DENTAL BIOMETRIC HUMAN IDENTIFICATION

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ABSTRACT:

This project is to identify the human.It can be identified human individual by dental characteristics.Dental features of persons are naturally unique.To present,this method to justify humans correctly and pinpoint properly.This project is all about a proposed method where it includes some major processing stages that consist of preprocessing, segmentation, feature extraction, dental biometric analysis,matching etc.This method is tested on two data bases i.e. Dental radiographs and coloured teeth images.This whole part will be implemented in matlab software for easy identification. Matlab software contains a powerful tool to employ all processing stages.

Keywords-Dental biometric analysis, Dental radiographs, Equal error rate,Matching.
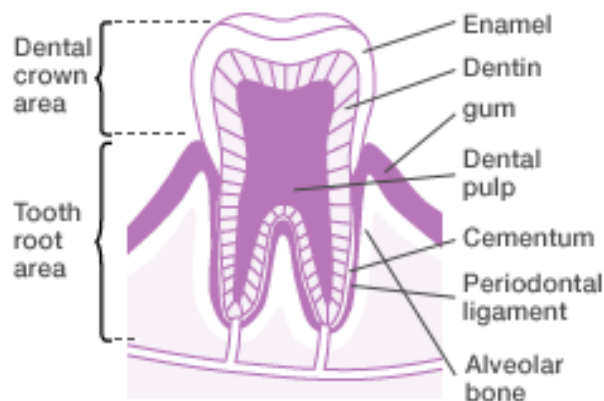
1.INTRODUCTION:

The dental appearance is one of the most important and popular biometric characteristics, particularly used in the field of forensic dentistry.In forensic dentistry the human experts perform manual comparison between ante-mortem and post-mortem dental records.Under various circumstances e.g.disaster,conventional biometric characteristics like fingerprints etc, may not be able to work because of their incompatiblility in such a situation.In current security condition, biometric identification is the most promising way to authenticate humans with highest accuracy rate. Human identification can be done in various modalities like fingerprints, ears, face, handvein recognition various strategies have been proposed and lot of advancement is required also.

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A. TYPES OF BIOMETRICES:

There are two types of biometrics.

➢ Physical biometric represents iris,fingerprint,face recognition etc.

➢ Behavioral biometric represents voice,gait,signature etc.

B. TYPES OF DENTAL RADIOGRAPHS:

There are three types of dental radiographs(x-ray).

Bitewing x-ray is taken at routine check - ups

Periapical x-ray shows entire tooth,including crown,root,and bone.

Panoramic x-ray gives broader overview of entire dentition.it shows not only teeth also sinus, upper and lower jaw bone.

2.EXISTING SYSTEM:

A. DENTAL RADIOGRAPHS:

The dental radiographs are of two database of antemortem(AM) and postmortem(PM) radiograph.Two types of Radiographs are radiometric and geometric

B.ALIGNMENT AND MATCHING:

It is also a Dental works crowns,fitting and bridges.A distance measure based on this correspondence is then used to represent the similarity between the two images.

C.DENTAL BIOMETRIC ANALYSIS:

For features extraction part,contours as features are extracted using image

foresting transform.The help of box formatiom,teeth contours were extracted using active contour model. [4] discussed about a system, GSM based AMR has low infrastructure cost and it reduces man power.

3.PROPOSED METHODOLOGY:

A.PRE-PROCESSING:

In pre-processing stage,it used to filter out unwanted background present with teeth.Images of bad quality create difficulties at every stages of features extraction and matching.After pre-processing done.The goal of our segmentation is to find our region of interest associated which is part of the image comprises some desired teeth of image.Global segmentation is done and connected extra component are removed and segmend teeth resulted.
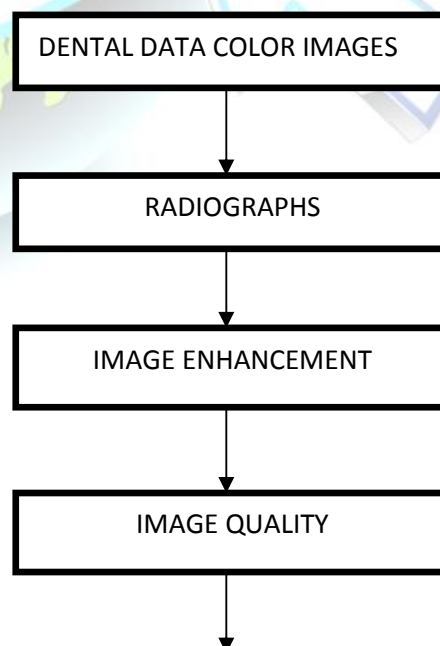
B.SEGMENTATION:

The goal of our segmentation is to find our region of interest associated which is part of the image comprises some desired teeth if the image.
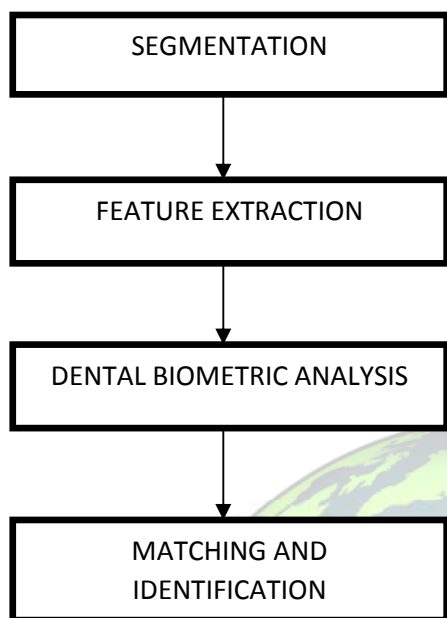
Contour of teeth are extracted from radiograph and also contour of dental work present on radiograph.

C.FEATURE EXTRACTION:

The aim of dental biometric identification is to authenticate human on the basis of dental but with the availability of latest digital cameras and other machinery.The evaluvations of image quality is data by comparing in our databases naturally the dental features are present as the highest intensities in the image and appear distinguish and distinct.We have utilised this intensities for extracting the desired features

BLOCK DIAGRAM:

DENTAL DATA COLOR IMAGES

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RADIOGRAPHS

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IMAGE ENHANCEMENT

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IMAGE QUALITY

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│      SEGMENTATION       │
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│    FEATURE EXTRACTION   │
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│      MATCHING AND       │
│     IDENTIFICATION      │
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4.ADVANTAGES:

- It leads reduction of error rate possibility.
- Accuracy is high.
- Under various circumstances eg:disaster,conventional biometric characteristics like fingerprints etc,may not be able to work because of their incompatibility in such a situation.

5.CONCLUSION:

It is implemented in different way and got the result which are highly encouraging.Dental features can not only used in forensic but also security authentication process. Dental biometrics should not only be the base of identification of a person but rather it should be treated as a confirmatory tool. For example, if a person's face is completely damaged and its identification is not possible by face, then dental biometrics may used as confirmatory tool along with other like finger print, vein impression etc.

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