

Introduction

The process flow starts with requesting report from the SMART Portal. The service is available for authenticated users only. Flexilab portal provides the authentication service. If the user is not registered, as a first step user needs to register. Registered users start the process with logging in to the system with their own credentials. In the following section each step of the Request Report Process is outlined briefly.

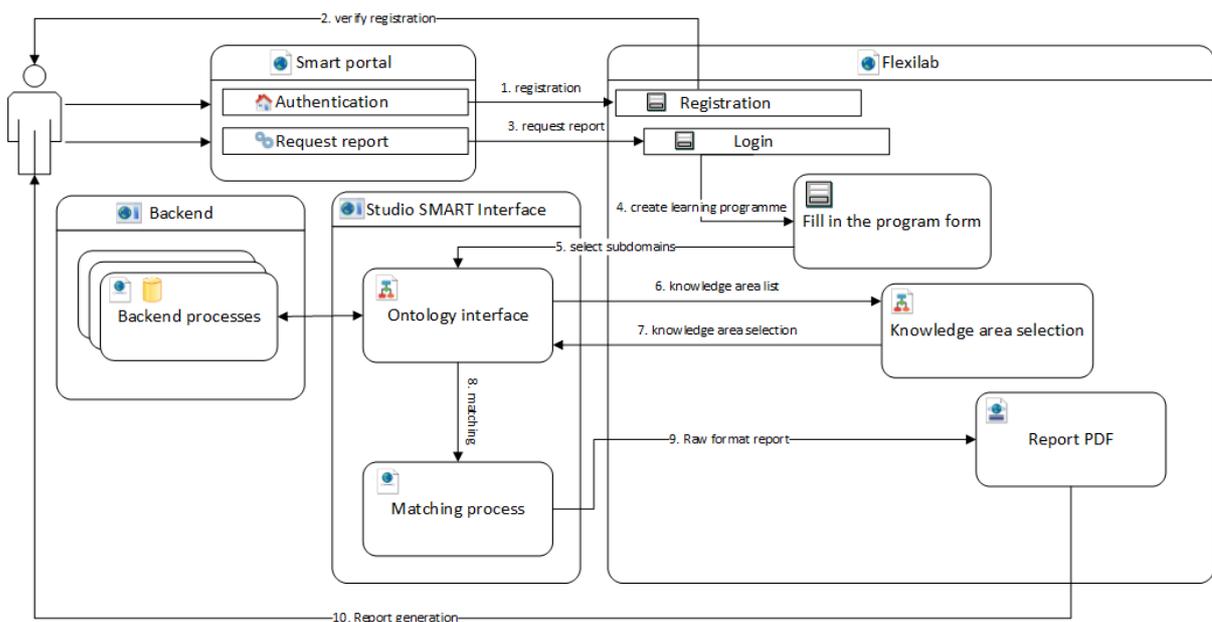
Glossary

Term	Definition
SMART Portal	www.smart-project.org
FLEXILAB Portal	www.flexilab.eu
authentication	Authentication is any process by which you verify that someone is who they claim they are. Credentials (login and password) are used to identify uniquely the user. In order to avoid fake user registration a confirmation email is sent to the given email address that the user has to send back.
registration	cf. authentication
verification	cf. authentication
Learning Programme form	This form contains the administrative data of the institution and the high level competencies selected from a pre-defined list by the user.
Domain	Domain refers to a subontology in the STUDIO ontology. In the SMART project subontology = Tourism
Subdomain	refers to the high level competencies selected from the list
Knowledge area	refers to the detailed competencies
Matching	comparison of education and job role ontologies
SMART middleware	Intermediary level between the front-end and the back-end managing the communication in between.
Report	Final result of the matching, readable in PDF format, containing the findings.

Relation between domain, subdomain and knowledge area



Overall process



1. Registration

The user has to authenticate in order to use the services of the SMART system. When using the system for the first time the user starts the authentication process in the SMART portal (www.smart-project.org). The SMART portal redirects the user to the Flexilab portal (www.flexilab.eu), where the user has to register.

2. Verify registration

After the user fills the registration form and clicks the register button, a verification email is sent. The user has to verify the registered email address by clicking the link in the verification email.

3. Request report

After the registration the user can start the report requesting process at SMART portal. The SMART portal redirects the user to the Flexilab portal, where the user has to log in.

4. Create Learning Programme

If the user has not created a program for the user's institution yet, then the user has to create one. Programme description consists of a set of high level competencies. In order to create a program the user has to fill in the 'create program form' in the Flexilab portal. In this form the user provides basic information about the represented institution and selects the learning program's high level competencies from a predefined list provided by the backend systems.

5. Select subdomains

After the user submits the form, it will be processed by the SMART middleware, where the corresponding processes identify the subdomains from the backend, and send it back to the Flexilab portal.

6. Knowledge Area list

The Flexilab portal processes the subdomains and displays the relevant knowledge areas in a drill-down tree format.

7. Knowledge area selection

The user selects the relevant elements from the list and submits it.

8. Matching

After submitting the form (list of the selected knowledge areas) to the SMART middleware the matching processes are started.

9. Raw format report

The matching process results a report that is sent back to the Flexilab portal in XML format and the user receives a notification email to the registered address.

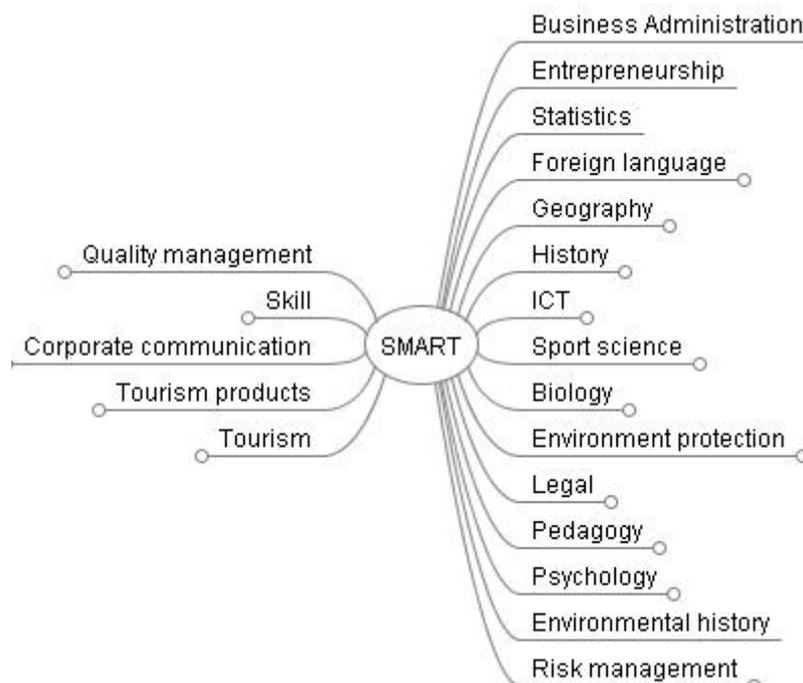
10. Report generation

The notifying message contains the link from where the user will request the report. By clicking on the link provided in the email the Flexilab portal generates the report in PDF format and sends it to the user.

Matching process

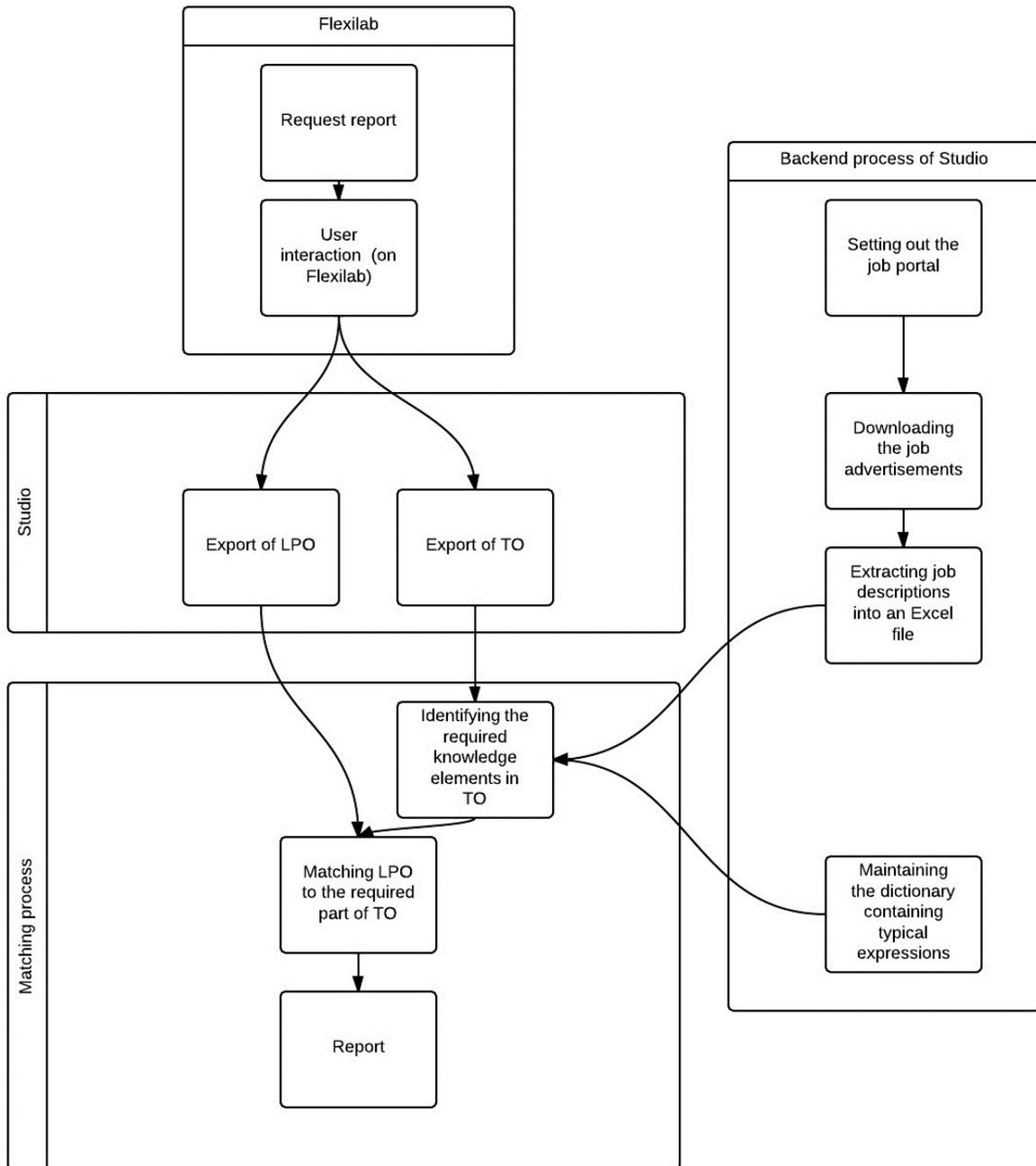
Having registered the user and created the user profile on Flexilab, the educational offer of a given educational institute will be set in its Learning Programs up. They will be stored in Studio. An external module will take care of executing the matching process (see the detailed description in Smart process.docx).

Studio will export two ontologies for it: Tourism Ontology (TO) (see in SMART Tourism0311.mm) and the ontology of the Learning Program (LPO).



Meanwhile the job descriptions will be downloaded from the marked job portal and put into an excel file. We want to identify the required knowledge elements in Tourism Ontology based on job descriptions, hence we use typical expressions characterizing these knowledge elements in order to do that. These typical expressions are in a dictionary. Having identified the required knowledge elements, a substructure of Tourism Ontology will be created from them.

The external module of Studio (called Protégé WebService) will match the ontology of the given Learning Program to the substructure of Tourism Ontology.



Reports

Two reports will be created:

- A. One of them will contain information about the identified knowledge areas (see riport.txt).
- B. The other one will contain information about the result of the matching process (see riportmatching.txt). There are four possibilities:

1. Competences that labor market requires, the educational institute offers in same or different region
2. Competences that labor market doesn't require, but the educational institute offers
3. Competences that labor market requires, but the educational institute doesn't offer and they are stored in the ontology
4. Competences that labor market requires, but the educational institute doesn't offer and they aren't stored in the ontology

The unidentified part of the job descriptions will be collected into a file to handle the last point.

