

NBA Attainment System

Prepared by

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Problem Statement :

- Teachers use excel sheets to store the marks of each student for calculating attainment. Attainment calculation basically deals with analysis of the target achieved for a particular class and subject. This approach is tedious, time consuming and error prone. The idea is to develop a web application which takes input marks of students and generates the attainment report for all classes and for each subject.
- Also, teachers set a test where each question maps to a CO. Therefore, flexibility is reduced. The application gives the flexibility to the teacher to set a test with sub sections depending on different CO's. The PO's and the CO-PO mapping according to subject are kept handy for the convenience of teachers.
- Further, scope can be increased to analyse the target that is to be set which depends on the previous years' records.

The application should be able to :

1. Handle the logins of the teacher, subject coordinator, HoD with different access rights.
2. Display of the course outcomes for each course for each class and for each year (SE,TE,BE).
3. Display of Program Outcomes for convenience of teachers.
4. CO-PO mapping with update facility and validations. (only for subject-coordinator)
5. Flexibility in setting test (Input of user includes number of questions and number of sub questions in each question.) with an updated facility.
6. Entry of marks according to the test set with update facility.
7. Data (Marks of students) can be imported from excel files.
8. A proper course wise report. (It includes the level wise attainment and final attainment for the particular year and course.)
9. The report can be downloaded as pdf.

Roles :

1. Admin :
 - a. Will assign subjects to teachers.
2. Teacher :
 - a. Set tests based on CO's.
 - b. Input marks of students for a test (Unit Test or SPPU)
3. Subject coordinator :
 - a. Set the CO-PO mapping.
 - b. Set tests based on CO's.
 - c. Input marks of students for a test (Unit Test or SPPU)
4. HoD :
 - a. Check the reports of attainment. (class wise and course wise)

Calculations :

Attainment through University Examination

Attainment Level Targets

UA_AT_L1	% students scoring more than 40% in a specified course in SPPU exam.
UA_AT_L2	% students scoring more than 60% in a specified course in SPPU exam.
UA_AT_L3	% students scoring more than 66% in a specified course in SPPU exam.

Actual Attainment Achieved

UA_AC_AT_L1	Actual percentage of students scored more than 40% in a specified course.
UA_AC_AT_L2	Actual percentage of students scored more than 60% in a specified course.
UA_AC_AT_L3	Actual percentage of students scored more than 66% in a specified course.

$$UA_CO_AT = \frac{UA_AC_AT_L1}{UA_AT_L1} * 1 + \frac{UA_AC_AT_L2}{UA_AT_L2} * 2 + \frac{UA_AC_AT_L3}{UA_AT_L3} * 3$$

Attainment through Mid Term Assessments (Unit test)

Attainment Level Targets

MT_AT_L1	% students scoring more than 40% in a specified course in Unit test/ Assignments/ Lab
MT_AT_L2	% students scoring more than 60% in specified courses in Unit test/ Assignments/ Lab.
MT_AT_L3	% students scoring more than 66% in a specified course in Unit test/ Assignments/ Lab.

Actual Attainment Achieved

MT_AC_AT_L1	Actual percentage of students scored more than 40% in a specified course in Unit test/ Assignments/ Lab.
MT_AC_AT_L2	Actual percentage of students scored more than 60% in a specified course in Unit test/ Assignments/ Lab.
MT_AC_AT_L3	Actual percentage of students scored more than 66% in a specified course in Unit test/ Assignments/ Lab.

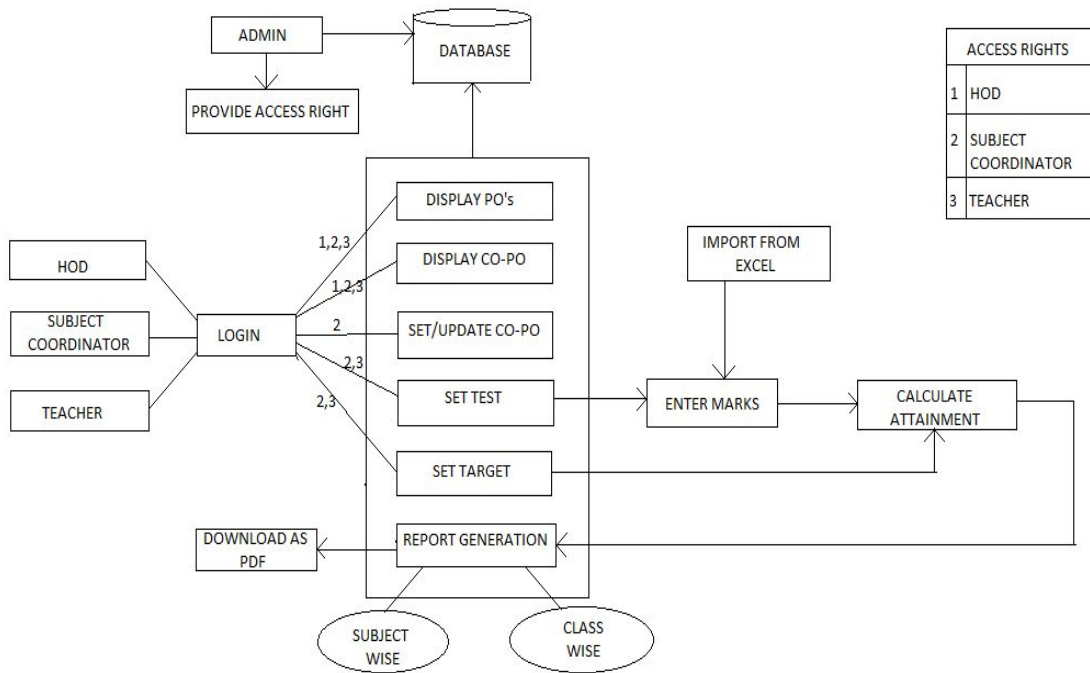
$$MT_CO_AT = \frac{\frac{MT_AC_AT_L1}{MT_AT_L1} * 1 + \frac{MT_AC_AT_L2}{MT_AT_L2} * 2 + \frac{MT_AC_AT_L3}{MT_AT_L3} * 3}{6}$$

Course Outcome Assessment Scheme:

Sr. No.	Assessment	Weightage	Attainment
1	University Examination(All Phases) UAL	70%	UA_CO_AT
2	Mid Term/Institute Level Unit Test I ,II	30%	MT_CO_AT

$$CO_AT = 0.70 * UA_CO_AT + 0.30 * MT_CO_AT$$

Diagram :



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