GENERAL OVERVIEW OF XARA

Xara is a comprehensive school management platform that can be used by secondary school, primary school up to universities.

Inititally we will focus on the users and the results management system.

What do we have for this?

We have the school that has academic years (CRUD)

One or more exams can be created in any academic year and activated (to fill results) or deactivated

Each academic year has classes (CRUD)

Each classes has students (CRUD) and subjects (CRUD)

Each student can also offer one or more subjects. By default any student does all the subjects in his class but the secretary has the ability to remove or add any particular subject to the student (the student cannot do it alone. Infact the student cannot signin to the platform) (which has credit to know multiplicative factor which by defaut takes the credit value assigned on creation but can be modified per class).

Teachers (CRUD by secretary and assigned to one or more subjects in any class)

Teachers can only edit the marks of the students in the class they teach for the subjects they teach

The only people who can access the system are the secretary and the teachers… teachers are created by the secretary or secretaries.

Reportcards can be generated in bulk by the secretary for each class per exam or for general exam or specifically for each student per exam or for general exam and has the ability to modify the marks of any student in any class. One printing reportcard, the reportcrd by default has all subjects offered by the student but the secretary also has the choice to decide which subject is added or removed

Each student has one code, a matricula code e.g (RBW21F298 where RBW is the initial of the school, 21 the latest academic year, F2 the current class of the student selected, 98, the class number roll of the student)

If the students enter this code for example in the landing page of the school’s website, they will be presented with their results and results statistics, etc

Now subjects are not created per class but, the school has a certain number of subjects (CRUD) that it offers and each is assigned any of these subjects or all and then each student like earlier mentioned by default will do every subject in his class unless the secretary removed some subject or add some from him

Apart from exams, there are now general exams (CRUD) that contains the various exams (assigned or remove) meaning for example the general exam may be created and then exams sequence1, sequence2, sequence3 assigned to it.

How are the results processed?

Per student: for each exam each subject that the student offers is multiplied by the corresponding coefficient or credit, then the total is gotten as well as the total credit for all the subjects offered by the student. To get the average, the total mark (subjects multiplied by their credits) is divided by the total credit. The student has rangs per subject (depending on mark wrt other students having the same subject) and rangs per exam, as well as rangs per general exams all per academic year.

Per class: each class average is obtained by getting the average of all the students averages in that class per exam or per general exam in the academic year.

We can also get the class average per subject which is the average of all the students marks in that subject. We also have the class rang which has the rang of all the students per exam or per general exam in the academic year.

Per exam or general exam: students results like mentioned can be processed per exam and general exam

Per academic year: if not exam, we can also get the stats of each student, class, exam in the academic year. Printing the report card ofcourse should print the reportcard that the student has done in the academic year.

Students can be promoted to another class or demoted to another class by the secretary anytime. By doing so the old data of the student in the previous class is maintained. But now the student is in the new class promoted to …

SPECIFIC OVERVIEW OF XARA RESULTS MANAGEMENT SYSTEM

# Xara School Management System Overview

## System Description

Xara is a comprehensive school management platform designed for use in secondary schools, primary schools, and universities. The initial focus is on user management and the results management system.

## Core Components

### 1. School Structure

- Schools have academic years (CRUD operations)

- Each academic year has classes (CRUD operations)

- Classes have students (CRUD operations) and subjects (CRUD operations)

### 2. User Roles

- Secretary: Full administrative access

- Teachers: Limited access to enter marks for assigned subjects/classes

- Students: No direct system access

### 3. Academic Management

- Academic Years (CRUD)

- Exams:

- Multiple exams can be created in any academic year

- Exams can be activated (for result entry) or deactivated

- General Exams (CRUD):

- Contain various exams (e.g., sequence1, sequence2, sequence3)

- Exams can be assigned or removed from general exams

### 4. Subject Management

- Subjects are created at the school level, not per class (CRUD)

- Subjects are assigned to classes

- Each subject has a credit value (coefficient)

- Default credit value assigned on creation

- Can be modified per class

### 5. Student Management

- CRUD operations for students

- Unique matricula code format: [School Initials][Year][Class][Roll Number]

Example: RBW21F298

- By default, students are enrolled in all subjects in their class

- Secretary can modify subject enrollment for individual students

- Students can be promoted or demoted between classes at any time

(historical data is maintained)

### 6. Teacher Management

- CRUD operations performed by secretary

- Teachers can be assigned to one or more subjects in any class

- Teachers can only edit marks for their assigned subjects/classes

### 7. Results Processing

- Per Student:

- Each subject mark is multiplied by its credit/coefficient

- Total marks and total credits are calculated

- Average = Total marks / Total credits

- Rankings: per subject, per exam, per general exam, per academic year

- Per Class:

- Class average = Average of all student averages

- Subject average = Average of all student marks in that subject

- Class rankings for all students per exam/general exam/academic year

- Per Exam/General Exam:

- Results can be processed for individual exams or general exams

- Per Academic Year:

- Comprehensive stats for students, classes, and exams

### 8. Report Card Generation

- Can be generated by the secretary:

- In bulk for each class per exam

- In bulk for each class per general exam

- Specifically for each student per exam

- Specifically for each student per general exam

- Secretary can modify marks of any student in any class

- Default inclusion of all subjects offered by the student

- Secretary can choose which subjects to add or remove from the report card

- Prints results for all exams completed in the academic year

### 9. Student Result Access

- Students can view their results on the school website

- Access granted by entering their matricula code

- Displays results and statistics

## Key Features

1. Flexible exam creation and management

2. Detailed student performance tracking

3. Customizable report card generation

4. Comprehensive result processing at multiple levels

5. Role-based access control

6. Student promotion/demotion with historical data preservation

## Data Handling

- When students are promoted/demoted, old data in the previous class is maintained

- New data is created for the student in the new class

This system is designed to provide a flexible and comprehensive approach to school management, with a particular focus on results management. It allows for detailed tracking of student performance across various exams and academic years while maintaining data integrity and enforcing proper access controls.