before appointment filter to Searcher's view	MP	V1.1	
Add Dates to Search-Progress display filter	SP	V1.1	done, date fields to use?
Update from Prototype, adding Searcher/PSG insert/sync	SP	V1.1	needed