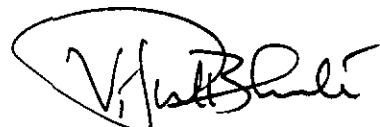


## ABSTRACT

The present invention discloses a portable unique identification enrolment kit comprises a computing device, an eye scanner, a fingerprint scanner, a web camera, a data storage and communication unit(external) and a ruggedized carrying case. The computing device is preferably a laptop device or a tablet device. The computing device comprises a software application to load the various details of a person like biometric, photograph, retina scan and other personal information. The fingerprint scanner captures details (fingerprints) of finger of the hand of the person. The web camera captures facial details of the person. The captured details of the person are transferred to the computing device on real time basis. The ruggedized carrying case has a design to house the eye scanner, the fingerprint scanner, the web camera, the data storage unit (external). In short it is an integrated ruggedized portable unique identification enrolment kit.



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## **Claims**

We claim:

1. A portable unique identification enrolment kit comprises:
  - a computing device, wherein the computing device is preferably a laptop device or a tablet device, wherein the computing device comprises a software application to load the personal details, biometric details of a person; an eye scanner, wherein the eye scanner captures a retinal details of the person, wherein the eye scanner is connected with the computing device through a wireless or wired media, wherein the captured retinal details of the person is transferred to the computing device on real time basis; a fingerprint scanner, wherein the fingerprint scanner captures details of finger in the hand of the person, wherein the fingerprint scanner is connected with the computing device through a wireless or wired media, wherein the captured finger details of the person is transferred to the computing device on real time basis;
  - a web camera, wherein the web camera captures facial details of the person, wherein the web camera is connected with the computing device through a wireless or wired media, wherein the captured facial details of the person is transferred to the computing device on real time basis;
  - a solar charging unit as an additional optional kit, wherein the solar charging unit provide the battery backup to the enrolment kit in remote areas, wherein the solar charging unit is connected to a battery back through an input port;
  - a data storage and communication unit, wherein the data storage unit is separable in nature, wherein the data storage and communication unit is connected to the computing unit to transfer a data for long term storage in remote areas; and

a ruggedized carrying case, wherein the carrying case has a design to house the eye scanner, the fingerprint scanner, the web camera, the data storage unit , wherein the ruggedized carrying is swiftly moveable from one place to another without dislocating internal components.

2. The enrolment kit as claimed in claim 1 further comprises a printer, wherein the printer is provided to take a printout of a receipt generated after completion of a unique identification form.
3. The enrolment kit as claimed in claim 1 further comprises an additional (optional) document scanner, wherein the document scanner is additionally provided to scan readily available official documents taken as a proof of identity and personal details.
4. The enrolment kit as claimed in claim 1 further comprises a additional optional signature pad, wherein the signature pad takes a handmade signature of the person to testify the scanned documents.
5. A method for generating a unique identification form comprises:
  - opening the kit and mounting the peripherals including a computing device, an eye scanner, a fingerprint scanner and a webcam, wherein the mounted peripherals are switched-on;
  - starting an identification software application, wherein the identification software application comprises step by step process to capture the personal details, picture of the enrolee, finger scans of the enrolee and retina scan of the enrolee;
  - entering a plurality of authorization details in the identification software application through the computer device, wherein the authorization details comprises an agent ID and a password, wherein the software application remains unprocessed when the entered authorization details are incorrect;
  - opening an enrolment form and filling a person's details, wherein the enrolment form is opened only when authorization details are correct, wherein the person's details comprises a mandatory field comprising fields for name, age, gender, address, etc., wherein the person's details further

comprises an optional field comprising a field for mobile number, a bank account number, etc., wherein the software application remains unprocessed until the entered information in the mandatory field is missing;

capturing an image of the person through the web camera, wherein the image capture option is available only when one enters details in the mandatory fields, wherein the image is captured when the person's face is highly visible in the camera resulting in high quality image print, wherein the software application prompts for recapturing the image when a captured image is not as per the permissible quality;

scanning a retinal image of the person through the eye scanner, wherein the retinal scanning option, wherein the software application prompts for rescan the retina when a scanned image is not of permissible quality;

scanning a fingerprint image of the person through the fingerprint scanner, , wherein the software application prompts for rescan the fingerprint when the scanned image is not of permissible quality;

submitting a completed enrolment application at a backend or at a central server, wherein the enrolment application is completed by linking and consolidating the personal details at appropriate places;

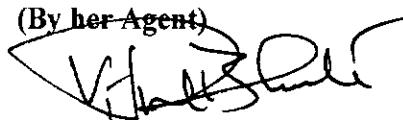
displaying a confirmation message for completed and submitted enrolment application; and

printing a receipt for the completed enrolment application with employee reference number, data and time of enrolment, etc.

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#### **A) TECHNICAL FIELD OF INVENTION**

**[0001]** The present invention generally relates to an integrated and portable electronic kit and more particularly relates to an integrated and portable kit for capturing a person's unique identification data. The present invention more particularly relates to an integrated electronic kit with components to capture a plurality of individual's data of a person like IRIS scan, biometric, demographic details and process the captured data to generate a unique identification report.

#### **B) BACKGROUND OF THE INVENTION**

**[0002]** A unique identification card or device is a hand device to give details about a person. In present days a various nations provide national identification database in which a biometric detail, a housing detail, a location detail, a banking detail, etc. are stored. These details assist the government in tracking a person or his/her belongings during a lost scenario, a theft, a crime accusation and other data logs. For collecting the details related to a person, the government in various jurisdictions have established specialized centres.

**[0003]** One of the prior arts discloses a portable identification apparatus and an associated identification and authentication system. The portable apparatus stores the biometric data of an authorised user and includes a biometric scanner for acquiring biometric data of a user. A processor compares acquired biometric data with the stored biometric data to identify a user of the apparatus, and generates identification information relating to the authorised user if the acquired biometric data matches the stored biometric data. An IRIS scanner is also provided to capture the retina scan of an individual. A web camera is also provided to capture the photograph of an individual. A wireless communication interface transmits the identification information through a communication terminal such as a data card, mobile telephone, for use in a transaction. The data is stored at an authentication centre which comprises a server with an associated database for identifying each

identification apparatus, as well as biometric data corresponding to the stored biometric data in each identification apparatus, and encryption keys for decrypting data in the identification information transmitted via the communication terminal.

**[0004]** However, the prior arts are bulkier to be carried by a single person, thus needs a transportation means when intentioned to transfer from one location to another. This consumes a lot of time as well as cost is high in installation of the prior art apparatuses. Also the prior arts take multi-level channels and device inclusion to create a real time identification form. Also the previous arts were in desegregated form and lacks an integrated form, where all these individual peripherals can be housed

**[0005]** In the view of foregoing, there is a need for a portable unique identification device with highly compact design. Further there is a need for a portable unique identification device with pre-installed application to create a person's identification form at a real time.

**[0006]** The above mentioned shortcomings, disadvantages and problems are addressed herein, as detailed below.

### **C) OBJECTS OF THE INVENTION**

**[0007]** The primary object of the present invention is to provide a portable device for unique identification.

**[0008]** Another object of the present invention is to provide a portable device for capturing and storing the biometric, IRIS details, photo and other individual's data.

**[0009]** Yet another object of the present invention is to provide a highly compact design for a unique identification enrolment kit.

**[00010]** Yet another object of the present invention is to provide a portable device with an integrated software application to formulate an identification form and transfer it to a central server.

**[00011]** These and other objects and advantages of the embodiments herein will become readily apparent from the following detailed description taken in conjunction with the accompanying drawings.

#### **D) SUMMARY OF THE INVENTION**

[00012] The various embodiments of the present invention disclose a portable unique identification enrolment kit that comprises a computing device, an eye scanner, a fingerprint scanner, a web camera, a solar charging unit, a data storage unit and a ruggedized carrying case. The computing device is preferably a laptop device or a tablet device. The computing device comprises a software application to load the biometric details of a person. The eye scanner captures the retinal details of the person. The eye scanner is connected with the computing device through a wireless or wired media. The captured retinal details of the person are transferred to the computing device on real time basis. The fingerprint scanner captures details of fingers in the hands of the person. The fingerprint scanner is connected with the computing device through a wireless or wired media. The captured finger details of the person are transferred to the computing device on real time basis. The web camera captures facial details of the person. The web camera is connected with the computing device through a wireless or wired media. The captured facial details of the person are transferred to the computing device on real time basis. The solar charging unit provides the battery backup to the enrolment kit in remote areas. The solar charging unit (Optional) is connected to a rechargeable battery pack through an input port. The data storage unit is separable in nature. The data storage unit is connected to the computing unit to transfer a data for long term storage in remote areas. The ruggedized carrying case has a design to house the eye scanner, the fingerprint scanner, the web camera, the data storage unit and the solar charging unit (additional kit). The ruggedized carrying case is swiftly moveable from one place to another without dislocating internal components.

[00013] According to one embodiment of the present invention, the enrolment kit further comprises a printer. The printer is provided to take a printout of a receipt generated after completion of a unique identification form.

[00014] According to one embodiment of the present invention, the enrolment kit further comprises a document scanner (Optional). The document scanner is additionally provided to scan readily available official documents that are taken as a proof of identity and personal details.

[00015] According to one optional embodiment of the present invention, the enrolment kit further comprises a signature pad (Optional). The signature pad takes a handmade signature of the person to testify the scanned documents.

[00016] The embodiments of the present invention disclose a method for generating a unique identification form comprises opening the kit and mounting the peripherals including a computing device, an eye scanner, a fingerprint scanner and a webcam. The mounted peripherals are switched-on. The method further comprises starting an identification software application. The identification software application comprises an automated synchronization feature. The automated synchronization feature uploads the biometric details at appropriate places in the unique identification form automatically. The method further comprises entering a plurality of authorization details in the identification software application through the computer device. The authorization details comprise an agent ID and a password. The software application remains unprocessed when the entered authorization details are incorrect. The method further comprises opening an enrolment form and filling a person's details. The enrolment form is opened only when authorization details are correct. The person's details comprise a mandatory field comprising fields for name, age, gender, address, etc. The person's details further comprise an optional field comprising a field for mobile number, a bank account number, etc. The software application remains unprocessed when the entered information in the mandatory field is missing. The method further comprises capturing an image of the person through the web camera. The image capture option is available once all the information is entered in the mandatory field. The image is captured when the person's face is highly visible in the camera resulting in high quality image print. The software application prompts for recapturing the image when a captured image is below a permissible quality. The method further comprises saving the

facial image in the unique identification form and scanning a retinal image of the person through the eye scanner. The retinal scanning option is available when the captured facial image is of good permissible quality. The software application prompts for re-scan the retina when a scanned image is not of the permissible quality. Finger scan of the person is done through the fingerprint scanner. The software application prompts for rescan the fingerprint when the scanned image is not of permissible quality. The method further comprises submitting a completed enrolment application at a backend or at a central server. The enrolment application is completed by linking and consolidating the personal details at appropriate places. The method further comprises displaying a confirmation message for completed and submitted enrolment application and printing a receipt for the completed enrolment application with employee reference number, data and time of enrolment, etc.

**[00017]** These and other aspects of the embodiments herein will be better appreciated and understood when considered in conjunction with the following description and the accompanying drawings. It should be understood, however, that the following descriptions, while indicating preferred embodiments and numerous specific details thereof, are given by way of illustration and not of limitation. Many changes and modifications may be made within the scope of the embodiments herein without departing from the spirit thereof, and the embodiments herein include all such modifications.

#### **E) BRIEF DESCRIPTION OF THE DRAWINGS**

**[00018]** The other objects, features and advantages will occur to those skilled in the art from the following description of the preferred embodiment and the accompanying drawings in which:

**[00019]** FIG. 1 illustrates a block diagram of the component interconnection in the unique identification enrolment kit, according to one embodiment of the present invention.

**[00020]** FIG. 2 illustrates a flowchart of the method for biometric scanning, data collection and processing, according to one embodiment of the present invention.

## **F) DETAILED DESCRIPTION OF DRAWINGS**

[00021] In the following detailed description, a reference is made to the accompanying drawings that form a part hereof, and in which the specific embodiments that may be practiced is shown by way of illustration. The embodiments are described in sufficient detail to enable those skilled in the art to practice the embodiments and it is to be understood that the logical, mechanical and other changes may be made without departing from the scope of the embodiments. The following detailed description is therefore not to be taken in a limiting sense.

[00022] FIG. 1 illustrates a block diagram of the component interconnection in the unique identification enrolment kit, according to one embodiment of the present invention. With respect to FIG. 1, the portable unique identification enrolment kit comprises a computing device 101, an eye scanner 102, a fingerprint scanner 103, a web camera (inbuilt in the Laptop, and if separate than it can be clipped at any convenient position) 104, provisional input for solar charging unit (Additional add on unit) 105, a data card unit which is connected as the slot demarcated 106 and a ruggedized carrying case 107. The computing device 101 is preferably a laptop device or a tablet device. The computing device 101 comprises a software application to load all the details of a person like personal details, picture, retina scan, fingerprints, etc. The eye scanner 102 captures the retinal details of the person. The eye scanner 102 is connected with the computing device 101 through a wireless or wired media. The captured retinal details of the person are transferred to the computing device 101 on real time basis. The fingerprint scanner 103 captures details of finger in the hand of the person. The fingerprint scanner 103 is connected with the computing device 101 through a wireless or wired media. The captured finger details of the person are transferred to the computing device 101 on real time basis. The web camera (inbuilt in the Laptop, and if separate than it can be clipped at any convenient position) 104 captures facial details of the person. The web camera 104 is

connected with the computing device 101 through a wireless or wired media. The captured facial details of the person are transferred to the computing device 101 on real time basis. Solar charging unit 105 can be connected to this kit through input as shown in the diagram by provisional 105 to provide the battery backup to the enrolment kit in remote areas. The solar charging unit 105 is connected to a battery back through an input port. The data storage unit 106 is separable in nature. The data storage and communication unit 106 is connected to the computing unit to transfer a data for long term storage in remote areas. The ruggedized carrying case 107 has a design to house the eye scanner 102, the fingerprint scanner 103, the web camera 104, the data storage unit 105. The ruggedized carrying case 107 is swiftly moveable from one place to another without dislocating internal components.

[00023] FIG. 2 illustrates a flowchart of the method for biometric scanning, data collection and processing, according to one embodiment of the present invention. With respect to FIG. 2, the method for generating a unique identification form comprises opening the kit and mounting the peripherals including a computing device, an eye scanner, a fingerprint scanner and a webcam (201). The mounted peripherals are switched-on. The method further comprises starting an identification software application (202). The identification software application comprises an automated synchronization feature. The automated synchronization feature uploads the biometric details at appropriate places in the unique identification form automatically. The method further comprises entering a plurality of authorization details in the identification software application through the computer device (203). The *authorization details* comprise an agent ID and a password. The person's details comprise a mandatory field comprising fields for name, age, gender, address, etc. The person's details further comprise an optional field comprising a field for mobile number, a bank account number, etc. the method further comprises printing the application with the personal and biometric details (204).

[00024] According to an exemplary embodiment herein, an enrolment agent (who wants to register an individual or enrol an individual) carrying the unique

identification enrolment kit, walks to an individual, opens the kit and runs the software application and enters his login ID and password. The agent then enters the personal details of the individual like his name, age, name of his village, etc. The agent then captures the photo of the individual, and then the agent captures the IRIS (eye) scan of the enrolee individual. Finally the enroller takes the finger scan of all the 10 fingers. Once all the images (all the finger images, the face image and the eyes' images), are captured successfully, the application gets stored in the database with images. An acknowledgement receipt is printed along with the reference number, date & time of enrolment.

**[00025]** According to an embodiment, the various applications of invention are:

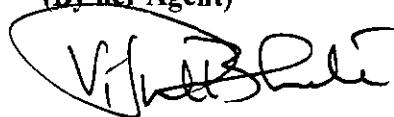
- a) A portable & integrated unique identification enrolment kit, which can be easily moved and carried by the enrolment agents or persons etc.
- b) The time required in arrangement and disarrangement of prevalent discrete devices is a time consuming task, the possibility of which is ruled out in case of use of the enrolment kit, thereby saving in efforts, time & costs.
- c) The enrolment kit is provided with the provision of working from the Solar Power, thus ensures more viability of its usage in rural areas.
- d) Various additional kits are provided that comprises solar kit, a document scanner, an A4 printer and a Signature pad. This adds to the scalability of applications of this kit. For e.g. documents scanners can be used for various KYC (Know Your Customer) purposes, thus the documents like ration card, license, voter ID card, bill copies can be readily scanned & uploaded in the database for further action.

#### **G) ADVANTAGES OF THE INVENTION**

**[00026]** The present invention integrates all the devices required for the unique identification enrolment and the devices are housed in ruggedized carrying case. The enrolment kit design allows high mobility and the time required for arrangement & disarrangement of the components is saved. The integrated kit is provided with the provisions for the Solar Power supply unit thus ensures more viability of its usage in rural areas.

[00027] It is to be understood that the phraseology or terminology employed herein is for the purpose of description and not of limitation. Therefore, while the embodiments herein have been described in terms of preferred embodiments, those skilled in the art will recognize that the embodiments herein can be practiced with modification within the spirit and scope of the claims.

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## **Claims**

We claim:

1. A portable unique identification enrolment kit comprises:
  - a computing device, wherein the computing device is preferably a laptop device or a tablet device, wherein the computing device comprises a software application to load the personal details, biometric details of a person; an eye scanner, wherein the eye scanner captures a retinal details of the person, wherein the eye scanner is connected with the computing device through a wireless or wired media, wherein the captured retinal details of the person is transferred to the computing device on real time basis; a fingerprint scanner, wherein the fingerprint scanner captures details of finger in the hand of the person, wherein the fingerprint scanner is connected with the computing device through a wireless or wired media, wherein the captured finger details of the person is transferred to the computing device on real time basis;
  - a web camera, wherein the web camera captures facial details of the person, wherein the web camera is connected with the computing device through a wireless or wired media, wherein the captured facial details of the person is transferred to the computing device on real time basis;
  - a solar charging unit as an additional optional kit, wherein the solar charging unit provide the battery backup to the enrolment kit in remote areas, wherein the solar charging unit is connected to a battery back through an input port;
  - a data storage and communication unit, wherein the data storage unit is separable in nature, wherein the data storage and communication unit is connected to the computing unit to transfer a data for long term storage in remote areas; and

a ruggedized carrying case, wherein the carrying case has a design to house the eye scanner, the fingerprint scanner, the web camera, the data storage unit , wherein the ruggedized carrying is swiftly moveable from one place to another without dislocating internal components.

2. The enrolment kit as claimed in claim 1 further comprises a printer, wherein the printer is provided to take a printout of a receipt generated after completion of a unique identification form.
3. The enrolment kit as claimed in claim 1 further comprises an additional (optional) document scanner, wherein the document scanner is additionally provided to scan readily available official documents taken as a proof of identity and personal details.
4. The enrolment kit as claimed in claim 1 further comprises a additional optional signature pad, wherein the signature pad takes a handmade signature of the person to testify the scanned documents.
5. A method for generating a unique identification form comprises:
  - opening the kit and mounting the peripherals including a computing device, an eye scanner, a fingerprint scanner and a webcam, wherein the mounted peripherals are switched-on;
  - starting an identification software application, wherein the identification software application comprises step by step process to capture the personal details, picture of the enrolee, finger scans of the enrolee and retina scan of the enrolee;
  - entering a plurality of authorization details in the identification software application through the computer device, wherein the authorization details comprises an agent ID and a password, wherein the software application remains unprocessed when the entered authorization details are incorrect;
  - opening an enrolment form and filling a person's details, wherein the enrolment form is opened only when authorization details are correct, wherein the person's details comprises a mandatory field comprising fields for name, age, gender, address, etc., wherein the person's details further

comprises an optional field comprising a field for mobile number, a bank account number, etc., wherein the software application remains unprocessed until the entered information in the mandatory field is missing;

capturing an image of the person through the web camera, wherein the image capture option is available only when one enters details in the mandatory fields, wherein the image is captured when the person's face is highly visible in the camera resulting in high quality image print, wherein the software application prompts for recapturing the image when a captured image is not as per the permissible quality;

scanning a retinal image of the person through the eye scanner, wherein the retinal scanning option, wherein the software application prompts for rescan the retina when a scanned image is not of permissible quality;

scanning a fingerprint image of the person through the fingerprint scanner, , wherein the software application prompts for rescan the fingerprint when the scanned image is not of permissible quality;

submitting a completed enrolment application at a backend or at a central server, wherein the enrolment application is completed by linking and consolidating the personal details at appropriate places;

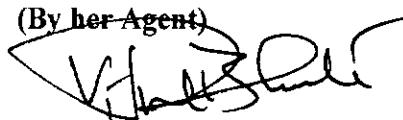
displaying a confirmation message for completed and submitted enrolment application; and

printing a receipt for the completed enrolment application with employee reference number, data and time of enrolment, etc.

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