

## 3D Scanning: Use Cases, Workflow and Profile Requirements for X3D

### Workshop Proposal for Web3D 2017 Conference

#### Organizers

- Don Brutzman, Naval Postgraduate School (NPS), [brutzman@nps.edu](mailto:brutzman@nps.edu)
- Vince Marchetti, KShell, [vmarchetti@ameritech.net](mailto:vmarchetti@ameritech.net)

Summary. Content produced by 3D scanning is growing in importance. Typical workflows exist both for scan refinement and scan applications, but numerous variations create difficulties that might be well served by a common data format and shared metadata conventions using X3D. Overlapping requirements for CAD, 3D Printing and 3D Scanning are closely related.

Background. This workshop continues progress during Web3D 2016 Conference and ongoing efforts by CAD Working Group. Related work: requirements and shared metadata strategies for X3D.

#### Workshop objectives

- Confirm 3D scanning workflow requirements and demonstrate examples for X3D.
- Confirm draft Capabilities and Requirements for 3D Printing, 3D Scanning and CAD.
- Demonstrate and document an example scan during workshop and preceding VR Hackathon.
- Present strategies for cross-domain, cross-specification overlaps in support of JTC-1.

#### Workshop Structure

- Present 3D scanning/printing workflows, examples using X3D. (organizers)
- Present overview of JTC-1 study group goals and activities. (organizers, Mouton)
- Present ISO STEP capabilities and interoperability activities. (Mouton, Brange)
- Additional position presentations by participants.
- Gap analysis, review of likely paths forward, define priority goals and activities. (group)

#### References of Interest

- ISO/IEC aggregation of 20 standards in JTC-1 3D Printing and Scanning Study Group.
- Common Capabilities, X3D Requirements for 3D Printing, 3D Scanning and CAD. (attached)

#### Additional Details

- Intended audience: modelers and graphics practitioners interested in 3D scanning.
- Prerequisites: some interest or knowledge of 3D scanning and X3D graphics.
- Level of difficulty: intermediate, with exposure to advanced topics.
- Intended duration: 2 hours (Monday 5 June is likely best).
- Audio/visual support requirements: single or double projector, network and power.
- Resources will be identified in advance and published as part of workshop materials.