**System Requirement Analysis and Specification**

The primary focus of system requirement analysis and specification is to understand in detail what the user(s) really want the system to do. For us to know what the user needs, requirement analysis was conducted with the sole aim of gathering desirable features for the system.

**Method of Data Collection**

Involving the process of computing student results makes it easy to investigate the existing system to obtain detailed about the application area to be designed. During our findings, several effective methods of information gathering, or data collection were employed which include: interviewing the examination officers; discussion with pertinent stakeholders of the system such as the HODs and lecturers; evaluation and inspection of relevant documents such as result broad sheet, raw score samples, and transcript format.

**Departmental Registration:**

**New Student**

A student whose name appears clearly in the approved list of admitted students dispatched from exams and records unit to the department through the polytechnic authority should be allowed to proceed to the department for screening.

Upon a successful screening in the department, the student is permitted to register in the system by uploading his/her academic credentials and other important documents to the school registration portal, after obtaining matriculation number.

Each department would export the records of successful registered students of its department in excel format from the registration portal, then upload or import it into the result computation system by the department examination officer or coordinator, as the systems are design independent of one another.

All student would be allowed to access their accounts by login in using their matric number and a default password, a student would be required to change their password in the first login before having full access to their profile menus.

**Course Registration**

In the polytechnic, student of the same department and the same year offer the same courses, the department register causes against all student.

A student should be allowed to view the course co-lecturer for every course registered per semester from the course allocation list uploaded to the system.

**Extra-year student**

All the courses that is failed by this student would be a resit and the scores of the courses would be treated as a special case or carry over cases.

The system should automatically select all the courses failed in past session if any.

**Problematic student**

**Exam Malpractice and Related Offenses**

Student who is currently facing the penalty of suspension/rustication should not be allowed to access any feature of the system until he/she is restored.

A student whose session has been nullified or rusticated for a session should automatically join a like class, courses before rustication on return after rustication.

**Health Challenges**

Supplementary examination can be granted for the lost semester(s); which could be uploaded as replacement.

**Documents Evaluation and Inspection**

The following documents were used for evaluation, and inspection purpose: Student Personal Data Form; Result Sheet Format; Examination Reporting Sheet and Transcript.

**System Requirements Specification**

The system should accept scores uploaded by the lecturers in excel (.csv) format in the process of data input; map the results to individual records in the database; Compute the Grades, Grade Points, GPA/CGPA of each student; and generate Students Result in a broad Sheet format and the transcripts.

Functional requirements based on user types are: Students, teacher/course lecturer, Department Examination officer/Coordinator, Head of Department, Academic advisers and Other Staff members.

**Functional Requirements of Registration**

At the beginning of a new session, prior to the addition of new students to the database, student on the new admission list would undergo screaming in their various department and the successful once would be given matriculation number. In most cases, not all admitted students are cleared for studies; hence, a list of cleared students with matriculation numbers is uploaded into the system. All students uploaded are assigned password default password, and an account is created for each of them. It is at this point that they can change their password at initial login and view their profiles and view their result at the end of the semester after uploads.

**The system can do the following:**

**a.** Keep track of each student records.

**b.** The system considers special cases like suspension, deferment of admission, expulsion, supplementary exams and leave on health grounds.

**d.** The system can automatically fetch all the REPEAT courses of the previous session, for student with extra year or carry overs.

**e.** The system successfully submits the registered courses to the system if and only if the total credit unit does not exceed the maximum credit hours allotted to that student or his/her class.

**g.** Raises an alarm to prevent the student from registering more than required elective courses, if any.

**h.** Restrict any change or modification of some sensitive information such as student registration/matriculation number, name, level, year of admission and mode of entry.

**i.** Authenticate all documents uploaded for the student using document clearance number system before submitting to the database.

**j.** The system is able to upload course allocation, results for registered courses, staff list and course list from admin or specific staff accounts.

**k.** The system allows the admin to manage the list of staff and keep the course list up to date.

**l.** The Admin should be able to grant access to record such as, student record, staff record and courses.

**Treatment of Special Students' Cases**

**A. Offenses/Malpractice**: The system considers some offenses which may result in rustication, expulsion, suspension or nullification of some academic work.

**B. Deferment of Studies:** The system provides facilities for a student who wishes to defer his studies.

**C. Health Cases**: A student with approval of a medical report has such a case created on his account indicating suspension of studies until further notice.

**D. Supplementary Examination:** Approval of supplementary examination is done by the HOD into the system after the Registrar must have granted it.

**E. Reinstatement of Students**: On all these cases, the student is expected to report back to the department after which he is reactivated back into the system.