THE UNIVERSITY OF SOUTHERN MISSISSIPPI

University of Southern Mississippi
National Center for Spectator Sports Safety and Security
(NCS^4) Laboratory Assessment Report

Vision Database Systems

PockeTracker Evaluation

Foreword

The National Center for Spectator Sports Safety and Security (NCS[4]) 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 outlinedin the Technology and Process Evaluation Execution (TPEE) Guidebook[1].

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 SAVER[2]) 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 NCS[4] 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 NCS[4] Lab process.

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Vision Database Systems Assessment Report
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1.0 Introduction

Permitting and denying entry into user-defined areas is becoming an important issue in the safety and security arena. Venue managers across all spectator sports are faced with the need to verify the identification of each person entering their facilities at all times. Many of the support personnel coming into and out of these facilities are temporary and often characteristic of high turnover. This situation coupled with constant worldwide terror threats can make it extremely difficult to accurately document workers and allow them facility access.

The following is an overview of the system functionality of Vision Database's PockeTracker product.

Overview of PockeTracker Functionality

PockeTracker is a handheld ID tracking solution capable of reading the ID cards of anyone including but not limited to workers, contractors, vendors, volunteers and guests as they attempt to move into and out of events and facilities from the smallest to the largest venues. This tool provides layers of security from simple entrance/egress for intermittent or temporary personnel to increased security for VIP's up to maximum-security situations allowing for questionable individuals to be approached discreetly for credential verification.

Software

PockeTracker has an industry open architecture and is compatible with many popular ID software systems (including photos), popular access control systems, and to most popular database systems such as SQL, Oracle, mySQL, Peoplesoft, and more. Using proprietary software, ID info and photo can be instantly delivered to most handheld devices to verify identity and permit or deny entry.

The software operates in a variety of handheld PDAs which provides mobility and freedom to check personnel at planned or newly created checkpoints, in lines, parking lots, player lounges, press areas, and other areas as required. Types of handhelds range from office grade to ruggedized, and even to military grade models, which are waterproof.

PockeTracker can be configured to read most ID card scanning technology including barcode, magnetic stripe, and proximity card.

Operation

PockeTracker can operate in 3 different modes, offline, online, and using a broadband connection. In offline mode, the PockeTracker can be loaded with hundreds of thousands of personnel records including photos to permit, deny, or track entry and egress. In online mode, PockeTrackers can use a WIFI connection in a real time mode, against millions of personnel records and photos, so that entry at one gate and exit at another gate can be instantly recorded. In areas where WIFI is difficult but where a cellphone broadband connection is possible such as a parking lot, PockeTracker can acquire data in real-time from any location, server, laptop, or PC worldwide.

In addition to its ability to screen workers into and out of venues quickly and easily, PockeTracker collects time in and time out data, making it a viable solution for muster reports, or computing worker hours. In addition, PockeTracker has a Quick count feature to determine the total in for fire regulations, and can display the names of all in, or who is remaining, in the event of an emergency.It can also be enabled to increment points or decrement points for prepaid accounts, which can allow for ticketless vending.

Examples of Uses

PockeTrackers have been used for large pro Tennis venues, college football arenas, and for major Hollywood award events to provide the last percentage of security against fraudulent credentials or other disruptions. Administrators can instantly configure a PockeTracker to track a VIP area, or a player lounge. With a few setting changes, an administrator can hand the device to a worker who can confidently scan, track, and collect information on attendees.

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 PockeTracker System solution.
- Publishes the evaluation scoring results as well as the comments and additional information provided by the evaluators and Vision Database.

Note that this evaluation will only verify Vision Database's claimed functionally for its PockeTracker solution. The goal of this assessment report is to verify Vision Database's advertised features and functions. The intent is not for comparison purposes withother 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 Vision Database Systems and NCS^4 to define the capabilities and functional requirements of the PockeTracker System that the firm wanted to demonstrate through participation in the evaluation process. Once Vision Database Systems decided upon the capability and functionality to demonstrate, NCS^4 worked with them to create a list of executable requirements for the evaluation process.

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

3.2 Evaluators

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

3.3 Collecting Results

Each evaluator had a workstation pre-loaded with thePockeTracker 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 was 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 mobile hardware (handheld units) and software, the entire process was executed at the NCS^4 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.

Vision Database Systems personnel had a workstation set up in the front of the lab with a demo version of the PockeTracker product in front of the evaluators. Each SME also had a workstation facing the demonstration.

The Vision Database Systems instructor's role was to methodically demonstrate the functionality of each requirement per the requirements list shown in Section 5.0, Table 5-2. Time was allowed between functions for questions and answers between SME's and Vision Database Systems personnel.

At the end of the evaluation of each functional area, Vision Database Systems 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 Scoring and Results

5.1 Scoring System

As outlined in Section 3.1, the evaluators scoredthe PockeTracker based on the specific requirements within the set-up and response functional area (see Table 5-2) as defined by Vision Database Systems. Evaluators scored each subcomponentof the set-up and response functional area in two ways: 1) through observation/documentation of the system configurationand 2) Vision Database Systems instructor's demonstration of system functions. All evaluators were instructed to comparethe PockeTracker 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/Functionality and Usability. However, these were considered together for this application, and therefore, no dual scoring was performed with respect to Capability/Functionality and Usability for each requirement.

5.2 Scoring Results

As shown in Table 5-2, PockeTracker'sfunctional area of set-up and response had a total of nineteen subcomponents that were demonstrated and scored. A composite score, representing the average of all nineteen subcomponents, is found at the bottom of Table 5-2.

The Composite Score of *2.10* indicates thatPockeTracker not only met its advertised functionality but also exceeded the expectations of the SME's. An additional qualitative analysis from SME comments, pro's and con's is displayed in the following section.

Functional Areas

1. Set-Up and Response

Req. #	Requirement	Score
1.1	Connects to ODBC compliant database to display cardholder data and photos	2
1.1.1	MS Access (online / wireless if available using JPEG photos)	2
1.1.2	SQL Server (online / cell if available using BLOB photos)	2
1.1.3	SQL CE Database (offline / using local thumbnail photos)	2
1.2	Accept / Deny based on database criteria	2
1.2.1	Demonstrate red / green behavior by changing Red/Green logic data	2
1.3	Demonstrate additional functionality for Green scans when they are enabled	2.33
1.3.2	Increment / decrement a value in the database per scan for merits / demerits	2.33
1.3.3	Scan in/out cardholders to generate a list of those still “in” or not yet scanned “out”. (Mustering)	2.33
1.4	Supports popular scanning hardware and manual lookup	2.33
1.4.1	Barcode	2
1.4.2	Magnetic stripe	2
1.4.3	Proximity	2
1.4.4	Manual Find	2
1.5	Storage Capabilities	2.33
1.5.1	Data on device (offline mode)	2
1.5.2	Data on backend server (online mode – if available)	2
1.6	Timestamp transaction log	2
1.6.1	Show logged data and how it can later be used for reporting purposes	2.33
	Composite Score	**2.10**

Table 5-2

6.0 Evaluator Comments

Evaluators found PockeTracker to be a reliable system for permitting or denying physical access to user defined areas. The system's flexibility allows for requirements to be added based on a client's needs.

The system will allow the client to track the entry and exit of all enrolled personnel throughout events and facilities; Additionally the system can collect time in and time out data.

PockeTracker is capable of operating in 3 different modes: offline, online, and cellular broadband.

The system also incorporates a quick count feature to quickly determine the total number of people in, and can display the names of those in.

Supports multiple scanning hardware devices: Barcode, Magnetic Stripe, Proximity, Manual find.

Logged data can be used later for reporting purposes.

Pros

- Increment / decrement value in database per scan would be very useful in pre-paid merchandise at events such as food and beverage.
- Generating a list of those still "in" or "out" would be good for many things. To know how many people are in the building and how many per section. Would also be good to tell if a certain person has left early or is still in the building.
- Very flexible in how it connects to the database. There are no hardcoded schema names for the source database. Therefore, PockeTracker can connect to any schema that is ODBC compliant.
- Simplistic use of operation enables flexibility in the applications
- Multiple ways to access and store data.
- Ability to utilize equipment when access is limited
- Simple Red/Green screen makes reading access fool proof.

- Capability to include multiple criteria for testing with the ability to determine which criteria has been met.
- Criteria settings can be changed or upgraded
- Listing as well as numerical counting on both in/out modes provide real time data on who has been scanned, time of scan, and other data.
- Multiple types of data reading capability makes the hand held devices versatile for just about any application.
- Manual find is a very useful feature as a fail-safe way to verify data by retrieving any data that relates back to the individual.
- Multiple reports are available in both numbers and easy to read bar graphs.

Cons

- There are two tables that have a predefined structure (InOutStack and statlog). The handhelds need write privileges to these two tables. These two tables can be stored in the existing database or in a new database.

7.0 Summary

PockeTracker is a handheld ID tracking solution developed by Vision Database Systems that can be used to regulate and verify the identity of individuals/companies entering/exitingstadiums, arenas, parks, and other types of event facilities.

The evaluation requirements, chosen by Vision Database Systems, centered on the functional area of set-up and response with nineteen subcomponents. As indicated 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.

NCS^4 would like to thank the SME's and Vision Database Systems personnel for their participation in the evaluation and demonstration process.

This report is available on the NCS^4 website at http://lab.ncs4.com