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RESULT ANALYSIS SYSTEM

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Bonafide Certificate

Certified that this project report titled **RESULT ANALYSIS SYSTEM** bonafide work of **Mr.Umashankar V nair (Reg No. 71203621027)** who carried out the research under my supervision. Certified further, that to the best of my knowledge the work reported herein does not form part of any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

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ABSTRACT

The Result Analysis system enables the management to have online views of results pertaining to an academic semester that enable them to take corrective action related to the quality and kind of education being provided to students. The system transforms results provided by the university into useful information that aids management in the decision making process.

Result analysis retains the manual methodology followed by the college in analyzing results. The manual system consumes much time and resources and are prone to errors in the calculation and aggregation process. Hence, the reliability of the information being submitted to management could be much distorted if not properly scrutinized by the concerned staff. Erroneous data could lead to erroneous decision making whose aftermath could only be known in the long run.

The Result Analysis system takes care of such potential threats and provides reliable services to the management and staff concerned, on demand. The system also helps staff in the calculation of internal marks on the basis of a few schemes related to Internal marks calculation preconfigured into the system.

The system also provides for maintenance of staff biodata. Staff can update their information as and when they achieve professional and academic merits, and this is available to the management at the time of performance appraisals.

The Result Analysis system thus provides a comprehensive coverage of the functional requirements with regard to results desirable to the staff and management of KCT.

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CHAPTER 1

INTRODUCTION

1.1 SYSTEM OVERVIEW

The project titled "**Result Analysis System**" offers total solution to the various result related requirements of the college staff and management.

The need for the Result Analysis system was felt due to the nature of the work required, which involved a lot of calculation of internal and external marks on a monthly and semester wise basis for all students. Moreover the process involved was quite a repetitive one and was prone to numerous errors which could result in inappropriate data being presented to the management.

Automation is the key to increased efficiency, performance and reliability in any system and is being rapidly followed in all walks of life. The problem with the traditional approach of Result Analysis is that due to the manual nature of the work involved, there is always the possibility of error in calculation. Moreover the error goes unnoticed if the reports are not viewed by the student concerned. Automation helps eradicate the root cause of the error by completely automizing the system of internal and external marks entry and calculation.

The RAS integrates all the subsystems involved with result analysis such as **Administration, General Information System, TimeTable** and **Attendance System**.

The General Information Sytem serves as the foundation for RAS. It takes care of maintenance of all the basic necessities of RAS which aids in its smooth functioning. It allows configuring various details such as Departments, Courses,

1.2 COMPANY PROFILE

Kumaraguru College of Technology is a premier educational institution enjoying a high reputation since its foundation. It was established in the year 1984 under Ramananda Adigalar Foundation. Since 1984, as a co-educational engineering college, it has grown from strength to strength and today has emerged as one of the top ranking engineering institutions of the south. The institution offers 10 under graduate courses, 12 post graduate courses and 3 PhD programmes.

The Software Technology Parks of India -(STPI) has entered into agreement with the college for setting up Software Technology Parks in the college campus. As a result two Information Technology giants have set up their branches in the campus – Cognizant Technology Solutions India Private Limited and Spheris India Private Limited.

KCT is making rapid strides in the educational field. The placement record of KCT has reached 90% with around 75 reputed companies recruiting the future engineers. In addition the college has signed MoUs for mutual benefit with CODISSIA; CII; National Instruments; STPI; National Institute of Agronomic Research, France; Technical University, Liberec, Czech Republic.

Along with the state-of-the-art infra-structural facilities , KCT boasts of well qualified human resources with over 195 faculty including 31 PhDs and 49 engaged in various stages of PhD studies, 200 technical and other supporting staffs and 2670 No. of students on rolls.

Syllabus, Subjects, Staffs, Students, Electives and Roles which acts as the foundation upon which the RAS functions.

Another very important subsystem which powers the Result Analysis system is Timetable. It involves the configuration of Schemes, Staff Allocation, Extracurricular subjects, and the respective timetables of each class for that academic semester. It aids in performing the staff performance calculation process.

The external result and the Internal marks subsystem performs the main functionality of the RAS by recording marks scored by students in both internal as well as external examinations. Only the respective staffs have the permission to enter internal marks of the class for the subject he handles. This subsystem also enables the class advisors to feed external marks which in turn is clubbed with the internal marks system to obtain the overall performance of a student for a particular semester. Also, it aids in bringing out various other reports critical to the management .

The Administrative subsystem drives the Security tier of the RAS. It separates the various categories of users by assigning them to respective Roles. Each role is granted certain permissions over the menu and submenu items accordingly, thus depriving users of unauthorized access over restricted information. Each user has his user id and password and is associated with a Role.

CHAPTER 2

SYSTEM STUDY AND ANALYSIS

2.1 PROBLEM STATEMENT

The college staff has to manually enter results into work sheets and perform various operations related to summarizing results and finally submit a copy of the reports generated to the management. The tasks involved in the generation of these reports are repetitive. Often, due to the repetitive nature of the work and the tedious process involved, errors creep into these reports which lead to inconsistent information being submitted to the management. Inconsistent reports lead to less full proof decisions being made to improve the quality of education being provided to students.

Internal marks calculation is also a repetitive task and is error prone. Students could be allocated more marks than desired or could receive less than the deserved scores. This could affect the overall scores obtained by the student. Staff bio-data is currently filed in paper documents and there are chances that these pieces of paper are lost or misplaced. This could affect the staff concerned during the appraisal periods.

Also, placement information needs to be obtained from the placement cell and be filed again in paper documents. The information is quite difficult to obtain in case these files are misplaced.

The college requires a system which could help ease out the problems faced in each of the scenarios mentioned above.

2.2 EXISTING SYSTEM

Results declared by the university are downloaded from the university website and recorded into logs manually. The results are then consolidated to frame various reports which are sent to the top management for review. It provides a general idea on the students and staff performance for a particular semester to the management which enables them to make changes to various procedures followed in order to improve performance.

Internal marks for various subjects in a semester are also calculated manually. The inputs to internal mark calculation are taken from the marks scored by students in the monthly tests. They are then aggregated with inputs from other systems like the attendance system to calculate the total internal marks for a subject. This information is made available to the students at the end of the semester.

Staff details are maintained on separate forms. These forms are updated to reflect changes in Staff records. Staff adds details on workshops and seminars attended and conducted by them to these forms. These forms are also updated to reflect promotions and other details. Staff details like educational qualification, quality programs attended, additional information, experience and other details are quite critical at the time of performance appraisals.

Placement details related to the departments are recorded by the placement cell alone. The data is requested from the placement cell by the department which requires this information. This list is not available to the students of the college unless when displayed on the notice board. It can be obtained by the students and staff from the placement cell.

- Retrieval of historical records will be much simpler.
- Automatic conversion of data from Anna University database reducing data entry.

2.4 FEASIBILITY ANALYSIS

Feasibility analysis is the measure of how beneficial or practical the development of Information System will be to the Organization. Once the problem is explained information is gathered about the system to test whether the system is viable Technically, Financially and Operationally. Thus, feasibility study is carried out in three phases as follows:

2.4.1 Technical Feasibility

Technical Feasibility is the measure of practicality of a specific technical solution and the availability of technical resources and expertise. It centers on the existing computer system (hardware, software, etc.) and to what extent it can support the new addition.

The proposed system is to be developed using Java, Oracle, Struts, and Java script which are some of the leading technologies in the market. These resources are easily available and the college does not need to acquire any development licenses. Oracle 9i is already available with the college. These technologies work on all architectures i.e. on all available platforms. Hence if the college decides to shift on to Linux platform later, the system can be ported across to it. These features of the selected technologies are quite beneficial to the proper functioning of the system in different environments.

2.2.1 Drawbacks of the Existing System

The drawbacks of the existing systems can be summarized as below:

- Time Consuming.
- Data Redundancy.
- Data Inconsistency.
- Lot of paperwork.
- Historical data retrieval takes a long time.
- Access and retrieval of relevant information requires considerable overhead.
- Generation of reports is difficult, since various records are to be verified.

2.3 PROPOSED SYSTEM

The proposed system would automate all of the manual processes described which would help reduce the overhead incurred by the college staff and make the whole process simple and efficient. The proposed system will have computerized data entry screens and processes can be carried out based on inputs from those screens. A set of reports would be provided to ease out the end users task of having to consolidate data to be sent across to the management.

2.3.1 Advantages of the Proposed System

The expected benefits of the Proposed System are as follows:

- Easy to use and Simple.
- New modules can be added with ease without much modifications to the existing system.
- Flexible and Scalable.
- Secure.
- Data available on demand.

2.4.2 Operational Feasibility

Operational Feasibility asks if the system will work when it is developed and installed. It checks for the support of the management, the current business methods, user's involvement and their attitude towards the proposed system, etc.

The proposed system has found encouraging support from the college staff and management as it will be of great use to them. The employees of the organization are also committed to have the system operational as it will save time and reduce their workload. Also since the College staff can have easy access to student information, calculate and summarize internal and external marks they are very much in favor of implementing the system. The current processes followed in the college would be depicted in the system as it is.

2.4.3 Economic Feasibility

Economic Feasibility is the measure of the cost-effectiveness of the proposed system. The investment to be made in the proposed system must prove a good investment to the organization by returning benefits equal to or exceeding the costs incurred in developing the system.

The proposed benefits of the system will outweigh the costs to be incurred during system developed since the system does not require procurement of additional hardware facilities it is economically feasible. In addition capability of the system to incorporate future enhancement will improve the performance to suit the future need of the college.

2.5 USERS OF THE SYSTEM

The users of the proposed Attendance Automation System have been categorized as below and each of the user categories will have a set of rights which manage their use of the proposed system.

- Administrators
- HOD's
- Course co-coordinators
- Class Advisors
- Teaching Staff
- Non-Teaching Staff
- Students

Administrator is authorized to make changes to all data available in the system, add users, remove users and assign permissions to each user through roles. Administrator can be anybody with a proper knowledge of the working of the system. The administrator can change the overall appearance of the system. The administrator has to see to it that only valid data is being entered into the system. He/She is accountable for the consistency and integrity of the data in the system.

HOD's can access all data available in the system. However he/she would not be concerned about the day to day activities like data entry and ensuring that the data entered is right or wrong. HOD would be allowed access to all reports generated by the system and can update his details into the system in the staff bio-data section.

The Course coordinator is also authorized to view details and reports and is provided access to the major part of the system without many constraints. He is responsible for making updates to staff bio data.

Class Advisors have the right to feed in Internal Marks and external marks pertaining to students under him. He can update and delete details of students and process external and internal results to obtain various reports required by the management.

Teaching Staff can enter internal marks for the subjects he handles. He can choose from the schemes available for internal marks processing which range from the most flexible scheme wherein marks can be allocated leniently to the most restrictive wherein the students marks are totally dependent upon the marks scored by him/her in the internal and model exams.

Non-teaching staff doesn't have any default rights but can be assigned temporary rights by associating with a role. These staffs can be made to do data entry work under the discretion of the administrator.

Students fall into the category of users who have the least privileges on the system. A student is only entitled to view certain reports that restrict him to his class and his personal details. He has got view level rights only.

CHAPTER 3

DEVELOPMENT ENVIRONMENT

3.1 HARDWARE REQUIREMENTS

The hardware support required for deploying the application:-

Server Configuration

Processor:	Pentium 3 Processor or above/Athlon Processor
RAM:	Minimum 512 MB
Hard Disk:	20GB or more

Client Configuration

Processor:	Pentium 3/4 Processor/Athlon Processor
RAM:	Minimum 128 MB

3.2 SOFTWARE REQUIREMENTS

The software support required for deployment is:-

Architectural Support	: Struts
Operating System	: Windows XP
Client Script	: Java Script
Web Server	: Apache Tomcat Server 4.1
Database	: Oracle 9i
Software for Development	: Java Beans, JSP, Java Action Classes
Tools used	: NetBeans 4.1
Web browser	: IE 5.0

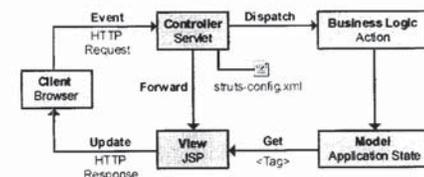
3.3 PROGRAMMING ENVIRONMENT

3.3.1 Struts

"A structure for supporting or enclosing something else, especially a skeletal support used as the basis for something being constructed."

Struts is a set of cooperating classes, servlets, and JSP tags that make up a reusable MVC 2 design. This definition implies that Struts is a framework, rather than a library, but Struts also contains an extensive tag library and utility classes that work independently of the framework. Figure 3.3 displays an overview of Struts.

Figure 3.3 Struts overview



3.3.1.1 Struts overview

- **Client Browser:** An HTTP request from the client browser creates an event. The Web container will respond with an HTTP response.
- **Controller:** The Controller receives the request from the browser, and makes the decision where to send the request. With Struts, the Controller is a

command design pattern implemented as a servlet. The struts-config.xml file configures the Controller.

- **Business logic:** The business logic updates the state of the model and helps control the flow of the application. With Struts this is done with an Action class as a thin wrapper to the actual business logic.
- **Model state:** The model represents the state of the application. The business objects update the application state. ActionForm bean represents the Model state at a session or request level, and not at a persistent level. The JSP file reads information from the ActionForm bean using JSP tags.
- **View:** The view is simply a JSP file. There is no flow logic, no business logic, and no model information -- just tags. Tags are one of the things that make Struts unique compared to other frameworks like Velocity.

Note: The Action class should control the flow and not the logic of the application.

3.3.2 Oracle 9i

Oracle Corporation strives to comply with industry-accepted standards and participates actively in SQL standards committees. The strengths of SQL provide benefits for all types of users, including application programmers, database administrators, managers, and end users. Technically speaking, SQL is a data sublanguage. The purpose of SQL is to provide an interface to a relational database such as Oracle, and all SQL statements are instructions to the database.

Features of Oracle 9i

ORACLE 9i provides statements for a variety of tasks, including:

- Querying data
- Inserting, updating, and deleting rows in a table
- Creating, replacing, altering, and dropping objects
- Controlling access to the database and its objects
- Guaranteeing database consistency and integrity

CHAPTER 4

SYSTEM DESIGN AND DEVELOPMENT

4.1 ELEMENTS OF DESIGN

System Design is the most creative and challenging phase in the development of a software system. Design implies to a description of the final system and the process by which it is developed. The first step is to determine what input data is needed for the system and then to design a database that will meet the requirements of the proposed system. The next step is to determine what outputs are needed from the system and the format of the output to be produced.

During the design of the proposed system some areas where attention is required are:

- What are the inputs required and the outputs produced?
- How should the data be organized?
- What will be the processes involved in the system?
- How should the screen look?

The steps carried out in the design phase are as follows:

- Modular Design
- Input Design
- Output Design
- Database Design

- Supports PL/SQL

3.3.2 JSP (Java Server Pages)

Java Server Pages (JSP) is HTML document that can contain code from the Java programming language. This allows the HTML documents to go from static to dynamic, since the JSP page is executed in a Java object called servlet.

Advantages of Java Server Pages (JSP)

- Easy to learn and Portable
 - The design of JSP makes them usable by Web developers who have minimal programming skills but are well-versed in the areas of Web site development.
- Customizable
 - A web application developer can create their own tags allowing them to separate tasks from the visual presentation.
- Automatic Compilation
 - Changes made to the JSP pages are automatically compiled by the web server through JSP engine.

4.1.1 Modular Design

It is always difficult for any System Development team to grasp a system without breaking it into several smaller systems. These smaller systems will be a part of the original system yet they will be independent in the sense that they will incorporate within them the major functionalities of the proposed system.

A software system is always divided into several subsystems which make it easier to develop and perform tests on the whole system. The subsystems are known as the modules and the process of dividing an entire system into subsystems is known as Decomposition.

The modules identified for the proposed Result Analysis system are as below:

- General Information System
- Marks Entry
- Result Analysis
- Internal Marks
- Staff Bio data
- Administration

4.1.1.1 General Information System

- General Details like Student details, Staff details, Course Details, Elective configuration, Department details and Designation shall be maintained as a part of the General Information subsystem.
- Staff Allocation details should be maintained by the General Information system which aids in the calculation of Staff performance during Result Analysis.
- All these details are configured as and when required by either the system administrator or the concerned staff.

4.1.1.2 Marks Entry

This refers to both Internal Marks entry subsystem as well as the external marks entry subsystem.

4.1.1.2.1 Internal Marks Entry

- The Result Analysis System gets Student, Subject and Staff details from the General Information System.
- The concerned staff has to enter details of the marks scored by the Students in his subject.
- The date on which the exam was conducted is made available by the Result Analysis subsystem.
- Internal marks of students are then written onto the disk

4.1.1.2.2 External Marks Entry

- General information system makes available the Student, staff and other general information like course and batch details for making the external mark entries.
- The results are available on the University website which is downloaded onto the local system by the staff.
- The marks for each student are then updated into the system through the data entry screens provided.
- The entries are based on the register number of the student.

4.1.1.3 Result Analysis

- General information system makes available the Student, staff and other general information like course and batch details to the Aggregation function.
- The rules for calculation are available in the Subjects configuration entries.
- Mark entries of students are fetched from the database.
- Arrear records are separated out and the overall results calculated and written into respective files.
- Cumulative result calculation is done and stored into tables based on the outputs from the cumulative aggregation functions.
- Various reports can be created and displayed to users on demand.

4.1.1.4 Internal Marks

- Student, subject and staff details are made available to the system from the General Information System interface tables.
- The concerned staff has to select the class details for which the internal marks are to be viewed.
- The scheme used for generating the internal marks is to be selected by the staff. This is with reference to the internal marks policy of the department.
- The attendance subsystem provides the necessary attendance percentage of students for the calculation of internal marks, if desired.
- Internal marks are calculated as per the guidelines in the scheme selected.

4.1.1.5 Staff bio data

- Staff details like their experience details, quality improvement programs they attended, additional activity details, educational qualifications achieved and much more could be configured into the system with the aid of this module.
- A complete staff bio data report can be attained at any time by the user.
- Records can be updated at any point of time and can be retrieved at any point of time, thus providing easy access.

4.1.1.6 Administration

- The administration module provides security to the system by preventing unauthorized users from accessing the system and wrecking havoc.
- Administrative module allows for creation of menus and submenu items dynamically as desired by the administrator. It gives the default permissions of changing user passwords to all users registered in the system.
- It allows for assigning roles to users by the administrator. Each menu can be assigned a role which in turn shows the particular menu to the users who is assigned the same role. It provides many more features.

4.1.2 Input Design

The input design is the process of converting the user-oriented inputs into computer-based format. The goal of designing input data is to make sure that the automation is easy, logical and free from errors.

The input design requirements such as user friendliness, consistent format and interactive dialogue which provide users with timely help and correct messages are given high priority.

The input forms of the **General Information** module are as below:

- User Login Form
- Course Form
- Syllabus Form
- Student Form
- Staff Form
- Subject Form
- Timetable configuration form

The *User Login* form is used by the various users of the system and the system restricts access to the data based on the type of user logged in.

The *Course Form* allows one to enter the Course Name and assign a unique code to it.

The *Syllabus Form* allows the Administrator to create a new syllabus and assign a start date to the syllabus for each course. And assign a unique id to it.

The *Student Form* allows Administrator to enter the details of a new student

The *Staff Form* allows Administrator to enter the details of a new student

The *Subject Form* allows Administrator to enter the subject details for a course.

The *Timetable configuration form* allows for entry of subject timetable relating to a batch and course for a particular semester.

The input forms of the **Result Analysis** module are as below:

- Internal Exam Timetable configuration form
- Internal Marks Scheme Configuration form
- Internal Marks Entry Form
- Attendance and Extra curricular activity marks entry form
- Internal marks process form
- External Result declaration form
- External Marks entry form
- External Marks process form
- Cumulative marks process form
- Staff performance process form
- Staff bio data entry forms

The *Internal exam timetable configuration Form* allows the class advisor to schedule internal and model exam timetable related to a particular batch of students falling under a course for a particular semester .

The *Internal marks scheme configuration Form* allows staff to configure the type of scheme needed to calculate the internal marks. It allows for entering the total allowable marks that can be scored by a student in his internal, model and other performance related scores.

The *Internal marks entry Form* allows for entry of internal marks into the system. The staff concerned can view the subject he or she handles and enter marks. This form is dependent on the internal exam timetable configuration function.

The *Attendance and extra curricular activity marks entry Form* allows for entry of other performance related scores of students.

The *Internal marks process Form* can be used by the concerned staff to finalize the internal marks scored by the student in the semester for the subject he or she handles. The students and staff can view the final scores once the records have been processed.

The *External Result Declaration Form* allows the Administrator/Class Advisor to configure the date on which results are published by the university.

The *External marks entry Form* allows administrator/class advisor to enter external marks obtained by students in a semester against the results declared by the class administrator in the external result declaration form.

The *External marks process Form* allows administrator/class advisor to calculate the aggregate score of students in a semester.

The *cumulative marks process Form* allows administrator/class advisor to calculate the overall academic performance of the students beginning from the date he joined college to the current date. It involves aggregation of marks for all the semesters a student has been involved in.

The *Staff performance process Form* allows administrator/class advisor to evaluate the pass percentage of students in a subject handled by a staff.

Staff bio data entry Forms allows the administrator to configure various data related to the staff in the college. This could include updating of staff educational details, quality improvement programs undergone, seminars attended, books and

journals published by the staff and other additional activities performed by him/her. Forms are made available for each of these.

4.1.3 Output Design

Reports are generated as output for the users to view and take print-outs. Different reports are generated for different criteria. The reports present in the system are:

- Class wise Rank List.
- Students Mark List.
- Subject wise Rank List.
- Staff performance Report.
- Arrears Report.
- Internal Marks monthly Report.
- Internal Marks Final Report
- Overall Internal Marks Report
- Staff bio data Report.

Class wise rank list depicts the performance of students of a class in a particular semester. The ranking of students is listed out in the order of the best performing student to the least performing student. The list does not contain records of students who failed.

Students mark list contains the record of every student with the marks scored by him in each subject in the respective semester. The total and aggregate marks are displayed in the report. Students who have failed are marked in red for easy identification.

Subject wise rank list contains records of the first five toppers in each subject pertaining to a semester.

Staff performance report depicts the pass percentage secured by a staff in his/her subject in a particular semester.

Arrears report contains a list of students with the subjects in which he/she has an arrear in.

Internal marks monthly report contains records of students with the marks scored by him/her in the monthly exam conducted in a particular subject. No aggregation is performed in this report.

Internal marks final report produces the list of students and the marks scored by them in all the exams conducted with the aggregate score in the subject. The aggregate score depends on the marking scheme selected by the staff.

Overall Internal Marks report produces a list of students with the aggregate marks in each subject pertaining to the current semester to which they belong.

Staff bio data report presents the complete history of the staff in a format required by the college.

4.1.4 Database Design

A database is a collection of inter-related data stored with minimum redundancy to serve many users quickly and efficiently. The general objective of database design is to make the data access easy, inexpensive and flexible to the user. An elegantly designed database can play a strong foundation for the whole system.

The details about the relevant data for the system are first identified. According to their relationship, tables are designed through the following method.

- The data type for each data item in the table is decided.
- The tables are then normalized.

The tables are normalized so that they can provide better response time, have data integrity, avoid redundancy and be secure.

The tables for the Result Analysis system have been Normalized up to the Second Normal Form (2NF).



4.2 TABLE STRUCTURE

Design Conventions Used

1. Every master table name begins with an 'M' and every transaction table name begins with a 'T'.
2. 'T' and 'M' are followed by an Underscore '_'.
3. Appropriate words that describe the table should be used.
4. Words used to describe the table should be separated with an Underscore '_'.
5. No special character other than an underscore is used in formulating a table name.

Table No. 4.2.2 Table Name: M_EXT_MKS			
This table deals with a master record about the overall external marks scored by a student in all the subjects pertaining to a semester. It relates to the M_RESULT table in terms of which result declaration the records stored pertain to. The overall marks, percentage and rank are also stored in here.			
Sr.	Field Name	Type	Foreign Key/Indexes
1	N_RESULT_ID	NUMBER(5)	FK (M_RESULT)
2	V_ROLL_NO	VARCHAR2(8)	FK (M_STUDENT)
3	N_PERC	NUMBER(6,2)	Percentage scored by Student
4	N_TOTAL	NUMBER(4)	Total Marks scored
5	N_OUT_OF	NUMBER(4)	Marks scored out of.
6	C_RESULT	CHAR	Pass/Fail
7	N_RANK	NUMBER(3)	Class Rank
8	V_CREATED_BY	VARCHAR2(15)	
9	D_CREATED_DT	DATE	

Table No. 4.2.3 Table Name: T_EXT_MKS			
The transaction table holds details of marks scored by the student in individual subjects pertaining to the semester. It also holds marks of arrear papers if attempted by the student.			
Sr.	Field Name	Type	Foreign Key/Indexes
1	N_RESULT_ID	NUMBER(5)	FK (M_RESULT)
2	V_ROLL_NO	VARCHAR2(8)	FK (M_STUDENT)
3	V_SUBJECT_ID	VARCHAR2(8)	FK (M_SUBJECT)
4	N_SEM	NUMBER(2)	NOT NULL
5	N_INT_MKS	NUMBER(4)	Internal Marks

6. No number should be used anywhere in the table name string.
7. Field names should be of the format TYPE_FIELDNAME.
8. Types are: C- CHAR, V- VARCHAR, N- NUMBER, D- DATE

Table No. 4.2.1 Table Name: M_RESULT			
This table deals with Result declarations. As and when results are entered into this table a row is generated and stored in this table. It indicates the date on which results were declared for a batch of students studying a particular course.			
Sr.	Field Name	Type	Remarks
1	N_RESULT_ID	NUMBER(5)	PK
2	N_BATCH	NUMBER(4)	NOT NULL
3	N_SYLLABUS_ID	NUMBER(3)	FK (M_SYLLABUS)
4	N_SEM	NUMBER(2)	NOT NULL
4	D_DECL	DATE	Result declaration date
5	N_PASSED	NUMBER(3)	Number of Students Passed
6	N_FAILED	NUMBER(3)	Number of Students Failed
8	N_ABSENT	NUMBER(3)	Number of Students Absent
9	C_PROCESSED	CHAR	Result processed(Y/N)
10	V_CREATED_BY	VARCHAR2(15)	
11	D_CREATED_DT	DATE	

6	N_EXT_MKS	NUMBER(4)	External Marks scored
7	C_RESULT	CHAR	Pass/Fail
8	N_RANK	NUMBER(3)	Rank in a subject
9	C_ABSENT	CHAR	Student was absent or not
10	V_CREATED_BY	VARCHAR2(15)	
11	D_CREATED_DT	DATE	

Table No. 4.2.4 Table Name: M_ARREAR			
Arrear records of students are stored in this table. The V_CLEARED field is set to Y if the student clears the arrear exam.			
Sr.	Field Name	Type	Foreign Key/Indexes
1	V_ROLL_NO	VARCHAR2(8)	FK (M_STUDENT)
2	V_SUBJECT_ID	VARCHAR2(8)	FK (M_SUBJECT)
3	V_CLEARED	CHAR	Y/N

Table No. 4.2.5 Table Name: T_STAFF_PERFORM			
Various attributes related to staff performance are stored in this table. Number of students who appeared for the test, number of students who failed, absent etc are attributed in this table.			
Sr.	Field Name	Type	Foreign Key/Indexes
1	N_RESULT_ID	NUMBER(5)	FK (M_RESULT)
2	V_STAFF_ID	VARCHAR2(10)	FK (M_STAFF)
3	V_SUBJECT_ID	VARCHAR2(8)	FK (M_SUBJECT)
4	N_APPEARED	NUMBER(3)	Total Students appeared
5	N_FAILED	NUMBER(3)	Total Students failed
6	N_ABSENT	NUMBER(3)	Total Students absent
7	N_PERCENT	NUMBER(6,2)	Pass Percentage

8	V_CREATED_BY	VARCHAR2(15)	
9	D_CREATED_DT	DATE	

Table No. 4.2.6 Table Name: M_CUMU_MKS

As its name suggests the table holds records of students of a particular class with their overall scores from the first semester to the current semester and other attributes which are related to the cumulative results.

Sr.	Field Name	Type	Foreign Key/Indexes
1	V_ROLL_NO	VARCHAR2(8)	FK (M_STUDENT)
2	N_MARKS	NUMBER(4)	Cumulative marks
3	N_PERC	NUMBER(6,2)	Percentage scored
4	C_RESULT	CHAR	Overall Result (Pass/Fail)
5	N_RANK	NUMBER(3)	Overall Rank
6	N_TOT_SUB	NUMBER(4)	Total subjects attempted so far
7	V_CREATED_BY	VARCHAR2(15)	
8	D_CREATED_DT	DATE	

Table No. 4.2.7 Table Name: M_IE_EXAM_TT

This table stores Internal Exam Timetables. The exam could be an internal exam or a model exam. The information stored in this table is of much use for internal marks entry of students.

Sr.	Field Name	Type	Foreign Key/Indexes
1	N_IE_TT_ID	NUMBER(5)	PRIMARY KEY
2	N_BATCH	NUMBER(4)	NOT NULL
3	N_SYLLABUS_ID	NUMBER(3)	FK (M_SYLLABUS)
4	N_SEM	NUMBER(2)	NOT NULL
5	C_SESSION	CHAR(1)	F-Forenoon/A-Afternoon

Table No. 4.2.9 Table Name: T_IE_MKS

The marks scored by a student with respect to the exam conducted as in the internal exam time table is recorded into this table.

Sr.	Field Name	Type	Foreign Key/Indexes
1	N_IE_TT_ID	NUMBER(5)	FK(M_IE_EXAM_TT)
2	V_ROLL_NO	VARCHAR2(8)	FK (M_STUDENT)
3	N_MKS	NUMBER(3)	Marks scored
4	C_ABSENT	CHAR(1)	Yes/No
5	V_CREATED_BY	VARCHAR2(15)	
6	D_CREATED_DT	DATE	

4.3 DATA FLOW DIAGRAMS

Data flow diagrams are graphical representation depicting information regarding the flow of control and the transformation of data from input to output. The DFD may be used to represent the system or software at any level of abstraction. In fact, DFD can be partitioned into levels. A Level 0 DFD called Context Level Diagram represents the entire software system as a single bubble with its interactions. The **Context** diagram shows the overall system with the users who will be interacting with it, being Management, Staff, HOD, Student and administrator in this case.

6	V_SUBJECT_ID	VARCHAR2(8)	FK (M_SUBJECT)
7	C_CL_HOL	CHAR(1)	C-Class/H-Holiday
8	D_DATE	DATE	FK(M_IMP_DATES)
9	C_EXAM_TYPE	CHAR	Internal Exam/Model Exam
10	C_FINALIZED	CHAR	
11	V_CREATED_BY	VARCHAR2(15)	
12	D_CREATED_DT	DATE	

Table No. 4.2.8 Table Name: M_IE_CONFIG

This refers to the Internal marks and model exam marks configuration record. The user can configure the scheme of calculation that the software should use while calculating the final internal marks for the student.

Sr.	Field Name	Type	Foreign Key/Indexes
1	N_BATCH	NUMBER(4)	NOT NULL
2	N_SYLLABUS_ID	NUMBER(3)	FK (M_SYLLABUS)
3	N_SEM	NUMBER(2)	NOT NULL
4	V_SUBJECT_ID	VARCHAR2(8)	FK (M_SUBJECT)
5	C_SCHEME	CHAR(1)	Calculation scheme to be used(1,2,3,4)
6	N_INT_EXM	NUMBER(3)	Internal exam to be judged out of.
7	N_MOD_EXM	NUMBER(3)	Model exam to be judged out of.
8	N_ATTENDANCE	NUMBER(2)	Marks allocated for other activities.
9	V_CREATED_BY	VARCHAR2(15)	
10	D_CREATED_DT	DATE	

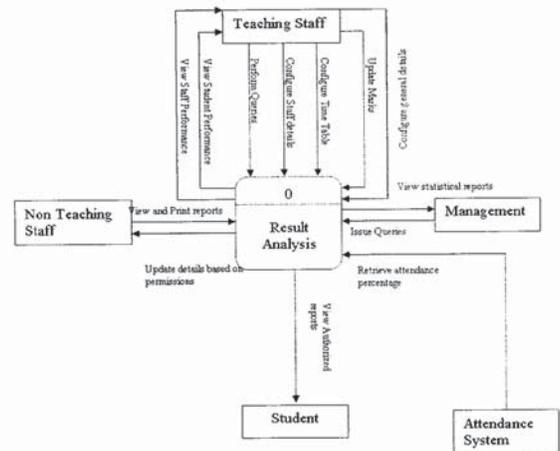


Figure 4.3.1: Context Diagram

The Level 1 DFD will explain the major modules in the whole system, i.e., how the data flow between each of these modules. The flow from once a user logs in entering measurement criteria, entering data, conducting reviews, audits etc., is shown in level 1 of the data flow diagram. The interaction of each process with the corresponding tables is also shown.

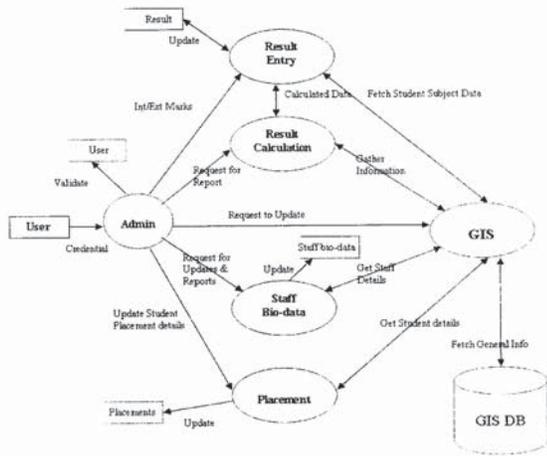


Figure 4.3.2: Level 1 Diagram

The level 2 of data flow diagram shows the detailed processing in these modules. The setup module has been depicted in the Level 2 of the DFD starting from Perspective processing to entering of strategic initiatives.

The Level 2 DFD below explains the processes that happen when a user initiates the Internal marks calculation process. Various other sub processes that are invoked, the tables they interact with and other systems that the process depends on are depicted in it.

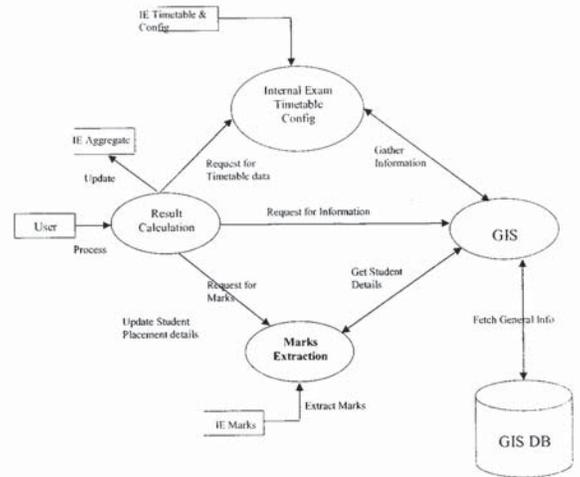


Figure 4.3.3 Level 2 Internal Marks Calculation

The Level 2 DFD below explains the processes that happen when a user initiates the external marks calculation process. Various other sub processes that are invoked, the tables they interact with and other systems that the process depends on are depicted in it.

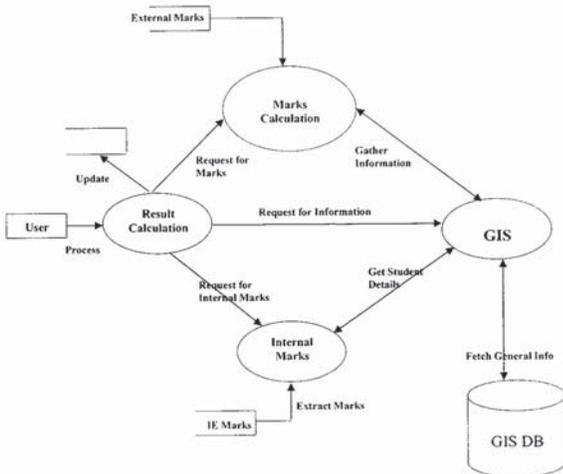


Figure 4.3.4: Level 2 External marks Calculation

The Level 2 DFD below explains the processes that happen when a user initiates the Staff bio data extraction process. Various other sub processes that are invoked, the tables they interact with and other systems that the process depends on are depicted in it.

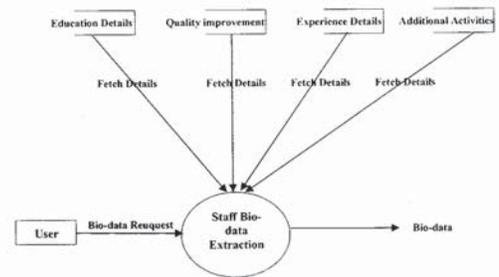


Figure 4.3.5: Level 2 Staff Bio-data Generation

4.4 USE CASE DIAGRAMS

Use case diagrams give a picture of the different scenarios wherein users interact with the different components of the system. It gives a general idea on the requirements to be addressed by the system and the sequence of operations happening.

The diagram below gives the overall context of the Result Analysis system. The users of the system are depicted below.

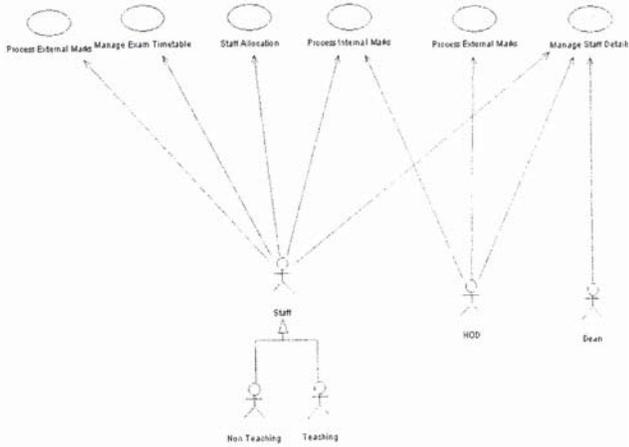


Fig 4.4.1 Context of the Result Analysis System

The interaction of the user with the sub processes involved in the Staff Allocation process is shown below.

The interaction of the user with the sub processes involved in the Internal Examination marks entry and calculation process is shown below.

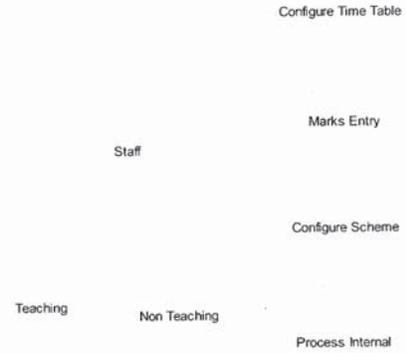


Fig 4.4.2 Internal Exams Use case

The interaction of the user with the sub processes involved in the External Examination process is shown below.

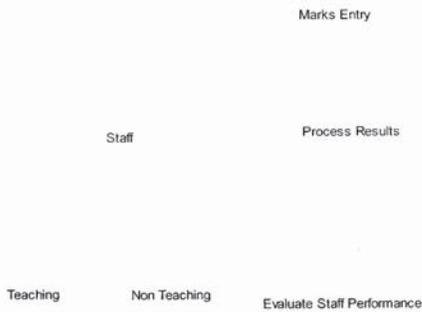


Fig 4.4.3 External Examination Use case

The interaction of the user with the sub processes involved in the Staff Allocation process is shown below.

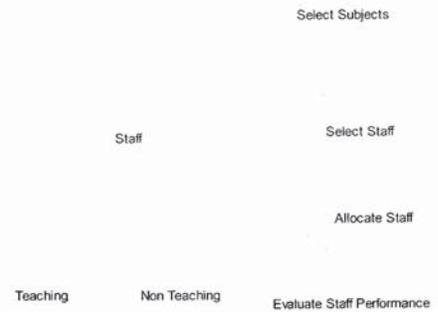
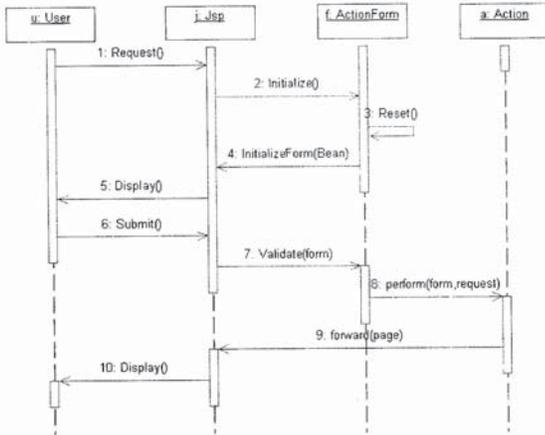


Fig 4.4.4 Staff Performance Use case

Sequence Diagram

A sequence diagram depicts the various objects involved in a process and the timely flow of information among these objects.

The sequence diagram shown below represents the common objects that are instantiated during the execution of any of the modules in the Result analysis system and the functions that are invoked on these objects.



4.3.6 Sequence Diagram (Program Architecture)

Users request JSP Pages. The JSP page has a form component which is initialized before it is presented to the user. Initialization is done by calling the reset function in the ActionForm object. The page is then displayed to the user. The User fills in information on the form and then submits it to be saved into the system. The form is first validated by invoking the Validate function of the ActionForm class. The controller then invokes the perform function of the Action class which in turn does the necessary business operations and then reverts back to the user with a success or a failure page.

5.2 SYSTEM VALIDATION

Validation answers the question "Am I building the right product?" This checks whether the developer is moving towards the right product, whether the development is moving towards the actual intended product that was agreed upon in the beginning. Validation also determines if the system complies with the requirements and performs functions for which it is intended and meets the organization's goals and user needs. It is traditional and is performed at the end of the project. In data access, it checks whether we are accessing the right data, in terms of data required to satisfy the requirement.

Validation is performed after a work product is produced against established criteria ensuring that the product integrates correctly into the environment. It determines the correctness of the final software product by a development project with respect to the user needs and requirements.

Functional validation is done in the Result Analysis System to check whether each of the functions are done correctly as expected in every page. Each control in a Screen is designed to do some function. These functions are checked against the requirements stated for them. For e.g., clicking 'Save' button should take the corresponding action of saving the details into the database. Clicking the Edit icon should allow one to edit the contents that are being currently displayed. This level of validation can continue to all the controls in the system. This checking is usually done after the system is developed so that all activities that are affected can be checked.

Field level validation is done in Result Analysis to check whether each of the fields either accepts the data as expected and do the client side validation of data entered. For e.g. a field level validation on a text box would check against the type of data entered and follow rules such as length of entry etc. The data type validation

CHAPTER 5

IMPLEMENTATION

System Implementation is the part of the software engineering life cycle, where, the design artifacts are converted to a working application. Coding is done in this stage using an apt framework and programming language, which would solve the specific problem the best way. Once the design is coded into a working application, it has to be verified, validated and tested in detail. The tested product if successful is deployed in the user environment.

5.1 SYSTEM VERIFICATION

System Verification answers the question "Am I building the product right?" It includes the review of interim work steps and interim deliverables during a project to ensure they are acceptable. Verification also determines if the system is consistent, adheres to standards, uses reliable techniques and prudent practices, and performs the selected functions in the correct manner. In data access, it verifies whether the right data is being accessed, in terms of the right place and in the right way.

For e.g., the drop downs gather data from the database, so each dropdowns should be verified whether they are bound to the correct database field. It is done during development of the key artifacts. Verification is a demonstration of consistency, completeness, and correctness of the software at each stage and between each stage of the development life cycle. In Result Analysis, verification is done during the development itself. Each database bindings are verified after binding to test whether the control is bound to the right data field.

checks are conducted after the form is submitted. It takes place in the Action Form class of the struts framework. If the validation check fails then the processing stops and the control returns back to the original form that was submitted.

The validation is done in a step by step process. First the screen is loaded with the controls. When the user moves between controls on the screen, the validation events for the control that lost the focus are fired and appropriate error messages (if any) are displayed. If the user generates a form save request, the entire form is evaluated for any validation controls that are not valid. If even one control is not valid, the form will not be submitted.

5.3 TESTING

Testing is a critical element of software quality and assurance and represents the ultimate review of specification design and coding. It is a vital activity that has to be enforced in the development of any system. This could be done in parallel during all the phases of system development. The feedback received from these tests can be used for further enhancement of the system under consideration. The testing phase conducts test using the Software Requirement Specification as a reference and with the goal to see whether the system satisfies the specified requirements.

Standard procedures have been followed in testing Result Analysis. Test cases are generated for each screen. These test cases will cover every possibility which could result in both positive and negative results. These test plans are maintained for any further testing done on the system. The test plan stores information such as, the test script/input, expected output, actual output, comments and the name of the tester. This plan will be followed for all types of testing done in the system.

The main types of tests carried out on RAS are:

- Unit Test

- Integration Test
- System Test

5.3.1 Unit Testing

Module or Unit Testing is the process of testing all the program units that make up a system. Unit testing focuses on an individual module thus allowing one to uncover all the errors made logically and while coding in the module.

In RAS each page is tested separately as a unit. Initially the flow of control and data through that page is checked. When considering a module as a unit, the flow of data and control through the whole module is tested. The result is stored in the test plan. In a page, each control is further tested in unit testing. The process is done in all the pages of the system. Once the errors are rectified, the testing procedure is repeated with same test cases to ensure this hasn't produced new errors. Hence this is a continuous process.

Test cases were generated to test the control flow of each unit or module. Almost all cases needed for testing control flows have been generated.

Test Cases for the Login Screen:-

Sr.No	Test Case	Expected Result	Observed Result	Status
1	User id : ROOT, Password: XYZ	Invalid Login	Invalid Login	Pass
2	User id : ROOT, Password: server	Login successful	Login Successful	Pass
3	User id : Xyz, Password:	Invalid Login	Invalid Login	Pass

change has affected any part of RAS negatively after the change was made. The whole set of test cases need to be run again to do the regression testing.

5.3.3 System Testing

System testing is actually a series of different tests, whose primary purpose is to fully exercise the computer-based system. This helps in verifying that all the system elements have been properly integrated and perform the allocated functions. It verifies the entire product after having integrated all software and hardware components, and validates it according to the original project requirement. The system testing takes into consideration the hardware, and the software. That is, RAS should be able to be run on the specified hardware for variety of cases. The RAS is tested against recovery from errors.

5.3.3.1 Security Testing

Security testing is important in system testing. The system in no way shall be accessible to unauthorized users. Testing is done to ensure that a user with respective rights can only view the various forms and reports presented by RAS. If users try to perform something beyond his assigned rights corresponding messages should be displayed. The RAS in such cases redirects the user back to the previous page in such a case.

Another security issue involves the sensitive data in the system. The system is highly secure with authentication fixed at various levels of the hierarchy.

One more level of security is concerned with user rights. Each user is applied rights module wise. The menus can be configured to roles. Users can also be configured to roles. Menu items are assigned to users dynamically based on the roles assigned to menu items as well as users. A match is done before displaying the menu to the user.

	abc			
4	User id : 02TCS02, Password: 02TCS02	Login Successful	Login Successful	Pass

5.3.2 Integration Testing

Integration testing tests the process of integrating the various modules to form the completed system. Integration starts with a set of units each individually tested in isolation and ends when the entire application has been built. Integration testing verifies that the combined units function together correctly. It facilitates in finding problem that occur at interface or communication between the individual parts.

RAS followed top-down integration testing. Modules were linked to the main menu in a sequence as required in the real time operating mode of the system. Menu items were created as and when required for the integration. For eg. The Syllabus Listing screen is tested first, then 'Time table' screen is tested based on the inputs in the syllabus selection screen. The syllabus selected in the first page should be properly reflected on the Timetable entry screen and should be added on to the database with the configured timetable. This indicates proper flow of information in the timetable module. The same procedure is followed in other modules in the same level at first. Then the upper level is taken into action. The flow of data through the whole module in the upper level is taken and executed. A change of data made in one screen should have reflected in all other screens.

This process is continued from the page level to module level, finally to the system level. In the final stage, the whole system is taken together and tested for integration. A change in one place should be reflected through out the system. Regression testing is done after each change made into the software. This tests if the

5.3.3.2 Stress Testing

Stress Testing executes a system in a manner that demands resources in abnormal quantity, frequency or volume. RAS was stress tested in the college lab by having student's simultaneous access to various modules in the system.

CHAPTER 6

CONCLUSION AND FUTURE ENHANCEMENT

6.1 CONCLUSION

The RAS enables the college to get rid of a very tedious and time consuming process which has been followed for over decades. By automating the entire external/internal marks, entry, calculation and report generation process the teaching staff are spared of a cumbersome and repetitive task. It also eliminates the possibility of any error in manual calculation of the result percentage or in the marks entry procedure.

When fully deployed, the RAS will transform the entire working of the college and intra department result calculation affairs from the usual register, log and record based exercise into computerized professionally operated process. It makes the entire procedure faster, error free, simple, efficient and more performance enhancing one. RAS provides a uniform interface for conducting queries and generating reports on demand.

It enhances the scope of the entire project by integrating with the GIS, Timetable and Administration modules. GIS provides the basic details and information like student, staff, course, department, elective, syllabus and subject details to the RAS. These information should be maintained upto date with periodic updates. The security feature of the system allows only administrator to make updates to important and sensitive data. It prevents unauthorized access to important data.

Thus the RAS increases the efficiency, performance of the teaching staff by enabling them to spend more time on concentrating on student's academic studies. The reports provided to the management are error free and leads to improved decision making. It provides an insight into the academic performance of the student at all times in an academic year. This aids the staff concerned in isolating non performing students and assisting them to improve their performance.

6.2 FUTURE ENHANCEMENT

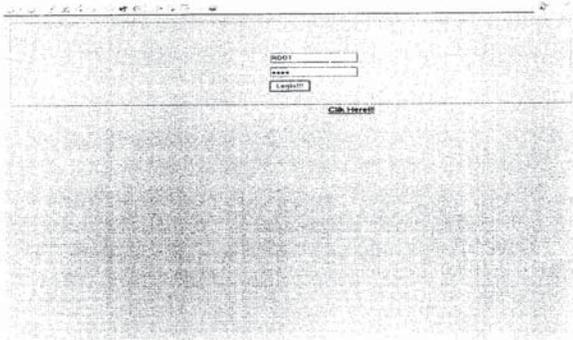
The following features listed below if introduced could benefit the users of the system.

- The system could provide for capturing external marks data presented on the University website. This could reduce typographical errors in data entry and could increase reliability of the information being presented to the management. The only constraint is that the university should provide data on the website in a consistent fashion or else the data capturing function would have to be modified whenever there is an inconsistent read.
- A function to capture data from the database of staff and students available in the office could be embedded into the system to reduce data entry work on the part of the administrator in the General Information System.
- All the other systems like the Library Management System and other systems available in the college office can be integrated to form a bigger system which can be accessed at any time by anyone in the college through the intranet.

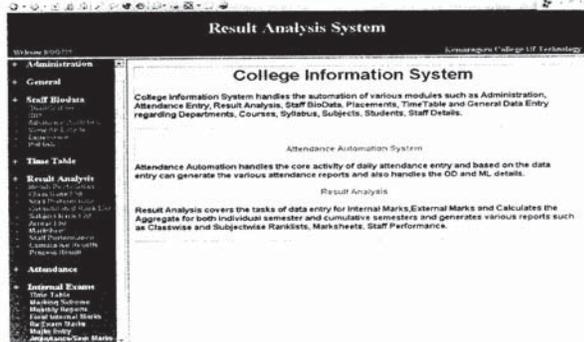


APPENDICE

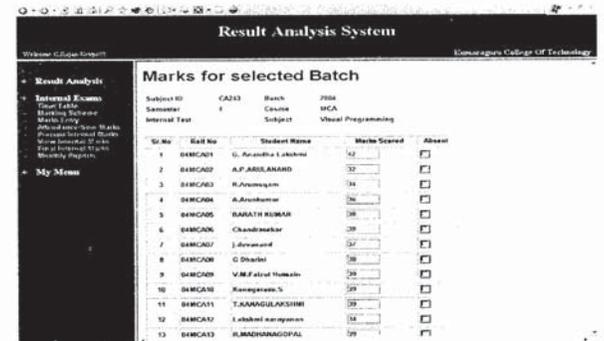
Login Screen



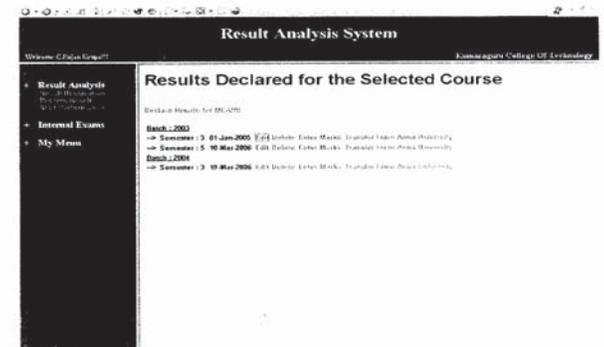
Main Menu



Marks Entry for selected batch



Results Declared Listing (Result Analysis)



Reports

Students Mark sheet

KUMARAGURU COLLEGE OF TECHNOLOGY CERNANVEDAMPATTY COIMBATORE - 641 066 ANNA UNIVERSITY EXAMINATION RESULT ANALYSIS DEPARTMENT OF COMPUTER APPLICATIONS SEMESTER											
Sl. No.	Name	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%
1	ABHINAV	100	100	100	100	100	100	100	100	100	100
2	ADARSH	100	100	100	100	100	100	100	100	100	100
3	ADITHYAN	100	100	100	100	100	100	100	100	100	100
4	ADITHYAN	100	100	100	100	100	100	100	100	100	100
5	ADITHYAN	100	100	100	100	100	100	100	100	100	100
6	ADITHYAN	100	100	100	100	100	100	100	100	100	100
7	ADITHYAN	100	100	100	100	100	100	100	100	100	100
8	ADITHYAN	100	100	100	100	100	100	100	100	100	100
9	ADITHYAN	100	100	100	100	100	100	100	100	100	100
10	ADITHYAN	100	100	100	100	100	100	100	100	100	100
11	ADITHYAN	100	100	100	100	100	100	100	100	100	100
12	ADITHYAN	100	100	100	100	100	100	100	100	100	100
13	ADITHYAN	100	100	100	100	100	100	100	100	100	100
14	ADITHYAN	100	100	100	100	100	100	100	100	100	100
15	ADITHYAN	100	100	100	100	100	100	100	100	100	100
16	ADITHYAN	100	100	100	100	100	100	100	100	100	100
17	ADITHYAN	100	100	100	100	100	100	100	100	100	100
18	ADITHYAN	100	100	100	100	100	100	100	100	100	100
19	ADITHYAN	100	100	100	100	100	100	100	100	100	100
20	ADITHYAN	100	100	100	100	100	100	100	100	100	100
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25	ADITHYAN	100	100	100	100	100	100	100	100	100	100
26	ADITHYAN	100	100	100	100	100	100	100	100	100	100
27	ADITHYAN	100	100	100	100	100	100	100	100	100	100
28	ADITHYAN	100	100	100	100	100	100	100	100	100	100
29	ADITHYAN	100	100	100	100	100	100	100	100	100	100
30	ADITHYAN	100	100	100	100	100	100	100	100	100	100

Staff Performance Report

KUMARAGURU COLLEGE OF TECHNOLOGY CERNANVEDAMPATTY COIMBATORE - 641 066 ANNA UNIVERSITY EXAMINATION RESULT ANALYSIS DEPARTMENT OF COMPUTER APPLICATIONS STAFF PERFORMANCE											
Sl. No.	Staff Name	Subject	Apprent	Passed	Failed	Absent	Pass Percentage				
1	Dr. Jeyaraj	Web Design	20	1	0	0	2.50				
2	Dr. Jeyaraj	Computer Based Development	20	1	0	0	5.00				
3	Dr. Jeyaraj	Management and Application	20	1	0	0	5.00				
4	Dr. Jeyaraj	Operating System	20	1	0	0	5.00				
5	Dr. Jeyaraj	Object Oriented Analysis and Design	20	1	0	0	5.00				
6	Dr. Jeyaraj	Unix and Network Programming	20	1	0	0	5.00				
7	Dr. Jeyaraj	Cloud	20	1	0	0	5.00				
TOTAL APPEARANCE (Regular papers)			120	7	0	0					
TOTAL PASSED (Regular papers)			120	7	0	0					
Overall Pass %				5.83							

Internal Marks Report

REFERENCE

1. Ted Husted (2004) "Struts in Action", Wiley Publication.
2. Vivek Chopra (2005) "Beginning Java Server Pages", Wiley Publication.
3. Richard Hightower (2004) "Jakarta Struts Live" Sourcebeat Publications, , 2004.
4. Struts 1.1 Documentation on sun.java.com.

KUMARAGURU COLLEGE OF TECHNOLOGY COIMBATORE - 641 066 DEPARTMENT OF COMPUTER APPLICATIONS INTERNAL MARKS FOR C&A											
Sl. No.	Roll No.	Reg. No.	Name	Total (out of 100)							
1	1001	1001	ADITHYAN	100	100	100	100	100	100	100	100
2	1002	1002	ADITHYAN	100	100	100	100	100	100	100	100
3	1003	1003	ADITHYAN	100	100	100	100	100	100	100	100
4	1004	1004	ADITHYAN	100	100	100	100	100	100	100	100
5	1005	1005	ADITHYAN	100	100	100	100	100	100	100	100
6	1006	1006	ADITHYAN	100	100	100	100	100	100	100	100
7	1007	1007	ADITHYAN	100	100	100	100	100	100	100	100
8	1008	1008	ADITHYAN	100	100	100	100	100	100	100	100
9	1009	1009	ADITHYAN	100	100	100	100	100	100	100	100
10	1010	1010	ADITHYAN	100	100	100	100	100	100	100	100
11	1011	1011	ADITHYAN	100	100	100	100	100	100	100	100
12	1012	1012	ADITHYAN	100	100	100	100	100	100	100	100
13	1013	1013	ADITHYAN	100	100	100	100	100	100	100	100
14	1014	1014	ADITHYAN	100	100	100	100	100	100	100	100
15	1015	1015	ADITHYAN	100	100	100	100	100	100	100	100
16	1016	1016	ADITHYAN	100	100	100	100	100	100	100	100
17	1017	1017	ADITHYAN	100	100	100	100	100	100	100	100
18	1018	1018	ADITHYAN	100	100	100	100	100	100	100	100
19	1019	1019	ADITHYAN	100	100	100	100	100	100	100	100
20	1020	1020	ADITHYAN	100	100	100	100	100	100	100	100
21	1021	1021	ADITHYAN	100	100	100	100	100	100	100	100
22	1022	1022	ADITHYAN	100	100	100	100	100	100	100	100
23	1023	1023	ADITHYAN	100	100	100	100	100	100	100	100
24	1024	1024	ADITHYAN	100	100	100	100	100	100	100	100
25	1025	1025	ADITHYAN	100	100	100	100	100	100	100	100
26	1026	1026	ADITHYAN	100	100	100	100	100	100	100	100
27	1027	1027	ADITHYAN	100	100	100	100	100	100	100	100
28	1028	1028	ADITHYAN	100	100	100	100	100	100	100	100
29	1029	1029	ADITHYAN	100	100	100	100	100	100	100	100
30	1030	1030	ADITHYAN	100	100	100	100	100	100	100	100

Staff Bio data

Staff ID	BTCS022	Name	S. Sumanth Reddy																				
Branch	MCA	Designation	Senior Lecturer																				
Joining Date	01-Jan-1964	Joining Date	01-Jan-1964																				
Qualification	MCA	Qualification	MCA																				
Mobile No.		Mobile No.																					
Address		Address																					
Temporary Address		Temporary Address	No 2 White House Regn, Coimbatore 6																				
Educational Qualifications	<table border="1"> <thead> <tr> <th>Institute</th> <th>Board/University</th> <th>Degree Obtained</th> <th>Passed year</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Sri Jayaraj Vidyapeeth</td> <td>Maharashtra State Board</td> <td>S.S.C</td> <td>01-Apr-1975</td> <td>78</td> </tr> <tr> <td>Sri Jayaraj Vidyapeeth</td> <td>Maharashtra Board</td> <td>H.S.C</td> <td>01-Apr-1977</td> <td>85</td> </tr> <tr> <td>Bharathiar College</td> <td>Bharathiar University</td> <td>MCA</td> <td>01-Apr-1979</td> <td>74</td> </tr> </tbody> </table>			Institute	Board/University	Degree Obtained	Passed year	Percentage	Sri Jayaraj Vidyapeeth	Maharashtra State Board	S.S.C	01-Apr-1975	78	Sri Jayaraj Vidyapeeth	Maharashtra Board	H.S.C	01-Apr-1977	85	Bharathiar College	Bharathiar University	MCA	01-Apr-1979	74
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Experiences	<p>Quality Improvement Programs Administ^o</p> <p>Appraisal Activ^o Best^o</p> <p>Books and Journals published^o</p>																						