DIGITAL SKILLS AND JOBS PLATFORM

Project Description and Technical Specifications for the national web sites/databases for the purpose of the CEF Call CEF-TC-2019-2.

Index

Introduction ............................................................................................................................. 4

DSI Core Service Platform ................................................................................................. 4

DSI Generic Services ........................................................................................................... 5

Technical Specifications for the National web sites (generic services) .............................. 6

Objectives ............................................................................................................................ 6

1. Present the National Coalition and its members/activities ........................................... 6

2. An overview of national and regional strategies and measures ..................................... 6

3. Present in national language/s relevant parts of the core platform content ..................... 7

4. Implement an interoperable good practice repository ................................................... 7

5. Implement an interoperable repository of resources on digital skills ............................ 9

6. Present training opportunities on digital skills currently available targeted at end users ........................................................................................................................................... 9

7. Monitor and present funding opportunities and financial instruments for digital skills at national and European level .................................................................................. 10

8. Publish events .................................................................................................................. 10

9. Publish News ................................................................................................................... 11

10. Create a Skills Intelligence interactive page .................................................................. 11

11. Allow data exchange with the Core Service Platform (API)- Translation and localisation of content ................................................................................................................ 11

Communication, promotion and webinars ......................................................................... 12
<table>
<thead>
<tr>
<th>Content Structure</th>
<th>13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content types</td>
<td>13</td>
</tr>
<tr>
<td>Basic page</td>
<td>13</td>
</tr>
<tr>
<td>Member</td>
<td>13</td>
</tr>
<tr>
<td>Strategic documents (nationals &amp; regional)</td>
<td>14</td>
</tr>
<tr>
<td>EU Initiative</td>
<td>14</td>
</tr>
<tr>
<td>Good practice</td>
<td>14</td>
</tr>
<tr>
<td>Training Resource</td>
<td>15</td>
</tr>
<tr>
<td>Training offer and Database</td>
<td>16</td>
</tr>
<tr>
<td>Funding opportunity</td>
<td>16</td>
</tr>
<tr>
<td>Event</td>
<td>17</td>
</tr>
<tr>
<td>Article (News)</td>
<td>17</td>
</tr>
<tr>
<td>Skills Intelligence (Post)</td>
<td>18</td>
</tr>
<tr>
<td>Organisation</td>
<td>18</td>
</tr>
<tr>
<td>Taxonomies</td>
<td>18</td>
</tr>
<tr>
<td>Page templates</td>
<td>18</td>
</tr>
<tr>
<td>Functionality</td>
<td>19</td>
</tr>
<tr>
<td>Platform / CMS</td>
<td>19</td>
</tr>
<tr>
<td>Users, roles, and permissions</td>
<td>19</td>
</tr>
<tr>
<td>Analytics</td>
<td>19</td>
</tr>
<tr>
<td>Content authoring</td>
<td>20</td>
</tr>
<tr>
<td>Search</td>
<td>20</td>
</tr>
<tr>
<td>Listing and Filters</td>
<td>20</td>
</tr>
<tr>
<td>Responsive Design, Browser and Device Support</td>
<td>20</td>
</tr>
<tr>
<td>Accessibility</td>
<td>21</td>
</tr>
<tr>
<td>GDPR</td>
<td>21</td>
</tr>
<tr>
<td>Rest API</td>
<td>22</td>
</tr>
<tr>
<td>API Example</td>
<td>22</td>
</tr>
</tbody>
</table>
Ongoing support and maintenance ................................................................. 23
Security ........................................................................................................ 23
Introduction

The European Digital Skills and Jobs Digital Service Infrastructure (DSI) will be built in two phases:

- The first phase that started in 2019 focuses on the development of a Core Service Platform (CSP) at European level as a single point-of-access to digital skills content. In this initial phase the DSI owner defines the architecture for information sharing and interoperability among the Core Service Platform and the national infrastructures e.g. websites or portals of National Digital Skills and Jobs Coalitions ("National Coalitions").

- The second phase starts with the 2019 call for proposals for the generic services and focuses on development and interconnection of National Coalitions’ infrastructures to the CSP and access to national/regional/local actors and practices, building interoperable links to provide services relevant to the local context. As a result, the National Coalitions/network of actors acting on reducing the digital skills gap at national level will be able to share their activities and content from their country to the CSP and to other national coalitions, and vice-versa. European and national resources on digital skills will be easily searchable, accessible, available and usable in official language(s).

DSI Core Service Platform

Core Service Platform purpose:

- Provide a single point of access on digital skills for students, employees, unemployed, enterprises, education providers, policy makers and others interested in digital skills training offers/traineeship, good practices, skills intelligence/data, training resources, funding opportunities, news, and events.

- Facilitate interactions within the Coalitions’ community and between the National Coalitions across the EU;

- Share resources, services and practices between National Coalitions;

- Stimulate networking and collaboration on digital skills across borders and fields;

- Animate the connected national infrastructures and engage stakeholders;

- Organise events/webinars for knowledge-sharing, co-creation and revision of the core service platform content;

- Offer a private interactive space for discussion of knowledge, policies and strategies.
Core Service Platform **services:**

- Inform and link to policy initiatives and digital skills strategies at European and national level
- Promote good practice through a searchable European repository covering digital skills for the labour force, for ICT professionals and other digital experts, for education, and for all;
- Inform about public funding, financial instruments, training and traineeship opportunities;
- Create a repository of high quality resources on digital skills intelligence, assessment and development/training with focus on up-skilling and re-skilling needs of the labour force at all levels (basic and advanced user digital skills and ICT specialist skills).
- Gather materials on specific technologies e.g. artificial intelligence, cyber security, high performance computing, blockchain, and sectors like digital skills for finance, for agriculture, etc.

All services will be accessed and delivered at EU level or via interoperable National Coalitions' infrastructures. This document covers the technical specifications for these infrastructures.

**DSI Generic Services**

Generic services will provide support for the interconnection of National Coalitions’ infrastructures. Such services will aim at building the interoperable link to the Core Service Platform.

The system is designed to facilitate exchange of information, content and data between the Core Service Platform and the national web sites. The generic services provided by the national web sites are a vital part of the system because:

- They serve as an entry point for local and national content. Each content submission enlarges the central database and improves the quality of service provided by all the interconnected partners
- They serve as a channel from the central platform towards national audiences (stakeholders, general public, policy makers, etc.). By re-publishing information from the Core Service Platform in national language and putting it to local context, the national web sites are key for reaching broader audience on local level.
Technical Specifications for the National web sites (generic services)

The national web site/database, serving as a “web antenna” to the Core Service Platform, will provide content and data on digital skills and jobs in a coherent and structured way in the national official language(s). Content must include interoperable links to the Core Service Platform as well as other national web antennas. This interoperable links will allow a 2-way flow of information from the core platform to the national web site and vice versa from the national web sites to the core service platform. The presentation of this information for end users at central level (on the CSP) and at local level (on the national web sites), will be enabled by the post-editing/translation activities from and into English.

The period to implement following objectives is 3 years from the signature of the financing contract with the European Commission.

Objectives

Create a new website or update the existing one to:

1. **Present the National Coalition and its members/activities**

Organise and present activities/content and members in 4 categories:

- Digital skills for the labour force. Developing digital skills for the digital economy e.g. upskilling and reskilling workers, jobseekers, actions on career advice and guidance.
- Digital skills for ICT professionals and other digital experts. Developing high level digital skills for ICT professionals in all sectors of the economy,
- Digital skills in education. Transforming teaching and learning of digital skills in lifelong learning perspective, including the training of teachers.
- Digital skills for all. Developing digital skills to enable citizens to be active in our digital society.

*Content types: Basic Pages, Members*

2. **An overview of national and regional strategies and measures**

Each beneficiary should publish relevant national and regional strategies on digital skills. Each entry should shortly describe the strategy, mention the managing authority, objectives, source of funding, date of publication and validity period.
3. Present in national language/s relevant parts of the core platform content.

Overview of EU initiatives and programs in digital skills and jobs, relevant news, events, etc. Compulsory content defined by the core platform owner and additional relevant content selected according to territorial needs and specificities.

The National Coalitions/networks of actors must provide translation and post-edit services from English to the official national language(s) rendering content relevant for the local context.

In particular, the national web site must reuse relevant information from the Core Service Platform by publishing it in their official language(s) (e.g. EU policy information, skills intelligence, selected good practices, events, news, funding opportunities, content relevant for national stakeholders and activities).

The beneficiaries will access services from the e-translation CEF building block\(^1\). They will need to review the texts translated into their official language(s) from the Machine translation system and post-edit them before publishing.

*Content types: EU Initiative, news, events*

4. Implement an interoperable good practice repository.

Each beneficiary will need to search, list and describe at least **20 new good practices** implemented at national/regional/local level in the country, following a standard model, covering from basic to advanced digital skills. Good practices selected during the duration of the project should ideally cover from basic to advanced digital skills projects (also artificial intelligence, high performance computing, cyber security and block chain) and different categories (eg. digital skills for the workforce, digital skills for education, digital skills for ICT professionals, digital skills for all). The proposed methodology for the selection should ensure that gaps and local specificities will be addressed.

\(^1\) The machine translation (MT) system *eTranslation* of the European Commission ([https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eTranslation](https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eTranslation))
To facilitate replicability and scalability, the presentation of each project should include lessons learned from implementation. Each entry should follow the API model defined through the core platform and contain at least 500 words long and has to contain audiovisual material. The Coalition should also research for already existing good practice presentations (for example on the Digital Single Market website) and add those that are relevant to the website/database.

For at least 3 good practices a more in depth presentation should be provided with the upload of resources in the repository of national resources on digital skills (see below point 5), as for example detailed curricula, training material, examples of training methodology and case studies.

The project proponent should ensure GDPR compliance for all information included in the good practice repository (e.g. contact details), and obtain necessary authorisations to allow publication on national web site, on core platform and on all the national web sites of coalitions.

At least 8 good practices should be chosen from the core platform and/or other national Coalitions web sites, preferably focusing on areas where progress needs to be achieved at national/regional/local level. Those good practices should be presented on the national web site in national language and promoted among to support replicability (e.g. through webinars or national/local events).

The criteria for selecting and publishing good practices are:

- Replicability
- Scalability
- Detailed methodology
- Outstanding implementation results

The beneficiary will need to outline methodology (including human resources/experts to be involved) for the selection of good practices that ensures high quality. The beneficiary should demonstrate how the criteria of selection, presentation and proposed promotion activity of good practice and related resources included in the repository will lead to replicability and added value for end users.

Content Type: Good Practice
5. Implement an interoperable repository of resources on digital skills

This repository should include:

- Space for self-assessment tools on digital competencies
- Methodological notes
- Links to relevant training curricula
- Links to non-proprietary MOOCs
- Case studies and other training material

The beneficiary will need to outline methodology (including human resources to be involved) for the selection of repository resources that ensures high quality. The beneficiary should demonstrate how the criteria of selection, presentation and proposed promotion activity of good practice, training offer opportunities and related resources included in the repository will lead to replicability and added value for end users.

Content Type: Resources

6. Present training opportunities on digital skills currently available targeted at end users

The beneficiary should present a selection of at least 50 most relevant and innovative training offers on advanced digital skills currently available targeted at end users based on a model agreed at the core platform level. Presented training opportunities should cover diverse settings (on-line, classroom, boot camps, work-based), diverse formats (part-time, full-time, short term) and offered by a diversity of providers (industry, formal education and training, open learning) so as to ensure flexibility and relevance to users.

Each training offer should contain the name of the provider, information about difficulty level, short description, link to the application, link to the training provider, duration, cost (if applicable). Minimum 300 words per entry. Additional resources, if available should be linked/uploaded in the Resources repository.

Users and visitors need to have an easy possibility to signal a training offer on digital skills to the web master. The beneficiary(ies) should implement a review procedure prior to publication. Users should be also able to comment/rate the training.
The beneficiary should also link to already existing relevant databases of training offers in the field of digital skills.

The beneficiary will need to outline methodology (including human resources/experts to be involved) for the selection of training opportunities that ensures high quality. The beneficiary should demonstrate how the criteria of selection, presentation and proposed promotion activity of training opportunities and related resources included in the repository will lead to replicability and added value for end users.

*Content type: Training Offer*

**7. Monitor and present funding opportunities and financial instruments for digital skills at national and European level**

Each beneficiary should publish national and international **financing opportunities** to support the development of high quality training offers by education/training providers and that help individuals to learn and gain new digital skills.

The beneficiary should also research, analyse and present available **loans for upskilling** (e.g. traditional students’ bank loans, online bank loans for students with deferred payment, financing solutions for training through a share of future income, financial instruments based on income sharing agreements, specific high tech skills student loans).

At least 10 financing opportunities with description, localisation, target audience and links of minimum 300 words need to be published.

*Content type: Funding opportunities*

**8. Publish events**

Each beneficiary should publish at least **20 relevant events** in the calendar ensuring interoperability (API model). Each entry should contain name, timing, the address, link to more information. The beneficiary should also tag the events based on their target audience (general public, education, ICT experts, employment).

*Content Type: Event*
9. **Publish News**
Each beneficiary should publish at least 3 original news items/announcements per month and re-produce in national language 3 of the news items per month presented on the Core Service Platform and/or on other National Coalitions web sites. It is recommended to implement a news notification system to stakeholders and members of the National coalition/Network of actors.

*Content Type: News*

10. **Create a Skills Intelligence interactive page**
Within this section, stakeholders and coalition members should get a chance to publish forward-looking papers, studies, reports, data and trend analysis from the area of digital skills. This space should also serve to the community for blogs, articles and opinion posts about future needs of digital skills.

The objective is to stimulate the debate and exchange of insights between stakeholders. The beneficiary needs to specify how he/she envisages to moderate the contributions and ensure that only relevant content is published.

All the publications in this section should be open for comments/rating.

*Content type: Blog Post*

11. **Allow data exchange with the Core Service Platform (API)-Translation and localisation of content**
Localisation of content activities are already described under point 3. That relates to the presentation in national language/s of relevant parts of the core platform content.

The Core Service Platform will scan the national websites and will capture all their content on a regular basis. The API endpoints, the websites will expose, will be used for this purpose.
The editor, of the national website, will be responsible for marking the content that deserves publication in the Core Platform. The Core Platform will automatically detect these records and will translate them in English by using the e-Translation service. The machine translated version of the content will be stored in the Core Platform website and its initial editor will be notified. The editor of the national website should then log in to the Core Platform website, review the machine generated translation and adjust/improve it. When the translation is ready it will be submitted for publication. Publication of content on the Core Service Platform is subject to the approval by its editor/web master.

**Communication, promotion and webinars**

The beneficiary should ensure sufficient promotion and communication about the content published on the national web site. The beneficiary should issue at least 2 press releases per year and make an effort to distribute them to journalists, stakeholders and general public. It is also encouraged that the beneficiary uses online communication channels such as social media or newsletters to regularly inform the community and outreach to new audiences.

The national site must respect basic design requirements. The beneficiary should ensure in agreement with the Core Service Platform owner a common layout with recognisable features.

The beneficiary should demonstrate how the proposed communication and promotion activity will lead to replicability, added value for end users and will contribute to the rise of the level of digital skills and increased awareness about the digital skills for the current and future workforce.

The beneficiary should publish on the web site the registration or links to registrations of Webinars/online events for peer-to-peer learning and exchange of experience organized to inform stakeholders in the country and other National Coalitions on digital skills development, approaches, good practices and opportunities.
Content Structure

Content types

The website can contain many distinct types of content such as the indicative list below:

1. Basic page
2. Member
3. Strategic document
4. EU Initiative
5. Good practice
6. Training Resource
7. Training offer and Database
8. Funding opportunity
9. Event
10. Article (news)
11. Skills intelligence (Blog)

Each type should satisfy at minimum a certain schema of fields as the indicative list that follows. This content structure might be still subject to minor changes. Should this be the case, the final content structure will be made available to the successful applicants during the grant agreement preparation phase.

**Basic page**
- Title
- Body (Rich text)
- Image(s) (Upload widget)
- Publish in the core platform (Toggle)

**Member**
- Title
- Body (Rich text)
- Website (Link)
- Logo (Upload widget)
- Category (Select)
- eg: Public Institution, Enterprise, Education Provider
- Publish in the core platform (Toggle)

**Strategic documents (nationals & regional)**
- Title
- Body (Rich text)
- Managing authority (Text)
- Targets (Tags)
- Timeline/roadmap (Textarea)
  - eg: Adoption – 1 July 2019, Action 1 to be finalised by – 30 October
- Latest update of the strategy (Date)
- Funding (Text)
  - eg: Source of funding 1 - 400.000 euro
- Reporting (Text)
- Stakeholders involvement (Text)
- File for download (Upload widget)
- Target Language(s) (Tags)
- Publish in the core platform (Toggle)

**EU Initiative**
- Title
- Body (Rich Text)
- Website (Link)
- Publish in the core platform (Toggle)

**Good practice**
- Title
- Summary / Short Description (Rich text)
- Body (Long Description) (Rich text)
- Image(s) (Upload widget)
- Website (Link)
- Target Group (Tags)
- Type of Funding (Tags)
- Type of Initiative (Tags)
- Start Date (Date)
- End Date (Date)
- Geographical scope (Country) (Select)
- Organization (Reference)
- Topics (Tags)
- Publish in the core platform (Toggle)

**Training Resource**

Repository of training resources on digital skills

- Title
- Body (Rich Text)
- Image(s) (Upload widget)
- Website (Link)
- Topology of competences (Text)
- Level (Tags)
  - eg. Novice, medium, advanced
- Methodology (Text)
  - eg. Based/Not based on DIG.COMP, European e-Competence Framework
- Document (Attachment)
- Target Group (Tags)
- Geographical scope (Select)
- Country
- Topics (Tags)
- Provider (Text)
  - Author, Owner, Institution, etc
- Target Language(s) (Tags)
- Publish in the core platform

Training Resource Topics:

- Self-Assessment Tool
- Methodology
• Training curricula
• Non-proprietary MOOC
• Case study
• Other training material

**Training offer and Database**

• Title
• Body (Rich text)
• Image(s) (Upload widget)
• Website (Link)
• Level
• Target Group (Tags)
• Geographical scope (Country) (Select)
• Topics (tags) – skills covered
• Typology/format of training (Text)
• Setting (Text)
  e.g: on-line, classroom, boot camps, work-based
• Length of training (Number, weeks)
• Training Provider (Text)
• Cost of training (Text)
• Type of training (Toggle)
  Options: Single Offer / Database
• Target Language(s) (Tags)
• Publish in the core platform (Toggle)

The website should allow stakeholders to submit for publication upcoming training opportunities on digital skills via an online interface and the beneficiary should implement a review procedure prior to publication.

**Funding opportunity**

• Title
• Body (Rich Text)
• Image(s) (Upload widget)
• Website (Link)
The website should allow stakeholders to submit for publication upcoming financing opportunities on digital skills via an online interface and the beneficiary should implement a review procedure prior to publication.

**Event**
- Title
- Body (Rich text)
- Image(s) (Upload widget)
- Website (Link)
- Target Group (Tags)
- Start Date (Date)
- End Date (Date)
- Topics (Tags)
- Publish in the core platform (Toggle)

**Article (News)**
- Title
- Body (Rich text)
- Image(s) (Upload widget)
- Post Date (Date)
- Topics (Tags)
Skills Intelligence (Post)
An interactive web page for Coalition members and stakeholders to present and discuss information and data on the skills most needed in the country. It should be handled as an inner blog within the website with the support of threaded comments.

A simple voting mechanism (thumbs up) should also be part of each post.

- Title
- Body (Rich text)
- Image(s) (Upload widget)
- Post Date (Date/Time)
- Topics (Tags)
- Publish in the core platform (Toggle)
- Comment(s)
- Vote (Thumbs Up)

Organisation

Taxonomies

A taxonomy is a scheme of classification for the website content. Taxonomies can be set to apply across the site and be used across all content types, or they can be specific to certain content types. An indicative list of taxonomies is:

- Types of Initiative
- Target Groups
- Type of Funding
- Geographical Areas (scope / countries)
- Topics (tags)

Page templates

A page template is a specific layout of information such:

- Home
- Basic Page (eg About)
- Listing page with filters – Will be used for listing Good Practices, Training Offers, Funding Opportunities, etc.
- Events and News archive – lists all the sites news posts in reverse chronological order
- Contact – may have a map and a form

**Functionality**

**Platform / CMS**

The website should be built using known and established technology and/or platform e.g. Wordpress or Drupal. Other technology can be used as long as it fulfils certain requirements:

- Is based on modern and secure codebase which is actively maintained.
- Allows a multi-user environment with roles and permissions.
- Provides a Rich Experience for creating and editing content.
- Is extensible through a scalable system of plugins/modules.
- Supports a separate presentation layer for styling (themes)
- Comes with a search functionality built-in or through an extension (plugin/module).

**Users, roles, and permissions**

The website should be ready to support multiple users. Each user receives one or more roles. Roles have permissions attached to determine exactly what the user is permitted to do when logged into the site. Standard roles are:

- **Anonymous user**: Assigned to anyone not logged into the site — visitors
- **Authenticated user**: Assigned to anyone logged in to the site — editors
- **Administrator**: Site owners, site maintainers, and site builders.

**Analytics**

The website should keep track of its traffic and usage (e.g. via Google Analytics, Matomo, Kissmetrics, etc.) provide access to the statistics in a user-friendly manner. The administrators of the site should be able to:

1. Understand how visitors are interacting with the site,
2. Get insights about the website’s performance,
3. Share insights across the organization with a variety of reporting tools

Content authoring

Editors should be able to use Rich Text (HTML markup) and handle images and other media when they create content.

The website should provide a unified User Interface where editors and administrators can upload, manage, and reuse files and multimedia assets. It should also come with a WYSIWYG text editor fully integrated.

Search

The website should provide a Search Experience and let the users search for specific content. They should be able to search for words appearing in the pages of the site including the default rendering of the body, any additional field, categories or comments.

Search queries should be done in a variety of ways to get results that match multiple words/terms, either by matching all or some of them.

Listing and Filters

The website should provide pages that will fetch and list content form the database for Good practice, Skills Assessment tools, Training offers, Funding opportunities.

These pages should also show the user the proper interface for searching within and filtering the records based on selected criteria.

Responsive Design, Browser and Device Support

The website should be compatible with and fully functional in all modern browsers that support CSS and JavaScript (with minor variations in appearance).

This section outlines the browsers and devices to test the site on. The general requirement is to test in the latest version of the most popular browsers (Chrome, Firefox, Safari, Edge) and the Internet Explorer version 11.

Here is an incomplete list of the browsers to test the site and its performance in:

- Internet Explorer 11
Today’s websites are viewed on a wide range of devices and screen sizes. The website design should be responsive and react to the size of the browser/device viewing the page using breakpoints. Breakpoints should be prepared for the desktop (wide), tablet (standard), and mobile (narrow) browser widths.

**Accessibility**

Web accessibility is the practice of building websites that work for everyone, regardless of technology, location, or ability.

There are standards called the “Web Content Accessibility Guidelines” (WCAG) that have been developed to assist web developers in building more accessible websites.

The website should strive to achieve the highest levels of accessibility and pass or close pass the related online tests.

**GDPR**

The website should be GDPR compliant so all the necessary steps should be taken towards this direction.

1. Fine-tune the privacy policy
2. Obtain clear consent to use cookies
3. Ensure all the functionality added by modules/plugins comply with GDPR
4. Limit the data the site collects and store via form submissions
5. Clean up mailing lists (if any)
6. Provide the individuals their GDPR rights
   a. Right to access
   b. Right to be forgotten
7. Encrypt the communication between the website and the user’s browser (HTTPS)
When relevant and lawful, the project beneficiary will comply with the obligation to inform the individuals by sending privacy notices and by obtaining consent. The notice regarding the information on the publication of personal data, or the consent request, will need to refer not only to the publication on the national antenna web site, but also on any further publication of the same information on the Core Service Platform and on all the other national coalitions’ web sites connected to the platform, that might republish the information in their national official languages.

**Rest API**

The website should provide RESTful Application Programming Interfaces (API) endpoints for all its data/content types based on modalities defined by the core platform owner. These endpoints will expose the content of the website and make it available to developers to interact with it remotely by sending and receiving JSON (JavaScript Object Notation) objects.

The API will access the data of the national website and will enable communication and interactions between the Core Service Platform and the national website.

The national web site will also need to implement a fetching system from the Core Service Platform e.g. to present funding opportunities.

**API Example**

The API of a Wordpress website has been prepared and its documentation is available in the link that follows.

https://cnect-web.github.io/digital-skills-api/

The documentation include endpoint and structures that cover all the type of content and their fields aforementioned in other sections of this document.

The national websites should implement their API endpoints as close as possible to the provided example. These endpoints should then be documented in a similar way. The GitHub repository that follows could be used as an example and a point of reference for this purpose.

https://github.com/cnect-web/digital-skills-api
The of endpoints and their documentation are provided for demonstration purposes and are indicative. The actual implementation and structure could vary based on the technology/platform that will be used.

**Ongoing support and maintenance**

The website needs to be updated, maintained and improved over time. If a platform such as WordPress or Drupal is used, the code base will quickly deteriorate if not regularly updated. This can lead to performance, compatibility and security issues.

For 36 months after delivery Sanity Checks and updates of the website should be regularly scheduled.

**Security**

Practices and Procedures that improve the security of the website and mitigate any cyber attack should be developed. An indicative list of such action follows:

1. Keep the codebase up to date. Proceed with frequently and periodically security checks and updates
2. Establish rules for strong passwords for authenticated user of the web site.
3. Choose a hosting provider that take extra measures protecting its servers against common threats: monitor the network for suspicious activity, prevent large scale DDOS attacks.
4. Establish a recovery strategy (backups)
5. Use SSL/HTTPS
6. Limit Login Attempts
7. Disable Directory Indexing and Browsing
8. Disable XML-RPC
9. Check the site periodicaly with the Google’s Safe Browsing tool [https://transparencyreport.google.com/safe-browsing/](https://transparencyreport.google.com/safe-browsing/)
10. Use a platform/technology that
11. Prevents XSS, CSRF etc entries but validate data before entry in the database
12. Mitigates Denial of Service Attacks
13. Is actively checking for security issues and releases frequently security updates.
14. Consider using a Built-In DNS Security service like Cloudflare