Titling and Registration
• Brief History
• Key Stakeholders
• Objectives
  • Enhancing Use of AVIS
  • Replacing AVIS
• Maximizing Success and Understanding Risks
• Modular Approach
• KAVIS Scrum Process
  • Discovery/Design
  • Develop
  • Test
  • Delivery
• Keys to Success
• Questions
• Multiple failed attempts to modernize
• Legacy knowledge defined the new approach
• Constrained by remaining Capital Project dollars
• Team assembled and trained in Agile Development Methodology
• Two objectives established
Key Stakeholders

• 120 Counties – 120 Elected County Clerks – 146 Offices – 1200+ Deputy Clerks
  • Public Facing
  • Initial process of all title and registration related transactions
  • Tax Collection and Disbursement
  • Fee Collection and Disbursement
• Central Agency – Motor Vehicle Licensing
  • Title Approval
  • Inventory Management
  • Service Center
  • User Administration
• Property Valuation Administrators
• Department of Revenue
• Two Objectives
  • **Enhance use of legacy system** minimally through interfaces to gain benefits for citizens and stakeholders
  • **Replace AVIS** gradually through implementation of modules
Print on Demand Decal and Scanning was fully implemented in May 2015

<table>
<thead>
<tr>
<th>Benefits Expected</th>
<th>Benefits Realized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decrease time in office for customers</td>
<td>All of the expected benefits were realized</td>
</tr>
<tr>
<td>Eliminate double entry of data for clerks</td>
<td>Immediate access to title documents by other agencies</td>
</tr>
<tr>
<td>Reduce paper handling and archiving</td>
<td>Improved tax review and audit by DOR</td>
</tr>
<tr>
<td>Decrease maintenance of aging printers</td>
<td></td>
</tr>
<tr>
<td>Reduce postage for clerks and MVL</td>
<td></td>
</tr>
<tr>
<td>Reduce annual audit time</td>
<td></td>
</tr>
<tr>
<td>Greatly improve access to vehicle documents</td>
<td></td>
</tr>
</tbody>
</table>
• New web renewal site deployed Summer 2015
  • Same functionality/ new design
  • Clerks receive money collected immediately
• Enhanced web renewal deployed May 2016
  • All eligible plates renewable online
• Streamlined web renewal to be deployed Winter 2016
  • Streamlined process for clerks to approve renewals
• Fleet Vehicle Renewal
<table>
<thead>
<tr>
<th>Module</th>
<th>Description</th>
<th>Count</th>
<th>Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – Menu and Disabled Placard</td>
<td>AVIS KAVIS Project 7</td>
<td>450,000</td>
<td>Issuance, Registration, Adval Taxes, Fees, Liens, Cash Drawer, eMARS Interface, Reporting, Correspondence, Rebuilts, Forms, Inventory</td>
</tr>
<tr>
<td>2 – Boats</td>
<td></td>
<td>400,000</td>
<td>Issuance, Registration, Adval Taxes, Fees, Liens, Cash Drawer, eMARS Interface, Reporting, Correspondence, Rebuilts, Forms, Inventory</td>
</tr>
<tr>
<td>3 – Off Road Home</td>
<td></td>
<td>45,000</td>
<td>Issuance, Registration, Adval Taxes, Fees, Liens, Cash Drawer, eMARS Interface, Reporting, Correspondence, Rebuilts, Forms, Inventory</td>
</tr>
<tr>
<td>4 – Mobile Home</td>
<td></td>
<td>360,000</td>
<td>Issuance, Registration, Adval Taxes, Fees, Liens, Cash Drawer, eMARS Interface, Reporting, Correspondence, Rebuilts, Forms, Inventory</td>
</tr>
<tr>
<td>5 – All Trailers</td>
<td></td>
<td>417,000</td>
<td>Issuance, Registration, Adval Taxes, Fees, Liens, Cash Drawer, eMARS Interface, Reporting, Correspondence, Rebuilts, Forms, Inventory</td>
</tr>
<tr>
<td>6 – Mobile Home/House Car</td>
<td></td>
<td>30,000</td>
<td>Issuance, Registration, Adval Taxes, Fees, Liens, Cash Drawer, eMARS Interface, Reporting, Correspondence, Rebuilts, Forms, Inventory</td>
</tr>
<tr>
<td>7 – Bus</td>
<td></td>
<td>16,000</td>
<td>Issuance, Registration, Adval Taxes, Fees, Liens, Cash Drawer, eMARS Interface, Reporting, Correspondence, Rebuilts, Forms, Inventory</td>
</tr>
<tr>
<td>8 – Motorcycles</td>
<td></td>
<td>435,000</td>
<td>Issuance, Registration, Adval Taxes, Fees, Liens, Cash Drawer, eMARS Interface, Reporting, Correspondence, Rebuilts, Forms, Inventory</td>
</tr>
<tr>
<td>9 – Trucks/Wreckers</td>
<td></td>
<td>3,477,000</td>
<td>Issuance, Registration, Adval Taxes, Fees, Liens, Cash Drawer, eMARS Interface, Reporting, Correspondence, Rebuilts, Forms, Inventory</td>
</tr>
<tr>
<td>10 – Passenger Cars</td>
<td></td>
<td>4,700,000</td>
<td>Issuance, Registration, Adval Taxes, Fees, Liens, Cash Drawer, eMARS Interface, Reporting, Correspondence, Rebuilts, Forms, Inventory</td>
</tr>
</tbody>
</table>

These are or will be utilizing third party solutions.

These functions are being reviewed for potential third party solutions, custom development or interface with existing system.

Interfaces will be addressed with modules as they are developed.

Counts refer to the number of data records which will need to be converted for each module.
Benefits of Modular Approach

• Roll out smaller pieces over time
• Incrementally remove functionality from AVIS
• Minimize risk
• Enhance data cleansing/conversion
• Enable focus for training efforts
• Organized by vehicle type and volume
Positive Momentum

• Highly motivated team
  • Sense of pride and drive to prove their capabilities
  • Resources (existing and new) have formed into a cohesive team
  • Feedback on work completed thus far has been positive

• Encouraging and supportive stakeholders
  • The modular approach was easily accepted
  • Working Committee (various stakeholders) meet weekly to validate requirements
• KYTC PMO Reviews throughout

• KiZAN Process Guidance
  • KiZAN has indicated the team is self-correcting and their guidance is no longer needed

• Microsoft Technical Assessments
  • Technical recommendations are being implemented

• Independent Verification and Validation through COT
  • Very positive feedback received
  • Stated “The KAVIS:2 team could serve as a good model/example for other Commonwealth teams/organizations of the Agile discipline at work.”
Risks, Issues and Impediments

- Time Requirement of the Clerks
- Buy-in of Stakeholders
  - Clerks
  - Leadership
  - Other Agencies
- Adhering to the Guiding Principles
- Acceptance of Agile Methodology
- Decentralized Execution
  - Standardization
  - Communication
  - Training
- Sharing resources with AVIS Maintenance and Support
- Scheduling to minimize disruption of busy stakeholder time periods
- Resource time being consumed by assessment services
- Infrastructure Service
KAVIS Scrum Process

- Product Backlog Planning: Prepares the Backlog, New/Refined User Stories, Streamline process into manageable pieces
- Daily Standup
- Effort/Estimate and Prioritization
- Sprint Planning
- Development (3 weeks)
- Grooming and Peer Review
- Demonstration
- Retrospective-Self-Correcting
- Strategic Planning, Risk/Issue/Decision, Working Group, Steering Committee sessions
• Business Analysts/Team (7 BA’s)
  • Responsible for moving “requirements”/User Stories based on Priority through the Grooming Process
  • Informal Peer Review-BA’s
  • Formal Peer Review-BA and Developer
  • Grooming-With Product Owner
  • Estimation-Putting a Value on Complexity/Effort/Risk
  • Sprint Planning

• Constant communication

• Understanding and Adapting to Change
Agile Process - Develop

- Sprint Development
  - (1 Architect/4 Developers)
  - Remove Impediments
  - Increase Communication
  - Understand Team Priorities
  - Conduct Code Reviews
  - Stay within Sprint Tasks

- Plan Capacity on Multiple Variables
  - Velocity
  - Working Days
  - Availability of Resources
  - Estimates from planning sessions
  - Independent or Dependent Requirements
Agile Process-Test

- Test Team (1 Application Test Leader, 1 Tester)
  - Sprint Testing-Parallel with Development
  - Regression Testing
  - UAT/System Test/Integration Test

Defect vs Enhancement
- Defect Documented
  - Placed according to Testing phase
  - Triaged/Put in Sprint or prioritized in Backlog
- Enhancements
  - Created as a Product Backlog Item
  - Prioritized based on Minimal Viable Product and Value
  - Placed in a Sprint based on Planning Parameters

![Agile Process-Test Diagram](image)
Agile Process-Iterative Delivery

- Working Piece of Software after each sprint
- Focus on Value Added Functionality
- Multiple Releases
- Increases Functionality
- Decreases Complexity
- Increases credibility of the Agile Process

**Release 1-Enhancements (Complete)**
- Bar Code Readers Deployed
- Release 2-Value Add
- BTR Replacement

- April 2016
- June 16
- August ’16
- 3rd Quarter ’17
Keys to Success

- History
- Lessons Learned
- Environment for Success
  - Team
  - Process
  - Executive Sponsorship
  - Modular Application Approach

= Quality Solution for our Stakeholders
Questions?