

Trend of Multi-View Video Coding in Korea (3D AV)



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MVC Activities in Korea

- Samsung AIT or Electronics
 - ✓ Investigating the possibility of commercial product
 - ✓ Are going to join 3DAV
- ETRI
 - ✓ Performing active research with schools
- LG Electronics
 - ✓ Investigating the possibility of commercial product
 - ✓ Are going to join
- Universities
 - ✓ Developing MVC algorithms w or w/o company support

MVC Activities in Korea

- Government
 - ✓ Driving 3D-system, 3D display, Multi-view video,...

Survey of Algorithms used for MVC

- Block-based Illumination change-adaptive ME/MC (Sejong Univ.)

- ✓ Conventional method of SAD calculation

$$SAD(x, y) = \sum_{i=0}^{S-1} \sum_{j=0}^{T-1} |f(i, j) - r(i+x, j+y)|$$

- ✓ New method of SAD calculation

$$NewSAD(x, y) = \sum_{i=0}^{U-1} \sum_{j=0}^{V-1} |(f(i, j) - M_{curr}) - (r(i+x, j+y) - M_{ref})|$$

Survey of Algorithms used for MVC

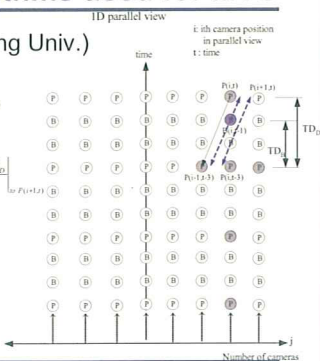
- 2D Direct Mode (Sejong Univ.)

$$MV_{f_1} = MV_c \frac{TD_x}{TD_D} \Big|_{\omega_{P(i-1, j-3)}}, \quad MV_{f_2} = MV_c \frac{TD_x}{TD_D} \Big|_{\omega_{P(i, j-3)}}$$

$$R_p = (3R_{f_1} + R_{f_2} + 2)/4$$

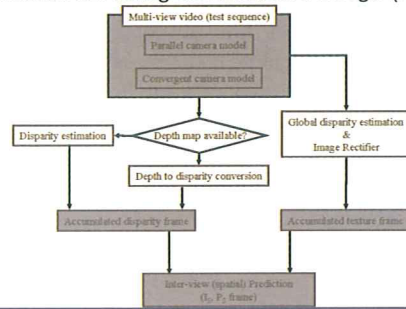
$$MV_{f_1} = MV_c \frac{TD_x - TD_D}{TD_D} \Big|_{\omega_{P(i, j)}}, \quad MV_{f_2} = MV_c \frac{TD_x - TD_D}{TD_D} \Big|_{\omega_{P(i+1, j)}}$$

$$R_p = (3R_{f_1} + R_{f_2} + 2)/4$$



Survey of Algorithms used for MVC

- A framework using accumulated image (KETI)



Survey of Algorithms used for MVC

- A framework using accumulated image (2)

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Survey of Algorithms used for MVC

- The structure of the GOMV (Yeonsei Univ.)

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Survey of Algorithms used for MVC

- The structure of the GGOP (Yeonsei Univ.)

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- Lattice-like Pyramid GOP structure (GIST)

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