

University of Melbourne – Micro-Analytical Research Centre

Grid-enabled Access to a National Archive of Nanostructural Imagery (GRANI) Project

Requirements Analysis - Survey of Existing and Required Archival Facilities and Services

Notes:

NANO ion beam

CD,s DVD's

Servers

External users – uni visitors – Id and code

Server – launch software

(See original for complete notes)

General

1. How many instruments does your centre support? Which ones are in most demand?
2. How many users do you have – individuals or organisations?

Most users are local

- *Others- electron microscopy unit*
- *Not for service*
- *Promote research – large research contract*

Access to Instruments

3. What is the process for registering as a user and booking an instrument?
4. Do you have an online booking system? How is this accessed?
5. Do you have secure logon procedures for registered users? Is it password controlled? How do users register and acquire a login id and password?
6. Are there restrictions on how long/when users can book an instrument?

TEM/SEMs

Decentralise – own department

- no money for operating expenses

7. What is your charging scheme – subscription or time-based? Individual or organization-based?
8. How do you log usage?

9. What security mechanisms are used to stop vandalism and hackers? Are the instruments behind firewalls? Do you use swipe cards?

10. What databases do you currently maintain, what information do they store, what platforms are they on, do they talk to each other?

11. How often do you backup administrative data and users' data?

Telemicroscopy

12. Are all of your instruments online? If not, how many instruments do you have and what percentage/how many are online?

New instruments – in budget to put online

Uni of Melbourne – about using NANO

-- person does support of analytical tools (SEMs, TEMsm etc)

13. Can you control the instruments remotely or only view current image in real-time remotely?

Remote controlled pelletron – remote control of computer that controls pelletron.

14. Are they connected to broadband networks? i.e., GrangeNet? What bandwidth? Private LANs (e.g., VPN) or internet?

15. How are the samples transferred and prepared?

16. Is simultaneous videoconferencing available and a necessity? Do you use both video and audio or only audio? How many web cameras?

17. How often is telemicroscopy actually utilized? Under what circumstances is it used/useful?

Image Archival

18. How do users save and organize their images and analytical data ? As flat files in folders or in databases?

Lots of image format

What support of image reconstruction

19. What image formats are supported?

Cryo-100 KEV tem (same as uq)

20. What other types of data (e.g., spectrometry data) do users need to save? What formats are used/required?

21. Do users save images in multiple formats?

22. What image conversion services would be useful? e.g., tiff -> thumbnail

23. Does each instrument have its own camera and proprietary software?

24. Are there built-in image analysis and manipulation tools?

25. Are any instruments connected directly to databases?

26. What facilities exist for saving metadata/data with images?
27. What data/metadata can be saved automatically/manually?
28. How do users relate an image to precise sample coordinates? What happens when a session is interrupted?
29. Are there limitations on users' storage space?
30. What happens when users exceed their space limitation?
31. Are there time-limits on local users' data storage?
32. Are there any search and retrieval services for finding stored images/data?
33. What kinds of search and browse facilities do you envisage?

34. Is there any particular image database software you would like to use or be investigated/evaluated further?
35. How do most users archive their images/data in the long term? On what medium?
36. How do users transfer very large images/files across the network?
37. Do users want to be able to share images with others? What kinds of sharing and access policies do you envisage?
38. Would you like a centralized database with secure access across the NANO nodes or only within each NANO node?
39. What useful value-add services could be provided e.g., annotation services? Watermarking? Image segmentation?

Finally

- nominate which items are mandatory, highly desirable, desirable, optional, unnecessary (M, HD, D, O, U)
- nominate which items are high priority, medium priority, low priority (HP, MP, LP)
- any other items on a wish list