Charon:
The Sakai Site Portal

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Charon is the primary Sakai 2 *portal*. It is the latest in the line of Site based portals (Sedna, Varuna). Charon has been re-implemented for Sakai 2.

Like its predecessors, Charon presents views of Sakai Sites, Site Pages, and Tools. It looks and behaves just the same as the portal in Sakai 1.5, except that the URL space it recognizes is slightly different.

New in Charon is the ability for users to state preferences to control the site navigation tabs.

Charon is in the `portal` module, in the `charon` project. It builds a webapp called `portal.war`, so takes all URLs that begin with `/portal`.

Modes of Operation

Charon supports 5 modes of operation:

1) Single tool display
2) Single site page display
3) Single site display
4) Site "gallery" display (a site along with site navigation tabs)
5) Site display (a site along with portal header and navigation tabs)

Single tool display shows the interface for a single tool with no extra portal chrome. There is no navigation added to the display. A tool's placement id is needed to invoke this display mode.

Single page display shows a single page of a site, include all of the tools that make up the page. Navigation to other pages in the site and to other sites is not included.

Single site display shows an entire site, along with the first site page, or the site page last visited for this site. Navigation to select other pages of the site is included, along with the site icon and presence (if enabled). Navigation to other sites is not included.

Site gallery displays a single site, along with the first (or last visited) site page, along with the page navigation and other site features displayed in the single site mode. Added are site navigation tabs, along with login/logout options and a bottom banner.

44

45 Site display is the full portal display, adding some site branding to the portal banner, and
46 otherwise showing all that the gallery display shows.

47 ## URL Space

48 Charon takes all urls that begin with

49
50 `/portal`

51
52 This is a point of difference between Charon and the prior Sakai portals. All portal URLs
53 now start with `/portal`.

54
55 **`/portal/site`** is the most used URL, invoking full site display for a site. The site id,
56 and the page id, can be specified. If the site is left out, the gateway site, for non-
57 authenticated users, or the home site, for an authenticated user, is used. If the page id is
58 left out the first page of the site, or the last page visited for this site by this user in this
59 session, is used.

60
61 The following URL forms take the user to full site mode of the portal. "*<site id>*"
62 represents the site id, and "*<page id>*" represents the page id:

63
64   /portal
65   /portal/site
66   /portal/site/*<site id>*
67   /portal/site/*<site id>*/page/*<page id>*

68
69 **`/portal/gallery`** is used to invoke the gallery site display mode. It will also default
70 the site id if not specified, and can take an optional page id, just like the site URLs. The
71 following URL patterns invoke gallery mode:

72
73   /portal/gallery
74   /portal/gallery/*<site id>*
75   /portal/gallery/*<site id>*/page/*<page id>*

76
77 Normally, when you navigate to the gallery URL, the user is expected to login or be
78 logged in so they can see the sites they are authorized to visit. This behavior can be
79 overridden and the user can be routed to the gateway site by adding a parameter to the
80 gallery URL as in:

81
82   /portal/gallery?force.login=no.

83
84 **`/portal/worksite`** is used to invoke a single site display with no site navigation (but
85 with full page navigation within the site and other site decorations). The site id must be
86 specified. A page id is optional. The following URL patterns invoke single site display
87 mode:
88

89   `/portal/worksite/`*`<site id>`*
90   `/portal/worksite/`*`<site id>`*`/page/`*`<page id>`*

91

92   **`/portal/page`** is used to invoke the single page display mode, with no site or page
93   navigation or decorations. The page id must be specified. The following is the URL
94   pattern for invoking page display mode:

95

96   `/portal/page/`*`<page id>`*

97

98   **`/portal/tool`** is used to invoke the single tool display mode. The tool placement id
99   must be specified. The following is the URL pattern for invoking tool display mode:

100

101   `/portal/tool/`*`<tool placement id>`*

102

103   **`/portal/title`** is used to invoke the title bar of a single tool. The tool placement id
104   must be specified. This invocation is used internally by the portal when it generates title
105   bar frames, and should not be invoked by tools directly. See the "Sakai Tools" document
106   (for more information on how the portal uses the tool's registration to output the title bar.
107   The following is the URL pattern for invoking title bar display mode:

108

109   `/portal/title/`*`<tool placement id>`*

110

111   These last three forms (page, tool, title) can have an alternate form where the page or tool
112   id is looked up from a site id and tool name as follows:

113

114   `/portal/page/sakai.resources?sakai.site=~csev`

115

116   In this form, the specified site is scanned and the first placement of the tool within the site
117   is the one chosen. This works to replace either the page id or the tool id for these three
118   forms (page, tool, title). When the page form is used, the definition is to select the *page*
119   that has the specified tool placed on that page. If there are more than one tool is on the
120   page, all the tools on the page are rendered. Unless the site allows anonymous visitors,
121   the URL pattern demands the user to be logged in prior to looking up the site.

Other Portal Features

123   Login, Logout, and Presence are all handled by the Charon portal. So are all the parts of
124   the portal display, including the site navigation.

125

126   Login and Logout are mapped to the URLs:

127

128   `/portal/login`
129   `/portal/logout`

130

131   Processing for these are delegated by the portal to the Login tool using Sakai's helper
132   tool mechanism.

133

134	Presence for a site is handled by the Charon portal. This is mapped to the URL
135	
136	`/portal/presence/<site id>`
137	
138	These are the URLs that are placed in to the various portal displays. The portal is
139	invoked again when the presence iframe is fetched by the browser, or when the user
140	presses login or logout.

Automatic Login and Security

142	All site, page and tool access by the end user through the portal is under security. The
143	"`site.visit`" ability is needed by the end user to access any part of the site.
144	
145	If the end user does not have this ability for the accessed site (or the site which holds the
146	accessed page or tool), the user is not granted access to the site.
147	
148	If the user has not yet authenticated and is navigating to the `/portal` URL, the user is
149	presented the gateway site with an option to login.
150	
151	If the user is going to any other portal URL such as `/portal/gallery`,
152	`/portal/worksite`, or other of the URLs described in this document the request is
153	routed to the Login process. After successful authentication, the initial URL is returned
154	to.
155	
156	If the user is logged in, and does not have permission to visit the site, page or tool
157	requested, or if the user just now logged in and still does not have permission, the user
158	will see the `!error` site display or an internally generated error display.
159	
160	Public (non-authenticated user) access to a site can be granted by adding the
161	"`site.visit`" permission to the site's "`.anon`" role in its realm. This grants anyone
162	the ability to visit the site, site pages, and tools. Specific data access within the tools
163	must also be provided for (perhaps by granting other sort of abilities to the `.anon` role).
164	
165	There are three ways that security can be handled on these URLs.
166	
167	• The user is redirected to the login page where they are prompted for their account
168	and password
169	• Sakai is configured to use container authentication and the user is "already"
170	logged in when they come to these URLs
171	• If there is already a Sakai session it can be specified on the URL
172	
173	An example of this type of URL is:
174	
175	`/portal/gallery?sakai.session=d8203566-cdbd-4770-80ef`

Site Tab Preferences

Charon introduces some user preferences to control the site tabs displayed for each user. Site tabs are displayed in /site and /gallery modes. Preferences can be set to control:

- the number of tabs displayed

- which sites are left out of the tab display

- the order of tabs displayed

These preferences are managed by the Sakai (legacy) Preferences Service. The Preferences service keeps sets of preferences for each end user. Preferences for the portal are keyed using the sakai.portal.sitenav key. The preferences names within the Preferences associated with this key are:

- tabs: the number of tabs (an integer) to display

- exclude: a list of site ids to exclude from the tabs display

- order: a list of site ides to order first and in this order in the tabs display

The number of tabs to display defaults to 4, but can be overridden by the presence of a tabs preference in the sakai.portal.sitenav preferences for the end user. This is the number of tabs to show between "myWorkspace" and the more dropdown. If there is just one more tab to show than this count, all tabs will be shown (instead of adding a "more" dropdown for just one entry).

Any sites that the end user does not want to show up in the tabs display at all can be entered in a List type preferences value under the exclude name. Note that this must be a real List type value in Preferences. The list contains site ids. If the user has access to any sites in the exclude list, they will be left out of the site navigation tabs.

The order List type value is another list of site ids. Of those in the list that the end user has permission to visit, these will show first, and in the order of the order list, among the tabs and more dropdown list. Any additional sites the end user can visit will be added after these, in alphabetical (by title) order.

Tool (Page) presentation order

Site pages are an ordered collection. Usually, the pages are displayed in the page navigation sections of the portal in the order they are defined in the Site, first at the top to last at the bottom (or left to right, depending on the skin). The portal "Help" feature will always follow the last Site page.

219 The Worksite Setup tool does not include user interface for controlling the page order in
220 a site. The Admin Site editor does. In Worksite Setup, pages are created for each tool
221 added to a site, and the pages are sorted in alpha order by page (tool) title.
222
223 To enforce consistency across Sites in a Sakai installation, you can install tool ordering.
224 This will override the order of pages in a Site and display them in this fixed order.
225
226 Tool ordering is a list of tool ids, for a specific tool category. Site type selects the tool
227 category both for the tool ordering, and for the list of tools to offer as candidates for the
228 site.
229
230 Tool ordering is optional. It is defined by entering some XML in a file called
231 `toolOrder.xml` located in `sakai.home`. The name of this file is a configured into
232 the ServerConfigurationService, and this service is responsible for reading the tool
233 ordering and making it available to the portal.
234
235 The file might look like this:
236
```
237 <?xml version="1.0"?>
238
239 <toolOrder>
240
241     <category name="course">
242
243             <tool id = "sakai.synoptic.chat" />
244             <tool id = "sakai.synoptic.discussion" />
245             <tool id = "sakai.synoptic.announcement" />
246             <tool id = "sakai.announcements" />
247             <tool id = "sakai.resources" />
248             <tool id = "sakai.discussion" />
249             <tool id = "sakai.assignment" />
250             <tool id = "sakai.dropbox" />
251             <tool id = "sakai.chat" />
252             <tool id = "sakai.mailbox" />
253             <tool id = "sakai.news" />
254             <tool id = "sakai.siteinfo" />
255
256     </category>
257
258     <category name="project">
259
260             <tool id = "sakai.synoptic.chat" />
261             <tool id = "sakai.synoptic.discussion" />
262             <tool id = "sakai.synoptic.announcement" />
263             <tool id = "sakai.schedule" />
264             <tool id = "sakai.resources" />
265             <tool id = "sakai.discussion" />
266             <tool id = "sakai.assignment" />
267             <tool id = "sakai.chat" />
268             <tool id = "sakai.mailbox" />
269             <tool id = "sakai.news" />
270             <tool id = "sakai.iframe" />
271             <tool id = "sakai.siteinfo" />
272
273     </category>
274
```

275   `</toolOrder>`
276
277   This example establishes an order for "course" and "project" type Sites. It does NOT
278   declare that these tools are valid to use in the site type: that's handled in the tool
279   registration with the tool category.
280
281   Tool order is used to order the pages in a site, but a page might have many tools! The
282   rules are:
283
284   -   If a page has a tool that is listed in the order, it will go in the ordered location.
285
286   -   If a page has more than one ordered tool, it will go in the earliest location it can
287   go in.
288
289   -   If two pages have the same tool, they will both go in the ordered location, in site
290   order among them.
291
292   -   If a page has no ordered tools, it will be placed after all ordered pages at the end,
293   in site order.
294
295   In the example, the "synoptic" stuff at the top catches the "Home" page as created by
296   Worksite Setup.
297
298   Tool order is loaded by the ServerConfigurationService, figured out by the SiteService,
299   and used by the Portal.
300
301   Tool order is done dynamically at runtime, and is not currently used to change the order
302   of pages stored in the Site. If you change the ordering in the `toolOrder.xml` file, the
303   change will be reflected at the next server restart for all sites of the appropriate type.
304