

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT & MANAGEMENT

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CONTENTS

Sr. No.	TITLE & NAME OF THE AUTHOR (S)	Page No.
1.	THE IMPACT OF USE OF ICT FOR BUSINESS PROCESS MANAGEMENT IN e-TOURISM <i>VIDYULLATA V. PAWAR & DR. S. D. MUNDHE</i>	1
2.	A ROLE OF KNOWLEDGE BASED SYSTEM IN INFORMATION SYSTEM AUDIT <i>A. B. DEVALE & DR. R. V. KULKARNI</i>	3
3.	XML DATABASE: PAST, PRESENT AND FUTURE <i>KUMAR KALAMADI</i>	6
4.	CRITICAL CHALLENGES AND TRANSFORMATIONS IN EDUCATION IN NIGERIA: SYNTHESIS AND PROGNOSIS <i>TITUSAMODU UMORU</i>	8
5.	IMPACT OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) AMONG EXPORTER: A CRITICAL REVIEW OF LITERATURE <i>S.SHOBANA & DR. M. RAJAPRIYA</i>	12
6.	SCOPE OF INFORMATION TECHNOLOGY IN THE BANKING SECTOR <i>SHRI VALLABH H. LELE</i>	21
7.	PROBLEMS AND CHALLENGES OF COLLECTION DEVELOPMENT IN DIGITAL LIBRARIES <i>S.R. MANDALE & DR. KHOT N. B.</i>	23
8.	IMPLEMENTATION OF ARTIFICIAL NEURAL NETWORK IN CONCURRENCY CONTROL OF DISTRIBUTED DATABASE SYSTEM <i>A. A. SATTIKAR & A. A. GOVANDE</i>	26
9.	RESEARCH INFORMATION TECHNOLOGY: BEHAVIORAL ACCOUNTING <i>PATIL BHAGWAN SHANKAR</i>	30
10.	A STUDY ON USERS' PREFERENCE TOWARDS MATRIMONIAL SITES IN COIMBATORE CITY <i>R.MONISHA</i>	33
11.	FEDENA: EFFECTIVE ICT TOOL FOR EDUCATION MANAGEMENT SYSTEM <i>VARSHA P. DESAI</i>	36
12.	SYSTEMATIC AND SCIENTIFIC APPROACH OF WEB DESIGNING <i>NILESH RAYGONDA PATIL</i>	40
13.	PROMINENCE OF LISTENING EXPERTISE IN COMMUNICATION <i>DEEPA PATIL</i>	42
14.	A REVIEW ON THE ROLE OF MOBILE BANKING IN SELECTED AREAS OF KARAD <i>SANTOSH B. POTADAR</i>	44
15.	CHALLENGES IN WIRELESS NETWORK <i>SARIKA BABAN GAIKWAD</i>	46
16.	RURAL INVESTORS' PERCEPTION TOWARDS MUTUAL FUND DISTRIBUTION <i>L. MEENA</i>	48
17.	IMPACT OF GENETIC ALGORITHM IN CODE COVERAGE FOR TEST SUIT BY JUNIT IN DYNAMIC CONVERSION <i>SASHIBHUSAN NAYAK & ANIL KUMAR BISWAL</i>	52
18.	A STUDY ON CUSTOMER SERVICES OF NATIONALISED BANKS IN BANGALORE CITY <i>NANDINI.N</i>	56
19.	A CRITICAL APPRAISAL OF RISK MANAGEMENT STRATEGIES OF MICROFINANCE INSTITUTIONS IN GHANA <i>ALHASSAN BUNYAMINU & CHARLES BARNOR</i>	63
20.	CONSUMER TRUST IN ONLINE SHOPPING IN THE DOABA REGION OF PUNJAB <i>SHABNAM GULATI & DUSHANT NARULA</i>	71
	REQUEST FOR FEEDBACK & DISCLAIMER	76

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- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

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- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

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FEDENA: EFFECTIVE ICT TOOL FOR EDUCATION MANAGEMENT SYSTEM

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ABSTRACT

Today ICT plays an important role in education system. There are several ICT tools are available in the market for improving quality of educational system. ICT offers new challenges in teaching and learning process, by providing practical approach to teachers and learners. World moving rapidly into digital media and information, the role of ERP software is becoming more important in the 21st century. This research paper describes one of the ICT tool for effective education management system called Fedena. It is one of the best ERP software in educational ERP market. Fedena is open source software which implements Model View Control (MVC) framework. Objective of this paper is to explain brief introduction of Fedena, evolution, technology behind it, modules, features and advantages of Fedena software to different end users.

KEYWORDS

ERP (Enterprise Resource Planning), Fedena, ICT tools, MVC framework, modules.

INTRODUCTION

ICTs stands for information and communication technologies and are defined as a “diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information.” These technologies include computers, the Internet, broadcasting technologies (radio and television), and telephony. ICT plays important role in teaching and learning process. Now a day’s Internet and telecommunication technologies are widely used by teachers and learners. ICT tools useful for open and distance learning.^[8] Implementation of ICT adds value and demand for education system. It provides flexible communication, data transfer and recoding document. ICT keep teachers and learner always update. It help to achieve academic accuracy, consistency and confidentiality.^[5] ICT tools can be widely available to access knowledge from LAN, MAN or WAN for providing course details, objective, interaction with subject, evaluation of performance and facilitation. E-learning has highest demand in higher education and corporate training also allows formal and informal learning at any place and any time.^[7] ICTs that are the most important determinants of the effectiveness of such tools in education, the choices of tools are quite varied and each has its own advantages and disadvantages. Fedena is one of the ultimate ICT tools for education systems.

FEDENA SOFTWARE

Fedena is open source software for schools and college management. Fedena is cloud ERP software that having very essential and effective modules for education management system. It is web based application developed using Ruby on Rail framework.^[15] Due to wide scope and user friendly modules, it is used for more than 50,000 institutions around the world. The open source version of Fedena is downloaded more than 200 times every day from more than 150 countries. Fedena covers all basic modules that are require for student information system. It provides user-friendly dashboards with login access for teachers, non-teaching staff, students, parents and management personnel of your institution. The various modules available in the Fedena which facilitate all the processes of your institution, from admission of new students to generating transfer certificates when students complete their studies. Fedena has modules to manage Timetable, Attendance, Examinations, Gradebooks, Campus News, Hostel, Library, Transportation, School Calendar, Events and many more.^[14] It has a fully-fledged Human Resource module to manage the payroll and employee pay slips. The Finance module helps you to plan and allot different fee structures to students. Fedena is also an excellent collaboration tool using its Task, Discussion, Poll, Blog and Video conference plugins. There is an internal messaging system within Fedena but you can also integrate it with external communication tools like email and texting.

LITERATURE REVIEW

According to literature review different ICT software’s are available in the market for educational system such as Fedena, One Campus, Odoo, Campus ERP etc. Among these several software’s fedena is at the highest position in the market.^[1]

1. INDIRA GROUP OF INSTITUTES (IGI), PUNE^[4]

IGI has 14 full-fledged institutes, having 8000 students pursuing multi-disciplinary, graduate and post graduate programs. The objective of IGI is to provide ‘Management education in a corporate environment’ which provides dedicated efforts in various fields like industry, academics, service and social-world. IGI implement Fedena Pro- multischool application which provides following benefits:

- Customization according to the needs and requirements of the institutes with varied courses and programs.
- Faster and accurate attendance management.
- Single timetable can be created for combining multiple batches, conducted by single faculty.
- Allow to create student group and study group for all those special classes and sessions.
- An authorized leave management system.

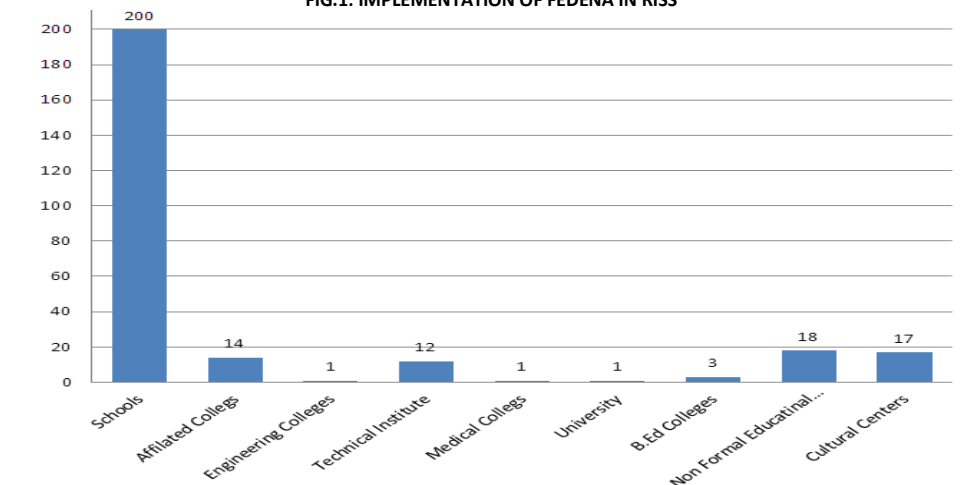
2. RAJAGIRI INSTITUTES OF SOCIAL SCIENCE, NEW DELHI (RISS)^[3]

RISS implements Fedena software for integrated data management and flexible communication among different institutes.

TABLE 1: IMPLEMENTATION OF FEDENA IN DIFFERENT INSTITUTES RISS

Sr.No	Types of Institutions	Total Number
1.	Schools	200
2.	Affiliated colleges	14
3.	Engineering colleges	1
4.	Technical Institutions	12
5.	Medical colleges	1
6.	University	1
7.	B.Ed colleges	3
8.	Non-formal educational institutions	18
9.	Cultural centers	17

FIG.1: IMPLEMENTATION OF FEDENA IN RISS



3. YUVA PARIVARTAN (YP)^[2]:

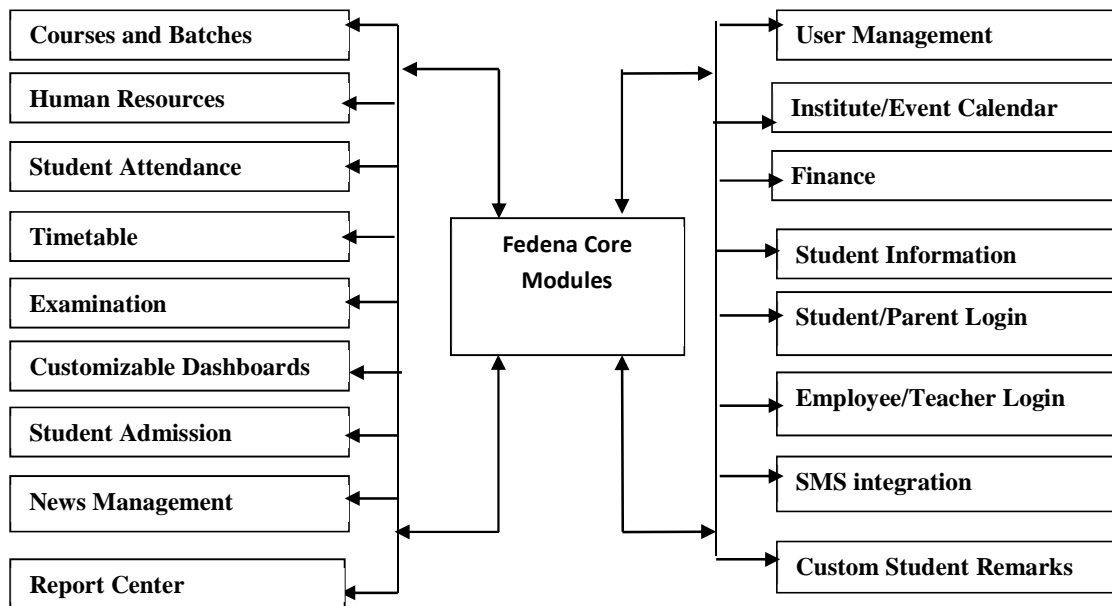
- YP implement fedena pro-multischool suit to manage any courses offered by any institute.
- Courses and batches management module help YP to optimize courses without any customization.
- Fedena software helps to manage different centers from single application.
- Provides flexible communication between different centers.
- Fedena offers smooth eco system by providing facility of plugines which help for business growth.
- Fedena also integrate third-party plugines for fullfill need and requirement of company.

EVOLUTION OF FEDENA SOFTWARE

- Version 1.0 (March 19, 2010.) of Fedena released to public as open source. Started a new revolution in education technology software. Fedena was released under the business friendly license of Apache License 2.0
- Version 2.0 (August 15, 2010) of Fedena code named "Magic" is released after one long year of non-stop coding and optimizations. Human Resource and Finance modules are now available in the open source version.
- Fedena 2.1 (August 18, 2011) released with extensive new functionality. A new icon set was designed. Major enhancements implemented in the Finance and Human Resource Module
- Fedena 2.2 (January 4, 2012) released with i18n/RTL support. Introduced the innovative auto suggest tool for easy navigation. Fedena was adapted to be plugin friendly. Add-on modules can now be developed as plugins.
- Fedena 2.3 (September 5, 2012) is released to the public on Teachers day of India. Fedena started supported global grading standards of CWA, GPA and CCE. With this version Fedena supported 8 languages. English, Spanish, Portuguese, German, Japanese, Marathi, Hindi and Arabic.^[12]
- Fedena 3.0 launched with a whole new user experience and consolidated dashboard.

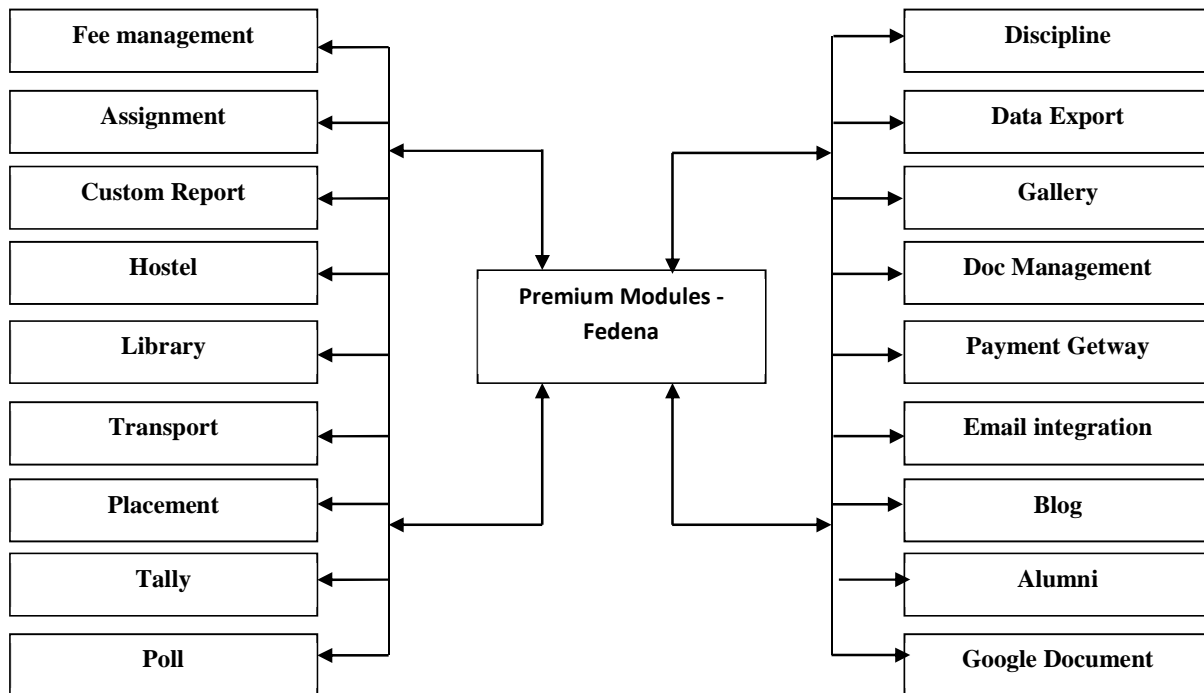
CORE MODULES OF FEDENA

FIG. 2



OTHER PREMIUM MODULES OF FEDENA

FIG. 3



FEATURES OF FEDENA

1. **USER FRIENDLY:** User having basic computer knowledge can easily use Fedena software. Users love to use Fedena for their daily college activities
2. **OPEN SOURCE:** Fedena is open source ERP software where core modules of Fedena are free.
3. **LANGUAGE SUPPORT:** Fedena software support to 8 different languages like English, Spanish, Portuguese, German, Japanese, Marathi, Hindi and Arabic.
4. **SECURITY:** Separate login and privileges provided to each user according to their needs.
5. **GRAPHICAL SUPPORT:** Fedena provides iconic interface. Reports are display using charts and dashboards.
6. **INTEGRATED WITH MOODLE:** Fedena software can be integrate with e-learning tool moodle .
7. **MULTISERVICE:** Support for multipal services like customization, installation, support, hosting training and implementation.
8. **GROUP EXAM:** Various exams can be group together to create final mark sheet of batch of students.
9. **TIMETABLE MANAGEMENT:** Class wise timetable help students for getting lecture details. It helps faculties for lecture adjustment and workload management.
10. **LEAVE MANAGEMENT:** This modules help employee to publish leave at any time with work adjustment.
11. **ANALYSE STUDENTS PERFORMANCE:** Faculty and parents view attendance report, mark sheet and feedback to identify student performance.
12. **TRANSPARENCY:** Provide transparency in different college activities through SMS and Email facility.
13. **EXCLUSIVE VIDEO TUTORIALS:** Video tutorials helps learning and working with Fedena.
14. **STUDENT BLOG:** Provide blogging feature for social communication.
15. **UNIQUE IDENTIFICATION:** Each user identify uniquely on Fedena.^[13]

TECHNOLOGY BEHIND FEDENA

Fedena software is developed using Ruby on Rail (ROR) technology. It integrate concepts of smalltalk, python and perl. ROR is higher level programming language.^[12] It follows object oriented concepts for development environment. Fedena software implements MVC framework as follows:

MODEL (Active Record): Maintains the relationship between Object and Database and handles validation, association, transactions, and more.

VIEW (Action View): A presentation of data in a particular format, triggered by a controller's decision to present the data. They are script based template systems like JSP, ASP, PHP and very easy to integrate with AJAX technology.

CONTROLLER (Action Controller): The facility within the application that directs traffic, on the one hand querying the models for specific data, and on the other hand organizing that data (searching, sorting, massaging it) into a form that fits the needs of a given view.^[9]

BENIFITS OF FEDENA TO ^{[16]:}

MANAGEMENT

1. Multiple campus management
2. Global identification of institution and standardization
3. Automation of all management activities.
4. Centralize and secure storage of information in cloud.
5. Best possible resource utilization.
6. Collaboration of all users via text, audio and video at any time.
7. Organization cost and time savvy system.

ADMINISTRATIVE OFFICE

1. Online registration and admission.
2. Automatically create class and teacher schedule.
3. Maintain record of absence and attendance.
4. Maintaining discipline of records.
5. Automated on demand reports.
6. Analysis through charts, dashboards and statistical reports.

7. Create separate login for teachers, parents and students.
8. Custom report generation.
9. Human resource management service
10. Events and news management.

TEACHERS

1. Recording and publishing student attendance.
2. Computerized management of mark and grade.
3. Timetable creation
4. Upload download assignments notes for students.
5. Conduct online tests.
6. Better organization of school activities.
7. Communicate with parents about educational progress.

STUDENTS

1. Interaction with teacher
2. Online submission of assignments and tests.
3. Access timetable, notes and examination schedule.
4. Brows library books catalogue and reserve book online.
5. Prior information of news, events and holidays details.
6. Distance education facility.
7. Student blog facility.

PARENTS

1. Access college updates regularly.
2. View student progress details.
3. Prior information of news, events and holidays details
4. Communicate with teachers and management.

CONCLUSION

ICT tool-Fedena provides flexibility in teaching and learning process. It helps to maintain transparency and smooth communication between all users of college management system. Fedena is cloud based ERP system provides security and consistency in data access. Through fedena we can provide global knowledge and focus to student's progress. It helps to build confidence, discipline and standard in the educational Institutes. By using Fedena software institute can create global and unique identification for all users. Also customization in Fedena software helps to implement required modules. Through Fedena software we can integrate, communicate, control, manage and provide standard education in different heterogeneous institutes by implementing customizable modules.

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