

## **Question 1: Image Extraction at Best Quality**

### **Qn.1A, if you used the supplied replay software:**

please save and submit your results using the filename:  
'Q1A\_ReplayDescribed\_YOURINITIALS' or

Please specify (i) the investigation method used to a) examine the video sequence and b) extract and examine the frame, and (ii) all steps executed. The information you provide should have sufficient detail so that anyone could independently reproduce your results.

- (i) We installed the supplied software (DVR Player).
  - a) The video looks not proportional and 90° turn clockwise
  - b) We extract two frames with different aspect ratio
- (ii) The extracted frames have different aspect ratio, depending of the GPU board and the aspect of the GUI itself.

### **Qn.1A, if you used another method:**

Please save and submit your results using the filename:  
'Q1A\_OtherMethod\_YOURINITIALS'

Please specify (i) the investigation method used to a) examine the video sequence and b) extract and examine the frame, (ii) all tools used, and (iii) all steps executed. The information you provide should have sufficient detail so that anyone could independently reproduce your results.

- (i) Using another software (CMS Player v1.5.0).
  - a) The video looks not proportional and 90° turn clockwise also
  - b) We extract one frame
- (ii) The extracted frame was similar to the first one extracted with DVR Player.

**Qn.1B, if you used the supplied replay software:**

Please save and submit your results using the file name:  
'Q1B\_ReplayDescribed\_YOURINITIALS'

Please specify (i) the investigation method used to a) examine the video sequence and b) extract and examine the frame, and (ii) all steps executed. The information you provide should have sufficient detail so that anyone could independently reproduce your results.

- (i) We installed the supplied software (DM NetVu ObserVer v1.18.59).
  - a) The video looks not proportional and 90° turn clockwise
  - b) We extract one frame
- (ii) The extracted frame was similar to the one extracted with DVR Player.

**Qn.1B, if you used another method:**

Please save and submit your results using the filename  
'Q1B\_OtherMethod\_YOURINITIALS'

Please specify (i) the investigation method used to a) examine the video sequence and b) extract and examine the frame, (ii) all tools used, and (iii) all steps executed. The information you provide should have sufficient detail so that anyone could independently reproduce your results.

Use any space you need

**Qn.1C**

Frame Size of source file recording used in Qn.1A				Frame Size of source file recording used in Qn.1B			
1024	x	721	pixels	720	x	594	pixels

What are your conclusions about the raw, encoded quality of the provided video frame/sequence in Q1A and Q1B?

The Q1A frame looks distorted and with unnecessary pixels (the window frame and the buttons) although the Q1B frame looks darker

## **Question 2: Super-Resolution from supplied sequence of 249 .bmp files**

### **Qn.2A**

**Please select your best result, i.e.:** a single best quality super-resolution image:

Please save and submit your results using filename: "Q2A\_SuperRes\_YOURINITIALS"

1. How have you ingested the material into your enhancement system and super-resolution software tools?

Please detail all steps of any conversion performed including all software tools and settings used. The information you provide should have sufficient detail so that anyone could independently reproduce your results.

We tried to make a Photoshop merge but, due to several CPUs problems we did not get results

2. Please specify all software tools and all Enhancement Filters used (in order) and specific parameter settings; e.g. Super-Resolution Filter (Method? Zoom factor? Number of Iterations? Interpolation?.....)

Use any space you need

- 1.
  - 2.
  - 3.
  - 4.
  - 5.
- Etc

3. Did you select a "region of interest" for directing the super-resolution tool? If so please specify co-ordinates of the region (if used) in the format given by the tool.

Use any space you need

4. Did you select any specific frames or image? If so, please provide details of range of frames or specific frames you used.

Use any space you need

5. Please provide any other information that would be needed so that others would be able to repeat and reproduce your work.

Use any space you need

## Qn.2B

**Please select your best result, i.e.:** a single best quality super-resolution image:

Please save and submit your results using filename: "Q2B\_SuperRes\_YOURINITIALS"

1. How have you ingested the material into your enhancement system and super-resolution software tools?

Please detail all steps of any conversion performed including all software tools and settings used. The information you provide should have sufficient detail so that anyone could independently reproduce your results.

Use any space you need

2. Which of the 5 number plates have you concentrated your efforts on (1=closest number plate, ..., 5=most distant) and how did you decide on selecting this number plate?

Selected no. plate: 1, 2, 3, 4, or 5

Decision reached how:

3. Please specify all software tools and all enhancement filters used (in order) and specific parameter settings; e.g. Super-Resolution Filter (Method? Zoom factor? Number of Iterations? Interpolation?.....)

Use any space you need

- 1.
  - 2.
  - 3.
  - 4.
  - 5.
- Etc

4. Did you select a "region of interest" for directing the super-resolution tool? If so please specify co-ordinates of the region (if used) in the format given by the tool.

Use any space you need

5. Did you select any specific frames or image? If so, please provide details of range of frames or specific frames you used.

Use any space you need

6. Please provide any other information that would be needed so that others would be able to repeat and reproduce your work.

Use any space you need

**Qn2B. (continued): optional:**

As indicated on the Collaborative Exercise webpage you may choose to submit multiple results. If this is the case then please specify how you obtained your results by replicating the previous 6 points for each Procedure/toolset used and/or each possible license plate you focussed on.

**For example:**

Please save and submit your results using filename:

**'Q2B\_SuperRes\_Procedure1\_PlateAll\_YOURINITIALS'** to indicate the best enhancement result you obtained for all plates using the Procedure1 you will describe using a cut-paste repetition of the 6 previous subquestions above, etc.

**and/or**

Please save and submit your results using filename:

**File name: 'Q2B\_SuperRes\_Procedure2\_Plate1\_YOURINITIALS'** to indicate the best enhancement result you obtained for Plate 1 using the Procedure2 you will describe using a cut-paste repetition of the 6 previous subquestions above, etc.

**and/or**

Please save and submit your results using filename:

**File name: 'Q2B\_SuperRes\_Procedure2\_Plate2\_YOURINITIALS'** to indicate the best enhancement result you obtained for Plate 2 using the Procedure2 you will describe using a cut-paste repetition of the 6 previous subquestions above, etc.

etc.

**Qn.2C (optional)**

**Please select your best result, i.e.:** a single best quality super-resolution image:  
please save and submit your results using filename: "Q2C\_SuperRes\_YOURINITIALS"

1. How have you ingested the material into your enhancement system and super-resolution software tools?  
Please detail all steps of any conversion performed including all software tools and settings used. The information you provide should have sufficient detail so that anyone could independently reproduce your results.

Use any space you need

2. Which of the 5 number plates have you concentrated your efforts on (1=closest number plate, ..., 5=most distant) and how did you decide on selecting this number plate?

Selected no. plate: 1, 2, 3, 4, or 5

Decision reached how:

3. Please specify all software tools and all enhancement filters used (in order) and specific parameter settings; e.g. Super-Resolution Filter (Method? Zoom factor? Number of Iterations? Interpolation?.....)

Use any space you need

- 1.
  - 2.
  - 3.
  - 4.
  - 5.
- Etc

4. Did you select a "region of interest" for directing the super-resolution tool? If so please specify co-ordinates of the region (if used) in the format given by the tool.

Use any space you need

5. Did you select any specific frames or image? If so, please provide details of range of frames or specific frames you used.

Use any space you need

6. Please provide any other information that would be needed so that others would be able to repeat and reproduce your work.

Use any space you need

**Qn2C. (continued): optional:**

As indicated on the Collaborative Exercise webpage you may choose to submit multiple results. If this is the case then please specify how you obtained your results by replicating the previous 6 points for each Procedure/toolset used and/or each possible license plate you focussed on.

**For example:**

Please save and submit your results using filename:

**'Q2C\_SuperRes\_Procedure1\_PlateAll\_YOURINITIALS'** to indicate the best enhancement result you obtained for all plates using the Procedure1 you will describe using a cut-paste repetition of the 6 previous subquestions above, etc.

**and/or**

Please save and submit your results using filename:

**File name: 'Q2C\_SuperRes\_Procedure2\_Plate1\_YOURINITIALS'** to indicate the best enhancement result you obtained for Plate 1 using the Procedure2 you will describe using a cut-paste repetition of the 6 previous subquestions above, etc.

**and/or**

Please save and submit your results using filename:

**File name: 'Q2C\_SuperRes\_Procedure2\_Plate2\_YOURINITIALS'** to indicate the best enhancement result you obtained for Plate 2 using the Procedure2 you will describe using a cut-paste repetition of the 6 previous subquestions above, etc.

etc.

### **Question 3: Focal deblur test**

Please specify (i) all software tools or processing steps, (ii) all enhancement filters used (in order) and (iii) all specific parameter settings. The information you provide should have sufficient detail so that anyone could independently reproduce your results.

#### **125 cm chart:**

Please save and submit your results using filename: 'Q3\_125cm\_YOURINITIALS' or 'Q3\_125cm\_LineNUMBER\_YOURINITIALS'

- (i) We used an older free version of SmartDeblur v1.27 and Photoshop CS4.
- (ii) We used mainly SmartDeblur for enhancement of the deblur and Photoshop for post processing. For easier processing we had to cropped images.
- (iii) First we use the motion deblur (length 18 / angle  $-56^{\circ}$  / smooth 99%) settings and then the focal deblur (radius 1.5 / smooth 35%), finally we discard the colour setting and applied an overlay of 100% layer

#### **75 cm, 4<sup>th</sup> line:**

Please save and submit your results using filename: 'Q3\_75cm\_Line4\_YOURINITIALS'

- (i) We used an older free version of SmartDeblur v1.27 and Photoshop CS4.
- (ii) We used mainly SmartDeblur for enhancement of focal deblur and Photoshop for post processing. For easier processing we had to cropped images.
- (iii) First we use the motion deblur (length 7.4 / angle  $-75^{\circ}$  / smooth 98%) settings and then we discard the colour setting and applied an overlay of 100% layer

#### **75 cm, 5<sup>th</sup> line:**

Please save and submit your results using filename: Q3\_75cm\_Line5\_YOURINITIALS'

Use any space you need

#### **any other results: optional:**

Please save and submit your results using filenames: 'Q3\_DISTANCEcm\_LineNUMBER\_YOURINITIALS'

Use any space you need

#### **Question 4: Motion deblur test**

##### **Qn.4A:**

Please specify (i) all software tools or processing steps, (ii) all enhancement filters used (in order) and (iii) all specific parameter settings. The information you provide should have sufficient detail so that anyone could independently reproduce your results.

If you wish to provide results for different regions of interest in the image, please specify their coordinates and/or indicate the region in a small thumbnail, and use the filenames: "Q4A\_RegionNUMBER\_YOURINITIALS".

Region NUMBER: coordinates and/or thumbnail:

- (i) We used an older free version of SmartDeblur v1.27 and Photoshop CS4.
- (ii) We used mainly SmartDeblur for enhancement of focal deblur.
- (iii) First we use the motion deblur (length 16.1 / angle -7° / smooth 64%) settings.

##### **Qn.4B:**

Please specify (i) all software tools or processing steps, (ii) all enhancement filters used (in order) and (iii) all specific parameter settings. The information you provide should have sufficient detail so that anyone could independently reproduce your results.

If you wish to provide results for different regions of interest in the image, please specify their coordinates and/or indicate the region in a small thumbnail, and use the filenames: "Q4A\_RegionNUMBER\_YOURINITIALS".

Region NUMBER: coordinates and/or thumbnail:

- (iv) We used an older free version of SmartDeblur v1.27 and Photoshop CS4.
- (v) We used mainly SmartDeblur for enhancement of focal deblur.
- (vi) First we use the motion deblur settings, but continuous crashes of the softwares and the CPU lead to discarded the test.