PIVOTE

Editor User Manual

Version 0a

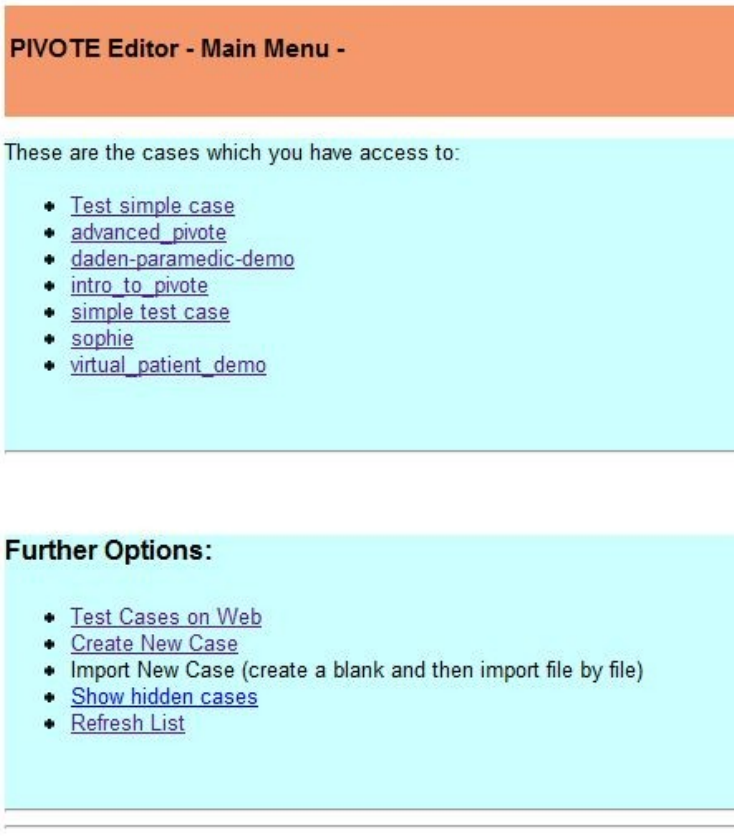
11 Feb 09

This document describes how to use the PIVOTE Editor. It assumes that you are already familiar with the principles of how the PIVOTE system works.

You will need to obtain a logon username/password from your PIVOTE system host. The service hosted by Daden has a free account with username Test, Password Test which provides a sandbox area, but this is cleared on a daily basis.

Once you have logged on you will be presented with the exercise list screen.

1. Exercise List Screen



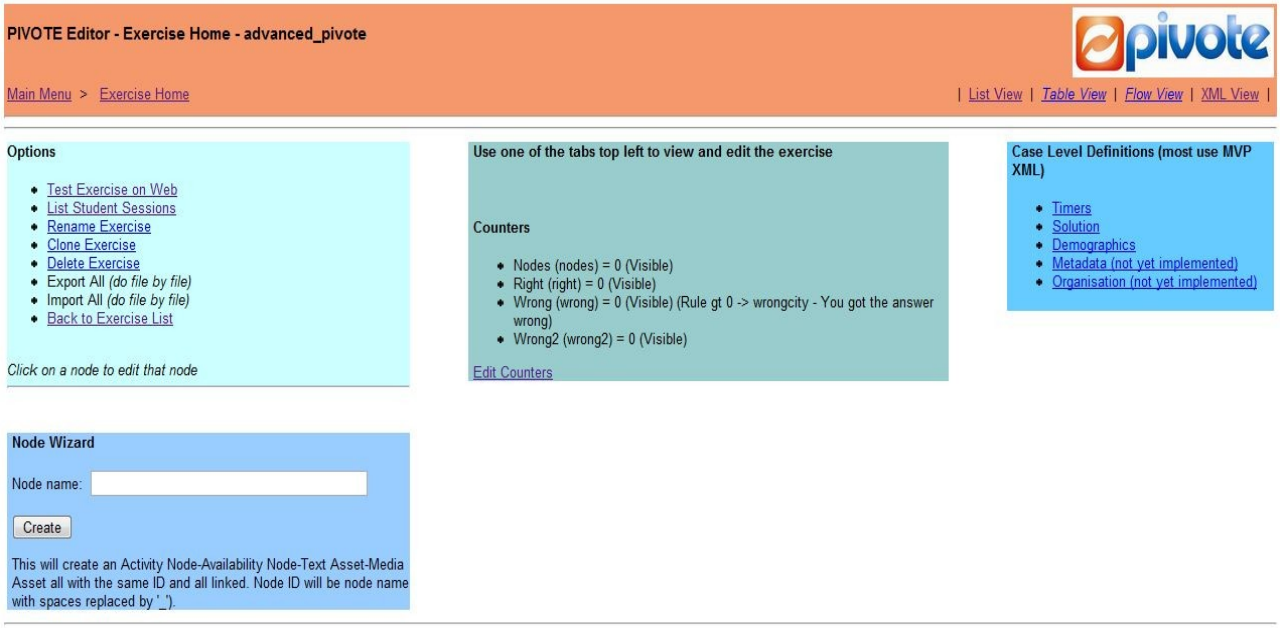
Log on to the Editor. It will then list the exercises available to you. This will include any exercises you have created, and any that you have been granted Editor access to.

Click on an exercise in order to edit it.

Other options are:

- Create New Exercise
- Import Exercise
- Show Deleted Exercises

2. Exercise Main Screen



This screen shows summary information about the exercise. There are 5 main areas:

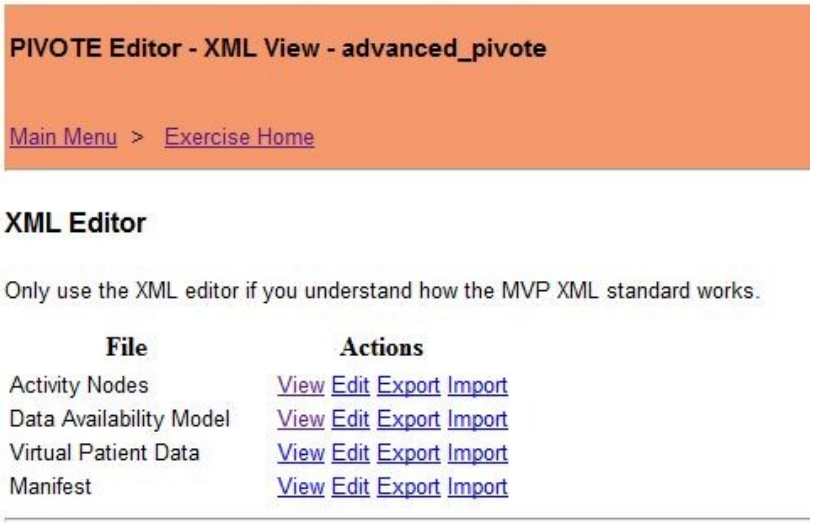
- Tabs (top right): These allow you to switch between different views of the exercise data. There are 4 views, and more details are below:
  - List view – a simple list of all nodes by type
  - Table view – similar to list view, but with associated nodes aligned
  - Flow view – showing the AN-DAM-Asset node set for a given ID
  - XML view – allows XML level editing

- Options: This allows you to:
  - Test the exercise on the web
  - List the sessions of students who have run the exercise
  - Rename the exercise
  - Clone the exercise (complete an exact copy but with a different name)
  - Delete the exercise (actually just hides it)
  - Purge the exercise (only possibly if already deleted and re-shown from “hidden”)
  - Export the exercise
  - Import the exercise
  - Return to exercise list

- Node Wizard: This lets you create a blank, but linked, set of AN-DAM-Asset nodes for rapid exercise creation. Just type in the name of the new node. See more details below.
- Counters: Provides a summary list of the variables (counters) used in the exercise. Click on the edit link to edit the counter definitions. See below for more detail.

- Case Level Definitions: These are mostly meta-data and are edited mostly using XML. They are not needed to actually run a PIVOTE exercise, but included for completeness with the MVP specification:
  - Timers – not yet implemented but allow real-time based triggers
  - Solution – the exercise solution for optional viewing by the student at the end
  - Demographics – from the systems virtual patient heritage gives background demographic data about the patient
  - Metadata – sundry metadata about the exercise
  - Organisation – sundry metadata about the creating organisation

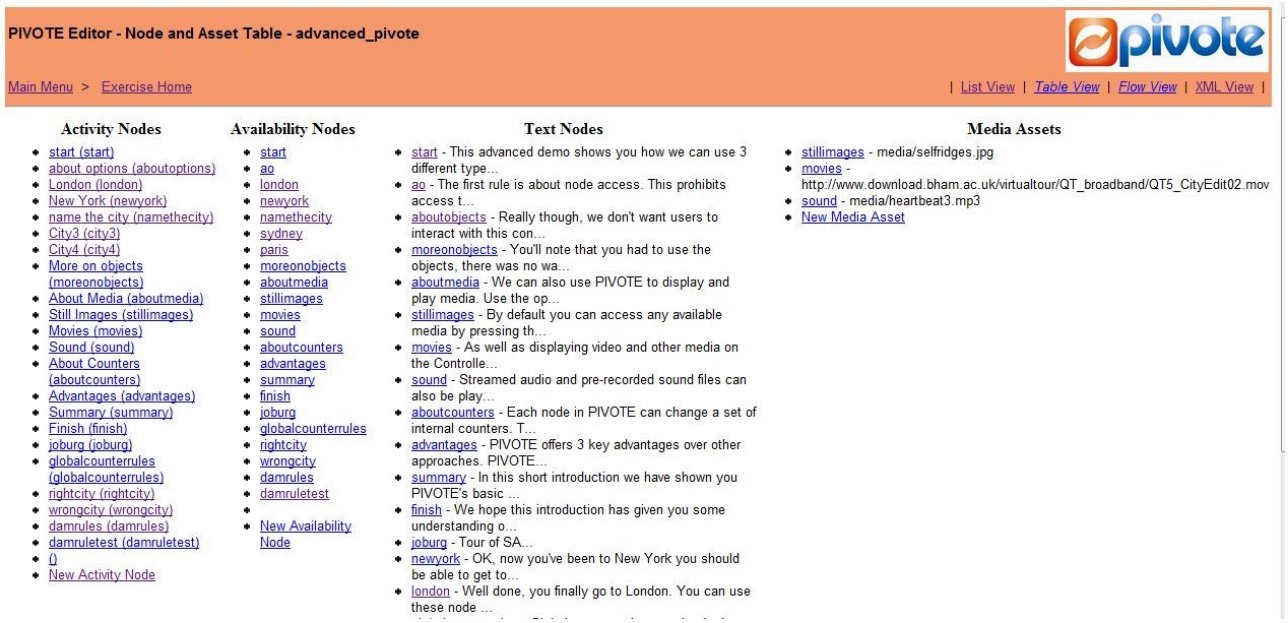
3. XML View / Editor



The XML View gives you options to view, edit, import and export the XML data of each of the 4 files used by PIVOTE for a case.

The XML editor is very simplistic and allows you to edit the XML content of each file directly. PLEASE ensure you know what you are doing and that you understand the MVP standard, as if you make an error the exercise may not play and there may be data loss if you subsequently try and edit the case using the PIVOTE forms-based editor.

4. List View



The list view has 4 columns showing the different nodes in the exercise listed alphabetically and split by:

- Activity Node
- Data Availability Node
- Text Asset Node
- Media Asset Node

You can click on each node to edit it.

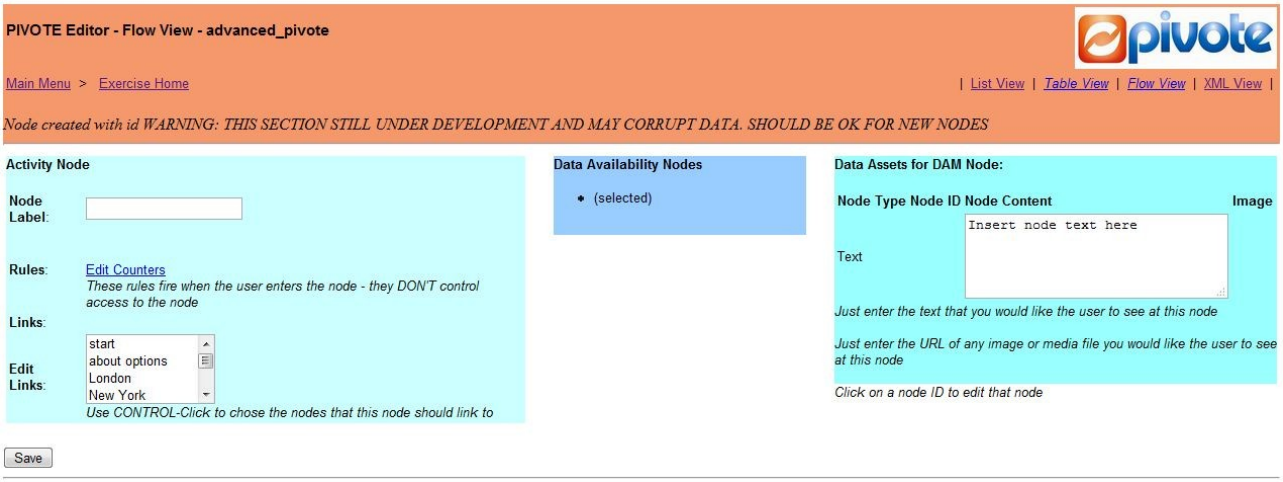
At the bottom of each list is an option to create a new node of the selected type.

At the bottom of the table is another copy of the Node Wizard to rapidly create a new AN-DAM-Asset Node set.

5. Table View

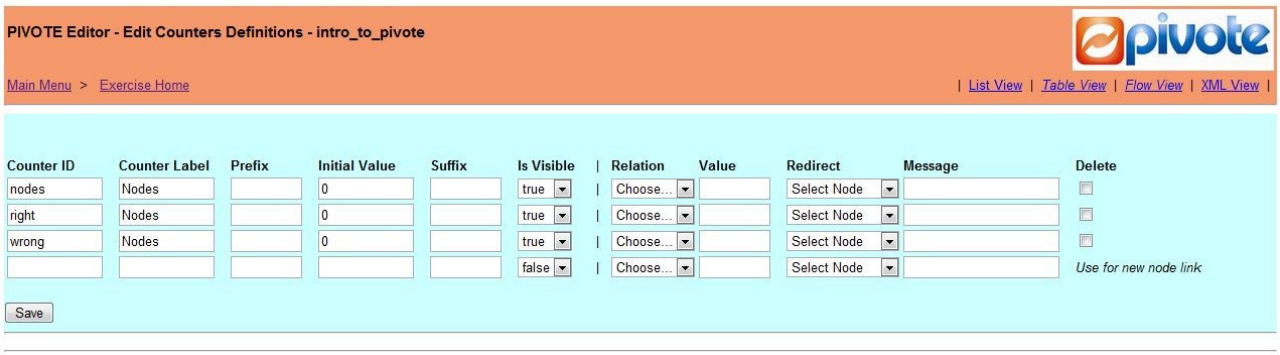
To Follow

6. Flow View



To Follow

7. Counter Definitions Editor



You can create as many variables (counters) as you want for a scenario. Although these are usually numerical they can also be text values – and there is no type checking.

All the PIVOTE screens that have the ability to add mutliple elements work in the same way – showing existing elements and then having a blank line for a new element. If you want to create a new element just type the details in and save. Once saved the new element will appear with the old elements and there will be a new blank line for another new element.

For each counter you can set and edit the following fields:

- Counter ID – used by nodes to refer to the counter
- Counter Label – used when displayed on screen
- Prefix – any units prefix that appears before the counter (eg £)
- Initial value – the start value of the counter (need not be 0)
- Suffix – any units suffix that appears after the counter (eg seconds)
- Is Visible – whether the counter is shown to the user – currently only for web players

Each counter can also have a rule associated with it. This rule is tested every time the player enters ANY node. The MVP specification allows for multiple rules per counter, but PIVOTE currently only supports one rule per counter. If you edit a file with mutlitple rules they WILL BE LOST once edited by PIVOTE. The rule parameters are:

- Relation: The test must be one of =, >, >=, <, <=, != (not equal)
- Value: The test value
- Redirect: The node the player is redirected to if the counter test is TRUE
- Message: Any additional message the player is given if the test is TRUE.

Example:We have a counter called 'heartbeat'. We have a rule associated with it with relation '<' (less than) and value '10', with message 'you have killed the patient', and redirect node of 'death'. Every time the player does anything (I.e. enters a node) PIVOTE tests to see if the heartbeat has dropped below 10. If it has then the rule tests TRUE so the user is given the message 'you have killed the patient' and redirected to the 'death' node.

Note that if you change the ID of a counter you MUST MANUALLY CHANGE any references to it in other files. [Would users rather you could just not edit the counter ID and have to delete it? At some point we might cascade the changes down, or at least warn you where the counter was used!]

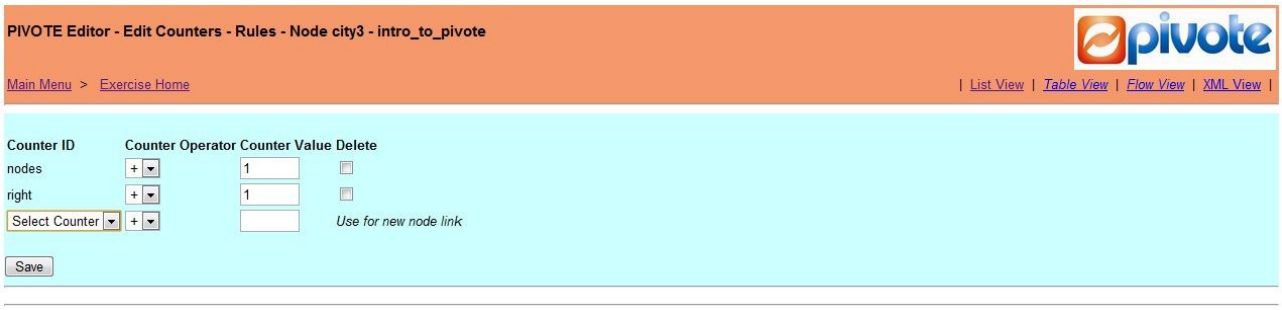
8. Activity Node Editor

This screen lets you edit the data for a particular activity node. The items you can edit are:

- Node ID – used by nodes to refer to the counter
- Node Label – shown optionally to the user
- A list of counter rules for the node, and a link to edit them (see below)
- Conditional rules for the node (see below)
- A Navigate Global checkbox. If checked (default for virtual world exercises) the player can access the node from anywhere in the exercise. If not checked the node can only be access from a link from another node.
- A Probability checkbox. If checked then the links from the node will be shown on a probabilistic basis. (Default for virtual worlds exercises is unchecked) [Not yet implemented]
- The list of Data Availability Nodes that this activity node links to. Uses the standard PIVOTE multiple element row system. Check the delete box to delete a link to a DAM node. There is also a link to move you to the DAM View for a linked DAM node.
- The list of Activity Nodes that the user can select after this node (in addition to any Global Navigation nodes). On the web these nodes are listed as links, in Second Life they are listed on the Options screen. There is a link to each node so as to view/edit it. To change the nodes linked to just use CTRL-Click on the dropdown list (currently linked nodes are already highlighted)..

Note that if you change the ID you MUST MANUALLY CHANGE any references to it in other files. [Would users rather you could just not edit the ID and have to delete it? At some point we might cascade the changes down, or at least warn you where the ID was used!]

8.1 Counter Rules



Counter Rules are run as the user enters the Activity Node. They are really variable changes rather than counter rules as they just adjust the value of a counter – they don't initiate any action (that is done by the global Rule Definitions, Conditional Rules and DAM Rules).

To edit the counter rules just follow the link.

You can set up as many Counter Rules as you want. The values for each rule are:

- Counter ID of the counter being changed
- The operator being applied, one of + (increment), - (decrement), = (set value)
- The value being applied (can also be a string if using '=')

As with other multiple elements just type details for a new rule into the spare row at the bottom.

Just tick the Delete tick box and save to delete a rule.

8.2 Conditional Rules

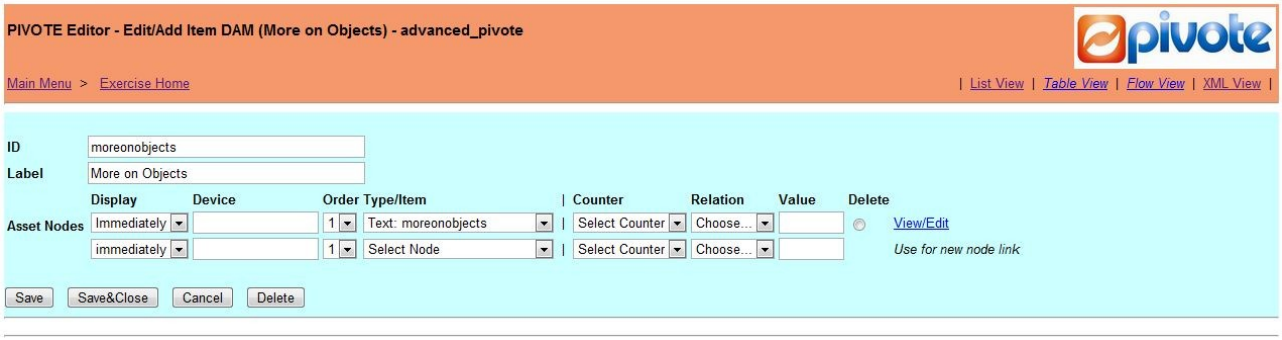
Conditional Rules are run as the user enters the node. As currently implemented in PIVOTE there is only a single rule, and that rule has a single operand (the MVP specification allows multiple rules and multiple operands).

The rule is TRUE if the 'test node' HAS NOT BEEN VISITED yet by the student. If the rule is true then:

- The 'failed message' is displayed to the user
- The user is redirected to the 'redirect mode', and it is the content of that node that the user is given (rather than the node that fired the conditional rule).

Note that you cannot (in PIVOTE) chain rules, so the redirect node will be displayed regardless of any rules it may have of its own.

9. Data Availability Node Editor



The Data Availability node links the Activity Nodes to the assets. The screen lets you edit:

- DAM Node ID – used by Activity Nodes to refer to this node
- DAM Node Label – a plain text description, usually seen in the editor only
- One or more asset nodes (see below).

Each Asset Node has the following values:

- Display – whether the information is displayed immediately the node is called, or later. [PIVOTE only supports 'Immediately']
- Device – the ID of a device to route any message to in the virtual world (see below) [This is not part of the MVP specification]
- Order – the order in which assests will be displayed on-screen – applies to both the web and SL controller. If assets have the same order value then they will appear in the order listed
- A set of DAM Rules values – see below [This is not part of the MVP specification]

Each Asset Node also have a link to view/edit it, and a delete checkbox.

As with other multiple elements just type details for a new rule into the spare row at the bottom.

9.1.Device Parameter

[THIS IS NOT IN THE MVP SPECIFICATION BUT WE ARE REQUESTING ITS INCLUSION]

Within a virtual world it can be useful to show an asset (text, image etc) on a particular device (for instance a doctor might view an X-Ray on a light box one time and on a PC another). To support this each DAM node can associate a particular asset with a device ID. When the SL Controller receives this asset it does not display it on the controller screen but broadcasts it on the PIVOTEChannel with the device ID. It is up to the exercise designer to script an SL object to listen for that ID and the take the appropriate action to display the asset (for instance text could be displayed as SL float text, or an image (which is referenced as a URL) displayed by activating the media texture on a device.

9.2.DAM Rules

[THIS IS NOT IN THE MVP SPECIFICATION BUT WE ARE REQUESTING ITS INCLUSION]

Fairly often we want the information that a learner is given to be dependent on past actions and the current situation (both of which can be tracked by the Counters). Under the formal MVP specification the only way to change what assets are shown is by using the Activity Node level rules to route the learner to another Activity Node – but this breaks the logical MVP model of each node representing an activity (e.g. “check computer screen”).

To allow PIVOTE to vary what information is shown when a node is activated we have introduced DAM level rules which are similar to the global Counter Rules, but are only checked when the DAM is activated.

If the rule is TRUE (or there is no rule) then the associated Asset Node is displayed. If the rule is FALSE then the node is not displayed.

The rule has the following parameters:

- Counter ID – ID of the counter being assessed
- Relation – the relationship which must be true and is one of =,<,<=,>,>=, != (not equal)
- Value - the value which goes with the relationship

We currently support only one rule per Asset Node.

For instance at the final node of an exercise we might want to give the learner some feedback and rate their performance good or bad. We would do this by having a counter that increments for each right move they make as they go through the exercise, and the on the final node have links to good and bad messages but with the good message only triggered if their score is above a value, and the bad message only triggered if they are below that value (we can do 3 levels with only the single counter rule – I.e. We can do <50 and >=50, but not >50<=50).

Another example would be where we rate a patients heartrate as high/medium/low (using a counter with text values), and then use the DAM rules to play one of 3 different heart-rate recordings based on the value of the heartrate counter.

10.Text Asset Editor

The text asset editor is very simple and just provides an ID and display text.

PIVOTE only supports a generic text asset. Other medical specific assets from MVP (eg medicine, differential diagnosis etc) are not currently supported.

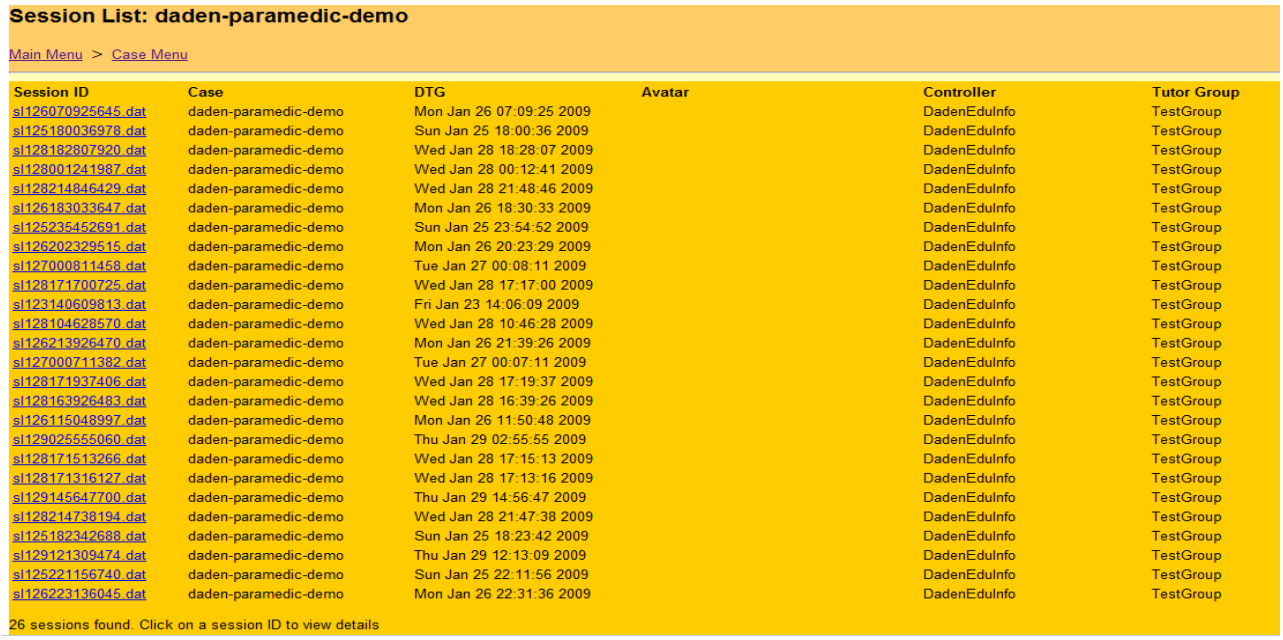
11.Media Asset Editor

The media node is similarly straightforward, requiring just a node ID and the URL of the media. This URL will normally point to a place on the same server (but under the HTML path) as the PIVOTE Player, but this need not be the case. For reference if the URL is of an image the image itself will also be displayed.

12.Learner Records

PIVOTE supports learner tracking – so every action that the learner takes (in terms of activating nodes in the exercise) is recorded and time-stamped.

You can list the learner records from the List Student Sessions option on the Exercise Menu.



Session List: daden-paramedic-demo

Main Menu > Case Menu

Session ID	Case	DTG	Avatar	Controller	Tutor Group
sl126070925645.dat	daden-paramedic-demo	Mon Jan 26 07:09:25 2009		DadenEduInfo	TestGroup
sl125180036978.dat	daden-paramedic-demo	Sun Jan 25 18:00:36 2009		DadenEduInfo	TestGroup
sl128182807920.dat	daden-paramedic-demo	Wed Jan 28 18:28:07 2009		DadenEduInfo	TestGroup
sl128001241987.dat	daden-paramedic-demo	Wed Jan 28 00:12:41 2009		DadenEduInfo	TestGroup
sl128214846429.dat	daden-paramedic-demo	Wed Jan 28 21:48:46 2009		DadenEduInfo	TestGroup
sl126183033647.dat	daden-paramedic-demo	Mon Jan 26 18:30:33 2009		DadenEduInfo	TestGroup
sl125235452691.dat	daden-paramedic-demo	Sun Jan 25 23:54:52 2009		DadenEduInfo	TestGroup
sl126202329515.dat	daden-paramedic-demo	Mon Jan 26 20:23:29 2009		DadenEduInfo	TestGroup
sl127000811458.dat	daden-paramedic-demo	Tue Jan 27 00:08:11 2009		DadenEduInfo	TestGroup
sl128171700725.dat	daden-paramedic-demo	Wed Jan 28 17:17:00 2009		DadenEduInfo	TestGroup
sl123140609813.dat	daden-paramedic-demo	Fri Jan 23 14:06:09 2009		DadenEduInfo	TestGroup
sl128104628570.dat	daden-paramedic-demo	Wed Jan 28 10:46:28 2009		DadenEduInfo	TestGroup
sl126213926470.dat	daden-paramedic-demo	Mon Jan 26 21:39:26 2009		DadenEduInfo	TestGroup
sl127000711382.dat	daden-paramedic-demo	Tue Jan 27 00:07:11 2009		DadenEduInfo	TestGroup
sl128171937406.dat	daden-paramedic-demo	Wed Jan 28 17:19:37 2009		DadenEduInfo	TestGroup
sl128163926483.dat	daden-paramedic-demo	Wed Jan 28 16:39:26 2009		DadenEduInfo	TestGroup
sl126115048997.dat	daden-paramedic-demo	Mon Jan 26 11:50:48 2009		DadenEduInfo	TestGroup
sl129025555060.dat	daden-paramedic-demo	Thu Jan 29 02:55:55 2009		DadenEduInfo	TestGroup
sl128171513266.dat	daden-paramedic-demo	Wed Jan 28 17:15:13 2009		DadenEduInfo	TestGroup
sl128171316127.dat	daden-paramedic-demo	Wed Jan 28 17:13:16 2009		DadenEduInfo	TestGroup
sl129145647700.dat	daden-paramedic-demo	Thu Jan 29 14:56:47 2009		DadenEduInfo	TestGroup
sl128214738194.dat	daden-paramedic-demo	Wed Jan 28 21:47:38 2009		DadenEduInfo	TestGroup
sl125182342688.dat	daden-paramedic-demo	Sun Jan 25 18:23:42 2009		DadenEduInfo	TestGroup
sl129121309474.dat	daden-paramedic-demo	Thu Jan 29 12:13:09 2009		DadenEduInfo	TestGroup
sl125221156740.dat	daden-paramedic-demo	Sun Jan 25 22:11:56 2009		DadenEduInfo	TestGroup
sl126223136045.dat	daden-paramedic-demo	Mon Jan 26 22:31:36 2009		DadenEduInfo	TestGroup

26 sessions found. Click on a session ID to view details

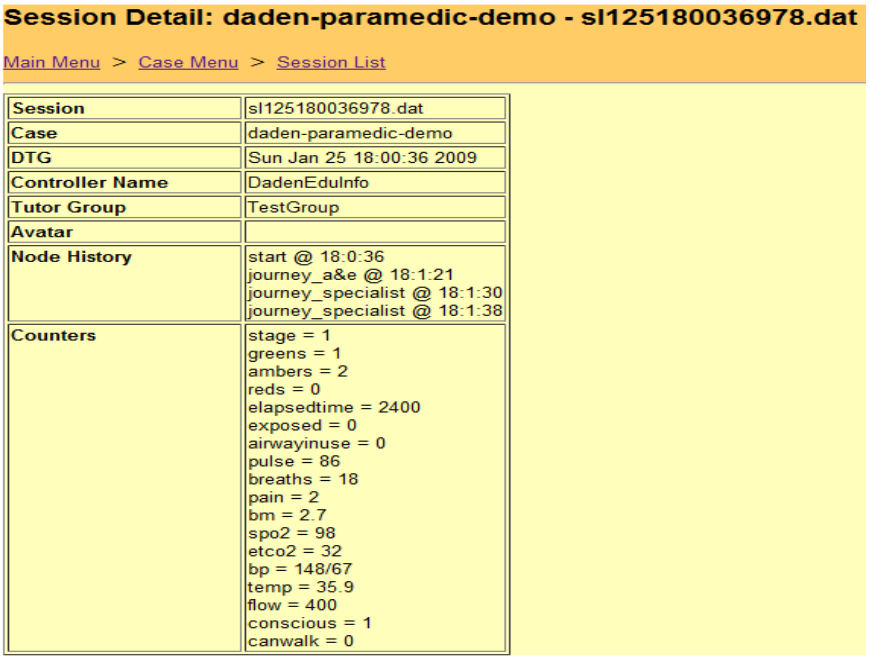
For each record you can see the Session ID (SL indicates Second Life, WB indicated web), the exercise, the date/time the exercise started, the name of the avatar that started the exercise, the name of the SL Controller and the name of the Tutor Group assigned to that Controller when the exercise was played.

The options at the bottom of the screen will let you export all the student records as CSV or XML.

[We are also working on a web service so that you can automatically extract the student records and import them into your VLE].

There is also an option on the SL Controller (although it may be moved to the MVP as a system counter) to display the Session ID to the student so that they can (if necessary) report it to their tutor themselves.

Click on a session ID will display the full record.



Session Detail: daden-paramedic-demo - sl125180036978.dat

Main Menu > Case Menu > Session List

Session	sl125180036978.dat
Case	daden-paramedic-demo
DTG	Sun Jan 25 18:00:36 2009
Controller Name	DadenEduInfo
Tutor Group	TestGroup
Avatar	
Node History	start @ 18:0:36 journey_a&e @ 18:1:21 journey_specialist @ 18:1:30 journey_specialist @ 18:1:38
Counters	stage = 1 greens = 1 ambers = 2 reds = 0 elapsedtime = 2400 exposed = 0 airwayinuse = 0 pulse = 86 breaths = 18 pain = 2 bm = 2.7 spo2 = 98 etco2 = 32 bp = 148/67 temp = 35.9 flow = 400 conscious = 1 canwalk = 0

From the session detail screen you can view all the captured data, and in particular:

- The list of nodes visited (in order) and the time the learner triggered each node
- The final value of all the counters

13.Housekeeping

There are two types of housekeeping typically required by PIVOTE.

13.1.Exercise Deletion

When you delete a case from the Case Menu it is not removed from the system but just marked in the case index as deleted and hidden from view.

Local policies will determine when deleted cases are actually removed from the system (eg by a CRON job).

Before a deleted case has been removed it can be recovered by choosing “Show Hidden Cases” from the main menu. The case menu then shows 2 additional options:

- Undelete – this will undelete the case so that it appears routinely again in the case list
- Purge – this will completely remove the case from the system

13.2.Session Files

Since every learner use of the system generates a session file these can soon build up (although they are not large in size). There may be a local policy to delete all session files over a certain age (eg implemented as a CRON job).

Exercise owners can manually delete as session files for a particular exercise (eg once the exercise is completed for a class and results exported to a VLE) by clicking on the Delete Sessions link below the session list.

14.User and Exercise Administration

There are two files used to manage exercises and users. Whilst the exercise file is automatically managed by the system the user file must (currently) be manually maintained to give users access to the system. The exercise file can also be manually maintained (eg to add access to other users as editors).

14.1.User File

The file is called users.xml and resides in the same directory as the PIVOTE code.

The format is:

```
<user><id>daden</id><name>Daden</name><created>20081103</created><pwd>test</pwd>
</user>
<user><id>test</id><name>Test</name><created>20081103</created><pwd>test</pwd></
user>
```

For each user the tags are:

- id – logon ID
- name – displayed name
- created – date/time user record created
- pwd - password

Note that the password is currently stored unencrypted and in the user file. This is likely to change as the use of PIVOTE gets more serious.

Additional tags may be present to control/limit user access in hosted systems.

14.2.Exercise File

```
<exercise><id>introtopivote</id><deleted/><name>introtopivote</name><creator><ui
d>daden</uid></creator><created>20081103</created><play></play><view></view><edi
t></edit></exercise>
<exercise><id>intro_to_pivote</id><name>intro_to_pivote</name><creator><uid>dade
n</uid></creator><created>20081103</created><play></play><view></view><edit></ed
it></exercise>
```

For each exercise the tags are:

- id – ID of the exercise, matches the directory name
- name – displayed name
- creator – ID of user who created the exercise, automatically has play/view/edit rights
- created – date/time exercise record created
- play – if not blank then a list of user/player IDs with the ability to play the exercise [not yet implemented]
- view – if not blank then a list of user IDs with the ability to view the exercise in the PIVOTE manager [not yet implemented]
- edit – if not blank then a list of user IDs with the ability to edit the exercise in the PIVOTE manager [not yet implemented]

15.Further Information

For further information on PIVOTE:

- Visit the PIVOTE web site at www.pivote.info, where you can download further documentation and video tutorials
- Visit the PIVOTE site in Second Life at ????
- Visit the PIVOTE Google Code site (via pivote.info) where you can download source and live code
- Contribute to the PIVOTE wiki at.....
- Contribute to the PIVOTE Google Groups discussion group at ....
- Join the SL PIVOTE User Group