Request for Proposals

PROJECT: Development of E-veteran web platform and E-veteran Registry (companies may apply alone or as a consortium)

ORGANIZATION: IREX

LOCATION: Ukraine

RELEASE DATE: June 4, 2020

DEADLINE FOR QUESTIONS: June 15, 2020

FULL APPLICATION CLOSING: July 7, 2020

BID CEILING: Not to exceed $300,000 USD

What is the role?

IREX is seeking a qualified vendor ("Contractor") or vendors (Consortium of Vendors) to build a product that consists of two parts:

- (Part 1) E-veteran web platform; and
- (Part 2) E-veteran registry

The role will require not only strong software development proficiency but also openness to developing software collaboratively, including with non-technical specialists, using principles of user centered design, digital development, and agile software development practices.

The selected Contractor is expected to begin work on July 20, 2020 and end in July 2021 (with 95% of the work to be completed by the end of February 2021).

Who is IREX?

IREX is an independent nonprofit organization dedicated to building a more just, prosperous, and inclusive world by empowering youth, cultivating leaders, strengthening institutions, and extending access to quality education and information.

What is the project?

IREX is currently implementing the U.S. Department of State funded Veteran Reintegration Program. IREX's Veteran Reintegration Program fills critical gaps in data and information on veterans. It incorporates this data into tailored activities to improve the quality of and access to veteran services and promotes veteran integration into the workforce.

As part of the program, IREX provides support to the Ministry of Veterans' Affairs (MoVA) through the development of a unified registry of veterans. Development of the Registry is provided by amendments to the Law "On the Status of War Veterans, Guarantees of Their Social Protection" (7.02.2019).

The goal of the Registry is to create a single point of access to the services, benefits, and opportunities available to veterans in Ukraine. Veterans and their families need to know what government services are available to them and how they can access those services. The Ministry of Veteran Affairs needs to bring together records about veterans onto a single platform so the ministry can optimize and improve its service delivery to veterans.

The Registry will provide:
- Completeness and authenticity of data on the number and profile of veterans
- Transparency and data analysis capabilities (open access to depersonalized data)
- Simplification of the bureaucracy (paper workflow digitalization)
- Effective interagency coordination between government agencies on data exchange
- Avoidance of fraud in obtaining veteran`s benefits and services
- Integration of all benefits and services based on the principle of a "one-stop shop"

The information in the Registry shall be entered by authorized authorities of MoVA or received from other state bodies through the integration between registries and e-services such as from the Ministry of Social Policy, the Ministry of Defense and the Ministry of Health. Integration between the Registry and other resources is carried out mainly through the electronic interaction system "Trembita." Some details of the veteran's profile can be added by veteran (in particular, education and others, the receipt of which in the automatic mode is restricted by law).

IREX seeks to create the following components simultaneously: a web-based application (part 1) and a unified state registry (part 2).

The purpose of *Part 1* is to develop a web-based application for MoVA that will allow veterans to login securely online to a website via popular browsers/clients. Part 1 unites all modules into one tool of work with public services. For part 1, the application is meant to provide (1) a knowledge base of available services and (2) a way for individual veterans to log into their profile to see services that are available to them and their family members based on their profile. For example, this might be possible to achieve by building the application so it has a personal account for each veteran; a filterable list of available services based on the input (address, education, marital status, kids), all of which gets stored in a back-end database; a searchable list of all services available for veterans without login; a summary page for selected services; pop-up notifications for the Ministry's news; and an option for the account's owner to edit/delete profile. Please see Annex 1 for a more detailed description.

The purpose of *Part 2* is to develop a unified state registry for MoVA designed to collect, record, accumulate and retain, protect information about veterans, nationally deserving individuals, the victims of the Revolution of Dignity and other individuals listed in the Law of Ukraine on Veterans. The structure of the Registry and scope of work are described in Annex 2.

What will the Contractor do?

The Contractor will lead the technical development of both Part 1 and Part 2. This work can be divided into five general phases and some cross-cutting areas:

Phase 1: Discovery and Requirement Gathering
- Review the overall objectives of Part 1 and Part 2
- Conduct necessary research that includes, but is not limited to, an analysis of existing state registries and requirements for connecting different registries. Based on findings, update the draft scope of work documents provided with this RFP.
- Review and finalize technical requirements documents.
- Create prototypes and refine the prototypes with users and stakeholders to validate key decisions.
- Produce a simple and flexible work plan for the duration of the period of performance
- Submit a written report using a template reviewed and approved by IREX.

Phase 2: Design and Delivery
- Develop user interface prototypes for Part 1;

- Publish the web application to a production server in time for user testing and feedback sessions;
- Develop a prototype for Part 2;
- Publish software to a production server in time for user testing and feedback sessions;
- Incorporate all visual, graphic, and content elements that are approved by IREX;
- Submit a written report using a template reviewed and approved by IREX.

Phase 3: User Testing
- Introduce products to MoVA and veterans and test products;
- Capture feedback from users, propose prioritizing actions to IREX based on that feedback;
- Submit a written report using a template reviewed and approved by IREX.

Phase 4: Version 1 Delivery
- Update products to include final tweaks based on feedback from user testing, IREX, and MoVA;
- Produce world-class documentation and resources, including clear tutorials and videos if necessary, to enable third-party re-use of the source code;
- Publish all source code, together with the documentation and resources, to an open code repository such as GitHub;
- Train up to 5 stakeholders (specifically Facilitators and Administrator user types) on how to use products;
- Deploy the entire stack of MoVA infrastructure, including working with their IT department to complete quality assurance and security requirements of government registers;
- Submit a written report using a template reviewed and approved by IREX;
- Pass state security requirements and improve security glitches based on the white hacking event organized by IREX.

Phase 5: Ongoing Maintenance Technical Support
- Update the production software (and associated documentation, if relevant) with occasional security patches or updates as needed (particularly if third-party open-source frameworks are utilized);
- Provide technical support as needed, within reason, and within available Level of Effort (LOE), for a period of roughly six months after deployment;

- Provide IREX with troubleshooting guidelines for users when they encounter technical issues with the software;
- Submit a written report using template reviewed and approved by IREX.

In addition to these five phases, the Contractor will:
- Participate in regular weekly 60-minute check-in meetings/calls with IREX designated representatives;
- Maintain and share upon request a work plan updated at minimum on a biweekly basis.

What IREX will do?
IREX will:
- Review and answer questions about all the requirements;
- Help set up meetings with MoVA upon signing the contract with selected Contractor;
- Organize a "White Hacking Day" in order to test software for security and other issues before accepting the product.

Skills and qualifications:
The list below is a desired list of skills and qualifications for the team as a whole; different people in the team can bring different skills and qualifications.
- Over 5 years of experience developing professional-quality software, including customer-facing web apps, with a strong reputation for developing excellent collaborating working relationships with counterparts, other contractors and international organizations and donors;
- Proficiency with front-end web application development (including HTML, CSS, Javascript), with sufficient full-stack knowledge to develop, manage, and/or maintain servers, databases, and other technologies needed for the project;
- Proficiency with security standards and best practices to ensure the web server, and the data submitted by its users, are safely, responsibly, and securely managed;
- Familiarity with existing open-source frameworks;
- Experience packaging and publishing open source code, including high quality documentation;
- Familiarity with user-centered design methodologies to engage with stakeholders around a technology platform to ensure relevance and sustainability;
- Sufficient administrative capacity to comply with reporting, auditing, and financial requirements;

- Ability to communicate professionally and provide written reporting in English, as well as fluency in speaking, reading, writing, and working in Ukrainian;
- Strong interpersonal, communication, curiosity, and critical thinking skills;
- Strong understanding of legal requirements for the development and transfer of product to the government in Ukraine;
- Previous experience in the development of e-services and/or state registries for governmental institutions strongly preferred.

The Contractor must:
- Have an office in Ukraine and have the ability to attend in-person and virtual meetings in Kyiv;
- Be a well-established business/for profit/non-profit with well-documented corporate capabilities in web-based application development for internet connected devices and have a proven track record of success in order to be considered to be a qualified bidder for this RFP;

How will we know if we are a good fit?
This position is a strong fit for any Contractor with experience and interest in:
- Implementing agile technology development principles, including designing collaboratively with users, working in flexible environments, and producing and iterating on early prototypes;
- Engaging with and promoting "open innovation" methodologies, including open data principles and open-source software practices;
- Contributing meaningful, tangible and lasting technologies to governments and/or organizations;
- Working with various stakeholders, ranging from everyday citizens to government officials, to gather requirements and build genuine ownership and excitement about technologies that have meaningful impact on everyday lives and efficiency of work.

Terms and Conditions:
- Offered services will be reviewed and evaluated according to the completion of the proposal and its compliance with the requirements of the RFP.
- The selection will be made in favor of a proposal that meets all the requirements and evaluation criteria. Based on the selection results, IREX will conclude an agreement with the selected Contractor for the services to be performed during the project period.

- IREX is under no obligation to accept any offer/bid or conclude an agreement, nor is it responsible for reimbursing bidders for any costs incurred during or associated with preparation and submission of the offer/bid, regardless of the outcome or methods of the selection process.
- The Contractor may not retain or use any material produced under this contract for self-promotion, except with prior written permission of IREX.
- IREX will retain the right to use, modify and re-use the content created under performance of the contract.
- IREX requires that each potential bidder avoids and prevents conflicts of interest by informing IREX if bidder, its affiliates or its staff, have been approached or involved in the preparation of requirements, design, technical specifications, pricing and other information to be further used in this RFP.
- If the selected provider fails to perform services according to terms and conditions listed in the contract, IREX can terminate the contractual relationship with this Contractor and immediately award the contract to the bidder who was identified as alternative finalist based on the selection process/scoring.

What if I have questions about the RFP?
Interested bidders may submit questions concerning this RFP via email to tender-ua@irex.org before the deadline by **18:00 Kyiv time on June 15, 2020**. IREX will collect all the questions and will post a Q&A Digest that will be made publicly available to all bidders to ensure equal access of information for all potential bidders. IREX, in no event, will meet with bidders in person, nor will IREX respond to any inquiries made over the phone, email or other modes of communication outside the Q&A process.

What is the payment process and schedule of payments?
This is a delivery -based fixed-cost contract. The developer will be remunerated for the specific deliverables described in the table below (specific dates are subject to change).

Milestone	Estimated Date
Phase I complete	+ 1 month after signing contract
Phase II complete	+ 4 months after phase I is complete
Phase III complete	+ 2 weeks after phase II is complete
Phase IV complete	+ 1 month after phase III is complete
Phase V complete	+ 6 months after phase IV is complete

PERIOD OF PERFORMANCE

The project shall commence on the date of the contract's execution, with an anticipated start date of July 20, 2020.

SUBMISSION OF BIDS

Submit your application by **18:00 (Kyiv time), Tuesday July 7** via email to tender-ua@irex.org and subject line "Knowledge Base and Registry Application." You **must** use subject line *"Knowledge Base and Registry Application"* to be considered.

BID FORMAT

Bids shall correspond to all requirements listed in this section, providing all requested information. Bids shall become the property of IREX upon submission.

Bids shall be organized exactly in the same order indicated below:

Bids will be evaluated on programmatic merit and subsequently on cost. As such, the Technical Application will have more significance than the Cost Application in the selection of a successful applicant. The Technical Application should demonstrate the bidder's capabilities and expertise with respect to achieving the goals of this RFP. Therefore, it should be specific, concise, and complete. Bids should be submitted in English language.

A. Cover Letter

The cover letter shall identify one contact person by name, title, address, e-mail, and telephone number. It shall briefly describe the bidder's qualifications and why it is a good match for the project. The cover letter shall state that the bid is good for a period of 30 days from the date of the bid, including all prices and terms. It shall also confirm that the bidder will be available to begin the project immediately upon notification of contract award and the bidder's commitment to complete the project within the period of performance noted above in the contract between the two parties.

B. Technical Section

Bidders are encouraged to be as thorough as possible in their Technical Sections; however, all responses shall be structured as described below. Electronic copy of the Technical Applications must be in English language submitted in MS Word or PDF format, single spaced, utilizing Times New Roman 12-font size, typed on A4 sized paper with 1" margins on top, bottom, left and right, numbered consecutively, and not exceed 13 pages (plus cover letter page).

Part 1: Summary of prior relevant experience (2 pages maximum)

This section shall provide a summary of prior relevant experience, listing period of performance, location(s) where bidder has performed, key corporate capabilities, available resources (technology, partnerships, etc.), and financial and program management capacities to implement a project of this scope and duration. This section shall also include the following:

- The number, U.S. Dollar value, and brief description of projects in which the bidder performed similar work.
- Names of all government and bi- and multilateral donor customers, if any. Provide specific web links, demos and examples of similar products. If web links are not possible to submit, then provide interactive digital examples such as mobile apps and screenshots.
- Financial, technological, and other resources available to support this project for its duration.

Part 2: Technical Approach (5 pages maximum)

Bidders shall provide a description of the proposed methodology and approach for conducting the following activities described in the Scope of Work documents provided as an attachment to this RFP:

- Approach to engaging with stakeholders;
- Implementation plan: implementation strategy, steps, communication strategy, estimated time and list of associated expenses;
- Project management approach;
- Work plan and timeline;
- Plan for transferring product to the Client (Ministry of Veteran Affairs);
- Approach to ensuring sustainability of product usage upon completion of the contract; The estimated costs for maintaining the product should be submitted in a separate tab with the budget;

- Approach to security of data and product;
- Risk register listing potential risks and proposed mitigation measures.

Part 3: Past Performance References (1 page maximum)

Bidders shall provide a minimum of three recent past performance references for work undertaken in the last five years. All references shall reflect the bidder's experience in work of the type and scope described in the RFP. Contacting the bidder's references will be part of the bid evaluation process. For each reference, bidders shall provide the following information:

- Client name, contact person, address and telephone number;
- Project start and end dates;
- Size and type of enterprise for whom services were provided;
- Total cost and length of the contract;
- Description of the services provided by the bidder, including project scope and methodologies/technologies used;
- Past work performed for IREX and any other international organizations and/or government.

Part 4: Key Personnel (3 pages maximum)

Include up to 3 CVs of key personnel who will be involved in the project. The CVs should demonstrate that the proposed key personnel possess the skills and knowledge to effectively carry out their proposed responsibilities. CVs may not exceed one page in length and shall be in chronological order starting with most recent experience.

Part 5: Appendices (2 pages maximum)

The bidder may include additional miscellaneous documents as appendices not exceeding two pages that could include tables/graphs, publications and/or other documents that bidder deemed appropriate for the RFP.

C. Financial Proposal

The bid ceiling for the current project shall not exceed $300,000. Price quotations submitted by each bidder shall include all costs associated with the development testing and deployment of the product as described in the RFP. There shall be no hidden costs. The price quotation shall include a narrative, describing all of the assumptions on which the quoted prices are based. The financial proposal should be an Excel spreadsheet that includes:

- Labor costs (e.g. wages and related costs for personnel), disaggregated to monthly rates and % of labor per month;

- Fixed costs (e.g. technology supplies such as hosting costs for the development, staging, production servers, subscriptions for third-party services and licensing);
- Variable costs (e.g. consulting services and travel expenses);
- A separate tab should be included in the Excel form with cost estimates related to sustaining the products beyond the life of the Contract with IREX.

The budget shall include costs associated with all activities required for the implementation of tasks outlined in this RFP. The budget must be in U.S. Dollars.

Only successful candidates will be contacted. IREX reserves the right to make hiring decisions at its discretion. Candidates who submit any other material, apart from the requirements above will not be considered.

EVALUATION CRITERIA

All written bids submitted will be reviewed and rated by an IREX Review Committee. The initial bid from each bidder shall represent the bidder's best effort and most complete and favorable terms. The evaluation criteria are as follows:

#	Criteria	Documents to prove
1	Relevant past performance, as demonstrated in the Technical Section, and evaluation of the bidder's references, with the types of services described in this RFP, as well as with organizations with needs similar to those of MoVA	Links to portfolio, references, previous contracts
2	Bidder's corporate capacity and key qualifications to meet IREX's requirements as detailed in this RFP	Bidder's information provided in the Technical Section
3	Feasibility of the bidder's proposed preliminary implementation plan and schedule to accomplish the Scope of Work	Bidder's information provided in the Technical Section
4	Bidder's technical design response to the RFP requirements	Bidder's combined financial, technological, and other resources marshalled in support of this

		project as described in the Technical Section
5	Value for the money	Best value for the money

Appendix 1 - Part 1: Scope of Work for E-veteran web platform
Appendix 2 - Part 2: Draft Scope Work for E-veteran registry

E-VETERAN WEB-PLATFORM

(WEB-Platform)

TERMS OF REFERENCE

For the creation of an information-analytical system

for managing veterans' needs

(E-Veteran Web-Platform)

Overview

The software complex of the information-analytical system for the administration of veterans' needs (the E-veteran Web-Platform) is envisaged in the form of a web-application (hereinafter referred to as the "Website"). The Website will allow the provision of services including through the E-veteran automated system, which is designed to complement the development of physical "Veteran Spaces."

The Website is intended to provide transparency and greater, more equitable access to information, benefits, and services for veterans, in a modern, convenient and interactive way to incentivize and facilitate the greater usage of dedicated social services by veterans.

Website Goals

The goals of the Website are to:

- provide an effective network of information on services available to veterans;
- assist veterans in submitting applications, requests and receiving responses through an online portal to reduce unnecessary bureaucratic obstacles and customer waiting times;
- facilitate the interaction between veterans and representatives of the Ministry of Veterans' Affairs (hereinafter referred to as "the Ministry");
- increase the Ministry's transparency;
- provide veterans and their family members with greater access to information;
- ensure that veterans and their family members are treated with dignity; as people who deserve to be treated with respect by their fellow citizens.

Intended User Types

- Anonymous (unregistered) visitor
- Registered website user
  - Central administrator
  - Regional administrator
  - Veteran

Key functionalities for each user type are described below under categories of Website visitors.

Requirements for Website Functionality

The site will be created based on a content management system (hereinafter referred to as the "System"). The System will:

- provide a clear, intuitive information management structure, i.e. navigation system;
- manage the web page's appearance and content;
- manage information exchanges and facilitate communication between the Ministry and users (veterans, family members of veterans) through requests/personal profile;
- offer the possibility, through further development, for connectivity with the E-Veteran Unified Registry.

The Central or Regional Administrator (Ministry representative) of the Website must be able to perform the following administrative functions:

- modify and edit Website content;
- ensure that necessary materials are published in accordance with the structure of the Website;
- compile and process complete Website visitation statistics, including regional distribution;
- grant specialists of the local departments of the Ministry access to structural sections with relevant functionality of the Website (downloading and uploading regional information);
- facilitate contact with Website users through a mass notification system.

System Administrative Interface Requirements

The System's administrative interface must use best practices of UX/UI to make it intuitive and easy to use for people with lower levels of technical skills.

System Administration Requirements

- Provide remote administration of Website resources;

- Take into account the possibility of locating the Website's technical complex on the territory of a third-party host, while ensuring information security requirements.

Site Structure and Presentation Requirements

The basic structure of the Website will be broken up into <u>sections</u>.

The structure of the Website must include 2 sections:

- **Page for personal requests**—the E-veteran profile.
- **Veteran services database**—allows filtering options (for veterans, spouses or children of veteran, place of residence, types of services), full-text search, and sorting by category.

All pages of each section must use the same means of rapid navigation to other parts of the Website. The Website interface must clearly and intuitively present information and be able to quickly and logically transition to other sections and pages. Each webpage must belong to one or more sections of the Website.

Access rights to individual sections and pages (including features) of the Website and their visibility must be differentiated based on the category of the registered user.

Each section of the Site must be accessible to one or more groups of registered website users and, where necessary, also to anonymous (unregistered) visitors.

Depending on which category and group the user belongs to (anonymous/registered, <u>group of registered users</u>), the available composition of the Website's content with webpages (features) for the user must differ according to the user's access level.

The administrative functions (operations) of the Website, information content, and editing of Website materials, must be implemented as separate pages of the Website and must be accessible only to certain groups of registered users within sections and/or as separate sections.

Registered Users should have an ability to view and obtain personal data (by digital signature or login and password) from the E-Veteran profile online using computer, Internet and mobile communications (WEB and WAP resources).

Example of a Possible Site Structure

Indicative content structure:

- main menu
- website of the Ministry
- regional bodies of the Ministry
    - list of regions (regional level website):
- legal framework (links)
- database of veteran services
- veteran's personal profile

In a further description of the menu items and sections of the Website, the concepts of benefits and services specified in the normative documents must be available. (Information can be obtained from the Ministry of Health website).

Categories and groups of Website visitors

Website visitors are divided into the following categories:

- Anonymous (unregistered) visitor;
- Registered visitor (user) who has access to a limited number of Website sections that are not accessible to anonymous visitors and/or certain sections (features) for editing and Website administration.

The Website must classify registered visitors into sub-groups (central administrator, regional administrator, and veteran). A registered user can be a member of only one group.

For example, a specialist and a Website administrator have the right to access their own personal cabinet section if they are registered as regular veterans. Access to the Website sections must be granted based on verification of the registered user of the respective group.

Everyone who has the right to register as a user can receive one-time or periodic information in the form of emails or SMS messages.

When registering, the user must provide the following personal information, which will be stored in the user database:

- last name, first name and patronymic
- place of residence
- email address

- contact telephone number

The Website management system must allow for specialists of local bodies to create new announcements and news items (with the option of editing and deleting such announcement), which will be viewable to both registered users and anonymous visitors of the Website.

Website Administration Requirements:

The following categories of Ministry staff who will be involved in Website administration and content creation, must be registered as users:

- Central Website Administrator;
- Regional Website Administrator (specialist from local Ministry department).

The Regional Website Administrator may perform the following Website actions (operations):

- Receive information for publication in the relevant section of the Website and determine its category within the scope of his/her formal authority.
- Prepare publication of the webpage in the appropriate style to the relevant category, use the Website preparation and editing tools, add related materials and files.
- Publish the processed material to the relevant Website sections, according to the established rights of access to each section.

The Central Site Administrator may perform the following Website actions (operations):

- In cooperation with the Vendor, resolve technical issues of Website software and hardware.
- At the request of Ministry officials, add announcements with defined content to certain materials (web pages) and/or sections of the Website.
- In case of emergency, perform appropriate procedures to restore the Website and information database.

The Administrator must be able to complete the following functions:

- preliminary preparation of materials and their transfer to the Website;

- support work with cascade style sheets;
- enable the use of images in publications;
- enable work with spreadsheets;
- provide text formatting tools;
- provide tools for working with lists;
- enable links to other documents;
- support edit histories and versioning;
- enable both visual mode and direct work with HTML.

Website Graphic Design Requirements

The design of the webpages should be based on consistent standards and should use features that are available to all web browsers. The portal design should meet modern standards (State Design Code) and guidelines in web design, and be simple, modern, and informative.

The user interface must provide a clear, intuitive presentation of the contents and be able to quickly and logically navigate between sections. Navigation elements must be easily understandable to users, and links to pages should include headings and commonly used symbols. Graphic navigation elements must have alternative text for accessibility purposes. All links within the Website should open in the same browser window. If the portal contains a link to a third-party site, it should be opened in a new window.

Requirements for Website usability

The information fields that are to be filled in by the user should show explanatory notes when the cursor is over the field, and after entering information, the entered data format (date, numbers, etc.) should be validated.

Simple drop-down menus should be used to represent the content of each section.

Page size may not exceed 100-120 KB.

The site must be usable for visitors using the most common web browsers (at the time of signing the system development agreement):

- Microsoft Internet Explorer
- Microsoft Edge

- Opera
- Google Chrome
- Mozilla Firefox
- Safari
- Support for the mobile version of the Website for tablets and mobile phones is also required (for non-administrative users).

Website Software Requirements

The Website Software must include the following:

- Be built using the Content Management System and State standards
- Use the "design code" for State websites (www.design.gov.ua)
- Include a digital signature encryption module
- Be authenticated through id.gov.ua and bankid.org.ua
- Include a user's profile
- Include a Central Administrator profile
- Include a Regional Administrator profile
- Provide a user support module

The System must ensure information is backed up (night archiving, creation of backups) and that data recovery is available through the web-based admin interface.

The System must be capable of importing/exporting information streams and editing certain Website data. Content streams to the site's central repository must be loaded with visitor history, monitoring and storage. The control means the following:

- When opening the website, a veteran can log-in using his/her email account digital signature, mobileID or email (OAuth). When entering a digital signature or telephone number, data is checked in the system (database) and if there is a discrepancy, another method is suggested, or contacting support consultant for clarification is suggested.
- When a veteran enters their personal E-Veteran profile, the date and actions are recorded. These will then make up the visitation history (including data requests and responses). On subsequent visits, the veteran can see his/her visitation history and the list of services received in this section.
- This section also lists the services provided to the veteran.

The Website's software should enable the Website Administrator to conveniently and automatically create new sections of the Website, restructure the existing content by sections, and access the corresponding section in the data storage.

The Administrator's functions for creating announcements and news items should be accessible exclusively by HTTPS protocol (with cryptographic protection of data exchange between the Website and the workplace).

Accounts created by the Website Administrator must be protected by passwords that do not allow reverse decryption.

The exchange of registered user's password information and the workplace of such user must be made exclusively by HTTPS protocol.

The Website's software must support the operation of the Website all day, seven days a week, 365 days a year (assuming problem-free operation of hardware).

The Website's software must not require downtime to perform maintenance and/or backup of Website content.

The software must provide concurrent (parallel) usage by 1,000 (one thousand) users of the Website, without any denial of service and without impairing the page load time.

The components of the web portal must be run on licensed copies of the system and application software, and if open source code is used, supporting documents must be available to enable it to be used for these purposes.

All pages of the site must be printable and have links. Users must be able to print or email any article from the site or page, be able to recommend or like a page on Facebook and be able to share (tweet) a page on Twitter.

Requirements for Website documentation

At the final stage of Website development, the Customer must be provided with the following package of documents in the state language:

- description of the delivered package
- guidance on filling in information on the Website
- central administration guide
- regional administration guide
- content management system documentation.

Requirements for the transfer of ownership

The Contractor shall transfer to the Customer the property rights relating to intellectual property for the developed product, including:

- the Website program code
- text files
- graphic digital images

Acceptance of the completed works must be carried out upon presentation by the Contractor of the relevant documents and must be completed with an Act of Acceptance signed by the Contractor and approved by the Customer, namely:

- financial act of acceptance of services delivered (in duplicate);
- technical act of acceptance of services delivered (in duplicate);
- software (in a single copy) with proprietary rights registered in accordance with the procedure established by law;
- license or license agreement for the accompanying software that requires such a license (in a single copy) with the proprietary rights to use the software registered in accordance with the procedure established by law.

Website testing will be carried out by the Contractor and the Customer.

Acceptance of the Website by the acceptance committee, which must include representatives of the Customer and the Contractor, must be given within one month following the completion of the works. During the month of putting the Website into production, the Customer's representatives will monitor the Website's performance for errors. The Contractor's representatives must correct the errors found by the Customer. The results of the committee's work must be drawn up into an act signed by the members of the committee and approved by the Customer.

The Contractor must provide support to the State examination of the CISS System and to obtain a certificate of compliance with the CISS issued by the State Service for Special Communication and Information Protection of Ukraine.

The developer must be licensed to provide cryptographic security services (other than electronic-digital services) and licensed to provide technical security services.

In the process of developing the software, it is possible to make changes to the terms of reference with the agreement of both parties (Contractor and Customer).

Draft Scope of work for E-Veteran Registry

Kyiv 2020

Contents

Chapter 1. General information

1.1. Full name of the system, notation key

Full Name: "Automated System Unified Veteran Registry"
Notation key: "E-Veteran Registry" ("System").

1.2. Customer name and details

Ministry of Veterans Affairs (MoVA)

Address: 12, Museinyi Lane, Kyiv, 01001

Registration code (EDRPOU) 42657144

1.3. Definitions, symbols and abbreviations

Concept	Definition
ACID	A set of properties intended to guarantee the validity of database transactions: atomicity; consistency; isolation, durability.
Internet Information Services ("IIS")	Web server that is part of Microsoft operating systems that is widely used for modern web solutions.
SOLID and OOP	Principles of object-oriented programming.
SQL statement	Instructions for Structured Query Language (SQL), which specifies a certain step in information processing. SQL is a standard tool for accessing the database server.
Remote Desktop Protocol (RDP Protocol)	RDP Protocol is an application layer protocol used to provide remote user access to the server running the terminal connection service.
User authorization with a unique registration number of user's public key certificate	Certification of validity and ownership of the public key to the user under the certificate by the public key and granting the user with relevant authority in the System.
AKCC	Accredited Key Certification Center
DB	Database

UPS	Uninterruptible power supply
Guide item	Any value in the system guide.
Digital signature	An electronic signature obtained through a cryptographic transformation of an electronic data set, that is attached to or logically attached to this set to confirm its integrity and identify the signer. The digital signature is applied using a personal key and verified using a public key.
State register ("EDRPOU")	Unified State Registry of Enterprises and Organizations of Ukraine
Registry of Insurers ("ERS")	Unified Registry of Insurers of the Pension Fund of Ukraine
Customer or MoVA	Ministry of Veterans Affairs of Ukraine
ID code (INN)	Registration number of the taxpayer's accounting profile is an element of the State Register of Individuals of Ukraine. ID codes are assigned to taxpayers or payers of other obligatory fees and are retained by them throughout their lives.
KOATUU	Classification of territorial entities within administrative divisions of Ukraine
CISS	Comprehensive Information Security System
Local client or Desktop	An implementation option for a client part in a client server architecture that involves executing a piece of system software (usually sufficiently functional) directly in a user's computer operating system (as opposed to "thin" or "web" client when the software works in a web browser).
LAN	Local area network
Operation System (OS)	A basic set of software that performs management of a computer or virtual machine; provides control of the computing process and organizes interaction with the user
Full name	First name, last name and patronymic
Software	Computer software
PFU	Pension Fund of Ukraine
DBMS	Database Management System
SC	Structured cabling
Terminal access	System user's action access by the RDP Protocol
System Requirements Specification (SRS)	A document that defines the requirements and procedures for the System's creation, according to which it is developed and accepted at launch. SRS must be prepared based on the Standard GOST 34.602 89 information technology. Comprehensive standard for automated systems. System requirements specification for an automated system development.
AT	Assistive technology

Social protectors	State social protection bodies
SES	State Employment Service
E-Veteran Registry	Unified Veteran Registry
ODA	Regional State Administration, which also includes Kyiv and Sevastopol City State Administrations
Individual or Veteran	Individuals protected by the Law of Ukraine on the Status of War Veterans, which guarantees social protections
Registry	Unified Veteran Registry (E-Veteran Registry)
The Law of Ukraine on Veterans	Law of Ukraine on the Status of War Veterans and guarantees for their social protection (Law on Veterans)

1.4. System purpose

The establishment and use of the E-Veteran Registry should improve the quality of decision-making in the field of social protection of veterans through the comprehensive processing of operational, analytical, regulatory reference, expertise and statistical data, compatibility of information through the use of unified database construction principles, and common classifiers and standards.

As the "E-Veteran Registry" is based on the Unified Veteran Registry and in accordance with the Law of Ukraine on the Status of War Veterans and guarantees for their social protection, the system will include:

1. Automated accounting of individuals
   a. Ensuring individuals with benefits and other social guarantees in accordance with the Law on Veterans and other Laws of Ukraine.
2. Administration of needs of individuals
   a. Coordination of the activities of executive state bodies and in cases stipulated by laws of self-governmental bodies responsible for social protection.

1.5. System development purpose

The Unified Veteran Registry is a consolidated state information-telecommunication system, designed to collect, record, accumulate, retain, protect and anonymize information about war Veterans, nationally deserving individuals, victims of the Revolution of Dignity, their family members and other individuals protected by the Law of Ukraine on Veterans.

The purpose of creating the Unified Veteran Registry is for the social protection of Veterans and their family members through online monitoring of the implementation of their rights, provision of benefits and guarantees, including housing and land granting, sanatoria and health resorts, rehabilitation, social and professional adjustment, assistive technologies for rehabilitation etc.

Establishment of the E-Veteran Registry includes the creation of regulatory and technical conditions for online service provision.

The development, improvement and ongoing support (refinement) for the "E-Veteran Registry" should include the automation of the following business processes:

- general record of individuals defined by the Law on Veterans
- forming services of war Veterans

- updating data provided social services regarding Veterans
- updating Veterans' profiles in the E-Veteran Registry according to the State Civil Register (closing the profiles at physical or legal of death)
- record of the needs for housing and land provision, sanatoria and health resorts, psychological rehabilitation, social and professional adjustment, assistive technologies and other remedies for rehabilitation etc.
- data exchange with ODA (and Ministry of Social Affairs within the Order #719)
- data exchange with the centralized database on disability issues (hereinafter referred to as CDI)
- data exchange with the Pension Fund of Ukraine about pension rights
- data exchange with the Social Protection Departments, information about pensions, assistance, benefits, subventions
- data exchange with the State Employment Service (SES), information about registrations for social services and received services concerning employment-related issues (professional training)
- data exchange with the Ministry of Justice (Register of Real Estate Property rights), information about requests for land or housing and received land and housing
- record of travel tickets provided to Veterans
- data exchange with agencies that provide travel tickets to Veterans
- record of state awards received by Veterans
- data exchange with the Office of the President concerning awards received by Veterans
- record of data on granting/denying the status of war Veteran
- data exchange with institutional commissions on granting/denying status of war Veteran
- statistical analysis of information
- verification of information on Veterans provided by Unified State Demographic Register (USPR)
- functioning of the cabinet for information requests of relevant departments and state bodies, which have the right to receive such information according to legislation
- functioning of the personal cabinet for Veterans which provides information about the status of their requests
- data exchange with the Ministry of Education and Science about Veterans and their children who have received education at public expense
- the system must comply with the requirements of Chapter 3 of this System requirements specification

Chapter 2. Characteristics of automation objects

2.1. Characteristics of external users

The Ministry of Veterans Affairs (MoVA) is the main executive body that frames policy in the field of social protection of war Veterans, nationally deserving individuals, the victims of the Revolution of Dignity, their family members and other individuals protected by the Law of Ukraine on Veterans. The Ministry is responsible for the establishment and maintenance of the Register and is recognized as Register Manager.

The following information should be included in the E-Veteran Registry:

- Data from the Unified Veteran Registry (registration data, status and information, legal basis for granting/denying the status of a war Veteran).
- Data from the centralized database on disability issues (CDI) on Veterans' needs and provided assistive technologies (AT) and other treatment aids for rehabilitation.
- Data from CDI on Veterans' needs and provided complex prosthetics (including prosthetics and treatment received abroad).

- Data from CDI on Veterans' needs and provided individually ordered complex prosthetics and AT.
- Data from CDI on Veterans' needs and provided private rehabilitation services, ATs and other remedies for rehabilitation.
- Data from CDI and by social protector institutions on Veterans' needs and provided vouchers or monetary compensation for sanatoria and health resorts.
- Data from CDI and by social protection institutions on Veterans' needs and provided rehabilitation services (psychological rehabilitation etc.).
- Data from CDI and by social protection institutions on Veterans' needs and provided rehabilitation services (social and professional training, free driving lessons etc.).
- Data from social protection institutions on provided subventions from local social protection bodies.
- Data from social protection institutions on benefits, and exemptions provided to Veterans (according to the Unified State Automated Register of individuals entitled to benefits).
- Data from social protection institutions on aid provided by local social protection bodies until 5 May of each year (according to the automated system of processing pension documentation);
- Free transportation tickets provided to Veterans.
- Data from SES on employment and social employment services received from the Unified Automated Information database.
- Data from PFU on Veterans' retirement and job dismissal and reasons for dismissal.
- Data from the Ministry of Justice on acquiring the rights to real estate (land, housing) from the Register of Property Rights.
- Data about Veterans' family members, information about registered Veterans' and their family member application to improve housing conditions and/or housing or financial assistance for housing received by them.
- Data from the State Civil Register to update the Veterans' profiles (closing the profiles in case of legal and physical death).
- Downloading/entering/maintenance of data on monetary compensation received by Veterans funded by local budgets according to the ODA data.
- Downloading/entering/maintenance of data on state awards received by Veterans according to data from the Office of the President.
- Downloading/entering/maintenance of data on medical and rehabilitation services received by Veterans
- Downloading/entering/maintenance of data on homeless status of Veterans (from CDI).
- Record of professional training or retraining in educational institutions for Veterans and their children that has been funded by the State.
- Maintenance of the register of medical and rehabilitation institutions and enterprises within the jurisdiction of MoVA (hospitals, rehabilitation centers etc.).
- Personal data of individuals from USPR for verification of individuals and updating, downloading unified keys for USPR.
- Record of war Veterans and their children who have received state-funded education.

2.2. Characteristic of information flows

Directions for information flows are shown in the table below:

No.	Department	Services	Databases, registries, lists	Characteristics and principles of information transfer
1	The Ministry of Social Affairs	- registration of the data of Veterans (registration profile) - granting/denying of the statuses - providing benefits	Unified State automated Register of individuals entitled to benefits (ЄД А Р П) Automated System of processing of pension documentation based on computer technologie (А С О П Д К О М П Е Х)	Local network; batch information transfer, through the import/export of files
		- providing subventions	SC "Zhytlovi subsydii"	Local network; batch information transfer
		- providing AT & other rehabilitation remedies - psychological rehabilitation - professional adjustment - sanatoria and health resorts - data on homeless	Trembita	Online database, information transfer through the exchange protocol
		- free travel tickets	Digital lists	Information transfer through the secure communication channels
2	State Employment Service (SES)	- record of unemployed (unemployment assistance)	Unified information analytical system "Employment service»	Online database, information transfer through the exchange protocol
3	Pension Fund of Ukraine	- providing pensions	Automated System of processing of pension documentation based on computer technologies (А С О П Д-w К О М П Е Х)	Online database, information transfer through the exchange protocol
4	MinJust	- providing information about acquisition of the rights to real estate (land, housing)	Register of Real Estate Property Rights (RREPR)	Online database, information transfer through the exchange protocol
		- record of the civil status of individuals	State Civil Register	Online database, information transfer through the exchange protocol

5	Local departments of the Ministry of Veterans Affairs (MoVA) (data from ODA)	- providing state-funded social services (compensation of housing, land etc.) - providing local-funded social services and humanitarian aid	Digital lists from regional or local self-government bodies	Information transfer through the secure communication channels, import of the lists in the "E-Registry»
6	Institutional commissions	- Registration of Veterans - granting/denying of the Veteran of war status - providing institutional-funded social services, monetary assistance	Databases Digital lists	Information transfer through the secure communication channels, import of the lists in the "E-Registry»
7	Departments and enterprises that provides medical and rehabilitation services	- providing medical services; - providing rehabilitation services; - receiving conclusion certificate of medical advisory boards medical and social expert commission; - homeless register	E-Veteran Registry	Online entering data into relevant section of Veteran's registration profile in "E-Registry"
8	Private prosthetic orthopedic enterprises	- providing private rehabilitation services - providing technical and other rehabilitation remedies		Information transfer as a processed Veteran's request
9	Educational institutions	- providing education services		Processing online requests
10	Ministry of Veterans Affairs (MoVA) (interdepartmental commission)	- granting/denying of the statuses - providing exception coupons - providing Veterans of war with services abroad - providing monetary assistance		Information transfer through the secure communication channels, import of lists into the "E-Registry», online entering in the Veteran's registration profile
11	Ministry of Veterans Affairs (MoVA)	- Centralized register, statistical analysis, data control, reporting, etc.	Unified Register of ATO participants	Import relevant data into the system (period, date, status granting, etc.), information import protocol
12	The State Migration Service of Ukraine	- Verification of individuals	Demographic Register	Online base, data transfer through the exchange protocol
13	Office of the President	- State awarding	State awarding Individuals	Information transfer through the secure communication channels

Figure 2.2

11

The Main technological processes of the System are shown on figure 2.2.

In E-Veteran Registry, the following processes will be enabled:
- Downloading/entering/saving data on registration and granting of Veteran status, certification (MoVA and its local departments).
- Downloading data on the needs for and provision of housing and land from Registry of Real Estate Property Rights (Ministry of Justice).
- Downloading data on the needs for and provision of sanatoria and health resorts, psychological rehabilitation, social and professional adaptation, assistive technologies and other rehabilitation remedies (CDI, social protectors).
- Downloading/entering information about Veterans' family members, information about Veterans' and their family members registered as applicants for improving housing conditions and/or housing or financial assistance for housing received by them (MoVA, its local departments).
- Downloading data from PFU about pensions that have been provided.
- Downloading information about received benefits and subventions according to the data of Regional Centers of Social Protection of the Population (RCSPP), (MoVA, its local departments).
- Downloading information about registration for and received social services concerning employment related issues (professional training) from Unified Automated Information database.
- Providing Veterans with free travel tickets and how to acquire such tickets.
- Downloading data from the State Civil Register for updating war veterans' profiles in the E-Veteran Registry (closing the profiles in cases of death).
- Downloading data from the Ministry of Education and Science about Veterans and their children who have received education at public expense.
- Downloading data on Veterans with homeless status (from CDI).
- Verification of the information about Veterans provided by Unified State Demographic Register (USDR).
- Maintenance of the register of medical and rehabilitation institutions and enterprises (hospitals, rehabilitation centers etc.) within the jurisdiction of MoVA or according to agreement with medical and rehabilitation institutes and enterprises.
- Receiving, processing, and responding to requests from **cabinet of Veterans' requests** to state bodies and other relevant departments, which have the right to receive such information according to legislation.
- Receiving, processing, and responding to requests from **cabinet of requests for Veterans**
- Analysis and control of deadlines.
- Verification and detection of data duplication.
- Processing informal requests (such as emails and telephone calls) from individuals and departments.
- Forming differences protocols.
- Managing register of users.

Chapter 3. System requirements

3.1. General System requirements
The E-Veteran Registry must be implemented according to the following principles:
- saving the data in the single DBMS
- a single interface

The System must be developed using the following tools:
- database–SQL (MySQL, PostgreSQL or other related databases)
- a modern toolkit for creating and operating the information systems
- software for the request cabinet in popular programming languages (Python, Java, .NET, C# etc.)

The System must be able to:
- distinguish users' access rights to System functionality
- validate information integrity
- save and restore information in the database in case of:
    - power failures and interruptions in an electricity network
    - server failures and servers' denial
    - computer viruses in area network
    - unauthorized intrusions
- provide confidence and information security
- backup the database with subsequent archiving and restoring of backup information regardless of which previous version of the program was backed up

3.1.1. System structure and functionality requirements
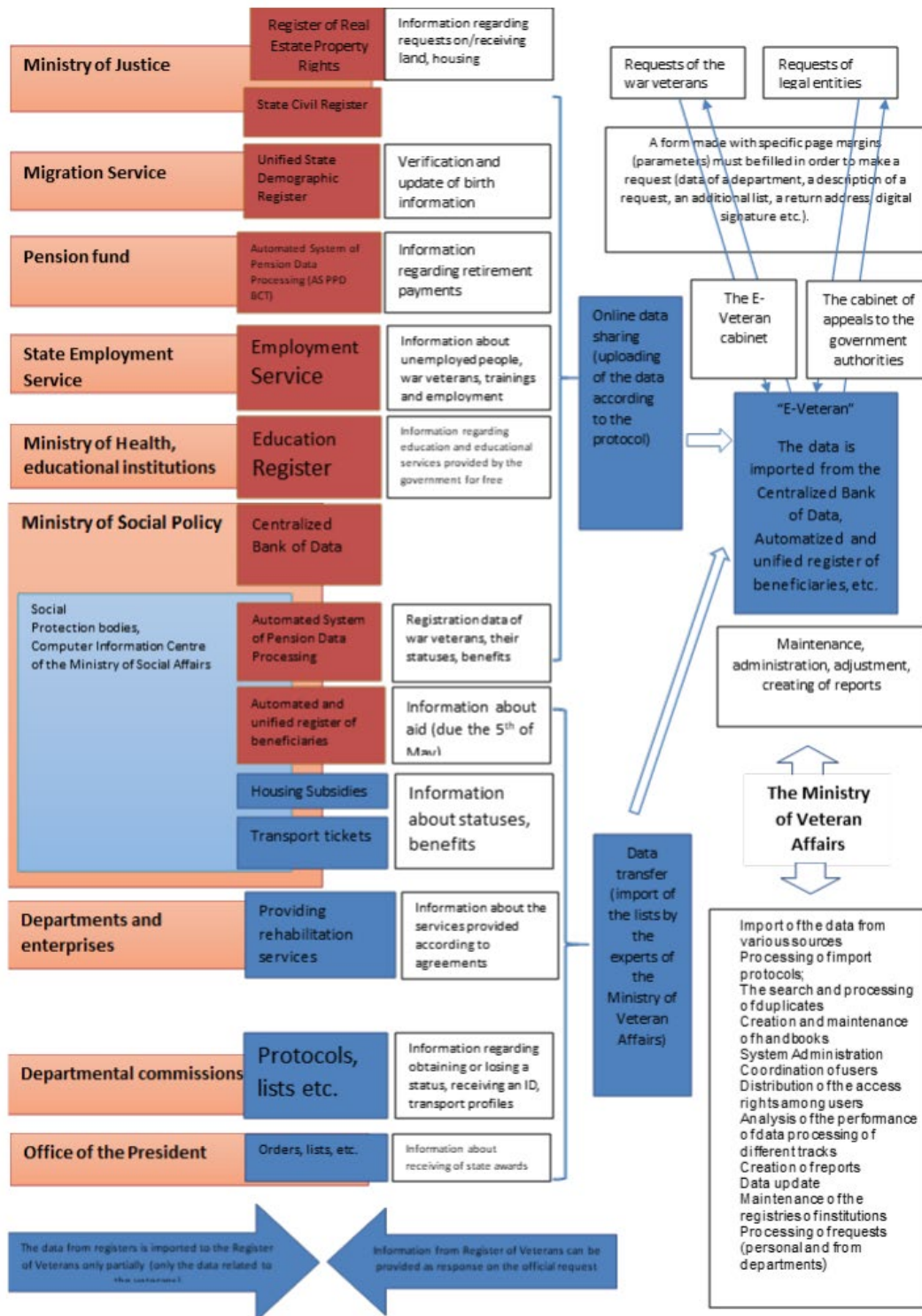
Figure 3.1.1

The System must allow users access to:

- WEB interface of E-Veteran—for users of the System, relevant employees of MoVA (data analysis, view, reporting)
- WEB interface of E-Veteran—for remote users of the System, experts of local MoVA departments
- WEB, WAP interfaces of E-Veteran portal—for Veterans (cabinet for Veterans' requests)
- WEB interface of E-Veteran—for State Bodies (cabinet for state bodies' requests)

Description of processes concerning all access levels is shown in figure 3.1.1.

3.1.2. Requirements for methods of communication for information exchange between components of the system

Information exchange between components of the system uses the Internet—automatedly, through exchange protocols, and other ways (batch data import personally received to digital electronic devices or through crypto server). In cases of batch data, import should be performed using import protocol with a report on numbers of errors and correctness of imported data (with the possibility to process, correct and cancel the data import).

3.1.3. Requirements for compatibility characteristics of the System with other related systems

The System must allow data exchange in the following formats:
- Text formats—RTF (for the requests)
- Spreadsheets—XLSX, XLS, CVS

3.1.4. Requirements for software of WEB-clients of the System

WEB interfaces of the System must support the following browsers:
- Microsoft Internet Explorer 9.0 and higher
- Mozilla Firefox and higher
- Opera 31.0
- Chrome 44 and higher

WEB/WAP interfaces of the E-Veteran portal support the following browsers:

- Microsoft Internet Explorer 9.0 and higher
- Mozilla Firefox and higher
- Opera 31.0
- Chrome 44 and higher
- Mobile browsers (smartphones, tablets, phones)

3.1.5. Requirements for operation modes of the System

The System must be able to operate in the following modes:
- Regular mode
- Routine maintenance mode

Regular mode must be the primary mode, which ensures task processing of the System.

Routine maintenance mode is the technical mode, used for System support, for example—updates, configuration changes, work settings, regular system maintenance.

Moreover, it must be used only for work related to reconfiguration, database conversion, and archiving. Routine maintenance mode does not support users' work.

3.1.6. Further development and modernization of the System

Further development and modernization should provide the following functions:

- update the System's algorithms, according to the needs of the Customer and legal changes
- enlargement of the System's features capability and list of the task it can solve
- computing power and digital data warehouse capacity increase due to increase in number of users and accumulation of data
- enlargement of the System's compatibility with other external systems.

3.1.7. Reliability requirements

The System must ensure that:
- at least 2,000 users can operate simultaneously using the Web interface
- operation 24 hours a day, 7 days a week

System reliability must be ensured by:
- system software support debugging algorithms
- carrying out debugging, searching for, and fixing bugs

The requirements for hardware reliability are:
- high-reliability hardware should be used
- in case of failure, the system hardware and software can be recovered within an optimum time frame
- the system must have complete automatic backup of both system and information databases

3.1.8. Ergonomics and technical aesthetics requirements

The System must provide a convenient intuitive user interface that meets the following requirements:
- Ukrainian language localization
- standardization (uniformity) of display
- standardization (uniformity) of data processing mechanisms (for the same entry fields, operations)
- minimal use of graphics on web pages to speed-up loading times
- for operations that require waiting, a process progress message should be displayed
- interface management and navigation are possible using both mouse and keyboard
- for dialogue boxes, a concise error message with instructions for fixing it must be issued

For input/output (I/O) of data, the System should support transaction control protocol creation and submission for review.

3.1.9. Requirements for protection of information from unauthorized access

Protection of information from unauthorized access must ensure confidentiality and data integrity during remote access to the System and whilst saving documents on the local desktop of System users.

For information security, a Comprehensive Information Security System (CISS) must be developed as a separate project, based on separate requirement specifications. This System requirement specification includes only the most common requirements for CISS.

CISS should be developed based on of the following documents:

- The Law of Ukraine "On Data Protection in Information and Telecommunication Systems".

- Rules for providing data protection in the information, telecommunication and information-telecommunication systems, approved by the Resolution of the Cabinet of Ministers of Ukraine dated March 29, 1999, #373.
- Regulatory document of the system of technical protection of information (hereinafter – RG STPO) 1.1-002-99 "General Provisions for the Protection of Information in Computer Systems from Unauthorized Access", approved by the Order of the State Service for Special Communications and Information Protection of Ukraine (hereinafter – SSSCI) dated April 28, 1999, #22.
- RG STPO 2.5-004-99 "Criteria for assessing the security of information in computer systems against unauthorized access ", approved by the SSSCI Order dated April 28, 1999, #22.
- RG STPO 2.5-005-99 "Classification of Automated Systems and Standard functional profiles of information security against unauthorized access", approved by the SSSCI Order dated April 22, 1999, #22.
- RG STPO 3.7-001-99 "Guidelines for the development of the Terms of Requirements specifications for the development of CISS in an automated system", approved by the SSSCI Order of dated April 22, 1999m #22.
- RG STPO 1.4-001-2000 "Typical Information Security Service Provision in an automated system", approved by the SSSCI Order dated December 4, 2000, #53.
- RG STPO 3.7-003-2005 "Procedure of carrying out works to create CISS for information and telecommunication systems", approved by the SSSCI Order dated November 8, 2005, #125.
- State standard of Ukraine (hereinafter—DSTU) 3396.0-96 "Information security. Technical protection of information. Substantive provisions".
- DSTU 3396.1-96 "Information security. Technical protection of information. Procedure of work".
- DSTU 3396.2-97 "Information security. Technical protection of information. Terms and definitions".

The System must ensure the following requirements:
- Protection of the System must be ensured by a set of software, hardware and organizational tools and support for their organizational activities.
- Protection of the System must be ensured at all technological levels of information processing and in all modes of operation, including during repair and maintenance work.
- User identification and authentication systems should be proceed based on the username and password.
- All requests that require an automated response from the System must be signed with a Digital Signature or registered as remote users (to be entered in the user list based on their application request by the administrator).

3.1.10. Requirements for the information saving in case of accidents

Protection of information from a power outage will be ensured by uninterruptible power supplies. DBMS must have built-in data protection mechanisms against sudden power loss. This means logging the actions of System users, which guarantees sustainability (if the transaction is completed, the data is guaranteed to be in the database).

The System must ensure the following actions concerning information saving in case of accidents:

- local and remote detection of emergencies in the System; such situations should be detected by both the DBMS and the System
- restoration of information from backups of System data
- implementation of standard procedures for eliminating emergency situations of the System
- restoration of System performance

3.1.11. Standardization and unification requirements

For the software:

- For development, the standard industrial programming language and DBMS technologies (for example MS SQL, MySQL, Postgresql, NET, Java, Python etc.) must be used.
- The source code of the System must be uniformly formatted and documented (acceptable documentation languages are English and Ukrainian).
- The System's internal software implementation must be based on the use of standard programming templates (for example, using SOLID principles).
- The System code should not use non-documented programming language capabilities, or those that are considered obsolete at the time of development and for which future support will be discontinued.

For the user interfaces:

- Interfaces must be uniformly combined (for example, standard panels should always be in the same place).
- All interfaces should use the same layout (for example, an icon or inscription should indicate the same on all System interfaces).
- All interfaces should incorporate uniform behavior (for example, the formation of control protocols for incorrect user actions on all forms of the System).

3.1.12. Additional requirements

3.1.12.1. System Architecture and Operation Requirements

The E-Veteran Registry should be centralized and WEB-oriented.

Centralized architecture of the system must have/meet the following criteria:
- be a single database with which all users of the System interact
- no complex technical and system-wide software elements on the side of remote users. As a result, for remote users there is:
  - a minimized cost for hardware and system software
  - a web browser as a necessary system-wide element
  - no need to synchronize databases and versions of the application software
  - a unification of business logic implementation at different levels
  - control of the user's rights for use of the System of specific functions and access to the System in accordance with their rights
  - a centralized audit of user actions of the System (if necessary)
  - use of all DBMS capabilities, including terms of maintenance, security and integrity of information, redundancy, scaling, performance
  - the centralized architecture of the System is more manageable than a distributed one, because it is easier to provide reliable organizational procedures in a single information center served by qualified experts. The centralized architecture of the System will greatly simplify the organizational components of implementation, operation of the System, as well as providing protection of information.

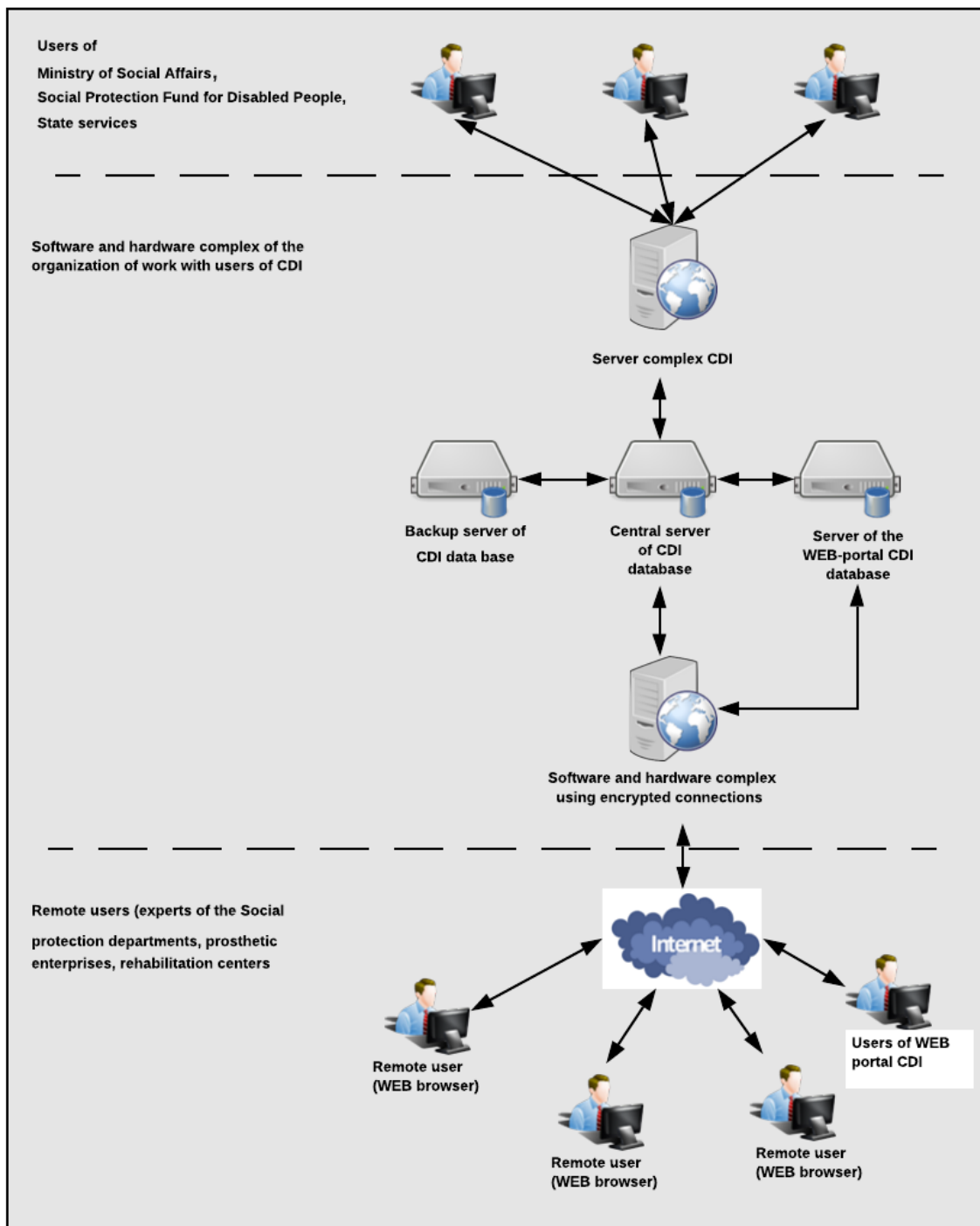The centralized architecture scheme of the E-Veteran Registry is shown in picture 3.1.12.1.

Figure 3.1.12.1

The System server architecture consists of:

- server complex
- central database server—software and hardware complex responsible for storing and processing the data of the E-Veteran Registry information system
- backup server of the database—a server for automatic duplication of the central server data. In case of emergency, the main server of the AS E-Veteran Registry will switch to work with the backup server as the main database server
- E-Veteran Web Portal Database Server—a server that periodically and automatically duplicates data from a central server to enable the E-Veteran web portal. Updating data on the server should be automatic, according to the guidelines defined by the Customer
- software and hardware complex which uses encrypted connections
- a multilevel device for protecting network resources from internal and external attacks
- web server for web use
- switchboard intended to organize a network center of the Customer
- software and hardware complex to organize the work of users of the Customer, intended for the organization of work in the local network
- workstations for users of MoVA—for working in the local network of the AS "E-Veteran Registry" using local application (desktop)
- remote users of the E-Veteran Registry (experts in the local departments of MoVA)—for working with web client, intended for visualization, data import and user interaction with the System running in the web browser
- users of the E-Veteran web portal—for working with Veterans' and state bodies' requests in the E-Veteran cabinet
- users—Veterans WEB/WAP portal "E-Veteran Cabinet" for registration of requests and receiving responses
- user—representatives of agencies and organizations of the Web/WAP portal

3.1.12.2. Requirements for the database server subsystem

Subsystem of the database server will perform the following functions:
- structured data storage
- transactional access to data
- ACID compliance
- business logic of the System's functions
- prevention of unauthorized or incorrect data changes
- database backups
- implement an access control subsystem that will perform the following functions (at the database server level):
    - registration of users and their attribution into functional groups
    - division of the rights and access in the System according to the role and authority that the user or group of users should have
    - logging of audit events of the users' actions

The decision on the allocation of functions described above on DB level should guarantee the unification of access rules independently of access tools, meaning the unified rules will be applied independently of how the access to the data is carried out, and excludes the possibility of a security breach.

3.1.12.3. Client subsystem requirements

The client subsystem must ensure the following functions:
- organization of the graphical user interface
- data editing
- interaction with database
- user authentication in the System
- logging of events and transactions

Client workplaces will ensure realization of functions of the relevant departments and experts.

Client subsystems will have a unified look, a standardized set of common features, a concept, behavior and appearance of the user interface. This will ensure the uniform use of handbooks and classifiers, and the use of an internal standard for the development of the user interface of the System.

3.2. Requirements for functions (tasks) performed by the System

The performance of the E-Veteran Registry includes the automation of business processes on the figure 3.1.12.1.

The system must consist of the following sections to perform functions:
- **Requests**
  - E-Veteran Cabinet
  - cabinet of requests to state bodies
  - review of requests
  - request reporting (personal, from governmental departments)
  - formation of general information about individual
  - formation of information about individual concerning the field of the service request (about individual, in a list)
- **Import**
  - automated import (control, status)
  - import protocols (control, viewing, processing)
  - import reporting
- **Search, view**
  - information section of the profile
  - registration section of the profile
  - social services direction section of the profile (10 sections with subsections)
  - data changes history
  - profile requests history
- **Reporting**
  - general report on statuses
  - reporting on closed profiles (including indicating the reason for closure (death, refusal of verification etc.)
- **Data analysis**
  - selection of duplicates
  - control of deadlines for providing services
  - selection of incorrect data (date of birth; logical errors by dates in different values)
  - selection of data about individuals who have not registered in USAR IEB

- o ability to select data in a complex filter
- o activate data in closed profiles
- **Administration**
  - o maintenance of user data
  - o maintenance of organization and enterprise data
  - o maintaining forms for providing responses to requests and information from the System
- **Users system roles define access to each section:**
  - o Security Administrator—management of roles and passwords
  - o System Administrator—full access to the System
  - o System Management User—full access to all section except administrative section
  - o Request Management User—access to the request section
  - o Local Department User—representative of local departments (access to the sections "search, view" and "manually import," except import from departmental commissions and Office of the President of Ukraine)
  - o user—MoVA expert, access to the relevant reports and general searching, data viewing without the ability to adjust data

Obtaining information from the System is available through requests from Veterans to the relevant agencies, which are entitled to receive information from the system to perform their functions in accordance with legislation.

Veterans' requests

For requests, the following data must be specified:
- personal data (full name, passport number and serial number, type of the passport [old paper passport or the new version], ID profile, ID code (INN), registration address)
- digital signature
- type of request (request for information, for data changes, complaint, consultation, etc.)
- subject matter of the request
- address for the general request response

Departmental requests

Requests must include the following information:
- department name, address (requester's full name, phone number)
- digital signature (or use of login and password as a remote user)
- type of request (information, data update etc.)
- subject matter of the request
- additional documents (lists of data in a specific format)
- return address (only for informal requests)

Subject matter of the request

In order to receive the data from the System, the type of request should be defined and a form for a specific type of inquiry should be completed.

Information requests regarding:

- availability of personal data in the System and the status of a profile (open, closed, if closed the reason should be stated)
- grant and loss of veteran status
- provision of housing
- provision of land

- provision of assistive technologies
- provision of psychological rehabilitation services
- provision of services for social adaptation
- receiving financial aid
- receiving subsidies
- receiving state awards
- receiving pensions
- receiving education with governmental funding.

Responses to requests will be available in the personal cabinet in the form of a short extract.

It is necessary to develop subsystems to work with various algorithms.

Priority data filing should be done through importing information from the Automated and Unified System of Veteran Registry and Centralized Bank of Data (CBD), departmental commissions (considering that a person whose data is available in CBD or provided by departmental commissions is registered in the Automated and Unified System of Veteran Registry with the corresponding status). Personal data is attached to every profile, which is further used for creating reports for analysis, processing and administration of the data: the sources of information, the date of issue, availability in E-Veteran Registry, history of profile updates, requests, and admin.

In order to carry out the import function from different departments, it is necessary to develop the regulations and protocol to follow when exchanging the data with all departments . Contracts should specify the possibility of editing and updating the data by the department. It is necessary if, upon merging into the general system, the incorrectness or irrelevance of the data of the exchange/import protocol are detected. When importing, the import cancellation process should be held according to the decision of the importing user after viewing the import protocol errors. This allows the ability to either correct minor errors immediately and import the data in one stream, or import the correct data from the information stream, and then perform and import additional data. Only entirely correct entries are made when importing.

IMPORTANT. When updating an address, if the Oblast changes (according to E-Veteran Registry) it is necessary to create a separate report to check for duplicates (possible by request) and make the specified changes by the central level user (user of the System maintenance, possible after additional processing).

3.2.1. Development of the subsystem of uploading, maintaining, recording and storing of registration data, information on granting of Veteran status, certificates

Information (registration data; type, timeframe, status, status of internally displaced person, certificate date and number, issuer, benefits) can be downloaded from the E-Veteran Registry, and obtained in .xlsx format. A war Veteran profile is created based on this data. The information sections of the profile are filled with data from other sources, if available when imported. The information is received monthly (from **Regional Centers of Social Protection of the Population (RCSPP)**, or Data Processing Centers). In case of resubmission, the data is updated (changes are recorded in the protocol).

When importing, it is necessary to pay attention to the data format, error log, and duplicate protocols. The import is carried out by an expert from the Ministry of Veteran Affairs in charge of the System or by a specialist from the regional authorities representing the Ministry of Veteran Affairs. All import protocols must be stored in the electronic import journal. Imports must have Add/Create modes (these modes must be available for all import protocols).

Based on the results of the import, it is necessary to generate a report, which is also stored in the electronic journal (henceforth—the Journal).

3.2.2. Development of the subsystem for loading information on the needs and provision of housing and land from the State Register of Property Rights (Ministry of Justice)

Information is exchanged automatically using the exchange protocol. In order to receive the information from the Ministry of Justice, the System must submit a request for information on the need and provision of housing and land, as well as information on death. Information is received monthly according to the submitted request (there are three possible flows of information—need, provision, and information on death). When importing, it is necessary to pay attention to the data format and error log. The import is carried out by an expert from the Ministry of Veteran Affairs. The data is entered in the corresponding sections of the profile.

Based on the import results, a report should be generated and stored in the Journal.

3.2.3. Development of the subsystem for loading information on needs and provision of sanatorium treatment, psychological rehabilitation, social and professional adaptation, technical, and other rehabilitation from the Centralized Bank of Data (CBD), Regional Centers of Social Protection of the Population, about homelessness

The information is loaded from the CBD to the appropriate section of the war Veteran profile. Information is received on a monthly basis. If information about a person in the CBD is not available in the System, a profile is created with an indication of the data source—CBD- and in the import protocol (needed for further processing by employees of the Ministry of Veteran Affairs). When importing the data format, the error protocol and replication protocol should be verified. The import is performed by an expert from the Ministry of Veteran Affairs. Except for the first time, the import from the CBD is made only from the profiles that have changed in the last period (month or quarter).

It is possible to import all the data from the CBD in one package or in separate packages for each section.

An import section of the **Regional Centers of Social Protection of the Population (RCSPP)** lists should be developed if these services are not included in the CBD but provided in the **RCSPP** in the same way as in point 3.2.1.

3.2.4. Development of the subsystem for loading, maintenance of information on war Veterans and their family members who have requested to improve housing conditions and/or received housing or financial assistance for housing (Ministry of Veteran Affairs, territorial bodies of the Ministry of Veteran Affairs)

Information on family members, housing conditions, applications and dates of registration in the record, and housing provision is provided by the Regional State Administration and the Ministry of Social Policy. The information is provided in .xlsx format. This information is needed for the analysis and control of the data on the provision of housing, using data obtained from the Property Registry. The audit is conducted and based on the results of the audit divergence protocol and a report is generated. As a result, if necessary, a request is sent to the department for a response.

If such data is not available in the Property Registry, the profile is filled with the housing data and the indication of the information source (government department).

Based on the results of an import, a report is generated and stored in the Journal.

3.2.5. Development of the subsystem for loading information on the pension entitlements and employment from the Pension Fund of Ukraine (PFU)

This information is exchanged automatically using the exchange protocol. To obtain the information from the PFU, the System must submit a request for information about the pension (date and type of pension). According to the protocol, all new data on Veterans (including death) is provided by the PFU without a request from the Ministry of Veterans Affairs. The information is received monthly (or quarterly) according to the request. When importing data, the data format and error protocol should be verified. The import is carried out by an expert of the Ministry of Veteran Affairs in charge of the System. The data is entered in the relevant sections of the profile.

Based on the results of an import, a report is generated and stored in the Journal.

3.2.6. Development of the subsystem for loading information on benefits, assistance, subsidies according to the data of social protection bodies (territorial bodies of the Ministry of Veteran Affairs)

Information (registration data type, date, period, amount of financial aid/subsidy) is loaded in the **RCSPP** (the Automatized System of Pension Data Processing database, "Housing Subsidy") and in lists provided by the Regional State Administrations.

The information is received in the .xlsx format in separate files provided by Automatized System of Pension Data Processing (until May 5 of each year, for people with disabilities, internally displaced person, etc.), financial aid from local subventions (from Regional State Administrations), and subsidies from the database "Housing subsidies" (for benefits written in clause 3.2.1 .). The information is received on a monthly basis (from the regional ASPDP or Data Processing Center). In case of resubmission, the data is updated (changes are recorded in the protocol, no financial assistance should be provided, but there may be errors in the formation of the exchange file). When importing, the data format, error protocol, and protocol of resubmission (in case the date of aid/subsidy are recorded at the same time) should be verified. The import is carried out by an expert of the Ministry of Veteran Affairs in charge of the System or by a specialist from the regional authorities representing the Ministry of Veteran Affairs. Import protocols should be stored in the Journal.

3.2.7. Development of the subsystem for loading State Employment Service data on the employment record of registered persons, and social services related to employment (professional training), employment from the Automated and Unified Bank of Data

The information is exchanged automatically using the exchange protocol. The State Employment Service provides the data (date of registration, unemployment period, professional training information, employment information) monthly or quarterly to the Ministry of Veterans Affairs. If a request is made for the first time, all the data on war Veterans available on the date of request should be provided. At the same time, there should be an option of an automated response from the System to confirm the status of the person. (Such applications are considered in the section of requests made by governmental departments that can be registered as remote users of the System).

When importing, the data format, error protocol, and protocol of resubmission (professional training is provided only one time) must be verified. The import is carried out by an expert of the Ministry of Veterans' Affairs in charge of the System. Protocols of import and import reports should be stored in the Journal.

3.2.8. Development of the subsystem for loading information on travel tickets (or coupons for free travel) provided to war Veterans

The information (registration data, date, period, number) is formed by lists in the Regional Departments of Social Protection of Population and other certified departments. The information is provided in .xlsx format. The information is received monthly (quarterly), in case of resubmission, the data is updated (changes are recorded in the protocol, coupons should not be resubmitted for the same period, but an error may occur during the formation of the exchange file). When importing, the data format, error protocol, and protocol of resubmission must be verified. The import is carried out by an expert of the Ministry of Veterans' Affairs in charge of the System or by a specialist from the regional authorities representing the Ministry of Veterans' Affairs. Protocols of import and import reports should be stored in the Journal.

3.2.9. Development of the subsystem for loading information on state awards received by war Veterans according to data from the Office of the President of Ukraine (OPU)

The information (registration data, date, type, number) is formed by lists in the OPU. The information is provided in .xlsx format. The information is received monthly (quarterly). In case of resubmission the data is updated. The import is carried out by an expert of processing from the Ministry of Veterans' Affairs. Protocols of import and import reports should be stored in the Journal.

3.2.10. Development of the subsystem for loading the information on granting or denying the status of Veteran

The information (registration data, authority, date of granting of status, period of participation in ATO/Joint Forces Operation, rank, status type, substitution of granting or denial of status, number and date of decision) should be formed by lists of inter-departmental, departmental commissions for consideration on granting or denial of status and Department of Social Protection of Population. The information is provided in .xlsx format. In the case of resubmission, it should be considered as resubmission of status and the commissions or the Departments of Social Protection of Population should be notified of such granting or denial to take appropriate action. Changes should be recorded in the protocol. When importing, the data format, error protocol, and protocol of resubmission must be verified. The import is carried out by an expert of processing from the Ministry of Veterans' Affairs. Protocols of import and import reports should be stored in the Journal.

3.2.11. Development of the subsystem for loading data from the State Register of Civil Status Acts for updating war Veterans' profiles to the System (and closing of profiles upon death)

The information is exchanged automatically using the exchange protocol. In order to receive the information from the System, a request for death information must be sent (date of death). The information is received on a monthly basis (or every six months, as the data is obtained from the Pension Fund of Ukraine), according to the request. When importing, the data format and error protocol must be verified. The import is carried out by an expert of processing from the Ministry of Veterans' Affairs. The data is entered in the corresponding sections of the profile.

Based on the results of an import a report should be created and stored in the Journal.

3.2.12. Development of the subsystem for downloading information on the provision of medical rehabilitation services

The information (registration data, institution, date of the period of service provision, type of service, contractor, etc.) is formed by lists of departments and enterprises which, under the contract or under the authority of the Ministry of Veterans' Affairs, provide services to Veterans. The information is provided in .xlsx format. The information is provided if there is appropriate data to submit to the system. When importing, the data format, error protocol, and protocol of resubmission must be verified. The import is carried out by an expert of the Ministry of Veterans' Affairs in charge of the System or by a specialist from the regional authorities representing the Ministry of Veterans' Affairs. Protocols of import and import reports should be stored in the Journal.

3.2.13. Development of the subsystem for downloading data from the Ministry of Education and Science on war veterans and their children who have received education at public expense

The information is exchanged automatically using the exchange protocol. In order to receive the information from the System, a request for education information (date, type of education) must be submitted. Information is received monthly (or as needed) according to the request submitted. When importing, the data format and error protocol must be verified. The import is carried out by an expert of the Ministry of Veterans' Affairs in charge of the System processing. The data is entered into the corresponding sections of the profile. Based on the results of the import, a report should be created and stored in the Journal.

3.2.14. Development of the subsystem for verifying information on war veterans through the Unified State Demographic Register

This section is for updating the personal data of individuals, considering that the process of obtaining new passports is actively underway. Information is exchanged automatically using the exchange protocol. In order to receive information, the System must request registration information (series, number, date, passport, when issued and by whom, VAT identification number, registration address.) The information is submitted quarterly (or annually) according to the request. When importing, the data format, and error protocol must be verified. The import is carried out by an expert of the Ministry of Veterans' Affairs in charge of System processing. According to the data from the Unified State Demographic Register, the registration data of the person is updated and recorded in the profile history and in the protocol of exchange. A report should be created as well and stored in the Journal.

3.2.15. Development of the search and view subsystem

This section is created to view information about war Veterans for general information on the need for and provision of benefits and services. The information is used for processing letters, requests, etc. by the users of the Minister of Veterans' Affairs. Each profile of the Veteran should include the following information:

- registration data (personal data, veteran status, social status, status of the profile)
- information about the sources and creation of the profile (what databases were used and when the profile was created, whether it is available in the Automated and Unified Register of Beneficiaries, update logs, the performer of changes, etc.)
- separate sections on information tracks of the system (10 sections on benefits and services, which should also have the information section)
- history of profile data updates (updates of personal data, changes in services)

- history of profile requests for services/funds etc. (date, type, content, to whom request is directed).

A person's profile as an information unit of the System should operate in three modes:

1. Automated import/export of data only.
2. Viewing of personal data with no changes allowed.
3. Editing of personal data, except for deleting the profile, which is performed by the administrator in Desktop mode. All changes are recorded in the event log.

When entering the section, a search format must be created for accessing a specific person's profile. It is also possible to create a search format for logging in to lists of persons selected by certain parameters and choosing a person's profile from the list.

Each section of the profile must have an information section (sources, date of last change, administrator).

The functionality of the page should be optimal for switching between sections of the profile.

3.2.16. Development of the report subsystem

This section should contain reports that are provided at the entrance to the section.

For all reports, it is necessary to develop the option of filtering persons or enterprises by regional affiliation for the use of the territorial bodies of the Ministry of Veterans' Affairs.

When developing reporting formats, consider the constituent parameters of the data in the report to add a filter to a report (period, personal status, profile status, service providers, age, gender, type of service, etc.).

It is necessary to develop modes for reporting by region and by period:

- war Veterans
    - number of people, status
    - demobilization status
    - number of pensioners
    - based on gender, age
    - report on the need for and provision of housing
    - based on gender
    - based on status
    - financial compensation instead of housing
- report on the need for and provision of land
    - based on gender
    - based on status
    - based on intended use
    - financial compensation instead of land
- report on the need for and provision of sanatorium treatment
    - based on gender
    - based on status
- report on the need for and provision of psychological services
    - based on gender
    - based on status
- report on the need for provision of assistive technology
    - based on gender
    - based on status
    - based on the type of technology

- report on the provision of social benefits
  - based on the type of benefits
  - based on gender
  - based on status
- report on the provision of subsidies
  - based on gender
  - based on status
- report on benefits
  - based on the type of aid
  - based on gender
  - based on status
- report on employment according to the State Service of Employment data
  - based on the type of training
  - based on gender
  - based on status
- report on professional training at the State Service of Employment
  - based on the type of training
  - based on gender
  - based on status
- report on the receipt of free travel tickets
  - based on gender
  - based on status
- report on the number of requests sent to the System
  - from persons, personal data requests
  - from departments, governmental bodies
  - declined requests (stated reasons)

3.2.17. Development of data analysis subsystem

This section (desktop mode) is restricted to users of the System (Administrators). In this mode, an administrator should have the ability to run analytical processes:

- Selection of duplicates (repeated data on specified registration parameters, on IDs).
- Control of the terms of granting Veteran status, services (professional adaptation, etc.), checking the date of granting the status and receipt of an ID, receipt of services, and absence of the ID.
- Selection of incorrect data (01/01/1920> date of birth >01/01/2002; date logical errors in different values).
- Selection of data on persons who have not registered in the Automated and Unified Register of Beneficiaries.
- Ability to select data in a complex filter.
- Backup of data on closed profiles (separation of closed profiles that are more than 3 years old).

3.2.18. Development of the subsystem of requests

This section is divided into 3 types of access:

Shared public access through Web/Wap resources have the following sections:

- E-Veteran Cabinet—this section should have a function for registration of a war Veteran's address with explanations on filling in the request form. It is necessary to create a mode of registration of the request with data entry:

- personal data (name, number and passport series [old, new], VAT identification number, address, telephone)
- digital signature (without a digital signature a request is considered as a public request—not automatically assigned)
- type of request (request for information, for data update, complaint, consultation, etc.)
- content of request
- email address

If the request is made without a digital signature or does not pass the automatic response control, then such requests are marked for processing by the user (administrator responsible for the request).

When accessing, create a request registration mode with data entry (or register as an external user to obtain information by contacting a system administrator) must be created:

- department name, address, (administrator name, contact telephone)
- digital signature (or login and password)
- type of request (request for information, for data update, etc.)
- content of request
- addition to a request (data lists of the specified format)
- response address (for general requests)

If a request does not pass the automatic response control, then such requests are marked for processing by the user (administrator responsible for the request).

To work with such requests, the System Administrators responsible for request processing should have access to the following sections:

- work with requests
- reports on the requests (personal, departmental)
- forming a general identity certificate
- formation of a certificate of identity based on the type of the service (about persons on the list)
- forms of references and extracts

3.2.19. User authorization

Prior to user authorization, the System Administrator enters the System's database of users and assigns roles according to the functions assigned to the employee by the order of the Ministry of Veterans' Affairs and the responsibilities of the employee. (The function is performed in accordance with the statement of the employee or manager of the employee of the Ministry of Veterans' Affairs). User data is deleted when the employee is removed from their position. The password is changed at the request of the employee.

According to the role of the user, to log in to the Web Portal system, it is necessary to provide a link to register.

The mode should provide a screen form for entering a login and password.

When authenticating a user of the web-portal of the AS "E-Veteran Registry," the System should check the necessity and correctness of entering the password "login + password"; and display errors when errors occur.

In case of valid pairing "login + password", the next step is to open the general menu of the System corresponding to the role of the user registered in AS "E-Veteran Registry" by the system administrator.

After the first login, it is possible to change the password. After 5 unsuccessful attempts, the system blocks the user's login. Only after the application of an administrator, the System unlocks the user login and provides a new password for further change and login.

3.3 Requirements for types of support

3.3.1. Requirements for mathematical support

The means of analysis of information of the client part of the System should provide fast access to information, and its presentation in a sufficiently complex form without requiring the creation of additional programs during the use of advanced interface components of data display with the ability to debug data at the correct moment.

Database Management System information analytics tools should ensure that analytical data processing advances are utilized:

- Complex group operations
- Analytical SQL functions
- SQL modeling

3.3.2 Information requirements

It is necessary to ensure compliance of the System with the following requirements for technical means:

- Technical means should be able to integrate with existing software and perform the technological operations provided for by the software.
- The computing power of computers must ensure that the system functionality and firmware modules work together.
- Technical means should prevent unauthorized access to the information and provide antivirus protection.

3.3.3. Requirements for linguistic support

The language used in the system software interface must be Ukrainian. This language should be used:

- in the documentation of the System
- in user interfaces
- in user notions about errors, except for notions necessary for analyzing the operation of OS and Database Management System
- in contextual help
- CL8WIN1251 database symbol encoding should be used to ensure that:
  - Requirements for data storage in Ukrainian, special symbols and Cyrillic characters (English is provided automatically)
- Productive use of resources

When exporting data in XML format, the required character encodings must be used, namely Unicode UTF-8.

The data access language must be SQL.

Logic implementation language from the client is JavaScript.

3.3.4. Software requirements

3.3.4.1. Data base management system requirements

Data base management system: popular modern DBMS (Postgres, MySQL, MS SQL, Oracle etc).

3.3.4.2. Database server operating system requirements

Operating System Enterprise Linux or Windows 2016 Server R2 Standard or higher.

3.3.4.3. Requirements for the Web server operating system and system-wide components

Web Server Operating System should be popular modern web server, meeting requirements for high traffic support.

3.3.4.4. Requirements for the workplaces of remote users of the System

Workstation operating system—Windows XP SP3 or higher, which supports modern versions of web browsers. The bandwidth should be at least 128 KBPS.

3.3.5. Hardware requirements

3.3.5.1 Recommended minimum requirements for the Customer workstations hardware

Processor core at least eighth generation i3 with integrated video adapter.

- RAM—at least 8GB (no worse than DDR4); with at least two memory slots, at least 50% of slots should be free
- ability to set at least 32GB of RAM
- SSD hard drive with at least 120GB capacity
- I/O external ports (min): 1 x LAN (RJ45) port, at least 5 pcs
- USB, at least 4 pcs. USB 3.0
- display-port and HDMI for monitor connection
- combined or separate audio I/O for microphone/headphones
- network Adapter (not worse than) RJ-45 built-in LAN 100/1000 Mbit/s
- trusted Platform Module (TPM) version no lower than 2.0
- ability to disable USB ports in the BIOS
- keyboard with Cyrillic letters (Ukrainian/Russian) (from workstation manufacturer), type of connection—wired, interface—US

Optical mouse with scroll wheel (from workstation manufacturer), type of connection—wired, interface—USB.

Display: backlit LCD monitor, at least 21.5 inches visible; viewing angle (horizontal/vertical), at least 178°/178°; resolution at least full HD 1920x1080; variable angle of the monitor; response time—5ms.

3.4. Compliance with the regulatory framework

The legal framework, which is the basis for works, includes:

1. Law of Ukraine on the Status of War Veterans and Guarantees for their Social Protection.
2. Law of Ukraine on the Rehabilitation of People with Disabilities in Ukraine.
3. Law of Ukraine on Registry of People with Disabilities Social Security.
4. Law of Ukraine on Personal Data Security.
5. Law of Ukraine on Security of Information in Information and Telecommunication Systems.
6. Law of Ukraine on Information.
7. Resolution of the Cabinet of Ministers of Ukraine dated July 7, 2019 #417 on approval of rules for ensuring information protection in information, telecommunication and information and telecommunication systems.

8. Resolution of the Cabinet of Ministers of Ukraine dated July 17, 2019 #417 on Unified State Register of War Veterans.
9. Resolution of the Cabinet of Ministers of Ukraine dated August 20, 2014 #413 on approval of the procedure for granting and denying of a participant in hostilities' status to individuals who defended the independence, sovereignty and territorial Integrity of Ukraine and directly participated in the anti-terrorist operation (ATO), ensuring its conduct or carried out activities to ensure national security and defense, repel and deter the Armed Forces of the Russian Federation in Donetsk and Luhansk regions, ensuring conduct of repelling and deterring.
10. Resolution of the Cabinet of Ministers of Ukraine dated October 10, 2016 #719 on issues concerning housing for individuals who defended the independence, sovereignty and territorial Integrity of Ukraine and their family members.
11. Resolution of the Cabinet of Ministers of Ukraine dated April 18, 2018 #280 on issues concerning housing for internally displaced persons who defended the Independence, Sovereignty and Territorial Integrity of Ukraine.
12. Resolution of the Cabinet of Ministers of Ukraine dated November 23, 2016 #975 on providing state-targeted support to certain categories of citizens for professional and higher education.
13. Resolution of the Cabinet of Ministers of Ukraine dated December 27, 2017 #1057 on approval of order of psychological rehabilitation of victims of the Revolution of Dignity, ATO participants, and individuals who were involved in repelling and deterring the Armed Forces of the Russian Federation in Donetsk and Luhansk regions.
14. Resolution of the Cabinet of Ministers of Ukraine dated June 21, 2017 #432 on approval of the order of professional and social adaptation of victims of the Revolution of Dignity, ATO participants, and individuals who were involved in repelling and deterring the Armed Forces of the Russian Federation in Donetsk and Luhansk regions.
15. Order of the Cabinet of Ministers of Ukraine dated August 19, 2015 #898-p on issues concerning provision of land to ATO participants and their families.
16. Resolution of the Cabinet of Ministers of Ukraine dated March 31, 2015 #200 on approval of the order for use of State budget funds on provision of sanatoria and health resorts for victims of the Revolution of Dignity, ATO participants, and individuals who were involved in repelling and deterring the Armed Forces of the Russian Federation in Donetsk and Luhansk regions.
17. Resolution of the Cabinet of Ministers of Ukraine dated April 5, 2012 # 321 on approval of the Order on providing assistive technologies and other rehabilitation remedies for War Veterans, their children and other certain categories of citizens and list of such remedies.
18. Resolution of the Cabinet of Ministers of Ukraine dated February 16, 2011 #121 on approval of the Central Database on disabilities issues.
19. Order of the Ministry of Social Affairs of Ukraine dated June 3, 2014 #347 on procedure for interaction of state bodies and institutions on professional rehabilitation, employment and employment assistance for Veterans.
20. Resolution of the Cabinet of Ministers of Ukraine dated January 10, 2014 #518 on some issues of prosthetics and orthotics with products with the increased functionality on manufacturing technologies which are absent in Ukraine for certain categories of citizens who participated in the ATO and/or ensure its conduction and lost limb or extremities or their functionality.
21. Order of the Ministry of Social Affairs of Ukraine dated September 9, 2014 #683 on approval of the Procedure for registration a person with disabilities, a child with disabilities, to provide them assistive technologies and other rehabilitation remedies at their actual place of residence. Registered in Ministry of Justice on October 8, 2014 #1216/2993.
22. Resolution of the Cabinet of Ministers of Ukraine dated February 18, 2006 #1686 on approval of State Model War Veterans Rehabilitation Program.

23. Resolution of the Cabinet of Ministers of Ukraine dated February 22, 2006 #187 on approval of the procedure of provision of vouchers for sanatoria and health resorts for certain categories of citizens by social protection bodies, ODAs, executive bodies of local state government (in cities, oblasts, raions, in case of their formation [except Kyiv]).
24. Resolution of the Cabinet of Ministers of Ukraine dated February 7, 2007 #150 on the procedure of paying monetary compensation for certain categories of Veterans in place of vouchers for sanatoria and health resorts.
25. Order of the Ministry of Social Affairs of Ukraine dated September 14, 2018 #1354 on approval of documentation for registration and provision of assistive technologies and other rehabilitation remedies for persons with disabilities, children with disabilities, and other people to provide them assistive technologies and other rehabilitation remedies.
26. Order of the Cabinet of Ministers of Ukraine dated June 12 #405-p on approval of the action plan for the implementation of the Concept of e-democracy development in Ukraine for 2019-2020.
27. Standard GOST 2.105-95. General requirements for text documents.
28. Standard GOST 15150-69. Machines, devices and other technical products. Versions for different climatic regions.
29. Standard GOST 34.601-90. Information technology. Automated Systems. Stages of development.
30. Standard GOST 34.602-89. Information technology. Technical requirement specification for the development of automated systems.
31. Standard GOST 34.201-89. Information technology. A set of standards for automated systems. Type, completeness and documents identification for the development of automated systems.
32. Standard DSTU 1.5:2003. Rules of construction, presentation, design and requirements for the content of regulatory documents.
33. Regulatory document of the system of technical protection of information (hereinafter—RG STPO) 2.5-004-99. Criteria for assessing the security of information in computer systems against unauthorized access
34. RG STPO 2.5-010-03. Requirements for protection of the information webpages from unauthorized access.
35. RG STPO 3.6-001-2000. Technical protection of information. Computer systems. Procedure on the development, implementation, maintenance and modernization of technical tools for information protection against unauthorized access.
36. RG STPO 3.7-003-05. Procedure on carrying out work on the development of complex system information protection in information and telecommunication systems.
37. Standard DSTU 3973-2000. Rules of performance of research works. General provisions.
38. Standard DSTU 3974-2000. Rules of performance of experimental design works. General provisions.
39. Standard DSTU 1.5:2003. Rules of construction, presentation, design and requirements for the content of regulatory documents.
40. Standard DSTU 3396.0-96. Information security. Technical protection of information. Substantive provisions.
41. Standard DSTU 3396.1-96. Information security. Technical protection of information. Procedure of work.

3.5. System support and maintenance requirements

- DBMS support and maintenance of the System server complex, ensuring uninterrupted performance, tracking of non-standard situations during System operation, etc.
- Prompt elimination at the request of the Customer of technological emergencies during operation of the System.
- Formation at the request of the Customer atypical database queries that are not provided in the System interface (local client).

- Support should be started from the date of signing of the Agreement.

Chapter 4. Documenting requirements

4.1. General requirements for documenting

In order to perform its functions, the documentation must meet certain requirements:
- Cover all the necessary aspects related to the software life cycle.
- Provided information should be used standard notes, which will be understandable for a wide range of specialists.
- Be adequate to provide an accurate and unambiguous description of specific knowledge area related to the System.
- Be prepared using CASE tools, which allows the intensification of the documenting process as well as the modification and use of these tools to further validate models and schemes.

4.2. List of documents

In the process of developing the System the following documents are required:

- System requirements specification
- Administrator's handbook