

# Development strategy wireless PDA for ASPEN linkage

(file: PDA strategy.wpd, Update: 01/26/00)

**DEVELOPMENT GOAL** – Develop a system which links a PDA wirelessly to a laptop (or desktop) running ASPEN software. The PDA would be equipped with a 2-D barcode scanner and be used for the following:

**ISS query** – Entry of DOT#, ICC#, Carrier name would initiate ISS query  
Critical results from the local query (IV, & other alerts) would be posted to the PDA  
Other data would be available on ASPEN. ASPEN fields would also be populated.

**CDLIS query** -- Scanning CDL 2-D bar code would initiate CDLIS query  
Alternatively, entering driver name & number would initiate CDLIS query  
Critical results from the query (ok or not) would be posted to the PDA.  
Other response from CDLIS would be available in ASPEN.

**NLETS query** -- Scan vehicle registration 2-D bar codes & initiate an NLETS query  
Critical results from the query (ok or not) would be posted to the PDA  
Other data would be available on ASPEN.

**PIQ query** -- Entry of vehicle plate # & state would initiate PIQ query  
Critical results of query (Past inspections, date, #viol, # OOS, driver) would be posted to the PDA and also available on ASPEN.

**Violation capture** -- PDA would display violation tree and allow user to select a specific violation & OOS status and have that information transferred to ASPEN. Violation base list data might reside on the PDA or be transferred from ASPEN.

**Brake measurement capture** – PDA would display entry screens for the user to rapidly mark brake chambers and stroke measurements. Data would be transferred to ASPEN.

**Graphic violation data capture via vehicle display** – PDA would display picture of vehicle. User would mark defective lights, tires, etc. Data would be transferred to ASPEN.

**Hours of Service evaluation** – PDA would display driver hours of service data capture form where inspector could enter results of hours analysis. Violations would be posted to ASPEN.

**Driver Qualification evaluation** – PDA would display driver qualification data capture form. Inspector could enter any DQ violations discovered. Violations would be posted to ASPEN.

The following tasks would be accomplished to achieve these goals:

#### **TASK #1 – Wireless connectivity test**

1. Install the Spectrum24 card on a laptop and test the ability to connect with the PDA and move data.
2. Extend the same test to a truckstop and inspection station environment.
3. Determine the effective range in an office environment.
4. Determine the effective range in a truck intensive environment.
5. Determine the data failure rate. (Duplicate packets transmitted or similar measure).
6. Determine the overall usefulness of the device and decide whether to proceed with further development or not.

#### **TASK #2 – ISS retrieval.**

1. As a basic test of cross-platform & application connectivity, build a basic interface on the PDA to enter a DOT# and retrieval basic data from ISS running on the laptop. PDA would display carrier name, address, IV & critical alerts.
2. Extend the ISS view to allow queries by ICC# and carrier name.

#### **TASK #3 – CDL bar code read test**

1. Build a basic interface and determine the success of reading a 2-D bar code and displaying basic information from the CDL.
2. Using the CDL #, link to CDLIS and retrieve a CDL status check.
3. Return the status information to the PDA device.

#### **TASK #4 – Registration card bar code read test & PIQ query**

1. Build a basic interface and determine the success of reading a 2-D bar coded registration cards. Displaying basic information from a registration card.
2. Using the registration data, link to NLETS and retrieve status information.
3. Use license plate data from the registration card to query PIQ.
4. Devise an interface to input license plate data and query & retrieve PIQ data.

### **TASK #5 – Application framework Design**

1. Design a framework for the various data capture screens needed to complete the other tasks. Evaluate memory requirements and capacity of the PDA to host a comprehensive system of data capture screens. Strive for a consistent user interface and look & feel.

### **TASK #6 – General Violation Capture**

1. Devise PDA screens to select and capture basic violation data from a list of violations. Transfer the violations to ASPEN.
2. Devise PDA screens to display vehicle diagrams and select violation data by pointing to locations of the screen diagram. Transfer the violation data to ASPEN.
3. Devise PDA screens to capture brake chamber & stroke data. Transfer this data to ASPEN.

### **TASK #7 – Driver violation capture**

1. Devise PDA screens to capture driver hours of service violation data and post to ASPEN.
2. Devise PDA screens to capture driver qualification violations and post to ASPEN.