

M1/02-0181

Draft Project Proposal – Iris Image Interchange Format

M1 Document M1/02-0181

4th Revision of Document M1/02-0042

1. Source of the Proposed Project

1.1. Title

“Iris Image Interchange Format”

1.2. Date Submitted

August 21, 2002

1.3. Proposer

INCITS Technical Committee M1

2. Process Description for the Proposed Project

2.1. Project Type

D - this is a standard development project.

2.2. Type of Document

The project is expected to result in an ANSI/INCITS standard.

2.3. Definitions of Concepts and Special Terms

None

2.4. Expected Relationship with Approved Reference Models, Architectures, etc.

None

2.5. Recommended INCITS Development Technical Committee

INCITS Technical Committee M1

2.6. Anticipated Frequency and Duration of Meetings

It is anticipated that this project would require one-day meetings approximately four times annually.

2.7. Target Data for Initial Public Review

It is estimated that the draft document would be ready for submission to INCITS for Milestone 4 processing in January 2003.

2.8. Estimated Useful Life of Standard

There is no known limitation on the useful life of this proposed standard.

3. Business Case for Developing the Proposed Standard

3.1. Description

The proposed standard will define data formats for exchange of iris biometric information in image format. The data record will have at least two forms: (a) an image of the concentric iris and pupil structure in polar image coordinates and (b) a rectilinear image encompassing the iris and surrounding eye structures. A header structure will be provided that allows the originator of the data to specify the format, either radial or rectilinear; the number of samples in each dimension, either radial/tangential or horizontal/vertical; the number of bits per sample; and other parameters. The standard will contain a generic definition of the image format, a data record format for storing and transmitting the iris data and a sample record and principles for compliance testing. Compliance with the standard may require licensing of certain intellectual property from Iridian Technologies, Inc., which will be made available under license to applicants at no cost. The iris recognition record will be fully compliant with the BioAPI Version 1.1 Specification, recently approved by INCITS as ANSI/INCITS 358-2002.

3.2. Existing Practice and the Need for a Standard

Currently, exchange of iris information between equipment from different vendors can only be done using an image of the entire eye. This is expensive in storage and bandwidth, but also introduces additional sources of error. To provide interoperability among vendors, it is necessary to define a standard, compact representation of a human iris.

By establishing a standard representation of the iris image, we will:

- allow interoperability among vendors based on a small data record;
- define a method to feasibly put iris information on ID and smart cards;
- encourage adoption of biometrics in applications where interoperability is vital.

3.3. Implementation Impacts of the Proposed Standard

3.3.1. Development Costs

Since this standard has been significantly developed within INCITS B10, it is expected that the costs related to further development would be low. Meetings will be co-located with M1 meetings. Technical editor labor is expected to be less than one man-month, and to be performed by one of the sponsored participants.

3.3.2. Impact on Existing or Potential Markets

Existing markets for iris recognition technology should experience added impetus from the benefits of interoperability. New markets (such as interstate driver license verification and passport verification) will open as a result of this standard.

3.3.3. Costs and Methods for Conformity Assessment

Conformity assessment has not yet been defined. It is possible that the standard will define some testing concepts, and allow vendors and customers to jointly define testing to their own requirements.

3.3.4. Return on Investment

There is no data on which to make an estimate.

3.4. Legal Considerations

3.4.1. Patent Assertions

The use of iris features for human recognition is the subject of patents assigned to Iridian Technologies. The concept of iris representation as a polar image is disclosed in certain of these patents. Iridian will provide, in a format approved by ANSI, assurances that a license will be made available to applicants under reasonable terms and conditions that are demonstrably free of any unfair discrimination and will enable the licensee to utilize the standard.

3.4.2. Dissemination of the Standard

Drafts of this standard will be distributed electronically. There may be distribution constraints as this document reaches different stages of development and processing within INCITS and ISO/IEC JTC1.

4. Related Standards Activities

4.1. Existing Standards

There are no known existing standards.

4.2. Related Standards Activity

- This proposed standard is compatible with the CBEFF (Common Biometric Exchange File Format) developed by the Biometric Consortium Working Group and ready for fast-track consideration by INCITS M1.
- This proposed standard is also compatible with the BioAPI specification, recently approved by INCITS as ANSI/INCITS 358-2002.

4.3. Recommendations for Coordinating Liaison

INCITS Technical Committee B10

4.4. Recommendations for Close Liaison

None

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