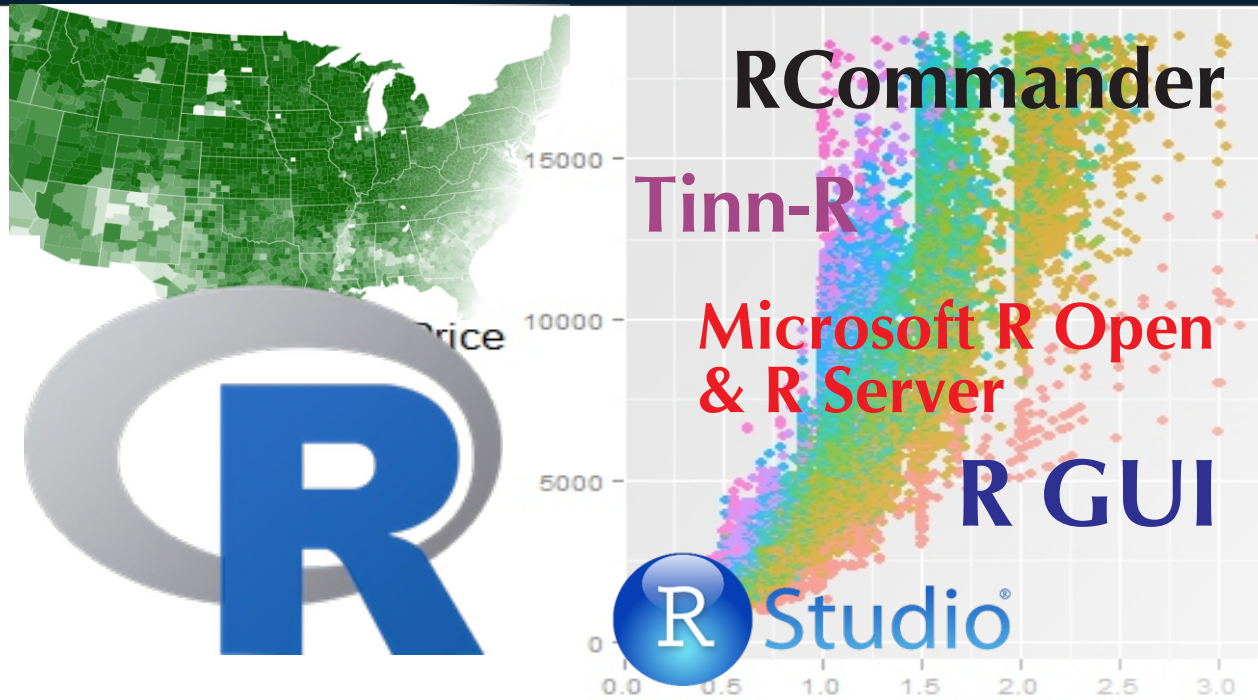




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Article

R: An Open Source Software Environment for Statistical Analysis

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From Director's Desk

The first quarter of the New Year brought two new projects to the INFLIBNET Centre. The Centre was awarded the task of developing a web-based platform for Food Safety Knowledge Assimilation Network (FSKAN) that would facilitate scientific co-operation by co-ordination of activities, exchange of information, development and implementation of joint projects amongst a network of organizations within the Food Authority's responsibility through FSKAN. The platform is being designed to assimilate all the information on a single platform. The portal incorporates different modules such as Expert Management System, e-resources, Project Proposal System, discussion forum, etc. In addition, development of Web-portal for India Rankings 2017 under the National Institutional Ranking Framework (NIRF), a prestigious initiative of the Ministry of Human Resource Development (MHRD), was assigned to the INFLIBNET Centre for the second time. The Centre developed portal to capture data required for ranking of universities, colleges and other institutes desirous of ranking themselves in different category, namely Engineering, Pharmacy, Management, Architecture, Colleges, Law, Medical and Overall. The Centre also provided publications and citations data from Web of Science, Scopus and Indian Citation Index for more than 3,000 institutes that were applicant for ranking themselves under the NIRF.

The Centre continued to perform the important task of conducting training programmes for the library & information science community in the universities and colleges. Two IRTPLA programmes were organized, one each at Mohanlal Sukhadia University, Udaipur and University of Calcutta, Kolkata during the period under report. Four specialized training programmes/workshops were organized including three workshops on Digitization of Resources using Open Source Software, i.e. e-Prints and DSpace at Alagappa University Karaikudi, Central University of Tamil Nadu and at INFLIBNET Centre, Gandhinagar during the first quarter of the year.

The INFLIBNET Centre had the pleasure of welcoming Ms. Louise Corti, Associate Director, UK Data Services, University of Essex, Colchester. She visited the INFLIBNET Centre on 6th March, 2017 to discuss the possibility of

collaborative development on R-based analytical tool developed by the scientists at INFLIBNET Centre. She also delivered half-a-day workshop on “Preparing Qualitative Data for Sharing and Reuse” at the INFLIBNET Centre. 30 participants from various institutes in social sciences participated in the workshop. This was the first exposure of its kind for the participants.

The 3rd Workshop on SWAYAM-PRABHA, conceived as a group of 32 DTH channels devoted to telecasting of high-quality educational programmes on 24x7 basis using the (2) GSAT-15 transponders, was conducted at BISAG, Gandhinagar on 25th January, 2017. All channel coordinators and associated staff from various institutes participated in the Workshop. Scientists from INFLIBNET Centre also participated in the Workshop as developer of portal for SWAYAM-PRABHA including archiving of videos of all the channel. One of the major component of SWAYAM-PRABHA developed by the INFLIBNET Centre is its Management System that facilitates stakeholders, namely channel coordinators, MHRD and BISAG personnel to interact with each other. The platform provides features of uploading of programme schedule by the channel coordinators, display of programme schedule (current, upcoming and archives), searching of e-content / videos using different kinds of filters such as channel-wise search; and subject-wise search and dashboard for MHRD, BISAG and admin view.

In addition, an International Conference in collaboration with Mizoram University, Aizawl was organized on Library and Information Services in Knowledge” Society at Mizoram on 3rd March, 2017.

The 17th Meeting of the Governing Council of the INFLIBNET Centre was organized on Friday, 10th March, 2017 at the UGC Main Office, New Delhi, wherein Prof. Ved Prakash, Chairman, UGC was felicitated for his contributions to the INFLIBNET Centre during his tenure of more than 7½ years. During the meeting, A presentation was made about the achievements and activities of the INFLIBNET Centre during his tenure. Prof. Ved Prakash congratulated the INFLIBNET Centre for its contributions not only to the academic community in the country but also to the UGC for automating their scholarship, fellowship, schemes and activities.

I am pleased to welcome Dr. M P Poonia, Vice Chairman, AICTE and Dr. Ramesh C Gaur, Librarian, JNU to the Governing Council of the INFLIBNET Centre. This issue of the Newsletter briefly introduce these two dignitaries.

The feature article in this issue is entitled “R: An Open Source Software Environment for Statistical Analysis”. The article provides an overview of various comprehensive, proprietary and non-proprietary statistical packages that are available in the market place for carrying out statistical analyses on data such as SPSS, Stata, Minitab, SAS, etc. The article especially focuses on non-proprietary and open source statistical package called R, which is widely used in all research domains for statistical analysis, data mining and data visualization across the world. I hope that users will find this article useful.



(Jagdish Arora)

Training Programme on SOUL 2.0, INFLIBNET Centre, Gandhinagar

The INFLIBNET Centre regularly conducts SOUL 2.0 Training Programmes to impart Training on Installation and Operation of SOUL Software for its users. The following two training programmes were organized at the INFLIBNET Centre, Gandhinagar during this

quarter. These programmes were coordinated by Mr. H G Hosamani, Scientist C (LS), INFLIBNET Centre. 24 participants attended these two training programmes as per the details given below:

Sl. No.	Name of the Programme	Date of the Programme	No. of Participants
1	130 th Training Programme on SOUL 2.0	30 th January – 04 th February, 2017	12
2	131 st Training Programme on SOUL 2.0	20 th – 25 th March, 2017	12



Participants of 130th Training Programme on SOUL 2.0 with Technical Staff of the INFLIBNET Centre



Participants of 131th Training Programme on SOUL 2.0 with the Director and Technical Staff of the INFLIBNET Centre

INFLIBNET Regional Training Programme on Library Automation (IRTPLA)

INFLIBNET Regional Training Programme on Library Automation, Mohanlal Sukhdia University, Udaipur, 20th - 24th February, 2017

INFLIBNET Regional Training Programme on Library Automation (IRTPLA) was organised by Mohanlal Sukhdia University in collaboration with INFLIBNET Centre, Gandhinagar from 20th to 24th February, 2017 at Mohanlal Sukhdia University, Udaipur. Dr. Ramkesh Meena, Deputy Librarian coordinated the programme and welcomed the guests and participants. Mr. Himmat Singh Bhati, Registrar inaugurated the programme. Theoretical lectures were followed by “hands-on” practical sessions on the same modules by the

participants. All the practical sessions of the Training Programme involved intensive discussions and interactions on various pros and cons of SOUL software between participants and the resource persons. Mr Vijay Shrimali, STA (CS) and Ms. Nabila Sheikh, Project Officer (CS), INFLIBNET Centre were resource persons. 40 participants participated in the programme. Dr. Hanuman Prasad, Professor, Faculty of Management Studies extended warm vote of thanks at the end of the programme.

INFLIBNET Regional Training Programme on Library Automation, University of Calcutta, Kolkata, 28th March-1st April, 2017

INFLIBNET Regional Training Programme on Library Automation (IRTPLA) was organised by the Department of Library and Information Science, University of Calcutta in collaboration with INFLIBNET Centre, Gandhinagar from 28th March to 1st April, 2017 at Chandra Mukhi Kadambini Sabhagriha, Central Library

Building, University of Calcutta, Kolkata. Prof. Arabinda Maity, HOD, DLIS delivered welcome address. Dr. Parikshit Mondal, Assistant Professor, DLIS coordinated the programme and briefed about IRTPLA programme. Dr. Sujit Kumar Barua, Deputy Registrar inaugurated the programme.



Participants of INFLIBNET Regional Training Programme on Library Automation (IRTPLA) at the University of Calcutta, Kolkata

Prof. Soumitra Sarkar, University Librarian, Prof. Pijush Kanti Panigrahi, Dean of Faculty Council for Post-Graduate Studies in Education, Journalism and Library Science, University of Calcutta, Prof. Durga Sankar Rath, Vidyasagar University, Mr. Arup Roy Chowdhury, Deputy Librarian, Indian Statistical Institute, Mr. Divyakant Vaghela, Scientist B (CS), INFLIBNET Centre, Mr. Biswajit Bhattacharya, SOUL Coordinator, Mr. Anirban Maji, SOUL Technical Assistant, West Bengal & Orissa Region and Mr. Anupam Sharma, SOUL Technical Assistant, North-Eastern

Region were resource persons during the technical sessions. Theoretical lectures were followed by “hands-on” practice on the same modules by the participants. All the practical sessions of the Training Programme involved intensive discussions and interactions on various pros and cons of SOUL software between participants and the resource persons. 37 participants participated in the programme. Dr. Pubalika Bhattacharya Maitra, Assistant Professor, DLIS extended warm vote of thanks at the end of the programme.

Specialized Training Programmes/National Workshops

Five-day Training Programme on Creation and Management of Digital Collections using DSpace, INFLIBNET Centre, Gandhinagar, 30th January-3rd February 2017

Five-day Training Programme on Creation and Management of Digital Collections using DSpace was organised at INFLIBNET Centre, Gandhinagar from 30th January to 3rd February, 2017. Mr. Yatrik Patel, Scientist D (CS), INFLIBNET Centre coordinated the Workshop. The Workshop aimed to address various issues related to customisation and management of DSpace for existing DSpace user who may need more insights, and

in-depth knowledge on how to further enhance the usage, its maintenance and customization, with theoretical lectures and hands-on training by experts. 3 participants from NASDO, Indian Navy, Goa participated in the Workshop. Mr. Swapnil Patel, Scientist B (CS), Mr. Vijay Shrimali, STA (CS) and Mr. Nrutik Prajapati, Project Officer (CS) from INFLIBNET Centre served as resource persons for the Workshop.



Participants of Training Programme on Creation and Management of Digital Collections using DSpace at INFLIBNET Centre, Gandhinagar

Half-day Workshop on Preparing Qualitative Data for Sharing and Reuse, INFLIBNET Centre, Gandhinagar, 6th March, 2017

Half-day Workshop on Preparing Qualitative Data for Sharing and Reuse was organised at INFLIBNET Centre, Gandhinagar on 6th March 2017. Ms. Louise Corti, Associate Director, UK Data Archives inaugurated the Workshop. Dr. Jagdish Arora, Director, INFLIBNET Centre briefed about importance of preparing qualitative data and initiative taken by INFLIBNET Centre in collaboration with ICSSR. Mr. Yatrik Patel, Scientist D (CS) gave brief introduction about the scope

of the Workshop. 27 participants from well-known Social Science Organisations such as Gokhale Institute of Politics and Economics, Pune, Central University of Gujarat, Gandhinagar, Gujarat Institute of Development Research, Ahmedabad and Sardar Patel Institute of Economic & Social Research, Ahmedabad attended the Workshop. Dr. Miteshkumar Pandya, Scientist B (LS) extended a warm vote of thanks at the end of the Workshop.



Participants of Workshop on Preparing Qualitative Data for Sharing and Reuse at INFLIBNET Centre, Gandhinagar

Five-Day National Workshop on Digitization of Resources using Open Source Software EPrints, Allagappa University, Karaikudi, 6th -10th March, 2017

Five-day National Workshop on Digitization of Resources Using Open Source Software EPrints was organised by Alagappa University in collaboration with INFLIBNET Centre, Gandhinagar from 6th to 10th March 2017 at DLIS University Business Collaboration Centre, Alagappa University, Karaikudi. Dr. S. Thanuskodi, Professor and Head and Dr. R. Jeyshankar, Assistant Professor, DLIS coordinated the programme. Dr. S. Thanuskodi welcomed the guests and participants. He gave brief introduction about the Workshop. Dr. P. Subas Chandra Bose, Member of Syndicate, Alagappa

University inaugurated the Workshop. In his inaugural speech, he stated that the library is like the human heart in the university system that has to be kept the purely healthy and these kinds of Workshops provide adequate strength to make it function effectively. He had a word of praise for the Department of Library and Information Science, as it has obtained the third position among 120 LIS Departments in India, because of its research contributions indexed in Scopus Database during 2012-16.



added that it is the duty and responsibility of higher educational institutions to make India an Asian Knowledge Hub. Dr. M. Nagarajan, Professor and Head, DLIS & Dean, Faculty of Arts, Annamalai University, said that today information society has turned into a knowledge society and highlighted how traditional libraries are being gradually replaced by e-libraries.

Mr. Kannan P. Scientist C (LS), Mr. V. Raja, Scientist B (CS), INFLIBNET Centre, Mr. M Madhan, Indian Institute of Science, Dr. P. Thiyagarajan, Head (I/C), Department of Computer Science, Central University of Tamil Nadu, Dr. M. Sadik Batcha, Associate

Mr. P. Kannan, Scientist C (LS), INFLIBNET Centre, Dr. K. Manimekalai, Dean, Faculty of Arts, Dr. P. Subas Chandra Bose, Member of Syndicate, Dr. S. Thanuskodi, Professor and Head, DLIS, Alagappa University and Dr. M. Nagarajan, Professor and Head, DLIS & Dean, Faculty of Arts, Annamalai University on the Dais during Five-Day National Workshop on Digitization of Resources using Open Source Software EPrints at Allagappa University, Karaikudi

Mr. P. Kannan, Scientist C (LS), INFLIBNET Centre delivered keynote address. He discussed the importance of the emerging areas in the Library and Information Services such as, Community Survey, Measuring for Improvement and Assessment, Open Access and Open Education Resources, Open Researcher and Contributor ID, etc.

Dr. K. Manimekalai, Dean, Faculty of Arts, Alagappa University, in her felicitation address, appealed to the library and information professionals to ensure that every one in India gets equal access to information. She

Professor, LIS, Annamalai University and Dr. S. Swaminathan, Librarian, Sri Ramakrishna Mission Vidyalaya College of Education served as resource persons. Theoretical lectures were followed by “hands-on” practice on the same modules by the participants. 40 working librarians from Southern States of Karnataka, Andhra, Telengana and Kerala attended the Workshop. Dr. R. Jeyshankar, Assistant Professor, DLIS extended a warm vote of thanks at the end of the Workshop.

Five-Day National Workshop on Digitization of Resources using Open Source Software DSpace, Central University of Tamil Nadu, Thiruvavur, 20th-24th March, 2017

Five-day National Workshop on Digitization of Resources Using Open Source Software DSpace was organised by Central University of Tamil Nadu in collaboration with INFLIBNET Centre, Gandhinagar from 20th to 24th March 2017 at Administration Block,

Central University of Tamil Nadu, Thiruvavur. Dr. P. Thiyagarajan, Head (I/C), Department of Computer Science coordinated the programme and delivered welcomed address during inaugural session. Dr. G. Aghila, Senior Professor, Department of Computer

Science and Engineering, National Institute of Technology, Puducherry inaugurated the programme. In her inaugural address, she stressed the importance of digitization of resources in educational institutes and advised the participants to utilise this workshop effectively. Dr. S. Bhuvanewari, Registrar, Central University of Tamil Nadu, Thiruvavur delivered felicitation address. She emphasised that digitization will reduce paper work, improve work efficiency and save time. Prof. A. P. Dash, Vice-Chancellor, Central University of Tamil Nadu delivered presidential address. In his address, he highlighted the importance of the workshop and emphasised that this Workshop is one of the contributions from Central University of Tamil Nadu towards Digital India Campaign launched by our Prime Minister of India. Mr. P. Kannan, Scientist C (LS), INFLIBNET Centre delivered keynote address. In his keynote address, he discussed about role of digital library in the scholarly communication system. He stressed upon the fact that electronic resources, open educational resources are increasingly creating and supporting the research and academic community.

During the technical sessions, Dr. G. Aghila, Senior Professor, National Institute of Technology, Puducherry

Mr. P. Kannan, Scientist C (LS), INFLIBNET Centre, Dr. P. Thiyagarajan, Head, Department of Computer Science, Dr. G. Velumani, Assistant Librarian, CUTN, Dr. Elavazhagan K, Chief Knowledge Officer, Learning Resource Centre, IIM Trichy, Dr. B. Jeyapragash, Assistant Professor, DLIS, Bharathidasan University served as experts. Theoretical lectures were followed by “hands-on” practice on the same modules by the participants. 34 participants attended the workshop.

During the valedictory session, Dr. T. Sengadir, Professor and Head, Department of Mathematics, Central University of Tamil Nadu was Chief Guest. In his address, he stressed upon the importance of digitisation in the current e-world and asked the participants to implement the DSpace software, which they learned in the Workshop, in their respective institutions. The guest of honour was Dr. S. Vijayaraghavan, Professor and Head, DLIS, Bharathidasan University, Tiruchirapalli. In his address, he emphasised the need for such Workshop in the digital world. Dr. T. Sengadir and Dr. S. Vijayaraghavan distributed certificates to all the participants. Dr. P. Thiyagarajan extended a warm vote of thanks at the end of the Workshop.

3rd Workshop on SWAYAM PRABHA, BISAG, Gandhinagar, 25th January, 2017

3rd Workshop on SWAYAM PRABHA organised by BISAG in collaboration with INFLIBNET Centre on 25th January 2017 at BISAG Gandhinagar. The main agenda of the Workshop was to review present status of each channel, amount of content available for each channel, verification of quality of content/pedagogy, production of content, transportation of channels to BISAG, channel logo, SWAYAM Prabha Portal, mobile app, feedback mechanism, etc. The discussions were steered by the Additional Secretary (TE), MHRD. Besides

reviewing the status of all the 32 channels and working out the future course of action, one of the purpose of holding the Workshop at BISAG was that the National/Channel coordinators and the person technically responsible for producing the channel in the local studio of each channel gets an opportunity to see the uplinking facility and the associated equipment at BISAG. Around 31 channel coordinators participated in the Workshop.

International Conference on Library and Information Services in Knowledge Society: Innovative, Value Added Services and Best Practices, Mizoram University, Aizawl, 1st- 3rd March, 2017

International Conference on Library and Information Services in Knowledge Society: Innovative, Value Added Services and Best Practices was organised by the Department of Library and Information Science, Mizoram University, Aizawl in collaboration with North-East Council, Shillong; Indira Gandhi National Centre for the Arts, New Delhi; Indian Council of Social Science Research, New Delhi; Raja Rammohan Library Foundation (Ministry of Culture) Kolkata; Information and Library Network (INFLIBNET Centre), Gandhinagar and National Digital Library (MHRD), Indian Institute of Technology, Kharagpur at Auditorium Hall, Mizoram University, Aizawl during 1st to 3rd March, 2017. Prof. R N Mishra, Head, DLIS, Mizoram University and Organising Secretary welcomed the guests and participants. Prof. Lianzela, Hon'ble Vice-Chancellor, Mizoram University inaugurated the function by lighting the ceremonial lamp along with Dr. H. K. Kaul,

Director, Developing Library Network, New Delhi, Ms. Anjana H. Bhatt, University Librarian, Florida Gulf Coast University Library, USA, Mr. Pu C. Zothunkhuma, Registrar, Mizoram University, Prof. Pravakar Rath, Conference Director and Prof. R N Mishra, Head, DLIS, Mizoram University. 45 out of 64 papers submitted were presented during the conference. More than 150 delegates including international delegates from USA, Germany, Singapore, Bangladesh, Bhutan, Indonesia, Nigeria, Myanmar as well as delegates from different parts of India such as Kolkata, Chennai, Mumbai, Ahmadabad, Bhubaneswar, Varanasi, Guwahati, Tezpur, Silchar, Agartala, Aizawl, Shillong, etc. attended the Conference. Prof. R K Ngurtinkhuma, DLIS, Mizoram University and Joint Organising Secretary extended a warm vote of thanks at the end of the conference.

National Institutional Ranking Framework

India Rankings 2016 was a pioneering effort and hence both a challenge and a huge learning opportunity for all stakeholders. India Rankings-2017 built on the previous year's experience, consolidating the Framework, but remained equally challenging and an equally great experience. The NIRF provides for ranking of institutes in five broad generic parameters, namely: i) Teaching, Learning and Resources; ii) Research and Professional Practice; iii) Graduation Outcome; iv) Outreach and Inclusivity; and v) Perception. As mentioned above, however, some of the sub-parameters had to be dropped due to serious lack of reliability and

consistency of data provided by the participating institutes.

Institutes desirous of participating in the India Rankings 2017 were invited to register on the NIRF Web portal and submit their applications online for overall ranking as well as for one or more disciplines along with relevant data in the given format by 30th November 2016. Institutes were also given opportunity to edit the data and upload supporting documents in the prescribed format by 30th January 2017. The final picture of participation is summarised in below Table.

Category / Discipline	Total No. of Institutes	CFTIs & CFUs	Other Universities
Overall	724	109	239
Engineering	1007	56	163
Management	542	25	95
Pharmacy	316	5	62
Architecture	42	4	17
College	535	0	10
Arts	61	12	43
Medical	43	1	28
Law	49	4	28
Total	3319	216	685

Participation Numbers for Overall and Discipline Specific Rankings

Current Status of Activities & Services of the INFLIBNET Centre

Sl. No.	Name of the Projects	Description of the Projects	Total Nos.
1	Shodhganga	MoU Signed	309
		No. of Theses	1,35,135
		No. of Contributing Institutions	281
		CFTI	14
		Plagiarism Detection Software URKUND to Universities	153
2	Shodhgangotri	No. Synopsis	3,871
		No. of Contributing Institutions	50
3	Vidwan	No. of Expert's Profiles	22,700
		No. of Contributing Institutions	2,640
4	e-PG Pathshala	No. of Subjects	70
		No. of Papers	818
		No. of Modules (e-text)	10,800
		No. of Modules (video)	10,001
		No. of Modules (quizzes)	7,000
		No. of Modules (Learn More)	10,000
		No. of Experts	3200+
5	IR @ INFLIBNET	No. of Articles / Publications	1,591
6	OJAS	No. of Journals Hosted	17
7	SOUL	No. of Installations	3,352
8	IndCat - Books	No. of Books	139,91,556
		No. of Contributing Institutions	178
	IndCat - Theses	No. of Theses	2,71,581
		No. of Contributing Institutions	315
	IndCat - Serials	No. of Unique Serials	35,248

Sl. No.	Name of the Projects	Description of the Projects	Total Nos.
		No. of Contributing Institutions	223
		No. of Holding Records	53,568
		No. of contributing Holding Institutions	99
		No. of Current Journal Records	65,865
		No. of Current Contributing Institutions	213
9	E-Shodh Sindhu	No. of Core Member Institutions:	382
		CFTIs	66
		Universities	222
		Technical Institutions	94
		No. of e-journals	15,000+
		No. of Databases	11
10	N-LIST (ESS Component)	No. of 12(B) Colleges	3,902
		No. of Non-aided Colleges	332
		No. of Users	9,66,413
		No. of e-Journals	6,328
		No. of Books	32,00,000
11	InfoPort	No. of Records	1760
12	ICSSR Data Repository	Datasets	136

New Projects @ INFLIBNET Centre

- **Development of Web Portal for National Institutional Ranking Framework (NIRF) – 2017**

Development of Web-portal for the National Institutional Ranking Framework (NIRF), a prestigious initiative of the Ministry of Human Resource Development (MHRD) was awarded to the INFLIBNET Centre. The Centre developed portal to capture data required for ranking of universities, colleges and other institutions desirous of ranking themselves under various categories. The Centre also provides publications and citations data from Web of Science, Scopus and Indian Citation Index for more than 3,000 institutions that have applied for ranking themselves under NIRF.

- **Food Safety Knowledge Assimilation Network (FSKAN): A project by FSSAI**

FSKAN is conceived as platform designed to facilitate scientific co-operation amongst organizations by co-ordination of activities, exchange of information, development and implementation of joint projects. The INFLIBNET was assigned the task of developing a platform to assimilate all the information on single platform. The platform is being incorporated with different modules such as Expert Management System, e-Resources, Project Proposal System, discussion forum, etc.

Republic Day

The INFLIBNET Centre celebrated 68th Republic Day on 26th January 2017 at INFLIBNET Centre, Infocity, Gandhinagar. The National Flag was hoisted by Mr. Manoj Kumar K., Scientist D (CS), INFLIBNET Centre. Mr. Manoj

Kumar K addressed the staff members and their families about the activities of the Centre. A number of games were organized for staff and their children during the event and prizes were distributed to the winners of the games.

Felicitation of Prof. Ved Prakash, Chairman, UGC during the 17th Meeting of the Governing Council of the INFLIBNET Centre held on Friday, 10th March, 2017 at the UGC Main Office, New Delhi



Felicitation of Prof. Ved Prakash, Chairman, UGC during the 17th Meeting of the Governing Council of the INFLIBNET Centre at the UGC Main Office, New Delhi

Director, INFLIBNET Centre felicitated Prof. Ved Prakash, Chairman, UGC for successfully completing his term as Chairman, UGC during the 17th Meeting of the Governing Council of the INFLIBNET Centre held on Friday, 10th March, 2017 at the UGC Main Office, New Delhi. He also made a brief presentation on initiatives, schemes, projects and consultancies taken-up by the INFLIBNET Centre during his tenure as Chairman of the UGC. Chairman, UGC thanked INFLIBNET Centre for the services rendered by it to the entire higher education community in India as well as to the UGC with its

expertise in computerization and web services. He congratulated INFLIBNET Centre and its scientists for their dedicated service. He specifically placed his appreciation on record for the role being played by the INFLIBNET Centre in ranking of Indian Universities under National Institutional Ranking Framework. He encouraged scientists at INFLIBNET Centre to contribute to the cause of developing suitable parameters for ranking of universities and colleges under NIRF that addresses limitations and opportunities applicable to Indian colleges and universities.

Welcome to the Nominated Members of Governing Council, INFLIBNET Centre

Prof. M. P. Poonia, Nominated Member, Governing Council, INFLIBNET Centre



Dr. Poonia is the Vice-Chairman, All India Council for Technical Education (AICTE), New Delhi since 20th January, 2017. He has completed M. Tech (Mech.) and Ph.D (thermal Eng) from India Institute of Technology, Delhi. Dr.

Poonia served as Director, National Institute of Technical Training and Research (NITTTR), established by Ministry of Human Resource Development, Govt of India from 20th July, 2012 to 18th January, 2017. He had worked with more than 30 Govt Engineering College of Bikaner (Rajasthan) and one year and two months as Dean, Planning and Development in MNIT, Jaipur. He published 80 papers in National and International Journals and published several books and Manuals in

the field of Mechanical Engineering. He has published/edited 8 books and 2 lab manuals. He is the Member of IEI, ISTE & Society of Automotive Engineer. He is the recipient of many awards for his academic achievement and national awards for the Empowerment of Persons with Disabilities-2013 by the Hon'able President of India on 3rd December, 2013 in New Delhi. He was member of Board of Governors of, as many as 20 Government/ Autonomous bodies/Universities in the state of Punjab, Haryana, Himachal Pradesh, Delhi and Chandigarh during his tenure as director, NITTTR. He has visited many countries including USA, China, Canada, Thailand, Singapore & Sri Lanka. The Director and INFLIBNET staff welcomes him as a nominated member of the Governing Council of the INFLIBNET Centre.

Dr. Ramesh C. Gaur, Nominated Member, Governing Council, INFLIBNET Centre



Dr. Ramesh C. Gaur is the University Librarian, Jawaharlal Nehru University (JNU), New Delhi. His past assignments include Ministry of Culture (IGNCA), Tata Institute of Fundamental Research (TIFR), CRRI-CSIR, Management

Development Institute (MDI), IMT Ghaziabad etc. A Fulbright Scholar (VT, USA), Dr. Gaur has visited USA, UK, Australia, Russia, Germany, France, China, Japan, Thailand, Indonesia, Cambodia, Bangladesh, Malaysia, Singapore, Sri Lanka, Hong Kong and the Netherlands in relation to various assignments related to Digital Library and allied areas. He is the recipient of many awards of 'IASLIC-S M Ganguly Best Librarian award for year 2007; Satkal Young Librarian award for year 2009; SRFLIS India Professional Excellence Award 2013 and Professional Excellence Award 2015 by ADR Publications'.

Dr. Gaur is the Member of Think Tank on Library and Information Services formed by Ministry of Culture, Government of India. He is the member of International Consultative Committee on Digital Dunhuang, China; NDLTD Board of Directors; UGC National Committee; National Advisory Board of e-Shodh Sindhu National Consortia; various Committees of International Federations of Library Associations (IFLA); Databib Advisory Board, USA and Editorial /Advisory Board / Guest Editor in several International and National Journals. In over 25 year's professional career, he has authored and edited 6 books, written over 55+ articles /papers and presented / delivered over 300 papers / talks in various national and international conferences, etc. The Director and INFLIBNET staff welcomes him as a nominated member of the Governing Council of the INFLIBNET Centre.

R: An Open Source Software Environment for Statistical Analysis Yatrik Patel¹, Divyakant Vaghela², Hitesh Solanki³ and Mitisha Vaidya⁴ ¹Scientist – D (CS), ^{2,3}Scientist – B (CS), ⁴Project Officer (CS)

The research data and its efficient analysis play a vital role in successful research as well as in drawing meaningful inferences. Students, scholars, research institutes, Government and non-Government organizations around the World depend heavily on statistical and data analysis to carry out their research as well for taking decisions based on statistical analysis of data. Statistics plays a vital role in almost all domains of knowledge. This article provides an overview of various comprehensive, proprietary and non-proprietary statistical packages that are available in the market place for carrying out statistical analyses on data such as SPSS, Stata, Minitab, SAS, etc. The article especially focuses on non-proprietary and open source statistical package called R, which is widely used in all research domains for statistical analysis, data mining and data visualization across the world.

Introduction

The statistics is extensively used across all major domains of knowledge including engineering & technology, medical & health sciences, chemical sciences, agricultural sciences, biological sciences, physical sciences, social sciences and arts and humanities, etc. While applying research methodology in any knowledge domain, researchers should have basic knowledge of statistical methods along with knowledge on use of statistical packages to carry out meaningful analyses on their research data and draw meaningful inferences. Some of the commonly used statistical methods and their possible order of their application are as follows:

- Measures of central tendencies such as mean, median, mode;
- Measures of dispersions such as range, variance, standard deviations, co-efficient of variance;
- Test of hypothesis for parametric test such as one sample t-test, two independent sample t-test, paired t-test;
- Analysis of variance: one way ANOVA and two way ANOVA;

- Test of hypothesis for non-parametric test such as Kruskal Wallis H test, Mann–Whitney U test, Wilcoxon signed ranks test, Pearson’s chi squared test;
- Spearman’s correlation coefficient and Pearson’s correlation coefficient;
- Simple and multiple regression analysis;
- Logistic regression analysis;
- Time series analysis; and
- Factor analysis

The selection of appropriate statistical model or method depends on the objective of research and nature of data (i.e. qualitative and quantitative). In the fast-growing technological world of Data Science, a number of proprietary and non-proprietary statistical packages like PSPP, Stata, SPSS, SYSTAT, SAS, Minitab, Statistica, SOFA statistics and R, etc. are available in the marketplace that can be deployed for interpreting the results derived from any size and type of data and for drawing statistical inferences. However, some of the statistical packages involve huge cost on its procurement or licensing, whereas some are freely available as open source. R is very popular and widely

used with extensive features. It provides an open research environment for statistical analysis. Forthcoming sections of this article briefly explain various statistical packages with emphasis on R statistical package, an open source statistical package used extensively by research communities in various domains of knowledge.

1. Popular Statistical Packages

The statistical and data analytical packages predominantly provide functionalities for organization, manipulation, analyses and graphical representation of research data of all kinds and types irrespective of its knowledge domains. All statistical packages support various data types such as numeric, date and string. Data can be imported from spreadsheets, ASCII text files, csv, tsv, relational database management system and other statistical packages. The statistical packages are used to derive results through statistical methods such as descriptive statistics, bivariate statistics, and prediction for numerical outcomes, identifying groups, simulation modeling, regression analysis, outlier tests, tolerance intervals, stability studies, equivalence tests, design of experiments (DOE), measurement systems analysis, capability analysis, hypothesis tests, and analysis of variance (ANOVA), etc. All statistical packages provides features for representing resultant data as charts and graphs which can be exported as an image in any graphical file format such as jpg, png, gif, etc. The data in tabular format can be exported in various formats including word, excel, tab delimited text, pdf, xml, html, jpg, etc. Statisticians, data scientists and researchers are using the statistical packages as per their requirement.

The most commonly used proprietary and non-proprietary statistical packages are as follows:

1.1 SPSS

SPSS is an abbreviation for Statistical Package for Social

Sciences. It is a well-known, proprietary software equipped with graphical user interface. SPSS is especially developed to meet research objectives of social science community, however, research communities across all knowledge domains use the package widely for statistical analysis. The first version of SPSS was released in 1968 for batch processing and mainframes. SPSS is fully owned by IBM Corporation from 2009 onwards. It is available at <https://www.ibm.com/in-en/marketplace/statistical-analysis-and-reporting>.

1.2 PSPP

PSPP is free alternative statistical package for IBM's SPSS Statistics. It was developed in C using GNU Scientific Library for its mathematical routines as a free alternate to SPSS in 1990s. This software can be downloaded from <https://www.gnu.org/software/pspp/get.html>.

1.3 Stata

Stata, a platform independent analytical package, was developed in 1985. It is a proprietary and general-purpose integrated statistical package, which was developed by StataCorp. This software is available at <http://www.stata.com/>.

1.4 SYSTAT

SYSTAT was designed for statistical and graphical presentation of scientific and engineering data. It was developed by Leland Wilkinson, Assistant Professor of Psychology at University of Illinois at Chicago in the late 1970s, which was incorporated in 1983. More details are available at <https://systatsoftware.com/>.

1.5 SAS

SAS (Statistical Analysis System) is a commercial software developed by SAS Institute. The new statistical methods, additional routines and JMP had

been integrated in the 1980s and 1990s. The trial version of SAS Data Loader for Hadoop, trial version of JMP, demo version of SAS Visual Statistics and free version of SAS University Edition - Free Software for Learning are available at <https://www.sas.com/>.

1.6 Minitab

Minitab is statistical software developed by researchers namely, F.R. Barbara, A.R. Thomas and L.J. Brian at the Pennsylvania State University in 1972. It provides e-Learning routine for teaching statistical tools and concepts for quality improvement and offers a Six Sigma and Lean Manufacturing management tool. The standard commercial version of Minitab can be obtained at <https://www.minitab.com/>.

1.7 Statistica

Statistica is a suite of window-based proprietary software packages for numerical analysis which is originally derived from a set of statistical packages and plug-ins during Mid-1980 by StatSoft. It was acquired by Dell in March 2014. A free trial version of Statistica can be downloaded at <http://statistica.io/>.

1.8 SOFA Statistics

SOFA Statistics is an open source, non-proprietary statistical package for statistical and data analysis which is written in Python. The "SOFA" is abbreviation for *Statistics Open For All*. It provides a user-friendly graphical user interface for analysis. It is available at <http://www.sofastatistics.com/home.php>.

2. R: An Open Source Statistical Package

R is an open source software development programming language, which was developed by Ross Ihaka and Robert Gentleman in New Zealand in 1991. It is a programming language, which can be used in statistical analysis and in technical research work. Before R, John Chambers and his colleagues

implemented S language in Bell Laboratory in 1976. R became an open source software in 1997 under GNU General Public License. R is becoming a popular programming language amongst statistician and data miners for the development of statistical packages and analyzing the data.

R is a well-developed programming language, which includes various functionalities and facilities including user-defined recursive functions, conditions, loops and input and output data. R has large collection of operators to perform calculations on different data types like arrays, vectors, lists, and matrices. R is simple and very effective in data handling and storage facility. It has wide range of comprehensible and integrated tools for analyzing large datasets. R is also being taught in various universities.

2.1 Key Features of R

R is more than just a programming language. Object oriented programming can be done using R language. The key features of R are given below.

2.1.1 Packaged Distribution

R software package is a bundle of R functions. Like ".jar" file in Java and ".dll" file in DOT NET, R software package is self-contained units of R functionality and can be used as functions. R software package can be downloaded from CRAN (Comprehensive R Archive Network) repositories. CRAN has country wise repository as well as it has main repository from where software packages (as per requirement) can be downloaded and installed. Vast library of R software packages are available with various operations including machine learning, graphical representation of data, statistical operations, etc. List of R software packages available on CRAN can be found at <http://cran.r-project.org>.

As R Programming language is open source, one can

develop and distribute R software package as per the requirement and can contribute to open source community so as to extend benefit to others.

2.1.2 Data Operations

R programming language enables a wide range of operations. Various operations like Data Cleaning, Exploration and Analysis can be performed using R very easily. Descriptive and predictive analytics with visualization of resultant data can be performed using R. R performs statistical operations like regression, probability distribution, mean, min, max, quartiles, variance and many more. Machine learning operations i.e. linear regression, logistic regression, classification and clustering can be processed using R.

Third-party APIs are also available to develop effective analytics applications. R has the packages to perform various operations on data. Other programming languages like java, c, c + +, PHP can also be integrated with R.

2.1.3 Community Support

R is becoming popular programming language for statistical analysis, machine learning and data visualization. Community support for R language is also growing with its popularity. Several R groups and communities are available for users to connect and get help on problems and issues that they may face. R project owners have created official group named "R mailing list". Besides, several blogs are available where user can get the source code. Developer can post their problems over Stack overflow (<http://stats.stackexchange.com>) where they can get the solution. Lots of books and guides are available for learning R language from beginner to advanced level.

2.1.4 Data Modelling in R

Machine learning is an artificial intelligence (AI) technique that provides systems with the ability to learn

without any programme. Data modeling is very important part in machine learning to understand the hidden pattern from the old dataset. This will help in future to predict the similar data. In this technique, the system focuses on user's activities and operations to understand their preferences and tastes. Well known organizations like Amazon, Google, Facebook, LinkedIn, Twitter, etc. have started this data modeling techniques to understand the behaviour of the customer. R has very efficient support for various modeling technique as mentioned below:

2.1.4.1 Regression: This technique is to understand the scalar relationship between variables that will help to predict the value of variables for future events. Forecasting or prediction can be made using this technique. R has lm method to provide regression feature.

2.1.4.2 Classification: Classification is the technique that is used to classify the set of observations into labels. R has various packages available to serve classification, i.e. randomForest, glm, glm2, glmnet, svm and ksvm. Email service providers are using this technique to filter and classify emails as a spam or others.

2.1.4.3 Clustering: Clustering is the technique to group similar items in organized manner from the collection of items. Various packages like knn, kmeans, dist, pvclust and Mclustmethods are available in R to work with clustering.

2.1.4.4 Recommendation: This technique is generally applied for assisting and augmenting the process and also help in making decisions. Various recommendation algorithms are being used in recommender systems today. Web content recommendations may include similar

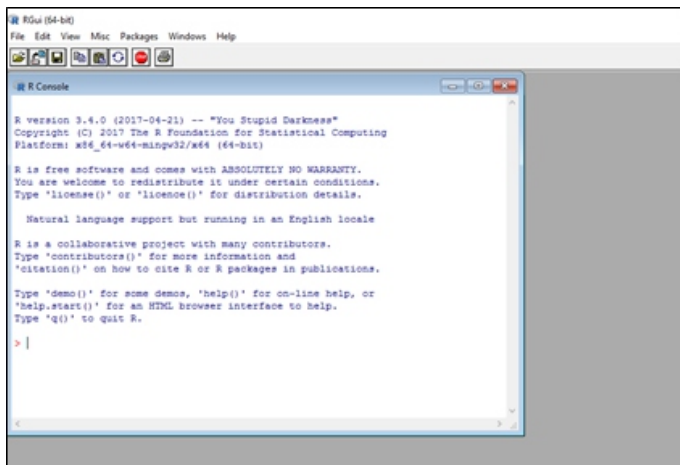
websites, blogs, videos, or related content. Recommender package is available in R to use Recommendation technique.

2.2 Integrated Development Environment

R is command line language. It supports many integrated development environments and editors are available for R programming. All the tools are freely available that can be used for statistical analysis or development purpose. Brief details about different tools are given below:

2.2.1 R GUI (Graphical User Interface)

RGui comes as a default and standard software development environment. RGui is basic user interface. It provides console to write instructions, scripts and general R operations. Console is very light weight, as such, script execution becomes faster comparatively. R Console provides basic information about the installed version of R and brief information about calling functions in R. User can write command/function after the symbol ">" is displayed at the end. Screenshot of RGui is given below:



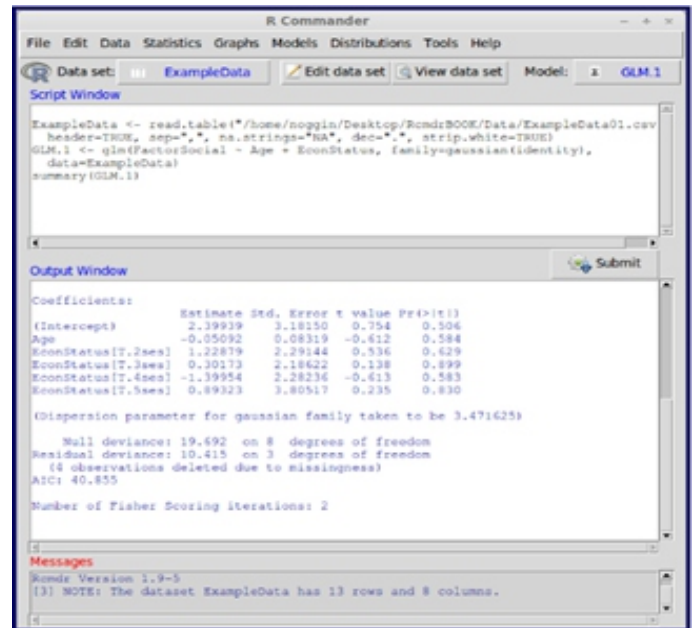
RGUI

2.2.2 RCommander

RCommander, also known as Rcmdr, is a very powerful tool for data analysis. R Commander is the graphical user interface for analyzing the data using R engine in

the backend. RCommander can be installed as a package in R. Novice users can immensely benefit from it as it displays the underlying R command. It provides lots of packages like analyses, graphics, books and teaching as plugins of RCommander. It can also be used in conjunction with Rstudio.

RCommander provides the point and click interface by which user can access the statistical methods. It displays the background command so that one can also use the same in future if required. Minitab, SPSS, SAS, Stata, Excel and plain-text (ASCII) file can be imported using Rcommander.



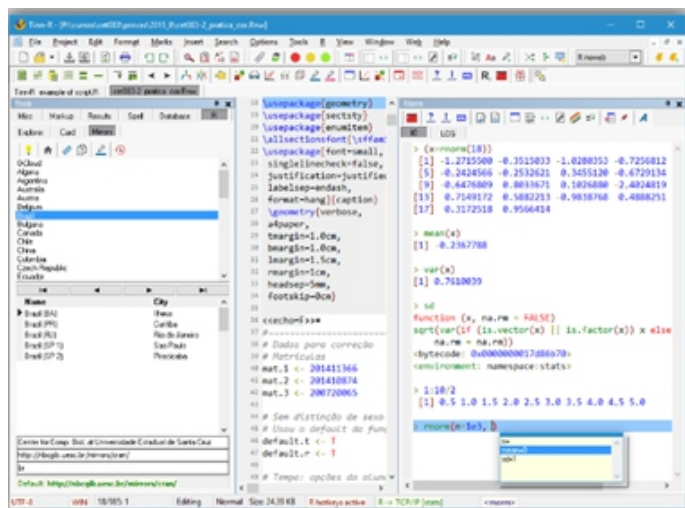
Rcommander

2.2.3 Tinn-R

Tinn-R is an open source project under the GNU General Public License. Tinn-R is coordinated project that aims to facilitate learning and use of R for statistics. It provides advance features for experts like editing, processing, compilation of documents and format interchange using R, Noweb, LaTeX, Pandoc, Txt2tags, etc.

It is an editor/word processor. ASCII / UNICODE, generic for the Windows operating system, is well integrated into the R, with characteristics of Graphical

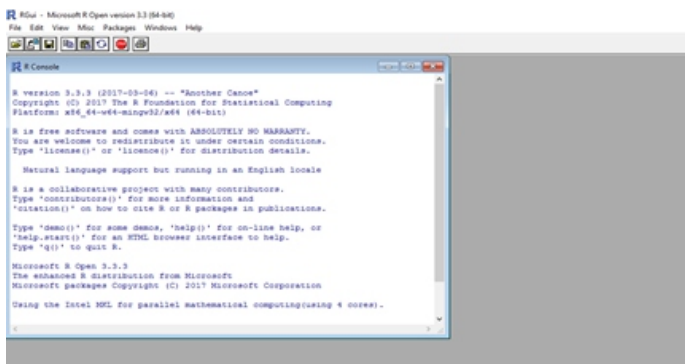
User Interface (GUI) and Integrated Development Environment (IDE). Tinn-R is stable and have a great structural simplicity with very good performance. Screenshot of Tinn-R is given below:



Tinn-R

2.2.4 Microsoft R Open & R Server

Microsoft Corporation has also published its own tool with integration of R language, which is named as “Microsoft R Open”, formerly known as Revolution R Open (RRO). Latest version of Microsoft R Open is 3.4.0 with R-3.4.0. Microsoft R Open is having performance improvement and capabilities for reproducibility and various platform support. Microsoft Corporation has contributed in Open Source movement by making this tool available freely as open source software.



Microsoft R Open

Microsoft R Open Tool supports Linux platform as well as Windows platform. Main advantage of using this tool is to get the specialized packages created by Microsoft

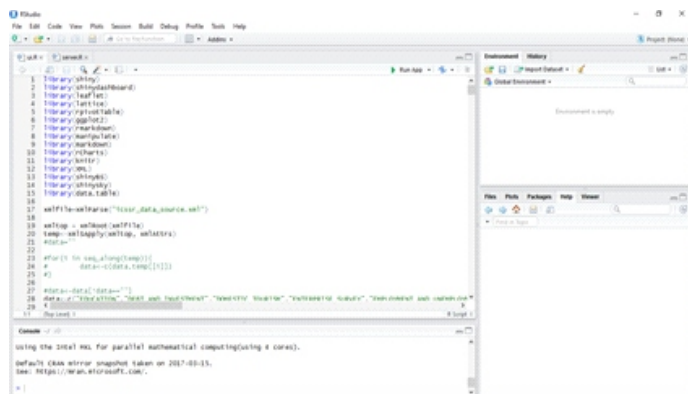
Corporation along with the packages that are available in R. It has multi-threaded math libraries for multi-threaded computations and a high performance CRAN repository for availability of the R packages.

2.2.5 RStudio

RStudio is an integrated development environment (IDE) for R. It is available as Desktop and Server Version. Desktop version of RStudio supports Windows, Linux and Mac. It has open source edition as well as commercial edition. Currently RStudio server supports Linux operating system. RStudio server is also available in commercial version and open source VERSION. RStudio server can be accessed via browser over the Internet. Open source version of RStudio server is sufficient for development purposes. Commercial version of RStudio server has additional features like Administrative Tools, Enhanced Security and Authentication, Metrics and Monitoring and Advanced Resource Management. It is divided in four major parts mentioned below:

- i) Source Editor or Data Viewer
- ii) Command History and Workspace Browser
- iii) R Console
- iv) File, Help, Package and Plots Panel

It is easy to manage more than one working directories using RStudio. It has debugging option to diagnose and fix the errors efficiently. It has integrated documentation



Rstudio

for each function. Navigation to files and functions is very quick. It supports SourceSafe like Git and Subversion. In RScript file, one can use syntax highlighting, code completion and smart indentation.

2.2.6 Web Interface using Shiny

Shiny package is used to develop web application without having much knowledge of HTML, CSS or JavaScript. It can be installed using CRAN (Comprehensive R Archive Network). Shiny web application are generally built using R programming and works in any R environment such as Console R, Rgui and RStudio, etc. Shiny Package provides pre-built controls like plots, tables and customizable slider with animation and attractive default UI theme. It uses reactive programming model that manages event handling. It has fast bidirectional communication between browser and R environment.

2.3 Major Advantages of R

2.3.1 Open Source and Free: R is available as open source software licensed under GNU General Public License and it is free to download and use. Thousands of packages are also available under the same license which can be used. Packages can be downloaded from CRAN repositories without any access restrictions.

2.3.2 R is popular - and increasing in popularity: R is becoming popular like other languages even though it is domain-specific language for statistics. This not only shows the increasing interest in R as a programming language, but also of the fields like Data Science and Machine Learning where R is commonly used. IEEE has given rank 5 to R language in 2016. Statisticians are preferring R language for providing quick results of statistical operations. R is becoming popular amongst researchers and post-doctorate students for its reproducible research

feature. Data scientists are also using R language for data analytics.

2.3.3 R runs on all platforms: R supports cross-platform interoperability. As such, it can be executed on Windows, Linux as well as Mac. R code written on Windows operating system can run on other operating system.

2.3.4 R is being used by the biggest tech giants/companies: Many tech giants have adopted R language for decision making and data analysis. Every major decision has to be backed by concrete analysis of data. R has the potentiality and power to perform quick analysis and it is too simple. Few industries and platforms that have started using R are listed below:

- i) Twitter uses R to monitor user experience
- ii) Ford analyses social media to support design decisions of cars using R language
- iii) Microsoft Corporation released its R open (an enhanced R distribution) and R server after Revolution Analytics in 2015.
- iv) Human Rights Data Analysis Group is using R for measuring the impact of war.
- v) Google has also contributed to R by creating R style guide for R community

3. Conclusion

This article provides a brief summary of various statistical packages used for statistical and data analysis, data mining and data visualization in research community. A total number of nine statistical packages including proprietary, open access and open source packages are summarized in this article that are widely used by the academic and scientific research community across the globe. All statistical packages mentioned above have their own set of features, characteristics and functions to perform specific task. It

is left to the user to choose a package that is most suitable to them based on their own comfort level, help and expertise available to them.

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Dr. Jagdish Arora, Director

Dr. Jagdish Arora delivered keynote address on "Changing Roles of Libraries in Qualitative Research and Education", during the inaugural session of "Emerging Trends and Techniques in Library and Information Services in Academic Libraries (ETLISAL)", held at Rajkiya Maharaj Acharya Sanskrit College Library, Jaipur, Rajasthan from 24th to 25th January, 2017. He was keynote speaker during the "2nd National Seminar on Future of Libraries: Trends, Issues and Challenges (NASOFOL- 2017)" held during 10th to 11th February, 2017 at University of Jammu, Jammu. Dr. Arora delivered keynote address on "Role of Libraries in Supporting Innovations and Excellence" during the inaugural session of the National Conference on Library Innovations for Excellence (LIFE 2017), held at IISER, Pune from 16th to 17th February, 2017. He was invited speaker at the 2nd National Koha Conclave at TCS, Pune from 21st to 22nd February, 2017 wherein he also moderated a panel discussion on Koha-based union catalogue. Dr. Arora moderated a panel discussion on "Demonstrating Value of Libraries in Academic and Research Work" during International Conference on Changing Landscape of Science & Technology Libraries" organized by the IIT Gandhinagar from 2nd to 4th March, 2017. He was keynote speaker during the National Conference on Transforming Libraries in 21st Century (NCTL-2017), 30th March, 2017 organized by the Department of Library and Information Science, Babasaheb Bhimrao Ambedkar University, Lucknow.

As member of the Standing Committee and its Sub-Committee of e-PG Pathshala, he attended its Meetings held on 18th January, 24th March and 31st March, 2017 during the period under report. As a member of the Court of Central University of Gujarat, he attended its 3rd

Meeting held on 9th March, 2017. Dr. Arora was nominated a member of the UGC's Standing Committee on Notification of Journals and attended its meeting held on 27th March, 2017. As a member of the Implementation Core Committee of the India Rankings 2017 (NIRF), Dr. Arora attended its 3rd Meeting held on 31st March, 2017.

Mr. Manoj Kumar K., Scientist D (CS)

Mr. Manoj Kumar K attended Library Committee meeting as External member at Gujarat Vidyapith, 16th February, 2017. He delivered an invited talk on use of E-Shodh Sindhu Resources at Central University of Kerala, Kasaragod on 14th March 2017. He delivered an invited lecture on 'Shodhganga: Case Study' during Workshop on Design and Development of Digital Library using Dspace at College of Engineering, Kasargod on 14th March, 2017. He delivered a talk on Research and Academic writing at Malabar Christian College, Calicut on 15th March 2017. He was invited as a speaker 'Ethics in Academia' at The Dr. Mrunalini Devi Puar Auditorium organised by Faculty of Family and Community Sciences, Maharaja Sayajirao University of Baroda (MSU) in collaboration with International Society for the Study of Behavioural Development (ISSBD)-India on 17th March, 2017. He also delivered a lecture on the topic 'Ethics in Academia' during Workshop on Use of Anti-Plagiarism tools organised by Department of Chemistry, Saurashtra University, Rajkot on 24th March, 2017. He was invited to deliver a talk on 'Academic Honesty & Plagiarism' during Seminar cum Workshop on Preventing Plagiarism in Research organised by Nirma University, Ahmedabad on 27th March, 2017.

Mr. Abhishek Kumar, Scientist C (CS)

Mr. Abhishek Kumar was invited to deliver a talk on MOOC at Academic Staff College, Devi Ahilya University, Indore from 12th to 13th January, 2017. He attended meetings of standing committee and subcommittee, e-PG Pathshala held on 18th and 31st January, 2017 respectively at University of Grants Commission (UGC), New Delhi. He attended meeting of National Institute of Ranking Framework (NIRF)-Formula Discussion held on 3rd February and 2nd March, 2017 at National Board of Accreditation, New Delhi. He was invited to attend meeting for FSKAN portal at FDA Bhawan, New Delhi on 6th February, 2017. He was invited to deliver a video conferencing lecture on 'Swyam Prabha to MHRD, New Delhi at BISAG, Gandhinagar on 22nd February, 2017. He made a presentation of his paper entitled "MOOCs: A Study on MOOCs Platforms & Its Parameters" during 2nd International Research Conference organised by International Association of Research & Development Organization at Jawaharlal Nehru University Delhi on 26th February, 2017. He attended National Workshop on MOOCs for SWAYAM organised by MHRD, New Delhi at Vigyan Bhavan, New Delhi on 2nd March, 2017.

Mr. Kannan P., Scientist C (LS)

Mr. Kanan was invited to deliver a guest lecture on "Academic Identity: An ORCID" organized by Nirma University for faculty members of Institute on 18th February, 2017 at PG Seminar Hall, Nirma University, Ahmedabad.

Mr. Miteshkumar Pandya, Scientist B (LS)

Mr. Miteshkumar was invited to deliver lectures on 'Creative Commons & Licenses, Copyright Act and Publishing Research Data / Linked Open Data' for Research Scholars of Gujarat University during PhD course work organised by Academic Staff College, Gujarat University, Ahmedabad on 25th February, 2017. He was also invited to deliver a lecture on "Quantifying

research output: Analyzing Scholarly output and understanding research impact R" during Seminar cum Workshop on Preventing Plagiarism in Research organised by Nirma University, Ahmedabad on 27th March, 2017.

Ms. Kruti J. Trivedi, Scientist B (LS)

Ms. Kruti Trivedi attended International Conference on "Changing Landscape of Science and Technology Libraries (CLSTL 2017)" at IIT Gandhinagar during 2nd to 4th March, 2017.

Mr. Swapnil Patel, Scientist B (CS)

Mr. Swapnil Patel was invited to deliver a lecture on 'DSpace Administration & Import/Export' followed by 'hands on' practical session during Workshop on Design and Development of Digital Library using Dspace at College of Engineering, Kasargod on 14th March, 2017.

Mr. Dinesh Ranjan Pradhan, Scientist B (LS)

Mr. Dinesh Ranjan Pradhan attended International Conference on "Changing Landscape of Science and Technology Libraries (CLSTL 2017)" at IIT Gandhinagar during 2nd to 4th March, 2017.

Mr. Pallab Pradhan, Scientist B (LS)

Mr. Pallab Pradhan attended International Conference on "Changing Landscape of Science and Technology Libraries (CLSTL 2017)" at IIT Gandhinagar during 2nd to 4th March, 2017.

Mr. Pallab visited Indian Citation Index (ICI) New Delhi for National Institutional Ranking Framework (NIRF) project on 17th and 18th March, 2017.

Mr. Hiteshkumar Solanki, Scientist B (CS)

Mr. Hiteshkumar attended meeting of the National Institutional Ranking Framework (NIRF) at National Board of Accreditation, New Delhi from 3rd to 7th February, 2017 and on 2nd March, 2017. He was invited

to deliver talk on 'Introduction to R' during Short-term Training Programme Statistical analysis for Scientific & Technical Research & Application (SASTRA) 2017 at B V M Engineering College, Vallabh Vidyanagar on 8th March, 2017.

Mr. Raja V, Scientist B (CS)

Mr. Raja V attended Meeting of National Institute of Ranking Framework (NIRF)-DCS requirement held on 24th February, 2017 at National Board of Accreditation, New Delhi.

Mr. Dharmesh Shah, STA (CS)

Mr. Dharmesh Shah attended Meeting of National Institute of Ranking Framework (NIRF) DCS

requirement during 3rd to 5th February, 2017 and 24th February at National Board of Accreditation, New Delhi.

Mr. Vijay Shrimali, STA (CS)

Mr. Vijay Shrimali was invited for 'hands on' practical session of 'DSpace Administration & Import/Export' during Workshop on Design and Development of Digital Library using Dspace at College of Engineering, Kasargod on 14th March, 2017. He was also invited to deliver lecture on 'SOUL 2.0 Overview and troubleshooting' during 15th state seminar on "Emerging Trends & Technology in Academic Libraries" at Municipal Arts and Urban Science College, Mehsana on 19th March, 2017.

Users' Speak

On CLSTL 2017 International Conference

We expressed our sincere thanks to Sorensen Charlene, University of Saskatchewan, Canada; Karrie Peterson, MIT Libraries, Cambridge; Dr. Jagdish Arora, INFLIBNET Centre, Gandhinagar; Dr. J K Vijayakumar, KAUSAT, Saudi Arabia & Dr. Mahendra N Jadhav, IIT Madras for accepting our invitation as panelists to discuss the topic on "Demonstrating Value of Libraries in Academic and Research Work" and engaged the participants for nearly an hour, was very well appreciated by most who attended this session. By T S Kumbar, Librarian, IIT Gandhinagar

On Preparing Qualitative Data for Sharing and Reuse Workshop

INFLIBNET is something I will research more and have spoken to my colleagues about this past week - I am so impressed by the contributions of this organization and especially the presentation on the ICSSR Data Service, by Karrie Peterson, Head, Liaison, Instruction & Reference Services, MIT Libraries, Cambridge.

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സി.ഇ.ടി. ചിഹ്നത്തിൽ നടന്ന ദേശീയ ശില്പശാലയിൽ പങ്കെടുത്തവർ മുഖ്യമായി കണ്ണൂർ സർവകലാശാല വൈസ് ചാൻസലർ ഡോ. ഖാദർ മജീദ് എന്നാണ്.

ഡിജിറ്റൽ ലൈബ്രറി: ശില്പശാല സമാപിച്ചു

ചിഹ്നം: തൃശ്ശൂർ എൻജിനീയറിങ് കോളേജിൽ യു.ജി.സി. ഇൻഫ്ലിബ്നെറ്റിന്റെ സഹകരണത്തോടെ നടത്തിയ ദേശീയ ശില്പശാല സമാപിച്ചു. കമ്പ്യൂട്ടർ സാങ്കേതികവിദ്യ ഉപയോഗിച്ച് ഡിജിറ്റൽ ലൈബ്രറി വികസിപ്പിക്കുന്നതിനെക്കുറിച്ച് ശില്പശാലയിൽ പരിശീലനം നൽകി. വിവിധ സംസ്ഥാനങ്ങളിലെ ലൈബ്രറി പ്രൊഫഷണലുകൾ പങ്കെടുത്തു. സമാപനച്ചടങ്ങിൽ പ്രിൻസിപ്പൽ ഡോ. പി.വി

നോർ ഉദ്ഘാടനം ചെയ്തു. അസി. പ്രൊഫസർമാരായ എൻ.സുധീഷ്, എ.ഗീതീഷ്, ജെ.ശൈഖ്, റാണി ഉമ്മൻ പണിക്കർ, ലൈബ്രറിയിൽ കെ.വി.സിഎന്നിവർ സംസാരിച്ചു. യു.ജി.സി. ഇൻഫ്ലിബ്നെറ്റ് അഹമ്മദാബാദിലെ ശാസ്ത്രജ്ഞരായ മനോജ്കുമാർ, സുപ്രീൽ പി.പാട്ടിൽ, വിജയ് ശ്രീമാലി, സ്വതന്ത്ര സോഫ്റ്റ്‌വെയർ വിദഗ്ധൻ എം.വി.ശ്രീധരൻ എന്നിവർ ക്ലാസെടുത്തു.

ഡോ. പി.വി.ജോർജ്ജ്

കേന്ദ്ര സർവകലാശാലയിൽ ബോധവൽക്കരണ ക്ലാസ് നടത്തി

പരിഷ്കരിച്ച കേന്ദ്ര സർവകലാശാലയിലെ ശില്പശാലയുടെ ഭാഗമായി ഡോ. പി.വി.ജോർജ്ജ് കേന്ദ്ര സർവകലാശാലയിൽ ബോധവൽക്കരണ ക്ലാസ് നടത്തി. കേന്ദ്ര സർവകലാശാലയിലെ ശില്പശാലയുടെ ഭാഗമായി ഡോ. പി.വി.ജോർജ്ജ് കേന്ദ്ര സർവകലാശാലയിൽ ബോധവൽക്കരണ ക്ലാസ് നടത്തി. കേന്ദ്ര സർവകലാശാലയിലെ ശില്പശാലയുടെ ഭാഗമായി ഡോ. പി.വി.ജോർജ്ജ് കേന്ദ്ര സർവകലാശാലയിൽ ബോധവൽക്കരണ ക്ലാസ് നടത്തി.

രജയായി രാജ്യം

തീന മലർ

തീരുവാൻ... മാവേലി ശെട്ടികൾ

മാവേലിയിൽ കുറ്റമേന്മയെ നിലനിർത്തുന്നതിനായി തീരുവാൻ... മാവേലി ശെട്ടികൾ

മാവേലിയിൽ കുറ്റമേന്മയെ നിലനിർത്തുന്നതിനായി തീരുവാൻ... മാവേലി ശെട്ടികൾ

THE HINDU

MONDAY, MARCH 27, 2017

INDIA'S NATIONAL NEWSPAPER SINCE 1878

TAMIL NADU REGION NEWS

Digitalisation of resources stressed the importance of digitisation in the current world and called the participants to implement the Digital Space software S. Vijayaraghavan, Professor and Head, Department of Library and Information Science, Bharathidasan University, Tiruchirappalli, and Workshop Director and Head, Department of Computer Science, O.U.T., P. Thyagarajan spoke.

തീനമണി

Vol. No. 84 | തമിഴ്നാട് | തിരുനെൽവേലൂർ | PNL No. T.N.TAM.2013/85789

ക്രമം: 26 മാർച്ച് 2017

തീരുവാൻ മാവേലി ശെട്ടികൾ

‘முனைவர் பட்ட ஆய்வுகள் கணினிமயப்படுத்துவது அவசியம்’

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தி இந்தி

Vol. No. 84 | தமிழ்நாடு | திருநெல்வேலி | PNL No. T.N.TAM.2013/85789

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உலக அரங்கில் முக்கியத்துவம் பெற முனைவர் பட்ட ஆய்வுகள் கணினிமயமாக்கு அவசியம்

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INFLIBNET
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