PROJECT – Blue Box

FVRT (Report)

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Objective: Creating a Digital model(mesh+texture) of a real object.

Method: An Application Implementing Structure from Motion(SfM) Method.

Application Used: MeshRoom, MeshLab

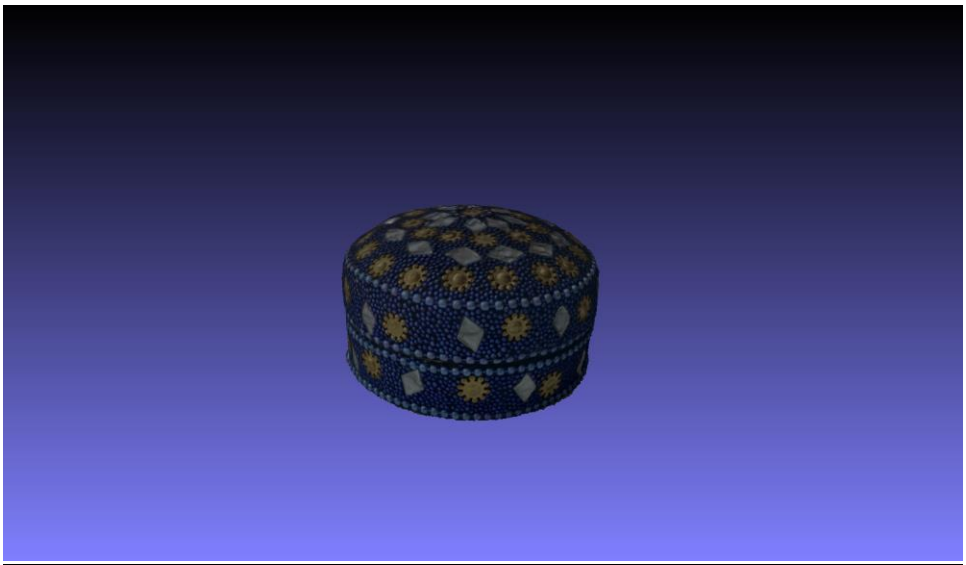
Object: A Blue Box, traditionally designed with many small blue metal balls, glass, and plastic figurines. It is a box used to Put Jewlery Inside of it. It is a handmade product, usually made by the craftsmen of India and Arab Countries.

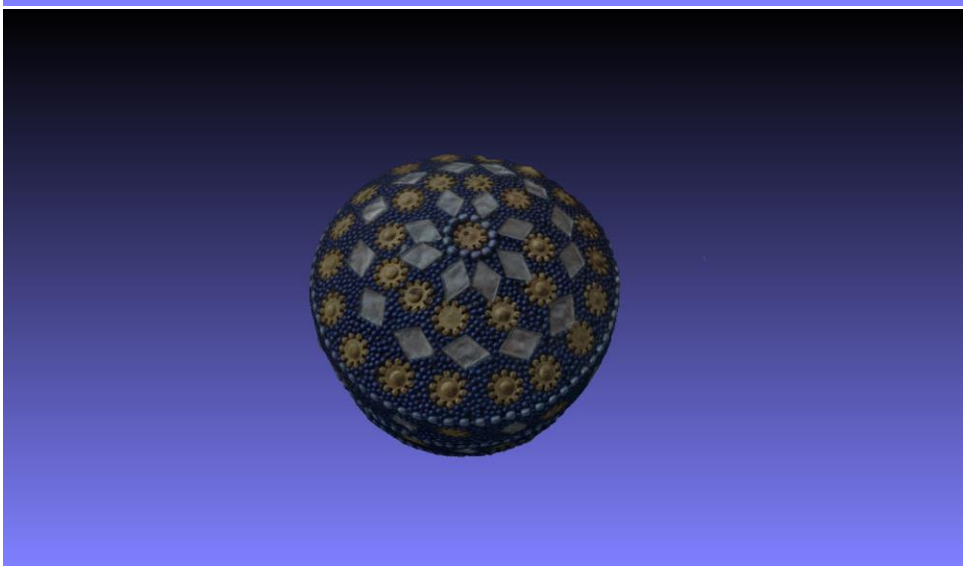
Reference Pictures:

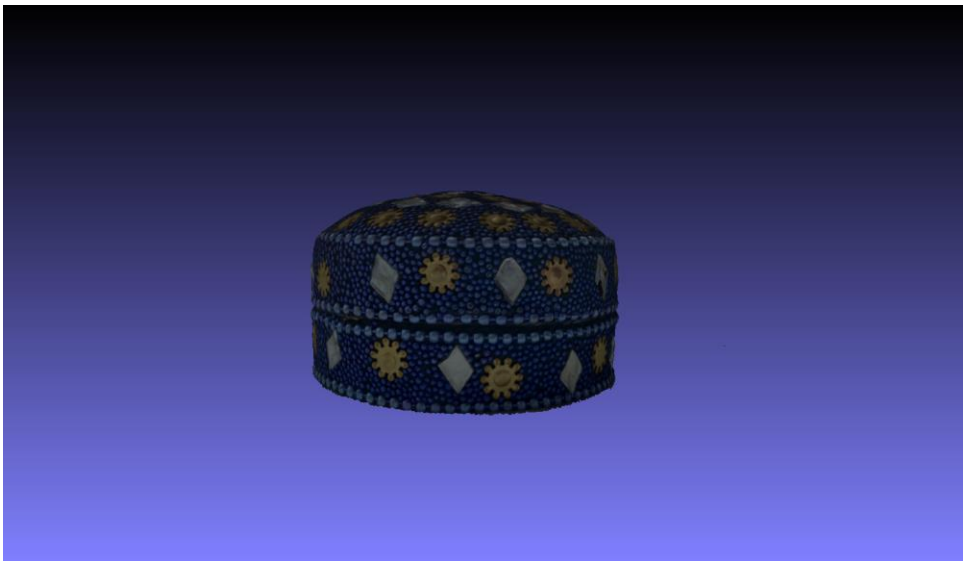
Procedure:

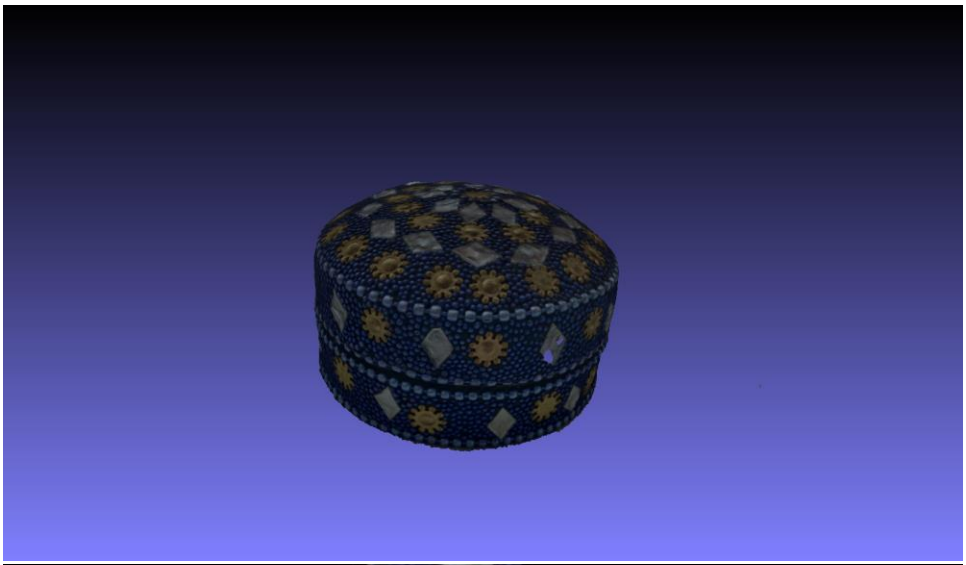
1. I placed the object in natural sunlight for better and natural shadows.
2. I took photos of the Object from all the angles.
3. More than 100 photos were taken for better processing.
4. After that I Uploaded them on a free source software Meshroom.
5. After several hours of processing, I got a 3d model of the box.
6. I stored the material, mesh and png files in a separate folder.
7. Imported the mesh file in a free source software MeshLab.
8. Deleted the extra parts of the texture grid that were not needed.
9. Smoothen the surfaces.
10. Exported the file.

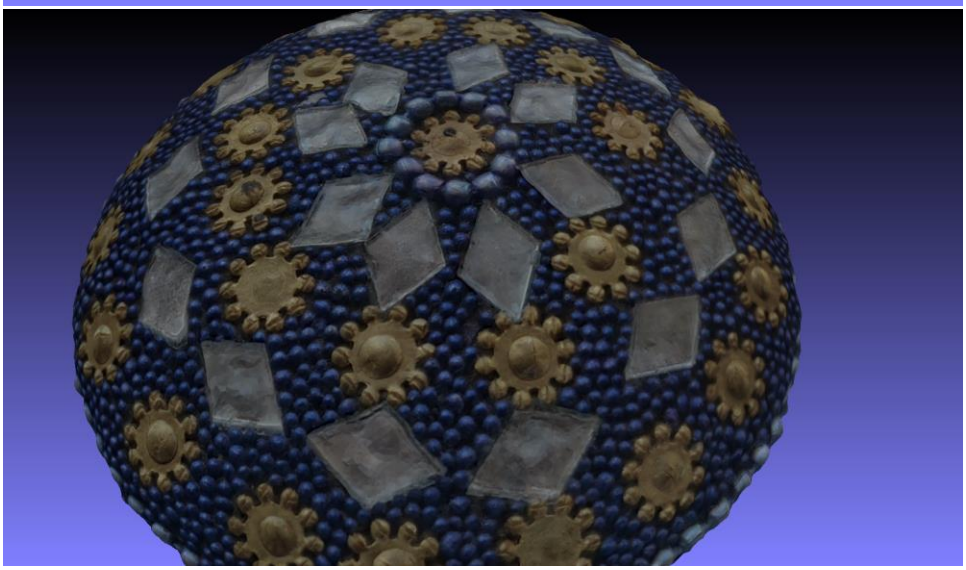
Results:











Conclusion:

The process is simple, and the software is very innovative and smart.

I faced some issues while doing the process,

1. Meshroom need Nvidia CUD, I had it but still it was not working well on my computer.
2. I had to do this project 5 times, to get this result.
3. More than 500 photos were taken to get the perfect result.

4. Process used to hang at depth field mapping.
5. I had to Downscale depth field mapping to 4 and delete several photos which were not able to be mapped.
6. Even though all Pictures were clear and fine the software did not accept some of them.

This 3D mapping can be used to create 3D projections of objects which can be assessed without physically being there.