UA Readiness for Identity Platforms

Shirak Technologies / UA Day / 28 March 2023

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Universal Acceptance

Key Idea

The current research work is done based based on RFP call from ICANN and is assigned to develop automation test and testing methodology for assessing popular identity platforms against UA Readiness.

The test plan comprises of test cases for predefined candidate email addresses (as provided by ICANN) running a certain test flow that is developed to measure UA readiness for each identity platform.

Target Identity and SSO Platforms

The automation test is developed running on HyeConnect ⊕ social network platform (www.hyeconnect.org) using test cases developed in Java that runs on Selenium QA automation environment ⚙

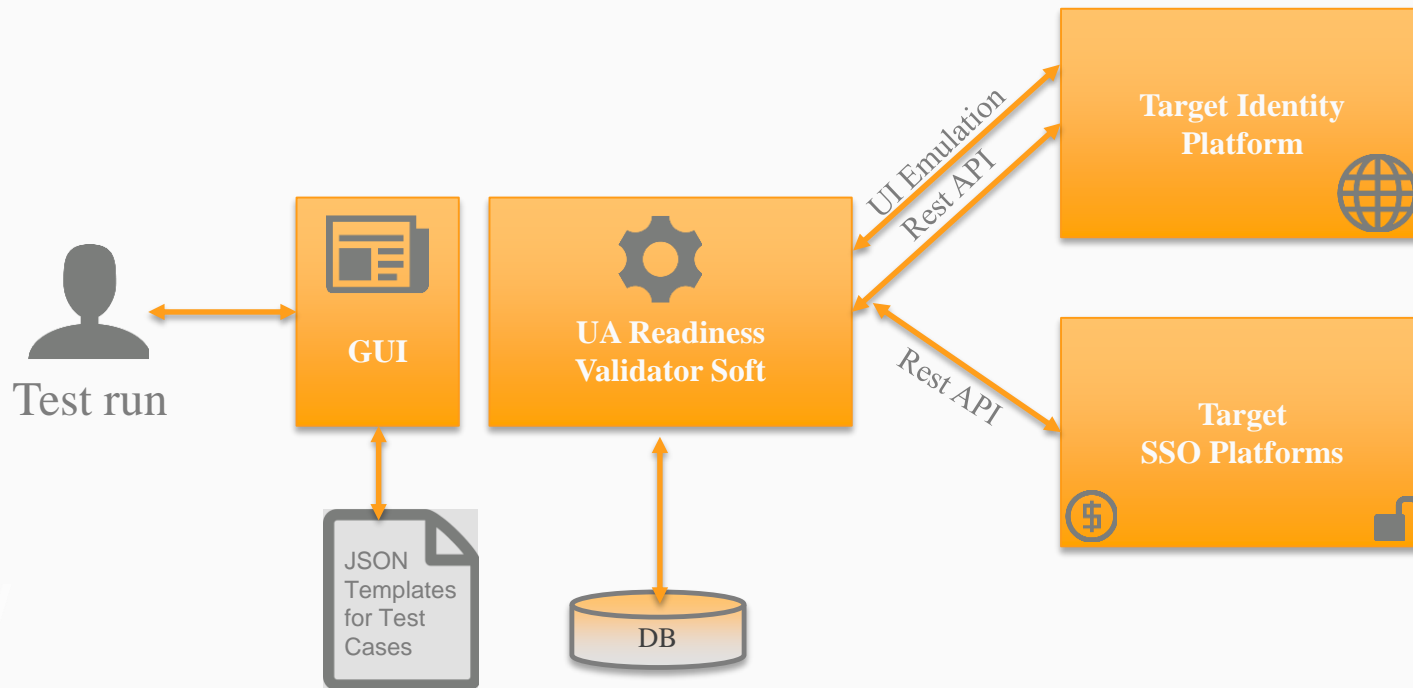TARGET SSO PLATFORMS TO Run Automation Tests:

💲 Proprietary Platforms:

* OKTA

* Auth0

Open Source Platform:

🔓 * OpenIAM

TEST ARCHITECTURE

Test Automation solution is developed using Jenkins pipelines sourcing the test cases from JSON library and log the results in a common DB.
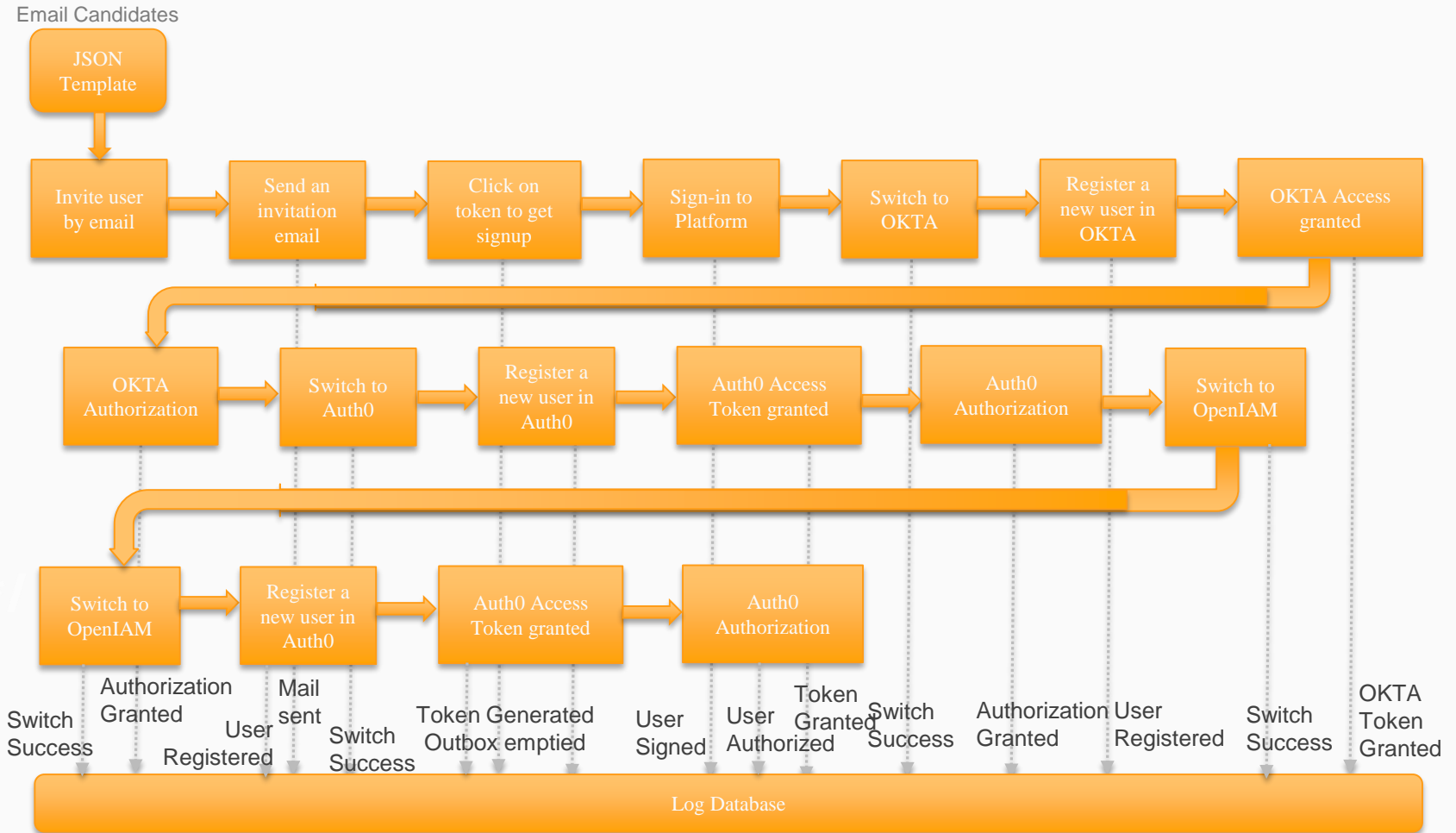
TEST FLOW

* **Test 1:** Register a new user account on HyeConnect (signup flow)
* **Test 2:** Authenticate and authorize the user (sign-in flow)
* **Test 3:** Authenticate user account through forget password on HyeConnect
* **Test 4:** Authenticate user account on HyeConnect through OKTA
* **Test 5:** Authenticate user account on HyeConnect through Auth0
* **Test 6:** Authenticate user account in HyeConnect through OpenIAM
* **Test 7:** Authenticate user account through 2F authentication using OKTA
* **Test 8:** Authenticate user account through 2F authentication using Auth0
* **Test 9:** Authenticate user account through 2F authentication using OpenIAM
* **Test 10:** Verify weather View / Display / Store of the characters in national language scripts are in tact

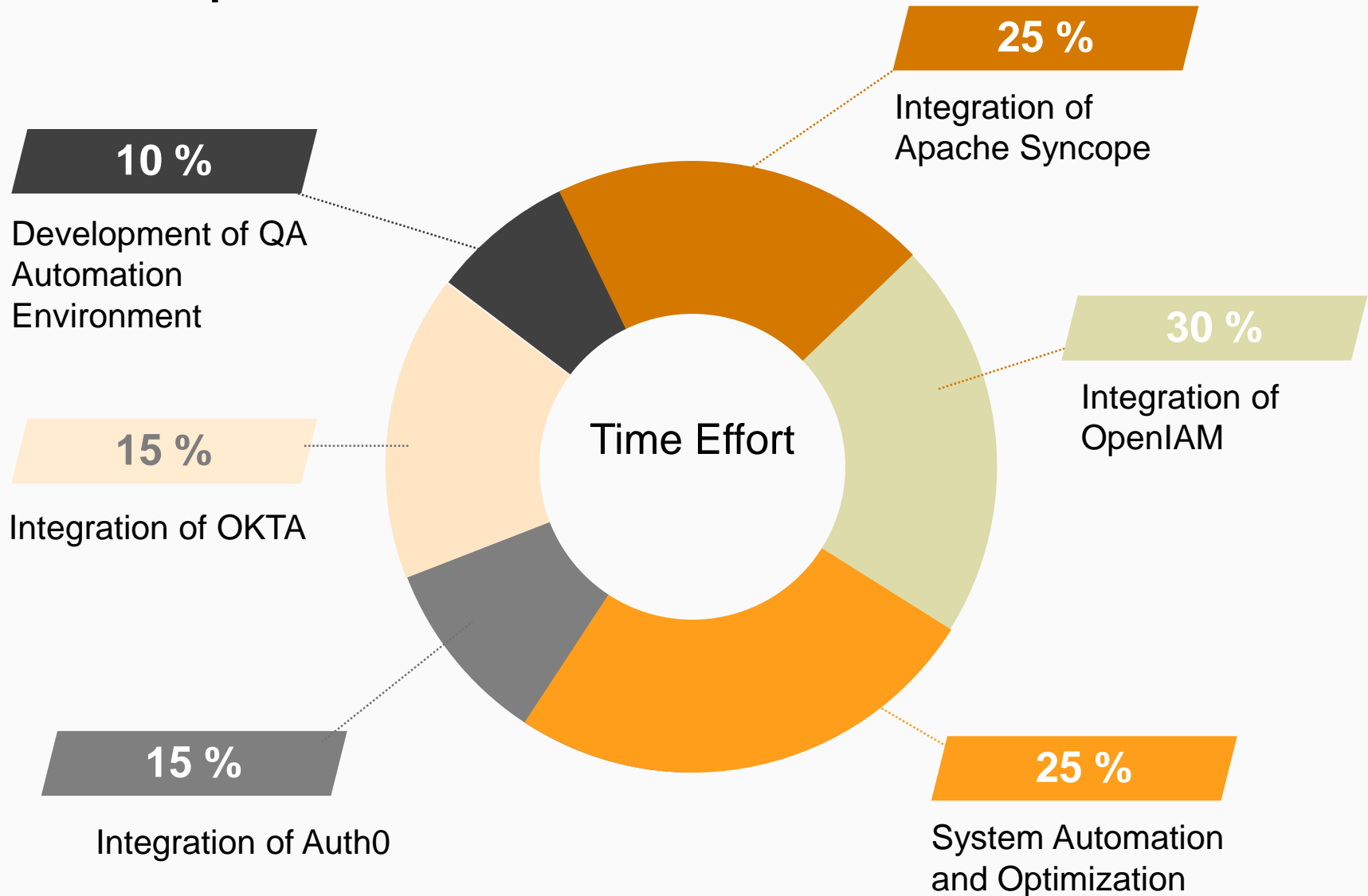The given test flow iterate for each EAI candidate

TEST RUN

During the test run on each step whether the response is bounced back from API or from system the logs are collected in the common database for further processing and visualization.

Development Efforts

25 %
Integration of Apache Syncope

10 %
Development of QA Automation Environment

30 %
Integration of OpenIAM

15 %
Integration of OKTA

Time Effort

15 %
Integration of Auth0

25 %
System Automation and Optimization

Concurrent Development: Multiple Components

Component	Timeline
Component #1 [QA Automation Platform]	Selenium
Component #2: SSO Platform	OKTA Flow
Component #3 SSO Platform	Apache Syncope Flow / OpenIAM Flow
Component #4 SSO Platform	Auth0 Flow
Component #5: Mail Sender	cPanel Integration / Exchange Server Integration
Component #6 Public Target Platform	Public Target Platform Enhancement (HyeConnect)

Jul	Aug	Sep	Oct	Nov	Dec	Jan
					2022	- 2023

Mobile applications developed in Flutter/Dart is recommended to use the given regexp validation syntax as a reference for the given language

Dart email validation against UA Readiness:
String p = r"^[\p{L}\p{M}a-zA-Z0-9_!#$%&'*+\/=?\x60{|}~^.\-]+@[\p{L}\p{M}a-zA-Z0-9.\-]+.[\p{L}\p{M}a-zA-Z]{2,64}$";
RegExp regExp = new RegExp(p, unicode: true);

For Frontend applications developed in ReactJS it is recommended to use the given regexp validation syntax as a reference for the given language

ReactJS email validation against UA Readiness:
const emailRegex = /^[\p{L}\p{M}0-9._%+-~·\.]+@[\p{L}\p{M}0-9\.·-]+\.[\p{L}\p{M}]{2,64}$/u;

For Backend applications developed in Java it is recommended to use the given regexp validation syntax as a reference for the given language

Java email validation against UA Readiness:
private static final String REGEX =
"^[\\p{L}\\p{M}\\w_!#$%&'*+\/=?\\x60{|}~^.\\-]+@[\\p{L}\\p{M}\\w.\\-]+[.]{1,}[\\p{L}\\p{M}a-zA-Z]{2,64}$";
private static final Pattern VALID_EMAIL_ADDRESS_REGEX =
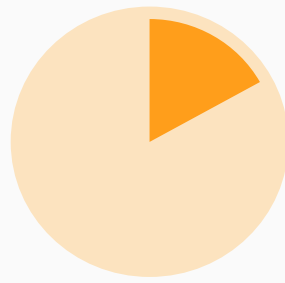Pattern.compile(REGEX, Pattern.CASE_INSENSITIVE);

UA Readiness Measurement

The following summary shows test pass percentages for target platforms:
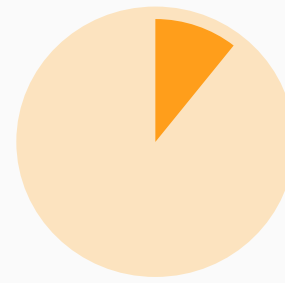
91%

**Exchange
Server 2019**

Used as a mail
sender for EAIs

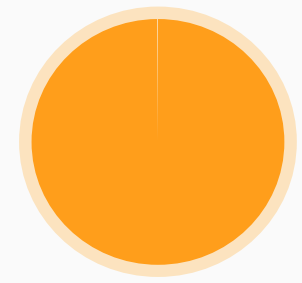**28%**

**OpenIAM
v.4.1.0.9**

Open Source SSO
Target Platform

19%

**OKTA
2022.05.0**

Open Source SSO
Target Platform

100%

**Auth0
2202.03 (30269.1762)**

Open Source SSO
Target Platform

Return Back to Community

1 ## Opened Ticket at OKTA Support Site

OKTA Ticket Number **01612779**

2 ## Opened Ticket at OpenIAM Support Site

No Response received or a ticket number is assigned. Just have a snapshot about the submission.

3 ## Microsoft Exchange Ticket

For 2 x email addresses having problems a ticket will be submitted

4 ## cPanel Ticket

Failed to use cPanel as mail sender (then we switched to MS Exchange) - cannot registered national IDN, within a given domain (in Punycode) cannot register EAI, and cannot create user in national scripts - tickets will be submitted.

Tools & Resources for Developers

Authoritative Tables:

* http://www.internic.net/domain/root.zone

* http://www.dns.icann.org/services/authoritative-dns/index.html

* http://data.iana.org/TLD/tlds-alpha-by-domain.txt

* See also SAC070: https://tinyurl.com/sac070

Internationalized Domain Names for Applications:

* Tables: https://tools.ietf.org/html/rfc5892

* Rationale: https://tools.ietf.org/html/rfc5894

* Protocol: https://tools.ietf.org/html/rfc5891

Unicode:

* Security Considerations: http://unicode.org/reports/tr36/

* IDNA Compatibility Processing: http://unicode.org/reports/tr46/

Universal Acceptance Steering Group info & recent developments: www.uasg.tech