Digital Tools for Archaeological Collections and Inventory Management
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**DM Codes**

- **What is a Data Matrix (DM) code?**
  - Read using a camera/image based hardware (i.e. 2D scanner or smart phone).
  - Can be encrypted or ‘invisibly’ printed/read in ultraviolet for security.
  - Small size
  - High data capacity
  - Low reading error rate (1 in 10 million).

**What is Radio Frequency Identification (RFID)?**

- An automatic identification method
  - Tags can be active or passive
  - Can be attached to people or objects
  - Radio waves are used to transfer data
  - Can read in a number of feet without line of sight to read.

**Utilizing DM Codes with a Database**

- An artifact is then linked to a box record in the database providing access to box and artifact metadata.
- Each shelf location is assigned a unique identification code.
- The box requires a unique identification code.
- Artifacts are assigned an accession number automatically into a database.

**Challenges**

- **Reading Codes**
  - Coding technology in DM is still evolving.
  - DM cannot adhere to uneven surfaces.
  - DM cannot be read through glass.
  - Barcodes are not best for off gassing, archival quality, and can be read through glass.

**The SAA Archaeological Record**


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**DM Coding: Tools**

- **For Making Codes**
  - Thermal printer
  - Inkjet printer
  - Laser printer
  - Inkjet printer: thermal images are non-off-gassing, archival quality images on peelable label.
  - Laser printer: compatible with files of MS Access.

- **For Encoding Codes**
  - An adhesive barcode labelling film is available for intrinsic codes.
  - Barcodes can be embedded into the record on the RFID tag.

**Tracking Boxes with RFID**

- RFID tags can be attached to people or objects
  - Tags can read and locate in a number of feet without a line of sight.
  - Tags can be active or passive
  - Tags do not require a power source

**Archeology Collections Management: Current Standards**

- Standard inventory management practices utilize a unique accession number to each archaeological artifact.
- Addition of any piece of equipment can require an accession number.
- Lines are used to transfer data.
  - Accurate numbers can be recorded and verified.
  - Suitable database programs are used for permanent storage.
  - Fully documented symbols of recording archaeological material numbers include:
    - Artifacts
    - Equipment
    - Place

**Application of Data Matrix Identification Symbols**

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**Barcoding and RFID scanning have been key strategies for automating inventory and asset tracking in sustainability and management data collection.

**Benefits of automation include increased speed of processing, less product handling, real time tracking and inventory management.

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**Supplement Management Strategies**

- Barcoding and RFID scanning have been key strategies for automating inventory and asset tracking in sustainability and management data collection.

**Supply Chain Management Strategies**

- Barcoding and RFID scanning have been key strategies for automating inventory and asset tracking in sustainability and management data collection.

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