



**University of Southern Mississippi
National Center for Spectator Sports Safety and Security
(NCS⁴) Laboratory Assessment Report**



**Lauren Innovations
NaviGate
Critical Information System
Evaluation**

Foreword

The National Center for Spectator Sports Safety and Security (NCS⁴) at the University of Southern Mississippi has established a National Laboratory dedicated to sports safety and security to assist spectator sports venue operators in assessing and validating systems and technologies for security use. The principles of the verification and validation approach employed are outlined in the Technology and Process Evaluation Execution (TPEE) Guidebook¹.

The National Laboratory provides a mechanism to aggregate specific safety and security requirements for the spectator sports domain as developed by security and venue operator practitioners through participation in a National Advisory Board. This Advisory Board includes participation from all professional sports leagues and the collegiate institutions. The National Laboratory, using industry requirements and operational needs, develops:

- Impartial, vendor agnostic, and operationally relevant assessments and validations of safety and security solutions (systems) based on the community of interest (COI) requirements
- Evaluation reports that enable venue operators and security personnel to select and procure suitable solutions; and to deploy and maintain solutions effectively. In some cases process evaluations will be performed to provide newly devised procedures.

The evaluation program follows principles currently espoused by standing DHS validation programs (such as SAVER²) that are meant to assist end operators with objective and quantitative reviews of available commercial systems and solutions. Information obtained in the course of the assessments (including this report) will be made available to subscribers of NCS⁴ publications and to the U.S. Department of Homeland Security for their use.

¹ The TPEE Guidebook is available at the NCS4 website; www.sporteventsecurity.com

² System Assessment and Validation for Emergency Responders (SAVER) was established by DHS to assist emergency responders in making procurement decisions through the publication of objective assessments and validations of commercial equipment. This process was used as a reference guide for the evolution of NCS⁴ Lab process.

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Lauren Innovations Assessment Report

NaviGate Critical Information System

1.0 INTRODUCTION	7
2.0 OBJECTIVES	10
3.0 METHODOLOGY	11
3.1 GENERAL APPROACH	11
3.2 <i>Evaluators</i>	11
3.3 Collecting Results	11
4.0 EVALUATION SETUP	12
5.0 NAVIGATE SCORING AND RESULTS	13
5.1 SCORING SYSTEM	13
5.2 <i>Scoring Results</i>	15
6.0 EVALUATOR COMMENTS	16
7.0 SUMMARY	18

1.0 Introduction

Information management systems have been in use for quite some time, and allow users to design, build, store, and share important information about their organizations and associated operations. Through the development and application of technological advances, these types of systems can function as much more than document management tools.

The following is an overview of the system functionality of the NaviGate product.

NaviGate is a web-based system that can be used to collect, manage and apply an organization's unique critical information. The system can be used in daily operations as well as for first responders on an emergency basis. Information can be accessed from anywhere in the world, at any time, via the Internet.

Overview of NaviGate System functionality

NaviGate manages information through integrated capabilities in document management, incident management, learning management, and emergency management functions. The system also contains modules that interact with maps and floor plans, role-based flip charts, virtual binders and compliance.

Document Management- The system enables users to upload, manage, update, disseminate and collaborate on any digital information including Word documents, PDF's, digital photographs, digital video files, scanned documents, PowerPoint presentations and Excel spreadsheets.

Incident Management- The system enables users to capture any information on a recurring event such as safety, security, quality, service, etc. The system also allows for visualization of event-specific data over time.

Learning Management- The system enables users to deliver learning content via the internet by uploading pre-existing learning content/courses (SCORM and AICC compatible), creating new courses/content, linking courses into learning paths, tracking and documenting learner activity and performance, and capturing and delivering recurring learning content.

Emergency Management- The system can be set up to provide vital information about a situation and corresponding facility. NaviGate can house critical plans and procedures such as internal response plans, call lists, maps and floor plans, live video, evacuation routes and procedures, shelter in place procedures and shut-down procedures.

Detailed Maps and Floor Plans- The system contains a Site and Building Plan module that allows for uploading of a wide variety of information, most often referenced to floor plans. With this module, users can add areas of interest to any map or floor plan.

Role-based Flip Charts- Users can create organization-wide emergency action plans. A flip chart planner allows for modification of these plans and publishes them on a role-by-role basis.

Virtual Binder- A virtual binder contains all of the information entered into NaviGate and can be downloaded any time for off-line use.

Compliance- The system prompts users for compliance education and training, and documents learning management events for all forms of orientation, training, and proficiency.

System Security (Subscriber)

Security is maintained by housing the system and associated information off site and having two levels of access control.

1. Role-based permission- end user can define an infinite number of roles and prescribe what information each role has access to
2. Individual-based permission- additional layer of access control that can add/subtract permissions from a role as well as create a novel configuration of access for a specific individual.

The system also allows an organization to control access through the ability to turn on/off permissions at any time.

System Security (Host)

Only authorized individuals have access to NaviGate and its content. The data centers where NaviGate are located are only accessible to hosting provider system administrators who have the required security clearance.

NaviGate is hosted at a secure data center in Texas with a back-up/failover facility in Virginia. Data is replicated in real-time between the two servers to provide real-time back-up support.

Data is secured using industry standard firewalls with an intrusion detection system (IDS). The system scans all network traffic, before reaching firewall, for signatures of possible cyber threats. When the IDS senses a malicious or threatening signature, a signal is sent to the firewall to block the source IP address of the threat.

NaviGate personnel monitor logs and traffic for threats and intrusions. If an attack takes place and any data is compromised, users are notified via email and phone of the extent of the compromise and the actions taken.

Data is backed up in several ways, all to industry standards. Data back-ups are saved to tape daily and securely brought off-site once per week. Databases are replicated to a redundant system situated at a secondary data center. The data transmission between these two servers is maintained through an industry standard secure encrypted VPN connection protected by Cisco firewalls.

2.0 Objectives

This report serves the following purposes:

- Provides the description of the methodology employed during the evaluation, the scoring system, and the role of evaluators in the evaluation process.
- Outlines the full set of solution requirements identified as functional capabilities claimed by the Lauren Innovations NaviGatesolution.
- Publishes the evaluation scoring results as well as the comments and additional information provided by the evaluators and Lauren Innovations.

Note that this evaluation will only verify Lauren Innovations claimed functionally for its NaviGate system solution. The goal of this assessment report is to verify Lauren Innovations advertised features and functions and the intent is not for comparison purposes with other similar vendor products.

3.0 Methodology

3.1 General Approach

The methodology described below was developed to be repeatable so that it could be used in an evaluation of a variety of technologies and processes. By employing this methodology the results become verifiable and quantifiable and can be used subsequently for an entity's individual analysis and/or procurement decisions.

The methodology for this evaluation began with a discussion between Lauren Innovations and NCS⁴ to define the capabilities and functional requirements of the NaviGate system that the firm wanted to demonstrate through participation in the evaluation process. Once Lauren decided upon the capability and functionality to demonstrate, NCS⁴ worked with them to create a list of executable requirements for the evaluation process.

Evaluators assessed the NaviGate product only against the firm's chosen requirements as described above. No evaluation criteria were considered outside of Lauren's own operational requirements.

3.2 Evaluators

The evaluation team, as noted in the Evaluators and Assessment Support section, included subject matter experts (SME's) from the sports security management domain; and senior USM IT staff. A total of the three evaluators were used for this evaluation with the mix of two operations/end user SME's and one IT professional.

3.3 Collecting Results

Each evaluator had a workstation pre-loaded with the NaviGate requirements matrix and the scoring definitions. At the end of each requirement demonstration, evaluators were given time to enter a score into the matrix on the computer. Also, at the end of each section's evaluation, evaluators were asked to enter qualitative comments into a Word document also pre-loaded into their computers. At the conclusion of the evaluation process, all data were taken electronically from each computer by the facilitator and used to tabulate the results in the Scoring and Results section. Each computer was then re-imaged leaving none of the scoring data on any computer.

4.0 Evaluation Setup

Since the evaluation centered around software only, the entire process was executed at the NCS⁴ laboratory located in the Trent Lott Center on the USM campus in Hattiesburg, MS.

The lab was set up in a classroom configuration for the evaluation process.

Lauren Innovations personnel had a workstation set up in the front of the lab with a demonstration site, live on the NaviGate system projected onto a large screen in front of the lab. Each SME also had a workstation connected to this demo product via the web. They were facing the Lauren Innovations demo instructor and had a view of the projected screen as well as their own workstation.

This room configuration gave the SME's the ability to view the instructor's demo and simultaneously navigate through the functions of the product personally, if so chosen.

The NaviGate instructor's role was to methodically demonstrate the functionality of each requirement per the requirements list shown in Section 5.0, Table 5-2. During this time, SME's could also step through these functions on their own workstations and time was allowed between functions for questions and answers between SME's and Lauren personnel.

At the end of the evaluation of each functional area, Lauren personnel were asked to leave the lab so that SME's could perform a qualitative analysis and record comments, pros and cons, and consult the facilitator for any procedural direction.

5.0 NaviGateScoring and Results

5.1 Scoring System

As outlined in Section 3.1, the evaluators scored the NaviGate product based on the specific requirements within five functional areas (see Table 5-2) as defined by Lauren Innovations. Evaluators scored each functional area in three ways: 1) through observation/documentation of the system configuration, 2) interaction with the system functions, and 3) Lauren instructor’s demonstration of system functions. All evaluators were instructed to compare the NaviGate system against the requirements and not against each other evaluator’s result (technical leveling). Table 5-1 below depicts the scoring definition.

Definition	Score	Equivalent %
Does not meet the requirement	0	0%
Partially meets the requirement	1	50%
Meets the requirement	2	100%
Exceeds the requirement	3	125%

Table 5-1 Scoring Definitions

Each requirement was of equal weight. Previous assessments have separate categories and weightings for Capability and Usability. However, these were considered together for this application, and therefore, no dual scoring was performed with respect to Capability and Usability for each requirement. Each requirement’s score, therefore, represents a combined score of capability and usability.

Functional Areas

1. Set-up

Req. #	Requirement	Score
1.1	Sites- System allows sites and organizations with multiple locations to manage their locations and user access.	2.67
1.2	Roles and permissions- System allows users to add, edit, and delete roles, as well as set-up page/module access for each role.	2.67
1.3	Users- System allows users to add, edit, or delete user accounts	2.67
1.4	Photos- System allows users to upload, view, and manage all photographs and images.	2.33
1.5	Camera Links- System allows users to create and manage the links to network cameras.	2.33
1.6	Videos- System allows users to upload and manage all video files.	2.33
1.7	Site and Building Plans- System allows users to upload, view, and annotate site and building plans.	2.67
1.8	Setup Average Score	2.52

2. Prepare

2.1	Incident Plans- Allows users to create, manage and publish incident specific plans.	2.00
2.2	Call Lists- Allows users to designate the succession of authority during an emergency and provide after hours contact information	2.33
2.3	Incident Command System (ICS)- Allows users to create and identify the incident commander and support staff designated for operations, planning, logistics, and finance/administration to communicate the ICS structure in the event of an accident	2.00
2.4	Jane's Books- Users have access to Jane's Public Safety Series- an all-inclusive collection of guides and handbooks designed to assist in safety planning, including Chem-Bio, Citizen's Safety, Crisis Communication, Facility Security, Mass Casualty, Safe Schools, Teachers' Safety, Unconventional Weapons Response, and Workplace Security	2.33
2.5	Prepare Average Score	2.17

3. Response

3.1	Filtering- Allows users to identify and locate an asset on a site or building plan, including:	
3.1.1	Live video	2.33
3.1.2	Hazardous materials	2.33
3.1.3	Standard operating procedures	2.33
3.1.4	Essential documents and information	2.67
3.2	Critical Information- Allows users to easily and effectively access critical information, including:	
3.2.1	Photos	2.33
3.2.2	Camera links	2.33
3.2.3	Videos	2.33
3.2.4	Incident plans	2.67
3.2.5	Incident command system organizational charts	2.33
3.2.6	Call lists	2.33
3.2.7	Response Average Score	2.39

4. Incident Management

4.1	Incident Details- Allows users to capture incident specific information, including:	
4.1.1	Location	2.67
4.1.2	Conditions and details	2.67
4.1.3	Persons and/or vehicles involved	2.67
4.1.4	Outcome	2.67
4.2	Trending and reporting- Allows users to create and access a visual pin map, as well as generate meaningful reports for trending and tactical decision making.	2.67
4.3	Banning- Allows users to track individuals that have been banned from their property.	2.67
4.4	Service Request Log- Allows users to track non-incident, routine tasks.	2.00
4.5	Incident Management Average Score	2.57

5. Learning Management System (LMS)

5.1	Course Creation- Allows users to create course content and assign to individuals and/or groups for delivery through the web-based LMS	2.33
5.2	Course Completion- Allows students to access the LMS through the web and complete all courses assigned to them.	2.33
5.3	Competency Testing- Allows students to complete a competency test after completion of a course.	2.33
5.4	Monitoring- Allows course creators to monitor progress and course completion for all students.	2.33
5.5	Surveys- Allows users to create and send/receive customer surveys.	2.67
5.6	Category Average Score	2.40

Table 5-2

Composite Score – 2.41

5.2 Scoring Results

As shown in Table 5-2, NaviGate’s five functional areas each had individual requirements that were demonstrated and scored. Each of these areas has an average score at the bottom of the section. A composite score, representing the average of all five functional area scores, is found at the bottom of Table 5-2.

The Composite Score of 2.41 indicates that the NaviGate system not only met its advertised capability/usability but also exceeded the expectations of the SME’s. An additional qualitative analysis from SME comments, pro’s and con’s are displayed in the following section.

6.0 Evaluator Comments

Evaluators found that NaviGate presented as very simple to use, with a flexible data management system with multiple applications for a variety of uses. The flexibility to push roles to individual sites or all sites was noted as well as the ability to deactivate users for specified lengths of time

Control features were found to be extremely flexible from site control to role specific control. SME's noted that the ability to create multiple location specific roles is an important feature depending on the application.

The incident management reporting function was found to be thorough and allowed for easy access to update or add additional information, pictures, diagrams, and videos. The associated summary report was detailed with all information in an easy-to-read format.

From the IT perspective, when using the text editor, the system can be switched to html view for technically advanced users.

SME's noted that the learning management system (LMS) was an outstanding tool for training. They noted its flexibility to be customized and it offered the inclusion of Word documents, PowerPoint files, videos, pictures and links from other websites into customized learning tools.

The following represent verbatim comments obtained from the evaluators:

Pros

- This system does what it says in the set-up phase
- Camera links provide valuable visuals for training, identification, inventory control
- The filtering option is nice and a time saver
- Call lists are easy to navigate and prioritize
- Incident command structure is simple to read and understand
- Fully customizable courses and tests. Great for staff training
- Third party courses are capable of being integrated into the LMS
- Customized surveys provide useful feedback from customers, employees, end users

Cons

- Can upload photos with the same name
- If “subscribe” is entered before “save”, all text is lost
- First responders rarely have laptops in the field making it difficult to access the system’s information, however the system is accessible via any device that can access the internet (e.g. blackberry, iPhone, iPad, etc.).

Additional Suggested Features/Comments from SME Evaluators

- There needs to be a check to prevent uploading the same image names.
- Install some type of check-in/check-out functionality on documents that are editable in the system. In the event that more than one person makes changes to the same document, they will not overwrite the other’s work.
- Install a forward function that will quickly forward documents/information to contacts that are set up in the system.
- Once an incident chain of command is established by the incident commander, send an email or text out to all assigned personnel so that the reporting structure is clear to all.
- Is there a joint command structure? There was not a layout identified for joint command, only incident commander and below.

7.0 Summary

NaviGate is a web-based system that can be used to collect, manage and apply an organization's unique critical information. Lauren Innovations is the manufacturer of this product.

The evaluation requirements, chosen by Lauren Innovations, centered around the five functional areas of Set-up, Prepare, Response, Incident management and Learning management. As shown in section 5, this product performed at or above the levels considered, by the evaluators, to fully meet each requirement. Additional evaluator comments and suggestions are captured in section 6.

NaviGate has the Safety Act Designation from the United States Department of Homeland Security qualifying it as an Anti-Terrorism Level Technology.

NCS⁴ would like to thank the SME's and Lauren Innovations personnel for their participation in the evaluation and demonstration process.

This report is available on the NCS⁴ website at <http://lab.ncs4.com>.