Software Master Class 2011

SMC 2011 Use Cases

BPPC Acknowledgement Client

Use Case

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1 Introduction

1.1 Document Overview

1.2 Document Conventions

Mark up	Explanation
italic	Information to be highlighted
bold	Important information
bold and italic	Very important information
blue and underlined	Link, such as http://www.icw.com
`non-proportional font`	Section of code or other low-level labels, commands and outputs
File path and/or file name	Format for a file path and or file name, i.e. *C:temp/, C:/temp/readme.txt* or *../readme.txt*
Menu path	Format for a menu path, i.e. File | New | **Create new document**
<<Placeholder>>	Designation for a placeholder, such as *C:/Documents and settings/<<Username>>*
[Shortcut]	Format for a keyboard shortcut, such as [STRG+O]
	Optically highlighting a warning, supported by **Caution**
	Optically highlighting a note, supported by **Note**
	Optically highlighting an example, supported by **Example**
	Optically highlighting a menu path or file path and/or file name, supported by **Path**

2 Use Cases

2.1 UC-1: Log in using local user account

1. Pre-condition: The user database contains active user accounts
    a. *Implementation Note: User management can be limited to bootstrapping user accounts*
2. The user enters username and password
3. The system verifies username and password
    a. For all errors (except for systemic problems such as a broken database connections, etc.) the same, neutral error message appears: "Login failed. Please verify your user ID and password or contact an administrator."
4. After a successful verification, the system displays the patient search screen
5. Post-condition: The user is logged in

2.2 UC-2: Find patient

1. Pre-condition: The user is logged in
2. The system displays the patient search screen which contains 4 input fields for "Patient ID", "Given Name", "Last Name" and "Date of Birth" and also contains a "Search" button
3. The user enters data into one or more of the fields and clicks "Search". The data may contain one or more asterisk characters (“*”) as a wildcard anywhere in the search string
4. The system formulates a “IHE PDQ Patient Demographics Query [ITI-22]” and sends it to the configured MPI
5. The system receives the “IHE PDQ Patient Demographics Query [ITI-22]” response from the MPI and presents the patients in a search result list to the user. For each patient the system displays the patient ID as well as the patient’s full name and address.
6. The user selects one of the patients
7. The system forwards the user to the consent overview (see UC-3), if it exists or alternatively to the consent creation view (see UC-4)
8. Post-condition: A patient is selected

Comment [BMe1]: Optional feature could be: Not providing multiple input fields. Instead a Google like single input field in which you can enter what you like, comma separated. Would be optional use case.

Comment [TId2]: The single input search does not work well with PDQv2. I would recommend using v2, because the MPI support for it is better (v3 is only possible through a bridge). You would need native v3 support in the MPI to express OR semantics in a query. This becomes necessary because there are inputs that can be matched to more than one field (e.g. a simple string like “Heinz” may be first or last name).

Comment [TId3]: This is what the MPI’s PDQ interface already supports.

Comment [BMe4]: In case no matching patients are found display “No results found” or similar visual feedback.

Comment [TId5]: Agreed, but I would leave it out of the UC description for brevity’s sake.

2.3 UC-3: List the existing consent acknowledgments

1. Pre-condition: The user is logged in and a patient is selected

2. The system sends a “IHE XDS.b Registry Stored Query [ITI-18]” request for the selected patient for documents with class “Consent” to the configured XDS Document Registry
3. The system receives the “IHE XDS.b Registry Stored Query [ITI-18]” response and displays the document entries in a table
    a. The table must display the following columns: “Active”, “Policy Short Name”, “valid from”, “valid until”, “Author”, “Created on”
    b. The table must be sorted by date (“Created On”) with the latest document on top
    c. *Definition: A consent document is considered to be active if it has the XDS status “Available” and it is within the validity period.*

2.4 UC-4: Register a new Consent Acknowledgment document

1. Pre-condition: The user is logged in and a patient is selected
2. The system displays a selectable list of the existing policies (i.e. their short names) with an explanatory text for each policy, two entry fields for the validity (from and until, default to today and today plus 6 months respectively) and a “register” button.
3. The user selects the policy and the validity duration and clicks “register”
4. The system creates a CDA with the appropriate header information (taken from the PDQ response) and the appropriate content (policy OID and validity) as described by the IHE BPPC profile
5. The system registers the CDA in the configured repository by initiating an “IHE XDS.b Provide and Register Document Set-b [ITI-41]” transaction.
6. The system informs the user whether the consent acknowledgment document registration succeeded or failed and displays the patient ID and the document unique ID as a hint what to file documents under.
7. Post-condition: A new consent acknowledgment document is available for the patient

2.5 UC-6: Display an existing Consent Acknowledgment document

1. Pre-condition: The user is logged in and a patient is selected and the list of existing consent acknowledgment documents has been displayed for the user
2. The system displays a “Show Document” link in the table described in UC-3
3. The user clicks the “Show Document” link

Comment [BMe6]: Information too abstract for the user? Isn’t a short name/description better?

Comment [TId7]: Agreed. We could put the OID in the tooltip, but it is not really necessary to display it at all.

Comment [BMe8]: I thought older versions are replaced by the new one? Is this information already present as metadata in the registry/repository?

Hard deleting of older consent documents? How many must stay around? If infinite do we need paging for the list (I guess not, but just making sure anyway)

Comment [TId9]: Replacing older consents is a client responsibility. I will add that UC for this client as UC-10 (as an extension to UC 4).
Keep in mind that other clients may not replace the document and just upload a new one. Therefore the application needs to be able to deal with several consent documents that have the status “Approved”.

Comment [BMe10]: Dates or actually Strings containing “Today” and “Until 6 months”? Would be very user friendly

Using date picker for input? Optional?

Comment [BMe11]: Is this document set to “Active” or is the state of “Active” implicitly derived? Is there only one “Active” document at a given point in time? Which constraints are there for multiple “Active” documents? Possibility of conflicting policies?

4. The system sends a “IHE XDS.b Retrieve Document Set [ITI-43]” request for the selected document to the configured Document Repository that has the same Repository Unique ID as the document
5. The system receives the “IHE XDS.b Retrieve Document Set [ITI-43]” response, removes any existing stylesheet references and adds a references to a stylesheet deployed with the system.
6. The system displays the retrieved document in a new browser window

2.6 UC-7: Log out user

1. Pre-condition: The user is logged in
2. From any screen, except for the login screen, the user triggers a logout
3. The system invalidates the user’s session and displays the login screen
4. Post-Condition: The user is no longer logged in

2.7 UC-8: Upload patient signature

This UC extends UC-4 after step 2. (“The system displays …”). If UC-10 has been implemented as a replacement for UC-4, this UC applies analogously.

1. Pre-condition: the user is logged in and has triggered UC-4
2. The system displays a button labeled “Upload patient signature” to initiate an “Open File” dialogue. The user selects the policy and the validity duration. The user may use the “Open File” dialogue to select an image of the patient’s signature on the paper consent form from the user’s local file system. The user clicks register.
3. The system displays the uploaded image and asks the user to confirm that this is the patient’s signature (displaying the patient name, ID and address) on a consent acknowledgment document with the selected policy (displaying the short name and long explanation of the policy).
4. The user confirms that the patient signed such a consent acknowledgment document
5. The system creates a CDA with the appropriate header information (taken from the PDQ response), the appropriate content (policy OID and validity) and the embedded image of the signature as described by the IHE BPPC profile, including the Scanned Document option of the profile.
6. Continue with UC-4 step 5.

2.8 UC-9: Log in using remote user account

1. Pre-condition: A remote user management system with LDAPv2 interfaces exists
    a. *Implementation Note: We recommend Apache DS*

2. The user enters username and password
3. The system verifies username and password by authenticating against the remote user management system using LDAP via SSL
    a. For all errors (except for systemic problems such as a broken database connections, etc.) the same, neutral error message appears: "Login failed. Please verify your user ID and password or contact an administrator."
4. The system retrieves authorization information for the user from the remote user management system using LDAP via SSL
    a. *Implementation Note: This may require a mapping from the roles or groups used by the remote system to the locally used roles.*
5. After a successful verification, the system displays the patient search screen
6. Post-condition: The user is logged in

2.9 UC-10: Register a replacement Consent Acknowledgment document

This UC replaces UC-4

1. Pre-condition: The user is logged in, the patient is selected and the list of existing consent acknowledgment documents has been displayed for the user
2. The system displays a selectable list of the existing policies (i.e. their short names) with an explanatory text for each policy, two entry fields for the validity (from and until, defaults to today and today plus 6 months respectively), a checkbox to replace all existing active consents with the new one (defaults to "true") and a "register" button.
3. The user selects the policy, the validity duration, checks the replacement checkbox and clicks "register"
4. The system creates a CDA with the appropriate header information (taken from the PDQ response) and the appropriate content (policy OID and validity) as described by the IHE BPPC profile
5. The system registers the CDA in the configured repository by initiating an "IHE XDS.b Provide and Register Document Set-b [ITI-41]" transaction and associates the document with all existing active consent acknowledgment documents using the "Replacement" association type.
    a. *Definition: A consent document is considered to be active if it has the XDS status "Available" and it is within the validity period.*
6. The system informs the user whether the consent acknowledgment document registration succeeded or failed and displays the patient ID and the document unique ID as a hint what to file documents under.
7. Post-condition: A new consent acknowledgment document is available for the patient and it is the only active consent acknowledgment document for the patient

Comment [BMe12]: Dates or actually Strings containing "Today" and "Until 6 months"? Would be very user friendly

Using date picker for input? Optional?

Comment [BMe13]: Is this document set to "Active" or is the state of "Active" implicitly derived? Is there only one "Active" document at a given point in time? Which constraints are there for multiple "Active" documents? Possibility of conflicting policies?

2.10 UC-11: Replace all active Consent Acknowledgment documents with the current document

1. Pre-condition: The user is logged in and a patient is selected and the list of existing consent acknowledgment documents has been displayed for the user
2. If there is more than one active consent acknowledgment document the system displays a button labeled “Cleanup” with the additional explanation “Replaces all older active consent acknowledgment documents with the latest active one”
3. The user clicks the “Cleanup” button
4. The system re-registers the latest active consent acknowledgment document in the configured Document Registry by initiating an “IHE XDS.b Register Document Set-b [ITI-42]” transaction (using the document metadata retrieved in UC-3) and associates the new document entry with all other existing active consent acknowledgment documents using the “Replacement” association type.
5. The system receives the “IHE XDS.b Register Document Set-b [ITI-42]” response and refreshes the view by querying all documents again as described in UC-3
6. Post-condition: There exists only one active consent acknowledgment document for the patient

2.11 UC-12: Deactivate Consent Acknowledgment Document

1. Pre-condition: The user is logged in and a patient is selected and the list of existing consent acknowledgment documents has been displayed for the user
2. The system displays a button to deactivate a consent acknowledgment document next to each active consent acknowledgment document entry in the list
3. The user clicks the button to deactivate a consent acknowledgment document
4. The system asks the user to confirm that the documents validity should end now
5. The user confirms the deactivation
7. The system re-registers the selected consent acknowledgment document in the configured Document Registry by initiating an “IHE XDS.b Register Document Set-b [ITI-42]” transaction (using the document metadata retrieved in UC-3), but with the serviceStopTime set to the current date and time, and associates the new document entry with the selected consent acknowledgment document entry using the “Replacement” association type.

8. The system reloads the list of existing consent acknowledgment documents to reflect the deactivation of the selected document.
9. Post-condition: The selected consent acknowledgment document's validity end date lies in the past and it is no longer active

3 Use Cases Prioritized by Business Value

The following is a prioritized list of the use cases. The priority is based on the estimated business value of the functionality to the customer organization. All use cases above the "*minimum viable product marker*" are absolutely necessary to provide any business value to the customer organization (i.e. if one of the use cases above the marker is missing, the product is practically worthless).

- UC-1: Log in using local user account
- UC-2: Find patient
- UC-4: Register a new Consent Acknowledgment document

--- *minimum viable product marker* ---

- UC-3: List the existing consent acknowledgments
- UC-7: Log out user
- UC-10: Register a replacement Consent Acknowledgment document
- UC-8: Upload patient signature
- UC-12: Deactivate Consent Acknowledgment Document
- UC-9: Log in using remote user account
- UC-6: Display an existing Consent Acknowledgment document
- UC-11: Replace all active Consent Acknowledgment documents with the current document

Glossary

Term	Explanation

List of Figures

No table of figures entries found.

List of Tables

No table of figures entries found.

Referenced Documents

Referenced Documents

Index

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