DVS second assignment

Due time: 17/8/1383

- It is demanded to perform a linear morph effect in which During N sequences, image A transforms to image B with linear (first order) transform function (e.g. $y = ax + b$). propose adequate slice number N and justify it.

- Develop code and compose a brief report for following problems. Do not omit any noticeable points such as your innovative schemes and memory saving politics.

  1. Perform video compression by employing delta–sigma scheme in temporal domain. Apply this approach on (claire.avi) and determine the minimum bit-rate necessary for representing the image sequence without information loss.

  2. Survey of principle component analysis$^1$ in video compression. Construct both encoder and decoder to perform an exactly reconstructive transform. Test your code with (mother and daughter.avi) and slice the spatial domain with 3 x 3 windows.

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$^1$Details of principle component analysis (PCA) or KL transform is available in text books: Digital Image Processing, Woods, González and Fundamentals of Digital Image Processing, Jain.