AISOS

A Reproducible Model for Institution-Wide 3D Imaging

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Talk Outline

● Who / what are we?

● What types of projects do we support?

● How do we run / promote our space?

● How would you go about starting a space yourself?
Advanced Imaging Service for Objects and Spaces

Icons from the Noun Project created by users Alfa Designs, Franc, Creaticca Creative Agency GB, and Maxim Kulikov.
What does AISOS offer?

Technology

- Automated Photogrammetry
- Full body Photogrammetry
- GigaMacro
- Reflectance Transformation Imaging
- Portable Structured Light
- Fixed Structured Light
- LIDAR
- Digital microscopy
- Aerial photogrammetry
- Virtual Reality

Service & Support
Are you sure you’re not a makerspace?
Maker-type Spaces on Campus

XYZ Lab
Art

Anderson Innovation Labs
CSE

eStudio
Art

Breaker Space
Libraries
How are we different?

● Not focused on fabrication
  ○ We help make files for you to bring to a makerspace

● Students /faculty may come in will less familiarity with the tech

● There may be a steeper learning curve to get into the tech
What is our mission?

1. Remove fear of technology
2. Enable diverse applications of emerging technology
3. Expose faculty and students to emerging technology
PANIC BUTTON
Types of Projects:

1. Research
2. Creativity
3. Outreach

sketchfab.com/aisos
Research
Dendrochronology (Geography)
Wolf Hybrid Study (DNR)
Wood Block Prints (English)
Creativity
Presenting Work

Sandjock Likinè
Body Scanning

Nels Shafer and Felix Oh
Playing with Scale

Katayoun Amjadi
Outreach
Augmented Reality Mini Golf
Fort Snelling in VR (Anthropology)
Duplicating AISOS

Cost != Success
Be Disproportionate
There's no “flip camera and iMovie” for 3D
Build it and they will come...
Build it and they will come...
How do we support the space?

- Ensure that staff have enough time to devote to both managing the space and gaining proficiency in the tech.

- Ensure users that they don't need any knowledge coming in - only an idea!
How do we get the word out?

- Reach out and partner with faculty
- Give tours to specific classes to attract students (and their friends)
- Reach out to other institutions on campus
OK + Time = Great
I'm sold, let's do this.
Getting Started

1. Experiment with Photogrammetry in Agisoft PhotoScan
2. Share your content on Sketchfab, add annotations
3. Get familiar with the wider technology landscape (but don't spend any money yet)
4. Explore the other possibilities
1. Experiment with Photogrammetry
2. Share Your Content on SketchFab

- Treat Sketchfab like YouTube
- Support animations, VR, annotations, and much more
- Great options for education
3. Learn the Landscape

- Automated Photogrammetry
- Full body Photogrammetry
- GigaMacro
- Reflectance Transformation Imaging
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- Fixed Structured Light
- LIDAR
- Digital microscopy
- Aerial photogrammetry
- Virtual Reality
4. Explore the possibilities

- 3D printing
- Gaming
- VR
- AR
- Online exhibitions
- Simulations
- Preservation
- Reconstruction
- Inquiry
- Documentation
aisos.umn.edu

Thank you!