**Software Requirements Specification**

**FOR**

**STUDENT PERFORMANCE ANALYSIS SYSTEM**

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**PURPOSE**

**Student Performance Analysis System(SPAS)** deals with the maintenance of university, college, faculties, student information within the university. This project of SPAS involved the automation of student information that can be implemented in different college managements

**EXISTING SYSTEM**

The system starts with registration of new staff and students. When the subjects are to be allocated to the faculty, the Head of the Department should enter everything in the Excel sheets. Then the staff enters corresponding subject’s attendance and marks of a student then those must also be entered in the Excel sheets and validations are to be done by the user itself. So there will be a lot of work to be done and must be more conscious during the entrance of details. So, more risk is involved.

**PROBLEMS IN THE EXISTING SYSTEM:**

Storing and accessing the data in the form of Excel sheets and account books is a tedious work. It requires a lot of laborious work. It may often yield undesired results. Maintaining these records as piles may turn out to be a costlier task than any other of the colleges and institutions

**RISKS INVOLVED IN EXISTING SYSTEM:**

* Present System is time-consuming and also results in lack of getting inefficient results.
* Some of the risks involved in the present system are During the entrance of marks and attendance, if any mistake is done at a point, then this becomes cumulative and leads to adverse consequences
* If there is any need to retrieve results it may seem to be difficult to search.

**PROPOSED SYSTEM**

**Student Performance Analysis System** (SPAS) makes management to get the most updated information always by avoiding manual accounting process. This system has the following functional divisions.

* University Administrator
* College Administrator
* User (Students / Faculties).

College Administrator has the rights of creating department, allocating courses to departments, creating faculties, students and allocating subjects to faculties and modifications in the data entered by the user can also be done by the college administrator.

User of this may be faculty or students. Faculty has the facility of entering the marks and attendance of the students. Students can check their marks and attendance but there is no chance of modifications.

Reports must be generated for the existing data i.e. for attendance and marks of the students, which are used to assess the performance of the students. These reports should be viewed by the in charge and user.

**TYPES OF GRADING**

## Mastery Grading

## Grading Scale

## Letter Grades

**PERSONAL BENEFITS**

Students work hard to attain their grades without worrying about competition. In the case of younger students, this also builds self-esteem and confidence, as the grade does not compare with other students --- it is simply a statement of their own merit and skill. In the tiered system of grades, there is competition, and students might suffer from inferiority complexes if their grades are lower than those of their peers. In the case of older students in professional courses, it helps in the same way: the focus turns to achieving your own personal best.

**FEATURES**

* **Central database**: Collect and report all of your school's student and staff information.
* **School customizable**: Customize the program to meet your school's data collection and reporting needs.
* **User customizable**: Each user can customize the program for their specific job responsibilities.
* **Search and analyze**: Search and report based on any information in the database. Break down the student body by race, gender, age, etc.
* **Batch entry**: Quickly and easily enter information into the records of all or a group of students. **Report writer**: Comprehensive report writer lets you create any type of report, letter, label, sophisticated report, or other document.
* **Customize reports**: Customize any report you need to meet your exact needs.
* **Data merge**: Print mailing labels merging any student information; save your secretary hours of labor.
* **Export Easily**: Export student data to other programs.
* **Flexible security**: You choose the level of security appropriate for your school.
* **E-Mail Tools**: E-mail any document, letter or report you create in Administrator's Plus using our e-mail module.
* **Multi-language reports:** The report writer supports multiple languages for many reports.
* While grade scales in the U.S. are fairly standard, debates and questions about grading continue today. There are similar questions about variability, because grading can be a subjective process, as well as more philosophical questions about the relationship of grades to learning. Finally, even the grade scale itself is not exactly the same at all schools.
* Universities have always evaluated students, but the modern grading system did not always exist. In fact, in the 18th century, there was no standardized means of evaluating students, and certainly no means by which student performance at one institution could be easily compared with student performance somewhere else. One of the first instances of an attempt to evaluate students systematically .

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| GPA will be used to measure the academic standing of a student.  The Current GPA is calculated based on the graded modules taken in that semester.  Please refer to the following illustration on the computation.  The method of computing the Current Grade Point Average (Current GPA) for six modules with one non-graded module, in a particular semester is as shown below:                                                    Sum of ( Credit Units  x  Grade Points) Current GPA =  ------------------------------------------------------------------------------                                        Total current semester credit units (graded modules)  **MACHINE LEARNING ALGORITHM USED**   1. Linear Regression 2. ElasticNet Regression 3. Random Forest 4. Extra Tree 5. SVM |

**Operating Environment Operating System:-**

Windows 10

**Development platform**:-

Machine Learning using Python

**Design and Implementation Constraints**

High performance, user friendly, fast response time

. **User Documentation**

A PowerPoint presentation (slide show) will be provided which will represent the whole system function and how it works.

**Other Nonfunctional Requirements :**

**Performance Requirements**

The performance will depend upon the hardware components.

**Security Requirements**

The system can be accessed by only authorized user.