USER REQUIREMENTS
SPECIFICATION

REFERENCE LABORATORY AND COLLABORATING CENTRE (RL&CC) REPORTING
SYSTEM EVOLUTION

Date: 31/05/2023
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<tbody>
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<td>Project Board</td>
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<th>Version Issued</th>
<th>Date of Issue</th>
</tr>
</thead>
</table>
# Table of contents

1. General presentation of the project ................................................................. 3
   1.1. Definitions, Acronyms and Abbreviations ....................................................... 3
   1.2. Context ............................................................................................................ 3
   1.3. Purpose and Objective ..................................................................................... 4
   1.4. Scope ............................................................................................................... 4
   1.5. Target Users .................................................................................................... 5
   1.6. Related applications / interconnections .......................................................... 6
   1.7. Current situation / Existing system description ................................................. 6

2. Need description .................................................................................................... 9
   2.1. Functional requirements and Requirements prioritisation ............................... 9
   2.2. Technical requirements .................................................................................... 10
   2.3. Graphic and ergonomic description ............................................................... 10

Annexes .................................................................................................................. 11
1. General presentation of the project

1.1. Definitions, acronyms, and abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>BSC</td>
<td>Biological Scientific Commission</td>
</tr>
<tr>
<td>CRM</td>
<td>Customer Relationship Management</td>
</tr>
<tr>
<td>GS</td>
<td>General Session</td>
</tr>
<tr>
<td>EN</td>
<td>English language</td>
</tr>
<tr>
<td>FR</td>
<td>French language</td>
</tr>
<tr>
<td>SP</td>
<td>Spanish language</td>
</tr>
<tr>
<td>RL and CC</td>
<td>Reference Laboratories and Collaborating Centres</td>
</tr>
<tr>
<td>WOAH</td>
<td>World Organisation for Animal Health</td>
</tr>
</tbody>
</table>

1.2. Context

The World Organisation for Animal Health (WOAH) is an international organisation working to improve animal health. The Organisation and its Members coordinate the global response to animal health emergencies, the prevention of zoonotic diseases, the promotion of animal health and welfare, and better access to animal health care. To support and advocate for safe and sustainable international animal trade, the organisation works in collaboration with multiple stakeholders, including Collaborating Centres (CC) and Reference Laboratories (RL). The Collaborating Centres work on a main focus area with specific specialties (here), the Reference Laboratories work on a disease (here).

<table>
<thead>
<tr>
<th>Collaborating Centres</th>
<th>Reference Laboratories</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Provide services, in the designated specialty, in support of the implementation of policies.</td>
<td>- Promote and disseminate diagnostic methods.</td>
</tr>
<tr>
<td>- Propose or develop methods and procedures that facilitate.</td>
<td>- Recommend the prescribed and alternative tests or vaccines.</td>
</tr>
<tr>
<td>- Harmonisation of international standards and guidelines.</td>
<td>- Develop reference material.</td>
</tr>
<tr>
<td>- Carry out and/or coordinate scientific and technical studies.</td>
<td>- Store and distribute to national laboratories biological reference products and any other reagents used in the diagnosis and control of the designated pathogens or disease.</td>
</tr>
<tr>
<td>- Collect, process, analyse, publish, and disseminate data and information relevant to the designated specialty.</td>
<td>- Develop, standardise, and validate new procedures for diagnosis and control of diseases.</td>
</tr>
<tr>
<td>- Provide, within the designated specialty, scientific and technical training.</td>
<td>- Provide diagnostic testing facilities.</td>
</tr>
<tr>
<td>- Organise and participate in scientific meetings and other activities on behalf of the WOAH.</td>
<td>- Carry out and/or coordinate scientific and technical studies.</td>
</tr>
<tr>
<td>- Identify and maintain existing expertise, in particular within its region.</td>
<td>- Collect, process, analyse, publish, and disseminate epizootiology data.</td>
</tr>
<tr>
<td>- <strong>They follow a 5-years workplan</strong></td>
<td>- Provide scientific and technical training.</td>
</tr>
</tbody>
</table>

Table 1: Terms of references of Collaborating Centres and Reference Laboratories
WOAH Reference Laboratories and Collaborating Centres are mandated to submit annual reports of their activities. There are two templates based on the Terms of Reference for WOAH Reference Laboratories and Collaborating Centres, respectively. In December of each year, a call for an annual report is sent by email to each individual laboratory or centre. Initially, an MS word report template was attached to the email. In 2012, it was decided that the annual reports should be digitalised moving away from the MS word format. Web-based templates were developed to be filled in online. Once all the reports have been submitted (usually late April/early May), a pdf of each report is uploaded to the WOAH website, e.g. https://www.oie.int/fileadmin/Home/eng/Our_scientific_expertise/colcenterreports/2019/report_184_2019_Animal_Disease_Surveillance_Systems_Ris_UNITED STATES_OF AMERICA.pdf

In a bid to improve the RL&CC system further, it was redeveloped in-house in 2022. However, during the re-development of the system, we faced some challenges and missed some critical exceptions that has triggered this project.

1.3 Purpose and objective

The goal of this project is to enhance and develop extra functionalities of an already existing application: WOAH Reference Laboratories and Collaborating Centres (RL&CC) information system (please refer to Section 1.7 of this document for more information on the existing application). This system is used by external experts at the WOAH network of Collaborating Centres and Reference Laboratories to report their annual activities online.

Details of the needs are given in Section 2 (Need Description) of this document, which also references the Annex B1 - Compliance grid-RL&CC document, which contains all user requirements and technical requirements required for this project. The RL&CC information system must be able to collect, store, process, and submit reports of the WOAH Reference Laboratories’ and Collaborating Centres’ activities to support decision-making, coordination, control, analysis, and visualisation.

The RL&CC information system must automate and streamline business processes, designed to support day-to-day business operations, reduce manual effort, and mitigate potential risks during this operation, in order to improve operational efficiency for both WOAH and network of Collaborating Centres and Reference Laboratories.

1.4. Scope

To update, simplify and improve the software system (tool) that is currently used to:

A. Send a call electronically for annual reports to all WOAH Reference Laboratories (RL) and Collaborating Centres (CC), allowing those users who are responsible for both RL and CC to use one email address for access to both Centre and Laboratory templates.

B. Allow RL and CC users the possibility to access multiple reports without having to manually login and out when changing report.
C. Allow RL and CC to add multiple users to fill out and edit reports simultaneously, but just one designated expert to submit when the report is final.

D. Improve the User Experience (UX) design for the existing application, especially allowing the formatting of blocks of paragraphs and allowing the free text boxes to automatically expand (vertically and horizontally) according to the text length.

E. Modify the existing form templates for both Reference Laboratories and Collaborating Centres as follows:
   i. Remove in the review and validated report all the empty tables when the selected answer is “No” and does not require free text input
   ii. Add controls of the mandatory fields with error notification to force users to fill in what is required.
   iii. Modify field labels and response options (e.g., remove regional names and use countries names).
   iv. When the report is submitted, move the “report submitted” notice from the top (beginning) of the report to the end so the user can see the confirmation

F. Fix existing bugs within the system:
   i. Fix the problem of emails not being sent (probably linked to SMTP and mass sending)
   ii. Bug fixes for functions not translated into the correct language (trilingual site)
   iii. Correction of bugs in the process of importing and inviting experts
   iv. Review and correct all RL and CC forms templates by removing “OIE” and replace by “WOAH”

1.5. Target users

Existing Profiles

The following user profiles already have access to the current RL&CC information System

<table>
<thead>
<tr>
<th>Profile</th>
<th>Use case description (brief)</th>
<th>Number of users</th>
</tr>
</thead>
</table>
| External experts at the WOAH Reference Laboratories | • Use the system to fill in their annual reports  
• 270 Reference Laboratories : (NB: Number could increase as new ones are adopted each year at the GS) | 270             |
| External experts at the WOAH Collaborating Centres | • Use the system to fill in their annual reports  
• (NB: 72 Collaborating Centres)  
• (NB: Number could increase as new ones are adopted each year at the GS) | 72 (+ more as there are consortia) |
| Business Administrators: Sara Linnane and Gounalan Pavade | • Use the system to complete reports that were submitted too soon | 2               |
• Validate reports from experts

**New Profiles**

The following user profiles do not exist and will need to be created within the RL&CC information system by the experts.

<table>
<thead>
<tr>
<th>Profile</th>
<th>Use case description (brief)</th>
<th>Number of users</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Support experts</strong> at the WOAH Reference Laboratories</td>
<td>• Support the external experts at the WOAH Reference Laboratories</td>
<td>2</td>
</tr>
<tr>
<td><strong>Support experts</strong> at the WOAH Collaboration Centers</td>
<td>• Support the external experts at the WOAH Collaboration Centers</td>
<td>2</td>
</tr>
</tbody>
</table>

1.6. Related applications/interconnections

<table>
<thead>
<tr>
<th>Application/Tool</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azure AD</td>
<td>For the management of users (SSO authentication)</td>
</tr>
<tr>
<td>CRM (Bitrix 24)</td>
<td>An internal Customer Relationship Management (CRM) application with the designated experts’ names and contact details (experts’ email and phone number), disease for which the LR is designated, address of LR. For CC Contact Points’ contact details and the WOAH title of the Centre</td>
</tr>
<tr>
<td>WOAH Website (WordPress)</td>
<td>The current system generate a CSV file containing the list of RL &amp; CC with the link of their report. And this file is imported in the WOAH website and the data in displayed on the WordPress related web pages containing all the information about the author of the report with a link of the pdf.</td>
</tr>
<tr>
<td>Email</td>
<td>The system allow to send the email invitation to the RL &amp; CC users when the round of reports collection starts.</td>
</tr>
<tr>
<td>Excel generated file</td>
<td>Excel files generates so that the data can be analysed quantitatively for both LR &amp; CC</td>
</tr>
</tbody>
</table>

1.7. Current situation/existing system description

Each December WOAH’s BSC Secretariat prepare letters requesting annual reports from the network of WOAH Reference Laboratories and Collaborating Centres. The four different letters:

- Reference Laboratories managed by WOAH Biological Standards Commission, each letter is translated into Spanish and French (so total of three letters);
- Collaborating Centres managed by WOAH Biological Standards Commission, each letter is translated into Spanish and French (so total of three letters);
- Reference Laboratories managed by WOAH Aquatic Animal Health Standards Commission, only the Reference Lab letter is translated (so total of three letters).
• Collaborating Centres managed by WOAH Aquatic Animal Health Standards Commission (as there are only four Centres, translated into Spanish only, [written in English]).

Each Laboratory or Centre receives an individual email and if he/she is not registered in the WOAH Azure AD receives an MS invitation to create his/her WOAH account to use the SSO authentication to connect to the system, and with the correct attachment (one of the 11 letters). The software generates the email and chooses the correct attachment. The email has standard text and is also prepared in English, French and Spanish and the expert should receive one in the correct language.

There are a number of cases that need to be handled differently.

To respond to this need, an internal application for Reference Laboratories and Collaboration Centres (RL&CC) has been developed using Angular, Nodejs and MySQL. This application allows WOAH laboratories and Collaboration Centres to fill out their annual report(s) online and allows the administrator to publish the annual reports in the WOAH website.

Below we describe the key processes and modules:

**ACCESS AND LOGIN**

WOAH Reference Laboratories and Collaboration Centres (RL&CC) connect to the platform via their WOAH Microsoft account, which will identify them. RL&CC have access to the application only if they are present in the CRM. The CRM synchronises the groups of users of laboratories and centres on WOAH Azure AD to allow the users to connect through their Microsoft Account.

**ADMINISTRATION MODULE**

When you log in, if your account is associated with the Admin group, you will be taken to the Administration home page shown below:
### Launch data collection
Imports users data and related data from WOAH CRM (Bitrix 24) to prepare the sending of the invitation to the users to fill in their annual reports.

### Email invitation
Update email templates for Reference Laboratories and Collaboration Centres that will be sent automatically to the RL & CC users when the administrator clicks on send email invitations. The system is able to send the invitations to the RL&CC in order to fill in their annual reports in their official language and domain of expertise imported from the WOAH CRM.

### Template management
Create/delete/update questions for the report forms.

### Manage reports
Manage submitted and ongoing reports filled in by the RL & CC users.

### Manage reference reagents
Manage Reagents for laboratories related question in the laboratory report form.

### Disease management
Manage disease groups to allow some RL experts to send one report for a group of diseases.

### Publish PDF
Retrieve .pdf reports for Reference Laboratories and Collaboration Centres and generate a CSV file containing all the needed data to publish the annual reports in the WOAH website.

DATA INPUT – Reference Laboratories And Collaboration Centres

Both Reference Laboratories and Collaboration Centres are required to report their activities through a series of question categories using the left navigation panel. The questions vary from multiple choice, single choice, and free text questions. Once all the information has been captured, the user can then review and submit to WOAH.

2. Need description

This section describes the list of the expected features: Front Office and Back Office with the order of priority for implementation.

2.1. Functional requirements and Requirements prioritisation

In the document, the categories are typically understood as follow:
2.2. Technical requirements

See the Annex B1 - Compliance grid-RL&CC (spreadsheet “User requirements”).

2.3. Graphic and ergonomic description

The objective is to have a coherent visual user interface amongst all WOAH applications to give the users similar experiences when using them. The main goal is to create branding of this system and build its identity according to WOAH standards. These must be easy and simple to change in future when required.

The graphic and ergonomic design shall follow best practices especially taking into consideration the following elements:

- Keyboard entry and control, mouse behaviour, visual presentation of functionality and different options to control elements.
- Consistent element behaviour, functionality and rendering is crucial for the usability of user interfaces.
- The system must be designed with the WOAH visual identity in mind i.e., logo, colors.
- Brand usage and style development must be consistent with WOAH branding manual

Accessibility and usability of the system by people with the widest range of capabilities
Annexes

Annex B1 - Compliance grid-RL&CC