

APPLICATION FOR INITIAL REVIEW**APPROVAL OF A PROJECT INVOLVING HUMAN SUBJECTS**

Biomedical, Health Sciences Institutional Review Board (BIRB)
 Social Science, Behavioral, Education Institutional Review Board (SIRB)
 207 Olds Hall, Michigan State University
 East Lansing, MI 48824-1047
 Phone: (517) 355-2180
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Office Hours: M-F (8:00 A.M.-5:00 P.M.)

IRB#: x12-015e

ID# i038609

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| 1a. | Responsible Project Investigator: Name: Anil Jain ID#: XXX-XX-4213 Department: Computer Science College: Engineering Academic Rank: Professor Mailing Address: 3115 Engineering Building Computer Science Phone: 355-9282 Fax: 432-1061 Email: jain@cse.msu.edu |
| 1b. | Secondary Investigator: Name: Abhishek Nagar ID#: XXX-XX-8863 Department: COMPUTER SCIENCE & ENGINEERING College: Academic Rank: Graduate Student Mailing Address: 3115, Engineering Building MSU Phone: 5173559319 Fax: Email: nagarabh@cse.msu.edu |
| 1c. | Additional Investigators: |

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| 1d. | Other Personnel: | |
| 1e. | Study Coordinator: Name: Abhishek Nagar ID#: XXX-XX-8863 Department: COMPUTER SCIENCE & ENGINEERING College: Academic Rank: Graduate Student Mailing Address: 3115, Engineering Building MSU Phone: 5173559319 Fax: Email: nagarabh@cse.msu.edu | |
| 2. | Title of Project: Biometric Template Security | |
| 3. | Have you ever received preliminary approval or a 45 CFR 46.118 designation for this project? | NO |
| 4a. | <p>Please describe why your project is minimal risk. For example, "My research includes an anonymous survey about...explain what your survey is about" or "my subjects are identifiable, but the questions are not in any way harmful."</p> <p>In this project we are designing techniques to protect the biometric data stored in any system's database. The datasets used are publicly available and consists of fingerprint, face and iris images of the subjects without any demographic information.</p> | |
| 4b. | <p>Indicate Exempt sub-category(ies). NOTE: Appendix 1 (exempt categories) must be submitted with the Exempt Application. An application cannot be reviewed without Appendix 1.</p> <p> <input type="checkbox"/> 45 CFR 46.101(b)(1) <input type="checkbox"/> 45 CFR 46.101(b)(2) <input type="checkbox"/> 45 CFR 46.101(b)(3) <input checked="" type="checkbox"/> 45 CFR 46.101(b)(4) <input type="checkbox"/> 45 CFR 46.101(b)(5) <input type="checkbox"/> 45 CFR 46.101(b)(6) <input type="checkbox"/> Demonstration Project Category 7 </p> | |
| 5. | Is this project being conducted to fulfill the requirements of an education/training program? | Ph.D. Dissertation |
| 6a. | Funding: | NO |
| 6b. | The protection of human subjects often requires resources be dedicated for things such as the consent process (space, personnel), the performance of the research (trained personnel | |

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| | <p>interacting with subjects, time, access to subjects, access to facilities) care of subject issues or injuries (counseling, medical care), confidentiality of data (space, equipment) and other monetary and non-monetary resources. Describe the resources that are available for this project for the protection of human subjects.</p> <p>We are not collecting any data from human subjects.</p> | |
| 7a. | <p>List all sites where this research will be conducted.</p> <p>Department of Computer Science and Engineering, Michigan State University</p> | |
| 7b. | <p>Do any of these sites have their own IRB?</p> | NO |
| 7c. | <p>Have you or will you submit this to any non-MSU IRBs?</p> | NO |
| 8a. | <p>Describe the purpose, hypotheses and objectives of the research project.</p> <p>The aim of the project is to analyze the security and privacy aspects of the biometric templates stored in a database and propose techniques to ensure the same.</p> | |
| 8b. | <p>Describe all procedures, measures and analyses you will use in collecting data from human subjects. This pertains to both prospective and retrospective (i.e. pre-existing) research procedures.</p> <p>No data will be collected from human subjects</p> | |
| 8c. | <p>Are any procedures done for non-research purposes?</p> | NO |
| 8d. | <p>Summarize the project in one paragraph in completely lay terms.</p> <p>Different formats in which biometric templates are commonly stored in a database are analyzed and the amount of information that can be extracted regarding the subject from the stored templates is analyzed. Techniques are then designed to improve the template generation procedure in order to minimize such information and these techniques are further analyzed.</p> | |
| 8e. | <p>Are you obtaining consent (telling subjects ahead of time that they are in a research study)?</p> | YES |
| 9a. | <p>Describe your subject population (e.g., high school athletes, small business owners, children with ADHD).</p> <p>No data from human subjects is being collected</p> | |
| 9b. | <p>Age range of subjects</p> | 18 to 100 |
| 9c. | <p>The study populations includes:</p> <p>Purposeful Inclusion</p> <p><input type="checkbox"/> Children</p> <p><input type="checkbox"/> Women of Childbearing Age</p> <p><input type="checkbox"/> College Students</p> <p><input type="checkbox"/> Minorities</p> <p><input type="checkbox"/> Psychiatric patients</p> <p><input type="checkbox"/> Wards of State</p> <p><input type="checkbox"/> Pregnant Women</p> <p><input type="checkbox"/> Institutionalized Persons</p> <p><input type="checkbox"/> Low Income Persons</p> | |

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| | <input type="checkbox"/> Prisoners <input type="checkbox"/> Persons with diminished capacity <input checked="" type="checkbox"/> None of These | |
| 9d. | Total expected number of subjects (including controls) for the entire project period | 1000 |
| 9e(1). | will the subjects be identified and recruited? Include who will make initial contact with the subjects. No subjects are being recruited | |
| 9e(2). | Will subjects be recruited using a student research pool? | YES |
| 9f. | Will subjects be compensated? | NO |
| 9g. | Will the subjects incur additional financial costs as a result of their participation in this study? | NO |
| 9h. | Are you associated with the subjects (e.g., your students, employees, colleagues, patients)? | NO |
| 9i. | Will this research be conducted with subjects in another country? | NO |
| 9j. | Will this research be conducted with subjects in the U.S. from an ethnic group of sub-group or other non-mainstream minorities (including non-English speakers)? | NO |
| 10a. | Describe and assess any potential risks (physical, psychological, social, legal, economic) and assess the likelihood and seriousness of such risks. No data is being collected so there are no potential risks | |
| 10b. | Describe the procedures for protecting against or minimizing potential risks and an assessment of their likely effectiveness. No data is being collected. | |
| 11a. | How will subjects' privacy be protected? The data used in the research does not contain name of demographic information of the subjects. | |
| 11b. | Explain how you will ensure the confidentiality and/or anonymity of the <u>raw research data</u> (e.g. completed survey, interview notes, signed consent). Include in your description where the data will be stored (e.g., locked filing cabinet), who will have access to the data, and how long the data will be stored. If this is question is not applicable, please explain. Please note per the universities best practices the responsible project investigator must maintain the data for a minimum of three years after closing the project. No raw research data is being collected. | |
| 11c. | Explain how you will ensure the confidentiality and/or anonymity of the <u>electronic research data</u> (e.g. data entered into database, spreadsheet, stored on a computer, data collected via the web). Include in your description where the data will be stored (e.g. password protected computer), who will have access to the data, and how long the data will be stored. If this is question is not applicable, please explain. Include electronic security measures (e.g., password protected files, data encryption, and other protective measures for computer and/or network storage devices such as jump drives and CDs). No research data is being collected. | |

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| 12. | Does this project involve protected health information as defined by HIPAA? | NO |
| 13a. | Does any person responsible for the design, conduct, or reporting of findings of this protocol have a Significant Financial Interest (as defined for the MSU Faculty Conflict of Interest Policy) or other opportunity for tangible personal benefit related to the conduct of the research that might compromise, or reasonably appear to compromise, the independence of judgment with which their responsibilities would be completed under this research protocol? A reportable financial interest includes, but is not limited to, a financial interest in the sponsor, product, or service being tested, or in a competitor of the sponsor or product or service being tested. | NO |
| 13b. | Has any financial arrangement, including compensation, ownership interest, stock options, or other ownership interest, (e.g., compensation that is: explicitly greater for a favorable result; in the form of an equity interest in the sponsor of a covered study; or in the form of compensation tied to sales of the product, such as a royalty interest) been established whereby the value of compensation or ownership interest to investigators conducting the study could be influenced by the outcome of the study? | NO |
| 13c. | Is this a clinical study where the results may be used to support marketing applications for new human drugs and biological products and marketing applications and reclassification petitions for medical devices to the FDA, as required by law? | NO |
| 13d. | Have you or will you submit an FDA form 3454 or 3455 (Conflict of Interest)? | NO |
| 14a. | When would you prefer to begin this project? | 10/1/2011 |
| 14b. | Estimated end date of project: | 6/1/2012 |

ADDITIONAL DOCUMENTS/ATTACHMENTS

01. 1/9/2012 [Exempt Appendix 1](#) (i038609_1-6-2012_exempt_appendix1.doc)

02. 1/10/2012 [Signature Page](#) (i038609_1-9-2012_IRB_i038609.pdf)

| COMMENTS | COMMENT AFTER REVIEW / EDIT BY IRB STAFF (Viewable by PI) | PI RESPONSE |
|-------------------------|--|--|
| Comment # Reviewer # | 15:39:21 | 1/9/2012 16:13:24 |
| | <p>Dear Investigators:</p> <p>Please explain how these data are publicly available?</p> <p>Thanks,</p> <p>Becky Gore, 355-2181</p> | <p>Hi Becky,</p> <p>The biometric databases are available from other universities and organizations free or with some associated cost such as:</p> <p>NIST (http://www.nist.gov/srd/biomet.cfm)</p> <p>FVC (http://bias.csr.unibo.it/fvc2002/download.asp)</p> <p>CASIA (http://www.cbsr.ia.ac.cn/english/IrisDatabase.asp)</p> <p>XM2VTS (http://www.ee.surrey.ac.uk/CVSSP/xm2vtsdb/)</p> |

Thanks,
Abhishek

Comment #
Reviewer #

11:29:36

Dear Investigators:

If the databases are publicly available, then this research does not meet the definition of human subjects, and you do not need IRB approval to conduct the study. You will receive a letter to this effect shortly.

Becky