



TEMPLATE FOR TRAVELING DOCUMENTATION WORKSHOP

BACKGROUND

Since 2014, the Technical Committee on Documentation (TC-Doc) has carried out many successful workshops. Content ensuring consistency and quality has been achieved using the following template highlighting the range of that could be covered in each selected Workshop.

Each APT Chapter will work both with TC-Doc and the Standing Committee on Training and Education using this template as a platform to develop an event geared to their specific needs. It is intended that the template be continually reviewed to ensure that content is up to date, and addresses needs for each APT Chapter.

MENU OF WORKSHOP TOPICS

All presentations should focus on documentation technology that is complimentary in advancing a holistic understanding of a structure, its conditions, and qualities. The data and information generated from these documentation methods can be used at the beginning of a project, before the design phase begins, as well as throughout the design project, and for the ongoing management of the resource.

1. **Introduction – Overview of Documentation:** A presentation by a documentation specialist that explains the history and context of technical documentation, and the need to gather data and its development over time to the current day. The presentation should include an overview of technologies and sensors available, from cameras to scanners, related to the different needs in the field.
2. **An Architect's Toolbox - Low-Cost Supplemental Survey Tools:** This presentation will evaluate lower cost documentation tools that do not require significant training or cost, but can greatly benefit a project. From 360-degree photography for virtual tour purposes, to orthorectifying photographs for quick elevation drawings, these low-cost methods are meant to be supplementary and are not meant to replace the value of more technical and advanced high-tech documentation methods. The goal is to explore a range of readily available applications that can be used on portable and handheld devices.
3. **Client Case Study – a presentation from a client perspective:** This will showcase client experience when commissioning a documentation consultant to provide survey data for an important structure of historic or architectural significance. This will address how to make choices from current technologies and challenges such as difficult access and use of drones. This perspective is important as it allows for a critical review of how an owner selects consultants, their specific short-term and long-term needs. Focus will be paid to successes and failures with select methods and technologies with review and lessons learned.
4. **Laser Scanning:** A presentation by a professional trained in the use of laser scanners to document important buildings, structures, or sites. Presentation focus will be evaluation of the different types of scanners available, their individual applications and limitations - when, where, and how to use them, and methods to identify the types of deliverables - all with their concurrent cost implications. This will be accompanied by detailed and informative case studies.
5. **Non-Destructive Evaluation (NDE) Tools:** A presentation to cover a range of NDE tools currently being used to determine subsurface information as it relates to the arrangement



and condition of historic fabric with minimum penetration. This will cover a range of NDE tools, to include but not limited to: Surface Penetrating Radar; Rebound Hardness, Impact Echo; Moisture Meters; Infrared Thermography – exploring how heat is distributed in a historic structure generating analytic data to improve thermal performance of an existing building. General methods of the various tools will be explained including validation and proof testing, applications, and interpreting results.

6. **Hydrothermal and Energy Concepts:** Presentation should describe the evaluation, monitoring, instrumentation, application of information to hygrothermal analysis, which will allow one to better understand how heat and moisture move through an existing building.
7. **Photogrammetry:** This presentation will address the use of photography as a documentation tool and should cover the background of photogrammetry, its development, and how it is currently being used as a primary or secondary tool for historic preservation projects. It should include an overview of the programs available, its place in the toolbox, and less expensive options fit for purpose applications that can be carried in-house, especially rectification.
8. **Unmanned Aerial Vehicle (UAV) “Drones”:** Presentation of why we should consider the use of UAV’s. It should include an explanation of the drone equipment available, with an explanation of applicability, range, and limitations as to documenting historic components that are difficult to access via conventional means. An explanation of the recent legislative restrictions on drones should be provided as well.
9. **Large-Scale Survey Tools:** This presentation will explore the development and use of GIS software in the mapping of historic, architectural, and cultural properties and the available tablet and smart phone-based tools for large-scale city or district surveys. Subjects will include choices of software, open or closed source, management, availability, cost benefits, and how to populate the data. The presentation should be developed and illustrated through demonstration case studies.
10. **Building Information Modeling (BIM) for Historic Structures:** BIM is the current de-facto tool for construction design and management. This presentation will explore the use of BIM applications to existing complicated structures and how BIM can function as a database for historic and archival information. From Scan-to-BIM for design and construction documents, to BIM for Resource Management tools, BIM models are becoming a valuable tool in the preservation community. This presentation will explore the benefits of BIM for preservation projects, and assist in the determination of when and how to best utilize BIM for a historic preservation project.
11. **Building Information Modeling (BIM) for Facilities Management:** The presentation and associated case studies will explore how BIM utilized for a historic preservation project can be employed to manage the life cycle of a building and assist with automated maintenance and energy conservation. Computerized Maintenance Management System (CMMS) software is often utilized by facilities managers to streamline maintenance processes, management, and planning, and provide consistent performance and increased efficiency. Construction Operations Building Information Exchange (COBie) is a non-proprietary data format for the publication of a subset of BIM models data which is in turn uploaded into a CMMS system in use for a facility. Case studies should focus on such processes and applications which assist in informing facilities management databases with historic building information.



12. **Documentation after Natural Disasters:** The current extreme weather events occurring more frequently, wild fires becoming a common occurrence with the impact of climate change, and the recent seismic activity highlighting constant movement the presentation should explore how documentation tools have become key to aiding in urgent recovery efforts and to helping mitigate further damage to historic resources. This presentation will outline how drones, NDE, and laser scanning can be used both as predictors and monitors in post recovery efforts.

FIELD SESSIONS

A series of field sessions will complement the classroom or studio presentations. An important component of the field sessions is that participants get to touch and use equipment beyond just watching a professional demonstrate it.

Field sessions should cover some or all of the following:

- **Laser Scanning:** Field practice session demonstrating survey tools in action, how to acquire points and set up drawings.
- **Photogrammetry:** Field practice session demonstrating survey tools in action and how to collect photos in order to create 3D models.
- **Field Survey & Applications:** Field practice session displaying virtual toolbox applications in action.
- **Non-Destructive Evaluation (NDE) Tools:** A range of NDE tools will be demonstrated, such as GPR radar, thermal cameras, metal detection, etc.
- **Evaluation and Monitoring for Hydrothermal Analysis:** Field practice session demonstrating evaluation and survey tools with set up of equipment to demonstrate flow of air etc.
- **Portable X-Ray Fluorescence:** Field practice session demonstrating analysis using in situ materials, review how to use for documentation and survey by identifying constituents of materials at an elemental level.
- **Infrared Thermography Field:** Practice session demonstrating field use of IR cameras.
- **Unmanned Aerial Vehicle (UAV) “Drones”:** Field practice session demonstrating drone technology.
- **Facilities Management:** Touring a facility that utilizes a highly functioning facilities management software to manage and maintain their historic asset.

PLANNING AND IMPLEMENTATION

It is intended that a key member or champion from the local APT Chapter, or a collaborating organization, work with the Technical Committee for Documentation (TC-Doc) and the Standing Committee for Training and Education (T&E) to design the content for a workshop best suited to their specific needs or interests.

The content will be presented by both specific and experienced specialist speakers together with local specialists under the direction and guidance of the TC-Doc and T&E.



The Association for Preservation Technology International
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Event Schedule: The model is for a one and half day event with a timetable is as follows:

- Friday: Meet & Greet
 - Participants assemble and meet at a local restaurant.
- Saturday: Class Sessions
 - Hosted at an appropriately selected venue and setting.
 - Workshop Start: 8:30am (optional earlier coffee gathering)
 - Lunch: 12:00pm - 1:00pm (possible sponsorship opportunity)
 - Questions & Answers: 4:00pm - 5:00pm
 - Informal Reception: 5:00pm - 7:00pm (possible sponsorship opportunity)
- Sunday: On-site and Hands-on Demonstrations
 - Duration: Half Day (9:00am - 1:00pm)
 - Hosted at an appropriate location, allowing for weather and access
 - Class is usually split into several groups that circulate through demonstrations.
 - Mid-day Final Questions & Answers: 12:00pm - 1:00pm
 - Closing Remarks & Finish

Event Budget: It is expected that the event is projected and costed to run at a net zero non-profit. Any profits after all expenses have been met will be retained by the Chapter. Once the content has been decided, a budget will be developed to cover the following:

- Guest speakers' expenses
- Event location costs
- Food drink and reception

Event Costs: Costs will be met by:

- Attendance fee
- Local sponsorship
- Possible TC-Doc supplementation

Chapter Responsibilities

- Selection of suitable locations
- Friday night restaurant meeting
- Classroom location
- Practical location
- Saturday reception
- Advising local hotels
- Publicizing
- Working with local collaborative organizations

Timeline and Logistics

- Planning should start as soon as possible, with a minimum of 4 months out
- Content, participants, location, date, and attendance prices will be agreed upon and marketing materials designed and circulated to APT, the Chapter, and collaborative organizations preferably 2 months before the event date
- T&E will work closely to manage the setup of all contracts needed and ensure payments are established.