

1. The Vision

Under the aegis of Unitech Systems (India) Pvt. Ltd., Center for Information Integrity Research (CIIR) was launched at Delhi, India on June 4, 1999. CIIR is an integral part of the IIC mission. Its vision is to create, organize, expand, and disseminate knowledge about the Integrity of Information and Information Systems, so as to develop Information Integrity (I*I) as a recognized field of knowledge.

2. The Activities Undertaken – Entrepreneurship, Research, and Publication

Accordingly, in little over three years since its inception, CIIR has pursued research & education activities of: Publications of I*I Research Papers; Attending international conferences to present I*I papers; Identification of I*I Research Areas; Delivering of I*I Seminars and Knowledge Area Awareness Lectures; Organization of I*I Research & Education Meetings – Brain storming, Experts' Meetings, One Day Meetings; Conducting of Intensive I*I Research Workshops at universities, institutions; Establishment of CIIR Library; Motivating university academia to pursue I*I research at doctoral level; Seeking institutes to collaborate with CIIR in developing I*I knowledge space by facilitating their faculty to work on I*I research under the institution's faculty development schemes; Working on universities, institutions to initiate I*I education programs of: Post-Graduate Diplomas, Elective course, Short course; Developing I*I Research Community; Reviewing I*I research projects; Organizing I*I Research Paper Competition at Student Academic Conferences; etc. In other words, in these initial years CIIR has concentrated on objectives of Entrepreneurship, Research and Publication.

2.1 Publications and Conferences

Specifically, CIIR has nine international publications, which include I*I papers presented at International Conference on Information Quality (ICIQ) at MIT, Integrity and Internal Control in Information System (IICIS) Conferences of IFIP, World Computer Congress 2000 at Beijing, China and Hospital of Future (HOF) Conference in July 2002 at Chicago. To facilitate I*I research development, CIIR has identified nine broad research areas ranging from the studies in socio, economic and technical implications of Information Integrity (or lack of it) to projects exploring Information integrity Architecture for long term development and implementation.

2.2 I*I Seminars and Knowledge Area Awareness Lectures/Discussions

Even while working on research publications as above, CIIR delivered I*I seminars and knowledge area awareness lectures and had I*I discussions at:

- Computer Science Department Heads' meeting at Shanghai, PRC, (2000);
- Asian Institute of Technology, Bangkok, Thailand, (2000);
- Management Dept. of University of Colorado, Boulder, USA (2001);
- Gurukul Chevening Fellows Meeting at European Institute at London School of Economics, London, UK, (November 2001);
- London School of Economics Meetings (Nov. 2001) with:
 - (a) Sir Geoffrey Owen, Senior Fellow, The Interdisciplinary Institute of Management, The London School of Economics & Political Science, Houghton Street, London WC2A 2AE,
 - (b) Dr. Rafael Gomez, The Interdisciplinary Institute of Management, The London School of Economics & Political Science, Houghton Street, London WC2A 2AE,
 - (c) Dr. James Backhouse, Director of Computer Security Research Center, The London School of Economics & Political Science, Houghton Street, London WC2A 2AE, and
 - (d) Mr. Bernard Dyer, Visiting Fellow, Computer Security Research Center, The London School of Economics & Political Science, Houghton Street, London WC2A 2AE,
- Information Integrity Coalition, Naperville, IL, USA (August 2002);

- IMT, Ghaziabad, India (1999/2000);
- Cummins College of Engineering for Women, Pune (2000); Fergusson College, Pune (2000); NIBM, Pune, India, (2000);
- IIT Bombay, India (2001);
- RGPV University, Indore (2001); Regional College of Engineering, Indore, India (2001);
- Infosys Ltd. Bangalore, India, (2002); etc.

2.3 I²I Research & Education Meetings

Coming to organization of I²I Research & Education Meetings, in February 2001, CIIR organized a day long I²I Research meeting at Pune; I²I Research & Education Agenda Brain storming Meeting at IIT Bombay in August 2001; and from time to time a number of expert interactions and meetings at IMT, Delhi; IIT, Delhi; SNDT, University, Bombay; IIT, Bombay; TCS, Bombay; Cummins Engineering College for Women, PICT, NIBM and other institutions at Pune; IISc, Bangalore etc.

2.4 Collaborative Networking with Universities & Institutions

2.4.1 Conducting I²I Research Workshops, Linking CIIR Research Objective with Faculty Development Requirement of Institution through Doctoral Research, Program and Course Offerings in I²I at Delhi, Mumbai and Pune

2.4.1.1 At Delhi Center

Also from 1999 to date, with the objective of networking with academic institutions and to initiate their faculty to work on I²I research, CIIR has conducted a large number of intensive I²I Research Workshops/Interactions at IMT, Ghaziabad; Cummins College of Engineering for Women (CCEW) at Pune; and IPS Academy, Indore. Interactions at Institute of Management (IMT), Ghaziabad, Delhi, led to Prof. Kamna Malik's participation with CIIR in preparing the paper for ICIQ 2001. Also IMT has sponsored its Computer Science faculty Prof. Reema Khurana to work on I²I research problem "Achieving Information Integrity for Open system Data Bases" at SNDT, University, Bombay; Prof. Rameash of Dept. of Computer Science & Engineering and Prof. Vijay Mandke are the joint Guides. Further, IMT is working on a proposal for Master of Computer Applications (MCA) Post-Graduate Degree Program with Information Integrity specialization as one stream.

2.4.1.2 At Pune Center

CIIR established research interaction with faculty of engineering institutions at Pune. This is a mutually beneficial approach as while on the one hand it helps academic institutions to seek CIIR inputs with respect to requirement of guiding faculty for research, on the other hand it facilitates academic faculty to participate with CIIR in further developing the knowledge area of I²I. During this period CIIR also developed I²I research interactions with IIT Bombay and other institutions from Pune-Mumbai region.

2.4.1.3 Setting up of CIIR Extension Center at Pune

All these emerging collaborative projects, which offer strong impetus for significant growth of I²I knowledge, research and education initiative, have for quite some time created a need at Pune for library, continual knowledge support guidance from CIIR for desirous researchers, computer equipment and communication support with adequate internet facility, space for research meetings and interactions, etc. It is to take care of this long felt need and to facilitate efficient networking with the institutions in and around the region that from October 7, 2002 CIIR Extension Center is being established at Pune.

2.5 Establishment of CIIR Library

The task of building a useful CIIR Library has always been a high priority item under CIIR activities. Today at Delhi Center, CIIR has generated a collection of papers, documents, books, newspaper cuttings, etc. with over 300 references, which have been documented for

ready referencing. With increased need for such support at Pune Center, currently, these references are also being made available at CIIR Extension Center at Pune.

2.6 Motivating university academia to pursue I*I research at doctoral and masters levels

As mentioned above, CIIR has already developed the needful networking with the institutions, universities, and academia for the purpose. Accordingly, first doctoral candidate for I*I Research Prof. Reema Khurana of IMT, Ghaziabad sought her admission to SNTD University, Bombay in August 2002. Prof. Ramesh, Dept. of Computer Science & Engineering, IIT Bombay and Prof. Vijay Mandke are the joint guides for her. Further, now, CIIR is intensely interacting with institutions at Pune to further widen this base of doctoral research workers.

2.7 Developing I*I Education Programs and Courses

As mentioned above, IMT, Ghaziabad is working on a project to implement MCA Program with I*I Specialization option.

2.8 Organizing I*I Research Paper Competition at Student Academic Conferences

With an objective of creating awareness amongst UG students about the knowledge area of I*I, in February 2001, CIIR sponsored I*I Paper Presentation Competition at SNTD-ACM Student Conference at SNTD University. Dr. Thomas Mathew, Professor, SNTD University, Mumbai organized the paper competition. At the SNTD-ACM Student Conference in Feb. 2002, the best three papers as evaluated by the reviewer were given the awards (see prize details).

(i) First Prize: **'A bound for Information Integrity based on Information Theory'**

- Pooja Dhar and Dimple Taneja

(ii) Second Prize: **'Information Integrity- A Three Pronged Approach'**

-Seema Joshi and Namita Gupta

(iii) Third Prize: **'Information Integrity in Mission Critical Systems'**

-Katyayani Akella and Maria Barot

Prof. Mandke gave invited I*I lectures at both these student conferences.

2.9 Development of Information Integrity Research Projects Bank

With expanding institutional interaction and possibility of increased student involvement at doctoral, PG, and UG levels, CIIR is very much aware of the need for exhaustive research projects' statements for students at various levels. In fact, in the manner of knowledge landscape development, CIIR has been working on this activity for quite some time and today it has already developed a detailed document with over 125 projects under the nine I*I research areas referred to in Section (2.1) [Refer: "Information Integrity Research Projects Bank (Draft Document)", CIIR, New Delhi, October, 2001]. It may be mentioned that for each project a framework is also defined, which could act as guidance to desirous researchers.

2.10 Participation in Research interactions at Information Integrity Coalition

Further, during his visits to USA, Prof. Mandke participated in various research interactions at Information Integrity Coalition, Stuart Business School, and at IIT Chicago.