SERI State Electronic Records Initiative COUNCIL OF STATE ARCHIVISTS

Advanced Electronic Records Institute

Investing in Technology Over Time

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INSTITUTE of Museum and Library SERVICES

This project made possible by a grant from the U.S. Institute of Museum and Library Services

Technological Infrastructure 0101

- Best expressed by OAIS
- Combination of:
  - hardware and software
  - formats and storage
  - network and security
  - functions and workflow
  - procedures, protocols, documentation
  - technical and archival skills

Technology Definitions

Defined as:

- “scientific study of practical or industrial arts” [OED]
- “physical devices of technical performance” *
- knowledge about how innovations work *
- “skills, methods, procedures, routines…” *
- problem-solving activities *
- Sociotechnical system involving the “manufacture and use of objects involving people and other objects in combination” *

* UK Technology Education Centre

Technology Developments

Outcomes:

- **Enhancement**: doing a known thing better
- **Alternative**: doing a known thing differently
- **New ability**: doing a new and desired thing
- **Innovation**: doing a new and unimagined thing

Technology Investments

- **Prioritize**: meet essential requirements
- **Sequence**: identify stages to accomplish
- **Assess**: determine when to respond
- **Fund**: decide when to own/share
- **Anticipate**: understand past, look ahead
- **Evaluate**: establish ongoing review

Selection Steps

1. Establish selection team
2. Define your requirements and prioritize
3. Identify possible options
4. Evaluate options using requirements
5. Select best fit **now** for your organization
6. Share results and seek buy-in

Example: Archival Storage

- Multiple, geographically distributed copies
- Storage Partners
- Services

http://techaticpsr.blogspot.com/2011/11/icpsr-and-cloud.html

Technologies for Managing File Formats

- Identification: PRONOM (UDFR) and DROID
- Validation: JHOVE
- Preservation Plans: PLANETS
- Normalization of file formats: XENA
- Risk identification: LC sustainability factors
- Risk assessment: KB format risk metrics
- Risk notification: AONS (migration pathways)
- Management costs: LIFE Project

Optimal Technology Developments

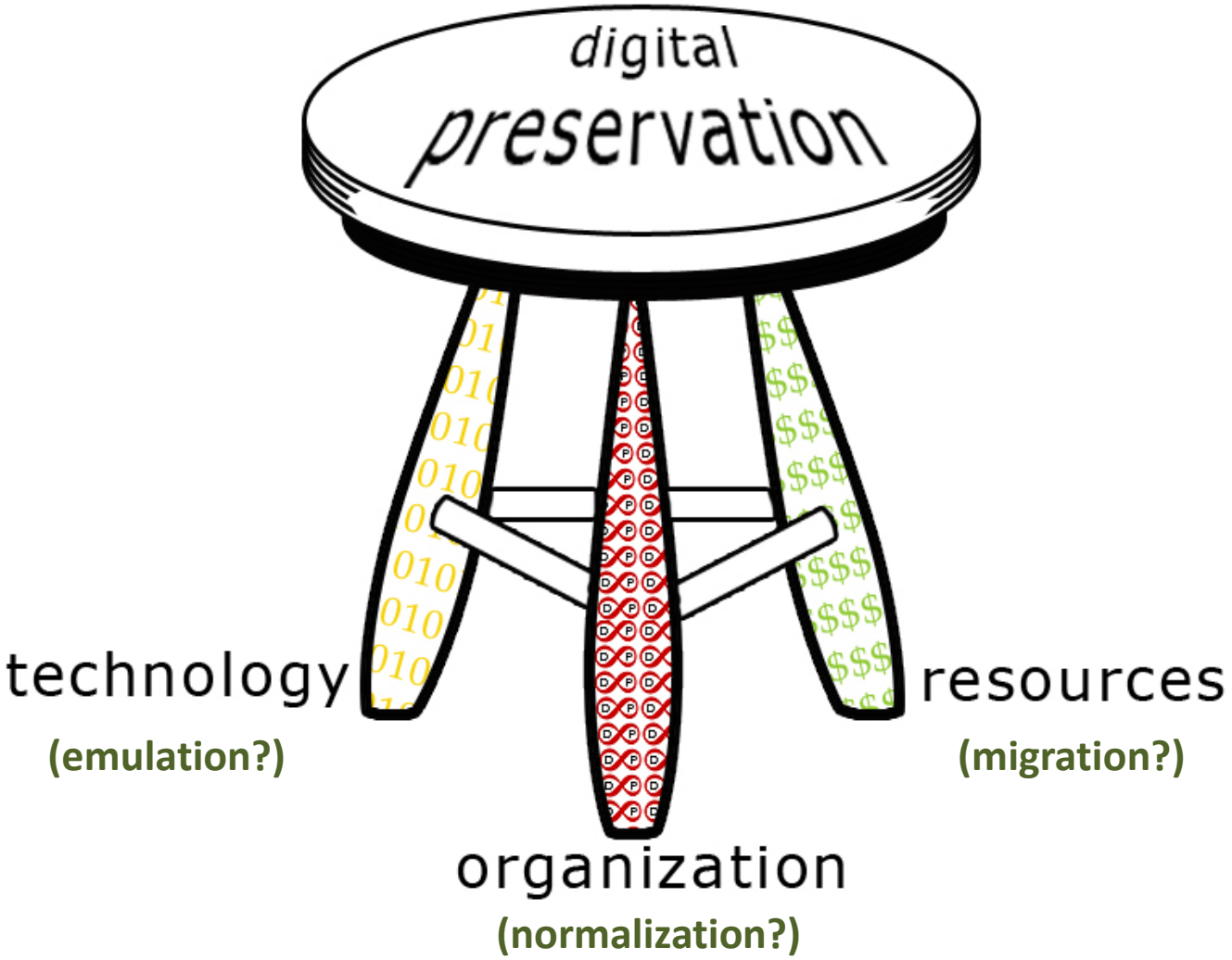
- Characteristics of good developments
  - written in a well-documented language
  - usable on a wide variety of platforms
  - longevity – commitment, duration of support
  - modular in design
  - support for batch processing and workflows
  - designed for workflow integration
  - development by quality staff
  - licensing options and good access to code

Human Factor

Stages	Roles
Pioneer	Innovator
Early expansion	Early adopters
Takeoff	Popularisers
Bandwagon	Followers
Late	Conservatives
Terminal	Resistors

Rogers' technology adoption model

Preferences Example:



Five Stages

Applied to DP technology leg development

1. ***Acknowledge:*** aware technology would help
2. ***Act:*** initiating projects to address issues
3. ***Consolidate:*** launch in beta or pilot
4. ***Institutionalize:*** formalize and standardize
5. ***Externalize:*** shared development

Managing Your Leg

- Follow key developments
- Balance planning and doing
- Know yourself (5 stages)
- Adjust for your organizational context
- Manage human side of technology, too
- No on/off switch – incremental progress
- Anticipate change
- Manage technology leg over time