ArcSoft Overview

- Founded in 1994
- HQ in Fremont, CA
- 900+ employees worldwide
- Photo & Video software
- Markets served:
  Mobile, tablet, PC, DSC
Industry Leaders Choose ArcSoft
ArcSoft Imaging Technologies

- Adopted by major camera phone vendors and digital camera vendors
- Leverages various forms of hardware capabilities
  - CPU, GPU, DSP, ISP, H/W Codec, Fast RAM, DMA, and other specialized hardware
  - Highly efficient ISP
- Boosts value to the end product
  - Better capture quality and speed performance
  - Better user experience
  - Differentiation
ArcSoft Multi-Frame Technology Overview

• Takes advantage of high speed burst capability in latest capture SOC
• Combines multiple image frames to achieve improved image quality and better experience
ArcSoft Multi-Frame Technology Portfolio

• Multi-Frame Night Shot
• Panorama BurstCapture
• Multi-Frame Anti-Shaking
• High Speed HDR
• PiClear (auto object removal)
• PicBest (optimal portrait composition)
• More…
Achieve Better Quality With Multi-Frame

- Brighter
- Clearer
- Better resolution

COMPARING WITH SONY DSC TX-10
Hardware Requirements

- Fast burst capture capability (>15 FPS)
- Continuous burst to more than 300 shots and stop at any time
- For each capture in the burst
  - H/W noise filter enabled
  - Output in YUV formats
  - Capability to do bracketing
    e.g. void setEvBracketCapture(float[]); // In NvCamera
  - Capability to change the capture parameters (3A, ISO, Gain, etc)
    e.g. void void setExposureTime(int); // In NvCamera
  - Capability to lock the capture parameters
    e.g.
      void setAutoExposureLock(boolean lock); // In NvCamera
      void setAutoWhiteBalanceLock(boolean lock); // In NvCamera
Challenges and Expectations

• Quality of each frame in the burst is sometimes not well-tuned
  - Especially when captured with non-3A parameters

• Image frames sometime are not consistent
  - Even with all capture parameters locked

• Need downsized image frames passed from ISP

• Need Bayer RAW output

• Need hardware-based math functions especially for matrix operations
  - e.g. add, subtract, multiply, absolute difference, division, max, min, linear gradual blend, etc..
Thank You For Your Time