Preparing an RFP for a Digital Pathology System

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Liron Pantanowitz, MD

Hamamatsu	Consultant	Consultant Fee
Hologic	Consultant	Consultant Fee

Outline

1. Define a request for proposal (RFP) and how it can be used to evaluate digital pathology vendors
2. Explain how UPMC used an RFP to select a new digital pathology system
3. Describe how playscripts assist in the RFP process

Background

- **Aim to replace our Omnyx system, to maintain our digital pathology vision**
- **Based on prior experience with implementing Omnyx we knew what we did/did not want**
- **Selection was not based solely on cost, but also:**
  - Vendor reputation & maturity
  - Flexible architecture for integration
  - Product innovation & functionality
  - Scalability & avoid being locked-in
  - Open system with next gen tools
  - Innovative partnership
- **There are no public ratings (e.g. KLAS) or comparisons (e.g. CAP Today) for digital pathology systems**
- **We adopted a formal approach (e.g. PMO* involved, RFP process) - No short cuts!**

*PMO = project management office

Steps to ~~LIS~~ DPS Selection

Weiner & Winsten. In: Pathology Informatics. Pantanowitz et al. ASCP Press. 2012:105-115

Steps in the Process	What we did
Create a project team	We engaged our PMO & identified stakeholders
Requirements definition	Gap analysis based on our experience with Omnyx
Identify viable candidates	Approached hardware & software vendors
Obtain system & corporate information	We used a formal RFP process
Obtain cost quotations	Budgeted by our information services division
Telephone reference checks	Limited “fully digital” pathology laboratories
Onsite demonstrations	We employed playscripts
Site visits	Limited “fully digital” users in the USA
Contract negotiations	Handled by our supply chain management team
Corporate visit	Key principal meetings to discuss partnership terms

Key Stakeholders

- **For us this included:**
  - **Department of Pathology**
    - Division of Informatics
    - Pathology leadership
    - Lab staff (AP supervisor, histology manager)
  - **Hospital administration**
  - **Information services division**
  - **Enterprise services division**
- **Not all were decision-makers**

Request For Proposal (RFP)

Weiner & Winsten. In: Pathology Informatics. Pantanowitz et al. ASCP Press. 2012:105-115

What is an RFP?

- **"An invitation to vendors, often through a bidding process, to submit a detailed proposal on their product and services in response to specific stated requirements"**

RFP Process

Weiner & Winsten. In: Pathology Informatics. Pantanowitz et al. ASCP Press. 2012:105-115

- **Detailed list of mandatory functions, technical requirements & desired features**
- **Each feature ranked & weighted for importance & priority**
- **Differentiate & "screen out" vendors before next steps**
- **Some institutions may require using a formal RFP process**
- **Acknowledge an RFP is only 1 step in the selection process**

To RFP or Not?

Pros

- Structured approach
- Reduces selection risk
- Guarantee transparency
- Compiled comprehensive list of requirements
- Includes more details than reference sites will answer

Cons

- “Outdated” method
- Cookie-cutter approach
- Vendors may inflate claims
- Vendor’s good at an RFP response may not be the best choice
- May not yield best vendor

Where to Start with an RFP

- **3 ways to begin:**
  - **Suggestions from key stakeholders**
  - **Structured interview of stakeholders**
  - **Use a standard set of requirements**
    - From past informatics projects
    - Prescribed institutional RFP

Request for Proposal

Section 3 - Infrastructure - Hardware / Databases / Desktop Devices

Availability Codes 0 - (Not available), 1 - (Future Availability > 6 months), 2 - (Future availability < 6 months), 3 - (Available now)

Weight 0 - Not Scored, 1 - Nice to Have Requirement , 2 - Desirable Requirement, 3 - Essential Requirement

				UPMC Use Only				
Item #	Criteria	Availability (0,1,2,3)	Response	Unweighted Score	Weight	Weighted Score	Maximum Score	%
A.	**Servers**							
1	Can your system operate in a virtual server environment ?			--	--	--	--	--
2	For IBM AIX based hardware, can the system run on logical partitions in a shared architecture ?			--	--	--	--	--
3	Can the application run on VMWare?. (If yes, please provide references of other sites that are using your application on VMWare).			--	--	--	--	--
4	Specify the hardware requirements for each server (CPUs, Memory, etc.)			--	--	--	--	--
5	Does your system require standalone servers ? (if yes please explain).			--	--	--	--	--
6	Indicate the number of servers required for each OS platform.			--	--	--	--	--
7	Specify the versions of OS software required for each server.			--	--	--	--	--
8	Does the system use a centralized or distributed server model ?			--	--	--	--	--
9	Does a SAAS (Software As a Service) option exist? If so, please describe whether it's a remote hosting solution, cloud solution, etc.			--	--	--	--	--
				Weighted Score		0	0	
B.	**User Desktop Devices**							
1	Will the Client portion run on Windows 7 (32 bit)?			--	--	--	--	--
2	Will the Client portion run on Windows 7 (64 bit)?			--	--	--	--	--
3	Will the Client portion run on Windows 10?			--	--	--	--	--
4	Does the Client application work on Citrix? If so, do all features work with Citrix including printing, scanning, faxing services?			--	--	--	--	--
5	Will we be able to set up laptops for remote use (both online/offline usage)? If there any restrictions, please explain.			--	--	--	--	--
6	Maximum number of PC / terminal devices that can be used by the system at one time and overall?			--	--	--	--	--
7	Please describe Mobile Technologies that your system supports			--	--	--	--	--
8	Describe what type of access is needed for vendor to support application (for example … remote desktop, secure shell (ssh), telnet, etc.). UPMC provides a Citrix-based remote access solution for publishing remote desktop and other required support tools. Will UPMC remote access solution be sufficient for supporting application?			--	--	--	--	--
9	What is the recommended desktop configuration for optimal client performance? (This should include specifications for the necessary RAM, CPU clock speed, and disk space requirements).			--	--	--	--	--
10	Please specify any other/alternative equipment that we can use to maximize use and implementation of the system?			--	--	--	--	--
11	Is there any limit to the amount of licenses for application on desktops?			--	--	--	--	--
12	Is there a limit to how many concurrent users can be using the application ?			--	--	--	--	--
13	Explain in detail the client install procedure and possible configurations.			--	--	--	--	--
14	What type of terminal emulation software is required for PCs to act as terminals on the system ?			--	--	--	--	--
15	What PCs / terminals does your system support ?			--	--	--	--	--
16	What printer devices does your system support ?			--	--	--	--	--
				Weighted Score		0	0	

Our Next steps

- **Send out requests to multiple vendors**
- **Included digital pathology vendors that sell:**
  - Hardware & software products
  - Software only solutions
- **Appointed single point-of-contact person**
- **Evaluate responses from vendors**
- **Ranked vendor RFP responses**
- **Selected vendors to perform on-site demonstrations**
- **Talk to the vendor team, not just their salespeople**

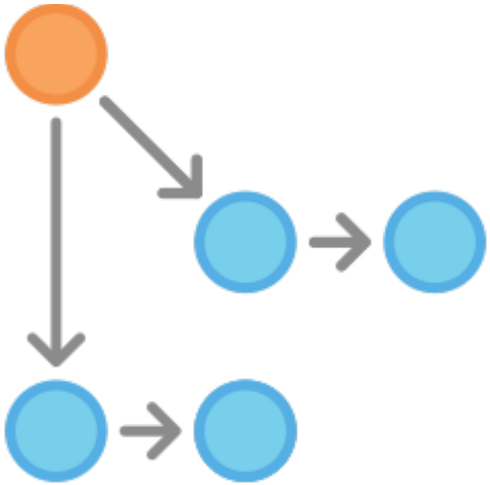
RFP Score Sheet

Decision Maker	Name:	Liron Pantanowitz				
List of vendors that replied to RFP	Vendor:	A	B	C	D	E
Software (SW) / Hardware (HW) solution	Platform:	SW	SW/HD	SW/HD	SW/HD	SW
Indicate if you would like to see a demo	Demo?	X	X	X	X	X
Score of 1-3 (Low-High)	Score?	3	3	2	2	2
What did you like? Dislike?	Comments:	**Likes:** Go here **Dislikes:** Go here				
Were there any deal breakers?	Comments:	**Yes** or **No**				

Playscripts

Weiner & Winsten. In: Pathology Informatics. Pantanowitz et al. ASCP Press. 2012:105-115

- **Describe various workflow operations**
- **“Show us how your system handles…..(scenario)”**
- **Provides a common baseline for vendors**
- **Helps prepare for onsite demonstrations**
- **Compares vendor system performance**
- **Checks alignment with internal processes**

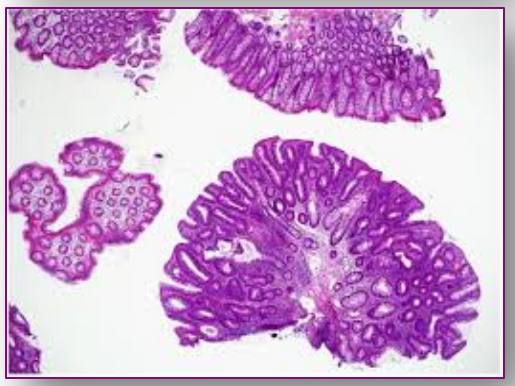


Playscript Preparation

- Based on our routine AP workflow
- Represent all practicing anatomical pathologists
- Perform site visits & needs analysis within our health system
- Our playscripts had 5 scenarios

Playscript #1

- We receive a 3 part biopsy case from screening colonoscopy
- Initial H&E's are cut
- A complete diagnosis can be made from these slides
- How would we do this work using your digital pathology system?

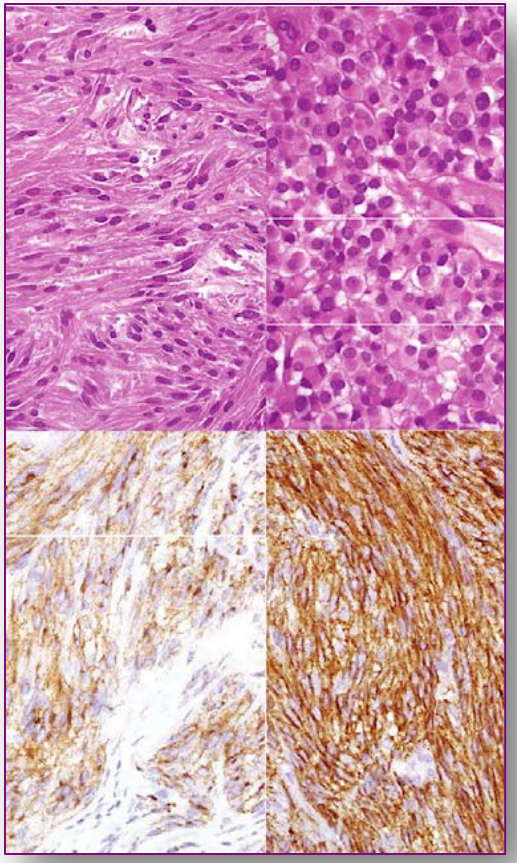


Expectation

- Support primary diagnosis for surgical pathology
- FDA approval plan for clinical use
- Scanned WSI quality
- Barcode readability
- Viewer functionality
- Bidirectional LIS integration:
  - Handle case/part level detail
  - Facilitate reporting

Playscript #2

- We receive a biopsy from a colonic mass in a patient with a prior history of malignancy
- An initial H&E section is made
- Prior history needs to be reviewed
- Additional levels as well as some immunostains are required
- Intradepartmental consultation is needed for this case
- How would we do this work using your digital pathology system?



Expectation

- Same functionality needed as for playscript #1
- Greater EHR integration:
  - Access to EMR clinical history
  - Allow image-driven LIS orders
  - Additional WSI case matching
- Support (internal) telepathology
  - Formal consult (report generation)
  - Curb-side consult (rapid advice)
  - Simultaneous user viewing

Playscript #3

- We receive a surgical resection of a pancreatic mass that was previously biopsied by FNA and core biopsy at our institution
- Prior to gross examination, an intraoperative consultation was performed
- Comparison with prior material is necessary
- Gross images of the specimen were obtained and biomarker immunostains need to be ordered
- The case is also presented at a tumor board
- How would we do this work using your digital pathology system?

Expectation

- Access to prior LIS data
- Comparison with prior WSI
- Scan frozen section slides with artifacts
- Manage rapid frozen section workflow
- Support gross pathology (static) images
- Offer tumor board module

Playscript #4

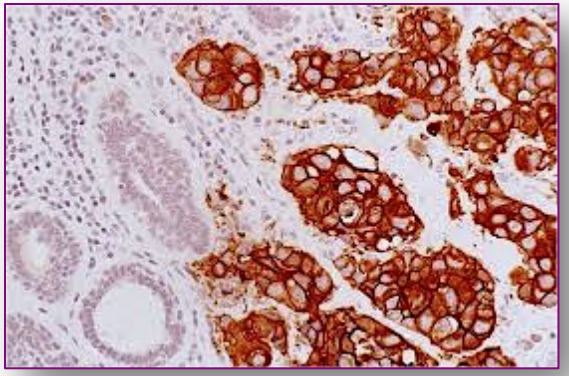
- **We receive a consultation request from an outside institution to be performed on WSI scanned by the outside institution**
- **How would we do this work using your digital pathology system?**

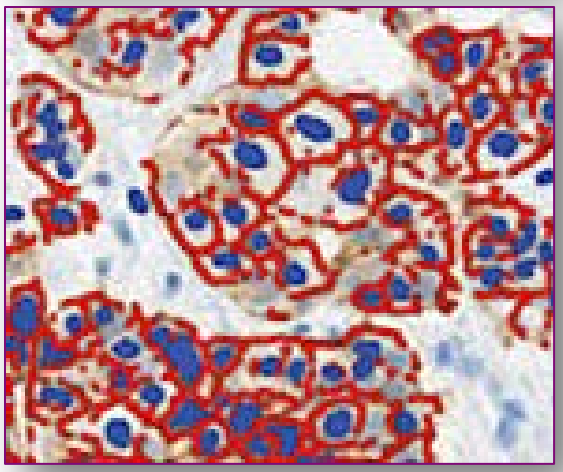
Expectation

- Handle foreign WSI formats
- Secure cloud-based image exchange
- Telepathology end-to-end solution:
  - Clinical: viewing, communication, reporting
  - Operational: tracking, audits, billing
- International telepathology footprint experience

Playscript #5

- We receive a case with invasive ductal carcinoma of the breast
- Tissue is stained for ER, PR, HER2 and Ki-67
- Image analysis is required and needs to be reported in the final diagnosis
- How would we do this work using your digital pathology system?





Expectation

- **Image analysis availability**
- **FDA-approved breast biomarker apps**
- **Handle image analysis workflow:**
  - **Integrated platform**
  - **Reporting capability**

Take Home Message

- **A structured approach to selecting a digital pathology system served us well.**
- **Principles of selecting a digital pathology system are similar to those used for an LIS.**
- **To RFP or not FRP? In our experience it proved to be valuable.**
- **Need to know “what” is provided & “how” it is accomplished.**
- **Playscripts for various multi-step workflows can supplement the RFP process.**

Questions?

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