



CODE IMPLEMENT WORK SAMPLE FORMAT (SYSTEM DEVELOPMENT)

Implementation Plan

Once the Research Proposal writing is over, we move onto the phase of “System Development (Coding)”. Our main intention of the coding phase is to provide well-written and easily executed codes for scholars and students. In coding, we focus to develop own programs that are reduces in number of coding lines and easy to understand it. So we bring clarity and simplicity in project implementation stage. Our software developers are skilled and have dynamic and updated knowledge in all major programming tools NS2, NS3, OMNeT++, Qualnet, OPNET, Mininet, MATLAB, SIMULINK, Hadoop, WEKA, OpenCV, CloudSim, iFogSim, Cooja Simulator, and many more. We proffer absolute system development help for scholars. We work depends on scholars research field. For e.g. If the research areas is Image Processing, we suggest to choose Matlab or OpenCV.

Let’s view our one of the best implementation plan,

Project Title: A Novel Recognition System Using Finger Vein and Palm Vein Images

IMPLEMENTATION PLAN:

Step 1) First we collect "SDUMLA" the database for finger vein images. For training all the images are loaded from the database

Step 2) We give one test image as an input image

Step 3) We implement Quality Assessment Technique to enhance image quality using Image Degree Computation

- (a). Brightness Degree
- (b). Region Contrast Degree
- (c). Noise Degree
- (d). Edge Blur Degree

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(e). Intensity Degree

Step 4) Next we implement Image Preprocessing Techniques

- (a). Normalize R,G,B Channels into Accepted Range
- (b). Noise Removal using Zig-Zag Dynamic Wavelet Shrinkage Model with
- (c). Contrast Enhanced using CLAHE Algorithm

Step 5) Then we extract features using Gabor filter (Illuminations, Rotation, Scaling And Translation)

Step 6) Features are detected using Gradient-based Feature Detection (Horizontal and Vertical derivative filters).

Step 7) Then, finger vein features are fused using fuzzy score level fusion. Fuzzy rules are implemented into the membership functions.

Step 8) Feature matching is implemented by using Euclidean Distance.

Step 9) Fingervien is recognized to be original or fake.

Step 10) Finally our proposed work is evaluated based on following performance metrics:

- (1).Recognition Rate (%)
- (2).Precision (%)
- (3).Recall (%)
- (4).F-Measure (%)
- (5).Equal Error Rate (%)
- (6).Computation Time (s)
 - Image Quality Assessment Time
 - Preprocessing Time
 - Feature Extraction Time
 - Feature Detection Time
 - Feature Matching Time

SOFTWARE REQUIREMENTS:

- Matlab-R2017b
- Windows-10 (64 bit)

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Project Delivery Files

- Source Code
- Simulation Graphs and Results
- Screenshots
- Video File
- Read Me File
- Software Installation and Execution Procedure