Capstone Design in

Digital Image Processing

Team Project #1

팀:1팀

분반:001

교수명: 김학일

제출일: 2019.04.25

1. Overall Flow-Chart

2. Function Protocol

3. Performance Evaluation

4. Analysis and Discussion

- Individual Test Sheet

1. 권동현

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fila Name | | 2019\_1\_1\_R\_T\_1 | 2019\_1\_1\_R\_I\_1 | 2019\_1\_1\_R\_M\_1 | 2019\_1\_1\_R\_R\_1 | 2019\_1\_1\_R\_P\_1 |
| Image | |  |  |  |  |  |
| Type | | 1. Whorl | 4. Double loop | 8. Left Pocket loop | 2. Right loop | 2. Right loop |
| Ridge  Interval  (mm) | Min |  |  |  |  |  |
| Max |  |  |  |  |  |
| Mean |  |  |  |  |  |
| No. of  Minutiae | Core |  |  |  |  |  |
| Delta |  |  |  |  |  |
| End |  |  |  |  |  |
| Blifur |  |  |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fila Name | | 2019\_1\_1\_L\_T\_1 | 2019\_1\_1\_L\_I\_1 | 2019\_1\_1\_L\_M\_1 | 2019\_1\_1\_L\_R\_1 | 2019\_1\_1\_L\_P\_1 |
| Image | |  |  |  |  |  |
| Type | | 1. Whrol | 2. Right loop | 1. Whorl | 3. Left loop | 3. Left loop |
| Ridge  Interval  (mm) | Min |  |  |  |  |  |
| Max |  |  |  |  |  |
| Mean |  |  |  |  |  |
| No. of  Minutiae | Core |  |  |  |  |  |
| Delta |  |  |  |  |  |
| End |  |  |  |  |  |
| Blifur |  |  |  |  |  |

2. 최진우

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| Fila Name | | 2019\_1\_2\_R\_T\_1 | 2019\_1\_2\_R\_I\_1 | 2019\_1\_2\_R\_M\_1 | 2019\_1\_2\_R\_R\_1 | 2019\_1\_2\_R\_P\_1 |
| Image | |  |  |  |  |  |
| Type | | 2. Right loop | 6. Tentarch | 2. Right loop | 1. Whorl | 2. Right loop |
| Ridge  Interval  (mm) | Min |  |  |  |  |  |
| Max |  |  |  |  |  |
| Mean |  |  |  |  |  |
| No. of  Minutiae | Core |  |  |  |  |  |
| Delta |  |  |  |  |  |
| End |  |  |  |  |  |
| Blifur |  |  |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fila Name | | 2019\_1\_2\_L\_T\_1 | 2019\_1\_2\_L\_I\_1 | 2019\_1\_2\_L\_M\_1 | 2019\_1\_2\_L\_R\_1 | 2019\_1\_2\_L\_P\_1 |
| Image | |  |  |  |  |  |
| Type | | 3. Left loop | 6. Tentarch | 3. Left loop | 1. Whorl | 3. Left loop |
| Ridge  Interval  (mm) | Min |  |  |  |  |  |
| Max |  |  |  |  |  |
| Mean |  |  |  |  |  |
| No. of  Minutiae | Core |  |  |  |  |  |
| Delta |  |  |  |  |  |
| End |  |  |  |  |  |
| Blifur |  |  |  |  |  |

3. 임현호

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| Fila Name | | 2019\_1\_3\_R\_T\_1 | 2019\_1\_3\_R\_I\_1 | 2019\_1\_3\_R\_M\_1 | 2019\_1\_3\_R\_R\_1 | 2019\_1\_3\_R\_P\_1 |
| Image | |  |  |  |  |  |
| Type | | 1. Whorl | 3. Left loop | 2. Right loop | 2. Right loop | 2. Right loop |
| Ridge  Interval  (mm) | Min |  |  |  |  |  |
| Max |  |  |  |  |  |
| Mean |  |  |  |  |  |
| No. of  Minutiae | Core |  |  |  |  |  |
| Delta |  |  |  |  |  |
| End |  |  |  |  |  |
| Blifur |  |  |  |  |  |

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| --- | --- | --- | --- | --- | --- | --- |
| Fila Name | | 2019\_1\_3\_L\_T\_1 | 2019\_1\_3\_L\_I\_1 | 2019\_1\_3\_L\_M\_1 | 2019\_1\_3\_L\_R\_1 | 2019\_1\_3\_L\_P\_1 |
| Image | |  |  |  |  |  |
| Type | | 1. Whorl | 4. Double loop | 3. Left loop | 3. Left loop | 3. Left loop |
| Ridge  Interval  (mm) | Min |  |  |  |  |  |
| Max |  |  |  |  |  |
| Mean |  |  |  |  |  |
| No. of  Minutiae | Core |  |  |  |  |  |
| Delta |  |  |  |  |  |
| End |  |  |  |  |  |
| Blifur |  |  |  |  |  |

4. 임정혁

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| Fila Name | | 2019\_1\_4\_R\_T\_1 | 2019\_1\_4\_R\_I\_1 | 2019\_1\_4\_R\_M\_1 | 2019\_1\_4\_R\_R\_1 | 2019\_1\_4\_R\_P\_1 |
| Image | |  |  |  |  |  |
| Type | | 10. None | 1. Whorl | 8. Left pocket loop | 1. Whorl | 2. right loop |
| Ridge  Interval  (mm) | Min |  |  |  |  |  |
| Max |  |  |  |  |  |
| Mean |  |  |  |  |  |
| No. of  Minutiae | Core |  |  |  |  |  |
| Delta |  |  |  |  |  |
| End |  |  |  |  |  |
| Blifur |  |  |  |  |  |

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| --- | --- | --- | --- | --- | --- | --- |
| Fila Name | | 2019\_1\_4\_L\_T\_1 | 2019\_1\_4\_L\_I\_1 | 2019\_1\_4\_L\_M\_1 | 2019\_1\_4\_L\_R\_1 | 2019\_1\_4\_L\_P\_1 |
| Image | |  |  |  |  |  |
| Type | | 3. Left loop | 1. Whorl | 7. Right pocket loop | 1. Whorl | 3. Left loop |
| Ridge  Interval  (mm) | Min |  |  |  |  |  |
| Max |  |  |  |  |  |
| Mean |  |  |  |  |  |
| No. of  Minutiae | Core |  |  |  |  |  |
| Delta |  |  |  |  |  |
| End |  |  |  |  |  |
| Blifur |  |  |  |  |  |

- Team Test Sheet

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| --- | --- | --- | --- | --- | --- | --- |
| ID | | 2019\_1\_R\_T | 2019\_1\_R\_I | 2019\_1\_R\_M | 2019\_1\_R\_R | 2019\_1\_R\_P |
| Type  Distribution | 1 |  |  |  |  |  |
| 2 |  |  |  |  |  |
| 3 |  |  |  |  |  |
| 4 |  |  |  |  |  |
| 5 |  |  |  |  |  |
| 6 |  |  |  |  |  |
| 7 |  |  |  |  |  |
| 8 |  |  |  |  |  |
| 9 |  |  |  |  |  |
| 10 |  |  |  |  |  |
| Ridge  Interval  (mm) | Min |  |  |  |  |  |
| Max |  |  |  |  |  |
| Mean |  |  |  |  |  |
| Std Dev |  |  |  |  |  |
| No. of  Minutia | Min |  |  |  |  |  |
| Max |  |  |  |  |  |
| Mean |  |  |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ID | | 2019\_1\_L\_T | 2019\_1\_L\_I | 2019\_1\_L\_M | 2019\_1\_L\_R | 2019\_1\_L\_P |
| Type  Distribution | 1 |  |  |  |  |  |
| 2 |  |  |  |  |  |
| 3 |  |  |  |  |  |
| 4 |  |  |  |  |  |
| 5 |  |  |  |  |  |
| 6 |  |  |  |  |  |
| 7 |  |  |  |  |  |
| 8 |  |  |  |  |  |
| 9 |  |  |  |  |  |
| 10 |  |  |  |  |  |
| Ridge  Interval  (mm) | Min |  |  |  |  |  |
| Max |  |  |  |  |  |
| Mean |  |  |  |  |  |
| Std Dev |  |  |  |  |  |
| No. of  Minutia | Min |  |  |  |  |  |
| Max |  |  |  |  |  |
| Mean |  |  |  |  |  |

- Discussion

5. Roles of Team Members

- 권동현 : Orientation-Blurring, Calculating Distance, Merge

- 임정혁 : Binarization-Thinning, Extracting Minutiae

- 임현호 : Gabor Filtering, Merge

- 최진우 : Masking-Segmentation, Extracting Minutiae