Technical Proposal

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Website Article Management Database (PTSD Article Database)

Submitted to:

Department of Veterans Affairs
Network Contracting Office 1, 1 VA Center,
Augusta ME 04330

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Understanding of the Government's Need

International Business Express, Inc. (IBEX) is pleased to offer this technical proposal for the publishing team for the National Center for Post-Traumatic Stress Disorder (NCPTSD), so we may develop an Access database to support the website that uses a content management system (Moveable Type) to stage publication and serve as a backup to VA's Electronic Content Management System (Teamsite). IBEX has the experience and personnel to help NCPTSD with a database to track web article revisions and content development. We understand the database will not be used for any aspects of the NCPTSD website publishing process. IBEX is the perfect fit to create a Microsoft Access Database to assist the NCPTSD team in tracking web article creation, when content is edited, scheduling requirements, and document web page reviews, at: https://www.ptsd.va.gov. IBEX has developed numerous databases for similar purposes, including at Federal Acquisition Services (FAS) to support their content management needs, using Access and other web-based tools. We engineer Microsoft Access database solutions from scratch, ensuring that they fit the client's business processes, and have done so for the last decade. IBEX is registered and certified in the Vendor Information Pages (VIP) database (http://www.VetBiz.gov).

Corporate Experience

As our extensive history (and past performances, following) demonstrate, IBEX has the corporate experience and approach to meet all requirements laid out in the VA's Performance Work Statement (PWS). With our standardized project management (supported by our website project management software) will keep tasks running smoothly. IBEX mitigates the risk to the government by employing time-tested methodologies that mitigate lost data, 404 errors, buggy design, unhappy users, and just about every other type of gremlin that poor planning could result in.

We have a storied history: since 1997, IBEX, a Minority-owned Small Disadvantaged Business, has been supporting the Federal, State and Local Governments in the accomplish of their goals by offering Information Technology solutions that are paramount and that reach stated objectives. Headquartered in Washington, DC, the hub of Federal contracting, IBEX has gained the experience in understanding the needs of Federal agencies by combining our broad range of technological expertise with our client-focused approach.

We have the right kind of experience: IBEX has developed a similar solution at Federal Acquisition Services (FAS), where we designed and engineered a Microsoft Access database, then performed maintenance functions during peak and non-peak hours to facilitate functionality of the Access database(s) in support of PSHC's multiple geographic locations in the Eastern to

Pacific time-zones of the continental United States and supported alternate platforms and changes to functionality. Our database administrators are responsible for the health of the database(s) by ensuring the quality and integrity of the data itself. We maintain the Access databases, back them up, manage users, and support changes to the database design as we optimize performance. We provide two other similar Access projects for reference, as well, in the Past Performances section of this volume.

We offer highly qualified staff. The IBEX team exhibits a great degree of prior experience, current and varied. The Project Manager has managed multiple similar projects with tasks equivalent to the PWS. Our DBA has been on-site for a similar project for more than two years. The team, jointly and individually, have performed similar work on six or more projects of equivalent scope and scale. Their resumes reference expertise and experience with relevant products and service accomplishments. Our team has MS Access, SharePoint and dot-Net expertise, as well as experience with other MS tools such as Project. IBEX has the bench support and corporate resources to back up this team of experienced technologists.

IBEX will employ our standardized project management approach to make sure this effort is executed seamlessly while meeting the government's exacting requirements. We will draft a Project Management Plan (PMP) that will incorporate our Quality Assurance Plan as an appendix. Our approach is based on the Project Management Body of Knowledge (PMBOK®) — this is the discipline of initiating, planning, executing, controlling, and closing the work of a team to achieve specific goals and meet specific success criteria. It is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements. IBEX integrates five process groups — initiating, planning, executing, monitoring and controlling, and closing — to ensure our projects are delivered as specified, on time and in budget.

We have staffed this effort with an experienced Analyst/Database Developer. Further, our Project Manager (PM) will serve as the main point of contact for the engagement and coordinate technical implementation and all project management matters. The PM will coordinate the project, and will work with the Administrative Assistant to review all deliverables and provide process, and procedure advice to assure quality under the IBEX's quality control guidelines. The Junior Developer will provide the database design and coding. Our PM will be responsible for coordinating all engagement-related communications with the government.

Another advantage of working with us is that IBEX uses an online project management portal for oversight of the execution of our PMP, for tracking issues, managing documentation and deliverables, and for team task management. The IBEX project management portal enables the team to track all tasks, share documents, and manage activities for other team members. By viewing the progress of projects in the portal, the VA stakeholders can provide feedback to create

a higher quality of our deliverables. This results in improved planning and scheduling, and better collaboration.

Finally, we will ensure open lines of communication that will keep the client “in-the-know” about our progress. This will further mitigate risk because IBEX personnel will provide daily and weekly updates on progress, and work to incorporate customers input through our Joint Application Development (JAD) process. Our quality assurance process will make sure any issues are quickly and thoroughly addressed.

Technical Approach

IBEX presents our technical approach, based on the requirements set forth in Performance Work Statement (PWS). At IBEX, we design Access and other databases thoughtfully — keeping in mind specific parameters —using what we refer to as our “database design best practices.” We consider every viewpoint during planning. Our database architect will choose a database type, and normalize for the data. We aim to make structures transparent and define constraints to maintain data integrity. To aid the government to ensure we “future proof” our work, we document everything. In this case, we also plan for increasing backup time in the build, as the amount of data stored and managed increases over time. Finally, IBEX is very focused on the need to keep privacy primary in our design considerations.

To implement our “database design best practices,” the IBEX database architect will structure table structure with the primary purpose of the database management system in mind. We use data modeling software to help structure the fields and data types, based on the outline of requirements. Finally, in documenting the solution, we will define a style guide so the government can continue to make the most of our work, long after the Access database is deployed.

To operationalize this, we will first create the appropriate database tables and then define the names of all the fields to store in that table. Access database tables let us divide a file into separate parts.

For example, one database table may hold the titles and summaries of all the articles for the website, while we may use a second database table may hold the metadata and specialized tags of all the content. Finally, a third database table may hold the names and contact information of content contributors. Access stores all this related information in a single Access file that is saved locally on a hard drive.

We will build a database as the primary deliverable for this task order; it will be developed in Microsoft Access — at IBEX, designing a database means defining both the number of fields to

use for storing information and the maximum amount of data each field can hold. It will be capable of tracking milestones and iterative files (or file locations) for updates to new and existing content.

The IBEX solution will be capable of tracking progress of new content development. It will provide fields for cataloging metadata (e.g., URL location, subjects, keywords, date of last revision, etc.) for each web article on the NCPTSD site. Our solution will have reporting capabilities built in, such as reports about current status of web article revision and development (e.g., list of articles in-process of revision, list of articles completed in past quarter, list of articles in need of annual revision, etc.). We will also provide reports for content development and editing by specific authors (or subject matter experts). This will be capable of capturing Subject Matter Expert information and contain customized forms to add and edit information on articles and SMEs.

We understand that at NCPTSD, the writing/editing processes are separate from the publishing process. Therefore, the IBEX solution will allow the Website Content Manager to maintain more efficient and more detailed tracking of content review and development. This database will also facilitate transparency and communication among team members and contributing SMEs. Previous research into the development of a database for these purposes led to agreement that Having worked in similar environments, IBEX recognizes that Microsoft Access is an optimal solution for the project, due to its compatibility with VA computing. We will leverage its ability to create forms for more efficient data entry, the ability to link to folders and files, the ability to create reports, and the development of a user-friendly interface.

We understand the NCPTSD website contains content for Public and Professionals that is “mirrored” — although written with a different target audience in mind. Therefore, the ability to include information that clarifies the organization of content on the live site is also important to ensure that as changes are made, all relevant content (in potentially multiple sections) is addressed.

IBEX will support workflow and auditing, as all content on the NCPTSD Website requires annual review. Our solution will serve as a tool in tracking this process, particularly when content is being edited by multiple SMEs. The database will track assigned editors, version control (drafts), readability statistics, deadlines, web promotion workflow, metadata, media type, etc. The IBEX team will offer guidance on other items that should be included for tracking, to increase the deliverable’s value. We will design the solution with flexibility in mind, to expand as the government’s needs change in the future.

Exploratory Meetings

IBEX will ensure the database fulfills the needs of NCPTSD by organizing a series of meetings to outline the features and functionality NCPTSD expects of the final product. To do so, IBEX

will employ our tried-and-true technical approach, JAD (Joint Application Development), a methodology that involves the client or end user in the design and development of a database or application, through a succession of collaborative workshops labeled "JAD sessions." With IBEX using the JAD approach, in comparison with to traditional practices, we will be able to decrease development times and derive greater client satisfaction, because the client is involved throughout the development process. In comparison to the traditional approach to systems development, where a developer investigates the system requirements and develops an application, with client input consisting of a series of interviews, JAD is far superior. IBEX is the best choice for this project because we will create the Access database more quickly using fewer formal methodologies and reusing software components that we have developed over the last decade.

Together with government stakeholders. we will review the current article content (and known forthcoming articles) and work to ensure we size the database appropriately. We understand that, currently, the government maintain ~1,000 web pages and well over 1,000 PDF files as well as other file types on the website. IBEX will make use of the review of the desired metadata fields, and we will suggest additional options that the government may not have previously been considered. For example, we are expert at tuning Access for multi user environments. We might recommend turning off AutoCorrect and configure the database to compact and repair automatically as ways to improve performance. Another option is to have a user open the database in exclusive mode — if they are the only person using a database at a specific time, opening the database in exclusive mode prevents other users from using the database and helps improve performance.

Another example of what we may recommend to help with performance (which is vital for efficient work management and user experience) is to optimize how Access locks a certain amount of data while one edits records. The amount of data that is locked depends on the locking setting that our DBA chooses. We can help improve performance by choosing page-level locking. However, page-level locking needs to be considered thoroughly, as it may decrease data availability, because more data is locked than with record-level locking.

Database Development, Delivery, and Training

The vendor will develop a prototype and then final article management database that meets the requirements outlined above. The vendor will work closely with the Web Content Manager to refine, test, and revise the article management database until a final version is arrived at.

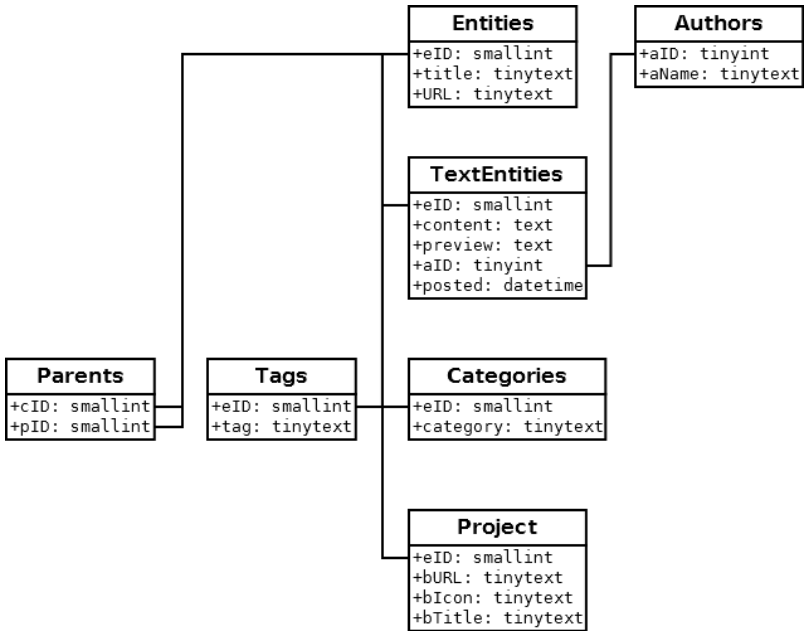
Development — Working pithing a standardized database development life cycle, IBEX focus on eight steps that help guide us through the creation of a new database. The steps are planning, requirement gathering, conceptual design, logical design, physical design, construction, implementation and rollout, and finally ongoing support. As discussed, we will use a JAD approach to elicit requirements and demonstrate iterations of a prototype solution. The prototype

iteration process starts with the development of an Access solution that defines all stubbed-out (skeleton) parts of the final product. Our developer will create a prototype and test it, then tweak and test the revised prototype, and repeat this cycle until the client agrees we have reached a solution that meets the requirements. An advantage of working with IBEX is that our using an iterative process means we won't have to return to the drawing board and start again from scratch when requirements shift. Instead, we will be constantly designing and refining at every stage of the process.

We will track requirements in a requirements inventory, to ensure traceability. There are three types of traceability we will keep in the requirements matric: forward traceability, backward traceability, and bidirectional traceability. Forward traceability is used to map the requirements to the test cases. Backward Traceability maps test cases with the requirements. Doing so aids in avoiding "scope creep" and going beyond the initial requirements unnecessarily. Finally, Bidirectional Traceability results in the test document, combining forward and backward traceability into one. This is useful because it establishes that each requirement has relating test cases.

A traceability matrix will help in the effort to provide proper and consistent documentation for the team. From test cases to wireframes to user stories, this matrix enables us to see if a requirement is fully documented. A requirement traceability matrix can even call attention to missing requirements.

***Exhibit**: IBEX will expand upon a schema/architecture similar to this, to accommodate the government's requirements. The fields noted in the PWS will be incorporated.*



Testing is part of our Quality Assurance process (see the section, following). SIT (System Integration Testing) and UAT (User Acceptance Testing) are the parts of the testing process where SIT is responsible for testing the interfaces between the components and interactions to various parts of the systems like hardware, software (operating system and file system) and interfaces among systems.

The main purpose of acceptance

testing is to validate end-to-end business flow. UAT is carried out in a separate testing environment. A change, an update, or a new feature is requested and developed. Unit and integration tests are run. Documentation of the UAT testing strategy and overall plan is indispensable to the outcome of current and future tests.

Delivery — We will implement the government's governance process to go from SIT/UAT to deployment into production. IBEX will provide deployment direction in our administrative documentation, as well as automated scripts and information on roll-back procedures.

As part of delivery, we will do deployment testing, we will try adjusting the Refresh interval (sec), Update retry interval (msec), number of update retries, and ODBC refresh interval (sec) settings, as applicable. We may recommend the government use the update retry interval and number of update retries settings to specify how often and how many times Access tries to save a record when it is locked by another user. IBEX has the experience with Access to be able to configure the ODBC refresh interval and refresh interval settings to control how often Access refreshes the VA's data. Refreshing only updates data that already exists in a given data sheet or form. Refreshing does not reorder records, display new records, or remove deleted records and records from query results that no longer meet specified criteria. During training, we will demonstrate to users how to view such changes, with a requirement of the underlying records for the data sheet or form.

As part of delivery, we will document in a Concept of Operations (CONOPS) document the recommended and agreed upon backup schedule and procedures, as well as documenting how to recover from backups.

Training — IBEX will devise a custom-built training solution for the Access database, built "from scratch" using our own in-house developer and administrative assistant who deliver a set of training (via the internet/video conferencing) designed especially for the organization's needs. This will be accompanied by a user manual and an "explainer video."

Deliverables

IBEX will deliver the article management database, populated with current content on the site and relevant metadata. We will include a data dictionary — a codebook — that lists all fields (both variable labels and form field labels) included in the database as well as descriptions. IBEX will design and implement training for the web content management team, including at least 16 hours of consultation for initial work putting the database into practice and training on generating/amending forms and reports. Documentation will include an Instruction and Troubleshooting manual. We will provide report and data entry template development. Finally, IBEX will provide ongoing consultation and troubleshooting for the remainder of the year post delivery of complete database.

The database will have an estimated 40-50 fields at the start and a potential for up to 100 fields by contract completion, 20 custom reports, up to 20 queries, and as many forms and tables as necessary to create a fluid user experience and optimize data analytics. The Database Schema will be included in the technical documentation. We will include all the fields identified in the PWS, as well as new ones conceived during JAD sessions.

For data migration, IBEX will provide data import/entry for NCPTSD's ~1,000 current articles, to populate the system. We will create surrogate keys per table in an additional row so we can connect to old data reliably. When the migration is completed and validated with our QA process, and we finally let go of the VA's legacy content for good, we can drop the additional columns from the production database.

Reports will include: Articles by Status; Articles by Date of Last Promotion; Articles by SME; Articles by Check-in Notice; Articles by Check-in Contact; Articles with Internal Link; Articles with External Link; Articles in Project; Articles with List Graphic; Articles with List Video; Articles with In-Press Citations; and any others the customer identifies during JAD sessions.

Quality Control Plan

Following is our quality control plan, which explains the IBEX approach to quality control, and outlines our methodologies. The IBEX quality control plan is to focus on four key areas: Documentation; Security and audit standards; User requirement specifications; and Risk mitigation. The standards we use to provide our customers with peace of mind as well as a quality product can help implement this quality control plan that preserves knowledge and makes the VA's business processes more efficient.

IBEX will produce a custom QA/QC plan within seven days of task order issuance, based on the following company standard operating procedures. As it is with development, so too it is with QA: documentation defines roles, preserves the audit trail and establishes repeatable protocols. Consistency is crucial. We have established standard templates that our team can use to document processes, prioritizing detailed, precise information. Whether it be effort estimates, requirement specifications or business case selection, there is an easy way to track progress through the duration of a project with IBEX's online project management portal.

Security and Audit Standards are important, and sometimes unknown. Fortunately, IBEX has worked with VA for many years, so we know, for example, that HIPAA compliance to audit standards can impact even a project such as this one. IBEX is experienced at sussing out external requirements our client must be aware of and accountable to in every project. When we finalize our quality control plan it will confront these requirements and issues and establish processes to meet them. Use clear, plain language to convey rules and protocols around items such as data

handling, access and modifications; encrypted data transfers; storage of paper and electronic records; as well as physical and logical protection standards. As we are an experienced technology firm with domain expertise, we will navigate these decisions and processes by mirroring the User Requirement Specifications in our QA plan.

For each stakeholder, we will make clear the business and product requirements governing all actions within both the development and testing phases of the System Development Life Cycle (SDLC). All our decisions within the development process will be guided by an awareness of our end users and the performance of our deliverables. In our Project Management Plan (PMP, see our management approach), we will offer up a solid plan for communication and feedback across the development and testing phases to ensure actions are reflective and motivated by the user requirements.

We will mitigate risk through QA. The only guarantee within any SDLC is that there will be surprises along the way. How will we cope with the discovery of a serious bug or a significant delay in workflow? IBEX developers build these variables into our quality control approach, documented in our PMP, to provide realistic and effective time and resource estimates. Everything is viewed through the prism of the production cycle.

Our final QA plan will also address how VA can ramp up or scale down the Access database in production as the environment around the users evolves and changes—sometimes suddenly.

Methodology: Data Integrity

Just as data checking and review are important components of quality control for data management, so is the step of documenting how these tasks were accomplished. Creating a plan for how to review the data before it is collected or compiled allows a content developer to think systematically about the kinds of errors, conflicts, and other data problems they are likely to encounter in a given data set. When associated with the resulting data and metadata, these documented quality control procedures help provide a complete picture of the content of the dataset. A helpful approach to documenting data checking and review (part of our Quality Assurance/Quality Control, or QA/QC process) is to list the actions taken to evaluate the data, how decisions were made regarding problem resolution, and what actions were taken to resolve the problems at each step in the data life cycle.

For this aspect of quality control and assurance, IBEX includes standard operating procedures (SOPs) in our documentation that covers:

- determining how to identify potentially erroneous data
- how to deal with erroneous data
- how problematic data will be marked (i.e. flagged)

For instance, a content creator may graph a list of particular observations and look for outliers, return to the original data source to confirm suspicions about the validity of certain values, and then make a change to the live dataset. In data subset, the content developer may wish to compare versions of data streams to find discrepancies. Recording how these steps were done can be invaluable for later understanding of the dataset, even by the original content manager.

***Exhibit**: The final version of the IBEX quality control plan will be embedded on our project management portal, for easy access. We will track all QA/QC in this template, found on our on-line project management portal.*

QUALITY CONTROL PLAN TEMPLATE

SOP #	PROCESS STEP	WHAT'S CONTROLLED	INPUT OR OUTPUT	SPECIFICATION CHARACTERISTIC	SPECIFICATIONS	METHOD OF MEASUREMENT	METHOD OF CONTROL	SAMPLE SIZE	FREQUENCY	WHO / WHAT MEASURES	RECORDING LOCATION	DECISION / CORRECTIVE ACTION

The value added by the IBEX approach to quality assurance is that we are able to ensure that we proactively meet production standards with our comprehensive quality control plan template (see the exhibit). We enter the unique standard operating procedure (SOP) numbers from our developer guidelines in order to monitor progress and improvements. Monitoring will be tracked using a Quality Assurance Monitoring Form. Next, our team will enter the process steps, specifications, methods of measurement and control, and the decision or corrective measures, if any, needed. IBEX uses this template approach to facilitate a failsafe quality control process and maintain high-quality software development standards.

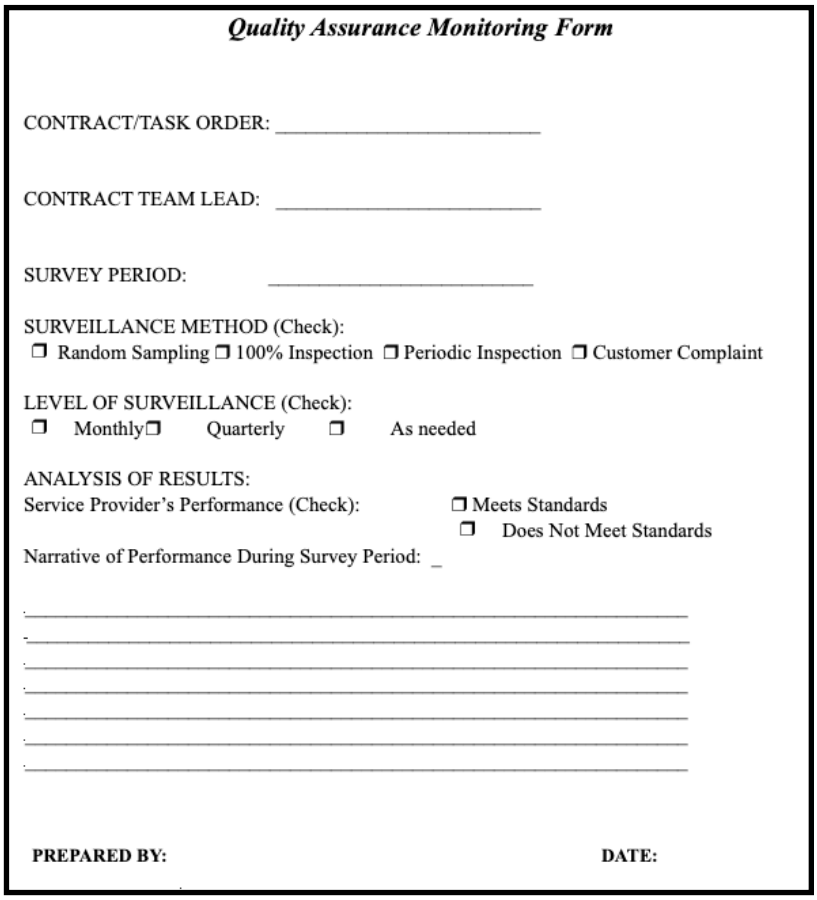
Methodology: Automate to Decrease Risk

At IBEX, we separate data entry from the coding activities. We do not ask data entry operators simultaneously to check anything, count anything, etc. Our Access database designs aim to restrict their work to creating a computer-readable facsimile of the data, nothing more. In particular, this principle implies the data-entry forms should reflect the format in which you originally obtain the data, not the format in which you plan to store the data. It is relatively easy to transform one format to another later, but it can an error-prone process to attempt the transformation on the fly while manually entering data.

As part of the IBEX QA/QC process, we will create a data audit trail: whenever anything is done to the data, starting at the data entry stage, we will document this and record the procedure in a way that makes it easy to go back and check what went wrong (because things will go wrong).

Consider filling out fields for time stamps, identifiers of data entry operators, identifiers of sources for the original data (such as source files and their file names), etc. As the old adage goes, "…storage is cheap, but the time to track down an error is expensive."

***Exhibit**: Quality Assurance Monitoring Form. All inspections of deliverables will be noted with this form in our on-line project management portal.*



Quality Assurance Monitoring Form

CONTRACT/TASK ORDER: _____

CONTRACT TEAM LEAD: _____

SURVEY PERIOD: _____

SURVEILLANCE METHOD (Check):
❒ Random Sampling ❒ 100% Inspection ❒ Periodic Inspection ❒ Customer Complaint

LEVEL OF SURVEILLANCE (Check):
❒ Monthly ❒ Quarterly ❒ As needed

ANALYSIS OF RESULTS:
Service Provider's Performance (Check): ❒ Meets Standards
❒ Does Not Meet Standards

Narrative of Performance During Survey Period: _

_____
_____
_____
_____
_____
_____
_____

PREPARED BY: **DATE:**

IBEX aims to automate nearly everything. Our database administrators assume any step will have to be redone (at the worst possible time, according to Murphy's Law), and plan accordingly. We don't try to save time now by doing a few "simple steps" by hand.

In particular, IBEX developers create support for data entry: we make a front end for each table (even a spreadsheet facsimile can do nicely) that provides a clear, simple, uniform way to get data in. At the same time the front end should enforce the VA's business rules — that is, it should perform as many simple validity checks as it can. We will use Access to enforce relational integrity checks (e.g., every article associated with a metadata tag really exists in the database).

Another unique aspect of the IBEX QA/WC process is that we constantly count things and check that counts exactly agree. For example, if an article is supposed to measure no more that 1,000 words, make sure (as soon as data entry is complete) that the word count is reported. Although checking counts is simple and uninformative, it is great at detecting duplicated and omitted data.

As the VA's data are valuable and important, we may consider independently re-validating manually the entire dataset. This means that each item will proofread by two different non-interacting people. This is a great way to catch typos, missing data, and so on. The cross-

checking can be completely automated. This is faster, better at catching errors, can be as efficient as 100% manual double checking.

While it seems redundant to write this, IBEX will use a database to store and manage the data — before we import it into the final product. Spreadsheets are great for supporting data entry, but we will get the government's data out of the spreadsheets or text files and into a real database as soon as possible. This prevents all kinds of insidious errors while adding lots of support for automatic data integrity checks. We can then use a copy of the actual data as our test data, as well.

After all data are entered and automatically checked, leverage Access: make sorted tables, create summaries of tags used, etc., and look at them all. These are easily automated with Access. We aim to not ask users to do repetitive tasks that the computer can do. The computer is much faster and more reliable at these. To this end IBEX will write (and document) utility scripts to do any task that cannot be completed immediately. These will become part of your audit trail and they will enable work to be redone easily.

IBEX has found, over the last decade, that if our customers follow these guidelines, approximately 50%-80% of the work in getting data into the database will be accomplished by us at the database design phase, and in writing the supporting scripts. It is not unusual to get 90% through such a project and be less than 50% complete, yet still finish on time: once everything is set up and has been tested, data entry of legacy information and checking it can be amazingly efficient.

Data are input into the Access database will be through a web interface or a desktop application. We propose to run checks of the quality of not only the content data, but also the data contained in lookup tables, such as the metadata tags, publishing and retraction dates, etc. As data entry is ongoing, this QA/QC process will need to be run intermittently. As content for articles will not have yet been publicly released, the QA/QC process will align with the publication/editorial calendar. This component of QA/QC involves three steps: (a) a different user checks each article; (b) the editor or content approver will visually inspect each for outliers; and (c) content contributors/writers will flag questionable data after spurious results are obtained.

Methodology: Section 508 Compliance

IBEX employs a Section 508 compliance standard operating procedures (SOP) which include instructions on: staying current, adjusting audit tools, and conducting a formal training program to create Section 508 awareness and adoption of best practices on our team. We strive to comply with the applicable standards of Section 508 of the Rehabilitation Act to the maximum extent possible, ensuring that individuals with disabilities have comparable access to and use of information and data to that provided to the general public, unless an undue burden would be imposed on us.

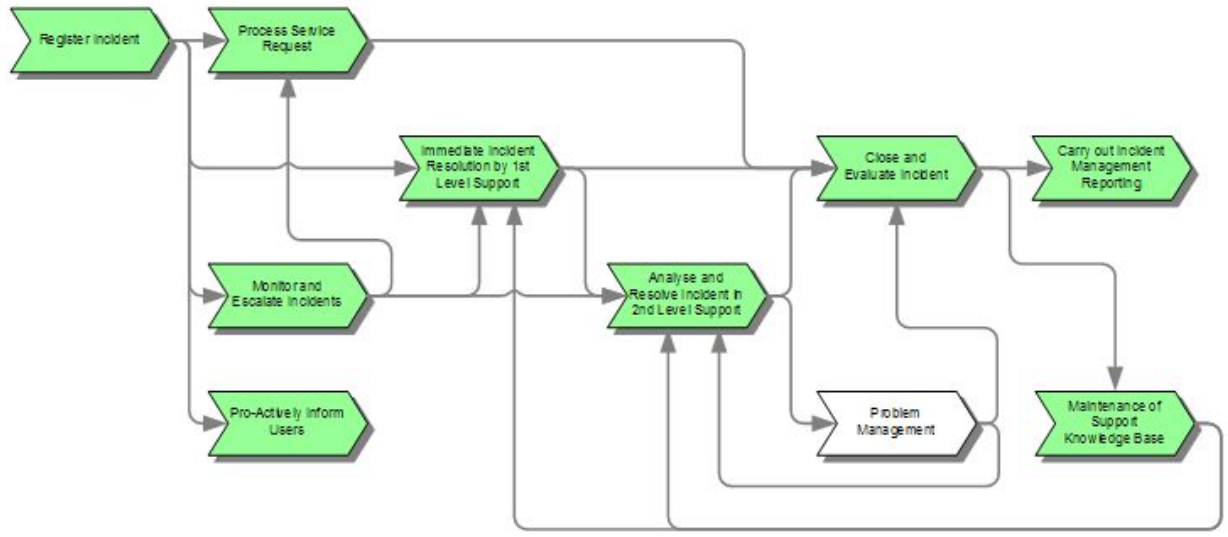
We acknowledge that we may use several Commercially Off-the-Shelf (COTS) products such as Access to produce the products and services deliver to our clients which may have Voluntary Product Accessibility Templates (VPAT) provided by their respective vendors. For the purpose of a VPAT, we will focus on proprietary EIT that IBEX develops using one or more COTS products. Section 1194.25 Self-Contained, Closed Products means we must address requirements for Compatibility to ensure accessibility to as many disabilities as possible. To comply with these requirements, IBEX products and services as applicable will be readable with screen readers and Braille displays when equipped with compatible assistive technologies.

For deliverables such as documentation and training, we will ensure PDFs meet the criteria outlined at https://www.section508.gov/create/pdfs/

Methodology: Issue Management

An issue typically means deviance in the functionality of an end product developed by the project team, from the specified requirements. Since the utmost responsibility of this project will revolve around ensuring that it works the way it should when this fails to confirm, it becomes an Issue or Defect, that needs to be fixed. IBEX tracks issues in our online issue management tool, part of our online project management portal. The QA process for Issues Management is the entire set of steps from identifying an issue in the product, to resolving it.

***Exhibit**: IBEX workflow for issue management, tracked in our on-line project management portal.*



This includes a full workflow of: the methods used to identify issues; Allocating responsibility to handle issues; Steps the team uses to resolve an issue; and, Learning from past issue records for optimization. The VA client can open a ticket at our project management portal when an issue arises, and IBEX will track the the issue through to resolution.

Staffing Plan

At IBEX, we have discrete processes for staff planning and recruiting processes that alleviate how time-consuming these steps are. With a 95% staff retention rate, our clients win by leveraging the IBEX team's expertise in IT consulting services. With our experience and pool of tested, qualified technologists, we are able to provide the right talent for this effort. If the government requires additional resources, IBEX has the ability to source personnel quickly, from our other full time employees or from our pool of vetted contractors.

Our PMP will include a resource plan, where we identify, list, and organize the resources needed to complete this project, as well as help determine the quantity needed for each resource, the cost and when they are needed in the project work breakdown structure (WBS).

***Exhibit**: Staffing Matrix*

Position	Hours	Role
0001 - Junior Programmer (Analyst/ Database Programmer)	600	Develops and maintains databases, while ensuring high levels of data availability. Responsible for reviewing requirements, specifications and technical design documents to provide timely and meaningful feedback. Implements design into database schema, front end user interface, and reports. Diagnoses and resolve database access and performance issues. Coordinates data migrations between systems. Develop, implement, and maintain change control and testing processes for modifications to databases. Interfaces with customer during JAD sessions.
0002- Administrative Assistant	200	Assists with JAD sessions (meeting minutes, followup on issues). Ensures documentation is maintained. Performs processes related to quality assurance testing. Identifies and reviews activities and deliverables critical to project quality. Develops software test plans and test cases as required. Validate database integrity after each test. Logs and tracks defects, working directly with the client and programmer to ensure appropriate follow-through and defect resolution.
Project Manager	40	IBEX will supply a corporate liaison as the project manager. This person will ensure the PMP is executed as planned, QA/QC is carried out, and acts as the single point of contact for the government. This person is responsible for the end-to-end project management of this task. Responsible for engagement with client and the team throughout project phases as well as the management of and interaction with all relevant stakeholders; responsible for regular reporting on project progress.

The IBEX online project management portal automatically compares planned resources with our actual resources and displays the results in a Gantt chart. This helps stay on track when we are executing the project.

***Exhibit**: IBEX provides automated reports of progress towards goals*

4	Feasibility Analysis	1 day	3/29/2022	3/29/2022	Mike Horn	100%	Medium
5	Stakeholder Feedba...	1 day	3/29/2022	3/29/2022	Brandon Gray,M	100%	Very Low
6	**Design**	**14 days**	**3/30/2022**	**4/18/2022**		**80%**	**Medium**
7	Engineering Drawings	4 days	3/30/2022	4/4/2022	Samantha Cum	100%	Medium
8	3D Rendering	2 days	4/5/2022	4/6/2022	Samantha Cum	100%	Critical
9	3D Printed Prototype	7 days	4/7/2022	4/15/2022	Daren Hill,Geor	75%	Medium
10	Stakeholder Feedba...	1 day	4/18/2022	4/18/2022	Samantha Cum		Low
11	**Prototyping**	**11 days**	**4/6/2022**	**4/20/2022**		**19%**	**Very High**
12	CNC Part Creation	1 day	4/19/2022	4/19/2022	Tara Washingtc		Medium

IBEX uses a workload chart to make sure the team isn't over extended. The IBEX project manager can balance staff work to keep them more productive, working towards the VA's goals. Our PMP will match who is responsible for tasks to the WBS and to deliverables and a schdule.

Past Performances

Part I: Project Identification (PP #1)

Contractor Name:	**International Business Express, Inc. (IBEX)**
Contract Number:	GS06F0775Z
Order Number (If Applicable):	GS-10F-14-LP-P-0024
Project Title:	PSHC Database Administration Services
Customer Name:	GSA – Federal Acquisition Services (FAS)
Total Period of Performance, Including Options: (MM/YYYY - MM/YYYY or MM/YYYY – Present)	6/2/2014 – 6/1/2019
Project Value:	$849,974.83
Funding Agency Id (If Applicable):	General Services Administration
Fair Opportunity Task Order Against A Multiple Award IDIQ Federal Government Contract	Yes No

Part II: Project Information
Contracting Officer

Name:	Kenny Yiu
Title:	Contracting Officer
Agency or Customer:	GSA – Federal Acquisition Services
Phone:	kenny.yiu@gsa.gov
E-mail:	253-931-7915

Contracting Officer's Representative

Name:	**Tina Burns**
Title:	COR
Agency:	Federal Acquisition Services
Phone:	253-931-7000
E-Mail:	Tina.burns@gsa.gov

Part III: Project Description

International Business Express, Inc. (IBEX) project was awarded as a task order procured under the General Services Administration (GSA), GSA 8 (a) STARS II GWAC, Contract Number GS06F0775Z. IBEX obligated funding upon award was $849,974.83.

The Federal Acquisition Services (FAS) possesses unrivaled capability to deliver comprehensive products and services across government at the best value possible. FAS offers a continuum of innovative solutions and services in the areas of Products and Services, technology, travel, transportation and procurement and online acquisition tools. In 2014, FAS contracted with IBEX to provide Database Administration Services for FAS' PSHC Databases. The SOW focused on continuous improvement and maintenance across of the PHSC Databases.

IT Operations and Maintenance, **Modernization and Enhancement Development, Modernization and Enhancement —** IBEX Database Administrators focused on managing, maintenance, support, and increasing the reliability of PHSC databases. The PSHC database has multiple Access databases to facilitate the management of GSA Schedule contract information, pricing, business development data, workload management, and performance management. The Database Administrators oversee maintenance issues with end users, provide Ad hoc reports, data analysis, and updating the database documentation, as well as helping to troubleshoot issues that may arise.

d. Database Management

The Database Administrators provide Database Administrative Services that ensured that PSHC databases are protected and monitored by establishing backup and recovery procedures, providing a secure database environment, and monitoring database performance.

e. Software Maintenance & Upgrades

Perform maintenance functions during peak and non-peak hours to facilitate functionality of the Access database(s) in support of PSHC's multiple geographic locations in the Eastern to Pacific time-zones of the continental United States and supported alternate platforms and changes to functionality.

f. Data Quality Management

Our database administrators are responsible for the health of the database(s) by ensuring the quality and integrity of the data itself. We maintain the Access databases, back them up, manage users, and support changes to the database design as we optimize performance.

d. Production Deployment

IBEX performed deployment reviews to ensure specification for additions, deletions, and corrections to content, workflow or other data-related issues and scheduled inspection, System

Requirements (SR), Design, Test Readiness (TRR), and final production and deployment to be reviewed by the Project Manager and COR**.**

Part I: Project Identification (PP #2)

Contractor Name:	**International Business Express, Inc. (IBEX)**
Contract Number:	GS06F0775Z
Order Number (If Applicable):	47QFAA19F0018
Project Title:	PSHC Database Administration Services
Customer Name:	GSA – Federal Acquisition Services (FAS)
Total Period of Performance, Including Options: (MM/YYYY - MM/YYYY or MM/YYYY – Present)	6/2/2019 – Present
Project Value:	
Funding Agency Id (If Applicable):	General Services Administration
Fair Opportunity Task Order Against A Multiple Award IDIQ Federal Government Contract	Yes No

Part II: Project Information
Contracting Officer (or Corporate Official for Commercial Experience)
Note: Commercial Experience is not applicable to section L.5.2.3 and will not be accepted

Name:	**Kenny Yiu**
Title:	Contracting Officer
Agency or Customer:	GSA – Federal Acquisition Services
Phone:	253-931-7915
E-mail:	kenny.yiu@gsa.gov

Contracting Officer's Representative

Name:	**Scott Cahill**
Title:	COR
Agency:	Federal Acquisition Services
Phone:	253-931-7244
E-Mail:	Scott.Cahill@gsa.gov

Project Description

International Business Express, Inc. (IBEX) project was awarded as a task order procured under the General Services Administration (GSA), GSA 8 (a) STARS II GWAC, Contract Number GS06F0775Z. IBEX obligated funding upon award was $542,383.26.

The Federal Acquisition Services (FAS) possesses unrivaled capability to deliver comprehensive products and services across government at the best value possible. FAS offers a continuum of innovative solutions and services in the areas of Products and Services, technology, travel, transportation and procurement and online acquisition tools. In 2014, FAS contracted with IBEX to provide Database Administration Services for FAS' PSHC Databases. The SOW focused on continuous improvement and maintenance across of the PHSC Databases.

IT Operations and Maintenance, Modernization and Enhancement Development, Modernization and Enhancement

IBEX Database Administrators focused on managing, maintenance, support, and increasing the reliability of PHSC databases. The PSHC database has multiple Access databases to facilitate the management of GSA Schedule contract information, pricing, business development data, workload management, and performance management. The Database Administrators oversee maintenance issues with end users, provide Ad hoc reports, data analysis, and updating the database documentation, as well as helping to troubleshoot issues that may arise.

d. Database Management

The Database Administrators provide Database Administrative Services that ensured that PSHC databases are protected and monitored by establishing backup and recovery procedures, providing a secure database environment, and monitoring database performance.

e. Software Maintenance & Upgrades

Perform maintenance functions during peak and non-peak hours to facilitate functionality of the Access database(s) in support of PSHC's multiple geographic locations in the Eastern to Pacific time-zones of the continental United States and supported alternate platforms and changes to functionality.

g. Data Quality Management

Our database administrators are responsible for the health of the database(s) by ensuring the quality and integrity of the data itself. We maintain the Access databases, back them up, manage users, and support changes to the database design as we optimize performance.

d. Production Deployment

IBEX performed deployment reviews to ensure specification for additions, deletions, and corrections to content, workflow or other data-related issues and scheduled inspection, System Requirements (SR), Design, Test Readiness (TRR), and final production and deployment to be reviewed by the Project Manager and COR.

Part I: Project Identification (PP #3)

Contractor Name:	IBEX Africa
Contract Number:	n°064/2020
Project Title:	Data center and Database Development/ Administration Services
Customer Name:	Sotelma Mali
Total Period of Performance, Including Options: (MM/YYYY - MM/YYYY or MM/YYYY – Present)	6/2/2020– Present
Project Value:	$1,345,000,00
Funding Agency Id (If Applicable):	Sotelma -Mali

IBEX Africa was awarded a contract to provide IT Infrastructure support for the SOTELMA Mali Telephone company. IBEX Africa provides business requirements analysis and review, which, included developing a technical architecture database to help manage business processes, modelling, and solution design. In addition, the Architecture Database provided the customer with ad-hov reporting, technical architecture information, and an overall solution to manage the IT Infrastructure:

- On-call 24 x 7 Problem resolution support
- Maintenance of application
- End-User training
- Database Administration

Name:	Kandioura SACKO
Title:	Program Manger
Agency or Customer:	Sotelma
Phone:	223-66 70 11 00
E-mail:	ksacko@moov-africa.ml

Resumes of Personnel

Terri Morgan

Role: Analyst /Database Developer

Technical and Business skills. Twenty (20) years computer systems and international trade experience.

FUNCTIONAL AREAS

Database Design, Code Development and Performance Reviews. Software Design, Development, Functional and Technical Reviews. Market Evaluations. Reverse Engineering. System Interactions and Process Evaluations.

EXPERIENCE

WUDANG RESEARCH ASSOCIATION

Client Data Recovery and Database Upgrade Recovered ProCite data with UTF-8 characters. Recovered a corrupted Access 2003 database and upgraded it to open with the 2017 version.

Online Instructor Plan curriculum and deliver online livestream classes. Reconfigure local server with new graphics card and software to handle webinars and video editing. Set up staging and equipment. Address issues with latency and keys for livestream. Analyze metrics and adjust content and delivery to improve viewer metrics. To date, have produced ~400 videos (avg. 30-45 minutes each).

VETSMPC.ORG, ORLANDO, FL WEBMASTER 10/2013 - DATE

Web site management, upgrades, and various tasks to develop features for the site. Integrated PayPal for donations. Analyze site for navigation, ease of donation, and performance.

CIC HEALTH, BOSTON, MA DATABASE ARCHITECT

Develop a prototype for a set of HIPPA compliant SQL queries to aggregate medical records from multiple sources for review and billing. Analyze existing spreadsheet for features and calculations.

JAYMAC PHARMACEUTICALS, LLC, ORLANDO, FL

XML SCHEMA AND VALIDATION FOR FDA REGULATORY FILING

FDA filing a new pharmaceutical label using SPL (Structured Product Labeling) with validated XML. Used the FDA recommended technical verification tool to develop the XML from the client materials and worked with the client to complete a compliant filing on a 24 hour deadline.

HAP DIGITAL, ORLANDO, FL DATABASE ARCHITECT/SR. TECHNICAL WRITER

Design, develop, test, and document a Program Management database for PEO/STRI. Analyze current methods and tools to determine migration path. Analyze and evaluate feature requests. Develop functional and UI models. Wrote extensive VBA and SQL code. Create ERDs, Technical WBS and SOWs. Wrote design docs. Provided technical training and coaching for PM and client.

FIBERWAVE, BROOKLYN, NY AND NEW ZEALAND

E-COMMERCE WEB DEVELOPER / BUSINESS CONSULTANT RFPS

Analyze client need for standard products and custom orders to determine possible solutions. Develop, redesign, and rebrand Fiberwave web site. Added product showcase and ecommerce with Quote to Fulfilment tracking. Trained staff. Consulted with CEO and COO on marketing strategies and assisted with preparation of RFP/RFQ responses.

AES MECHANICAL, MONTGOMERY, AL SHAREPOINT ARCHITECT

Developed job management portal, punch lists, and oversight reports for commercial HVAC installer with national accounts. Analyzed processes and data entry requirements. Wrote custom Odata script to add new projects to five SP lists at once. Used Layer 2 to create ODBC connection to Computer Ease with SharePoint Online. Wrote custom code to build ‘stop-light’ reports from multiple lists. Provided staff training. Wrote technical design materials and user documentation

FRANCHISE GROUP, ATLANTA, GA WEB/LMS DEVELOPER

Developed various projects for national franchisor. Designed and built on-boarding system for new franchisees using Lifter LMS and IssueM (ebooks). Wrote and organized assets and training materials. Analyze system options for various compliance and tracking requirements. Provided analysis of vendor tools. Redesigned UI for branded company services website. Converted multiple printed manuals and instructional materials to ebooks.

SAIC, ORLANDO, FL WEB PROJECT MANAGER / DEVELOPER

Develop consolidation options with accordion scripts for multi-platform site consolidation/ migration. Analyze content and migrate to new SharePoint system. Optimized Information Architecture using statistical models created from search results, designed navigation. Design and develop ongoing Governance plan with virtuous cycle.

STRAW HAT TRADING COMPANY, LLC, ORLANDO, FL / TIANJIN CHINA MANAGING PARTNER

Co-founded specialty global wine and foods company to export from Italy, US, Canada, and Australia to China. Analyzed markets, trade, logistics, and market entry issues. Met with US Commerce/AgTrade office in Beijing to address regulations, compliance issues, and identify in-country US product sources. Developed three currency pro-forma with pricing models and sales projections. Develop automation for pick lists in three currencies ($/€/¥) with calculators for box, pallet, container. Conducted market research in four cities for products and potential outlets.

WUDANG RESEARCH ASSOCIATION/UNDP, ORLANDO, FL / NEW YORK, NY PROJECT MANAGER / DATA SYSTEM ARCHITECT

Sourced, analyzed requirements, prepared and won two rounds of bids on a contract to develop a web-

enabled database system for United Nations Development Programme to handle reporting for 130 countries. Designed the concept, applied metadata, and database architecture. Round two required a comprehensive work plan with budgets on a fixed price award.

TACTICAL MANAGEMENT, INC., ORLANDO, FL SHAREPOINT ARCHITECT / HCMS

Design and developed HIPPA compliant SharePoint portal for home healthcare management company. Analyze usage, users, and security issues. Automated data import from Excel to a custom SQL instance.

Full integration from initial contact through scheduling and return of records for coding. Wrote full design documentation. Created user training materials and system reference documentation.

US NAVY, MECHANICSBURG, PA SHAREPOINT / WORKFLOW DEVELOPER

Analyzed workflows and developed a processing portal with multiple complex workflows. On time, on budget, on spec. Wrote design docs. Delivered hands-on developer training. Worked with visually impaired developer on metadata strategies. Assisted TPOC with CO briefing.

SENSORY 7, ACT, AUSTRALIA SHAREPOINT DEVELOPER / CONTENT ARCHITECT

Analyzed client requirements, designed the information architecture, and developed a SharePoint portal solution for Australia Customs and Border Protection

AFLAC, COLUMBUS, GA SHAREPOINT / JAVASCRIPT DEVELOPER

Analyzed content, client goals, and technical environment. Develop full metadata schema for IT organization to enable document aggregates. Designed and built an ISO 38500 compliant Governance portal for the CIO. Led code review with staff and executive team.

TECHNOLOGIES

METHODOLOGIES, PLANNING, DOCUMENTATION

Six Sigma (Certified), JAD / RAD, Agile, Iterative Break/Fix, Waterfall, SDLC MSProject, Project Planner (Pragmatic), Gantt charts, Pert charts, Swim lanes, Workflows, Wireframes, Visio, Budgets/ROI, Earned Value, Variances

WEB/ECOMMERCE

WordPress, Drupal, MediaWiki, Documentum, Joomla, ezPublish, SharePoint, Lifter LMS, IssueM, Sigil (XML/eBooks), Xara, RoboHelp, WooCommerce, OSCommerce, Miva Merchant, Shop Site Pro, Verisign Gateway, Pay Pal, Authorize.net, Square, Stripe

TRANSLATION

SDL Trados, Polylang, LocoTranslate, Poedit

CODE / DEVELOPMENT TOOLS

C#, .Net, VBA, HTML, HTML5, DHTML, XML, CSS, SQL, Perl, PHP, JavaScript, AngularJS Visual Studio, Cordova/PhoneGap, DojoToolkit, Visual Source Safe, Rational ClearCase, Silk Radar, Bugzilla, Fiddler, Chrome/IE Developer Tools, Layer 2 (middleware), SharePoint Designer, Nintex, Idera, ShareGate, PowerShell, HomeSite

WEB ANALYTICS

Adobe Analytics, Google Analytics, Urchin, WebTrends, WebStats, Raw Traffic Logs

DATABASES/REPORTING

MS SQL, MySQL, Oracle, PostgreSQL, MSAccess, Retek, Crystal Reports, Tableau

VIDEO/GRAPHICS

OBS Studio. YouTube Livestream, Adobe Suite, Photoshop, PaintShop Pro; Flash, Animation Shop, Maya, Gimp CyberLink Power Director; Audacity, Wave Pad, Pinnacle Studio

EDUCATION

MIT Sloan Executive Education, IT Governance Villanova University, Six Sigma Certification Florida Atlantic University, MA, Linguistics

University of Missouri at Kansas City, BA, English

LANGUAGES

English, Mandarin, Spanish; limited French, Italian, German, Dutch, Greek