# **AUCA DIGITAL COLLECTIONS**

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### **Digital AUCA Collections**

- To share unique historical items and showcase their intrinsic value through their digital representation.
- AMICAL Small Grant
- Two Collections:
- > Virtual exhibit of archaeological artifacts,
- $\succ$  Digital archive of ethnographic papers.

# Virtual exhibit of archaeological artifacts

Mesolithic sites of Kyrgyzstan – 11 000 BC

3 Mesolithic sites:

- ≻ Obishir V,
- ➤ Argyrzhal II
- > Alamashyk

3D models of 30 organic and non-organic artifacts (ritual objects, pendants, stone tools, and others).

### Working stages

Library	Academic Department	IT Department
	Selection of artifacts	
Taking Photos		
Stacking		
Create 3D model on Agisoft PhotoScan Software		
		Create webpage on Omeka platform
Create metadata and Upload collection		

#### Artifact 1

Site name: Obishir V Year of study: 2016 Type of Artifact: Core Type of row material:Brown chert Size: 3 cm



# 1. Taking Photos

Equipment:

- Photocamera Canon 5D Mark III
- Lens Canon EF 100 mm 2.8L IS USM
- Tripod
- Lights
- Rolling Table
- Fixing Gum





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#### Rules:

- Dots on the table (to fix the position of an artifact)
- 8-10 photos of one position (total 32 positions)
- Enough light (no camera lights)
- Camera slightly above artifact
- Camera on the same distance from the object
- Focusing on each part of the object







# Sequential focus



# 2. Stacking

- In Adobe Photoshop
- From many unfocused to one evenly focused photo

Main Rule:

- No cut, no change of size and quality original photo (depends on photoshooting)

#### Stacking





#### 3. Agisoft Photoscan (total 64 photos for one)

- 1. Mask photos
- 2. Align photos
- 3. Build Dense Cloud
- 4. Build Mesh
- 5. Build Texture
- 6. Build Model





Ready



Ready

### **Final product**

PhotoScan supports point cloud export in the following formats:

- Wavefront OBJ
- Stanford PLY
- XYZ text file format
- ASPRS LAS
- LAZ
- ASTM E57
- U3D
- potree
- Agisoft OC3
- Topcon CL3
- PDF



#### 4. Web-site exposition

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#### **BROWSE ITEMS (5 TOTAL)**

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prismatic core

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microblade with ventral retouch



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#### ABOUT

#### AUCA Digital Collections, supported through AMICAL small grant, is first digital humanities project to be implemented collaboratively by the library, academic departments, and IT.

The project include adoption of the online platform and creation of two pilot collections: Mesolithic Age of Kyrgyzstan: New Discoveries and Dates and Cultural Heritage of Kyrgyzstan in Digital Form.

Mesolithic Age of Kyrgyzstan: New Discoveries and Dates present 3D models of artifacts from archeological excavations undertaken by the Department of Anthropology since 2007. Mesolithic sites play special role in country's archeological heritage. The anticipated collection comprise maps, general and specifics photographs of the sites and 3D models of 30 organic and nonorganic artifacts (ritual objects, pendants, stone tools, and others).

Cultural Heritage of Kyrgyzstan in Digital Form include unique research articles and rare photographs related to spiritual culture of Kyrgyzstan. These documents representing tangible and intangible cultures exist in hard formats, and there have not been prior attempts to digitize and to preserve them. The anticipated collection include approximately 100 images and 50 documents (approximately 250-300 pages). The collection provides access to valuable ethnographic scholarship related to Kyrgyzstan and Central Asian region for academics, researchers, and general public.



#### DIGITAL COLLECTION AMERICAN UNIVERSITY OF CENTRAL ASIA



## Challenges

- Small size of objects
- Problem of local focusing (solved by staking)
- Correct photoshooting (distance, no camera light, fixed camera, etc.)
- Time consuming
- Omeka
- Copyright issues

#### Experiences

- Collaboration with other departments
- Professional network Digital Humanities Institute in Beirut
- Creating such models and working on different software
- Plan B needed

### Thanks for attention