**OSCAR McMaster**

Test Plan

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| Version: | 0.1 |
| Released: | August 20, 2013 |
| Author: | *Nick Goupinets* |

Release

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| --- | --- | --- | --- | --- |
| Version | Date | Changes | Areas Affected | Comments |
| 0.1 | Aug 20, 2013 | Initial Release |  |  |

Distribution

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| Name | Organisation | Title |
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# Scope

This document defines the scope for the testing process. The testing involves system Electronic Asthma Action Plan components testing, including integration testing through mock-up eAAPS components. This is to ensure that testing is performed on updates to code. It also ensures that there is not excessive testing of areas of the system that have not undergone change since the last rollout.

# System Design

eAAPs is the pilot project for development of a research module that can be tightly integrated into OSCAR. EAAPS module is intended to improve well-being of asthma patients by delivery of an action plan tailored for each patient. Solution contains three integration points: data export, EEAP status query and data import.

Initially, a set of patients suitable for the study is identified. Existing OSCAR study facilities should be used for creation of this user set. After the set is created and populated with the required demographics, it can be exported to the EAAPs server. This can be done through the Admin menu.

EAAPS status query takes place during the eChart load. In case a patient participates in the EAAP study (i.e. is exported at the previous phase), at the time of eChart load EAAPS encounter component would query the EAAPS web service in order to retrieve the status of the EAAPs.

Status information describes if the patient started/completed the questionnaire required for the EEAPs generation (handled outside of OSCAR), or if the provider has reviewed and accepted the action plan.

PDF upload is implemented through HL7 ORU messages. This is the final step in the integration that takes place after the provider reviewed and accepted the action plan. At this integration point, EAAPS server pushed the PDF for the action plan as HL7 message containing the PDF message content.

In order to anonymously identify patients, patient information is encoded using a one-way hashing mechanism.

# Objectives

The objective of the testing is to ensure that the eAAPS components that are implemented in OSCAR operate propery and deliver the correct results. The specific details of the testing are defined in the set of test cases EAAPS-TC-XX. Note that the external functionality is not tested, unless it can be mocked at the sufficient level.

# Recurrence

Test suite should be executed at before releasing the code updates into production or at a major release points to avoid redundant testing procesdures.

**Testing** - *(Custom diagram)*

Created By: Nick Goupinets *on* 8/19/2013

Last Modified: 9/3/2013

Version: 1.0. *Locked:* False

GUID: {F347F25F-0C39-423d-B2B3-602BD85F7BD8}



Figure: 1

### **EAAPS-TC-08A Identify provider in the action plan**

Type: **Requirement**

Status: Proposed. Version 1.0. Phase 1.0.

Package: 5. Testing Keywords:

Detail: *Created on* *9/3/2013*. *Last modified on 9/3/2013*.

GUID: {CB5E47A9-3532-4438-952D-495229A566C0}

Objectives:

Test partial functionality required for **EAAPS-UC-07 Receive Action Plan,** namely that HL7 message containing provider ID number results in the approrpiate notification of the provider.

Environment:

* Demographic record must exist on the system
* Demographic record must be added to the study
* Demographic record must contain the hash in the study data (be exported - see EAAPS-TC-03)
* OSCAR should be configured with global encryption key pair (see user manual)
* OSCAR should be configured with eaaps-specific encryption key pair (see user manual)
* Provider specified in the message should exist on the system

Script:

* Modify EaapsIntegrationTest to include the global OSCAR public and eAAPS-specific public keys
* Modify EaapsIntegrationTest#test() to contain the URL of the OSCAR instance being tested
* Modify EaapsIntegrationTest to contain the appropriate provider ID
* Invoke the integration test case defined in EaapsIntegrationTest#test() class
* Login into the system as the provider with the ID specified in the earlier steps
* Verify that the appropriate inbox and messenger notifications are present.

Outcomes:

Successful test case execution

### **EAAPS-TC-10A Notify Provider - Message**

Type: **Requirement**

Status: Proposed. Version 1.0. Phase 1.0.

Package: 5. Testing Keywords:

Detail: *Created on* *8/27/2013*. *Last modified on 8/27/2013*.

GUID: {DA3F73E1-D333-4252-858A-530C18C1D19F}

TBD

Objectives:

Tests **EAAPS-UC-10 Notify Provider** use case.

Environment:

* eAAPS URL should point to a URL where dummy REST document containing status can be found by hash. This can be accomplished by pointing an HTTP server to a directory containing sample REST files.
* EAAPS-TC-03 must be completed

Script:

1. Open demographic record for the test patient
2. Observe notification popup. It should disappear in approximately 10 seconds.
3. Change REST file containing the status to contain different values for the status (ready / not ready / questionnaire completed / etc.), observe the change on the widget / notification popup
4. Verify that snooze button removes the notification.
5. Verify that dismiss button removes all further notifications

Outcomes:

1. Notification shoud be displayed in the eAAPS widget and the popup
2. Dismissal should remove notification popup

### **EAAPS-TC-01 Add To Study Test Case**

Type: **Requirement**

Status: Proposed. Version 1.0. Phase 1.0.

Package: 5. Testing Keywords:

Detail: *Created on* *8/19/2013*. *Last modified on 8/21/2013*.

GUID: {15B4BF9D-B877-42c3-849F-51EE13C0EA4A}

Objectives:

Tests **EAAPS-UC-01 Export Medications** preconditions, namely, study creation, addition of demographic records to the study. Also tests preconditions **EAAPS-UC-03 Enroll in study** use case.

Script:

1. Add a new demographic record, with name, DOB, address and a **doctor** via "Demographic Search Menu" > "Add Demographic"
2. Add a new study via "Admin" > "Demographic Study"
3. Add newly created demographic record to the study via "Admin" > "Demographic Study" > "Add Demographic Records"

Outcomes:

1. System must contain the added demographic, study and the demographic must be visible in the list of demographics for this study

### **EAAPS-TC-02 Add Medications Test Case**

Type: **Requirement**

Status: Proposed. Version 1.0. Phase 1.0.

Package: 5. Testing Keywords:

Detail: *Created on* *8/19/2013*. *Last modified on 8/20/2013*.

GUID: {66993F38-8A39-44b6-99CA-D6D1AAB23A0C}

Objectives:

Tests **EAAPS-UC-01 Export Medications** preconditions, namely, that demographic record to be exported contains medications. Please note that other patient must have no medications to test empty case

Environment:

* DrugRef is enabled for OSCAR

Script:

1. Select one record created in EAAPS-TC-01 case via "Search" menue and open encounter chart for it
2. Click "+" symbol in the "Medications" widget for that record
3. [if DrugRef is enabled] In the "Drug Name", enter "fluticasone" and pick the number of repeats, and enter instructions and click save
4. Add a custom drug with dummy values

Outcomes:

1. Medications should appear in the list of medications for the selected user.

### **EAAPS-TC-03 - Export Demographics Test Case**

Type: **Requirement**

Status: Proposed. Version 1.0. Phase 1.0.

Package: 5. Testing Keywords:

Detail: *Created on* *8/19/2013*. *Last modified on 8/20/2013*.

GUID: {0E8C4CAE-8766-464b-9B76-4CF4EE71EE99}

Objectives:

Tests **EAAPS-UC-01 Export Medications** main flow, namely, that demographic record are exported properly.

Environment:

* eAAPS export settings are configured

Script:

1. Open export menu via "Admin" > "Electronic Asthma Action Plan Export"
2. Pick the appropriate study (containing records from EAAPS-TC-02 and EAAPS-TC-03)
3. Acknowledge the security warning and click export
4. Wait until the status screen is shown
5. Login to the eAAPS remote server to verify that the medication information has been exported, and contains the appropriate medications (as defined in EAAPS-TC-03)
6. Check study\_data table in the DB to make sure that it contains entries for the demographics exported

Outcomes:

1. Medications should be exported to eAAPS server
2. study\_data table should contain entries for the records exported

### **EAAPS-TC-04 Generate Hash Test Case**

Type: **Requirement**

Status: Proposed. Version 1.0. Phase 1.0.

Package: 5. Testing Keywords:

Detail: *Created on* *8/20/2013*. *Last modified on 8/20/2013*.

GUID: {B3A466C1-A77A-4ef2-99B2-0479A3BAE62C}

Objectives:

Test that hash code is generated according to the agreed algorithm (as define by EAAPS-UC-02 Generate hash)

Script:

Invoke test case EaapsIntegrationTest#testHash()

Outcomes:

Successful test case execution

### **EAAPS-TC-05 Fill out questionnaire**

Type: **Requirement**

Status: Proposed. Version 1.0. Phase 1.0.

Package: 5. Testing Keywords:

Detail: *Created on* *8/20/2013*. *Last modified on 8/20/2013*.

GUID: {10C4BD85-CC61-4b46-B635-878BD8B9B9CB}

External to OSCAR - Not tested

### **EAAPS-TC-06 Provide Questionnaire Test Case**

Type: **Requirement**

Status: Proposed. Version 1.0. Phase 1.0.

Package: 5. Testing Keywords:

Detail: *Created on* *8/20/2013*. *Last modified on 8/26/2013*.

GUID: {7BD74412-1F54-4c89-8FEE-D6B9535DD38D}

External to OSCAR - Not tested

### **EAAPS-TC-07 Create Action Plan Test Case**

Type: **Requirement**

Status: Proposed. Version 1.0. Phase 1.0.

Package: 5. Testing Keywords:

Detail: *Created on* *8/20/2013*. *Last modified on 8/26/2013*.

GUID: {BE030E9A-B348-4ce2-85A5-0F0E9F2E2F56}

External to OSCAR - Not tested

### **EAAPS-TC-07A - Key Pair Generation Test Case**

Type: **Requirement**

Status: Proposed. Version 1.0. Phase 1.0.

Package: 5. Testing Keywords:

Detail: *Created on* *8/21/2013*. *Last modified on 8/21/2013*.

GUID: {1E90F110-6413-4483-AE5F-7442D5C89144}

Objectives:

Test preconditions for **EAAPS-UC-07 Receive Action Plan,** namely key-pair generation functionality.

Script:

* Open key generation screen ("Admin" > "Key Pairs")
* Generate key for OSCAR
* Generate key for eAAPS

Outcomes:

Successful generation of key pairs for OSCAR and eAAPS

### **EAAPS-TC-08 Receive Action Plan**

Type: **Requirement**

Status: Proposed. Version 1.0. Phase 1.0.

Package: 5. Testing Keywords:

Detail: *Created on* *8/20/2013*. *Last modified on 8/20/2013*.

GUID: {12FE9AC1-5569-4275-9ED4-5BEF26045380}

Objectives:

Test functionality required for **EAAPS-UC-07 Receive Action Plan,** namely that HL7 upload is received by OSCAR.

Environment:

* Demographic record must exist on the system
* Demographic record must be added to the study
* Demographic record must contain the hash in the study data (be exported - see EAAPS-TC-03)
* OSCAR should be configured with global encryption key pair (see user manual)
* OSCAR should be configured with eaaps-specific encryption key pair (see user manual)

Script:

* Modify EaapsIntegrationTest to include the global OSCAR public and eAAPS-specific public keys
* Modify the EaapsIntegrationTest#test() to contain the URL of the OSCAR instance being tested
* Invoke the integration test case defined in EaapsIntegrationTest#test() class

Outcomes:

Successful test case execution

### **EAAPS-TC-09 Review Action Plan Test Case**

Type: **Requirement**

Status: Proposed. Version 1.0. Phase 1.0.

Package: 5. Testing Keywords:

Detail: *Created on* *8/20/2013*. *Last modified on 8/20/2013*.

GUID: {E64F491B-0961-4edc-92BD-0E8155A2424D}

External to OSCAR - Not tested. Functionaity is partially tested in TC-10

### **EAAPS-TC-10 Notify Provider**

Type: **Requirement**

Status: Proposed. Version 1.0. Phase 1.0.

Package: 5. Testing Keywords:

Detail: *Created on* *8/20/2013*. *Last modified on 9/3/2013*.

GUID: {F8180849-D826-48d9-A479-38DE0D56C15D}

Objectives:

Tests **EAAPS-UC-10 Notify Provider** use case.

Environment:

* eAAPS URL should point to a URL where dummy REST document containing status can be found by hash. This can be accomplished by pointing an HTTP server to a directory containing sample REST files.
* EAAPS-TC-03 must be completed

Script:

1. Open demographic record for the test patient
2. Observe notification popup. It should disappear in approximately 10 seconds.
3. Change REST file containing the status to contain different values for the status (ready / not ready / questionnaire completed / etc.), observe the change on the widget / notification popup
4. Verify that snooze button removes the notification.
5. Verify that dismiss button removes all further notifications

Outcomes:

1. Notification shoud be displayed in the eAAPS widget and the popup
2. Dismissal should remove notification popup

### **EAAPS-TC-11 Remove From Study**

Type: **Requirement**

Status: Proposed. Version 1.0. Phase 1.0.

Package: 5. Testing Keywords:

Detail: *Created on* *8/20/2013*. *Last modified on 8/20/2013*.

GUID: {5D91A92C-9A53-4733-8D2F-98B66633D10D}

Objectives:

Tests **EAAPS-UC-11 Remove From Study** use case.

Environment

* EAAPS-TC-03 must be completed

Script:

1. Remove an exported demographic record from the study via "Admin" > "Demographic Study" > "Remove Demographic"
2. Export the study and observe that the record is not exported
3. Open the chart, observe that eAAPS widget is not rendered on the encounter chart

Outcomes:

1. Study must not contain the demographic, study and the demographic must be visible in the list of demographics for this study
2. System must not export the medication data for the recor
3. eAAPS widget must not be shown on the encounter chart