Sub: Call for Expressions of Interest (EoI) for the pilot project, “Restoration and digitization of old plans of KMC (Kolkata Municipal Corporation)”.

Date: 23/03/2022

(Last date of application: 30/03/2022)

Society for Natural Language Technology Research (SNLTR), Dept. of IT&E, Govt. of West Bengal is launching a call for expressions of interest (EoI) following a professional format for the execution of (including functional/operational support) the project, “Restoration and digitization of old plans of KMC (Kolkata Municipal Corporation)”. All work regarding this project may be done at the office premise of KMC. Agencies interested in presenting a candidacy must come with a matured profile.

Description and present scenario of the old plans:

The Kolkata Municipal Corporation has very old plans of the city. The plans are on silk/cotton cloths or papers. Most of them are around 100-year-old documents. Most of the documents are torn at many places, edges have decayed, dog eared at the corners, colours/inks/lines are faded, wrinkled, damages caused by bookworms, etc. These are valuable documents, required to be preserved and digitize for legal purposes also.

The present project envisages restoration and digitization work for six maps of various shapes and categories. The maps are on Cotton/silk cloth and paper.

Expected parameters for the restoration:

- **Analysing:** - The plans should be analysed properly to find if any extra material/adhesive that is harmful to the document is present. Contents may not be visible to the naked eye, so the plans may be identified by using a UV Lamp. pH test and solubility test should be conducted to check the acidity of cloth/paper.

- **Cleaning:** - A critical part of restoration is removing any old adhesives. Many adhesives turn acidic and cause damage as they age and removing them while keeping the paper undamaged and intact is complex. The steps may include the following points:
  - Removal of Cello tapes, excess paper of residual adhesive.
  - Moistening of the document by fine mist may be done using an atomizer.
  - Depending on the condition of the document, if the ink is soluble then flattening can be done only after further treatment.

- **Filling of paper with the same material:** - To repair the damages on the sides of the map, paper pulp/extra paper of the same material can be used. And for fixing the soluble ink using chemicals or ink that doesn’t bleed.

- **Tear Mending:** - Torn canvasses can be mended by such powder as molten polyamide. For guarding full lining of the map can be done using Japanese tissue paper for paper maps and with Belgian cloth in case of cloth (silk) maps. Acid-free rolls should be used for further storage of the document/map.
• **Preservation**: - The whole process should be done in such a way that the plans documents can be preserved for at least 100 years.

**Expected parameters for the digitization:** -

- The photo-electric effect should be applied.
- File size and resolution should be maintained.
- Acquisition of image should be done.
- Colour reconstructed in the image
- Luminance and chrominance should be maintained.
- Advanced colour calibration should be applied.
- Richness of colours should be maintained.
- Measuring and characterizing colour should be applied.
- Maximum density and dynamic range.
- Dust removal by filter must be applied.
- Bit depth and colour resolution should be maintained.
- Black point compensation
- Complexity of image must be handled.
- Sharpness and details should be prominent.
- Variation of grain with the colour channel.
- Healing and patching
- Distortion, correction and cropping should be prominent.
- Artifacts and Noise should not be there.
- Colour through channel mixing should be applied.
- Controlling saturation is required.
- Registration and line reproduction of exact colour reproduction.
- Calibration and characterization should be applied.
- Measuring the colour characteristics is required.
- Assessing and reproducing the colour sensitivity.
- Obtaining the exact "skin tone" is required.
- Obtaining tonal quality is required.
- Obtaining the exact sensitivity of the different colours (vivid saturation).
- Sharpness and details must be ensured.
- Ensuring that images reflect the luminance and chrominance of the various shades.
- Ensuring the replication.
- Entrapping the richness
- Ensuring optimized colour calibration.
- Ensuring effective digital colour management.
- To follow digitization and embedded image profiles.
- To create output in RGB (Red, Green & Blue)
- To ensure a variation of grain with a colour channel.
- Maintenance of advanced tonal control.
- Ensure shadow mid-tone and highlight control.
Digitized output

The agency should produce six Generals of images one each in TIFF, FINE JPEG, (L), (W), and (T).

Output Specification:

- Master Image TIFF
- Master Image JPEG
- Access Image Large
- Access Image Web
- Access Image Thumbnails

The detailed specifications of output image:

Master Image (Original Digitized Image)

Clean Master Image (Digitized Image)

- File Format: TIFF latest version
- Compression: Uncompressed
- Spatial Resolution: 53.333" X 80", 400 ppi (without extrapolations during conversion)

Access Image (Derivative Image)

- File Format: JPEG latest version
- Spatial Resolution: 8" X 12", 200 dpi and 8" X 12" 96 dpi

Thumbnail

- File Format: JPEG latest version
- Spatial Resolution: 1" X 1.5", 96 dpi

Submission of EoI:

This work (restoration and digitization) can be done separately by different agencies or if any agency wants, they can do both. For this reason, please specify the field of work in EoI where you are going to take responsibility.

To apply, an agency needs to write a complete EoI(pdf version only), which includes the following information and documents:

- A detailed profile of the agency in English clearly elaborating professional experience relevant for the project. Please note that it is mandatory to choose a file name that includes your name i.e., "agencyname-EoI-FieldOfWork.pdf".
- A motivation letter in English (pdf version only) including a clear mention of the profile applied for and full postal address.
- A full financial estimation with justification.

Please, DO NOT send any supporting documents (i.e.: copies of ID-card, educational certificates, evidence of previous professional experience, etc.) with the application at this stage.
Apply to: director.nltr@wb.gov.in;
CC to - tanak.nltr@wb.gov.in; neelam.nltr@wb.gov.in

Sd/-
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